we • soda
WEST EAST SODA

Operating sustainably

Kew Soda Ltd
Sustainability Report 2022

WE Soda is the trading name for the Kew Soda holding group

We produce one of **life's essential ingredients**

We are the world's largest producer of natural soda ash

Soda ash is the tenth most consumed industrial ingredient in the world, used in the manufacture of glass, solar panels, electric vehicle batteries, powdered detergents, silicates and sodium-based chemicals and in various other industrial applications. It is also used to produce sodium bicarbonate which is used in flue gas treatment, food, animal feed and various environmental and healthcare applications.

Soda ash is one of life's essential ingredients. It impacts our everyday lives, but it is invisible to most of us.

We produce soda ash and sodium bicarbonate from natural trona ore using a low-cost, environmentally friendly process called solution-extraction and, outside China, we are the only company to use this production method on a commercial scale. We sell our products to industrial customers in almost 80 countries around the world.

We have a clear and purposeful business strategy built on four key elements:

we • lead

Read more on **page 18**

we • care

Read more on **page 20**

we • innovate

Read more on **page 22**

we • challenge

Read more on **page 24**

Our purpose: to responsibly produce essential ingredients for a sustainable future

Sustainability Report[1]

Governance

Other Information

About this report

Our 2022 Annual Report (from which this Sustainabililty Report is extracted) was approved by the Kew Soda Board of Directors on 28 April 2023 and was signed on its behalf by the Board. This report presents our annual performance for the year 1 January to 31 December 2022 for the WE Soda Group and our operations Kazan Soda and Eti Soda in Türkiye.

External independent assurance was provided over selected non-financial information presented in the Annual Report. Refer to the Annual Report, where indicators subject to assurance are denoted with a [A] across the report. Refer to the Independent Limited Assurance Statement prepared by ERM CVS on page 96.

Queries with regards to the report should be directed to Edward Westropp, Head of Investor Relations & Communications.

All page references in this report refer to the online 2022 Annual Report.

Look out for these throughout the report:

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Reference to another page in the report

Read more about us online wesoda.co.uk

1 Non-financial group data is based on Turkish operations and UK and Turkish corporate and administrative functions; it does not include US associates, discontinued operations and subsidiaries.

Chair's introduction

"This is an extraordinary business supplying essential products to support the energy transition and a sustainable future.

Over the last twenty years, our business has developed from a visionary idea to become a global leader, not only in terms of scale but also in terms of sustainability.

I am proud of what we have so far achieved, and I am excited about the prospects for our business going forward."

Didem Ciner
Chair

Chair's introduction continued

> Over the last twenty years, our business has developed from a visionary idea to a global leader.
>
> Today, we have the most sustainable and environmentally responsible production process within our industry. Going forward, our approach will not change."

Turkish earthquakes

Whilst this report describes our business, I feel I must start with the tragic events of 2023, which have presented great challenges and a terrible heartbreak for our communities and our people in Türkiye. On 6 February, a series of catastrophic earthquakes struck the south-east region of our country, ten cities were affected, and thousands of lives were lost. Our collective grief is immense. To our nation and those who have lost friends and family members, we extend our deepest condolences. To those who have suffered injury, we offer our best wishes for a speedy recovery.

The recovery from this disaster will unfortunately take many years, and we will continue to support and facilitate the recovery efforts to help heal our nation's wounds. We have already provided direct assistance by supporting the authorities with the provision of equipment, clothing and food, and by providing one hundred prefabricated buildings to support families in the worst affected areas, with a place to live, clean water and sanitation. Sadly, there are many orphaned children who have lost their families in the disaster, and we have also been investigating ways to support them. In March 2023, we committed $1.0 million to Darüşşafaka, the oldest non-government school for orphaned children in Türkiye, which will be increasing its annual capacity to be able to include extra students who have lost their families in the earthquake, across all eleven provinces that were impacted. With our contribution alongside other big Turkish institutions, it will be constructing new facilities for the students as well as providing educational equipment, such as computers, and ongoing support for the earthquake orphans in the years ahead.

I am sure that, together, we will get through these difficult times with our collective efforts and compassion.

Our foundations are our future

Over the last twenty years, our business has developed from a visionary idea to become a global leader, not only in terms of scale, but also in terms of sustainability. Without the ambition and courage of our founder, our Company would never have been built. Necessity required us to innovate as we developed Eti Soda, and ambition and innovation are still the foundations of our business today.

We are now a global company, headquartered in London but with a proud Turkish heritage. We produce 5 million mtpa of soda ash and sodium bicarbonate and, as we look forward, we plan to invest more and grow faster than any other company in our industry. By 2030, we expect to have significantly grown our business in the US, more than doubling our production to over 11 million mt of sustainably produced, low-carbon product every year.

Our operating philosophy

We have always played to win, and to come so far so quickly we have had to continuously challenge ourselves and the status quo within our industry. As a young company, being prepared to do things differently has also helped us to become better and stronger.

We have always operated with the belief that "sustainable business is good business" and today we have the most environmentally responsible production process within our industry. Going forward, our approach will not change and to reinforce this, we have made several important commitments to further improve our already strong sustainability performance.

Our sustainability commitments

Safety	• A significant reduction in LTI[3] workplace accidents in 2023 • The objective of zero LTI workplace accidents, over time
CO_2e intensity	• 20% reduction within five years[1] • 40% reduction within ten years[1] • Net Zero by 2050
Water intensity	• 20% reduction within five years[1]
Diversity	• An equal number of women and men at middle and senior management levels within ten years[1, 2]

1 Relative to a 2022 baseline.
2 As of year end 2022, we had 35% females within our middle management (both technical and administrative positions).
3 LTI means lost time injury.

I am proud to say that we are aiming to turn our industry into a much better place than we found it. We'll do this by continuing to ensure sustainability is at the core of everything we do, challenging the view that value is only monetary. If we get the balance right, our endeavours will create value for all our stakeholders – from our customers and communities to society and the world as a whole.

We are also humble. We recognise that however good we think we might be, there is always further to go and room to learn from others. This is one of the reasons we engaged specialist consultants in 2022 to help us benchmark our performance and identify ways in which we could further improve. Going forward, our objective is to also partner with some of the world's best universities and research institutions to help drive our research and development initiatives.

This is an extraordinary business. I am proud of what we have so far achieved through vision, commitment and endeavour, and I am also excited about our prospects for the future.

Didem Ciner
Chair

2022 highlights

Sales volume[1]

5.06 million mt

o/w 80% exports (+5% vs. 2021: 4.84 million mt)

Scope 1 & 2 CO_2e emissions intensity[3]

0.343

(2021: 0.348)

Water intensity[3]

2.04Δ

(2021: 1.99)

LTI workplace accidents

40%

reduction in 2022

Total Net Leverage Ratio[2]

1.6x

(2021: 4.1x)

- **Safety improvements.** During 2022, we reduced the number of LTI workplace accidents and LTI lost workdays by around 40% compared to 2021, despite a 7% increase in total working hours. Notwithstanding these improvements, we have an ambition to eliminate LTI workplace accidents, and in October 2022 we engaged the international safety consultancy Dupont Sustainable Solutions ("dss+") to undertake a thorough review of our safety practices and process safety management.
- **Record production volumes and sales volumes** of more than 5 million mt[2] for the first time, mainly driven by higher levels of operational availability from our modern, well-maintained facilities and our ongoing operational efficiency improvements.
- **Scope 1 & 2 CO_2e emissions intensity decreased** consistent with our long-term objectives, but our water intensity increased due to changes in water quality from different water sources at Kazan Soda, resulting in an increase in water discharge following treatment.
- **Soda ash prices increased** considerably during the year, mainly due to tight supply-demand balances for most of 2022, despite headwinds from the global economic downturn and higher energy costs which impacted our customers.
- **Strong balance sheet.** We ended the year with Net Debt of $1,363 million (31 December 2021: $1,779 million) and a Total Net Leverage Ratio[2] of around 1.6x (2021: 4.1x).
- **Renewable power.** We installed 7MW of solar PV capacity at our facilities during 2022, with a further 3MW planned during 2023. We performed wind power tests and are conducting ongoing feasibility studies to assess our full renewable power potential in Türkiye.
- **Kazan Soda expansion.** We continued our debottlenecking programme and also sanctioned the construction of additional production units at Kazan Soda which we plan to bring on-stream during 2025, increasing our total production in Türkiye to around 6.0 million mtpa.
- **West Soda greenfield project.** In October 2022, we announced our plan to develop a new 100% owned ~3 million mtpa greenfield project in Wyoming, US, which if developed as planned will source all of its electrical needs entirely from renewable power sources.
- **New European logistics hub.** We approved the development of a new logistics hub located in Terneuzen, Netherlands to serve our customers in northern Europe and the UK from mid-2023 with up to 85,000 mt of storage capacity.
- **Social engagement.** During 2022, we supported a diverse range of community and social projects in Türkiye and the UK with our time, capabilities and total direct financial and charitable contributions of ~$1.1 million.
- **"ConnexSA".** We developed and announced an innovative blockchain enabled ecosystem called "ConnexSA", which will provide full supply chain sustainability transparency for our products – from our suppliers to our end customers.
- **EcoVadis.** Our Group received a Gold Medal from EcoVadis, a leading provider of global sustainability ratings based on environmental impact, labour and human rights, ethics and sustainable procurement. In 2022, Kazan Soda received a Silver Medal and in January 2023, Eti Soda received a Platinum Medal, placing it among the top 1% of companies assessed by EcoVadis globally.
- **Sustainalytics.** We received an industry-leading corporate ESG assessment score of 16.1 from Morningstar Sustainalytics – making us the only soda ash producer in the "low risk" category. As at 6 June 2022, our score placed us as having the best ESG risk rating score in the entire Morningstar Sustainalytics global commodity chemicals subsector (first out of 227 companies).

1 Soda ash and sodium bicarbonate, combined.
2 See definitions of Alternative Performance Measures on our website – www.wesoda.co.uk.
3 See definitions of Scope 1 & 2 CO_2e emissions intensity and water intensity on page 95.

Chief Executive Officer's Statement

"We pride ourselves as a leader within our industry, not only in terms of scale, but also in terms of sustainability and innovation, with the lowest energy, emissions[1] and water intensity and almost no waste. 2022 was an extraordinary year, and in 2023 we are well positioned to deliver another strong performance, supported by the long-term trends of sustainability and the energy transition."

Alasdair Warren
CEO

1 Scope 1 & 2 CO_2e.

Chief Executive Officer's Statement continued

"During 2022 we delivered record production and sales volumes whilst also delivering on our commitments to improving safety and efficiency – driving new records in sustainability, whilst also maintaining a prudent balance sheet.

In 2023, we are well placed to deliver another year of strong performance."

An extraordinary year

2022 was an extraordinary year for our Group in what was a challenging year for our industry. In the first half, we experienced a very tight global soda ash market, the result of strong long-term demand growth with very limited new production capacity additions for the last several years. This presented significant challenges in the customer supply chain, as demand outstripped available supply. From the second quarter, we had to deal with the impact of rapidly rising energy prices following the Russian invasion of Ukraine, causing turbulence in the energy markets, and the consequential rise in inflation and interest rates, impacting our customers.

Sustainability underpinned our 2022 performance. During the year, we delivered record production and sales volumes whilst also delivering on our commitments to improving safety and operating efficiency – driving new sustainability and profitability records, whilst also maintaining a prudent balance sheet. We are already the world's largest and one of the lowest cost producers of natural soda ash, and during 2022 we continued to fulfil our long-term commitment as a reliable and responsible supplier of low-carbon natural soda ash with the announcement of West Soda, our new greenfield project in US, alongside the further expansion of Kazan Soda in Türkiye and our planned logistics hub in Europe.

Global supply-demand dynamics for soda ash remained tight for most of 2022, despite headwinds from the global economic downturn and rising energy costs.

Soda ash prices increased considerably during the year and peaked in most markets during the fourth quarter, mainly due to the tight market. This was compounded by higher energy prices that significantly increased the cash production costs of many of our more energy intensive synthetic soda ash competitors – and which effectively set the reference price for soda ash in most of our markets.

Our Cash costs ($ per mt)[1] also increased significantly during the year, driven by rising natural gas costs, but we were able to pass these costs on to almost all of our customers. We ended the year with Net Debt[1] of less than $1.4 billion, equivalent to a Total Net Leverage Ratio[1] of around 1.6x. We are well positioned to deliver another year of strong performance in 2023, supported by the long-term trends of sustainability and the energy transition.

Leadership

We pride ourselves as a leader within our industry, not only in terms of scale, but also in terms of sustainability and innovation. We play to win, and over the last twenty years our people and our Company have achieved many great things. But we also recognise that however good we think we might be, there is always further room for improvement – and also for learning from others. This is why, during 2022, we engaged the international safety consultancy dss+ and the global sustainability consultancy Environment Resource Management ("ERM"), as third-party consultants to help us benchmark our performance and identify ways in which we can further improve.

Responsible production

Safety is our number one priority and during 2022 we reduced the number of LTI workplace accidents and incapacitation days at our facilities by around 40% compared to the prior year, despite a 7% increase in total working hours. Notwithstanding these improvements, we have a lot more to do if we are going to eliminate serious and avoidable accidents and so, in October 2022, we engaged dss+ to undertake a thorough review of our safety practices and process safety management. We are aiming for a further significant reduction in LTI workplace accidents in 2023, and over time we believe we can achieve our target of zero LTI workplace accidents.

During the year we achieved combined soda ash and sodium bicarbonate production volumes of more than 5 million mt for the first time, a 3% increase versus 2021, mainly driven by higher levels of operational availability from our well-maintained modern facilities and also from our ongoing efficiency improvement programme. Our combined sales of soda ash and sodium bicarbonate increased by 5% to an all-time high of around 5.1 million mt (2021: 4.1 million mt), with export volumes of 4.1 million mt. We sold our products to 77 countries around the world, with approximately 45% by volume sold into Europe, 20% into Türkiye, 11% into Asia (including China), 16% into the Americas and 8% into the Middle East and Africa (in each case by sales volume).

Chief Executive Officer's Statement continued

Environmental stewardship

Within our industry, we already produce soda ash with the lowest CO_2e emissions and water intensity[2], and we believe that we have the lowest impact on nature and the environment[3]. Our operating model is inherently circular and we produce almost no solid and liquid waste because, where possible, we recycle by-products to eliminate waste, improving our efficiency and sustainability. During 2022, our energy and Scope 1 & 2 CO_2e emissions intensity decreased, consistent with our long-term objectives. Our water intensity increased slightly due to changes in water quality from different water sources at Kazan Soda, resulting in an increase in water withdrawn, something which we plan to address in 2023 and beyond.

We assess our emissions performance annually and we are aiming to reduce our emissions in every part of our business. In 2022, we decided to reset our emissions and water intensity targets for the Group. Amongst other sustainability targets, and consistent with achieving Net Zero CO_2e emissions by 2050, we have set the target of reducing our Scope 1 & 2 CO_2e emissions intensity by 20% within the next five years and by 40% within the next ten years, and we have also set the target of reducing our water intensity by 20% in the next five years, in all cases relative to a 2022 baseline. During 2022, we installed 7MW of solar PV capacity at our facilities which came on-stream during the first quarter of 2023, with a further 3MW planned by year end 2023. We have performed wind power tests and we are conducting an ongoing feasibility study to assess our full renewable power potential in Türkiye. We estimate that we will be able to deliver up to 100MW of PV solar and over 100MW of wind power by 2027, significantly reducing our Scope 1 and 2 CO_2e emissions.

Social impact

We consider ourselves a part of the communities in which we operate, and we believe that by investing in projects to support them we create long-term value for our communities as well as our business. During 2022, we supported a diverse range of community and social impact projects in Türkiye and the UK with our time, capabilities and total direct financial and charitable contributions of approximately $1.1 million. Amongst other projects, we proudly announced our partnership with the Welsh Rugby Union ("WRU") in the UK, providing financial support for two major community initiatives across Wales: "Fit, Fed, Fun" and "Jersey for All". We chose to partner with the WRU because the UK is where we are headquartered and we wanted to make a real and lasting impact in a part of the UK that faces significant socio-economic challenges, with programmes that specifically support families and children from less-advantaged backgrounds and also those with disabilities and special educational needs. During 2022, we fed more than 6,500 children during the school holidays as part of this project, and this year we are targeting to more than double this number.

In 2023, we plan to review all our social impact projects and the basis on which we assess their impact, over the short and long term.

Essential ingredient

Soda ash is an essential ingredient in almost all the industrial processes in which it is used with no economically feasible and environmentally viable substitute, and without which most of our industrial customers cannot operate. Soda ash is also an essential material for energy transition. As a result, security of supply and the reliability and stability of the supply chain are often more important than price for many of our customers. During 2022, we approved the development of a new European logistics hub located in Terneuzen, Netherlands to serve our customers in northern Europe and the UK. We expect the facility will be operational during 2023 with up to 85,000 mt of storage capacity, and over time we plan to develop further regional storage and distribution hubs in key locations around the world, strengthening our global supply chain, improving our customer service and further reducing our downstream Scope 3 CO_2e emissions and cost.

The world needs more responsibly produced soda ash. We believe we are investing more capital and growing faster than any other soda ash producer globally, supported by our strong financial position and our unique operating capabilities. By 2030, we plan to have invested more than $4 billion with the target of delivering over 11 million mtpa of low-carbon natural product to our global customers, using the sustainable, low-cost solution-extraction production method that we developed and, outside China, only we use today.

Sustainable future

During 2022 and early 2023, we completed the debottlenecking expansion at Kazan Soda, bringing on-stream new caustic and decahydrate units that will allow us to increase our run-rate production capacity by around 0.3 million mtpa. During the year, we also sanctioned the second phase of expansion at Kazan Soda, involving the construction of an additional 0.5 million mtpa soda ash production unit, an additional 0.1 mtpa sodium bicarbonate production unit, and a sodium chloride re-processing unit. We have recently received the required permits to be able to start construction this year, and we plan to bring these new units on-stream during 2025, increasing our production in Türkiye to around 6.0 million mtpa, further improving our operating efficiency whilst also reducing our Scope 1 CO_2e emissions intensity and waste.

In October 2022, we announced our plan to develop a new 100% owned ~3 million mtpa greenfield project in Wyoming, US. This will be designed from the outset so that it is able to be progressively expanded on a modular basis over time to meet the growing global demand for sustainably produced low-carbon natural soda ash. If developed as planned, this will be the first soda ash production facility globally to source all of its electricity needs entirely from renewable power sources, significantly reducing Scope 1 & 2 CO_2e emissions intensity. Over time, we intend that all heat (steam) needs will also come from renewable sources – an important step in our journey towards Net Zero CO_2e emissions by 2050.

Chief Executive Officer's Statement continued

Our longer-term growth ambitions remain on track, to increase our annual production to around 6.0 million mtpa by the end of 2025 driven by the expansion at Kazan Soda, and more than double our annual global production volumes to over 11 million mtpa by 2030, as we develop our greenfield projects of Pacific Soda and West Soda in US.

We believe that greater transparency will enable and support sustainable business models, satisfy growing consumer demands to make more informed purchase decisions, and incentivise industry-wide sustainability transition. With this in mind, in October 2022 we announced the launch of a blockchain-based soda ash supply chain ecosystem called "ConnexSA", with the objective of delivering robust governance and greater sustainability transparency across the entire supply chain – from our suppliers to our end customers. During the year, we also registered nearly 60% of our suppliers (by value) on the Sedex platform, to allow us to more effectively screen our suppliers in accordance with our own sustainability criteria, particularly in relation to ethical trading and responsible supply chain practices.

External benchmarking

During 2022, our Group received a Gold Medal and Kazan Soda received a Silver Medal, from EcoVadis, a leading provider of global sustainability ratings based on environmental impact, labour and human rights, ethics and sustainable procurement. In January 2023, Eti Soda received a Platinum Medal, placing it among the top 1% of companies assessed by EcoVadis globally. Morningstar Sustainalytics also performed a broad-based corporate ESG assessment of our Group. We received an industry-leading corporate ESG assessment score of 16.1, which placed us as the only soda ash producer in the "low risk" category. As of 6 June 2022, the score would place our Group as the best ESG risk rating score in the entire Morningstar Sustainalytics global commodity chemicals subsector (first out of 227 companies).

Turkish earthquake

Tragically, the start of 2023 has presented great challenges and terrible heartbreak for our communities and our people in Türkiye, following the earthquakes in early February. Whilst none of our operations or facilities were impacted, our thoughts are with those who have been directly affected, with the aid teams who continue to work in enormously difficult conditions in the disaster zone and with all our staff members who have family and friends in the affected region.

The recovery from this disaster will unfortunately take many years. We have already provided direct assistance with the provision of equipment, clothing and food, an initial one hundred prefabricated buildings to support families in the worst affected areas and our $1.0 million commitment to Darüşşafaka to support the many orphaned children who have sadly lost their families in the disaster. At WE Soda, we are more than a business, we are a family, and we will continue to provide support and assistance for as long as required.

Outlook for 2023

During 2023, we expect that our production volumes will increase by around 0.2 million mtpa, mainly from efficiency improvements driven by the debottlenecking expansion at Kazan Soda which has already come on-stream. Over the long term, we expect that global supply-demand balances will tighten as new demand growth outpaces net new capacity additions[4]. During 2023, we also expect that supply-demand balances will tighten as inventories are worked through and global demand picks up, driven by long-term structural growth drivers augmented by the recovery in global economic activity.

Late 2022 was characterised by a modest slowdown in global shipments of soda ash, partly driven by higher levels of product inventory that built up in the latter part of 2022, ahead of 2023 price increases, and partly driven by the slowdown of economic activity in certain regions.

Most regional markets have seen robust soda ash supply-demand patterns overall which have supported generally robust pricing, but we have recently observed a decline in the price of soda ash in Asia and Europe, mainly driven by lower energy pricing. Global and regional energy markets have seen significant downward price adjustments in 2023, with Turkish natural gas prices more than halving from their highs in October 2022, reducing our Cash costs ($ per mt)[1]. Against the backdrop of tightening supply-demand balances, normalising energy prices, and our ongoing operational efficiency improvements, we are confident about the positive outlook for our operating margins in the longer term.

So far in 2023, it feels like the global economy is starting to turn the corner faster than most had anticipated at the end of last year. Our business is performing well, mainly driven by declining energy costs and long-term structural growth supported by some of the key global mega trends, including the energy transition. We believe we are well placed to deliver another year of record performance.

Alasdair Warren
CEO

1 See definitions of Alternative Performance Measures on our website – www.wesoda.co.uk.
2 Source: NexantECA analysis, April 2023.
3 We determine our impact on nature and the environment in comparison to our peers through the assessment of our energy intensity of 4.44, Scope 1 & 2 CO_2e emissions intensity of 0.343, water intensity of 2.04, and total waste directed to disposal of 73,384 mt (in each case for 2022) as these metrics provide a relative and comparable measure of performance across our industry.
4 Source: Advancy research, March 2023.

The essentials of our business

We're one of the largest and lowest cost producers – and the fastest growing

We operate very large, modern and efficient assets using an innovative "game-changing" process to produce soda ash at low cost with, we believe, the lowest impact on nature and the environment[1]. We have planned expansion projects in Türkiye and Wyoming, US that, if developed as planned, will add more than 6 million mtpa of production, more than doubling our production capacity to 11 million mtpa by 2030[2].

#1
natural soda ash producer

Patented
"game-changing" process

Doubling
production capacity by 2030[2]

We're the most sustainable producer

We are committed to operating in an environmentally and socially responsible way. We believe we have the most environmentally friendly production process within our industry with the lowest CO_2e emissions and water intensity and very little solid or liquid waste.

One-third
of the Scope 1 & 2 CO_2e emissions intensity of synthetic production[1, 4]

One-quarter
of the water intensity of synthetic production[1]

Almost no waste[1]

Our market has long-term structural growth

Our products are essential ingredients in industrial processes that produce sustainable everyday products for the modern world, with no meaningful substitution risk. Resilient end markets drive long-term non-cyclical volume growth – with 75% of growth driven by sustainable applications[3], most of which comes from the growth markets of China, Asia and South America.

Long-term
structural growth

+16 million mtpa
additional global demand by 2030[3]

75%
growth from sustainable applications[3]

We have an exceptional financial profile

Our low cost of production supports robust EBITDA margins and high levels of cash generation, enabling us to invest over $4 billion by 2030 to grow our business whilst also maintaining a prudent balance sheet, with low leverage, and leaving significant cash to distribute to our shareholders. Our strong sustainability credentials are expected to provide new commercial opportunities to extract a "sustainability" price premium for our products over time.

>80%
cash conversion in 2022

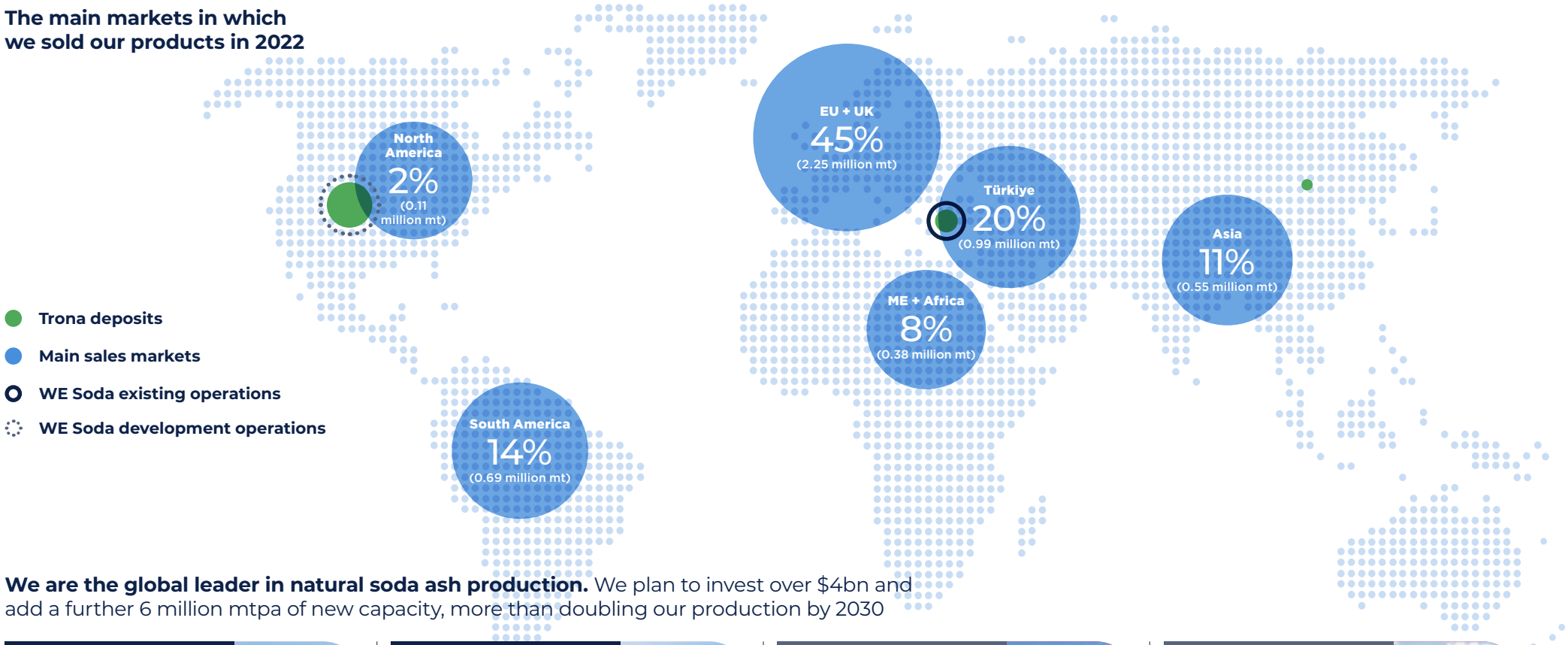
~1.6x
leverage in 2022

"Sustainability" premium
upside potential

1 We determine our impact on nature and the environment in comparison to our peers through the assessment of our energy intensity of 4.44, Scope 1 & 2 CO_2e emissions intensity of 0.343, water intensity of 2.04, and total waste directed to disposal of 73,384 mt (in each case for 2022) as these metrics provide a relative and comparable measure of performance across our industry.
2 Based on nameplate production capacity, if current expansion projects developed as planned.
3 Source: Advancy research, March 2023.
4 Relative to the Ammonia process based synthetic production, which accounts for 100% of European synthetic production and more than 50% of China synthetic production.

Our world class assets and operations

The main markets in which we sold our products in 2022



We are the global leader in natural soda ash production. We plan to invest over $4bn and add a further 6 million mtpa of new capacity, more than doubling our production by 2030

Eti Soda

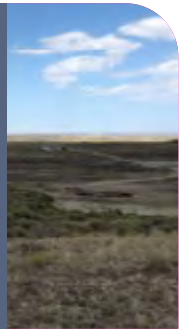
Eti Soda started production in late 2009 and was expanded in 2017. Today, it produces ~2 million mtpa with an ~20-year remaining mine life[1, 2]

Kazan Soda

Kazan Soda started production in late 2017. Today, it produces ~3 million mtpa and is planned to be expanded to ~4 million mtpa by mid-2025, with an ~29-year remaining mine life[1, 3]

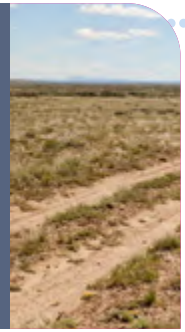
West Soda

West Soda is a greenfield development project in Wyoming, US targeting ~3 million mtpa production. It is the first project of its kind targeting 100% renewable electricity sourcing



Pacific Soda

Pacific Soda is a greenfield project in Wyoming, US that we are developing together with Sisecam, targeting ~5 million mtpa production. We own a 40% non-controlling interest

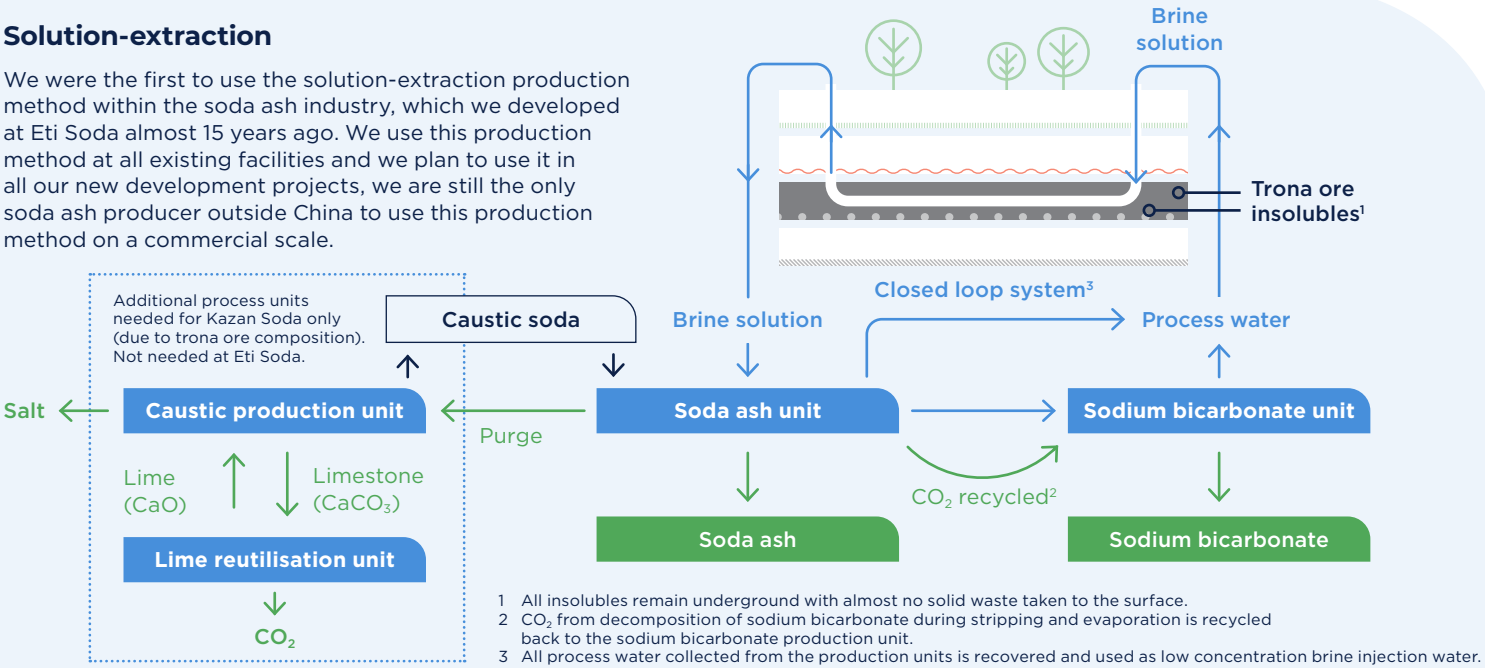


1 As of 31 December 2022.
2 Based on proven reserves and assumes a total combined production rate of 1.95 million mtpa as at 31 December 2022.
3 Based on proven reserves and assumes a total combined production rate of 2.95 million mtpa as at 31 December 2022, taking into account total production capacity expansions of 0.95 million mt by late 2025.

Our “game-changing” production process

Solution-extraction

We were the first to use the solution-extraction production method within the soda ash industry, which we developed at Eti Soda almost 15 years ago. We use this production method at all existing facilities and we plan to use it in all our new development projects, we are still the only soda ash producer outside China to use this production method on a commercial scale.



1 All insolubles remain underground with almost no solid waste taken to the surface.
2 CO_2 from decomposition of sodium bicarbonate during stripping and evaporation is recycled back to the sodium bicarbonate production unit.
3 All process water collected from the production units is recovered and used as low concentration brine injection water.

Soda ash production methods

Soda ash is produced by two main methods: the so called “natural” production method, where naturally occurring underground trona ore is extracted using either the solution-extraction or conventional underground mining methods. It is then processed, typically using the “monohydrate” process to produce “natural” soda ash; and the so called “synthetic” production method, predominately using the ammonia process (also known as the “Solvay” process), where limestone (calcium carbonate) is heated (or calcined) at over 1,000 degrees centigrade to produce carbon dioxide which is then reacted with ammonia (as a catalyst) dissolved in a salt (sodium chloride) brine solution to produce “synthetic” soda ash.

Our products

Our main product is soda ash (chemically known as sodium carbonate), which in 2022 accounted for over 95% of our production. We also produce sodium bicarbonate (also known as baking soda) as a derivative product from our soda ash production process. We produce both from naturally occurring trona ore.

Soda ash and sodium bicarbonate are both simple, safe, inorganic raw materials usually available in the form of odourless white powders that are highly soluble in water. Soda ash is the tenth most consumed inorganic compound in the world because it is an essential ingredient in a variety of industrial processes, including the manufacture of glass, which accounts for 60% of global soda ash demand.

There are two basic types of soda ash: dense soda ash, which accounts for over 90% of demand and is used in the vast majority of industrial processes including in the production glass, and light soda ash, which is used primarily in the production of powdered detergents and can only be produced from synthetic processes. The chemical composition of both types is identical and the main difference between light and dense soda ash is the bulk density. We produce and sell only dense soda ash, mainly in bulk format.

