

Kew Soda Ltd

Basis of reporting and data collection

Our reporting covers the emissions associated with Soda Ash and Sodium Bicarbonate production for the following reporting periods unless otherwise stated:

- 1 January 2020 – 31 December 2020
- 1 January 2021 – 31 December 2021
- 1 January 2022 – 31 December 2022

This reporting guidance document supports our preparation and reporting of the following indicators in our Annual report, externally assured by ERM CVS.

2020, 2021 and 2022:

- Total Scope 1 GHG emissions tCO₂e
- Total Scope 2 GHG emissions (market based) tCO₂e
- Total Scope 2 GHG emissions (location-based) tCO₂e
- Total Scope 1 and Scope 2 emissions (market based) tCO₂e
- Total Scope 1 and Scope 2 emissions (location based) tCO₂e
- Carbon Emissions intensity Scope 1+2 market based tCO₂e/tonne sodium carbonate and sodium bicarbonate production
- Carbon Emissions intensity Scope 1+2 location based tCO₂e/tonne sodium carbonate and sodium bicarbonate production

For the 2022 reporting period only:

- Total Scope 3 GHG emissions tCO₂e, 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 m³
- Recycled water m³

- Water intensity m³/tonne sodium carbonate and sodium bicarbonate production
- Wastewater discharge industrial m³
- Wastewater discharge domestic m³

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).

Our operations

WE Soda operate 2 soda ash production sites in Eti Soda and Kazan Soda (Turkey). WE Soda also have 1 head office located in London and 1 office located in Istanbul.

Reporting boundaries

Our 2022 report provides data and information for the periods January 1st 2020-31st December 2022, relating to the GHG emissions from WE Soda's soda ash and sodium bicarbonate production facilities at the Eti Soda and Kazan Soda sites. Emissions associated with WE Soda's head office in London and office in Istanbul are considered immaterial to the company's overall impacts and therefore excluded from the scope of reporting.

Uncertainties

The calculations for greenhouse gas emissions have been carried out with a high degree of confidence, referencing the Good Practice Guidance and Uncertainty Management in the National Greenhouse Gas Inventories provided by the IPCC. This confidence level has been established at 95%. The GHG Uncertainty Tool has been employed to quantify the level of uncertainty, providing a reasonable level of assurance in the results.

Methodology

Scope 1

Definition:

Direct emissions from owned or controlled sources

Scope:

Scope 1 emissions encompass emissions from stationary combustion, mobile combustion, fugitive emissions and process emissions.

- Stationary combustion includes from fuels used on site such as natural gas, coal and other gases.
- Mobile combustion includes fuels used in on-site and out-side vehicles.
- Fugitive emissions include refrigeration gas leakage, fire extinguisher and CH₄ emissions from wastewater treatment.
- Process emissions include industrial applications.

Our key scope 1 emissions sources are natural gas, coal and fuel oil used for building and process heating, process emissions, with small contributions from fuels used in all vehicles and refrigerant

releases and other stationary combustion gases. Primary scope 1 emissions are CO₂, with small contributions from CH₄, N₂O and HFCs.

Unit:

Emissions: tCO₂e

Emission Intensity: tCO₂e/tonne of sodium carbonate and sodium bicarbonate production

Method:

Our energy and carbon figures are recorded on a monthly basis from relevant source systems and records.

The carbon emission intensity metric is calculated by dividing the absolute emission by the total production amount.

Source:

Figures are obtained through utility bills, meter readings, scale records, laboratory analysis, direct from suppliers and through our internal systems.

When converting data into carbon emissions, for lignite and natural gas emission factors and net calorific value have been calculated through monthly analyses.

For all other scope 1 sources, other stationary gases, mobile combustion and wastewater emission factors have been taken from IPCC 2006.

Refrigerants and Fire Extinguishers GWP value have been taken from IPCC Fifth Assessment Report (AR5). Density factors have been taken from Türkiye National Inventory and DEFRA 2022.

Scope 2

Definition:

Emissions generated from energy generated from purchased electricity.

Scope:

Scope 2 emissions include GHG emissions from purchased electricity consumed by Eti Soda and Kazan Soda. Renewable energy use certificates were also taken into account.

Unit:

Emissions: tCO₂e

Emission Intensity: tCO₂e/tonne of sodium carbonate and sodium bicarbonate production **Method:**

Purchased electricity figures are recorded on a monthly basis from relevant source systems and records.

The carbon emission intensity metric is calculated by dividing the absolute emission by the total production amount.

Source:

Figures are obtained directly from utility bills and meter readings taken from EPIAS (Turkish energy exchange company) platform. We measure and report Scope 2 emissions using the grid (Location-based) emissions factor taken from the national inventory. Türkiye specific emissions factors are used to calculate the CO₂e location and market-based emissions. We utilized market-based approach under the GHG Protocol Scope 2 Guidance which allows deductions from the procurement of renewable energy.

Scope 3

Definition:

All indirect emissions (not included in Scope 1 and 2) that occur in our value chain, including upstream and downstream emissions.

Scope:

Scope 3 emissions encompass all other indirect emissions that occur in a company's value chain. All upstream (cradle-to-gate) emissions of purchased goods and services; extraction, production, and transportation of fuels and energy purchased or acquired by the reporting company; upstream and downstream transportation and distribution; disposal and treatment of waste generated; transportation of employees for business-related activities and hotel stays; transportation of employees between their homes and their worksites.

Unit:

Emissions: tCO₂e

Emission Intensity: tCO₂e/tonne of sodium carbonate and sodium bicarbonate production **Method:**

Our energy and carbon figures are recorded on a monthly basis from relevant source systems and records.

Source:

Figures are obtained through utility bills, meter readings, scale records, maintenance records, bill of lading, invoices, direct from suppliers and through our internal systems.

Raw Materials emission factors have been taken from SimaPro 9.4.0.2 and packaging materials, upstream and downstream transportation, water supply, WTT-fuels, business travel, waste emission factors have been taken from DEFRA 2022. Employee commuting emission factors have been taken from The ICCT. Electricity T&D emission factors have been taken from Türkiye National Inventory and DEFRA 2021.

Water

Our water reporting covers the water consumption, discharge and recycling associated with Soda Ash and Sodium Bicarbonate production for the period 1 January 2022 – 31 December 2022 unless otherwise stated. This reporting guidance document supports our preparation and reporting of the following indicators in our Annual report, externally assured by ERM CVS.

Definition:

All operations remaining within the boundaries of the Eti Soda and Kazan Soda are included in the system boundaries. Within the framework of the operational control approach, water use, recycled water and water discharge arising from the activities are included

Scope:

Water parameters encompass total water consumption, recycled water, industrial and domestic discharged water amounts in m³, and water intensity metric in m³ per tonne of sodium carbonate and sodium bicarbonate production.

Unit:

Withdrawal, Discharge and Recycled water: m³

Water intensity: m³/tonne of product

Methodology:

Our water figures are recorded on a daily basis from relevant source systems and records.

The water intensity metric is calculated by dividing total water withdrawal by the total amount of sodium carbonate and sodium bicarbonate production.

Source:

All data is taken from meter readings and billing invoices collected and consolidated in an excel working file.