There are three basic types of sodium bicarbonate, all of which are chemically identical: food, animal feed and technical grade. We produce and sell all three, but we mainly produce technical grade product, which is used in industrial applications and a variety of environmental applications including waste water treatment and the desulphurisation of flue gases.

Our differentiated position

We only produce natural soda ash and sodium bicarbonate using the solution-extraction production method, and we currently produce around 5 million mt of natural soda ash and sodium bicarbonate every year.

We have a number of other differentiated characteristics within the global soda ash industry:

- Sustainability is embedded in everything we do.
- We care for our people and our communities.
- We have “best-in-class” facilities with low environmental impact.
- Our global customer reach is based on long-term partnership and reliability.
- We invest for growth.

For more details of our differentiated positions within the soda ash industry, see “Our business model” on pages 16 and 17.

Our markets

Understanding the market in which we operate enables us to be prepared for change, to respond to customer needs, and to refine our strategy to maintain our market leadership.

One of life's essential ingredients

Soda ash is one of life's essential ingredients. It is a critical component in almost all the industrial processes in which it is used, with no economically feasible and environmentally viable substitute in almost all processes, and without which most of our customers cannot operate. Most of the applications and products in which soda ash is used play an important role in facilitating the energy transition and an essential role in the sustainable products we use in everyday modern life, yet it is invisible to most of us.

Our product sales broadly reflect the end-use demand for all soda ash and sodium bicarbonate globally and, as the largest producer of natural soda ash and a large producer of sodium bicarbonate, we believe we are well positioned to benefit from energy transition and global sustainability trends going forward.

Glass

Lithium-ion EV batteries

Powdered detergents

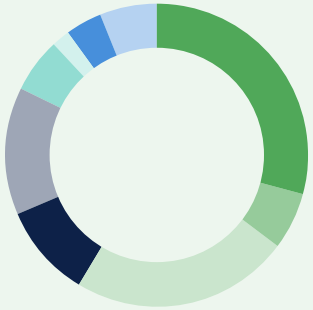
Industrial and other

Sodium bicarbonate

PV Solar Panels

Uses of soda ash in 2022

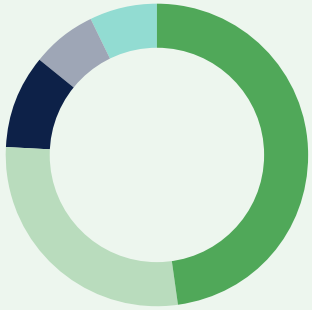
60% used in glass manufacturing



- 30% Flat glass (excl. PV) 19.3m mt
- 6% PV glass 3.7m mt
- 24% Container & other glass 15.5m mt
- 10% Powdered detergents 6.2m mt
- 14% Silicates & other sodium chemicals 8.7m mt
- 6% Water & flue gas treatment 3.7m mt
- 2% Lithium carbonate 1.3m mt
- 4% Sodium bicarbonate 2.4m mt
- 6% Other applications 3.8m mt

Drivers of demand until 2030

Over 90% driven by developing economies



- 48% China +7.7m mt
- 28% Asia (excl. China) +4.6m mt
- 10% South America +1.7m mt
- 7% Other growth markets +1.1m mt
- 7% Mature markets +1.1m mt

75% driven by sustainability trends

- 44% Highly sustainable applications +7.2m mt
- 29% Sustainable applications +4.7m mt
- 27% Other applications +4.5m mt

Mainly structural, low cyclicality demand

- 66% Other applications +4.5m mt
- 34% Higher cyclicality +5.6m mt

Our markets continued

Attractive and resilient end markets

From almost 65 million mt of global demand in 2022, the annual demand for soda ash globally is forecast to grow by a further 16 million mtpa, reaching almost 81 million mtpa by 2030[1]. This is equivalent to compounding global growth of around 2 million mtpa.

Demand for soda ash is resilient. 75% of forecast global growth by 2030 is expected to be driven by sustainable applications facilitating the energy transition, most of which exhibit long-term, non-cyclical structural growth. From a regional perspective, almost 90% of forecast demand growth is expected to be driven by the higher growth markets of China, Asia and South America due to their growing populations, increasing economic prosperity and continued urbanisation. For South America, this is augmented by the strong expected growth in lithium carbonate production, particularly from Chile and Argentina, which is expected to increase significantly over this period. In the case of China and Asia, the rapid growth in PV glass manufacturing capacity is also expected to drive additional demand for soda ash. We expect demand growth in the short to medium term to be consistent with this long-term trend[1].

+16 million mtpa

demand growth from 2022 to 2030

The environmental and sustainability characteristics of our production process and products may also help our customers achieve their own emissions targets. Soda ash is often an important contributor to the Scope 3 CO_2e emissions of our customers, and many of them are increasingly recognising and prepared to pay for the benefits of using sustainably produced low-carbon natural soda ash, like we produce, instead of using higher carbon, higher environmental impact synthetic product which today accounts for over 70% of global soda ash supply[1], and which has higher CO_2e emissions intensity and water intensity, produces more waste and has a bigger impact on nature. Over the long term, this is expected to result in increased demand and premium pricing for natural soda ash over synthetically produced soda ash.

75%

of global demand growth from 2022 to 2030 driven by sustainable applications

We believe that the long-term structural growth of soda ash and the increasing focus of our customers and consumers on sustainability are likely to result in increased exports of natural soda ash to the largest consuming markets. As the largest and one of the lowest cost producers of sustainability produced, low-carbon natural soda ash, able to serve all the major soda ash markets globally, we believe we are well positioned to capitalise on the worldwide growth in soda ash demand and global sustainability and energy transition trends.

Supply-side challenges

Environmental regulation, laws and policies in many parts of the world, including in both Europe and China, which together represent over 80% of the global synthetic soda ash production capacity, effectively prohibit the increase of synthetic production capacity in these markets. It is mainly for this reason, together with the broader sustainability and environmental concerns of governments, industrial customers and consumers, that we believe over 90% of the 16 million mtpa of global demand growth by 2030 will be satisfied by new natural soda ash production. This is also supported by the so far announced capacity additions globally, where projects in which we are participating in total account for over half of the world's new soda ash supply over this period. We believe we are investing more and growing faster than any other soda ash producer globally. If all our growth projects are developed as planned, we will invest over $4 billion and more than double our production capacity by 2030, by which time we aim to be producing over 11 million mtpa of soda ash and sodium bicarbonate.

Natural soda ash production is constrained by the location and occurrence of trona ore. Commercially exploitable quantities of trona ore only occur in three regions globally: near Green River in Wyoming, US, near Ankara in Türkiye and in Inner Mongolia in China. By far the largest trona deposits are located in Wyoming, US, and Türkiye has the second largest deposits, the two regions in which we are active. The thickest and most voluminous beds of the highest grade trona ore in Wyoming exist at depths of more than 550m below the surface, depths at which trona can only be safely extracted on an economically viable basis using the solution-extraction method.

Today, we are the only soda ash producer outside China to successfully use the solution-extraction method on a commercial scale, and we believe this gives us a significant advantage over our competitors which use conventional mining or synthetic production methods. There are also significant permitting and planning processes in US, which are publicly disclosed, and for which approval is required, before it is possible to develop new soda ash production capacities. These processes take many years to complete, thereby making any new projects before 2028, which have not already been announced, unlikely.

Taken together, we believe all these factors will create supply-side challenges in the years ahead, which are likely to mean that new supply additions will be challenging to bring on-steam for many of our competitors and, together with the resilient long-term structural demand growth that is expected globally, this is likely to drive tight, and possibly tightening, supply-demand balances within the soda ash supply chain in the coming years. In this environment, security of supply will become increasingly important, and we believe this will support a robust pricing environment for soda ash globally and further strengthen our market position and competitive advantage over other producers or potential newcomers in the soda ash industry.

90%

of global demand growth from 2022 to 2030 satisfied by new natural soda ash production

1 Source: Advancy research, March 2023.

Our markets continued

Drivers of price and margin

We are one of the lowest cost producers of soda ash globally, with an efficient global customer supply chain which allows us to sell our products on a cost-competitive basis in every major soda ash market globally. Soda ash production is energy intensive, and energy costs represent the largest part of the cash production costs for all producers. We have an advantage because natural soda ash production using the solution-extraction method only has less than half of the energy intensity of synthetic soda ash production – significantly reducing our cash production cost but also significantly lowering our Scope 1 & 2 CO_2e emissions intensity, by comparison with synthetic producers.

We are able to generate strong and sustainable operating margins because of the market structure of the global soda ash industry – where the much higher cash production costs of synthetic producers, which today account for over 70% of global soda ash supply, effectively set the reference price for soda ash in most of our markets, including our most important regional market – Europe. We believe that this market structure is unlikely to change in the medium term.

2022 was an extraordinary year but also a challenging year for our business. In the first half, we saw a tight soda ash market driven by strong global growth. From the second quarter, we had to deal with the impact of rapidly rising energy prices following the Russian invasion of Ukraine, causing turbulence in the energy markets, and the consequential rise in inflation and interest rates, impacting our customers.

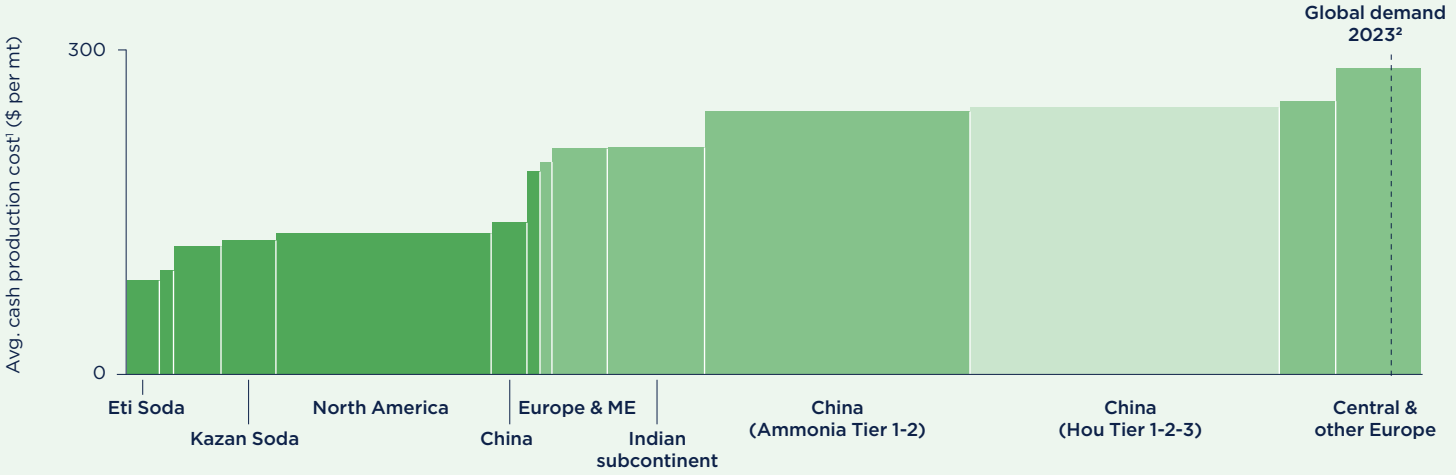
The global soda ash market was characterised by robust demand in the first half of 2022, which given the lack of new supply and rising energy input costs for all producers, drove inflationary pricing for our products, which varied between regional markets depending on local supply-demand factors. Due to the tight supply-demand dynamics for soda ash globally, together with the higher energy prices that more significantly impacted many of our more energy intensive synthetic soda ash competitors, we were able to pass on increased energy costs, and particularly natural gas costs, to almost all of our customers. This led to increases in netback pricing and strong operating margins during 2022.

Late 2022 was characterised by a modest slowdown in global shipments of soda ash, partly driven by higher levels of product inventory that built up in the latter part of 2022, ahead of anticipated 2023 price increases, and partly driven by the slowdown of economic activity in certain regions. Most regional markets have continued to see robust soda ash pricing in 2023 but we have observed a modest decline in the price of soda ash in Asia, albeit from the very high levels seen in 2022. Over the long term we expect that global supply-demand balances will tighten as new demand growth outpaces net new capacity additions[1]. During 2023, we expect that supply-demand balances will also tighten as inventories are worked through and global demand picks up, driven by long-term structural growth drivers augmented by the recovery in global economic activity.

Global and regional energy markets have seen significant downward price adjustments in the first quarter of 2023, with the Turkish natural gas prices more than halving from its highs in the third quarter of 2022, reducing our Cash costs ($ per mt) and allowing us to increase our operating margins per tonne during 2023. Against a backdrop of tightening supply-demand balances, normalising energy prices, and our ongoing operational efficiency improvements, we are confident about the positive outlook for our operating margins per tonne in the longer term.

1 Source: Advancy research, March 2023.

Average estimated cash production costs[1] by region, $ per mt, 2023E



Source: Advancy research, March 2023.

1 Calculated as total cash operating expenses excluding shipping and transportation but including SG&A.
2 Width of columns based on 2023 estimated soda ash production capacity, excluding 6 million mt synthetic capacity mostly in CIS and South America with assumed poor cost positions.

Our business model

Sustainability is embedded in everything we do

Our purpose

We define our purpose as ***"to responsibly produce essential ingredients for a sustainable future"*. This is our guiding principle by which we make our corporate decisions and conduct our corporate activities.** We believe we produce soda ash with the lowest impact on nature and the environment[1] and we are committed to operating sustainably in an environmentally and socially responsible way with strong corporate governance. We measure our sustainability performance and, where needed, we seek external help to ensure continuous improvement, actively investing in new initiatives, systems and processes.

Safety

We employ a skilled workforce, with high retention and engagement levels. We prioritise the safety and wellbeing of our employees, through our health & safety, our comprehensive training and development programmes, and our robust policies and procedures that we have put in place across our business.

Communities

We care for and work closely with the communities in which we operate. Our aim is to ensure that they continue to be sustainable and thrive long after our sites are de-commissioned, and we work with them around five core themes: building a sustainable future, environment and nature, youth and education, community support, and women's empowerment.

These initiatives include supporting local agriculture to provide important sources of income, educational opportunities to widen employment prospects, supporting children and families, and a focus on inclusiveness, empowerment and gender equality.

Environmental impact

Our substantially closed-loop solution-extraction production method not only has one of the lowest costs of production, but we believe it also has the lowest impact on nature and the environment[1] across the global soda ash industry. It is safer (because it does not require any underground operatives), and it uses far less energy and water, and produces far less CO_2e and solid and liquid waste per unit of production than any other soda ash or sodium bicarbonate production method.

Emissions

Eti Soda and Kazan Soda produce soda ash with around one-third of the Scope 1 & 2 CO_2e emissions intensity by comparison with synthetic soda ash production. This is partly because the solution-extraction production method uses significantly less energy per unit of production but also because the production of sodium bicarbonate (as a derivative of the soda ash production process) allows us to re-use the CO_2 released during soda ash production, increasing our plant efficiency and reducing our overall CO_2e emissions. In US, we plan to develop West Soda using 100% renewable electrical power, significantly reducing our already low emissions and supporting our pathway to Net Zero CO_2e emissions by 2050.

Eti Soda and Kazan Soda operate with

one-third

of the Scope 1 & 2 CO_2e emissions intensity of synthetic production[1]

1 Relative to the Ammonia process based synthetic production, which accounts for 100% of European synthetic production and more than 50% of China synthetic production.

Sustainable applications

Our soda ash is used in glass manufacturing, lithium-ion EV batteries, PV solar panels, powdered detergents, silicates and various sodium-based chemicals and other industrial and environmental applications. Our sodium bicarbonate is used in food, animal feed, and various healthcare and environmental applications including water and flue gas treatments. By 2030, it is estimated that 75% of new demand growth for soda ash will be driven by sustainable applications[2].

Sustainability premium

Supply chains are being forced towards increased transparency by consumers, regulators and numerous commercial factors. We believe that greater transparency will enable and support sustainable business models, build trust and strengthen relationships with customers and other stakeholders, and also incentivise an industry-wide sustainability transition. In 2022, we developed and announced a new, blockchain enabled ecosystem called "ConnexSA", which will allow our customers to have full supply chain transparency of the sustainability footprint of our product. Over time, we also believe greater transparency will create the opportunity for us to realise a "sustainability premium" for our low-carbon, high-sustainability products.

Our business model continued

100% solution-extraction

Innovation

We were the first company to develop the solution-extraction production method within the global soda ash industry almost fifteen years ago. Today, we use the solution-extraction method at all our production facilities, and it will also be used at our new greenfield development projects in Wyoming, US. Today, we are still the only soda ash producer in the world to successfully use the solution-extraction method on a commercial scale, outside China.

Patented

The solution-extraction production method consists of injecting a pressurised, heated, low-concentration brine into the subsurface ore body, which dissolves the trona into a more concentrated brine solution that is then extracted to the surface before being pumped to a central facility and processed to produce soda ash and sodium bicarbonate. We hold a number of patents associated with different elements of our production process.

"Best-in-class" facilities

Scale

Today, we operate two large, modern soda ash production facilities using the solution-extraction method at Eti Soda (2 million mtpa) and Kazan Soda (3 million mtpa). These are two of the largest and lowest cost soda ash production facilities in the world. Over the last fifteen years, we have developed a strong operational track record in large-scale project development, commissioning and process optimisation.

Well invested

In 2022 and early 2023, we installed new decahydrate and caustic soda units at Kazan Soda, which are now on-stream, which will improve our production efficiency and increase run-rate production by around 0.3 million mtpa, reducing Scope 1 CO_2e emissions intensity. By 2025, we plan to further increase production capacity at Kazan Soda by approximately 0.6 million mtpa by constructing additional soda ash and sodium bicarbonate production units and a sodium chloride re-processing unit, further improving operating efficiency and further reducing Scope 1 CO_2e emissions intensity and waste.

Increasing run-rate production by

0.3 million mtpa

in 2023, and reducing Scope 1 CO_2e emissions intensity

Global customer reach, long-term partnership and reliability

Reach

We sell our products in every major soda ash market worldwide, in almost 80 countries to large industrial customers and also via our exclusive network of regional distributors, which have exclusive rights to distribute our products in the regions in which they operate. Our distributors have extensive regional logistics infrastructure and networks, and they supply our products to small and medium sized customers, and also support the service we deliver to our larger global customers within their regions. We run a 24/7 global logistics operation. The advantageous geographic position of our facilities enables us to distribute our products to all the major soda ash markets worldwide in a competitive and cost-effective manner.

Partnership and reliability

Soda ash is a "mission critical" component in the manufacturing processes of our industrial customers, without which they cannot operate. The reliability of our global supply chain is therefore critical and we have a proven track record of service quality and supply chain reliability. We have built strong partnerships with our distributors and our customers, as evidenced by our long-standing relationships with both, most of which are for ten years or more.

We sell our products in

77

countries

Investing for growth

Financial strength

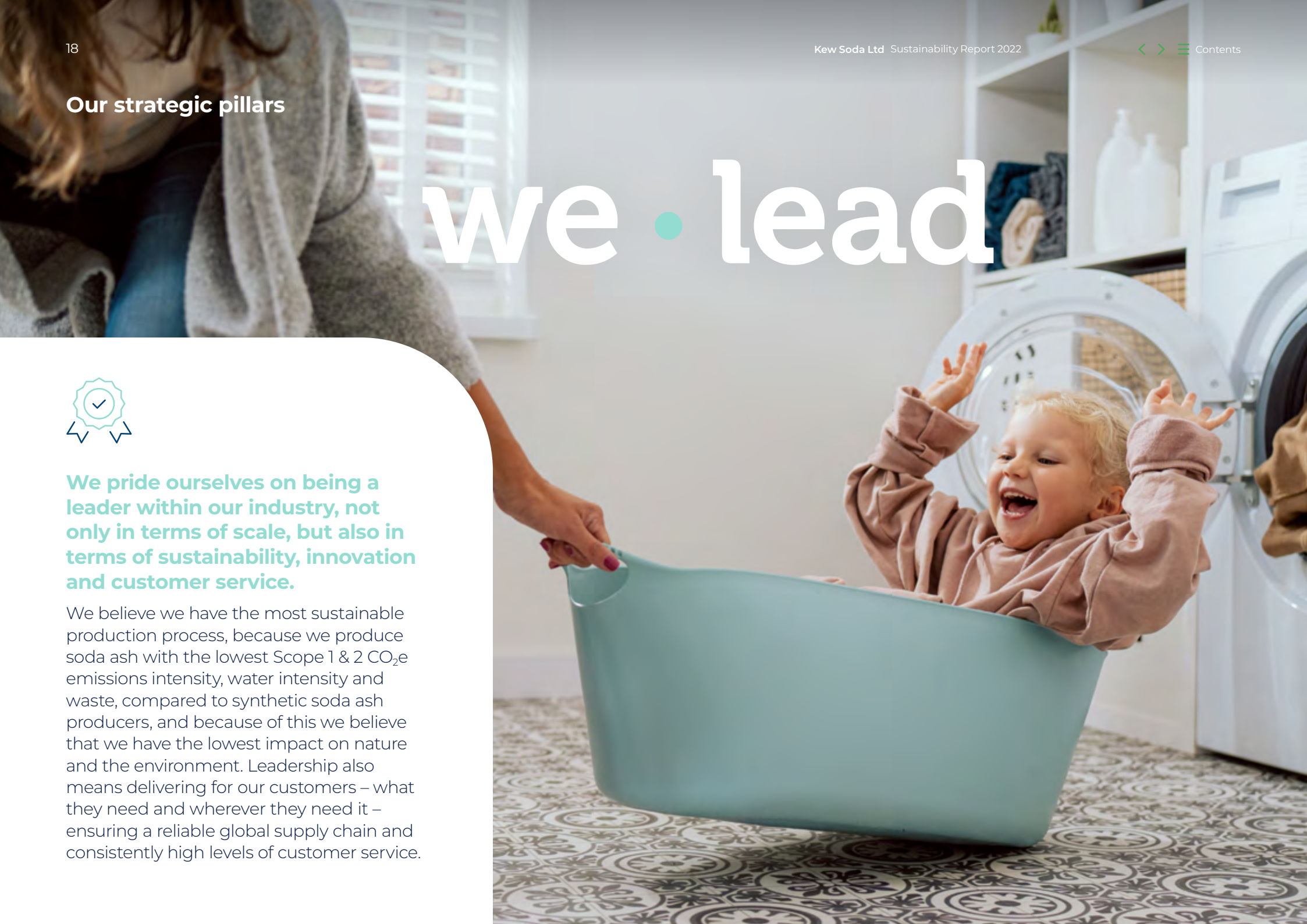
We generate strong operating margins, mainly as a result of our low-cost production and our efficient global customer supply chain. We also generate strong Free Cash Flow[3], supported by our low Maintenance Capital Expenditure[3] at our well-invested and well-maintained production facilities. We maintain a strong balance sheet, with a Total Net Leverage Ratio[3] of only approximately 1.6x for the year ending 31 December 2022.

More than doubling production

We believe we are investing more and growing faster than any other soda ash producer globally, supported by our strong financial position and our unique operating capabilities. We plan to invest more than $4 billion to more than double our production volumes by 2030. We are developing two greenfield soda ash projects in Wyoming, US: we own 100% of West Soda, an approximately 3 million mtpa greenfield project, and we also own a 40% non-controlling interest in an approximately 5.4 million mtpa greenfield project known as Pacific Soda, that we are developing together with Sisecam.

1 We determine our impact on nature and the environment in comparison to our peers through the assessment of our energy intensity of 4.44, Scope 1 & 2 CO_2e emissions intensity of 0.343, water intensity of 2.04, and total waste directed to disposal of 73,384 mt (in each case for 2022) as these metrics provide a relative and comparable measure of performance across our industry.
2 Source: Advancy research, March 2023.
3 See definitions of Performance Measures on our website – www.wesoda.co.uk.

Our strategic pillars



We pride ourselves on being a leader within our industry, not only in terms of scale, but also in terms of sustainability, innovation and customer service.

We believe we have the most sustainable production process, because we produce soda ash with the lowest Scope 1 & 2 CO_2e emissions intensity, water intensity and waste, compared to synthetic soda ash producers, and because of this we believe that we have the lowest impact on nature and the environment. Leadership also means delivering for our customers – what they need and wherever they need it – ensuring a reliable global supply chain and consistently high levels of customer service.

we • lead continued

2022 achievements

- In 2022, we produced and sold more than 5 million mt of product for the first time, a 3% increase versus 2021. We believe we produce the highest quality and most sustainable soda ash, with a 99.8% purity and the lowest Scope 1 & 2 CO_2e emissions intensity, and water intensity and waste, compared to synthetic soda ash producers.
- We are one of the lowest cost soda ash producers because we operate two of the largest and most efficient facilities, and we are the only producer outside China to successfully use the solution-extraction production method on a commercial scale.
- We are the largest global exporter of natural soda ash, and in 2022 we delivered our products to large industrial customers at over 170 individual destinations in almost 80 countries. To achieve this, we manage an integrated global customer supply chain that serves our customers 24/7.
- Our sustainable working practices have been independently recognised and verified. In 2022, our Group received a Gold Medal and Kazan Soda received a Silver Medal and in January 2023, Eti Soda received a Platinum Medal, placing it among the top 1% of companies assessed by EcoVadis globally.
- In 2022, we received an industry-leading corporate ESG assessment score of 16.1 from Morningstar Sustainalytics – making us the only soda ash producer in the "low risk" category. As at 6 June 2022, our score would place us as having the best ESG risk rating score in the entire Morningstar Sustainalytics global commodity chemicals subsector (first out of 227 companies).
- In October 2022, we continued our commitment as a reliable long-term supplier of low-carbon natural soda ash with the announcement of West Soda, a new 100% owned greenfield development project located in Wyoming, US.

Investing more than

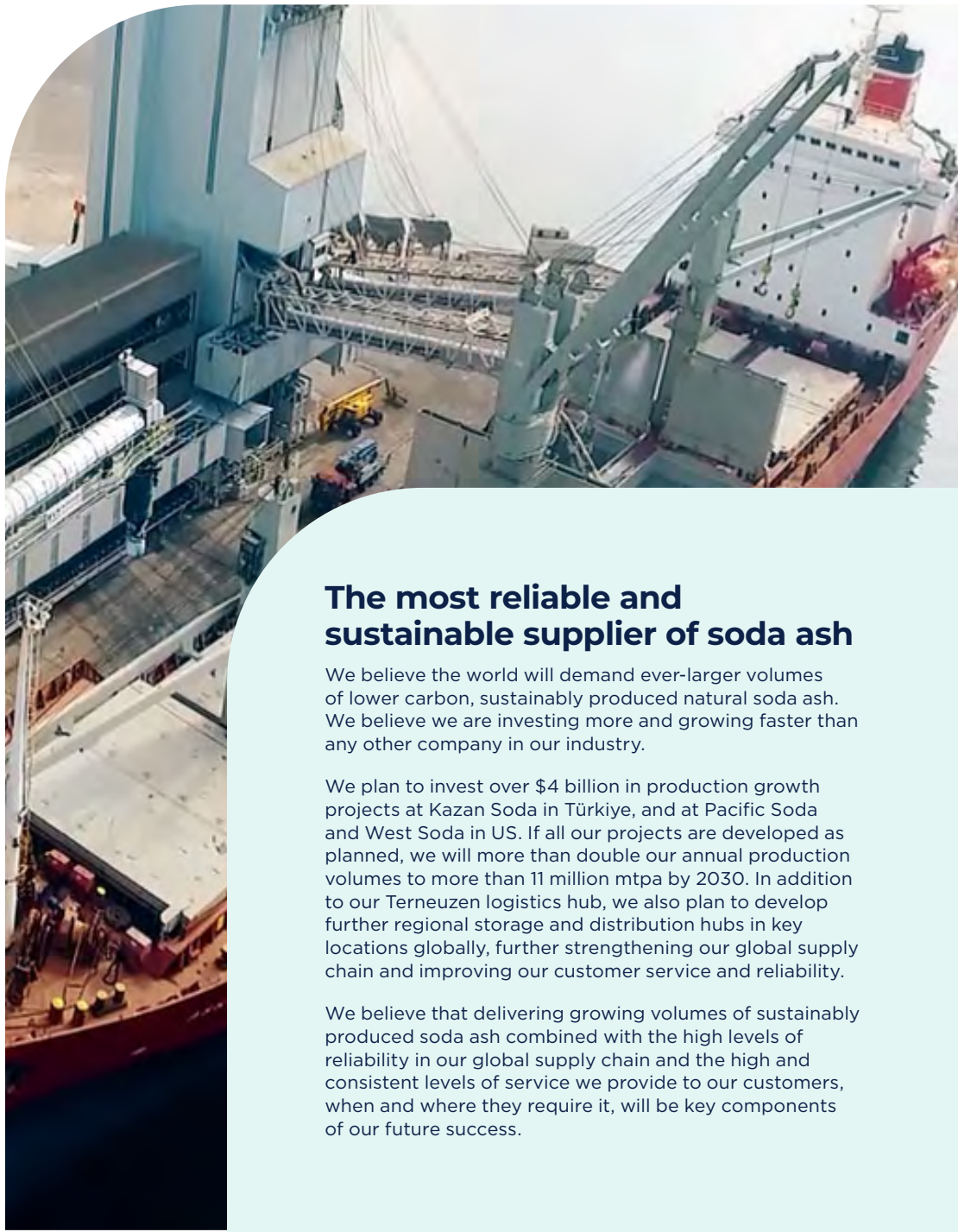
$4.0bn

to grow our production volumes (million mtpa)

2022	**5.0m**
2030	> 11.0m

Looking ahead

- We expect our new logistics hub at Terneuzen, Netherlands will be operational during 2023, with up to 85,000 mt of storage capacity, serving our customers in northern Europe and the UK.
- The Kazan debottlenecking project was completed during March 2023. Further expansion at Kazan Soda is now under way with the construction of additional production capacity which we plan to bring on-stream during 2025, taking our total production in Türkiye to around 6.0 million mtpa.
- During 2023, we aim to register more than 80% of our core suppliers for the Sedex platform, allowing us to screen our suppliers with our own sustainability criteria, particularly in relation to ethical trading and responsible supply chain practices. By 2025, we aim to have all of our major distributors operating with our sustainability governance.
- In 2023, we aim to more thoroughly evaluate customer satisfaction, looking to use a Net Promoter Score ("NPS") methodology with all our major customers.
- As we seek to further improve our sustainability approach, we will seek additional external assurance on our sustainability strategy and data.



The most reliable and sustainable supplier of soda ash

We believe the world will demand ever-larger volumes of lower carbon, sustainably produced natural soda ash. We believe we are investing more and growing faster than any other company in our industry.

We plan to invest over $4 billion in production growth projects at Kazan Soda in Türkiye, and at Pacific Soda and West Soda in US. If all our projects are developed as planned, we will more than double our annual production volumes to more than 11 million mtpa by 2030. In addition to our Terneuzen logistics hub, we also plan to develop further regional storage and distribution hubs in key locations globally, further strengthening our global supply chain and improving our customer service and reliability.

We believe that delivering growing volumes of sustainably produced soda ash combined with the high levels of reliability in our global supply chain and the high and consistent levels of service we provide to our customers, when and where they require it, will be key components of our future success.

Our strategic pillars continued

we • care

We believe our success will be driven by attracting, developing and retaining the best people, as well as looking after our people and the communities in which we operate.

We are focused on safety as our number one priority and also on nurturing a diverse, well-educated workforce. We do this by empowering managers, investing in training, giving employees responsibility, focusing on risk, and encouraging accountability. We also believe that by supporting our local communities, we create long-term value for our communities and for our business.

we • care continued

2022 achievements

- In 2022, we reduced the number of LTI workplace accidents by around 40% compared to 2021, despite a 7% increase in total working hours, but we want to do better. In October 2022, we engaged dss+, an international specialist safety consultant, to review our safety practices and identify actions to urgently and permanently reduce our LTI workplace accidents.
- During the year, our employee survey revealed that we have high levels of employee satisfaction at 76% as well as high levels of commitment and motivation. As at year end 2022, our employee retention rate was also high, at 93%.
- In 2022, we welcomed 13 new female engineers and managers into our business, and meaning 35% of our middle management are women (in both technical and administrative roles).
- During 2022, we offered over 26,000 hours of vocational, social development, management and occupational safety training at Eti Soda and over 40,000 hours of training at Kazan Soda.
- We worked with 209 students as part of our internship programme, from universities across Türkiye and from local technical high schools. 31% of our workforce are under 30 years of age.
- In the last year, we have supported a diverse range of community projects in Türkiye and the UK with our time, capabilities and total financial contributions of around $1.1 million. Our most recent social project is our partnership with the Welsh Rugby Union in the UK to deliver community programmes which support families and children from poorer backgrounds, and those with disabilities and special educational needs.

Social contributions of

$1.1m

(2021: $0.4 million)

Employee satisfaction

76%

across all employees

Looking ahead

- In 2023, we are aiming for a further significant reduction in LTI workplace accidents, and over time we believe we can achieve zero LTI workplace accidents.
- We will continue to provide interesting opportunities for young women and men, and we will aim to maintain our high levels of employee retention and satisfaction.
- We will aim to continue improving gender diversity within our workforce, with a particular focus on management and leadership opportunities. Within the next ten years, we aim to have an equal number of women and men within our senior and middle management.
- During 2023, we plan to review all our social impact projects and the basis on which we assess their impact, over the long and short term.
- Over time, we will aim to maintain and increase our community engagement and social impact, with the objective of having a long-term positive impact on more people within the communities that matter to us.

Eti Soda community greenhouse project

We seek to align our social responsibility initiatives with the UN Sustainable Development Goals most relevant to our operations, including gender equality, decent work and economic growth.

Originally commissioned in 2021 and operational since April 2022, the Eti Soda greenhouse project is focused on creating employment opportunities for local women in agriculture. The project was developed in partnership with the Municipality of Ankara (“ANFA”) and it involves a large, permanent glasshouse structure on land owned by Eti Soda and adjacent to the Eti Soda facility, which uses electricity and heat (in the form of waste process water) supplied by Eti Soda, but it is managed by ANFA to grow a variety of different plants which are used in the surrounding area for the planting of communal areas, parks and roadside landscaping.

The operation is staffed exclusively by women from the local community and family members of our employees. It is not for profit and any excess income after costs and the distribution of wages, is used to support further female empowerment initiatives in the local community.

Our strategic pillars continued

we • innovate

With a clear purpose, innovation thrives.

Innovation is a core part of our culture; it has always been one of the most important drivers in the development of our business and we believe that it is a key differentiating factor in our customer offering. With the impact of climate change affecting all of us, ensuring a more sustainable future is a priority. That is what inspired us to develop “ConnexSA”, our blockchain enabled sustainability ecosystem delivering transparency and traceability throughout our value chain.

we • innovate continued

2022 achievements

- Necessity required us to innovate and develop Eti Soda as the first soda ash production facility in the world to use the solution-extraction production method, almost fifteen years ago. Today, we are still the only soda ash producer in the world outside China to successfully use solution-extraction on a commercial scale.
- Our solution-extraction production method uses less than one-quarter of the water used in synthetic production. In 2022, we recycled or re-used 39% of our water demand and we are innovating to further reduce our water intensity.
- In 2022, we sent over 70,000 mt of non-hazardous waste to landfill (safely stored in our lined storage areas). At Eti Soda, roughly half of the solid waste produced from our boilers is sold for re-use and the rest is stockpiled. In 2022, we trialled the use of biomass and, over time, by using more biomass we plan to reduce our landfill to zero.
- Through targeted production innovations, we have improved efficiency, increased capacity, and reduced our operating costs. As an example, at Eti Soda, we have increased our production volumes by over 20% in the last five years, with an average annual efficiency gain of almost 3% every year.
- This year, we developed and announced an innovative blockchain enabled ecosystem called “ConnexSA”, which will provide our customers with full supply chain sustainability transparency for our products.

Today, we recycle around

40%

of our water demand

Looking ahead

- We will take our innovative solution-extraction production method to US, with our planned development of Pacific Soda and West Soda.
- Over the next five years, we plan to reduce our water intensity by 20%, mainly through the use of dry air-cooling systems.
- Once operational in 2025, our new sodium chloride plant at Kazan Soda will allow us to reprocess a by-product and sell it as industrial salt.
- We have already installed 7MW of solar PV capacity, and we plan a further 3MW in 2023. We plan to deliver up to 200MW of renewable power in Türkiye by 2027, and in US we plan to develop the first soda ash production facility globally to source all of its electricity needs entirely from renewables.
- Research and development is an important part of innovation, as we try to find ways to reduce our environmental footprint and improve our operational efficiency. We plan to develop carbon capture technologies through CO_2 liquefaction and sequestration for our residual process and combustion emissions.

Blockchain enabled value chain transparency “ConnexSA”

We believe in transparency in all areas of our business, but particularly around sustainability.

Supply chains are being forced towards greater sustainability disclosure by regulators, customers and consumers. In a conventional supply chain, participants can only typically trace their immediate suppliers and customers, but with increased focus on traceability and accountability, we believe that in the future participants will require visibility throughout the entire supply chain.

With the objective of delivering greater sustainability transparency, we developed a blockchain enabled ecosystem called “ConnexSA”, which we announced in October 2022. The ConnexSA “vision” is to provide transparent, reliable and verifiable sustainability data to all stakeholders, including end consumers. We hope that “ConnexSA” will be adopted throughout the soda ash supply chain, and we plan to introduce customers and other industry participants into the project during 2023, with the objective of the “ConnexSA” platform being operative during 2024.

Our strategic pillars continued

we • challenge

To maintain our leadership, we must continuously challenge ourselves and the status quo within our industry, and be prepared to do things differently and better.

We plan to turn our industry into a better place than we found it. We'll do this by ensuring sustainability is at the core of everything we do, challenging the view that value is only monetary. If we get the balance right, our endeavours will create value for all our stakeholders – from our customers and communities to society and the world as a whole.

we • challenge continued

2022 achievements

- We believe that greater transparency will enable and support more sustainable business models. We also believe that, over time, greater sustainability transparency will drive greater value for lower carbon, more sustainably produced products. That is why we developed "ConnexSA".
- We believe that the world will need more sustainably produced natural soda ash to facilitate the energy transition and assist the world on its journey towards a more sustainable future. That is why we announced the development the first greenfield soda ash development project in US for almost 50 years, using solution-extraction in US for the first time.

Looking ahead

- Although we believe we already have around one-third of the Scope 1 & 2 CO_2e emissions intensity of our synthetic competitors, we plan to drive this lower, reducing by 20% over the next five years and 40% over the next ten years.
- We plan to develop the world's first soda ash facility to be powered with 100% renewable electricity (see case study). Together with our renewable power projects in Türkiye, this will require us to build over 800MW of renewable power generation capacity over the next ten years.
- In addition to renewable power, we also plan to develop the use of carbon capture and liquification/storage technologies to be able to remove residual process and combustion CO_2 emissions at our facilities.
- Despite the fact that today we only have around one-quarter of the water intensity of our synthetic competitors, we also plan to reduce our water intensity by a further 20% in the next five years, through the use of dry air-cooling systems.
- And today, we produce almost no waste, but we plan to reduce or re-use the waste we do produce by reprocessing our sodium chloride by-product and reducing other solid waste by changing to more sustainable fuel sources.

Our sustainability commitments

Safety	• A significant reduction in LTI workplace accidents in 2023 • The objective of zero LTI workplace accidents, over time
Scope 1 & 2 CO_2e emissions intensity	• 20% reduction within five years[1] • 40% reduction within ten years[1] • Net Zero by 2050
Water intensity	• 20% reduction within five years[1]
Diversity	• An equal number of women and men at middle and senior management levels within ten years[1]

1 We determine our impact on nature and the environment in comparison to our peers through the assessment of our energy intensity of 4.44, Scope 1 & 2 CO_2e emissions intensity of 0.343, water intensity of 2.04, and total waste directed to disposal of 73,384 mt (in each case for 2022) as these metrics provide a relative and comparable measure of performance across our industry.

The world's first 100% renewable powered soda ash production

Soda ash is an essential ingredient in many industrial processes and in order to keep up with continually growing demand, new sources of supply must be developed. As the world continues on its decarbonisation journey to meet COP26 targets, it is a priority to ensure all new sources of soda ash supply have the lowest possible impact on nature and the environment[1]. The power needs of a soda ash production facility present a decarbonisation challenge, which we are embracing.

We are planning to develop West Soda with an initial production capacity of around 3.0 million mtpa, designed from the outset to source all of its electrical needs entirely from renewable power sources. That means over 130MW of continuous 24/7 electrical load. To address this, we plan to develop around 600MW of renewable power generation and storage – the first time this has been done for any mineral processing facility of this scale, anywhere in the world.

We also plan that West Soda will have the potential, over time, to be progressively expanded on a modular basis to meet the growing global demand for sustainably produced low-carbon natural soda ash and that, over time, all heat (steam) needs at this facility will also come from renewable sources. These are both ground-breaking innovations within the global soda ash industry to address the challenges faced by all.

Operating sustainably

A sustainable future

We define our purpose as *"to responsibly produce essential ingredients for a sustainable future"*.

This is our guiding principle upon which we make our strategic decisions and conduct our corporate activities.

Sustainability is integrated into everything we do and it is embedded throughout our governance and management framework.

Operating sustainably

How we manage sustainability

Today, we are the only soda ash producer in the world to use the solution-extraction method on a commercial scale, outside China, which we believe allows us to produce and deliver soda ash with the lowest Scope 1 & 2 CO_2e emissions intensity and water intensity and, within our industry, we believe that we have the lowest impact on nature and the environment[1]. As a result, we believe we are a leader within our industry, not only in terms of scale, but also in terms of sustainability, because we believe we have the most sustainable and environmentally-friendly[1] production process.

Our CEO has overall executive responsibility for sustainability within our Group. Whilst we have always operated with a strong focus on sustainable development, in 2022 we established our Board Sustainability Focus Group (which in 2023 was constituted as the Sustainability Committee), with a mandate and formal responsibility for ensuring that we develop, document and implement an integrated sustainability strategy across all areas of our business. The Committee is comprised only of independent non-executive directors, all of whom have significant experience in different areas of sustainable operations, social engagement and governance, and it meets quarterly to review our sustainability performance and initiatives presented by our CEO and Chief Operating Officer (COO) and annually to review our integrated sustainable development strategy. For more details on our Sustainability Committee please see page 85 of our Governance Report.

In early 2023, to better coordinate our sustainability activities and to provide enhanced oversight, we appointed a Global Sustainability Director ("GSD"), based at our London headquarters and reporting to our CEO. Our GSD works with our COO and with local sustainability teams embedded within our operations that are responsible for implementing and monitoring our sustainable development approach at a local level, including group policies, processes and performance metrics. Our sustainability governance applies to everyone within our company, and we also aim to apply it to all our partners across our upstream and downstream supply chains.

Managing our exposure to climate risks and seizing opportunities to enhance our climate resilience are a core part of operating sustainably. Please see our TCFD report page 58 and our approach to risk management on page 63 of the Annual Report for more information about our oversight and approach to managing climate-related risks associated with our business.

1 We determine our impact on nature and the environment in comparison to our peers through the assessment of our energy intensity of 4.44, Scope 1 & 2 CO_2e emissions intensity of 0.343, water intensity of 2.04, and total waste directed to disposal of 73,384 mt (in each case for 2022) as these metrics provide a relative and comparable measure of performance across our industry.

Operating sustainably continued

Sustainability is at our core

We believe sustainable business is good business, and we are committed to operating sustainably in an environmentally and socially responsible way. We seek to lead our industry in a number of areas of sustainability, as highlighted below and as set out in more detail on pages 29–50.

Safety is our number one priority

We aim to actively manage workplace safety, with training and monitoring to ensure that our employees understand workplace and process safety-related risks, with appropriate risk control and mitigation strategies in place. In 2022, we reduced the number of LTI workplace accidents and the number of LTI lost workdays at our facilities by around 40% compared to the prior year, despite a 7% increase in total working hours. Notwithstanding this improvement, we have a lot more to do if we are going to eliminate serious and avoidable accidents. With this target in mind, in October 2022 we engaged the international safety consultancy dss+ to undertake a thorough review of our safety practices and process safety management. We are aiming for a further significant reduction in LTI workplace accidents in 2023, and over time we believe we can eliminate LTI workplace accidents.

We reduced the number of LTI workplace accidents by

40%

in 2022

We care for our people

We are an inclusive, performance and capability-based employer that does not discriminate, among others, based on gender, ethnicity, religion, nationality or disability. As of 31 December 2022, 35% of our middle management were female and 31% of our workforce was under 30 years of age. We believe that providing opportunities for young men and women is fundamental to driving the growth and prosperity of our business. Within the next ten years we aim to have an equal number of women and men within our senior and middle management. Investing in our people as well as transparent, two-way communication between our leaders and our workforce are core parts of our culture. This ethos contributed to our low levels of staff turnover and high levels of employee satisfaction in 2022.

Sustainable end uses

Soda ash is the tenth most consumed inorganic industrial ingredient, which plays an essential role in the sustainable products we use in everyday modern life, yet it is invisible to most of us. Soda ash is used to produce lithium carbonate for electric vehicle batteries, flat glass for PV solar panels and to improve the thermal efficiency of buildings, glass containers to replace single use rigid plastics and sodium-based chemicals used in various environmental applications including flue gas and wastewater treatment, amongst others.

Supporting the energy transition

Soda ash is an essential material for energy transition. From around 65 million mt of global demand in 2022, the annual demand for soda ash globally is forecast to grow by 16 million mpta by 2030, with 75% of the growth being driven by sustainable applications[1]. Soda ash is often an important contributor to the Scope 3 emissions of our customers, many of whom are increasingly recognising and prepared to pay for the benefits of using sustainably produced low-carbon natural soda ash, like we produce, instead of higher carbon, higher environmental impact[2] synthetic product, which today accounts for over 70% of global soda ash supply[1].

Lowest energy intensity and Scope 1 & 2 CO_2e emissions[1] intensity

We already have the lowest energy intensity within our industry, and we are aiming to drive it lower by continuously improving the efficiency of our facilities and processes. During 2022, our energy intensity was approximately 4.44, which is less than half of the energy intensity for synthetic soda ash production[3]. We also believe we have the lowest Scope 1 & 2 CO_2e emissions intensity of any soda ash producer globally[3]. We operate modern, efficient plants where most of the CO_2 released during soda ash production is captured and re-used in the production of sodium bicarbonate. During 2022, our Scope 1 & 2 CO_2e emissions intensity was approximately 0.34, around one-third of the Scope 1 & 2 CO_2e emissions intensity for synthetic soda ash producers[3].

1 Relative to the Ammonia process based synthetic production, which accounts for 100% of European synthetic production and more than 50% of China synthetic production.

Operating sustainably continued

Focus on renewable energy

We have installed 7MW of PV solar generation capacity at our facilities which came on-stream during the first quarter of 2023, with a further 3MW planned by year end 2023. In Türkiye, we estimate that we can deliver up to 100MW of PV solar and over 100MW of wind power by 2027, and in US we are planning to develop the first soda ash production facility globally to source all of its electricity needs entirely from renewable power sources, significantly reducing Scope 1 & 2 CO_2e emissions intensity. Over time, we intend that all heat (steam) needs at our new US facility will also come from renewable sources – an important step in our journey towards Net Zero CO_2e emissions by 2050.

Low water intensity and waste

Our production process uses a substantially closed-loop system, with consumed process water limited mainly to the steam produced during evaporation and drying, and with very limited waste water. This helps us to operate with significantly lower water intensity compared with synthetic soda ash producers. During 2022, our total water intensity was approximately 2.04, less than one-quarter of the water intensity of synthetic soda ash producers[3]. Where possible, we aim to apply the principles of circular economy to recover, re-use or recycle by-products and waste arising from our production process, helping us to improve our plant efficiency and sustainability.

Our communities

We consider ourselves a part of the communities in which we operate, and we believe that by supporting our local communities we create long-term value for our communities and for our business. During 2022, we supported a diverse range of community projects in Türkiye and the UK with our time, capabilities and total direct financial and charitable contributions of around $1.1 million. Our aim is to maintain and increase our community engagement over time, with the aim of having a positive impact on more people. During 2023, we will also renew our social impact projects to better assess and quantify their short-term and long-term impact.

Nature

As we only use the solution-extraction production method, we are very different from many other extractive industries because we have very limited impact on pre-existing land use, enabling our facilities to easily co-exist alongside the farming communities which surround us. Our impact on existing flora and fauna is limited by comparison with other conventional underground or open cast mining methods. This is due, in part, to the relatively easy removal of surface pipelines and wellheads upon decommissioning, without the need for rehabilitating significant waste material dumps or open cast mine areas.

Supply chain

We aim to apply our sustainability governance and practices to all our partners across our upstream and downstream supply chains. In October 2022, we announced the launch of a blockchain enabled soda ash supply chain ecosystem called “ConnexSA”, with the objective of delivering transparency and robust sustainability data and governance across the entire supply chain – from our suppliers to our end customers. During 2022, we also registered nearly 60% of our suppliers (by value) onto the Sedex[4] platform, to allow us to more effectively screen our suppliers in accordance with our own sustainability criteria, particularly in relation to ethical trading and responsible supply chain practices.

1 Source: Advancy research, March 2023.
2 We determine our impact on nature and the environment in comparison to our peers through the assessment of our energy intensity of 4.44, Scope 1 & 2 CO_2e emissions intensity of 0.343, water intensity of 2.04, and total waste directed to disposal of 73,384 mt (in each case for 2022) as these metrics provide a relative and comparable measure of performance across our industry.
3 Source: NexantECA analysis, April 2023.
4 Sedex is a data platform provider for supply chain assessment, to store, analyse, share and report on sustainability practices.

Operating sustainably continued

Benchmarking our performance

To help us realise our purpose, we aim to operate in accordance with "best-in-class" global sustainability frameworks and standards. Eti Soda and Kazan Soda have been signatories of the United Nations Global Compact since 2020. In 2022, as part of our commitment to transparency, we have aligned our reporting with the requirements of the Global Reporting Initiative ("GRI") and we have reported in accordance with the recommendations of the TCFD. Please see our TCFD disclosures on pages 58–63, our GRI Content Index on page 87 and our non-financial key performance indicators on page 51 for more information.

We are already a leader within our industry, but we continuously strive to do better. We have identified a significant number of ongoing and future initiatives to further improve our performance across energy consumption, Scope 1 & 2 CO_2e emissions intensity, water usage and intensity, renewable power generation and waste. Amongst other targets, we have committed to achieving Net Zero CO_2e emissions by 2050 and we have engaged ERM to help design and implement a CO_2e emissions reduction pathway, that is consistent with a "below 1.5°C" global warming outcome. For further details on our initiatives to further reduce our environmental impact, please refer to pages 23; 25; 28–29.

We believe that objective external benchmarking drives better performance. Every year, we assess our sustainability performance against a set of published targets and we disclose our performance to a number of external benchmarking bodies, some of which are summarised below.

- **ISO certification:** Both Eti Soda and Kazan Soda have a number of ISO certifications, including ISO 14001 Environmental Management System, ISO 50001 Energy Management System and ISO 10002 Customer Satisfaction Management System. These certifications require processes and sustainable operating practices that meet internationally recognised standards.
- **EcoVadis:** We submit annually to EcoVadis, a leading provider of global sustainability ratings, which assesses us based on international sustainability standards in four areas: environmental impact, labour and human rights, ethics and sustainable procurement. In 2022, Kazan Soda received a Silver Medal and our Group received a Gold Medal. In January 2023, Eti Soda received a Platinum Medal, placing it among the top 1% of companies assessed by EcoVadis globally.
- **Sustainalytics:** In 2022, Morningstar Sustainalytics performed a broad-based corporate ESG assessment of our Group dated 6 June 2022[1]. We received an industry-leading corporate ESG assessment score of 16.1, which placed us as the only soda ash producer in the "low risk" category. As of the date of the corporate ESG assessment, the score would place our Group as having the best ESG risk rating score in the entire Morningstar Sustainalytics commodity chemicals subsector (first out of 227 companies) and the seventh best ESG risk rating score in the wider Morningstar Sustainalytics global chemicals sector (comprised of 464 companies).
- **CDP:** We make annual climate change and water security submissions to the CDP, an independent nonprofit organisation that collects, benchmarks and communicates information about the life cycle environmental impact of products and processes for companies globally. In 2022, both Kazan Soda and Eti Soda were awarded a "B" performance score for their water security and climate change submissions, reflecting the strong corporate management we apply around coordinated action on climate and water issues.

1 Morningstar Sustainalytics is a leading global provider of ESG research, ratings and data, which provides research based on its independent methodology, and publicly available information from issuers. The full corporate ESG assessment is published on Morningstar Sustainalytics' website; however, no information provided by Morningstar Sustainalytics under the corporate ESG assessment shall be considered as being a statement, representation, warranty or argument either in favour or against the truthfulness, reliability or completeness of any facts or statements that WE Soda Group has made available to Morningstar Sustainalytics for the purpose of the corporate ESG assessment, in light of the circumstances under which such facts or statements have been presented. Neither the corporate ESG assessment, nor any other information on Morningstar Sustainalytics' website, is incorporated by reference into this Sustainability Report.

Operating sustainably continued

Our people

Employees

1,373

excluding contractors.
(2021: 1,296)

Safety

40%

reduction in serious injuries
(all LTI workplace accidents vs. 2021)

Employee satisfaction

76%

across all employees

Employee retention

93%

(2021: 93%)

Opportunity

31%

under 30 years of age

Diversity

35%

women within middle management

Safety first

Providing a safe and healthy work environment is our number one priority. We strive to ensure that all employees adopt a "safety first" mindset through a proactive and preventative approach, with strong safety leadership. We actively manage workplace safety, with training and monitoring to ensure that our employees understand and recognise workplace safety and process safety-related risks, with appropriate risk control and mitigation strategies tailored to different types of safety-related risk. We aim to continuously improve our safety practices, policies and performance in line with global best practice standards and we now monitor this with both leading and lagging indicators. We are already in an advantageous position because our production facilities use the solution-extraction method to exploit underground trona ore, which means we have no underground operatives. We have also successfully implemented the ISO 45001 OHS Management System at both Eti Soda and Kazan Soda. We record all types of workplace accidents, injuries, near misses and hazardous events and report these to senior executive management on a weekly basis and at every meeting of our Board.

We aim to be a leader within our industry in everything we do and safety is no exception.

	For the year ending		
Group safety KPIs	**2022**	2021	2020
Total workforce headcount[1]	1,382	1,297	1,293
Total working hours (thousands)	2,737.4	2,553.4	2,213.1
Number of fatalities	0	0	0
Number of workplace accidents	29	52	66
Total number of LTI[2] workplace accidents	26	44	55
Number of LTI lost workdays	428	712	621
Number of non-fatal reportable injuries[3]	14	21	15
Number of recordable injuries[4]	2	6	9
Main types of accident	Exposure to harmful substances	Lifting & handling	Exposure to harmful substances
Accident Frequency Rate[5]	11	20	30
Occupational Accident Probability Rate[6]	2,098	4,009	5,104
LTI Frequency Rate[7]	9	17	25
Total safety training hours (thousands)	36.3	32.2	13.8

1 OHS data for Turkish sites only – headcount includes employees, trainees and leavers.
2 LTI means Lost Time Injury.
3 Number of non-fatal reportable injuries, according to the RIDDOR definition, represents injuries that result in 7 or more days of incapacitation as well as Certain Serious Injury incidents. According to RIDDOR, an accident is a separate, identifiable, unintended incident, which causes physical injury. This specifically includes acts of non-consensual violence to people at work.
4 Number of recordable injuries, according to the RIDDOR definition, represents injuries that result in more than 3 days and less than or equal to 7 days of incapacitation.
5 Accident Frequency Rate represents the number of total workplace accidents divided by total working hours, multiplied by 1 million, calculated based on SGK data.
6 Occupational Accident Probability Rate represents the total number of accidents divided by the total workforce headcount, multiplied by 100,000, calculated based on SGK data.
7 LTI Frequency Rate represents the number of LTI workplace accidents divided by total working hours, multiplied by 1 million, calculated based on SGK data.

Over the last three years, the majority of our safety KPIs have shown an improving trend, with the number of recordable injuries[4] down by almost 80%, our Accident Frequency Rate[5] down by over 60%, our LTI (lost time injury) Frequency Rate[7] down by over 60%, and our Occupational Accident Probability Rate[6] down by almost 60%. Among the other measures we have taken, the near tripling of our safety-related training hours has contributed to this positive development.

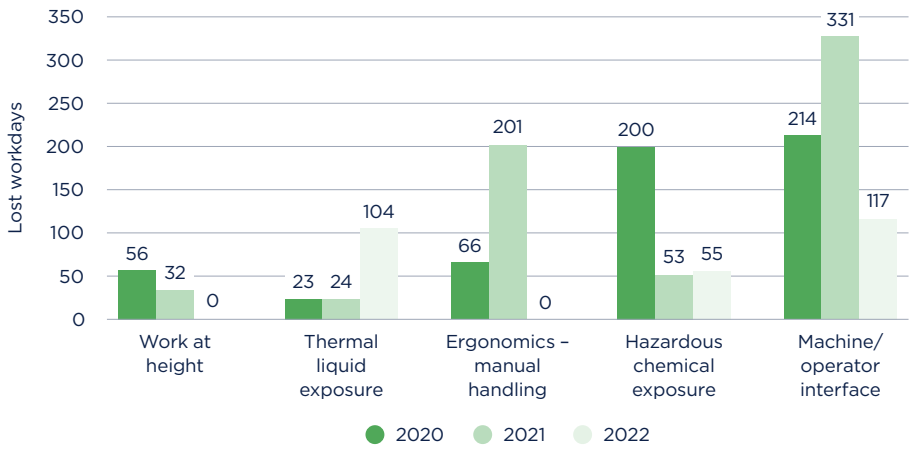
Our safety excellence journey

During 2022, we reduced the number of LTI workplace accidents and the number of LTI lost workdays at our facilities by around 40%, compared to the prior year despite a 7% increase in total working hours, but the number of high consequence work-related events remains stubbornly high, and we have a lot more to do if we are going to eliminate serious and avoidable accidents within our facilities. With this objective in mind, in October 2022 we engaged the international safety consultancy dss+ to undertake a thorough review of our safety practices and process safety management.

We analysed all our LTI workplace accidents over the last three years and found that machine/operator interfaces and hazardous chemical exposures (particularly within the caustic soda production unit at Kazan Soda and associated with the handling of hot condensate) comprised the highest proportion of our LTI workplace accidents. To immediately improve safety in these areas, we have rolled out a new safety observation programme to promote safer working practices and behaviours around machine-operator interfaces. We have also assigned a dedicated maintenance team for the caustic soda production unit to eliminate leakages and improve the reliability of pipelines.

Operating sustainably continued

Types of LTI workplace accidents and associated LTI lost workdays



Additionally, the instructions and procedures for working with hazardous liquids have been revised, which we believe will lead to less exposure of employees to hot condensate and significantly reduce the possibility of accidents.

As part of our review, we identified significant gaps in our current safety performance when compared to international best practice standards. In Türkiye, each year we are required to record and report accidents to the Turkish General Directorate of OHS at the Ministry of Labour & Social Security ("SGK"), in compliance with national laws and regulations. To be able to benchmark our performance to UK and international best practice standards, we now also investigate and record safety incidents according to the UK Health and Safety Executive Reporting of Injuries, Diseases and Dangerous Occurrences Regulations ("RIDDOR"), in addition to SGK reporting. One of the most important insights derived from benchmarking our performance against RIDDOR data is the current gap that we need to close in our non-fatal injuries (being the number of high-consequence workplace injuries plus recordable injuries), which has reduced by almost 40% in the last three years but is still well above the rate achieved in comparable global industries.

Working with dss+, we have conducted a detailed risk-based safety assessment at our facilities to identify and prioritise areas for improvement. We have developed a comprehensive safety improvement programme to be rolled out during 2023 which will build on the outcome of the safety assessment. This implementation programme will help us develop a deeper, broader and stronger safety culture throughout our Group and we believe it will allow us to transform and sustain our safety performance going forward. During 2023, we are aiming for a further significant reduction in LTI workplace accidents and an immediate and lasting improvement in our overall safety performance – a critical step in our journey towards our target of zero LTI workplace accidents.

SGK safety reporting

In the last three years, based on SGK reporting, we have reduced the number of LTI workplace accidents by over 50%, reduced the number of LTI lost workdays by over 30% and reduced the Accident Frequency Rate[3] by almost 65%, despite a 24% increase in total working hours. We have reported no fatalities during the last three years and our Istanbul office had one LTI workplace accident and our London office had no LTI workplace accidents during this period.

Our historic safety statistics are for our Group employees only and excluded third-party contractors. From 1 January 2023, in line with best practice global standards, we will record and report our safety performance for all personnel working at our sites, including third-party contractors.

	For the year ending		
Group safety performance (SGK[1] reporting)	**2022**	2021	2020
Total workforce headcount[2]	1,382	1,297	1,293
Total working hours (thousands)	2,737.4	2,553.4	2,213.1
Number of fatalities	0	0	0
Number of work accidents	29	52	66
Total number of LTI[3] workplace accidents	26	44	55
Number of LTI lost workdays	428	712	621
Accident Frequency Rate[4]	*11*	*20*	*30*
LTI Severity Rate[5]	*156*	*279*	*281*
NACE 08 "Other Mining & Quarrying" Sector – Türkiye			
Accident Frequency Rate	*n/a[6]*	*27*	*22*
LTI Severity Rate	*n/a[6]*	*426*	*327*

1 General Directorate of OHS Social Security Institution: SGK Sosyal Güvenlik Kurumu.
2 OHS data for Turkish sites only – headcount includes employees, trainees and leavers.
3 LTI means Lost Time Injury.
4 Accident Frequency Rate represents the number of total workplace accidents divided by total working hours, multiplied by 1 million, calculated based on SGK data.
5 LTI Severity Rate represents the number of LTI lost workdays divided by total working hours, multiplied by 1 million, calculated based on SGK data.
6 Not yet published (due Q4 2023).

Operating sustainably continued

Eti Soda has been operating for more than thirteen years with a stable and experienced workforce. Today, the number of LTI workplace accidents at Eti Soda is well below the Turkish sector average (within NACE 08 "Other Mining & Quarrying"). In 2022, Kazan Soda celebrated its fourth year of production. Our workforce at Kazan Soda draws on the combined experience and expertise across the Group to pursue operational excellence. While we have achieved many important successes at Kazan Soda, we have an opportunity to further improve our safety performance to match that of Eti Soda going forward, and this will be a significant part of our safety focus during 2023.

RIDDOR safety reporting

A similar pattern of safety performance, with an improving trend, is reflected in the data recorded in accordance with RIDDOR over the last three years, with the total number of recordable injuries[1] reducing by 80% and the total incapacitation days reducing by over 20%.

However, the data also shows that the numbers of higher impact (reportable) injuries and dangerous occurrences (indicating possible high consequence near-misses) have not significantly changed over the period and remain at stubbornly high levels. We believe that the comprehensive safety improvement programme which we have developed with dss+ and which will be rolled out during 2023, will help to significantly improve our safety performance, particularly around higher impact incidents and dangerous occurrences, especially at Kazan Soda but also at Eti Soda.

	For the year ending		
Group safety performance (RIDDOR reporting)	**2022**	2021	2020
Total workforce headcount[5]	1,382	1,297	1,293
Total working hours (thousands)	2,737.4	2,553.4	2,213.1
Total non-fatal reportable injuries[1]	14	21	15
Total recordable injuries[2]	2	6	9
Deaths	0	0	0
Dangerous occurrences[3]	*9*	*1*	*9*
Total incapacitation days	381	639	478
Reportable non-fatal injury rate[4]	***1,013***	***1,619***	***1,160***
UK Chemical Manufacturing Industry			
Reportable non-fatal injury rate	*218*	*176*	*193*

1 Number of non-fatal reportable injuries, according to the RIDDOR definition, represents injuries that result in seven or more days of incapacitation as well as Certain Serious Injury incidents. According to RIDDOR, an accident is a separate, identifiable, unintended incident, which causes physical injury. This specifically includes acts of non-consensual violence to people at work.
2 Number of recordable injuries, according to the RIDDOR definition, represents injuries that result in more than three days and less than or equal to seven days of incapacitation.
3 Dangerous occurrences are categorised under reportable incidents; however, they are not classified under total number of accidents.
4 Reportable non-fatal injury rate represents the number of all reported non-fatal injuries divided by workforce headcount, multiplied by 100,000.
5 OHS data for Turkish sites only – headcount includes employees, trainees and leavers.

Employee wellbeing

We recognise the importance of wellbeing within our workforce. Every year we conduct a Psychosocial Risk Analysis to understand where our employees need further support and where improvement actions are needed. We also provide our employees with confidential mental health and dietician services, if required. In 2022, all our managers were given Psychosocial Risk Management and Awareness training, and all our employees were given training on Family Relations and Stress Management.

Operating sustainably continued

Diversity and inclusion

Diversity and inclusion are important elements of our culture. We aim to provide everyone with a positive work environment and equal opportunities. Our Code of Business Ethics outlines our approach to ensure our workplace allows for the participation and inclusion of all.

As at year end 2022, we employed 1,373 full time staff excluding contractors (2021: 1,296). As at year end 2022, approximately 3% of our employees were registered as disabled, and none of our employees were members of labour unions.

We recognise that industrial manufacturing has not traditionally been a popular choice for women when looking at career and employment options. We, however, believe that a diverse and inclusive workforce is an important driver of our success, and we are proactively working to improve gender diversity within our workforce, with a particular focus on management and leadership opportunities. In 2022, we welcomed thirteen new female engineers and managers into our business and as of 31 December 2022, 35% of our middle management are women (in both technical and administrative roles).

We will continue to work hard to achieve gender balance within our leadership team over the coming years. We have set the target, amongst others, of having an equal number of women and men within our senior and middle management combined within the next ten years, and to support this objective we aim to recruit each year an equal number of female and male graduates from universities and technical high schools and, for all lateral hires for roles within senior and middle management, we require an equal number of female and male candidates to be shortlisted for the final selection process.

Permanent employees, as at year end 2022 (excluding contractors)

	Total		Senior management		Middle management[1]		Operational[2]	
London								
Male	17	*65%*	7	*87%*	10	*56%*	n/a	*n/a*
Female	9	*35%*	1	*13%*	8	*44%*	n/a	*n/a*
Total	**26**		**8**		**18**			
Türkiye[3]								
Male	1,206	*90%*	29	*94%*	195	*66%*	982	*96%*
Female	140	*10%*	2	*6%*	101	*34%*	37	*4%*
Total	**1,346**		**31**		**296**		**1,019**	
Group								
Male	1,223	*89%*	36	*92%*	205	*65%*	982	*96%*
Female	149	*11%*	3	*8%*	109	*35%*	37	*4%*
Total[4]	**1,372**		**39**		**314**		**1,019**	

1 Includes administrative and professional staff.
2 Includes all "blue-collar" employees.
3 Includes Eti Soda, Kazan Soda and Istanbul office.
4 An "Other" gender category was listed, but not submitted for any employees.

At year end 2022, Kazan Soda employed 732 staff, excluding fixed term contractors (2021: 686), comprising 590 "blue-collar" and 142 "white-collar" staff, of which 660 were male and 72 (10%) were female. The 7% increase in employees at Kazan Soda during 2022 was mainly driven by the additional staff required for our debottlenecking and capacity expansion projects. It was also driven by our focus on improving plant efficiency and availability, which required an increase in the frequency of "wash-outs" of certain operating units, whilst maintaining a safe operation and without requiring excess overtime. At year end 2022, Eti Soda employed 554 staff, (2021: 545) comprising 429 "blue-collar" and 125 "white-collar" staff, of which 504 were male and 50 (7%) were female. The 2% increase in employees at Eti Soda during 2022 was also driven by our focus on improving plant efficiency and availability, whilst maintaining a safe operation.

Talent attraction, training and development

We aim to attract, develop and retain the best talent. We engage with potential employees through multiple channels including participating in university career days and providing internship opportunities. In 2022, we worked with 209 students as part of our internship programme, from universities across Türkiye and from local technical high schools. As at 31 December 2022, 31% of our workforce is under 30 years of age. We believe that providing opportunities for young women and men is essential to ensure the prosperity of the communities in which we operate, and it is fundamental to driving the growth and prosperity of our business.

Training is a key part of retaining and developing talent within our business. The coronavirus pandemic limited our face-to-face training plans but led us to develop an online training platform which provides greater flexibility and breadth in the training we were able to offer to our employees. In 2022, we offered over 26,000 hours of vocational, social development, management, and occupational safety training to our staff at Eti Soda, over 40,000 hours of training at Kazan Soda and 696 hours of training to our senior management team. In our London head office, employees also had the opportunity to undertake personal and professional development training, and a more extensive programme for UK employees is under development in 2023.

Employee satisfaction

Investing in our people and transparent, two-way communication between our leaders and our workforce are core parts of our culture. We are committed to empowering, developing and rewarding our employees and we work hard to ensure our employees feel satisfied at work because we know that a stable, motivated and well-trained workforce will support our long-term success. We believe this approach drives better operating performance as well as increased employee satisfaction, and it has contributed to our low employee turnover, which was only 7% across our business in 2022.

Operating sustainably continued

Employee turnover	For the year ending 2022		
	All turnover	Voluntary	Involuntary
Eti Soda	4%	4%	0%
Kazan Soda	9%	8%	1%
Istanbul office	9%	9%	0%
Türkiye	**7%**	**6%**	**1%**
London office	**10%**	**0%**	**10%**
Group	**7%**	**6%**	**1%**

53% of our employees have been employed by us for more than five years, and 77% for more than three years. At Eti Soda, which has been operational for more than thirteen years, 73% of our staff have been employed for more than five years.

We aim to listen and evaluate the needs, opinions and expectations of our employees and have established a range of communication channels to enable this. At Eti Soda and Kazan Soda, our employees elect employee representatives who are responsible for active involvement in committees established to deal with personnel-related matters, liaising on behalf of employees with management to communicate views, grievances and possible improvements on company performance.

Employees share their opinions, comments, suggestions, or complaints through our regular surveys, or through the OHS Committees, employee representatives and at the regular "Town Hall" meetings which take place at our operating plants. Our employees can also convey any concerns and report potential violations of our Business Ethics Code through their managers, local HR professionals or through the Ethics Committee, as outlined in the Whistleblowing Policies of each site, detailing a clear protocol for employees who wish to raise concerns.

Every year we conduct an employee satisfaction survey, administered by an independent third-party organisation. The results of the survey provide us with important insights into how our employees feel about their workplace. Our 2022 survey results revealed that we have high levels of employee satisfaction, loyalty and motivation.

Employee survey feedback	For the year ending		
	2022	2021[1]	2020[2]
Eti Soda			
Overall employee satisfaction	75%	–	75%
Loyalty and belonging	79%	–	78%
Level of motivation	77%	–	75%
Kazan Soda			
Overall employee satisfaction	76%	75%	–
Loyalty and belonging	81%	79%	–
Level of motivation	79%	77%	–
Group			
Overall employee satisfaction	76%	–	–
Loyalty and belonging	80%	–	–
Level of motivation	78%	–	–

1 No employee satisfaction survey was facilitated in 2021 for Kazan Soda or the Group.
2 No employee satisfaction survey was facilitated in 2020 for Eti Soda or the Group.

Areas of success and where we can do better

We have strong corporate values and we work hard to deliver on our purpose to *"responsibly produce essential ingredients for a sustainable future"*. It is great to see that our colleagues are proud to be part of our collective success and their feedback supports our view that we have built a reputable and trusted position within our industry.

Not only do we look at where we are getting things right, but it is equally important to understand where we need to improve. One example, around management supervision, involved some employees in an operating unit at Kazan Soda highlighting that the leadership style of their team supervisors could be improved. We take this feedback very seriously, because we believe everyone should be able to work in a positive, motivational and inclusive workplace. In response, in 2022 all our managers and supervisors were given training to provide them with a better understanding of the most effective ways to engage with colleagues and different motivational strategies they could deploy. In 2023, we plan to start rolling out a twelve-month externally run leadership and management development programme involving thirty-five managers and some of our most talented senior engineers and supervisors, many of whom are relatively young leaders, with ongoing coaching thereafter.

We value the opinions and listen to the voices of all of our colleagues, and we aim to respond quickly when they identify areas for improvement. This process helps us to achieve high levels of employee satisfaction and employee retention, at 93% for both 2021 and 2022. For further information on our employee retention and turnover rates, please see Our non-financial key performance indicators on page 51.

"I am always proud to work at Kazan Soda and to contribute to production in a perfect and complicated system. The fact that the product produced is encountered in daily life makes people proud. It's really nice to be a part of this place. Thank you."

WE Soda employee

Operating sustainably continued

Our operations

Production

5.0 million mt

soda ash and sodium bicarbonate combined in 2022 (2021: 4.85 million mt)

Production growth[1]

11 million mtpa

by 2030 – more than doubling production

Scope 1 & 2 CO_2e emissions intensity

0.343

mt of CO_2e per mt soda ash and sodium bicarbonate sold, with target to reduce by 40% in the next 10 years

Water intensity

2.04

of water per mt soda ash (2021: 1.99 mt per mt), with target to reduce by 20% in the next 5 years

Sales to

77 countries

and 172 individual port destinations

Responsible and sustainable production

We believe that sustainable business is good business. Our operating model is inherently circular and we have almost no solid and liquid waste by comparison to synthetic soda ash producers because, where possible, we re-use, repurpose and recycle by-products to eliminate waste, improving plant efficiency and sustainability. Within our industry, we believe we produce soda ash with the lowest Scope 1 & 2 CO_2e emissions intensity) and water intensity[2], and we believe we have the lowest impact on nature and the environment[3]. We are able to do this because we only produce natural soda ash and we are the only company in the world to produce natural soda ash on a commercial scale, outside China, using the solution-extraction method. We also seek to lead our industry in terms of our impact on society, through inclusive recruiting and employment, creating high-quality local job opportunities and in active community engagement.

We have identified a significant number of ongoing and future initiatives to improve our already strong sustainability performance. Amongst other targets, we have committed to reducing our already low water intensity by a further 20% within five years, achieving Net Zero Scope 1 & 2 CO_2e emissions by 2050, to reducing our already low Scope 1 & 2 CO_2e emissions intensity by a further 20% within five years and by 40% within ten years, and we have engaged ERM to help design and implement a CO_2e emissions reduction pathway that is consistent with a "below 1.5°C" global warming outcome. For more details on our sustainability targets and initiatives, please see pages 4; 25 and 44.

Production volumes

Today, we operate two large, modern facilities located in Türkiye using the solution-extraction method to produce natural soda ash and sodium bicarbonate – at Eti Soda and Kazan Soda. We are the only soda ash producer to successfully use solution-extraction on a commercial scale, outside China, and we are one of the lowest cost producers in the world, with a robust global supply chain allowing us to deliver globally on a cost-competitive basis.

During 2022, we achieved combined soda ash and sodium bicarbonate production volumes of more than 5 million mt for the first time, with a 3% production volume increase versus 2021, mainly driven by higher levels of operational availability from our well-maintained facilities and our ongoing operational efficiency improvements at both sites, which we plan to further improve going forward.

	For the year ending		
Production (thousand mt)	**2022**	2021	2020
Eti Soda			
Soda ash	1,809.5	1,744.5	1,561.0
Sodium bicarbonate	218.5	207.5	202.0
Eti Soda total	**2,028.0**	**1,952.0**	**1,763.0**
Kazan Soda			
Soda ash	2,788.0	2,713.0	2,283.0
Sodium bicarbonate	185.0	187.0	180.0
Kazan Soda total	**2,973.0**	**2,900.0**	**2,466.0**
Group			
Soda ash	4,597.5	4,457.5	3,845.0
Sodium bicarbonate	403.5	394.5	385.0
Group total	**5,001.0**	**4,852.0**	**4,229.0**

1 Forecast annual production capacity, assuming all currently planned projects are developed as planned.
2 Source: NexantECA analysis, April 2023.
3 We determine our impact on nature and the environment in comparison to our peers through the assessment of our energy intensity of 4.44, Scope 1 & 2 CO_2e emissions intensity of 0.343, water intensity of 2.04, and total waste directed to disposal of 73,384 mt (in each case for 2022) as these metrics provide a relative and comparable measure of performance across our industry.

Operating sustainably continued

Eti Soda

Eti Soda is 74% owned and operated by our Group, with the remaining 26% owned by Eti Maden (the Eti Maden Operations General Directorate, a state-owned company whose main focus is the production of boron in Türkiye, which it sells globally). Eti Soda is located 100km north-west of Ankara, 270km by road from our bulk export facility at Derince and 80km from Kazan Soda.

Eti Soda was the first soda ash production facility in the world to use the solution-extraction production method on a commercial scale. The Beypazarı trona ore deposit was originally discovered in 1979 by the Turkish General Directorate of Mineral Research and Exploration, and Eti Soda was established in 1998 by the Ciner Group to exploit the trona ore deposit at this location. In 2004, a solution-extraction pilot plant was established at the site and construction of the current Eti Soda production facility commenced in 2007, with first production in late 2009 at an initial production capacity of 1.1 million mtpa. In early 2017, production capacity was increased to 1.7 million mtpa.

Eti Soda has three soda ash production units and two sodium bicarbonate production units. Approximately 16% of the electrical power needs and 100% of the steam needs of the facility are provided by a coal and biomass dual-fuelled cogeneration unit, with the remaining electrical power purchased from the grid. In 2022, Eti Soda produced 1.81 million mt of soda ash and 0.22 million mt of sodium bicarbonate, an increase in total combined production of 3.9% versus 2021, with 66% of the soda ash and 62% of the sodium bicarbonate production from Eti Soda exported to customers outside Türkiye.

During 2022, Eti Soda achieved a plant efficiency of 98.0% (measured as the ratio of soda ash equivalent volume of combined soda ash and sodium bicarbonate production to the soda ash equivalent volume of trona ore extracted, 2021: 97.6%) with an operational availability of 97.8% (the ratio of total hours of operation to total hours in a year, 2021: 97.3%), mainly driven by total maintenance days of only 8.0 days equivalent (2021: 10.0 days equivalent). The high levels of operational availability are driven by our core operating philosophy – to maintain 24/7 production through a regular and comprehensive programme of preventative maintenance and through high levels of operating redundancy and back-up within all the key operating units throughout the plant.

In May 2022, we completed the plant's third scheduled four-year major overhaul, on time and on budget. This involved a complete shutdown of the entire plant for an eighteen-hour period, a comprehensive periodic overhaul, the cleaning of equipment and preventative maintenance to improve efficiency and production capacity and lower energy consumption. The overhaul included an upgrade of the IT software and general maintenance of the cogeneration unit and transformers, and safety-critical items including the replacement and upgrade of the dust removal system from the main stack of the processing plant, reducing dust emissions.

To optimise the trona ore wellfield and mine efficiency, during 2022 we drilled three new exploration wells and constructed two additional well sets (together comprising six vertical wells and three deep wells equipped with submersible pumps), taking the total number of well sets in operation to thirty-eight (2021: twenty-three well sets). During 2023, we plan to construct thirteen new well sets and drill a further twenty-nine exploration wells within the identified ore body and also outside the current mineralisation zone, to assess further potential trona resources. We are also planning ongoing workover operations on a further seventeen existing production wells, to improve production efficiency. Going forward, total combined production from Eti Soda is expected to remain flat at around 2.0 million mtpa.

Operating sustainably continued

Kazan Soda

Kazan Soda is 100% owned and operated by our Group and is located 35km northwest of Ankara, 340km by road from our bulk export facility at Derince and 80km from Eti Soda. The Kazan trona deposit was originally discovered by Rio Tinto in 1998, before being acquired by the Ciner Group in 2011, when a solution-extraction pilot plant was established at the site. Construction of the current Kazan Soda production facility started in late 2014 with first production in late 2017.

Kazan Soda has five soda ash and two sodium bicarbonate production units and a 379MW cogeneration plant fuelled by natural gas which is used to provide 100% of the steam and 100% of the electrical power needs of the facility. In 2022, Kazan Soda produced 2.79 million mt of soda ash and 185,000 mt of sodium bicarbonate, an increase in total combined production of 2.5% versus 2021, with 91% of the soda ash and 87% of the sodium bicarbonate production from Kazan Soda exported to customers outside Türkiye.

During 2022, Kazan Soda achieved a plant efficiency of 96.4% (2021: 94.9%) with an operational availability of 96.5% (2021: 96.5%), mainly driven by total maintenance days of 12.8 days equivalent (2021: 12.9 days equivalent, but with no major plant overhaul in the period). In November 2022, we completed the plant's first scheduled four-year major overhaul, on time and on budget. This involved a complete shutdown of the entire plant for a twenty-four hour period, a comprehensive periodic overhaul and the cleaning of equipment and preventative maintenance, to improve efficiency and production capacity and lower energy consumption.

Like Eti Soda, the high levels of operational availability at Kazan Soda are driven by the same core operating philosophy – to maintain 24/7 production through a regular and comprehensive programme of preventative maintenance and through high levels of operating redundancy and back-up in all key units throughout the plant.

To optimise the trona ore wellfield and mine efficiency, during 2022 we constructed eight additional well sets (each comprising one horizontal injection well and two vertical extraction wells), taking the total number of well sets in operation to one hundred and eleven (YE 2021: one hundred and three production units). No new exploration wells were drilled during 2022 but during 2023, we plan to construct another eleven new well sets, thereby completing phase four of the Kazan Soda mine area development. Phases five and six are scheduled to be completed by 2026. These new well sets will provide enough wellfield capacity for the recently completed debottlenecking project and for the further expansion of Kazan Soda, which will together add approximately 1 million mtpa of production by late 2025.

Production growth and efficiency improvements

Soda ash is an essential material for energy transition, with highly visible long-term demand growth[1]. From around 65 million mtpa of global demand in 2022, annual global demand for soda ash is forecast to grow by approximately 16 million mtpa, to around 81 million mtpa by 2030[1]. Around 90% of the 16 million mtpa global growth is expected to come from the higher growth economies of Asia, China and South America, and 75% is expected to be driven by the long-term structural demand growth within sustainable applications, mainly driven by the energy transition[1].

The world needs more responsibly produced soda ash, and we believe we are investing more and growing faster than any other company in our industry. We plan to invest more than $4 billion to more than double our annual production volumes by 2030, with the aim of delivering more than 11 million mtpa of trona-based low-carbon product, all using the sustainable, low-cost solution-extraction production method.

During 2023, we expect that our production capacity will increase by around 0.2 million mtpa taking our combined production capacity to around 5.2 million mtpa, mainly driven by the debottlenecking optimisation programme at Kazan Soda, with the addition of decahydrate and caustic units which came on-stream during March 2023. We have also recently received the environmental permits required to construct an additional 0.5 million mtpa soda ash production unit, an additional 0.1 million mtpa sodium bicarbonate production unit and a 0.24 million mtpa sodium chloride re-processing unit, which together will improve our operating efficiency, reducing our Scope 1 CO_2e emissions intensity and waste, and adding around 0.6 million mtpa of combined soda ash and sodium bicarbonate production capacity during 2025. If all the expansions and efficiency improvements are implemented as planned, our combined annual production of soda ash and sodium bicarbonate from our Turkish facilities should reach 6.0 million mtpa by 2026.

1 Source: Advancy research, March 2023.

Operating sustainably continued

US operations

In the US, we are developing two greenfield soda ash and sodium bicarbonate projects near Green River, Wyoming using the same solution-extraction production method that we developed in Türkiye. In October 2022, we announced a new approximately 3 million mtpa development project called West Soda, which we own 100% and which we plan to bring on-stream by 2030. We also own a 40% non-controlling interest in a 5.4 million mtpa development project known as Pacific Soda, that we are developing together with Sisecam and where we will be responsible for funding our share of the development costs and for the sales and marketing of our 40% share of production (equivalent to approximately 2.2 million mtpa).

West Soda will be designed from the outset so that it is able to be progressively expanded on a modular basis over time to meet the growing global demand for sustainably produced low-carbon natural soda ash. If developed as planned, this will be the first soda ash production facility globally to source all of its electrical power needs entirely from renewable sources, significantly reducing Scope 1 & 2 CO_2e emissions intensity. Over time, we intend that all heat (steam) needs will also come from renewable sources – an important step in our journey towards Net Zero CO_2e emissions by 2050.

On 21 December 2021, our Group completed the sale of 60% of its controlling interest in its formerly wholly-owned US subsidiary, Ciner Resources Corporation (subsequently renamed and converted into Sisecam Chemicals Resources LLC). Following the sale, our Group no longer controls Sisecam Chemicals Resources and our Group's remaining 40% interest in Sisecam Chemicals Resources has been accounted for as an equity-accounted investment with effect from 21 December 2021. Please refer to Notes 5 and 34 of the Consolidated Financial Statements for further details.

Türkiye reserves

Estimates of our Proven and Probable Mineral Reserves and our Measured and Indicated Mineral Resources in Türkiye as of 31 December 2022 have been prepared by Agapito Associates, Inc. in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards on Mineral Resources and Reserves (2014 edition).

	Extraction method	Effective ownership percentage[1]	Trona ore area	Mineral resources[2] *(in million mt)*	Mineral reserves[3] *(in million mt)*	Estimated minimum remaining life of mine
Eti Soda	Solution	74%[4]	~6.7km^2	Measured: 141.9 Indicated: — Total: 141.9	Proven: 54.5 Probable: — Total: 54.5	~20 years[5]
Kazan Soda	Solution	100%	~19.7km^2	Measured: 258.0 Indicated: 90.6 Total: 348.6 Inferred: 12.3	Proven: 85.8 Probable: 31.8 Total: 117.6	~28 years[6]

1 Mineral Reserves and Mineral Resources figures are shown on a 100% basis and have not been reduced to reflect our less than 100% ownership interests in Eti Soda.
2 Mineral Resources describe a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. Measured and Indicated Mineral Resources figures include the Probable and Proven Mineral Reserves shown in this table. Mineral Resources are presented on a combined soda ash and sodium bicarbonate equivalent basis. Total Mineral Resources in the above table do not include Inferred Mineral Resources, due to the lower level of confidence compared to Indicated Mineral Resources and Measured Mineral Resources.
3 Probable and Proven Mineral Reserves are the economically mineable part of a Measured and Indicated Mineral Resource, respectively. Presented on a combined soda ash and sodium bicarbonate equivalent basis.
4 Turkish state-owned commercial enterprise Eti Maden has a 26% non-controlling interest in Eti Soda.
5 Assumes a production rate of 1.95 million mtpa of combined soda ash and sodium bicarbonate as at 31 December 2022.
6 Assumes a production rate of 2.95 million mtpa of combined soda ash and sodium bicarbonate as at 31 December 2022, taking into account production capacity expansions of a total of 0.95 million mt during 2025.

At Eti Soda, the trona ore body is located at a depth of between approximately 200 and 500 metres below the surface, within a trona ore area of approximately 6.7 square kilometres. There are thirteen major trona beds, six upper and seven lower beds separated by 20 – 25 metres of interburden, comprising claystone, bedded tuff and oil shale delineated to the north by the east-north-east trending Çakıloba Fold and Fault Zone and to the south by the similarly oriented Zaviye Fault. It is divided into the western (Elmabeli) and eastern (Ariseki) sectors by the north-south trending Kanlıceviz Fault. In general, faulting does not significantly affect the trona beds within the basin. As of 31 December 2022, the combined soda ash and sodium bicarbonate equivalent Proven and Probable Reserves were estimated to be 54.5 million mt, equivalent to a minimum remaining useful mine life of approximately twenty years (based on a total combined production rate of 1.95 million mtpa).

At Kazan Soda, the trona ore body is located at a depth of approximately 650 metres below the surface, within a trona ore area of ~19.7 square kilometres. There are twelve major trona beds and the "trona zone" is composed of alternating individual beds of trona and oil shale-dolomitic mudstones. The strike of the trona zone is from south-west to north-east and dipping from north-west to south-east and there are no significant faults in the trona zone. As of 31 December 2022, the combined soda ash and sodium bicarbonate equivalent of Proven and Probable Reserves were estimated to be approximately 105 million mt, equivalent to a minimum remaining useful mine life of approximately 28 years (based on a total combined current production rate of 3.0 million mtpa and taking into account the planned capacity expansion, adding a further 0.95 million mtpa of production during 2025).

Operating sustainably continued

Raw materials

Our main raw materials are natural gas, coal and electricity to provide energy and to power our production facilities, and to produce steam which is used as a source of heat in our production process. Other raw materials used in our production process are water and chemicals, such as lime, caustic soda and antifoam. We are currently assessing opportunities to meet an increasing proportion of our electrical power needs from renewable energy sources.

We believe we operate the most energy efficient soda ash and sodium bicarbonate production facilities globally. In 2022, our energy intensity[1] decreased to 4.435 (2021: 4.456), consistent with our long-term objectives and less than one-half of the energy intensity of synthetic soda ash producers[2].

	For the year ending		
Energy intensity[1]	**2022**	2021	2020
Eti Soda			
Diesel Fuel (MWh)	7,911	6,966	5,613
Fuel Oil (MWh)	0	0	281
Coal (MWh)	922,095	943,543	893,185
Purchased Electricity (MWh)	529,451	497,919	451,685
Sold Electricity (MWh)	0	0	0
Total Energy Consumption[2] (MWh)	1,459,457	1,448,428	1,350,764
Total Energy Consumption (MMBtu)[3]	4,979,877	4,942,242	4,608,998
Eti Soda energy intensity (MMBtu per mt)	**2.456**	**2.532**	**2.614**
Kazan Soda			
Diesel Fuel (MWh)	12,584	6,948	4,527
Fuel Oil (MWh)	0	0	0
Coal (MWh)	0	0	0
Natural Gas (MWh)	5,881,722	5,714,085	5,751,478
Purchased Electricity (MWh)	94,094	155,028	34,673
Sold Electricity (MWh)	948,324	987,733	1,203,436
Total Energy Consumption (MWh)	5,040,075	4,888,329	4,587,242
Total Energy Consumption (MMBtu)	17,197,452	16,679,671	15,652,322
Kazan Soda energy intensity (MMBtu per mt)	**5.785**	**5.752**	**6.347**
Group Energy Consumption (MMBtu)	22,177,330	21,621,913	20,261,320
Group energy intensity (MMBtu per mt)	**4.435**	**4.456**	**4.791**

1 Energy intensity is calculated as MMBtu of energy consumed per mt of soda ash and sodium bicarbonate production, combined (energy consumed being the sum of all renewable, non-renewable and purchased energy consumed less energy sold).
2 Total energy consumption is the sum of all renewable, non-renewable and purchased energy consumed less energy sold.
3 1MWh = 3.412142MMBtu.

Electricity

As well as being the largest producer of natural soda ash in the world, we are also a large electrical power producer. We have cogeneration plants at Kazan Soda and Eti Soda, which produce electricity that we use in our operations and steam which is used as a heat source in our production process, reducing our energy costs and ensuring stable supply.

Kazan Soda has a large natural gas fuelled 379MW cogeneration plant, which provides 100% of our electrical power and 100% of our heat (steam) needs at Kazan Soda, and also generates electricity beyond our operational requirements which is sold to the open market. At Eti Soda, we generate approximately 16% of our electrical power and 100% of our heat (steam) needs through a 12MW capacity coal and biomass fuelled cogeneration facility, with the remainder of Eti Soda's electrical power purchased from the grid.

In 2022, the Kazan Soda cogeneration plant produced 3.18 million mt of steam and 1.97 million MWh of electricity, consuming approximately 552 million standard cubic metres of natural gas. 0.95 million MWh of electrical power beyond our operational needs was sold to the grid during the year (equivalent to approximately 48% of the total electricity produced). In October and November 2022, we performed a scheduled maintenance overhaul of the cogeneration plant which included a major inspection by Siemens Energy as part of its long-term service agreement with us. During this maintenance shutdown, electrical power was supplied from the grid and steam was supplied by our back-up boilers. No further major maintenance is planned for 2023, and the next major overhaul is planned for early 2024, based on the findings from the 2022 overhaul.

Operating sustainably continued

In 2022, the Eti Soda cogeneration plant produced 1.13 million mt of steam and 91,996MWh of electrical power. In line with our strategy to reduce our CO_2e emissions, during the second half of 2022 we started a trial to fuel the Eti Soda cogeneration plant with biomass, alongside coal. In 2022, the cogeneration plant consumed approximately 403,000 mt of coal and 9,100 mt of biomass, mainly sourced from local suppliers. Following the success of the initial biomass trial, we are planning that biomass will account for around 4% of all cogeneration plant fuel consumption at Eti Soda in 2023, gradually increasing to 12% over the next five years, reducing our Scope 1 & 2 CO_2e emissions intensity and waste.

Renewable energy

As part of our commitment to further reduce our already low Scope 1 and 2 CO_2e emissions, we have been assessing the opportunity to generate renewable energy to supplement our power needs at Kazan Soda and Eti Soda, and we are aiming to significantly increase the amount of renewable energy we produce and use at both facilities.

During 2022, we installed 7MW of solar PV capacity at our Turkish facilities which came on-stream during 2023, with a further 3MW planned by year end 2023. We have performed wind power tests and are conducting an ongoing feasibility study to assess our full renewable power potential in Türkiye. We estimate that we can deliver up to 100MW of solar PV and over 100MW of wind power by 2027, significantly reducing our Scope 1 and 2 CO_2e emissions.

	For the year ending		
Energy sourcing (million MWh)	**2022**	2021	2020
Energy consumption from non-renewable sources			
Natural gas	5.88	5.71	5.75
Coal	0.92	0.94	0.89
Energy consumption from renewable sources			
Solar	0	0	0
Wind	0	0	0

At Kazan Soda, we have already installed 5MW of solar PV capacity which came on-stream in early April 2023 and we have an ongoing feasibility study to assess the full solar PV potential of the Kazan Soda licence area. In May 2022, we installed wind station test poles within the Kazan Soda licence area to assess the wind power potential. Based on the initial data so far received, we estimate that the area has a potential wind power capacity of at least 100MW. We have now started the regulatory application process and we are planning a phased roll-out of wind power generation between 2024 and 2027.

At Eti Soda, we have already installed 2MW of solar PV capacity and we are planning to install a further 3MW of solar PV capacity during 2023. In December 2022, we started a feasibility study for a solar PV plant to be located on leased land in the Karasar district near Beypazarı (not far from the Eti Soda facility) which has been assigned as a solar power landbank for the next thirty years by the National Land Management Office of Türkiye. We believe there is scope for up to 65MW of solar PV capacity, and we are planning more detailed technical and financial feasibility studies during 2023. We also plan to conduct a feasibility study for a 100MW wind farm to be located within the Eti Soda licence area, with wind station test poles being installed in the first half of 2023 to assess the wind power potential in the area.

Whilst the potential to generate renewable power in Türkiye is significant, the opportunity for our Group is even greater in US, particularly given the attractive solar and wind potential of many areas including Wyoming, together with the recently announced fiscal and other investment incentives that are available in US for renewable power projects. If developed as planned, West Soda will be the first soda ash production facility globally to source all of its electrical power needs entirely from renewable sources, significantly reducing Scope 1 & 2 CO_2e emissions intensity. Over time, we intend that all heat (steam) needs will also come from renewable sources – an important step in our journey towards Net Zero CO_2e emissions by 2050.

Operating sustainably continued

Natural gas

Notwithstanding our lower energy intensity, in 2022 energy costs represented 65% of our total cash production cost. We have historically benefited from low-cost supplies of natural gas and coal in Türkiye, which have, on average, historically been lower than those paid by soda ash producers in Europe and other parts of the world. During 2022, natural gas prices in Türkiye increased significantly, and broadly followed the same trend of increasing natural gas prices observed across Europe. However, due mainly to the tight supply-demand dynamics for soda ash globally, together with the higher energy prices that also impacted our more energy intensive synthetic soda ash competitors, we were able to pass on increased energy costs, and particularly natural gas costs, to almost all of our customers during 2022.

Eti Soda does not use natural gas as an energy source, but it is the main source of energy at Kazan Soda. To reduce our reliance on natural gas at Kazan Soda in the short term, and to protect against potential interruptions of the supply of natural gas which could disrupt our ability to operate, during 2022 we decided to replace the burner systems of our back-up steam boilers at Kazan Soda so that they could be dual fuelled with either natural gas or diesel. This project was completed in the first quarter of 2023 at a total cost of $1.3 million. To further mitigate our reliance on natural gas, in 2022 we applied for the necessary permits which were recently granted, and we have now sanctioned an EPC contract to construct three additional back-up steam boilers at Kazan Soda, which can be fuelled with either biomass or coal and will be able to provide all the steam required for the plant, if needed.

This project, which is expected to be completed during 2025 at a total cost of around $110 million, will allow us to mitigate the potential negative effects of rising natural gas prices or future disruptions in natural gas supply. As part of our research and development activities, we plan to develop carbon capture technologies through CO_2 liquefaction and sequestration for both process and combustion emissions which, over time, we plan to apply to our combustion emissions at both Kazan Soda and Eti Soda.

Chemicals

We use lime to produce caustic soda which is used to decompose sodium bicarbonate into soda ash as part of our production process. In 2022, we produced caustic soda at Kazan Soda and we also purchased caustic soda from third parties. With the additional caustic soda production unit now on-stream at Kazan Soda, we no longer expect to purchase caustic soda from third parties.

Operating sustainably continued

Our impact on nature and the environment

Operational efficiency

Optimising our processes and seeking efficiency gains are key tools to reduce our environmental impact. Our production facilities have already implemented many efficiency improvements, which have helped us reduce our energy, water and other raw materials consumption, lowering our CO_2e emissions, water and waste and also lowering our operating costs. We are researching a range of new technologies that will help us to continue on this journey.

At Kazan Soda, we completed the plant's first scheduled major overhaul in November 2022, after five years of continuous production, improving efficiency and lowering energy consumption. We have also just completed a debottlenecking project where we built additional decahydrate and caustic soda units that have resulted in increased plant availability, improving efficiency and reducing our water and carbon intensity and waste. At Eti Soda, we undertook a number of smaller projects in 2022 to optimise efficiencies across the plant including replacing the cooling tower fan with a new fan using different materials which reduced electrical power consumption by 20%.

Within our logistics operation, we have multiple initiatives to improve efficiency, reduce emissions and lower unit transportation costs, including the use of larger bulk ships and regional logistics hubs, bulk rail transportation and further increasing our sales in bulk format to reduce waste and handling costs.

Water usage

Water is an essential input to our production process, as well as being important to the local communities in which we operate. Because climate change is expected to increase the pressure on water resources and increase the risk of water scarcity, it is important that we operate with a water stewardship strategy designed to protect and preserve the water resources of our communities and our operations. We aim to minimise the volume of water that we consume, and we carefully monitor our water use balances in accordance with the ISO 14046 standard.

During 2022, our total water intensity[1] was approximately 2.04, less than one-quarter of the water intensity of synthetic soda ash producers[2]. Our water intensity increased slightly during 2022 due to changes in water quality from different water sources at Kazan Soda, resulting in an increase in water withdrawal following treatment. In the years prior to 2022, our water intensity had been steadily decreasing, as we have optimised our production processes and introduced new innovations to reduce our water usage.

	For the year ending		
Water intensity[1]	**2022**	2021	2020
Eti Soda[3]	1.66	1.75	1.81
Kazan Soda	2.30	2.14	2.43
Group	**2.04[A]**	**1.99**	**2.17**

1 Water intensity is calculated as cubic metres of water withdrawal per mt of soda ash and sodium bicarbonate production, combined.
2 Source: NexantECA analysis, April 2023.
3 Including the water which Eti Soda provides for local community agricultural projects as part of our social responsibility activities which in 2022 amounted to approximately 681,000m[3].

Kazan Soda has higher water intensity due to the lower purity of the trona at Kazan Soda compared to Eti Soda, requiring additional processing units which consume larger volumes of cooling water (with associated evaporation losses from within the cooling towers). In 2022, Eti Soda provided approximately 681,000 cubic metres of water for local community agricultural projects as part of our social responsibility activities. The water supply to Kazan Soda is of lower quality than at Eti Soda because it is sourced under an extraction licence from the Kirmir river. In 2021, a water efficiency project utilising a reverse osmosis membrane was implemented in the water supply and treatment unit at Kazan Soda, resulting a water recovery rate of around 37%, with all previously discharged water being recycled back into the trona mine area, resulting in a reduction in our waste water.

At Eti Soda and Kazan Soda further water reduction programmes are being assessed, which include the application of alternative cooling technology at Kazan Soda, the use of 2 bar condensate in the cogeneration units at Eti Soda and Kazan Soda, improving the water supply and treatment section at Kazan Soda, and reducing water leakage while drilling at Eti Soda. In 2022, we decided to reset our water usage targets for the Group. Amongst other sustainability targets, as part of our water stewardship strategy, and we have set the target of reducing our water intensity by 20% within the next five years, relative to a 2022 baseline.

Operating sustainably continued

Emissions

Reducing our CO_2e emissions is a priority for us. We already produce soda ash with low Scope 1 & 2 CO_2e emissions intensity by comparison with synthetic soda ash producers, mainly because we have the lowest energy intensity and also because the majority of CO_2 released during our soda ash production process is captured and re-used in the production of sodium bicarbonate. In 2022, our Scope 1 & 2 CO_2e emissions intensity[1] was approximately 0.343, having reduced by around 1.5% compared to 2021 and consistent with our long-term objectives.

We also benchmark our CO_2e emissions performance on an "ex-works" basis, which takes into account Scope 1 & 2 CO_2e emissions intensity as well as upstream supply chain Scope 3 categories[3] and we believe allows a more accurate comparison of relative emissions intensity across different soda ash production methods. In 2022, our ex-works CO_2e emissions intensity[1] was approximately 0.51, materially lower than ex-works CO_2e emissions intensity for synthetic soda ash producers, which typically range from approximately 0.96 to 1.59[2].

CO_2e emissions intensity[5]	For the year ending 2022	2021	2020
Scope 1 and 2[1]			
Eti Soda	0.335	0.351	0.364
Kazan Soda	0.349	0.347	0.355
Group	**0.343**	**0.348**	**0.358**
Ex-works[3]			
Eti Soda	0.490	n/a	n/a
Kazan Soda	0.528	n/a	n/a
Group	**0.512**	**n/a**	**n/a**
Delivered[4]			
Eti Soda	0.530	n/a	n/a
Kazan Soda	0.566	n/a	n/a
Group	**0.551**	**n/a**	**n/a**

1 Scope 1 & 2 CO_2e emissions intensity calculated as Scope 1 and 2 market-based emissions mt of CO_2e emissions per mt of soda ash and sodium bicarbonate production, combined (Scope 1 and 2 as defined by the GHG Protocol).
2 Source: NexantECA analysis, April 2023.
3 Ex-works emissions intensity calculated as Scope 1, Scope 2 and certain upstream Scope 3 mt of CO_2e emissions per mt of combined soda ash and sodium bicarbonate production (Scope 1 and 2 as defined by the GHG Protocol and within Scope 3 only including categories 1, 3, 4, 5, 6 and 7 as defined by the GHG Protocol).
4 Delivered CO_2e emissions intensity calculated as Scope 1, Scope 2 and certain upstream and downstream Scope 3 mt of CO_2e emissions per mt of combined soda ash and sodium bicarbonate production (Scope 1 and 2 as defined by the GHG Protocol and within Scope 3 only including categories 1, 3, 4, 5, 6, 7 and 9 as defined by the GHG Protocol).
5 Reflects market-based emissions; refer to page 67 for WE Soda's location-based and market-based locations.

We assess our emissions performance annually against a set of published targets and we are aiming to further reduce our emissions across all our operations. Since we established our emissions baseline for Eti Soda and Kazan Soda in 2012 and 2018, respectively, we have consistently reduced our Scope 1 & 2 CO_2e emissions intensity. In 2022, we decided to reset our CO_2e emissions targets for the Group for the next five and ten years, consistent with achieving Net Zero CO_2e emissions by 2050.

Amongst other sustainability targets, we have set the target of reducing our Scope 1 & 2 CO_2e emissions intensity[1] by 20% within the next five years (to less than 0.274 by 2027) and by 40% within the next ten years (to less than 0.206 by 2032), in both cases relative to a 2022 baseline of 0.343.

During 2023, we are planning to carry out a detailed technical and economic assessment of all potential decarbonisation levers that will help us achieve our goals. By taking these steps, we aim to significantly reduce our CO_2e emissions and create a more sustainable future for our Company. We believe that by adopting these measures, we can continue to provide high-quality products while also further reducing our environmental impact. To achieve our Scope 1 & 2 CO_2e emissions intensity reduction targets and also to reduce our Scope 3 CO_2e emissions, we have identified a number of ongoing and future initiatives, mainly based on the sourcing of renewable energy supplies and the management of our process emissions, within our operations, including:

- **Optimising sodium bicarbonate balance (Scope 1):** The majority of CO_2 released during our soda ash production is recycled during sodium bicarbonate production, lowering overall CO_2e emissions. By more optimally balancing our soda ash and sodium bicarbonate production as part of our planned capacity expansion at Kazan Soda, we believe we will be able to reduce our Scope 1 & 2 CO_2e emissions intensity. This has already been substantially optimised at Eti Soda but can be further optimised at Kazan Soda following the completion of the additional soda ash and sodium bicarbonate production units by 2025.
- **Renewable power (Scope 2):** We have performed wind power tests and are conducting an ongoing feasibility study to assess our full renewable power potential at our Turkish facilities. We estimate that we can deliver up to 100MW of PV solar and over 100MW of wind power by 2027, significantly reducing our Scope 1 & 2 CO_2e emissions intensity.
- **Use of biomass as a fuel source (Scope 1 and 2):** We plan to increase the proportion of biomass that we use in our cogeneration plant at Eti Soda, replacing coal and reducing our Scope 1 & 2 CO_2e emissions intensity.
- **Process optimisation (Scope 1 and 2):** Predictive maintenance activities for all critical machinery and equipment aim to increase production efficiency by shortening downtimes. Optimised system start-up and upgrades to more energy efficient equipment (to burn fuel more efficiently, recover waste heat and reduce electrical losses) also minimise energy consumption.
- **Carbon capture (Scope 1):** During 2023, we plan to study the installation of CO_2 capture, liquefaction and storage technology for use within the process and combustion units at Eti Soda and Kazan Soda, and we are aiming to roll out this technology across both sites over the next ten years.

Operating sustainably continued

- **West Soda (Scope 1 and 2):** If developed as planned, we believe West Soda will be the first soda ash production facility globally to source all of its electrical needs entirely from renewable power sources, significantly reducing Scope 1 & 2 CO_2e emissions intensity. Over time, we intend that all heat (steam) needs will also come from renewable sources – an important step in our journey towards Net Zero CO_2e emissions by 2050.
- **Maximising bulk logistics (Scope 3):** In 2022, we transported approximately 80% of our products to our customers in bulk format (via road silo trailers and dry bulk vessels), with the remainder transported as packaged goods (in containers or on trucks). We are planning to further increase bulk sales to eliminate packaging and reduce handling costs. By 2026, if the rail link to Kazan Soda is developed as planned, we expect that substantially all the Kazan Soda bulk product will be transported to our export port by rail using electric powered locomotives, reducing emissions and cost. We are also planning to use larger ships for the transportation of our bulk products and, in addition to our new logistics hub located in Terneuzen, Netherlands, we plan to develop further regional storage and distribution hubs in key locations globally, further reducing emissions and costs.
- **Raw materials supply chain (Scope 3):** During 2022, we reviewed the carbon emissions from our raw material suppliers to identify potential lower emission suppliers. In 2023, we are developing a sustainable procurement and supply chain processes system with the objective of providing greater supply chain visibility and disclosure. Suppliers will be reviewed according to various aspects of performance including their CO_2e emissions footprint and other sustainability criteria.

Waste management

Approaching waste management with a circular mindset is an effective and sustainable way to reduce waste, whilst opening additional revenue streams and minimising our environmental impact. We take measures to recover, re-use or recycle the waste generated in our operations, reducing the amount of waste that we send for disposal. Our generated waste is classified, collected and separated at source before being sent to contracted licensed companies for recycling and disposal.

Where possible, we aim to apply the principles of circular economy to recover, re-use or recycle by products and waste arising from our production process, helping us to improve our plant efficiency and sustainability. At Kazan Soda, most liquid waste (purge) is used to produce caustic soda for re-use in the soda ash production process. Following the start-up of the new caustic soda unit at Kazan Soda, almost all purge solution is now re-used in the production of caustic soda, eliminating liquid waste. In addition, to reduce solid waste, the lime mud resulting from caustic soda production is recycled via a lime recovery unit, where it is converted into lime for re-use in caustic soda production.

Today, not all the lime mud volume can be re-used due to a lack of capacity, but we plan to install an additional lime recovery unit as part of the Kazan Soda capacity expansion in 2025. To further reduce solid waste, we have also recently sanctioned the construction of a plant to allow all the raw sodium chloride produced as a by-product of soda ash production at Kazan Soda to be reprocessed and sold as industrial salt. Through these waste management and recycling processes, the efficiency of the Kazan Soda plant will be increased, and our production process will become even more sustainable.

At the Eti Soda facility, roughly half of the solid waste produced from the cogeneration unit (in the form of fly ash and other ash or slag) is sold to local cement companies and the rest is stockpiled or disposed on site. Our plan to increase the use of biomass fuel in the cogeneration unit will allow us to reduce the amount of fly ash and slag we produce, and over time we plan to reduce our stockpile to zero.

Air quality

We regularly sample and monitor the effects that our activities have on the environment. Air sampling for particulate matter is carried out at defined intervals by accredited institutions in line with regulatory and permitting requirements. At Eti Soda, dust, CO, SO_2, and NO_2 parameters are constantly monitored and we take necessary actions to improve our processes and to keep air emissions as low as possible.

Operating sustainably continued

Our upstream supply chain

Our sustainability governance applies to everyone within our Group, and we also aim to apply it to all our partners across our upstream and downstream supply chains. Our Supplier Code of Conduct and Modern Slavery Statement outline the behaviours and practices which we expect from our suppliers and all those who work with us. These policies are informed by the ten principles set out in the United Nations Global Compact ("UNGC"). Eti Soda and Kazan Soda are participants in the UNGC, and we are committed to best practice conduct in the areas of human rights, labour, environment and anti-corruption.

Given the location of our production facilities, the vast majority of our suppliers are local Turkish companies, that often require education, help and support to fully understand the importance of sustainability.

To improve the sustainability performance of our supply chain, we work with our suppliers to increase their understanding around the importance of sustainability and to drive greater transparency in relation to ethical trading and responsible supply chain practices.

In 2021, we introduced a vetting process using the Sedex platform to allow us to screen our suppliers in terms of their sustainability approach and performance in accordance with our own sustainability criteria. During 2022, we registered nearly 60% of our suppliers (by value) onto the Sedex platform and during 2023 we aim to register more than 80% of our core suppliers (with whom we do repeat business, by value). In 2023, we have initiated a project with Ernst & Young to develop a procurement tool, using a platform called Promena, that will further enhance our upstream supplier management, driving greater sustainability transparency within our supply chain.

"ConnexSA"

In October 2022, we announced the launch of a blockchain enabled soda ash supply chain ecosystem called "ConnexSA", which we developed in 2022 with the objective of delivering transparency and robust sustainability data and governance across the entire supply chain – from our suppliers to our end customers. We aim to develop this ecosystem, in partnership with our customers and our suppliers, with open access features and independent governance and assurance, to allow universal participation across our industry. For more information on "ConnexSA", see we.innovate on pages 22–23.

	For the year ending			
	2022		2021	
Sedex participation	**Number**	**Share of spend (%)**	**Number**	**Share of spend (%)**
All Group suppliers[1]	**210**	**100%**	**210**	**100%**
Suppliers screened using Sedex	45	39.1%	0	0%
Suppliers onboarded to Sedex	98	52.9%	2	6.1%
Of the suppliers not yet onboarded to Sedex:				
SAQs[2] submitted, not yet onboarded	25	31.5	2	6.1
SAQs[2] completed, not yet submitted	18	7.5	0	0
SAQs[2] in progress	22	5.4	0	0
SAQs[2] still to be started	33	8.0	0	0

1 Supplier perimeter defined as the suppliers critical to the production of our product and which are used on a repeat basis.
2 SAQ = Self-Assessment Questionnaire.

Operating sustainably continued

Our downstream supply chain

Global logistics

The soda ash industry is logistics intensive and involves detailed planning to ensure a robust and reliable global customer supply chain.

In 2022, 80% of our production by volume was exported (2021: 85%) to one hundred and seventy-two individual port locations in seventy-seven countries, mainly in bulk format. 20% was sold to Turkish domestic customers in a variety of formats (2021: 15%). Our 2022 global sales were almost evenly split between emerging economies and developed markets, with approximately 45% sold into Europe, 20% into Türkiye, 12% into Asia (including China), 16% into the Americas and 8% into the Middle East and Africa, in each case by sales volume.

Many of our large industrial customers have operations in multiple geographies and they recognise the benefits that we can provide in terms of security of supply globally. We have built an extensive logistics and distribution network around the world, allowing us to meet our customers' needs in every major soda ash market. Today, we sell very little volume into China or North America but in the medium term, following the development of our greenfield projects in US, we expect that we will sell a larger proportion of our production volumes into both of these markets.

Regional distributors

As part of our customer supply chain, we maintain an efficient global network of around thirty regional distributors, most of whom have exclusive rights to distribute our product in the regions in which they operate, while we reserve the right to also sell directly to certain large end user customers within their respective regions. All of our regional distributor agreements that ended in 2022 and early 2023 were renewed or are in the process of being renewed, with the majority of renewed contracts being for a five-year term, and we aim to renew the remaining regional distributors as and when they come to term. By 2025, we are aiming to have all of our major distributors operating with the same sustainability governance as our Group.

Our global distributor network gives us access to local customers in all areas of the soda ash and sodium bicarbonate market, generally supplying medium sized and smaller customers and those located inland within their respective regions. Our distributors also provide logistics and storage services and support to our global industrial end user customers within their respective regions, as needed.

In 2022, our global sales by volume were split 29% direct to industrial end user customers and 71% via regional distributors. In 2022, our ten largest end user customers in aggregate amounted to 1.36 million mt of sales and represented 27% of our total sales by volume.

80%

of our production volume was exported in 2022

Industrial end user customers

Due to the significant time it takes to transport our products to our customers, combined with the essential nature of our products, the reliability of our customer supply chain is critical, and often more important to our customers than price. In 2022, the majority of our sales were made to customers with whom we have done business for more than ten years. Strong customer relationships are a key component of our business model and we have been able to build these long-term relationships due to our high levels of customer service, the reliability of our global supply chain and the quality of our products.

We aim for high levels of customer satisfaction and from 2023 we aim to more thoroughly evaluate customer satisfaction, looking to use a Net Promoter Score ("NPS") methodology with all our major customers and a survey designed to solicit feedback on all elements of our customer service, using an independent third-party survey company.

Global shipping

We deliver our products under several different contract structures. In 2022, we exported 82% of our product in bulk or breakbulk format, of which 33 percentage points ("ppt") was shipped with Free on Board ("FOB") or Free Carrier ("FCA") Incoterms (2021: 63ppt), where ownership of the product transfers to the customer and sales are recognised at the port of loading, and where the customer is responsible for the transportation expenses of the product, and the remaining 67ppt was shipped on Cost Insurance and Freight ("CIF") or Cost and Freight ("CFR") Incoterms (2021: 37ppt) where sales are recognised at the port of loading, but ownership of the product transfers at the port of delivery. and we are responsible for the transportation cost.

Sales on CIF or CFR Incoterms are mostly limited to sales to Europe and parts of South America. For sales to domestic Turkish customers, we are responsible for transportation expenses and our products are typically delivered to the customer facilities.

In early 2022, against a backdrop of global economic recovery following the coronavirus pandemic, there was a tight global freight market leading to an inflationary pricing environment for shipping, compounded by rising bunker fuel costs caused by the Russian invasion of Ukraine and its impacts on global energy supply. As we progressed through 2022, we saw a loosening of freight rates, especially in Europe and Asia, while bunker fuel costs remained high. Towards the end of 2022 and into 2023, we have seen continued weakness in freight and container rates due to the global economic slowdown.

To reduce our Scope 3 emissions and unit transportation costs, in 2023 and beyond we are planning to use a smaller number of larger ships for the transportation of our bulk products, and we plan to increase our CIF/CFR shipments to over 50% of our export volumes in 2023, mainly using our own time chartered vessels. To further improve our customer service and supply chain reliability, we also plan to develop regional storage and distribution hubs in key locations globally. In 2022, we approved the development of a new logistics hub located in Terneuzen, Netherlands to serve our customers in northern Europe and the UK. We expect the facility will be operational during 2023 with up to 85,000 mt of storage capacity, improving our customer service whilst reducing our transportation costs, operational risk and downstream Scope 3 emissions, through more efficient shipping operations. We are planning to add further logistics hubs in key regional markets over time.

Operating sustainably continued

Inland transportation

Eti Soda and Kazan Soda are located 80km apart, enabling them to coordinate logistics and operations to achieve mutual efficiencies. Eti Soda and Kazan Soda are, respectively, 270km and 340km from our bulk export port at Derince and other container port facilities, enabling us to export on a cost-competitive basis to all the key geographic markets for soda ash and sodium bicarbonate globally.

For bulk deliveries to our Turkish domestic customers and bulk exports from Derince, all our products are today transported by road truck using around three hundred and sixty silo trailers which we own or lease. In 2022, on average we transported around three hundred and seventy individual silo truck loads per day, from Eti Soda and Kazan Soda combined.

The State Railway of Türkiye ("TCDD") has initiated the tender process for the construction of a rail link directly to the Kazan Soda facility. If completed according to plan, Kazan Soda will be able to transport its bulk products by rail directly to the export port at Derince. Before this rail link is completed, during 2023 we plan to start rail transportation of bulk export product from Kazan Soda utilising a rail loading facility approximately 16km from the Kazan Soda plant, initially targeting around 3,000mt per week. If the rail link is completed as planned, we aim to transport substantially all of the Kazan Soda bulk export product via rail by the end of 2026, using electric powered locomotives, reducing Scope 3 emissions and unit transportation costs.

Bulk and packaged goods

In 2022, 80% of total sales volumes were transported in bulk using silo trucks (2021: 75%), and 20% was transported in a variety of packaged formats comprising 1.25 mt "Big Bag XL" (mainly loaded as break bulk), 25 mt container liner bags, regular 1.0 mt "Big Bag" format and 25kg capacity bags (on pallets). In 2023 and beyond, we are planning to further increase sales of our products in bulk format to reduce waste (packaging and pallets) and handling costs.

Breakdown of transportation & packaging formats[1]	**For the year ending**		
	2022	2021	2020
Bulk	76%	71%	70%
Big Bag XL (1.25 mt)	14%	17%	17%
Container liner bag (27.0 mt)	4%	4%	4%
Big Bag (1.0 mt)	3%	4%	4%
25kg bag	3%	4%	5%

1 For Eti Soda and Kazan Soda combined as a percentage of total production volumes.

Operating sustainably continued

Our communities

We consider ourselves a part of the communities in which we operate and, by supporting our local communities, we believe we create long-term value for our communities and for our business. Our approach to community engagement focuses on five main areas:

- Building a sustainable future
- Environment and nature
- Youth and education
- Community support
- Women's empowerment

During 2022, we supported a diverse range of community projects in Türkiye and the UK with our time, capabilities and total direct financial and charitable contributions of around $1.1 million. Our aim is to maintain and increase our community engagement over time, including in US as we expand our operations in Wyoming, with the aim of having a positive impact on more people. You can read more about how we create social impact in our 2022 Social Impact Report, available on our website: https://www.wesoda.co.uk/userfiles/document/63722d7e9ce8f-s-rm-we-soda-social-impact-report-2022.pdf

Building a sustainable future

Et Soda and Kazan Soda are both sited within agricultural communities. Over several years, Eti Soda has increased the availability of agricultural irrigation water by funding the development of irrigation systems and by providing water to the nearby villages of Başören, Bağözü and Çakıloba. Prior to the establishment of the irrigation system, fields were watered using groundwater from draw wells, which was inefficient and significantly reduced the available groundwater. Eti Soda now provides water from the Sarıyar dam, out of the water quota that has been set for Eti Soda by government, increasing the efficiency of agricultural water use and improving crop yields.

Environment and nature

In 2016, Kazan Soda initiated a project focusing on preserving biodiversity in the area surrounding our production plant. The project was conducted in partnership with Ekoiz, an environmental consultancy based in Ankara, together with a professor who is an expert in Anatolian biodiversity. The project identified six endemic plants which required specific protection plans. We created an endemic plant conservation area in the natural habitat of the plants, covering approximately 10,000sqm, and the seeds of the six endemic plants were also sent to the Ankara Genetic Seed Bank to ensure their long-term preservation. In 2022, we constructed an information office within the conservation area and started working with local schools to educate them on the importance of biodiversity and protecting endemic species.

Youth and education

Education underpins the long-term prosperity and sustainability of communities. We aim to do our part by providing educational support and opportunities for local people. We run a traineeship and internship programme for engineering students from technical high schools and universities. We also provide scholarships for fifty-five university students from the Beypazarı region, near Eti Soda and twenty-four university students from the Kazan region.

We believe that education is fundamental to personal development and that everyone should have an equal opportunity to access education. With this in mind, in 2017 we opened a school which specifically caters to the needs of individuals with disabilities and special educational needs. The school has a capacity for one hundred and eighty students and conforms to European standards. Whilst the school was subsequently transferred to the Ministry of National Education in the same year, Eti Soda still provides regular ongoing support.

Operating sustainably continued

Community support

Sport often sits at the heart of the communities in which we operate and provides a strong medium for community engagement. We support a number of sports-centric community initiatives in Türkiye and in the UK. In 2022, we became the national community partner of the WRU in the UK, providing financial support for two major community initiatives across the nation of Wales: "Fit, Fed, Fun" and "Jersey for All". We chose to partner with the WRU because the UK is where we are headquartered and we wanted to make a real and lasting impact on a part of the UK that faces significant socio-economic challenges, with a real need for community-based support in the large concentration of poorer communities that are located in that region.

Through the "Fit, Fed, Fun" initiative we are supporting local communities with over 1,000 rugby-based sports camps across Wales during each of the school holidays for three years, with a specific aim of reaching children from poorer communities. The one-day camps provide inclusive sports-based activities hosted by the WRU for children of all ages and abilities, providing breakfast and lunch and educational messaging around the need to support local communities, protect the environment and reduce waste. "Jersey for All" is an initiative providing inclusive sports-based activities for children and young adults with disabilities and special educational needs ("SEN") at five SEN community hubs across Wales for three years, culminating each year in a SEN "Olympics" held at the National Stadium in Cardiff. You can read more about "Fit, Fed, Fun" and "Jersey for All" on our website: https://www.wesoda.co.uk/wru-partnership

Women's empowerment

Eti Soda has undertaken several projects in the Beypazarı region, predominantly focusing on agriculture as a source of sustainable livelihood. In 2020, Eti Soda started the greenhouse project, focused on creating employment opportunities for local women in agriculture. The project was developed in partnership with the ANFA on land supplied by Eti Soda adjacent to the Eti Soda facility. It involves a large, permanent glasshouse structure which uses electricity and heat (in the form of waste process water) supplied by Eti Soda, but it is managed by ANFA to grow a variety of different plants which are used in the surrounding area for the planting of communal areas, parks and roadside landscaping. The operation is staffed exclusively by women from the local community and family members of Eti Soda employees. Kazan Soda has also developed a beekeeping initiative, providing support to local women who were primarily involved in the agriculture sector and who are also employed as gardeners for all the vegetation and horticulture around the Kazan Soda site. These initiatives aim to increase the level of female employment within our local communities, provide economic empowerment to women and promote economic sustainability in the region.

Our non-financial key performance indicators

Employee satisfaction and turnover (%)

Performance

Every year we conduct an employee satisfaction survey administered by an independent third-party organisation which provides us with important insights into how our employees feel about their workplace, and their levels of satisfaction, commitment and motivation. We also closely monitor levels of staff turnover at each of our operating facilities and offices. In 2022, our employee survey revealed that we have high levels of employee satisfaction at 76%, as well as high levels of commitment and motivation. As at year end 2022, our employee retention rate was 93% (2021: 93%), and over 53% of our employees have been employed within our Group for over five years, and a further 77% for over three years.

Investing in our people as well as transparent, two-way communication between our leaders and our workforce are core parts of our culture which we believe have contributed to our low levels of staff turnover and high levels of employee satisfaction. Going forward, we will continue to operate with the same ethos and will also plan to continue our approach of responding to areas of improvement identified in our surveys.

76% satisfaction

In 2022, our employee survey revealed that we have high levels of employee satisfaction at 76%

Strategic pillar

we • care

Scope 1 & 2 CO_2e emissions intensity (Scope 1 & 2 mt CO_2e per mt production)

Performance

Reducing our Scope 1 & 2 CO_2e emissions intensity is a priority for us. We assess our emissions performance annually and we are aiming to further reduce our emissions in every part of our business. We believe that we already have the lowest Scope 1 & 2 CO_2e emissions intensity (defined as Scope 1 & 2 market mt of CO_2e emissions per mt of soda ash and sodium bicarbonate production combined) within our industry because we operate modern, efficient low energy intensity solution-extraction based plants where most of the CO_2 released during soda ash production is captured and re-used in the production of sodium bicarbonate.

In 2022, our Scope 1 & 2 CO_2e emissions intensity reduced to 0.343 (2021: 0.348), consistent with our long-term objective. Going forward, we have committed to achieving Net Zero CO_2e emissions by 2050 and we have set the target of reducing our Scope 1 & 2 CO_2e emissions intensity by 20% within the next five years and by 40% within the next ten years, relative to a 2022 baseline and we have identified a number of ongoing and future initiatives, including renewable power generation.

0.343

In 2022, our Scope 1&2 CO_2e emissions intensity reduced to 0.343, consistent with our long-term objective

Strategic pillar

we • lead we • innovate we • challenge we • care

Water intensity (m^3 water per mt production)

Performance

Water is an essential input to our production process, as well as being important to the local communities in which we operate. Because climate change is expected to increase the pressure on water resources and increase the risk of water scarcity, we operate with a well-defined water stewardship strategy to protect and preserve the water resources of our communities and our operations, and we aim to minimise our water consumption and water intensity (calculated as m^3 of water withdrawal per mt of soda ash and sodium bicarbonate production, combined).

In 2022, our water intensity was 2.04m^3 water per mt production (2021: 1.99), an increase over the prior year due to changes in water quality from different water sources at Kazan Soda, resulting in an increase in water withdrawal following treatment. Going forward, we will address the water treatment at Kazan Soda, and we have set the target of reducing our water intensity by 20% within the next five years, relative to a 2022 baseline, mainly through the use of dry air-cooling systems to reduce evaporation losses.

2.04

In 2022, our water intensity increased to 2.04 due to changes in water quality from different water sources at Kazan Soda

Strategic pillar

we • lead we • innovate we • challenge we • care

Safety (LTI workplace accidents and LTI lost workdays)

Performance

Providing a safe and healthy work environment is our number one priority and we are committed to ensuring the safety of all our employees, contractors and visitors across all of our operations. We aim to continuously improve our safety practices, policies and performance in line with global best practice standards. We monitor this with various indicators, including the total number of lost-time injury (LTI) workplace accidents and the total number of LTI lost workdays, respectively, at our facilities

In 2022, we reduced the number of LTI workplace accidents and LTI lost workdays by around 40% to 26 (2021: 44) and 428 (2021: 712), respectively. In October 2022, we engaged dss+, an international specialist safety consultant, to undertake a thorough review of our personal safety and process safety management practices, to identify actions that would allow us to urgently and permanently reduce the number of LTI workplace accidents.

Going forward, we are aiming for a further significant reduction in LTI workplace accidents in 2023, and we believe that over time we can reduce LTI workplace accidents to zero.

40% reduction

During 2022, our LTI workplace accidents reduced by 40%

Strategic pillar

we • care

Our non-financial and sustainability information statement

Environmental matters

Our approach and key policies

Within our industry, we believe we produce soda ash with the lowest CO_2e emissions and water intensity and waste, and we believe that we have the lowest impact on nature and the environment.

Our Environment Policy sets out our commitment to conducting business in an environmentally responsible way. Our policy outlines our high standards which we uphold in terms of energy usage, emissions, water usage, pollution, waste, biodiversity, customer safety and sustainable procurement.

Outcomes of policies and impacts of activities

During 2022:

- We saw a ~1.5% reduction in Scope 1 & 2 CO_2e emissions intensity compared to 2021, consistent with our long-term objectives.
- We saw an increase in water intensity of around 2% compared to 2021, due to changes in water quality at Kazan Soda.
- We sanctioned a new sodium chloride re-processing plant at Kazan Soda, which when operational will reduce waste.
- We trialled biomass in the cogeneration boilers at Eti Soda, reducing Scope 1 & 2 CO_2e emissions intensity and fly ash waste.
- We installed 7MW of solar PV power and we are assessing our full renewable power potential in Türkiye. We estimate that we can deliver up to 100MW of PV solar and over 100MW of wind power by 2027.

Colleagues

Our approach and key policies

Our colleagues are essential to our success. Providing a safe and healthy work environment is our number one priority and we are committed to ensuring the safety of all our employees, contractors and visitors across all our operations. Investing in our people and transparent, two-way communication between our leaders and our workforce are core parts of our culture. We are also an inclusive, performance and capability-based employer, that does not discriminate, among others, based on gender, ethnicity, religion, nationality or disability.

Our Business Ethics Policy outlines the business standards and behaviours we expect from our colleagues. Each of our operating sites and offices has its own Health & Safety Policy and Whistleblowing Policy which requires them to operate to international best practice standards, taking into account local laws and regulations.

Outcomes of policies and impacts of activities

During 2022:

- We reduced the number of LTI workplace accidents by around 40% compared to the prior year.
- We worked with dss+ to undertake a detailed review of the personal safety and process safety management practices at both Eti Soda and Kazan Soda, to identify areas for improvement.
- We welcomed 13 new female engineers and managers into our business and as of 31 December 2022, 35% of our middle management are women (in both technical and administrative roles).
- We worked with over 200 students as part of our internship programme, providing work opportunities for young women and men, so that today 31% of our workforce are under 30 years of age.
- We improved our overall employee satisfaction score to 76% and maintained low levels of employee turnover, which was only 7% across our business.
- We took actions to improve the work environment, including implementing the Employee Whistleblowing Hotline.

Social matters

Our approach and key policies

One of our four strategic pillars “we.care” is centred around community engagement and positive social impact, where we aim to offer meaningful support to our employees and our local communities. We consider ourselves to be a part of the communities in which we operate, and we believe that by supporting our local communities we create long-term value for our communities and for our business. We align our social responsibility initiatives with the UN Sustainable Development Goals that are particularly relevant to our business.

We have demonstrated our commitment to effective engagement through a variety of community and social impact initiatives in Türkiye and the UK over the last several years with five areas of focus: building a sustainable future; environment and nature; youth and education; community support; and empowerment of women.

Outcomes of policies and impacts of activities

During 2022:

- We supported a diverse range of community and social impact projects in Türkiye and the UK with our time, capabilities and total direct financial and charitable contributions of approximately $1.1 million.
- In the UK, we became the national community partner of the WRU, providing financial support for two major community initiatives across the nation of Wales: “Fit, Fed, Fun” and “Jersey for All”, with a specific aim of reaching children and families from poorer communities and those with disabilities and special educational needs.
- In Türkiye, we continued with our biodiversity project at Kazan Soda, our agricultural support and Greenhouse Project at Eti Soda and a variety of other social projects that have been running for several years.

Our non-financial and sustainability information statement continued

Respect for human rights

Our approach and key policies

We have zero tolerance for any form of child, forced labour, modern slavery or any other action that breaches an individual's human rights, and we support the rights of all people as set out in the Universal Declaration of Human Rights. We aim to apply our sustainability governance and practices to all our partners across our upstream and downstream supply chains.

Our Labour & Human Rights Policy and Modern Slavery Statement set out the principles which underpin the expected behaviour of all individuals working for or with our Group.

Outcomes of policies and impacts of activities

During 2022:

- No human rights violations were identified.
- We reviewed and published our Modern Slavery Statement, which can be found on our website.
- We registered nearly 60% of our suppliers (by value) onto the Sedex platform, to allow us to more effectively screen our suppliers in accordance with our own sustainability criteria.

Anti-corruption and anti-bribery

Our approach and key policies

We expect that all individuals working for or with our Group conduct business responsibly and with integrity.

We have a number of policies which define our control measures against corruption and bribery including our Anti-bribery & Corruption Policy, our local Whistleblowing Policies, our Business Ethics Policy and our Supplier Code of Conduct. We aim to apply our sustainability governance and practices to all our partners across our upstream and downstream supply chains.

Outcomes of policies and impacts of activities

During 2022:

- We had no reported fines, penalties or settlements for corruption or bribery.
- We revised our Supplier Code of Conduct to better define our expectations of legal compliance, working conditions and business ethics amongst our suppliers.
- We registered nearly 60% of our suppliers (by value) onto the Sedex platform, to allow us to more effectively screen our suppliers in accordance with our own sustainability criteria.
- We developed and launched a blockchain enabled soda ash supply chain ecosystem called "ConnexSA", with the objective of delivering transparency and robust sustainability data and governance across our entire supply chain.

Climate-related financial disclosures

Our approach and key policies

Within our industry, we believe we produce soda ash with the lowest CO_2e emissions and water intensity and waste, and we believe that we have the lowest impact on nature and the environment[1]. Further reducing our CO_2e emissions and water intensity is a priority for us. Because climate change is expected to increase the pressure on water resources and increase the risk of water scarcity, we operate with a well-defined water stewardship strategy to protect and preserve the water resources of our communities and our operations.

Our TCFD statement outlines our approach to assessing and managing climate-related financial disclosures. This forms part of our risk management process and allows us to set and manage climate-related targets.

Outcomes of policies and impacts of activities

During 2022:

- We committed to achieving Net Zero CO_2e emissions by 2050 and reset our Scope 1 & 2 CO_2e emissions intensity targets: to reduce by 20% within the next five years and by 40% within the next ten years, relative to a 2022 baseline.
- We reset our water intensity target, to reduce by 20% within the next five years, relative to a 2022 baseline.
- We announced West Soda, the first soda ash production facility globally to source all of its electrical needs entirely from renewable power sources.

1 We determine our impact on nature and the environment in comparison to our peers through the assessment of our energy intensity of 4.44, Scope 1 & 2 CO_2e emissions intensity of 0.343, water intensity of 2.04, and total waste directed to disposal of 73,384 mt (in each case for 2022), as these metrics provide a relative and comparable measure of performance across our industry.

See **pages 58–63** for our full TCFD report.

Our stakeholders

Importance of materiality

We aim to create value for our stakeholders in everything we do, and we engage with our stakeholders to gain insights into what they want and need from us as a business. These insights allow us to determine those areas of interest for our stakeholders and help us to shape the way in which we do business.

Our 2022 materiality assessment

In November 2022, to inform our strategic decision-making, we commissioned the sustainability consultancy ERM to help us assess the material issues for our business and those of concern to our stakeholders. ERM engaged with our employees through a Sustainability Survey and also conducted interviews with our management team, our customers, our regulators, our local communities and our suppliers. ERM also considered key regulatory requirements and the expectations of leading rating agencies, using a range of published sources and sustainability questionnaires.

Key findings

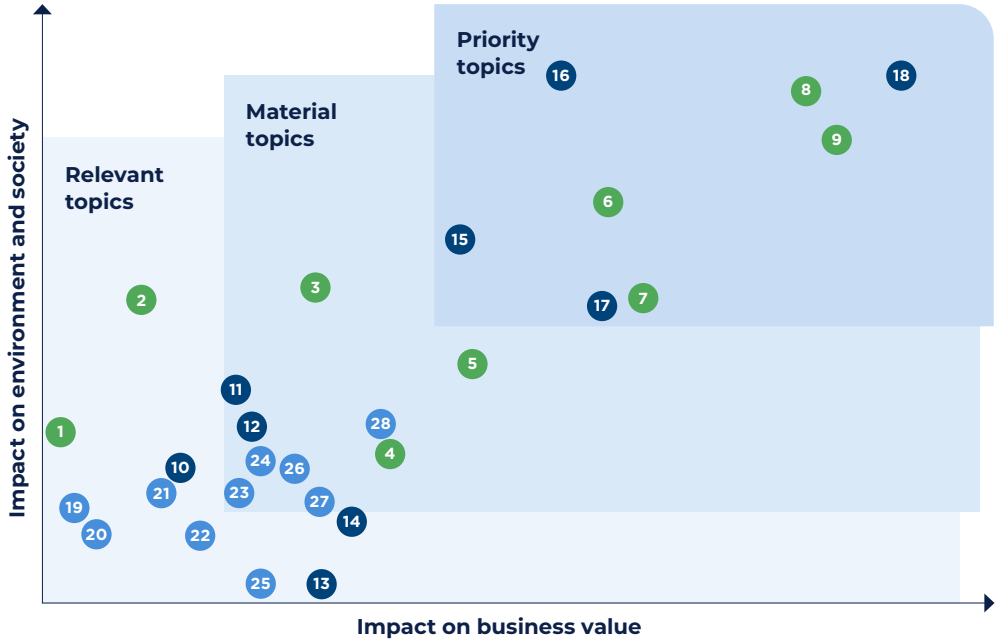
The materiality assessment showed us that our most material issues – shown as "Priority topics" – are closely aligned with our areas of strategic focus. It also revealed that environmental and social issues were of the highest priority to our stakeholders.

Employee issues were prioritised

Occupational health, safety and wellbeing were identified as the highest priority for our business and stakeholders. Many internal interviewees commented that we have strong management systems in place around occupational health & safety, demonstrating that we are focused on prioritising those topics which matter most to our employees. We will ensure that these continue to be a core part of our business strategy.

The topic of workforce relations was also highlighted as a priority. This follows a reduction in employee satisfaction, following the coronavirus pandemic, partly because less socialising was possible between our colleagues. In response, we have developed a roadmap to reintroduce more social events to help motivate and engage our employees. Environmental impact related issues were also rated as priority topics, including water stewardship, CO_2e emissions, energy use and efficiency and waste management. These topics are fundamental drivers of our business strategy, and we measure our performance and report our impact through KPIs.

Our 2022 Materiality Matrix



Environment

1. Closure and remediation
2. Biodiversity
3. Product lifestyle and circular economy
4. Climate resilience
5. Air quality
6. Energy use and efficiency
7. Waste management
8. Water stewardship
9. GHG emissions

Social

10. Talent attraction and retention
11. Skills training and development
12. Human rights
13. (Geo)political risk
14. Emergency preparedness and security
15. Workforce relations
16. Community relations and engagement
17. Sustainable supply chain management
18. Occupational health, safety and wellbeing

Governance

19. ESG governance structures
20. Data and cybersecurity
21. Corporate reputation and culture
22. Tax and revenue transparency
23. Customer satisfaction
24. Technology and innovation
25. Policy and regulatory landscape
26. Diversity, equity and inclusion
27. Anti-corruption and bribery
28. Business integrity, transparency and ethics

Our stakeholders continued

Sustainable Development Goals ("SDGs")

In 2015, UN Member States adopted the 17 SDGs as part of the 2030 Agenda for Sustainable Development and encouraged companies to develop programmes to support this initiative. Sustainability is fundamental to our success and it is at the core of how we conduct our business. There are six SDGs in particular which we believe are relevant to our operations and where we believe we have made a significant impact.

SDG 5 – Gender equality Promoting gender equality is a core part of our recruitment practices, our employment policies and practices, and our community and social engagement. We have set ourselves the target of having an equal number of female and male employees within our middle and senior management within the next ten years and we have recently begun to report on our gender pay. We also run community and social projects which focus on the empowerment of women. Our Eti Soda Greenhouse project employs women from the local community and at Kazan Soda we have developed a women's entrepreneur project to support and encourage women to set up their own businesses, driving sustainable economic independence.

SDG 6 – Clean water and sanitation Water is essential to our production but also to the wellbeing and sustainability of our host communities. Because climate change is expected to increase the pressure on water resources and increase the risk of water scarcity, we operate with a water stewardship strategy that is designed to protect and preserve the water resources of our communities and our operations. We have implemented several initiatives at Eti Soda and Kazan Soda which support the efficient use of water, promoting responsible water consumption without negatively impacting our host communities.

SDG 8 – Decent work and economic growth Our employees and the communities in which we operate are key to the success of our business. We offer fair pay and an inclusive and supportive work environment with regular training and personal development opportunities. We also care for, invest in and support the communities in which we operate. Our aim is to ensure that these communities continue to be sustainable long after our sites are de-commissioned. By encouraging productive and inclusive employment, including members of our local communities, it allows us to support sustainable economic growth.

SDG 12 – Responsible consumption and production We carefully design sustainability into our operational processes to minimise our environmental impact, by ensuring that we use efficient production methods to minimise energy consumption, CO_2e emissions and water, and we minimise waste by recycling or commercialising by-products. We believe we already produce soda ash with the lowest impact on nature and the environment (in terms of energy intensity, emissions intensity, water intensity and waste) and we are committed to further improving this performance. By 2030, we plan to have developed the first soda ash production facility in the world using entirely renewable power sources.

SDG 13 – Climate action We report in accordance with TCFD recommendations, which sets an important and transparent framework for reporting climate-related risks and opportunities. We have committed to achieving Net Zero CO_2e emissions by 2050, and we have engaged ERM to help design and implement an emissions reduction pathway that is consistent with a "below 1.5°C" global warming outcome. Amongst other sustainability improvement targets, we have set the target of reducing our Scope 1 & 2 CO_2e emissions intensity by 20% within the next five years and by 40% within the next ten years, and we have set the target of reducing our water intensity by 20% within the next five years, in all cases relative to a 2022 baseline.

SDG 15 – Life on land Environmental stewardship is a cornerstone of our responsible approach to realising our strategic ambitions. Our stewardship encompasses our efforts to support initiatives that promote biodiversity and positively contribute to conserving the natural environment in which we operate. We have very limited impact on pre-existing land use, enabling our facilities to easily co-exist alongside the farming communities which surround us. Our impact on existing flora and fauna is also limited due, in part, to the relatively easy removal of surface pipelines and wellheads upon decommissioning, without the need for rehabilitating significant waste material dumps or open-cast mine areas.

Our stakeholders continued

Stakeholder types

Employees

About our stakeholders

Our employees are fundamental to the success of our business – driven by their hard work, entrepreneurial spirit, curiosity, and diversity. We employ around 1,373 people, including those with fixed-term contracts.

How we engage

- OHS monitoring and reporting
- Annual employee satisfaction surveys
- Employee representatives
- Regular employee meetings

Areas they have told us they are interested in

- Occupational health, safety, and wellbeing
- Employee training and development
- Communication with management
- Career opportunities
- Responsible management
- Ethical business practices

Company initiatives introduced

- Employee Whistleblowing Hotline
- Online training system
- Enhanced health, safety and wellbeing policies and initiatives

Customers

About our stakeholders

We supply large industrial customers and regional distributors in almost eighty countries, delivering to around one hundred and fifty different global destinations via an integrated global customer supply chain that operates 24/7 and is responsible for shipping our product around the world.

How we engage

- Sales, marketing and customer relationship teams
- Regular meetings and discussions
- Senior management visits
- Regular surveys
- Certifications

Areas they have told us they are interested in

- Sustainability
- GHG emissions
- Water stewardship
- Reliability of supply chain
- Occupational health, safety, and wellbeing
- Product life cycle and circular economy

Company initiatives introduced

- “ConnexSA”
- Annual Sustainability Report
- Customer surveys and NPS
- ISO 9001 Quality Management System

Suppliers

About our stakeholders

We have around two hundred and ten major suppliers, including suppliers of energy, processing chemicals and equipment, mainly located in Türkiye and Europe.

How we engage

- Supplier onboarding, evaluations and Supplier Code of Conduct
- Regular supplier meetings
- Supplier surveys
- Sedex audits
- Certifications

Areas they have told us they are interested in

- Occupational health, safety, and wellbeing
- Sustainable supply chain management
- Energy use and efficiency
- Product life cycle and circular economy

Company initiatives introduced

- Sedex membership
- Supplier screenings
- Supplier Code of Conduct
- Modern Slavery policy

Local communities

About our stakeholders

We believe that by supporting our local communities, we will create value for today and for the future. Eti Soda and Kazan Soda are both located in agricultural and farming areas.

How we engage

- Local community infrastructure, education and empowerment projects
- Social projects and charitable donations
- Participation in community events
- Regular community engagement meetings

Areas they have told us they are interested in

- Community relations and engagement
- Air quality
- Occupational health, safety, and wellbeing
- Waste management
- Business integrity, transparency and ethics

Company initiatives introduced

- Eti Soda Greenhouse project
- Local infrastructure investment
- Internships and scholarships
- Sponsorships and donations

Our stakeholders continued

Stakeholder types

Investors

About our stakeholders

Today, we are wholly-owned by the Ciner Group, one of Türkiye's largest industrial groups with operations in various sectors, including energy and mining, glass and chemicals, shipping, logistics and media.

How we engage

- Board meetings
- Shareholder meetings
- Legal, financial and sustainability reporting

Areas they have told us they are interested in

- Sustainability
- Occupational health, safety, and wellbeing
- GHG emissions
- Waste management
- Water stewardship
- Energy use and efficiency

Company initiatives introduced

- Publishing of our Annual Report
- ISO 14001 Environment Management System
- ISO 5001 Energy Management System
- CDP climate change and water disclosure
- Publishing of Annual Sustainability Report

Industry

About our stakeholders

The nature of our business means that we are an industrial minerals processing company, producing an inorganic industrial ingredient, and we are considered to be part of the broader chemicals industry.

How we engage

- Industry trade fairs
- Conferences and panels
- Legal, financial and sustainability reporting
- Certifications

Areas they have told us they are interested in

- Sustainability
- GHG emissions
- Water stewardship
- Diversity, equality and inclusion
- Community relations and engagement
- Human rights

Company initiatives introduced

Member of

- European Soda Ash Producers Association
- Middle East Trade Association
- Istanbul Minerals and Metals Exporters Association ("İMMİB")
- Istanbul Chemicals and Chemical Products Exporters' Association ("IKMIB")

Civil society

About our stakeholders

We consider civil society to be made up of broader society (beyond our local communities) including non-governmental organisations ("NGOs"), national and international organisations, academic institutions and research organisations.

How we engage

- Industry trade fairs
- Conferences and panels
- Legal, financial and sustainability reporting
- Certifications

Areas they have told us they are interested in

- Workforce relations
- Biodiversity
- Sustainable supply chain management
- Energy use and efficiency
- GHG emissions
- Natural resource use

Company initiatives introduced

- UN Global Compact, including CEO Water Mandate endorsing company
- Turkish Red Cross

Regulators

About our stakeholders

We are governed and regulated by national and local government organisations in the counties and regions in which we operate and by global and national regulatory bodies in the countries and regions in which we sell our products, as well as global trends and United Nations initiatives.

How we engage

- Official correspondence
- Regular meetings
- Audits and field visits
- Legal, financial and sustainability reporting
- Certifications

Areas they have told us they are interested in

- Occupational health, safety, and wellbeing
- GHG emissions
- Community relations and engagement
- Energy use and efficiency
- Waste management
- Water stewardship
- Technology and innovation

Company initiatives introduced

- EU REACH registration

TCFD[1]

Climate change presents a significant global risk, and we are committed to protecting the environment and nature by using natural resources responsibly.

This is our first Annual Report disclosure in line with the recommendations of the Task Force on Climate-related Financial Disclosures ("TCFD"). We do not yet consider ourselves fully compliant with the TCFD recommendations. The following section is structured around the four core pillars of TCFD (Governance, Strategy, Risk Management and Metrics & Targets) and it describes the work we have so far completed to align our reporting with the TCFD recommendations.

During 2022, we strengthened the alignment of our reporting on climate-related matters with the TCFD recommendations, and also with the growing expectations of our stakeholders. We are committed to continuing to enhance our climate-related disclosures and throughout this section we have set out our commitments to further improve our disclosures, including those initiatives which we intend to implement at both a Group and at an operational level. In addition to our TCFD disclosure, both Eti Soda and Kazan Soda have continued to report to the CDP (formerly, the Carbon Disclosure Project) and detailed reports and scores can be found on the CDP website (for Kazan Soda, see CDP and for Eti Soda, see CDP).

Our TCFD-informed approach to climate-related matters

TCFD pillars

1. Governance (page 59–60; 80 and 86)

Establishing robust oversight of the management of climate-related matters

2. Our strategy
(pages 1; 6–9; 16 and 60–62)

Sustainability is integrated into everything we do, and is throughout our governance and management framework

3. Risk management
(pages 62–63)

Effective risk management enables us to identify and mitigate potential climate-related threats

4. Metrics & targets
(pages 67–70)

We use metrics & targets to assess and manage relevant climate-related risks and opportunities

1 Non-financial group data is based on Turkish operations and UK and Turkish corporate and administrative functions; it does not include US associates, discontinued operations and subsidiaries.

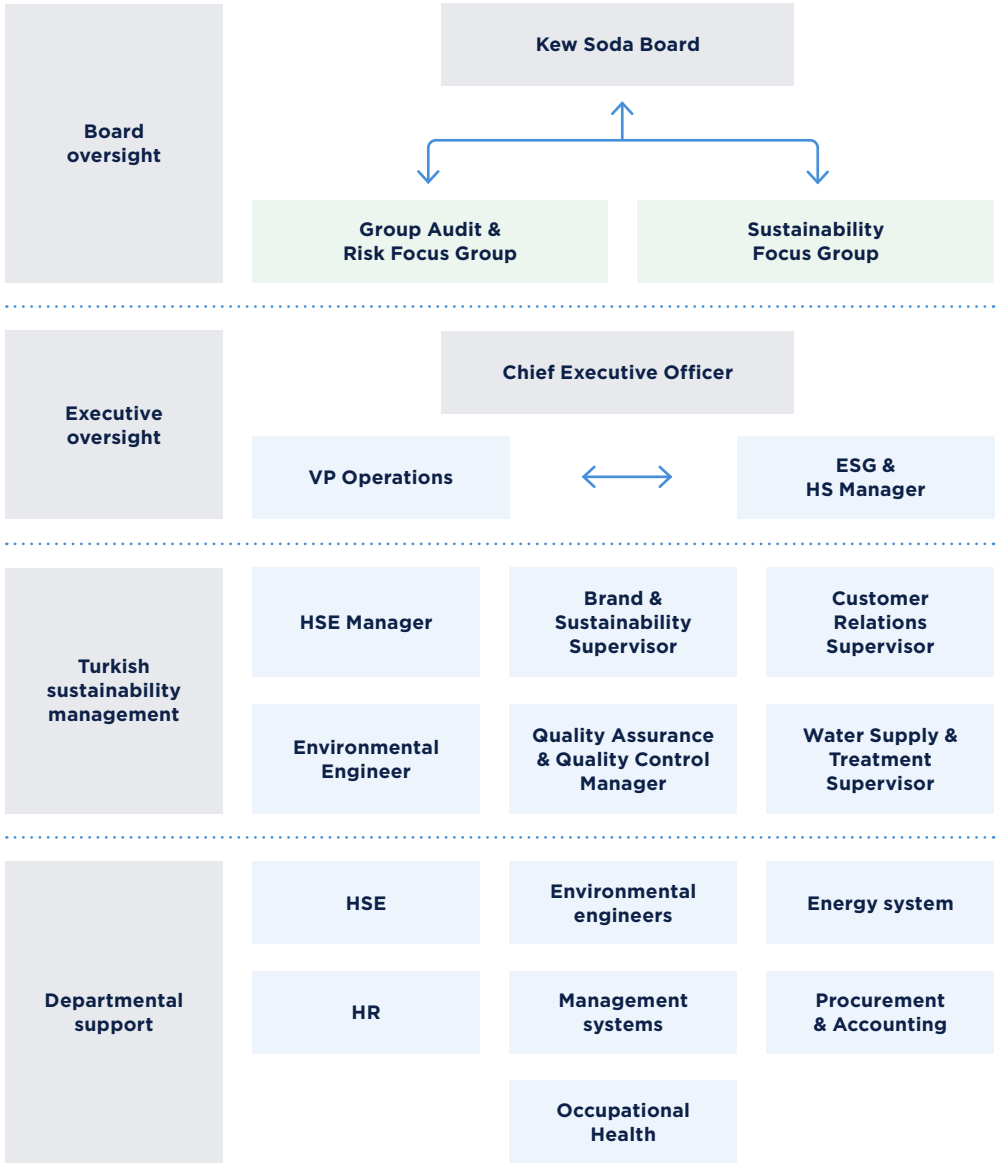
TCFD continued

1. Governance

Board oversight

Managing climate change is one of our strategic priorities, and the responsibility and oversight for this sits with our Board and its committees. At Board level, our CEO has overall responsibility for sustainability and our strategic responses to the associated risks and opportunities. To support the oversight of climate-related matters, the Board established two "Focus Groups" in 2022, which were formally constituted as Board committees in February 2023. These include the Audit & Risk Committee and the Sustainability Committee, chaired by Samantha Hoe-Richardson and Rosalind Kainyah, respectively. Both Samantha and Rosalind bring significant sustainability-related experience to these committees, from their past executive and non-executive roles where they have either served as head of environment and sustainability at large UK corporations or have experience in environmental law and policy, as well as Board-level sustainability experience within other corporations.

Our oversight of climate-related matters in 2022



From 2023, the Sustainability Committee will support the Board's oversight of and advise upon climate-related matters, as well as the development and implementation of sustainability initiatives and strategy across the Group. The Committee will seek to approve our new sustainability framework and, to ensure that we are performing and reporting in a manner consistent with best practices, the Committee will also review our performance against our policies and targets. The Sustainability Committee will meet at least four times during 2023.

In relation to TCFD, the Audit & Risk Committee was established to further assist the Board with reviewing the Group's risk management and internal controls, alongside its audit and financial, whistleblowing, fraud, and compliance oversight. In 2023, we plan to approve a revised enterprise risk management framework following a comprehensive risk assessment which will take into consideration all of our key risks, including those related to sustainability, legal and regulatory compliance, and climate-related risks. The Audit & Risk Committee will meet at least four times during 2023.

Climate-related matters are considered when annual budgets, business plans and risk management policies are adopted by the Board. We currently have several climate-related targets associated with the performance of our operating facilities. In 2023, we will look to establish consolidated climate-related targets for our Group as a whole.

TCFD continued

Management's role

Climate change represents a significant business risk. We acknowledge our role in the global initiative to ensure that we achieve a "below 1.5°C" global warming outcome. Climate-related risks have the potential to impact our operations, and managing our exposure to the risks and seizing opportunities to enhance our climate resilience are a core part of our sustainable operating model.

In 2022, executive management worked alongside our local Sustainability Management Committees at each operation to ensure oversight in the setting and monitoring of sustainability-related targets. Local working groups at each operation, supported the local committees, co-ordinated and implemented initiatives on the ground to enable us to realise our metrics and targets. Progress against approved targets and action plans were reviewed at monthly meetings of the local committees and working groups.

To further enhance our management of climate-related matters across our operations, in 2023 we are working towards incorporating sustainability and climate-related KPIs into our performance reviews and our approach to remuneration. We have also appointed a Turkish Sustainability Director who, working with executive management, strengthens sustainability governance and strategy implementation at our operations.

Our climate governance commitments

We are committed to enhancing our climate-related governance structures to further align with the TCFD guidance. To achieve this, we have committed to the following actions during 2023:

Finalise management roles and responsibilities and convene topic-specific working groups, across our operations, as they relate to climate change.

Establish formal oversight and reporting structures for the Sustainability Committee, as it relates to climate-related governance and oversight of performance.

Develop formal internal sustainability guidance, setting out policies, responsibilities, and team composition (including new positions).

Set a regular schedule of working sessions to further enhance the Board's understanding of how climate-related issues are managed.

2. Our strategy

We define our purpose as ***"to responsibly produce essential ingredients for a sustainable future"***. This is our guiding principle upon which we make our strategic decisions and conduct our corporate activities. Sustainability is integrated into everything we do, and it is embedded throughout our governance and management framework.

Our climate-related risks and opportunities have been identified with various timescales and are summarised in the table on page 61.

Time horizons we use to assess our climate-related risks and opportunities

Short term	Medium term	Long term
0-2 years	2-5 years	5-30 years

We have undertaken high-level scenario analyses for both Eti Soda and Kazan Soda to identify relevant TCFD-aligned climate-related risks and opportunities across the following categories: technology, legal, market, reputational, acute physical and chronic physical, products and services, resource efficiency and energy sources.

Impact of climate-related risks and opportunities on our business strategy and financial planning

Our plans to reduce our CO_2e emissions and water intensity are driven by the impact that climate-related risks and opportunities have on our strategy. These targets are described in more detail in the Metrics & Targets section on page 67. We also consider climate-related issues within our financial planning process and their potential impact on our financial performance. Identified climate-related issues feed into our plans and decisions, and our capital expenditures[1] and allocation of funding have been influenced by these issues in the past. For example, to highlight the impact of our products on climate change, we decided to perform a life-cycle assessment certification and we have demonstrated that our Scope 1 & 2 CO_2e emissions intensity is around one-third of the level of synthetic soda ash producers.

Further information regarding the impact of the energy transition and physical climate-related risks and opportunities across our business are shown in the tables on page 61. These were identified based on our own internal evaluation, and we are currently working with the global sustainability consultancy ERM to update our findings and strengthen our climate-related assessment and quantification.

1 See definitions of Alternative Performance Measures on our website – www.wesoda.co.uk.

TCFD continued

Transition risks and opportunities for our Group

Item	Risk/opportunity	Description
Carbon price	**Risk**	Türkiye has a national GHG emission reduction target of 21%, equivalent to 246 million mt of CO_2e from the Business as Usual ("BAU") level by 2030. Climate-related risks, especially the risk of implementation of European Green Deal Carbon Border Adjustment Mechanism ("CBAM"), and potential inclusion of soda ash within the scope and the expected Emissions Trading System ("ETS") in Türkiye, has influenced our financial planning. Furthermore, there is an expectation that carbon-related taxation will be introduced to organisations, without taking into consideration sector averages or benchmarking Scope 1 & 2 CO_2e intensity values.
Changing customer behaviour and priorities	**Risk**	Currently, 100% of the steam and approximately 16% of electrical energy required by Eti Soda is fuelled by coal. Fossil fuel use remains an issue with increasing scrutiny from stakeholders and customers as to the provenance of the soda ash and its accumulated carbon footprint. We have committed to achieving Net Zero Scope 1 & 2 CO_2e emissions by 2050 and to reducing our Scope 1 & 2 CO_2e emissions intensity by 20% within the next five years and by 40% within the next ten years, relative to a 2022 baseline.
Shift in customer preferences	**Opportunity**	Soda ash is the tenth most consumed industrial ingredient in the world. It is used in glass production (including solar PV glass), powdered detergents and various chemical processes including the production of lithium carbonate used in EV batteries and in the production of silicates and various sodium-based chemicals, including sodium bicarbonate. Within an increasingly environmentally conscious world, there is a growing demand for lower carbon more sustainably produced natural soda ash.
Use of lower-emission sources of energy	**Opportunity**	At Eti Soda we plan to increase the use of biomass to reduce coal usage, as well as to reduce fly ash waste. Following the success of an initial biomass trial, we are planning that biomass will account for around 4% of all cogeneration fuel consumption at Eti Soda in 2023, gradually increasing to 12% over the next five years, reducing Scope 1 & 2 CO_2e emissions intensity and waste. During 2022 we installed 7MW of solar PV capacity at our facilities which came on-stream during the first quarter of 2023, with a further 3MW planned by year end 2023. We have performed wind power tests and we are conducting an ongoing feasibility study to assess our full renewable power potential in Türkiye. We estimate that we can deliver up to 100MW of solar PV and over 100MW of wind power by 2027.
Use of new technologies	**Opportunity**	Increasing awareness of climate change issues, as well as the desire to transition to a lower carbon economy, directs us to various energy efficiency and Scope 1 & 2 CO_2e reduction initiatives, which have helped us achieve cost savings from reduced fuel, raw materials and energy usage as well as improve our sustainability performance. We have been assessing the opportunity to generate renewable energy to supplement our power needs at Kazan Soda and Eti Soda, and we are aiming to significantly increase the amount of renewable energy we produce and use at both facilities. Amongst others, we are also planning to develop the use of carbon capture and liquification/storage technologies for process and combustion CO_2 emissions and to reduce our water consumption through the use of dry air-cooling systems.
Reduced production due to water scarcity	**Risk**	Türkiye is likely to experience water scarcity due to the impact of climate change. Water is an essential input to our production process, as well as being important to the local communities in which we operate. An increased risk of water scarcity could mean that we are unable to secure sufficient water to sustain our operations or we could potentially face growing competition for water with local communities. In order to help mitigate this risk, we have committed to reducing our water intensity by 20% over the next five years, relative to a 2022 baseline.
Logistics disruption due to extreme weather	**Risk**	Almost 80% of our products are transported by sea, mainly in bulk format and today our product is transferred from our operations to our export facilities using road transport. There is a risk of disruption to inland transportation due to extreme weather conditions. Product transfer onto vessels can also only be completed at maximum rates in dry weather conditions. A concurrent loss of product at sea due to weather could result in significant delivery delays and inventory loss. In 2023, we will be developing a new logistics hub at Terneuzen, Netherlands which will serve as a hub for our product in Northern Europe and the UK, and which will partially mitigate the impacts of severe weather disruption to our logistical operations.

TCFD continued

Resilience within our climate strategy

We have conducted a high-level scenario analysis to understand how each identified climate-related risk and opportunity may develop under different climate scenarios. The table below shows which scenarios were considered for the physical and transition risks and opportunities at Eti Soda and Kazan Soda. The time horizons which were considered are already described on page 60.

There was one scenario used to represent physical risk and one used to represent transition risk, as these are regarded as the most realistic scenarios, given current policies and a warming trajectory of 2.6°C by 2100. We have also disclosed how climate-related risks and opportunities may impact our strategies and financial expenditure.

During 2023, we plan to conduct an updated, more in-depth assessment with the support of ERM, which will consider two scenarios (low- and high-carbon) for transition and physical risks and opportunities as recommended by TCFD.

Climate-related scenario	Scenario analysis coverage	Parameters
Transition scenario – International Energy Agency's ("IEA") NZE 2050	Company-wide (Kazan Soda and Eti Soda)	We aim to have Net Zero CO_2e emissions by 2050
Physical Climate Scenario – RCP 4.5 (from the Intergovernmental Panel on Climate Change; IPCC)	Company-wide (Kazan Soda and Eti Soda)	We aim to align with the 1.5°C scenario

Our climate strategy commitments

Develop a medium and long-term plan for reducing (and potentially eliminating) CO_2e emissions for the Group.

Develop a water stress focused climate resilience assessment for the Group.

Develop a water consumption reduction strategy (with a particular focus on opportunities at Kazan Soda).

Prepare for Science Based Targets initiative ("SBTi") recommitment for the Group by 2026.

3. Risk management

Identifying and assessing climate-related risks

Our risk assessment activities consider emerging regulation, and physical, market and technology risks, as recommended by TCFD guidance.

We review climate-related risks as part of our enterprise risk management review. This is currently a separate process completed at Eti Soda and Kazan Soda. From 2023, we plan to cover it at Group level. Our climate risk management process is integrated into a multi-disciplinary, Group-wide risk management process that is reviewed more than once a year, following the principles of: Define; Analyse; Plan; Monitor & Measure and React/Respond.

Risks are evaluated in terms of their probability of occurrence and the potential impact which they may have on our business and strategy on a scale of 1-5, where the lowest probability of occurrence is 1 and the highest is 5 and where, in terms of likely impact, 1 indicates that the outcome of the risk is of little significance and 5 is very significant. Risk impacts are categorised under a number of categories including financial loss, reputational loss, production loss, climate change impact, and water impact.

Our integrated approach to climate-related risk management

We understand the importance of the integration of climate-related risk management within our wider risk management framework. Effective risk management enables us to identify and mitigate potential threats and take advantage of potential opportunities associated with our strategy, business and operations. The executive management team is responsible for our day-to-day risk management activities, including the management of our climate-related risks. Accountability of our overall risk position currently lies with the Board and our Chief Strategy & Risk Officer, reporting to the CEO. Alongside the newly formed Sustainability Committee and Audit & Risk Committee, the Board ultimately oversees our risk management procedures, including climate change risks. Executive management at the site level regularly reviews our operational and sustainability risk management framework, with the oversight of our Chief Operating Officer and Chief Strategy & Risk Officer, to ensure its effectiveness.

TCFD continued

Currently climate-related risks and opportunities are assessed annually and audited external integrated systems auditors (to ISO 1400, ISO 50001 and ISO 14064-1 standards) during site audits. In 2023, we are planning an in-depth review and re-evaluation of our current processes around integrated climate risk and opportunity analysis.

Our climate-related risk management commitments

Develop enterprise level risk inventory, including sustainability and climate-related risks.

Agree a process for monitoring, responding to and updating the climate-related risk register.

Conduct a more detailed climate scenario analysis.

Further focus on financial quantification of the identified climate-related risks.

4. Metrics & targets

As part of our approach to monitor our performance across important sustainability areas, we track several environmental metrics to evaluate our impact and progress. These include operational metrics related to:

- energy use and CO_2e emissions;
- water usage in terms of withdrawal, recycling and discharge; and
- waste generation and disposal.

Our metrics are listed on pages 67–70 of this report.

Our CO_2e emissions methodology is informed by the following guidance:

- GHG Protocol Corporate Accounting and Reporting Standard (revised edition);
- requirements of the UK's DEFRA Environmental Reporting Guidelines; and
- ISO 14064-1.

Refer to pages 26–45 of our Operating sustainably report, for details of our performance against these and other sustainability-related key performance indicators.

Our climate metrics & targets commitments

Develop a Group-wide decarbonisation roadmap to achieve short, medium and long-term targets for our Scope 1 and 2 CO_2e emissions.

Develop a Group-wide five and ten-year Scope 3 CO_2e emissions reduction target.

Seek validation of our Group-level Net Zero target by the SBTi by 2026.

Maintain our research and development focus to identify new projects and technologies that will support reaching our targets.

Concluding statement

We believe sustainable business is good business, and we are committed to operating sustainably in an environmentally and socially responsible way. As such, tackling climate change is one of our key priorities. Today, we are the only soda ash producer in the world outside China to use the solution-extraction method on a commercial scale, which we believe allows us to produce soda ash with the lowest CO_2e emissions intensity and water intensity within our industry and with almost no waste. As a result, we believe that we have the lowest impact on nature and the environment[1] within our industry, and we are confident this will enable us to benefit from climate-related opportunities ahead.

We have made a good start in strengthening the alignment of our reporting on climate-related matters with the recommendations of the TCFD. We are already capturing a broad range of metrics and we will look to further improve our disclosures over time, setting measurable targets in line with the SBTi. We have developed an action plan for 2023, including steps to improve our internal processes and external scenario analysis, and we are committed to continue disclosing to other frameworks, in addition to our TCFD disclosures.

1 We determine our impact on nature and the environment in comparison to our peers through the assessment of our energy intensity of 4.44, Scope 1 & 2 CO_2e emissions intensity of 0.343, water intensity of 2.04, and total waste directed to disposal of 73,384 mt (in each case for 2022) as these metrics provide a relative and comparable measure of performance across our industry.

Our performance indicators[2]

Social performance indicators

Employee demography[1]	2020	2021	2022
Total number of employees	**1,340**	**1,408**	**1,373**
Male	1,210	1,274	1,224
Female	130	134	149
Number of permanent employees	**1,229**	**1,296**	**1,372**
Male	1,099	1,162	1,223
Female	130	134	149
Türkiye	1,207	1,273	1,346
UK	22	23	26
Temporary employees (fixed term contracts)	**111**	**112**	**1**
Male	111	112	1
Female	0	0	0
Türkiye	111	112	1
UK	–	–	–
Non-guaranteed hours employees	**0**	**0**	**0**
Male	0	0	0
Female	0	0	0
Türkiye	0	0	0
UK	–	–	–
Full-time employees	**1,340**	**1,408**	**1,373**
Male	1,210	1,274	1,224
Female	130	134	149
Türkiye	1,318	1,385	1,347
UK	22	23	26
Part-time employees	**0**	**0**	**0**
Male	0	0	0
Female	0	0	0
Türkiye	0	0	0
UK	–	–	–
Contractors (temporary agency staff)	**0**	**3**	**0**
Percentage of employees covered by collective bargaining agreements	**0**	**0**	**0**

Employee demography[1]	2020	2021	2022
Total number of employees by age group			
18–30	439	429	428
30–50	777	836	853
50+	124	143	92
Other indicators of diversity			
Minority groups	13	16	18
Disabled employees	32	31	34

1 Calculations based on headcount as at year end (31 December) for each of the reported years.
2 Non-financial Group data is based on Turkish operations and UK and Turkish corporate and administrative financials; it does not include US associates, discounted operations and subsidiaries.

Ratio of basic salary	2020	2021	2022
Ratio of basic salary and remuneration (eg bonuses) of women to men for each employee category by significant locations of operations[1]			
Eti Soda	-15%	-17%	-19%
Kazan Soda	-30%	-21%	-29%

1 Significant areas of operations defined as locations that have over 100 FTE.
The ratio of basic salary has been calculated in line with UK Gender Pay Gap reporting requirements, using the snapshot date of 5 April.

Annual total compensation ratio	2020	2021	2022
Ratio of annual total compensation for the highest-paid individual to the median annual total compensation for all employees (excluding the highest-paid individual)	**152:1**	**212:1**	**159:1**

Calculations based on the total remuneration (including salary and bonuses) of individuals employed during each of the reported years, against the CEO's total remuneration for those years.

Gender balance of Board	2020	2021	2022
Gender			
Male	7	9	7
Female	1	1	3
Age group			
Under 30	0	0	0
30–50	3	3	2
Over 50	5	7	8
Other			
Minority	0	1	1

Our performance indicators continued

Social performance indicators continued

Employee retention/turnover	2020	2021	**2022**
Number of employees hired	**76**	**168**	**185**
Under 30	39	106	121
30–50	28	55	52
Over 50	9	7	12
Gender			
Male	57	149	156
Female	19	19	29
Number of employees left	**81**	**101**	**106**
Under 30	40	46	52
30–50	36	48	38
Over 50	5	7	16
Gender			
Male	64	87	91
Female	17	14	15
Employee retention rate (remaining headcount during set period/starting headcount during set period) x 100	**95%**	**93%**	**93%**

Occupational health & safety

SGK reporting	2020	2021	**2022**
Eti Soda			
Total workforce headcount	549	554	582
Total working hours (thousands)	997.4	1,087.60	1,153.90
Number of fatalities	0	0	0
Number of work accidents	27	17	8
Total number of LTI[1] workplace accidents	22	14	5
Number of LTI lost workdays	266	112	26
Accident Frequency Rate[2]	27	16	7
LTI Severity Rate[3]	267	103	23
Kazan Soda			
Total workforce headcount	744	743	800
Total working hours (thousands)	1,215.70	1,465.90	1,583.40
Number of fatalities	0	0	0
Number of work accidents	39	35	21
Total number of LTI workplace accidents	33	30	21
Number of LTI lost workdays	355	600	402
Accident Frequency Rate	32	24	13
LTI Severity Rate	292	409	254
Group			
Total workforce headcount[4]	1,293	1,297	1,382
Total working hours (thousands)	2,213.10	2,553.40	2,737.40
Number of fatalities	0	0	0
Number of workplace accidents	66	52	29
Total number of LTI workplace accidents	55	44	26
Number of LTI lost workdays	621	712	428
Accident Frequency Rate	30	20	11
LTI Severity Rate	281	279	156

1 LTI Lost time injury.
2 Accident Frequency Rate = Number of work accidents divided by total working hours x 1 million.
3 LTI Severity Rate = Number of LTI workdays divided by total working hours x 1 million.
4 OHS data for Turkish sites only – headcount includes employees, trainees and leavers.

Our performance indicators continued

Social performance indicators continued

Occupational health & safety continued

RIDDOR reporting	2020	2021	**2022**
Eti Soda			
Total workforce headcount	549	554	582
Total working hours (thousands)	997.4	1,087.60	1,153.90
Total non-fatal reportable injuries[1]	5	4	1
Total recordable injuries[2]	4	1	0
Total number of reportable and recordable injuries[3]	**9**	**5**	**1**
Deaths	0	0	0
Dangerous occurrences[4]	4	1	2
Total incapacitation days	177	81	9
Reportable non-fatal injury rate[5]	911	722	172
Kazan Soda			
Total workforce headcount	744	743	800
Total working hours (thousands)	1,215.70	1,465.90	1,583.40
Total non-fatal reportable injuries	10	17	13
Total recordable injuries	5	5	2
Total number of reportable and recordable injuries	**15**	**22**	**15**
Deaths	0	0	0
Dangerous occurrences	5	0	7
Total incapacitation days	301	558	372
Reportable non-fatal injury rate	1,344	2,288	1,625
Group			
Total workforce headcount[6]	1,293	1,297	1,382
Total working hours (thousands)	2,213.10	2,553.40	2,737.40
Total non-fatal reportable injuries	15	21	14
Total recordable injuries	9	6	2
Total number of reportable and recordable injuries	**24**	**27**	**16**
Deaths	0	0	0
Dangerous occurrences	9	1	9
Total incapacitation days	478	639	381
Reportable non-fatal injury rate	1,160	1,619	1,013

1 Total number of all reportable non-fatal injuries = Injuries resulting in incapacitation of 7+ days and certain serious injury incidents. In relation to RIDDOR, an accident is a separate, identifiable, unintended incident, which causes physical injury. This specifically includes acts of non-consensual violence to people at work.
2 Total number of recordable injuries = Injuries resulting in incapacitation of 3+ days up to 7 days inclusive.
3 All accidents with LTI of 3+ days incapacitation.
4 Dangerous occurrences are categorised under reportable incidents; however, they are not classified under total number of accidents.
5 Reportable non-fatal injury rate = Number of all reported non-fatal injuries divided by workforce headcount x 100,000.
6 OHS data for Turkish sites only – headcount includes employees, trainees and leavers.

Community engagement	2020	2021	**2022**
Number of projects	**17**	**16**	**19**
OpCos[1]: $ spent on projects to support local communities ($m)	$0.30	$0.40	$0.58
WE Soda Ltd: $ spent on projects to support local communities ($m)	$0.00	$0.00	$0.55
Total: $ spent on projects to support local communities ($m)	$0.30	$0.40	$1.13

1 Operating companies (Eti Soda and Kazan Soda).

Our performance indicators continued

Environmental performance indicators

GHG emissions[1, 5, 6]	2020	2021	**2022**
Scope 1 (mt CO_2e)	1,301,598[Δ]	1,444,645[Δ]	**1,502,425[Δ]**
Scope 2 (market based) (mt CO_2e)	213,998[Δ]	246,077[Δ]	**213,187[Δ]**
Scope 2 (location based) (mt CO_2e)	213,998[Δ]	287,297[Δ]	**274,360[Δ]**
Scope 3 (mt CO_2e)[2, 3]	–	–	**1,040,197[Δ]**
Total Scope 1 & Scope 2 (market based)	1,515,596[Δ]	1,690,722[Δ]	**1,715,612[Δ]**
Carbon Emissions intensity (Scope 1 & 2 market mt CO_2e/mt production)[4]	0.358[Δ]	0.348[Δ]	**0.343[Δ]**
Total Scope 1 & Scope 2 (location based)	1,515,596[Δ]	1,731,942[Δ]	**1,776,785[Δ]**
Carbon emissions intensity (Scope 1 & 2 location based mt CO_2e/mt production)[4]	0.358[Δ]	0.357[Δ]	**0.355[Δ]**

1 We have calculated our carbon footprint where we have operational control with respect to the internationally recognised standards provided by the Greenhouse Gas Protocol, published by the World Business Council for Sustainable Development and the World Resources Institute ("WBCSD/WRI Protocol"). Gases included in the calculation; CO_2, CH_4 and N_2O. Source of GWP Values: IPCC 5th Assessment Report.
2 Scope 3 emissions calculations for 2022 include categories 1, 3, 4, 5, 6, 7 and 9.
3 Scope 3 emissions were not calculated according to the GHG protocol prior to 2022.
4 Carbon emission intensity is calculated as the total Scope 1 and 2 emissions across Eti and Kazan divided by the total mt of soda ash and sodium bicarbonate production across both sites.
5 [Δ] This data disclosed in the 2022 Annual Report was subject to independent limited assurance by ERM CVS. ERM CVS's assurance report is available on page 96. For our 2022 basis of preparation for assured data please visit our website www.wesoda.co.uk.
6 The CO_2e emissions presented in the table above relates to the production activities of Eti Soda and Kazan Soda operations for the respective annual reporting periods.

Energy	2020	2021	**2022**
Total energy purchased (MWh)	**486,358**	**652,947**	**623,546**
Electricity	486,358	652,947	623,546
Heating	–	–	–
Cooling	–	–	–
Steam	–	–	–
Total sold (MWh)	**1,203,436**	**987,733**	**948,324**
Electricity	1,203,436	987,733	948,324
Heating	–	–	–
Cooling	–	–	–
Steam	–	–	–
Energy consumption from renewable sources (MWh)	**–**	**–**	**–**
Solar power	–	–	–
Wind	–	–	–
Energy consumption from non-renewable sources (MWh)	**6,655,084**	**6,671,542**	**6,824,311**
Diesel fuel	10,140	13,915	20,495
Fuel oil	281	–	–
Coal	893,185	943,543	922,095
Natural gas	5,751,478	5,714,085	5,881,722
Total energy consumption (MWh)[1]	**5,938,006**	**6,336,756**	**6,499,533**
Total energy consumption (MMBtu)[1]	**20,261,320**	**21,621,913**	**22,177,330**
Total energy intensity (MWh/mt production)[2]	**1.404**	**1.306**	**1.300**
Total energy intensity (MMBtu/mt production)[2]	**4.791**	**4.456**	**4.435**

1 Total energy consumption is the sum of all renewable, non-renewable and purchased energy consumed less energy sold.
2 Energy intensity is calculated as the total MWh across Eti and Kazan divided by the total mt of soda ash and sodium bicarbonate production across both sites.

1 MWh equals 3.4121 MMBTU.

Our performance indicators continued

Environmental performance indicators continued

Water consumption	2020	2021	2022
Total water withdrawal (m³) from all areas (fresh vs other) **i. Fresh water (≤1,000mg/L Total Dissolved Solids);** **ii. Other water (>1,000mg/L Total Dissolved Solids).**	Fresh water	Fresh water	Fresh water
Surface water	–	–	–
Ground water	–	–	–
Sea water	–	–	–
Produced water	–	–	–
Third-party water (fresh)[1]	9,184,164	9,632,199	10,208,333^Δ
Total water withdrawal (m³) from water-stressed areas (fresh vs other) **i. Fresh water (≤1,000mg/L Total dissolved solids);** **ii. Other water (>1,000mg/L Total dissolved solids).**	Fresh water	Fresh water	Fresh water
Surface water	–	–	–
Ground water	–	–	–
Sea water	–	–	–
Produced water	–	–	–
Third-party water (fresh)[1]	9,184,164	9,632,199	10,208,333^Δ
Total water discharge (m³) to all areas (fresh vs other)[2] **i. Fresh water (≤1,000mg/L Total Dissolved Solids);** **ii. Other water (>1,000mg/L Total Dissolved Solids).**	**4,575,536**	**4,743,125**	**5,000,435**
Surface water (fresh)	34,683	57,918	134,183^Δ
Surface water (other)[3]	665,626	749,406	680,653^Δ
Ground water (fresh)	–	–	–
Ground water (other)[4]	3,875,227	3,935,801	4,185,599
Sea water	–	–	–
Third-party water	–	–	–
Total water discharge (m³) all areas with water stress (fresh vs other)[2] **i. Fresh water (≤1,000mg/L Total Dissolved Solids);** **ii. Other water (>1,000mg/L Total Dissolved Solids).**	**4,575,536**	**4,743,125**	**5,000,435**
Surface water (fresh)	34,683	57,918	58,535
Surface water (other)[3]	665,626	749,406	756,301
Ground water (fresh)	–	–	–
Ground water (other)[4]	3,875,227	3,935,801	4,185,599
Sea water	–	–	–
Third-party water	–	–	–
Amount of water recycled and re-used (m³)	**3,722,260**	**4,345,627**	**3,947,169^Δ**
Recycled and re-used water rate (%)	**41**	**45**	**39**
Water intensity (total water withdrawal m³/mt production)	**2.17**	**1.99**	**2.04^Δ**

1 Classified as fresh water due to the importance of the water in the catchment.
2 Discharges exclude water which is consumed by the operation. These consumptive losses are dominated by evaporative losses from the cooling towers and hence the withdrawals do not match the discharge.
3 Includes water discharge sent to local farmers for agricultural use at Eti Soda.
4 Groundwater discharge is dominated by water returned to the exhausted trona caverns for entrainment.

Total waste generated (mt)		2020	2021	2022
Total waste		**944,874.8**	**1,041,021.4**	**1,113,574.5**
Total waste directed to disposal		67,032.9	70,383.8	73,383.7
Total waste diverted from disposal		877,841.9	970,637.6	1,040,190.9
Total hazardous waste		**200.9**	**1,703.4**	**150.6**
Total hazardous waste directed to disposal		0.2	0.2	0.2
Total hazardous waste diverted from disposal		200.8	1,703.2	150.4
Total non-hazardous waste		**944,673.8**	**1,039,318.0**	**1,113,423.8**
Total non-hazardous waste directed to disposal		67,032.7	70,383.6	73,383.5
Total non-hazardous waste diverted from disposal		877,641.1	968,934.4	1,040,040.4
Hazardous waste diverted from disposal				
	Recycled	0.0	0.0	0.0
Onsite	Preparation for re-use	0.0	0.0	0.0
	Other recovery operation	0.0	0.0	0.0
	Recycled	20.3	50.4	54.4
Offsite	Preparation for re-use	180.5	1,652.8	96.0
	Other recovery operation	0.0	0.0	0.0
Non-hazardous waste diverted from disposal				
	Recycled	0.0	0.0	0.0
Onsite	Preparation for re-use	535,688.2	574,320.4	650,107.6
	Other recovery operation	69,622.8	79,582.3	71,117.6
	Recycled	983.2	1,150.7	1,266.2
Offsite	Preparation for re-use	4.4	9.6	14.6
	Other recovery operation	271,342.5	313,871.5	317,534.4
Total waste prevented		**877,841.9**	**970,637.6**	**1,040,190.8**
Hazardous waste directed to disposal				
	Incineration with energy recovery	0.0	0.0	0.0
	Incineration without energy recovery	0.0	0.0	0.0
Onsite	Landfilling	0.0	0.0	0.0
	Other Disposal Operations	0.0	0.0	0.0
	Incineration with energy recovery	0.2	0.2	0.2
	Incineration without energy recovery	0.0	0.0	0.0
Offsite	Landfilling	0.0	0.0	0.0
	Other Disposal Operations	0.0	0.0	0.0

Our performance indicators continued

Environmental performance indicators continued

Total waste generated (mt) continued		2020	2021	**2022**
Non-hazardous waste directed to disposal		**0.0**	**0.0**	**0.0**
Onsite	Incineration with energy recovery	0.0	0.0	0.0
	Incineration without energy recovery	67,032.7	70,271.8	73,226.3
	Landfilling	0.0	0.0	0.0
	Other Disposal Operations	0.0	0.0	0.0
Offsite	Incineration with energy recovery	0.0	0.0	0.0
	Incineration without energy recovery	0.0	111.7	157.2
	Landfilling	0.0	0.0	0.0
	Other Disposal Operations	0.0	0.0	0.0

Responsible value chain	2020	2021	**2022**
Number of Group's suppliers that were screened/vetted in Sedex using sustainability criteria[1]	**0**	**0**	**45**
Number of Group's suppliers onboarded in Sedex platform	**1**	**2**	**98**
The total number of Group suppliers[1]	**210**	**210**	**210**

1 Supplier selection criteria based on those suppliers providing goods and materials directly relating to production of our product and with whom we conduct repeat business, making up 93% of total spend.

Compliance with laws and regulations	2020	2021	**2022**
Total number of significant instances of non-compliance with laws and regulations[1]	**1**	**1**	**1**
Instances for which fines were incurred	1	1	1
Instances for which non-monetary sanctions were incurred	0	0	0
Monetary value of fines incurred ($)	1,930	25,659	10,688

1 Significant instances of non-compliance are defined as any instance of non-compliance where WE Soda is notified by ministries and governmental institutes, by official letter.

Membership associations	
Industry associations, other membership associations, and national or international advocacy organisations	CEO Water Mandate, ESaPa, OAID – Middle East Exporters Association, Native Mining Development Foundation, CDP, EcoVadis, Beypazarı Chamber of Commerce, Ankara Chamber of Commerce, İstanbul Chamber of Commerce, Turkish Statistical Institute ("TUIK"), Central Bank of the Republic of Türkiye ("TCMB"), İMMİB, Istanbul Chemicals and Chemical Products Exporters Association ("İKMİB"), EPD Türkiye, UNGC, WEPs, Cefic ("European Chemical Industry Council"), Sedex

Our performance indicators continued

Environmental performance indicators continued

Waste stream	2020			2021			**2022**		
	Disposed	**Diverted from disposal**	**Total waste**	**Disposed**	**Diverted from disposal**	**Total waste**	**Disposed**	**Diverted from disposal**	**Total waste**
Waste from petroleum refining, natural gas purification and pyrolytic processing of coal	0	6	6	0	10	10	0	0	0
Waste from organic chemical processes	0	14	14	0	3	3	0	9	9
Primer, paints, varnishes	0	1	1	0	2	2	0	1	1
Fly ash	26,516	61,194	87,710	33,797	68,785	102,582	29,986	75,535	105,521
Bottom ash	40,517	0	40,517	36,475	205	36,680	43,240	0	43,240
Waste from physical and mechanical surface treatments and forming of metals and plastics	0	1	1	0	0	0	0	0	0
Oil waste and liquid fuel waste	0	95	95	0	40	40	0	39	39
Waste packaging and absorbents, wiping clothes, filter materials and protective clothes	0	266	266	0	292	292	0	239	239
Waste not otherwise specified	0	9	9	0	44	44	0	39	39
Construction waste	0	215	215	0	1,646	1,646	0	286	286
Human and animal health and/or waste from research on these subjects	0	0	0	0	0	0	0	0	0
Waste from waste management facilities	0	1	1	0	1	1	0	19	19
Municipality waste	0	581	581	112	825	937	157	801	958
Calcium carbonate	0	406,357	406,357	0	433,828	433,828	0	475,952	475,952
Sodium chloride	0	90,826	90,826	0	106,811	106,811	0	109,500	109,500
Purge	0	318,275	318,275	0	358,145	358,145	0	377,771	377,771

Governance

Chair's introduction

"We produce and supply one of life's essential ingredients – and one of the key raw materials to enable the energy transition and a sustainable future. I am extremely proud of the work our colleagues have done – adding value not only for our financial stakeholders but also for society as a whole, the global soda ash supply chain, and the communities in which we operate."

Didem Ciner
Chair

Dear Stakeholders,

This is my first annual report as the Chair, following my appointment by the Board in June 2022. Having been a Non-executive Director of the Board since 2018, I would say the past year has been an exciting period of change and development for the Group. I have the pleasure of summarising the key areas of focus for the Board during 2022, with the full details of all the activities of the Board set out on page 82.

Board changes

As a large private company, we have the objective of executing an initial public offering ("IPO") of our shares when market conditions allow. We also aspire to the highest standards in everything we do, including corporate governance, reporting and disclosure, and our aim is to align our governance with the UK Corporate Governance Code and practices. With this objective in mind, the last year has seen significant changes to the composition of our Board. Along with a new Chair, a new Senior Independent Director and new Non-executive Directors have been appointed, and new Board committees have been formed. I am pleased to say that our new Board also fulfils our objective of achieving both gender and ethnic diversity.

Chair's introduction continued

I am pleased to welcome Harry Kenyon-Slaney as our new Senior Independent Director, as well as Samantha Hoe-Richardson and Rosalind Kainyah, who all became Non-executive Directors formally in early 2023, having attended Board meetings as designate Non-executive Directors since May 2022. They all bring a wealth of valuable experience and I look forward to working closely with each of them towards an ever-brighter future for our Group.

Despite the significant number of changes in the Board, the transition has gone smoothly and our new Board members have received full inductions, including visits to our Turkish production facilities, Eti Soda and Kazan Soda, and our bulk export facility at Derince Port in September 2022.

During 2022, the Board developed two Focus Groups (Audit & Risk and Sustainability), with the purpose of ensuring greater oversight of business performance, and we also approved the terms of reference for four Board committees (including our existing Focus Groups). Our Audit & Risk Focus Group spent time discussing the audit process, as well as IPO-related finance workstreams. Post period end, on 8 February 2023, the Audit & Risk and Sustainability Focus Groups were constituted into formal Board committees, and the Remuneration and Nomination Board committees were also formed.

Health & safety

Being our number one priority, the health & safety of our workforce has been a topic which we have discussed in every Board meeting this year. Despite an improving long-term trend in our safety performance, during 2022, the Board decided to take steps to significantly and permanently reduce the number of LTI workplace accidents, with the objective of achieving international best practice in this area.

With this aim, the Board supported the engagement of dss+ in October 2022 to undertake a detailed review of the personal safety and process safety management practices at both Eti Soda and Kazan Soda, to identify areas for improvement. The introduction of a more structured safety framework, following this review, has already seen an improvement in our safety performance.

Furthermore, since the end of 2020 and with the constraints of the coronavirus pandemic reducing, we have undertaken employee surveys to better understand the needs of our employees and be able to take actions to improve their wellbeing. With this in mind, we developed a roadmap to reintroduce social events with the aim to increase the overall satisfaction of our employees, which had been reduced due to coronavirus-related restrictions.

Sustainability

I wish to congratulate all of our colleagues for their extraordinary focus on sustainable operations throughout our business this year, and for the numerous innovations and improvements which they continue to make. With sustainability at the core of our strategy, for many years we have proudly received a variety of medals from EcoVadis. In 2022, we achieved a Gold Medal for the Group and an industry-leading corporate ESG risk rating score from Sustainalytics.

We define our purpose as *"to responsibly produce essential ingredients for a sustainable future"*. This is our guiding principle upon which we make our strategic decisions and conduct our corporate activities. Within our Group, we all believe that sustainable business is good business, thus sustainability is woven into our business and strategy and embedded throughout our governance and management framework.

This year, with the objective of benchmarking our sustainability performance against international best practice, the Board engaged Environmental Resources Management ("ERM") to review our sustainability policies and processes and to determine the material sustainability risks for our business and our stakeholders. As part of this engagement, we further developed our sustainability framework which will continue to be refined and improved in 2023. We also agreed to increase our environmental accountability and governance by reporting against the Task Force on Climate-related Financial Disclosures ("TCFD") recommendations, which set an important and transparent framework for reporting climate-related risks and opportunities. We believe this will help us track and communicate our progress more effectively.

Chair's introduction continued

Innovation, transparency and growth

Innovation is a core part of our culture; it has always been one of the most important drivers in the development of our business and we believe that it is a differentiating factor in our customer offering. We also believe that greater sustainability transparency will drive sustainable development throughout our industry and, with an ever-more environmentally conscious society, we believe the world will need growing quantities of sustainably produced soda ash to support the energy transition.

In October 2022, we announced that we had developed a new blockchain-based supply chain ecosystem called "ConnexSA". We believe that "ConnexSA" will provide more transparent, reliable and verifiable sustainability data to all stakeholders within the soda ash supply chain, and we have the vision that it will be adopted globally in the coming years, with other industry participants introduced into the project during 2023.

In 2022, we also saw exciting progress in our growth plans as we announced West Soda, a new greenfield soda ash development project located in Wyoming in the United States. We plan to bring West Soda on-stream by 2030, adding around 3 million mt per year of sustainably produced, low-carbon soda ash into the growing market for our product. If developed as planned, this will be the first soda ash production facility in the world to source all of its electrical needs entirely from renewable power sources. When combined with our other planned growth projects, we are aiming to see our production more than double by the end of this decade, from around 5 million mt per annum today to over 11 million mt per annum by 2030.

Areas of focus for 2023

An IPO has been a strategic objective for several years. Having completed extensive preparation, in 2022 a decision was taken by the Board to postpone an IPO due to weak and volatile equity market conditions. The Board will continue to assess the potential to execute an initial public offering ("IPO") when market conditions allow. As always, we will be further developing and executing our various growth projects globally, further improving our global customer supply chain and implementing new elements within our sustainability strategy. First and foremost, we are focused on safety, and we will continue to develop our safety culture and practices, working alongside dss+. We are aiming for a further significant reduction in LTI workplace accidents in 2023 and we believe that, over time, we can achieve zero LTI workplace accidents.

Finally, it's very important for me to express my commitment to gender diversity within our management team and throughout our business; it is an important area of focus for me and for the Board.

I would like to take this opportunity to thank all our stakeholders for their ongoing support, the Board for its unwavering service and guidance, and all of our colleagues for their extraordinary efforts that provide the foundations for our success. Finally, I would like to thank our management team for delivering such an excellent performance. Together, we look forward to the years ahead.

Didem Ciner
Chair

April 2023

Board of Directors

Meet our Board

Committees

Audit & Risk Committee	A
Nomination Committee	N
Remuneration Committee	R
Sustainability Committee	S
Committee Chair	●

Didem Ciner
Chair

Appointed November 2018, became Chair June 2022

Committees: N

Ikbal Didem Ciner has served as the Chair of the Board since 8 June 2022, and as a Non-executive Director since 6 November 2018. In addition to her role as Chair, Mrs Ciner was appointed as President and board member of Ciner Glass, the container glass operations of the Ciner Group, in 2019 to lead the expansion of the company's operations in the UK, Belgium and Türkiye. Mrs Ciner has significant experience following a number of senior roles across the wider Ciner Group, one of Türkiye's leading industrial groups with interests in the mining, energy, glass, chemicals, media, and maritime sectors. Mrs Ciner is also the President of Ciner Media Group, where she is responsible for managing its three national TV channels and its most frequently visited news websites. In addition to overseeing the development of Ciner Media into one of Türkiye's leading independent media and publishing groups, Mrs Ciner was responsible for launching Bloomberg HT, a joint venture with Bloomberg Television and Türkiye's only business-focused television channel, and the acquisition of Show TV, one of Türkiye's most popular entertainment channels. Mrs Ciner is married to Mr Turgay Ciner, the Principal Shareholder. Mrs Ciner holds a BA in International Relations from Koç University, Istanbul and an MSc in Comparative Politics from the London School of Economics.

Alasdair Warren
Chief Executive Officer

Appointed May 2022

Committees: N/A

Alasdair Warren has served as a Director of the Company since 18 May 2022, as a Director of WE Soda Ltd since 8 January 2019 and as Group Chief Executive Officer since 1 November 2019. Prior to joining WE Soda, Mr Warren served as the Head of Corporate and Investment Banking for the European, Middle East and Africa region at Deutsche Bank, based in London. Prior to that, Mr Warren was an investment banking Partner at Goldman Sachs in London for 11 years, serving in a number of roles, including the Global Head of Financial Sponsor Coverage, the Head of European Equity Capital Markets and Derivatives, and the Co Head of UK Investment Banking. Mr Warren holds a BSc (Hons) in Geology from the University of Nottingham.

Ahmet Tohma
Chief Financial Officer

Appointed May 2022

Committees: N/A

Ahmet Tohma has served as a Director of the Company since 18 May 2022, as a Director of WE Soda Ltd since 25 February 2022 and as Group CFO since 1 March 2022. He joined WE Soda from Sisecam Chemicals Resources, where he previously served as the CFO of our former US soda ash business through the NYSE listed company Sisecam Resources LP and its US affiliates, prior to the sale of a controlling interest to Sisecam in December 2021. Mr Tohma also served as the Chief Financial Officer of our US subsidiary company, Ciner Enterprises Inc., and as Finance Director at the Ciner Group. From 2003 until August 2019, Mr Tohma worked in various management roles at Türkiye Garanti Bankasi in Türkiye across corporate finance, internal audit and project financing. Mr Tohma holds a BSc in Industrial Engineering from the Middle East Technical University.

Board of Directors continued

Mehmet Ali Erdogan
Chief Legal Officer

Appointed July 2016, became Chief Legal Officer January 2019

Committees: N/A

Mehmet Ali Erdogan has served as a Director of the Company and WE Soda Ltd since 1 July 2016 and as Chief Legal Officer within the Group since 1 January 2019. Mr Erdogan has considerable experience in both the commercial and corporate law sectors, specialising in energy and infrastructure law, property law, financial restructuring and cross-border transactions. Mr Erdogan holds a BA in Law from the University of Istanbul and a Postgraduate Diploma in Law from Goldsmiths College, London. He has completed the Legal Practice Course at the College of Law, London and he also holds a Graduate Diploma in Law from the University of Westminster.

Nicholas Hall
Chief Strategy & Risk Officer

Appointed April 2023

Committees: N/A

Nicholas Hall has served as Chief Strategy & Risk Officer since 6 March 2023 and as a Director of the Company since 19 April 2023. Prior to joining the Group, Mr Hall served as a Managing Director at JP Morgan Cazenove based in London. Mr Hall was employed at JP Morgan Cazenove for 27 years, serving in a number of roles including as senior client executive within the UK Investment Bank and the head of UK Equity Capital Markets. Mr Hall holds a BSc (Hons) in Economics from the University of Exeter.

Rosalind Kainyah, MBE
Independent Non-executive Director

Appointed February 2023 (Attended Board meetings as designate during 2022)

Committees: S R A

Rosalind Kainyah has served as a Director of the Company since 8 February 2023. She also serves as founder and managing director of Kina Advisory Limited, a position she has held since 2013. Having started her career as an independent environmental law and policy consultant and then subsequently as a lawyer in the corporate and environment team at Linklaters LLP, Ms Kainyah has 20 years of experience as a senior executive and as a non-executive director, sustainability, governance and renumeration committee chair, serving on a number of boards across a range of extractive industries and financial institutions. As an executive, Ms Kainyah served as director of external relations at De Beers UK Limited from 2004 to 2006, before being appointed as president of the De Beers Group Inc., US from 2006 to 2009. From 2009 to 2013 she served as vice president of external affairs and corporate social responsibility at Tullow Oil Plc. Ms Kainyah holds a BA in English from the University of Ghana, an LLB (Hons) from the University of London and an LLM from University College London.

Harry Kenyon-Slaney
Senior Independent Director

Appointed February 2023 (Attended Board meetings as designate during 2022)

Committees: N S

Harry Kenyon-Slaney has served as a Director of the Company since 8 February 2023. He also serves as a Senior Advisor to McKinsey & Company supporting its transformation services. Mr Kenyon-Slaney served in a number of senior executive roles for Rio Tinto Plc from 1990 to 2015, having previously held an executive position at Anglo American Plc between 1984 and 1990. Notably Mr Kenyon-Slaney served on the Executive Committee of Rio Tinto Plc from 2009 to 2015 in his capacity as the Divisional CEO of the Diamonds and Minerals Products Group from 2009 to 2012 and as the Divisional CEO of the Energy Products Group from 2012 to 2015. Having completed the successful divestment of the Energy Products Group in 2015, he assumed chair and non-executive director positions at a number of natural resources and industrial manufacturing companies. He has had a broad career which has stretched across natural resources, energy, industrial minerals, manufacturing and logistics as well as extensive experience of complex stakeholder management in Africa, Japan, India, North America and Australia. Mr Kenyon-Slaney holds a BSc in Geology from Southampton University and completed the International Executive Programme at INSEAD, France.

Board of Directors continued

Sir Peter Westmacott, GCMG LVO
Independent Non-executive Director

Appointed February 2023 (Attended Board meetings as designate during 2022)

Committees: R S

Sir Peter Westmacott has served as a Director of the Company since 8 February 2023, having previously served as a Director of WE Soda Ltd from 1 January 2019 until 8 February 2023. He has had an extensive diplomatic career spanning 43 years across several continents, including four years in Iran before the 1979 revolution and a secondment to the European Commission in Brussels. Sir Peter has undertaken numerous roles including Deputy Private Secretary to HRH The Prince of Wales between 1990 and 1993, Foreign and Commonwealth Office's Director for the Americas between 1997 and 2000, and Deputy Under Secretary of State for the Wider World from 2000 to 2001. Sir Peter has also served as Ambassador to Türkiye, France and US from 2002 to 2006, 2007 to 2012 and 2012 to 2016, respectively. After a semester spent as a Resident Fellow at Harvard's Kennedy School of Government, Sir Peter took up a number of corporate roles in the UK including, amongst others, as a non-executive director at Ernst & Young. He is now a Senior Advisor at Chatham House, a Distinguished Ambassadorial Fellow of the Atlantic Council, Chairman of Tikehau Capital UK and a non-executive director of Volex Ltd, Glasswall Holdings and Ciner Glass Ltd. Sir Peter holds an MA in European History and French from the University of Oxford.

Sait Ergun Ozen
Independent Non-executive Director

Appointed February 2023 (Attended Board meetings as designate during 2022)

Committees: R A

Sait Ergun Ozen has served as a Director of the Company since 8 February 2023, having previously served as a Director of WE Soda Ltd from 1 January 2019 until 8 February 2023. He has over 30 years of experience in banking and business administration, having previously served for 16 years as the CEO and President of Türkiye Garanti Bankasi, from 2000 until 2016, before retiring from this role and becoming a non-executive member of the board at Garanti Bank. He started his career at Türkiye Is Bankası in 1987, before joining Garanti Bank in 1993, serving in various treasury and investment banking roles. Mr Ozen holds a BA in Economics from Stony Brook University.

Samantha Hoe-Richardson
Independent Non-executive Director

Appointed February 2023 (Attended Board meetings as designate during 2022)

Committees: A S N

Samantha Hoe-Richardson has served as a Director of the Company since 8 February 2023. She is also a non-executive director of 3i Infrastructure plc and Assured Guaranty UK Ltd, an adviser on climate change and sustainability to the board of Laing O'Rourke, having previously served on the board of Lancashire Holdings Limited for nine years, becoming the chair of its audit committee. As an executive, Ms Hoe-Richardson was Head of Environment & Sustainability for Network Rail and prior to this spent 16 years with Anglo American plc in a variety of strategic roles including Head of Environment and as a director and founder of Anglo American Zimele Green Fund (Pty) Ltd, which supports entrepreneurs in South Africa. Prior to her roles with Anglo American, Ms Hoe-Richardson worked in investment banking and within audit. She holds an MA in Nuclear and Electrical Engineering from the University of Cambridge and has a Chartered Accountancy qualification.

Gürsel Usta
Non-executive Director

Appointed May 2022

Committees: N/A

Gürsel Usta has served as a Director of the Company since 18 May 2022, having previously served as a Director of WE Soda Ltd from 1 January 2019 until 1 April 2023. Since January 2023, Mr Usta has served as the chairman of Park Holding, one of the main holding companies of the Ciner Group, where he previously served as vice-chairman from January 2016 to January 2023. In addition, since March 2015, Mr Usta has served as chief executive officer of Ciner Glass & Chemicals. Mr Usta has previously held various leadership roles within the Ciner Group, including his position as chief executive officer of Ciner Energy & Mining, chairman of the board of directors of Ciner Media and chief executive officer of Ciner Aviation and Tourism. Mr Usta holds a BA in Economics and Finance from the Faculty of Political Science of Ankara University.

Management team

Tanzer Ergul
Chief Operating Officer

Tanzer Ergul has served as Chief Operating Officer since February 2023, having been with the Group for over 15 years. Previously, Mr Ergul had served as Vice President of Operations since 2018 and as General Manager of both Eti Soda and Kazan Soda since 2015 and 2018, respectively. In 2007, Mr Ergul joined the Ciner Group as a Project Manager for the construction of the Eti Soda project after ten years of experience working for Eti Maden. Mr Ergul holds a BSc and MSc in Chemical Engineering from Middle East Technical University.

Oguz Erkan
CEO of US Operations

Oguz Erkan serves as the Chief Executive Officer of the Group's operations in the United States and as a board representative of Sisecam Wyoming, a position he has held since June 2019. Mr Erkan served as President and CEO of Sisecam Chemicals Resources from 2019 until April 2022 and previously as Director of International Operations & Coordination at Ciner Enterprises, Inc. from 2015 to 2019. During 2015, Mr Erkan served as a director for the Ciner Group in London, UK and from 2012 until 2015 as General Manager for Kasimpasa AS, a subsidiary of the Ciner Group, having previously served as Project Director for Middle East and North Africa within the Ciner Group from 2009 to 2012. Mr Erkan holds two BA degrees in Marketing and in International Business from Northwest Missouri State University.

Dr Mahmut Kursun
Vice President Logistics

Dr Mahmut Kursun has served as Vice President of Logistics since 2019. Prior to this role, Dr Kursun served as Chief Information Officer for the Ciner Group and as General Manager of Digital Media at Ciner Media. From 1997 to 2003, Dr Kursun worked within the Ciner Group's energy and mining financing team. Dr Kursun holds a BSc in Mechanical Engineering from Bosphorus University and an MSc and PhD in Industrial Engineering from the same university.

Sinan Solaklar
Vice President Sales & Marketing

Sinan Solaklar serves as Vice President of Sales & Marketing, a position he has held within the Group since 2009. Mr Solaklar has almost 40 years of experience in the soda ash industry, having previously served as Sales & Marketing Director for soda ash at Sisecam from 1983 to 2008. Mr Solaklar holds a BA in Marketing from the Faculty of Economics of Istanbul University.

Management team continued

Mehmet Unver
General Manager Kazan Soda

Mehmet Unver has served as the General Manager of Kazan Soda since February 2023, having previously served as Vice General Manager of Kazan Soda since 2018. Mr Unver joined the Group in 2005 and has previously held various technical and operational positions at Eti Soda. Mr Unver holds a BSc in Chemical Engineering from the Middle East Technical University.

Nazif Akay
General Manager Eti Soda

Nazif Akay has served as the General Manager of Eti Soda since February 2023, having previously served as Vice General Manager of Eti Soda since 2019. Mr Akay joined the Group in 2008 and has previously held various technical and operational positions at Eti Soda. Mr Akay holds a BSc in Chemical Engineering from Gazi University.

Anita Siddle
Global Sustainability Director

Anita Siddle has served as the Global Sustainability Director since February 2023, having previously served as the Global ESG and H&S Manager since 2022 and having joined the Group in 2020. Ms Siddle has a broad range of experience across finance, pharmacy, marketing and technical product management within the banking, cosmetics, fast-moving consumer goods ("FMCG") and healthcare industries, including new product development, quality assurance, legal and regulatory, packaging and formulation responsibilities. Ms Siddle holds a BSc in Pharmacy from the University of Nottingham University.

Edward Westropp
Head of Investor Relations & Communications

Edward Westropp has served as the Head of Investor Relations & Communications for the Group since September 2022, having previously served as the Vice President of Investor Relations & Communications for Lundin Energy AB until its sale to Aker BP ASA in June 2022. Mr Westropp has more than 17 years of experience as a financial communications and investor relations consultant with FTI Consulting, Inc. Mr Westropp holds a BA in Theological Studies from Heythrop College, University of London.

Governance at a glance

During 2022, we commenced steps to transition our governance structure to be aligned with the UK Corporate Governance Code and more aligned with UK listed corporate governance standards by 2023. During the year, we developed two Focus Groups (Audit & Risk and Sustainability) to support the Board with greater scrutiny on specific matters. Post period end, from February 2023, the following governance structure is now in place, with four formal committees reporting to the Board.

Our Board

The Board is collectively responsible for the governance of the Company and aims to do so in an ethical and efficient manner. This includes the approval of the Group's strategy, oversight of operations, as well as responsibility for risk management and the management of resources. The agreed matters reserved for the Board include the approval of annual and half-yearly results, the Group's strategy, the annual budget and health & safety and sustainability matters.

Board committees

During 2022, the Board developed two Focus Groups, set up to support the Board with greater scrutiny on specific matters. The Audit & Risk Focus Group met for the first time in late 2022; the Sustainability Focus Group did not meet during 2022. With effect from 8 February 2023, both Focus Groups and two additional committees were constituted by the Board as formal committees. The terms of reference of each Committee are documented and agreed by the Board. The terms of reference of each Committee will be reviewed annually.

The key responsibilities of each Committee are set out below.

Audit & Risk Committee

The role of this Committee is to assist the Board with reviewing the Group's annual and half-year financial statements, accounting policies, narrative reporting, internal controls and risk management, whistleblowing, fraud, and compliance. The Audit & Risk Committee will meet at least four times during 2023.

Nomination Committee

The role of this Committee is to assist the Board in reviewing the structure, size, performance and composition of the Board and the executive management team. It is also responsible for reviewing succession plans for the Directors and the Proposed Directors, including the Chair and CEO, and other senior executives. The Nomination Committee will meet at least twice during 2023.

Remuneration Committee

The role of this Committee is to recommend to the Board the compensation policy of the Group for senior executives and Directors, the remuneration of senior executives and Directors, the grant of awards under the incentive plans for the Group, and the preparation of an annual remuneration report for approval by shareholders. The Remuneration Committee will meet at least twice during 2023.

Sustainability Committee

Sustainability is at the core of our business strategy. The Sustainability Committee will oversee and advise the Board and executive management in relation to the development and implementation of the sustainability initiatives and strategy of the Group. The Sustainability Committee will meet at least four times during 2023.

The executive management team

The Board delegates to the executive management team who work with and support the Chief Executive Officer with the day-to-day management of the business, health & safety, the implementation of strategy, financial planning, and risk management.

Governance at a glance continued

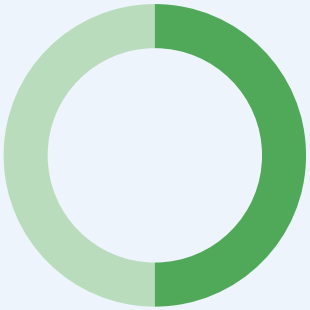
Attendance

	Board	Audit & Risk Focus Group	Overall attendance
Total number of meetings held	5	1	
Directors[1]			
Didem Ciner	5/5	–	100%
Alasdair Warren	5/5	1/1	100%
Ahmet Tohma	5/5	1/1	100%
Mehmet Ali Erdogan	5/5	1/1	100%
Gürsel Usta	5/5	–	100%
New Non-executive Directors[2]			
Samantha Hoe-Richardson[3]	2/3	1/1	75%
Rosalind Kainyah	3/3	1/1	100%
Harry Kenyon-Slaney	3/3	–	100%
Ergun Ozen[4]	3/5	0/1	50%
Sir Peter Westmacott	5/5	–	100%

1 Nicholas Hall is excluded from this table because he only joined the Board in April 2023.
2 New Non-executive Directors were advisers until they joined the Board in February 2023.
3 Samantha Hoe-Richardson missed the May Board meeting due to a conflicting appointment, while as an adviser to the Board.
4 Ergun Ozen missed the May and November Board meetings due to a conflicting appointment and illness, respectively. He missed the Audit & Risk Focus Group meeting due to a conflicting appointment.

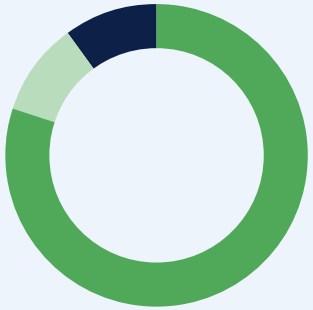
Snapshot of the Board, as at 31 December 2022

Independence of the Board



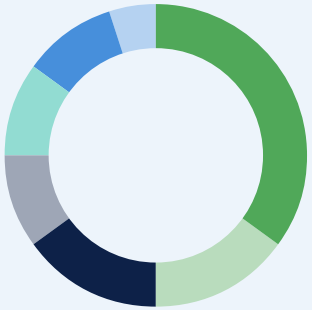
- 50% Independent
- 50% Non-Independent

Tenure of the Board



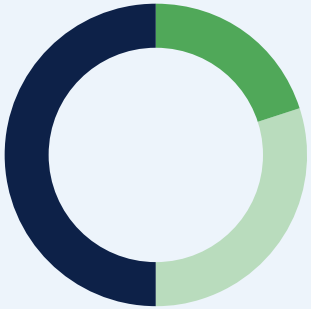
- 80% 0-3 years
- 10% 3-6 years
- 10% 6+ years

Professional background



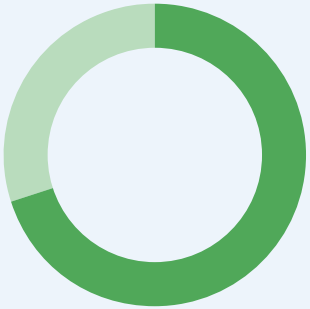
- 35% Finance
- 15% Legal
- 15% Mining
- 10% Chemicals
- 10% Environment
- 10% Media
- 5% Diplomacy

Age of the Board



- 20% Under 50 years
- 30% 50-60 years
- 50% Over 60 years

Gender of the Board



- 70% Male
- 30% Female

Board activities in 2022

In addition to regular business updates, the Board meetings include discussions on health & safety, macroeconomic conditions and outlook, operations, financial and strategic updates, and sustainability. The principal matters considered by the Board during 2022 are detailed below.

Matters Considered	Discussion and outcome
Health & safety	• The Board recognised the significance of LTI workplace accidents and took steps to address the risks, with the objective of urgently and permanently reducing occurrences. The Board engaged dss+ to undertake a detailed review of the personal safety and process safety management practices at both Eti Soda and Kazan Soda and identify areas for improvement. The introduction of a more structured framework following this review has already seen a downward trend in safety incidents. • Throughout the year, the Board noted decreasing cases of coronavirus.
Sustainability	• The Board engaged ERM to undertake a comprehensive review of the Group's current sustainability strategy, processes and policies, and to benchmark this against global best practices. • The Board decided to increase the Group's environmental accountability and governance by reporting against the TCFD recommendations. • The Board approved the development of a new blockchain-based supply chain ecosystem called "ConnexSA" which allows for more transparent, reliable and verifiable sustainability data to all stakeholders within the supply chain.
Community engagement	• The Board approved numerous sponsorship and community engagement initiatives across the UK and Türkiye, pledging to invest approximately $1.1 million across a range of projects.
Macroeconomic updates	• The Board was presented with data and analysis on macroeconomic changes throughout the year, including the impact of the coronavirus pandemic, the impact of the Russia-Ukraine war and the energy crisis in Europe, and the impact of rising inflation and interest rates, and the potential prospect of stagflation.
Supply chain	• The Board approved the renewal of all regional distributor contracts for a further five years. • The Board discussed plans to measure supply chain performance with new KPIs. • The Board approved the requirement for our suppliers and regional distributors to align with the Group's sustainability values.

Matters considered	Discussion and outcome
Board structure	• With the objective of becoming fully compliant under the UK Corporate Governance Code in 2023, the Board commenced a restructuring process. • The new structure was discussed, and it was decided that the Board would be made up of ten directors, excluding the Chair, with at least a 50:50 split of executive and non-executive members. • The Board discussed a skills matrix, to ensure that the proposed Board demonstrated a diversity in thought and background. • The Board approved terms of reference for each of the new committees.
IPO	• The Board discussed the proposal of an IPO on the London Stock Exchange. • The decision was taken by the Board to postpone the IPO due to weak and volatile equity market conditions.
Product pricing	• The Board discussed supply and demand factors impacting the global soda ash market, and factors impacting the pricing of soda ash in each regional market. • The Board discussed the factors which had supported an increase in the price of soda ash, with a predicted further tightening of supply-demand balances over time which was expected to be supportive of robust soda ash pricing in the future.
Financing	• The Board approved a simplification of the Group's financing structure with the objective to consolidate all debt at the holding company level, and the introduction of a new revolving credit facility and receivables financing facility to further improve financial liquidity. • The Board also approved an extension of the holding company term loan, a facility to facilitate the restructuring of operating company debt.
Production growth	• The Board discussed a number of production growth projects with the objective of addressing rising global demand for natural soda ash and resulting in Group production increasing from approximately 5 million mtpa to over 11 million mtpa by 2030. • The Board discussed progress on the Kazan Soda debottlenecking project and the Kazan Soda expansion project.
West soda	• The Board reviewed the progress of Project West, the Group's new greenfield development project in Wyoming US that was announced on 12 October 2022, noting that if developed as planned it will lead to an additional approximately 3 million mtpa of production, with start-up of operations before 2030. • The Board also noted that the project is planned to be developed using entirely renewable electrical power, significantly reducing Scope 1 & 2 CO_2e emissions intensity.

Corporate governance

Statement of Corporate Governance arrangements

For the year ended 31 December 2022, under The Companies (Miscellaneous Reporting) Regulations 2018, the Group has applied the Wates Corporate Governance Principles for Large Private Companies (the Wates Principles), published by the Financial Reporting Council ("FRC") in December 2018 and available on the FRC website.

Wates Principle	More information
Principle One: Purpose and Leadership	• Purpose Statement (page 02) • Our business model (page 16) • Governance at a glance – Framework (page 80)
Principle Two: Board Composition	• Governance at a glance – Snapshot of the Board (page 81) • Meet our Board (page 75)
Principle Three: Director Responsibilities	• Meet our Board (page 75)
Principle Four: Opportunity and Risk	• Audit & Risk Focus Group (page 80) • TCFD (page 58)
Principle Five: Remuneration	• Remuneration Committee (page 80)
Principle Six: Stakeholder Relationships and Engagement	• Stakeholders (page 54)

For further information on our compliance against Wates Corporate Governance Principles for Large Private Companies, please see our Governance Statement on our website:

www.wesoda.co.uk/corporate-governance-statement-2022

Alignment with the UK Corporate Governance Code

As our business continues to grow, the Board has commenced steps to transition and enhance our approach to governance, with the aim to adhere to the UK Corporate Governance Code in 2023. We started this journey during 2022, strengthening areas of our governance framework in accordance with the Code. Having conducted a gap analysis between our current governance and the UK Corporate Governance Code, we believe we have already made significant steps in implementing many areas of the Code.

Board leadership and company purpose

During the year, we took steps to ensure that the core values and beliefs held by the shareholder and the Board informed expected behaviours and practices throughout the Group. These steps included enhanced safety practices and procedures, increased training and development of employees, and starting the journey to ensure that our suppliers and distributors aligned with the sustainability values of our Group.

Despite an improving long-term trend in our safety performance, during 2022 the Board decided to take steps to significantly and permanently reduce the number of LTI workplace accidents with the objective of achieving international best practice in this area. The Board worked with dss+ to gain insight into areas of improvement within our existing safety practices, policies and procedures, allowing the Board to prioritise key actions. We also took actions to improve the work environment, implementing systems including the Employee Whistleblowing Hotline to ensure that our workforce is able to raise matters of concern, in confidence.

These initiatives demonstrate particular progress in line with Principle E.

The Board also prioritised extensive stakeholder engagement with the aim of understanding their views, working with ERM to develop a materiality matrix based on priority areas of importance for all stakeholders. The findings from this work are being used to further improve our stakeholder engagement initiatives, not only with our employees but also with our customers, suppliers, distributors and the communities in which we operate.

Providing greater clarity around our purpose was also of importance during 2022, with the Board agreeing to define our purpose post period end in February 2023 as *"to responsibly produce essential ingredients for a sustainable future"*.

Division of responsibilities[1]

In 2022, the Board agreed a new governance framework to support greater accountability and responsibility, and more effective decision making, as well as agreeing the terms of reference for all Board sub-committees. During the restructuring of the Board, the UK Corporate Governance Code was considered. In line with Principle G and Provision 11, we appointed new Non-executive Directors, with 50% of our Board, excluding the Chair, now comprising Independent Directors. One new appointment was a Senior Independent Director ("SID") which allows us to align with Provision 12.

1 There is widespread awareness and appreciation amongst the Board of Directors regarding formal requests to disclosure on any conflicts of interest, to comply with requirements of relevant company law and governance standards. Any conflicts of interest are recorded in the Kew Soda Directors' Interests record, a rigorous approach to identify and manage such conflicts of interests that may or may not arise.

Corporate governance continued

Composition, succession and evaluation[2]

As part of the restructuring of the Board, the aim was to appoint members who could offer a balance of skills, backgrounds, experience and knowledge.

We also took steps to improve diversity on the Board, appointing two female Independent Non-executive Directors, one of whom is also ethnically diverse.

The new Independent Non-executive Directors were recruited through a professional search firm, with extensive board recruitment experience. Our new Board members went through an induction process which lasted several months and included the opportunity to visit our key production sites and directly engage with colleagues across the Group. The induction process also included familiarisation with the Board, and our key policies and stakeholders. Our newest appointments to the Board were able to observe meetings as designates during 2022, as part of their induction process.

The Board also agreed terms of reference for a Nomination Committee (which was formalised post period end, in February 2023) as per Provision 17. We believe that further progress against Section 3 will occur as the Nomination Committee establishes succession plans and the Board undergoes its first board evaluation, following the restructure.

Remuneration

In 2022, the Board developed a remuneration policy which covers appropriate and fair levels of remuneration including base salary, pension and benefits, bonuses and proposed share plans, should the Group move forward with an IPO. This policy was designed in accordance with the UK Corporate Governance Code, market practice and the guidelines of UK institutional investors and advisory bodies. The policy has been tested against the six factors listed in Provision 40 of the UK Corporate Governance Code: clarity, simplicity, risk, predictability, proportionality, and alignment to culture. The Board also developed the terms of reference for a Remuneration Committee, with the formalisation of the committee ratified post period end, in February 2023.

Board committees

In February 2023, we transitioned two existing Focus Groups into formal Board committees (Audit & Risk and Sustainability) and also formally constituted two additional Board committees (Nomination and Remuneration). The Audit and Risk Focus Group met in 2022 towards the end of the year and we have provided a report of its activities in our 2022 Annual Report, which can be found on our website. We also provide an introduction from the other committees, laying out where each will be focusing during 2023.

2 In 2022, WE Soda appointed several Non-executive Directors. The Board intends to comply with the principles of the UK Corporate Governance Code – Principle L, Provision 21. At least every three years, the Chair will oversee an external evaluation of Board members, with internal evaluation in intermediate years.

Introduction to our new sustainability committee

Sustainability Committee

Rosalind Kainyah
Sustainability Committee Chair

Committee members

- Samantha Hoe-Richardson
- Sir Peter Westmacott
- Harry Kenyon-Slaney

Dear Stakeholders,

I am delighted to introduce the Sustainability Committee, which was formalised into a Board committee from a Focus Group on 8 February 2023.

Sustainability sits at the core of the Group's business and strategy. We know that sustainable business is good business because to achieve long-term success, we need a strong culture of safety coupled with responsible operating practices and environmental stewardship, a strong social licence to operate and ethical business practices. The Group's focus on sustainability is intended to benefit all stakeholders, including our host communities and countries, employees, customers, distributors and suppliers.

The purpose of the Sustainability Committee is to support the executive management in fulfilling its responsibilities regarding all sustainability matters, and to ensure that the Group is performing and reporting from a sustainability perspective in a manner consistent with international best practice.

In 2023, the Sustainability Committee aims to meet at least four times, and will seek to further develop the Group's sustainability framework and strategy. This will include reviewing our work with dss+ and ERM, considering and implementing recommendations where appropriate, and taking appropriate actions based on the responses from our employee and customer engagement surveys. You can read more about these activities during 2022 in the Operating sustainably section of this report on pages 26–50.

R Kainyah

Rosalind Kainyah
28 April 2023

Role of the Sustainability Committee

The key roles of the committee include, amongst others:

- Assisting and advising our CEO and Board on the development and implementation of Group policy and strategy in relation to sustainability matters, as well as establishing appropriate sustainability targets.
- Monitoring and reporting progress against the Group's sustainability objectives and roadmap.
- Reviewing incident reports including, amongst others, safety and environmental.
- Reviewing the Group's stakeholder engagement including community relations and, pursuant to Provision 5 of the UK Corporate Governance Code, engagement with the Group's workforce, with the aim of strengthening the "employee voice" in the boardroom and developing a better understanding of employee views.
- Overseeing the Group's reporting in relation to sustainability matters.
- Overseeing the Group's external sustainability-related audits and assessing the management response to any findings.

Please see the full list of duties in the terms of reference for the Sustainability Committee available on our website.

Other Information

GRI content index

Non-financial group data is based on Turkish operations and UK and Turkish corporate and administrative functions, it does not include US associates, discontinued operations and subsidiaries.

			Omission		
GRI Standard/Disclosure	**Page**	**Location of disclosure**	**Requirement(s) omitted**	**Reason**	**Explanation**
General Disclosures					
GRI 2: General Disclosures 2021					
2-1 Organisational details		Front Cover			
	54-57	Stakeholders			
	34	Operating sustainably – Talent attraction			
	5	2022 highlights			
2-2 Entities included in the organization's sustainability reporting	2	About this Report			
2-3 Reporting period, frequency and contact point					
2-4 Restatements of information					
2-5 External assurance	2	About this Report			
	18-19	Strategic Progress – WE Lead Pillar			
	96-97	Independent Limited Assurance Statement prepared by ERM CVS			
2-6 Activities, value chain and other business relationships	12	Products – Our "game-changing" production process			
	16	Business model – Sustainability applications			
	46	Operating sustainably – Upstream supply chain			
	34	Operating sustainably – Diversity, equity and inclusion			
		Calculations are based on headcount as at year-end 31 December for each of the reported years.			
2-7 Employees	64-65	Performance indicators – Social performance indicators			
	34	Operating sustainably – Diversity, equity and inclusion			
2-8 Workers who are not employees	34	Operating sustainably – Diversity and Inclusion			
2-9 Governance structure and composition	80-81	Governance at a glance			
	75-76	Governance – Board of Directors			
2-10 Nomination and selection of the highest governance body		Refer to page 102 of the Annual Report – Introduction to our new committees – Nomination Committee			

GRI content index continued

			Omission		
GRI Standard/Disclosure	**Page**	**Location of disclosure**	**Requirement(s) omitted**	**Reason**	**Explanation**
2-11 Chair of the highest governance body	75	Governance – Board of Directors			
2-12 Role of the highest governance body in overseeing the management of impacts	80-81	Governance at a glance Refer to page 101 of our 2022 Annual Report – Introduction to our new committees – Sustainability Committee			
2-13 Delegation of responsibility for managing impacts	26	Operating sustainably Refer to page 101 of our 2022 Annual Report – Introduction to our new committees – Sustainability Committee			
2-14 Role of the highest governance body in sustainability reporting	27	Section 172 Statement Refer to page 101 of our 2022 Annual Report – Introduction to our new committees – Sustainability Committee			
Disclosure 2-15 Conflicts of interest	98	Corporate Governance – Division of Responsibilities			
2-16 Communication of critical concerns	35	Operating sustainably – Employee satisfaction Refer to page 100 of our 2022 Annual Report – Introduction to our new committees – Audit & Risk Committee			
2-17 Collective knowledge of the highest governance body	82 83-84	Board activities in 2022 Corporate Governance			
2-18 Evaluation of the performance of the highest governance body	84	Corporate Governance – Composition, succession and evaluation			
2-19 Remuneration policies	84	Corporate Governance Refer to page 103 of our 2022 Annual Report – Introduction to our new committees – Remuneration Committee			
2-20 Process to determine remuneration					
2-21 Annual total compensation ratio	79 84	Performance Indicators – Social performance indicators Corporate Governance – Remuneration	b) Report the ratio of the percentage increase in annual total compensation for the organization's highest-paid individual to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual);	Confidentiality constraints	*The Company Remuneration Policy was developed by the Board in 2022 to set policy expectations for setting of appropriate and fair levels of remuneration, should the Group move forward with an IPO. This policy was designed in accordance with the UK Corporate Governance Code, market practice and the guidelines of UK institutional investors and advisory bodies.* *The Policy has been tested against the six factors listed in Provision 40 of the UK Corporate Governance Code.* *The Company continues to refine its internal processes to support the preparation of the data required for this aspect of the disclosure.*

GRI content index continued

			Omission		
GRI Standard/Disclosure	**Page**	**Location of disclosure**	**Requirement(s) omitted**	**Reason**	**Explanation**
2-22 Statement on sustainable development strategy	26-29 3; 72	Operating sustainably Chair's introduction			
2-23 Policy commitments	52-53	Non-financial and sustainability Information Statement	Links to publicly available policy	Information unavailable/ incomplete	*At the end of 2022, the Board initiated a process to review and update our policy commitments to further align these with international best practice. Following the completion of this exercise in 2023 and approval by the Board, the policy commitments will be made public on the company website.*
2-24 Embedding policy commitments	52-53 80-81 82 83-84	Non-financial and sustainability Information Statement Governance at a glance Board activities in 2022 Corporate Governance			
2-25 Processes to remediate negative impacts	26-50	Operating sustainably Refer to page 63 of our 2022 Annual Report – Risk management Refer to page 64-71 of our 2022 Annual Report – Principal Risks and Uncertainties			
2-26 Mechanisms for seeking advice and raising concerns	26-50	Operating sustainably Refer to page 100 of our 2022 Annual Report – Introduction to our new committees – Audit & Risk Committee			
2-27 Compliance with laws and regulations	67-70	Performance indicators – Environmental performance indicators			*Significant instances of non-compliance are defined as any instance of non-compliance where WE Soda is notified by Ministries and Governmental Institutes via official letter.*
2-28 Membership associations					
2-29 Approach to stakeholder engagement	55-57	Stakeholders			
2-30 Collective bargaining agreements			Not applicable	Not applicable	*This disclosure requirement is not applicable, as none of the company employees are covered by collective bargaining agreements and do not hold trade union membership.*

GRI content index continued

			Omission		
GRI Standard/Disclosure	**Page**	**Location of disclosure**	**Requirement(s) omitted**	**Reason**	**Explanation**
Material Topics					
GRI 3: Material Topics 2021					
3-1 Process to determine material topics	54 27-29	Importance of Materiality Operating sustainably			
3-2 List of material topics		– Energy use and efficiency – Waste Management – Water Stewardship – GHG Emissions – Workforce Relations – Community Relations and engagement – Sustainable supply chain – Occupational health, safety, and wellbeing			
Energy					
GRI 3: Material Topics 2021					
3-3 Management of material topics	29; 40; 29-42	Operating sustainably – Focus on renewable energy; Electricity; Renewable Energy; Natural gas; Operational efficiency			
GRI 302: Energy 2016					
302-1 Energy consumption within the organization	67	Performance indicator tables – Environmental performance indicators – Energy			
302-3 Energy intensity					

GRI content index continued

			Omission		
GRI Standard/Disclosure	**Page**	**Location of disclosure**	**Requirement(s) omitted**	**Reason**	**Explanation**
Water and effluents					
GRI 3: Material Topics 2021					
3-3 Management of material topics	54	Importance of Materiality			
	29; 43-45	Operating sustainably – low water intensity and waste			
	43; 45	Operating sustainably – Our environmental impact – Water usage			
	63	Risk management			
		Refer to page 64-71 of our 2022 Annual Report – Principal Risks and Uncertainties			
GRI 303: Water and Effluents 2018					
303-3 Water withdrawal					
303-4 Water discharge	68	Environmental performance indicators – Water	d. Priority substances of concern for which discharges are treated, including: i. how priority substances of concern were defined, and any international standard, authoritative list, or criteria used; ii. the approach for setting discharge limits for priority substances of concern; iii. number of incidents of non-compliance with discharge limits.	Information unavailable/ incomplete	*The Company continues to refine it's establish monitoring processes to support the collation of data required for this disclosure requirement. We anticipate addressing this over the course of the next financial reporting period.*
303-5 Water consumption					
Emissions					
GRI 3: Material Topics 2021					
3-3 Management of material topics	54	Importance of Materiality			
	44-45	Operating sustainably – Our environmental impact – Emissions			
GRI 305: Emissions 2016					
305-1 Direct (Scope 1) GHG emissions	67	Environmental performance indicators – GHG Emissions	c. Biogenic CO_2 emissions in metric tons of CO_2 equivalent.	Information unavailable/ incomplete	*The Company continues to refine it's establish monitoring processes to support the collation of data required for this disclosure requirement.*
305-2 Energy indirect (Scope 2) GHG emissions	67	Operating sustainably – Our environmental impact – Emissions			
305-3 Other indirect (Scope 3) GHG emissions	63	TCFD – Metrics & Targets	c. Biogenic CO_2 emissions in metric tons of CO_2 equivalent.	Information unavailable/ incomplete	*The Company continues to refine it's establish monitoring processes to support the collation of data required for this disclosure requirement.*
305-4 GHG emissions intensity					

GRI content index continued

			Omission		
GRI Standard/Disclosure	Page	Location of disclosure	Requirement(s) omitted	Reason	Explanation
Waste					
GRI 3: Material Topics 2021					
3-3 Management of material topics	54	Importance of materiality			
	28	Operating sustainably – Sustainability is at our core			
	45	Operating sustainably – Our environmental impact – Waste management			
306-3 Waste generated					
306-4 Waste diverted from disposal	68-70	Environmental performance indicators – Total Waste Generated			
306-5 Waste directed to disposal	45	Operating sustainably – Waste management			
Employment					
GRI 3: Material Topics 2021					
3-3 Management of material topics	34-35	Operating sustainably – Diversity & Inclusion; Talent attraction, training and development; Employee satisfaction; Areas of success and where we can do better			
GRI 401: Employment 2016					
401-1 New employee hires and employee turnover	64-65	Performance indicators – Social performance indicators			
401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees		Refer to pages 125; 127-128; and 160-161 of our 2022 Annual Report – Notes to the Consolidated Financial Statements – Employee Benefits			
Occupational health & safety					
GRI 3: Material Topics 2021					
3-3 Management of material topics	31-33	Operating sustainably – Safety First; Our safety excellence journey; SGK Safety Reporting; RIDDOR Safety Reporting; Employee Wellbeing			
GRI 403: Occupational Health & Safety 2018					
403-9 Work-related injuries		Operating sustainably – RIDDOR Safety Reporting			
	65-66	Performance indicators – Occupational Health & Safety indicators			

GRI content index continued

			Omission		
GRI Standard/Disclosure	**Page**	**Location of disclosure**	**Requirement(s) omitted**	**Reason**	**Explanation**
Diversity and equal opportunity					
GRI 3: Material Topics 2021					
3-3 Management of material topics	34	Operating sustainably			
GRI 405: Diversity and Equal Opportunity 2016					
405-1 Diversity of governance bodies and employees	34	Operating sustainably – Diversity, equity and inclusion			
	75-76	Board of Directors – Meet the Board			
	81	Governance at a Glance – Snapshot of the Board			
	84	Corporate Governance – Composition, succession, and evaluation			
	64	Performance indicators – Social performance indicators			
405-2 Ratio of basic salary and remuneration of women to men	64	Performance indicators – Social performance indicators			
Supplier social assessment					
GRI 3: Material Topics 2021					
3-3 Management of material topics	45	Operating sustainably – Our upstream supply chain			
GRI 414: Supplier Social Assessment 2016					
414-1 New suppliers that were screened using social criteria	45	Operating sustainably – Our upstream supply chain			
	69	Performance indicators – Responsible value chain			

Streamlined Energy and Carbon Reporting Statement

1. Summary

Under the Streamlined Energy and Carbon Reporting ("SECR") requirements implemented for large unquoted companies per The Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report Regulations) 2018[1], as stipulated by the Companies Act 2006, Kew Soda Ltd, the Parent Company of WE Soda Ltd (hereafter referred to as WE Soda), has an obligation to report its total UK energy consumption, associated underlying greenhouse gas ("GHG") emissions, intensity ratios and information relating to energy efficiency action, for the period 1 January to 31 December 2022.

ERM has supported WE Soda to meet this obligation through assessing the qualification criteria and calculating GHG emissions in line with the GHG Protocol Corporate Accounting and Reporting Standard[2].

The organisational reporting boundary used is based on operational control. WE Soda has included its one and only UK site (based in London). WE Soda has excluded energy usage and associated emissions consumed by other companies which operate on its premises. Scope 2 emissions are calculated using a location-based approach.

1.1 Qualification

WE Soda is the sole UK entity and was assessed against the SECR qualification criteria, set out below for large unquoted companies:

- 250 or more full-time equivalent employees;
- annual turnover of £36 million or more; and
- balance sheet of £18 million or more.

It was determined that WE Soda meets at least two of the above criteria and therefore qualifies for reporting under the UK Government's SECR guidelines.

1.2 Fuel and energy sources

WE Soda assessed all fuel and electricity consumption activities occurring across all UK sites that contribute to overall energy use. It was determined that the following sources of emissions need to be recorded, in line with SECR guidelines:

- Electricity consumption (scope 2)
- Natural gas consumption (scope 1)

1.3 GHG emissions

WE Soda's scope 1 and 2 GHG emissions associated with its UK operation for 2021 and 2022 are outlined below in Table 1.1. Total number of employees based within the operations was used as the denominator to calculate the associated GHG emissions intensity.

All GHG emission calculations have been undertaken in accordance with the GHG Protocol Corporate Accounting and Reporting Standard[2]. Activity data measurement/estimation techniques can be summarised below:

- Electricity consumption figures in kWh were obtained from monthly electricity invoices.
- Natural gas consumption was not attainable through measured sources like invoices due to lack of metering infrastructure and oversight of the data by WE Soda. This was estimated based on floor area and the average natural gas consumption intensity for offices in the UK[3].

These consumption figures were converted into tonnes of carbon dioxide equivalent (tCO_2e) using the 2021 & 2022 UK Government (DEFRA/BEIS) GHG Conversion Factors for Company Reporting emission factors[4]. Scope 2 electricity emissions have been reported using location-based only due to a lack of supplier data for electricity. WE Soda are striving for attaining supplier-specific data to implement the market-based approach in its next reporting cycle.

Table 1.1 WE Soda's 2021 and 2022 UK GHG emissions and intensity

	2021			2022		
Emission source	**GHG emissions from UK operations (tCO_2e)**	**% contribution to total emissions**	**GHG emissions intensity associated with UK operations (tCO_2e/ employee)**	**GHG emissions from UK operations (tCO_2e)**	**% contribution to total emissions**	**GHG emissions intensity associated with UK operations (tCO_2e/ employee)**
Scope 1, direct	21.72	79.4%	1.36	21.65	73.9%	0.98
Scope 2, Location-based, indirect	5.62	20.6%	0.35	7.97	26.9%	0.36
Total Scope 1 & 2 emissions, Location-based	**27.34**		**1.71**	**29.62**		**1.35**

1 A copy of these UK Regulations are available online at: www.legislation.gov.uk/uksi/2018/1155/made
2 2004 World Resources Institute ("WRI") The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard; Revised Edition. Available online at: www.ghgprotocol.org/corporate-standard.
3 The Non-Domestic National Energy Efficiency Data-Framework 2021 (England and Wales). Available online at: ND-NEED 2021 (publishing.service.gov.uk).
4 2021 UK Government GHG Conversion Factors for Company Reporting. Available online at: Greenhouse gas reporting: conversion factors 2021 – GOV.UK (www.gov.uk).
2022 UK Government GHG Conversion Factors for Company Reporting. Available online at: Greenhouse gas reporting: conversion factors 2022 – GOV.UK (www.gov.uk).

Streamlined Energy and Carbon Reporting Statement continued

1.4 Energy consumption

WE Soda's total energy consumption associated with its UK operation's scope 1 and 2 emissions for 2021 and 2022 are outlined below in Table 1.2. Total number of employees based within the operations was used as the denominator to calculate the associated energy intensity.

Section 1.3 describes how energy consumption figures (activity data) in kWh were obtained.

Table 1.2 WE Soda's 2021 and 2022 UK energy consumption and intensity

	2021			2022		
Source of energy consumption	**Energy consumption (kWh)**	**% contribution to total energy consumption**	**Energy intensity associated with UK operations (kWh/ employee)**	**Energy consumption (kWh)**	**% contribution to total energy consumption**	**Energy intensity associated with UK operations (kWh/ employee)**
Natural gas	107,023.4	80.2%	6,688.9	107,023.4	72.2%	4,864.7
Electricity	26,474	19.8%	1,654.6	41,206	27.8%	1,873
Total	**133,497.4**		**8,343.5**	**148,229.4**		**6,737.7**

1.5 Energy efficiency

WE Soda has decided in principle to commence single-stage improvement works to aim for EPC rating of B, working from the current EPC rating of E.

WE Soda is aiming for variable refrigerant flow conversion for the whole building. This initiative is currently in the design phase and is anticipated to result in significant gains in energy efficiency.

Independent Limited Assurance Statement to Kew Soda

ERM Certification and Verification Services Limited ("ERM CVS") was engaged by WE Soda Ltd. ("WE Soda" to provide limited assurance to Kew Soda Ltd. ("Kew Soda") in relation to the selected information set out below and presented in Kew Soda's Annual Report 2022 (the "Report").

Engagement summary

Scope of our assurance engagement	Whether the following selected performance data are fairly presented in the Report, in all material respects, in accordance with the reporting criteria. 2020, 2021 and 2022 reporting periods: • Total Scope 1 GHG emissions tCO_2e • Total Scope 2 GHG emissions (market based) tCO_2e • Total Scope 2 GHG emissions (location-based) tCO_2e • Total Scope 1 and Scope 2 emissions (market based) tCO_2e • Total Scope 1 and Scope 2 emissions (location based) tCO_2e • Carbon Emissions intensity Scope 1+2 market based tCO_2e/tonne production • Carbon Emissions intensity Scope 1+2 location based tCO_2e/tonne production 2022 reporting period only: • Total Scope 3 GHG emissions tCO_2e, for the following categories: – Category 1: Purchased goods and services – Category 3: Fuel and energy related activities – Category 4: Upstream transportation and distribution – Category 5: Waste generated in operations – Category 6: Business travel – Category 7: Employee commuting – Category 9: Downstream transportation and distribution • Total water consumption m^3 • Recycled water m^3 • Water intensity m^3/tonne sodium carbonate and sodium bicarbonate • Wastewater discharge industrial m^3 • Wastewater discharge domestic m^3

Engagement summary

Reporting periods	• 1 January 2020 – 31 December 2020 (Scope 1 and Scope 2 GHG emissions only) • 1 January 2021 – 31 December 2021 (Scope 1 and Scope 2 GHG emissions only) • 1 January 2022 – 31 December 2022 (All data in scope)
Reporting criteria	• WBCSD/WRI GHG Protocol (2004, as updated January 2015) as relevant for the Scope 1, 2 and 3 emissions • GRI 303: Water and Effluents 2018 • GRI 305: Emissions 2016 • WE Soda's Basis of Reporting
Assurance standard and level of assurance	We performed a limited assurance engagement, in accordance with the International Standard on Assurance Engagements ISAE 3000 (Revised) 'Assurance Engagements other than Audits or Reviews of Historical Financial Information' issued by the International Auditing and Standards Board. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement and consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.
Respective responsibilities	WE Soda is responsible for preparing the Report and for the collection and presentation of the information within it, and for the designing, implementing and maintaining of internal controls relevant to the preparation and presentation of the selected performance data. ERM CVS' responsibility is to provide conclusions to WE Soda on the agreed scope based on our engagement terms with WE Soda, the assurance activities performed and exercising our professional judgement. We accept no responsibility, and deny any liability, to any party other than WE Soda for the conclusions we have reached.

Independent Limited Assurance Statement to Kew Soda continued

Our conclusion

Based on our activities, as described below, nothing has come to our attention to indicate that the selected performance data and information for the disclosures listed under 'Scope' above are not fairly presented, in all material respects, in accordance with the reporting criteria.

Our assurance activities

Considering the level of assurance and our assessment of the risk of material misstatement of the performance data, a multi-disciplinary team of sustainability and assurance specialists performed a range of procedures that included, but was not restricted to, the following:

- Assessing the appropriateness of the reporting criteria for the selected performance data.
- Interviews with management representatives responsible for managing the selected issues.
- Interviews with relevant staff to understand and evaluate the relevant management systems and processes (including internal review and control processes) used for collecting and reporting the selected disclosures.
- In-person visit at the Kazan site (Türkiye) to review local reporting processes and consistency of reported annual data with selected underlying source data for each indicator.
- An analytical review of the year-end data submitted by all locations included in the consolidated group data for the selected disclosures which included testing the completeness and mathematical accuracy of conversions and calculations, and consolidation in line with the stated reporting boundary.
- Confirming conversion and emission factors and assumptions used.
- Reviewing the presentation of information relevant to the scope of our work in the Report to ensure consistency with our findings.

The limitations of our engagement

The reliability of the assured information is subject to inherent uncertainties, given the available methods for determining, calculating, or estimating the underlying information. It is important to understand our assurance conclusions in this context.

Our independence, integrity and quality control

ERM CVS is an independent certification and verification body accredited by UKAS to ISO 17021:2015. Accordingly, we maintain a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements. Our quality management system is at least as demanding as the relevant sections of ISQM-1 and ISQM-2 (2022).

ERM CVS applies a Code of Conduct and related policies to ensure that its employees maintain integrity, objectivity, professional competence and high ethical standards in their work. Our processes are designed and implemented to ensure that the work we undertake is objective, impartial and free from bias and conflict of interest. Our certified management system covers independence and ethical requirements that are at least as demanding as the relevant sections of Parts A & B of the IESBA Code relating to assurance engagements.

The team that has undertaken this assurance engagement has extensive experience in conducting assurance on environmental, social, ethical and health & safety information, systems and processes, and provides no consultancy related services to WE Soda in any respect.

Gareth Manning
Partner, Corporate Assurance
UK, London
28 April 2023

we • soda
WEST EAST SODA

23 College Hill
London EC4R 2RP

www.wesoda.co.uk