

## **Independent Assurance Opinion Statement**

To the Management of Kazan Soda Elektrik Üretim A.Ş.

### **Scope and Objectives :**

BSI was commissioned by Kazan Soda Elektrik Üretim A.Ş. (hereinafter “Kazan Soda”) to conduct independent assurance of its Kazan Soda 2019 Sustainability Report (‘the Report’), and to carry out an independent verification of total water withdrawal, GHG emissions, health and safety performance indicators, used electricity, training man-hours and waste.

Our assurance engagement was planned and carried out in accordance with AA1000 Assurance Standard AA1000AS (2008).

### **BSI’s approach**

BSI’s assurance engagements are carried out in accordance with our verification procedure. Reviewing the data collection and consolidation processes used to compile selected data, including assumptions made, and the data scope and reporting boundaries; We planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance opinion. We were engaged to provide Type 2 moderate level assurance, which covers:

- Evaluation of adherence to the AA1000AS (2008) principles of inclusivity, materiality and responsiveness (the Principles); and
- The reliability of specified sustainability performance information along with related claims in the report including:
  - Desk review
  - Site visit
  - Data sampling
  - Reporting

### **Inclusivity, Materiality and Responsiveness principles;**

Kazan Soda has made a commitment to its stakeholders. The participation of stakeholders has been initiated in developing and achieving an accountable and strategic response to Sustainability Report.

Kazan Soda publishes Sustainability Report information that enables its stakeholders to make informed judgments about the company’s management and performance. In our professional opinion the report covers the Kazan Soda’s materiality issues.

Kazan Soda has implemented the practice to respond to the expectations and perceptions of its stakeholders.

### **Assurance level**

The moderate level assurance provided is in accordance with AA1000 Assurance Standard (2008) in our review, as defined by the scope and methodology described in this statement.

## **Independence/Responsibilities of Kazan Soda and of the Assurance Providers**

BSI was not involved in collecting and calculating data, or in the development of the Report. BSI's activities are independent from Kazan Soda. Kazan Soda has sole responsibility for preparation of the Report. In performing our assurance work, our responsibility is to the management of Kazan Soda.

The assurance team was composed of Lead auditors and Carbon Footprint Verifiers experienced in industrial sector, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, and ISO 9001, EU ETS, GS, VCS, ISO 50001 etc. . BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI verification procedure. There is no limitation.

## **BSI's Opinion**

Based on BSI's approach, we believe that Kazan Soda Elektrik Üretim A.Ş. has:

- Met the requirements above
- Disclosed accurate and reliable data and information

## **Verified Data**

Water consumption: 7,660,888 m<sup>3</sup>

Recycling water: 1,802,344.30 m<sup>3</sup>

Training man-hour: 39,463

Production volume (ton): 2,500,000 ton

Electricity consumption: 1,001,007.44 MWh

GHG intensity: 0.626 tCO<sub>2</sub>e./ton product.

Recycled;

Metal: 401,540 kg

Paper and board: 1,480 kg

Glass: 840 kg

Material Usage;

Plastics: 1,038,378 kg

Wood: 2,571,621 kg

Overall Accident Rate: 451

Accident Severity Rate (1,000,000 Factor): 238

Accident Frequency Rate: 27.9

Accident Severity Rate (1000 Factor): 0.25

The opinion expressed is formed on the basis of a moderate level of assurance and at the materiality of the professional judgement of the verifier.

Mehmet Kumru  
Sustainability Team Manager



Date: 16 March 2020

**bsi.**



**AA1000**

Licensed Assurance Provider  
258

BSI Group Eurasia Belgelendirme Hizmetleri Ltd. Sti.

Değirmen Sokak, No:16, Ar Plaza, Ofis: 61/62 A Blok, Kozvatağı / İstanbul

# KAZAN SODA ELEKTRİK

## Sustainability Report

### 2019





# Contents



About the Report	4	Product and Quality Safety	37
A Message from our CEO	6	Customer Relations	38
A Message from our General Manager	8	Corporate Risk Management	40
About Kazan Soda Elektrik	10	Business Ethics	41
Sustainability Corner Stones	12	Code of Ethics	42
Featured Activities of 2019	14	Our Employees	43
Management Approach	16	Training and Development	45
Kazan Soda Elektrik Management Structure	17	Employee Loyalty	46
Communication with Stakeholders	19	Occupational Health and Safety	47
Stakeholder Groups and Communication Platforms	20	Kaizen Applications	48
Sustainability Management	22	Environmental Management	50
Financial Investments	24	Environmentally Friendly Production	52
Solution Mining and Production Techniques	26	Water Management	53
World Trona Reserves	27	Natural Resources Management	55
Ciner Group Trona Reserves	28	Waste and Packaging Management	56
Products and Areas of Use	30	Biodiversity	58
Sales Network	32	Climate Change and Energy Efficiency	59
Sales Marketing	33	Community and Social Investments	60
Sales and Export Data	34	Performance Indicators	61-64
Value Chain Management	35		
Sustainable Procurement	36		



# About the Report

In line with the principles of transparency and accountability, Kazan Soda Elektrik presents its corporate management, and its performance and applications in environmental and social areas through this sustainability report for the production year of 2019.

This sustainability report, which is the first of what will continue to as an annual publication, presents the strategy, targets, performance and progress in these areas in a transparent way with our stakeholders.

This report includes the progress made within the period of January 1st-December 31st, 2019 at Kazan Soda Elektrik regarding all aspects and activities of production, energy management, water and wastewater management, environmental management, OHS, training, ethical values, and customer relations; it also includes the progress made towards the UN Global Compact (UNGC).



## A Message from our CEO



Dear Stakeholders,

Ciner Group started its business in the mining and energy sectors, and continues today with additional activities pertaining to glass, chemicals, media and maritime.

Our experience in the energy and mining sectors is transferred to our products of soda ash and sodium bicarbonate and to the electricity generation plant by using the latest environmentally friendly technological technique of solution mining.

Drawing our strength from Turkey, we are increasing our operations abroad with the help of our distributors. With today's investments, by exporting products to over 40 countries, we are the largest soda ash producer in the world. We continue to provide social and economic development with our broad export network and our employment levels. As we continue to grow, we are aware of the fact that our sector and world face different trends and difficulties, and we act accordingly.

We are aware of the pressures on the environment caused by climate change and depleting natural resources and the need for a technological transformation. Within this scope, by doing our part we have made positive developments in the area of sustainability in the year 2019.

We have adopted the approach of reducing the occupational health and safety risks to a minimum by managing with a holistic approach to global risks, a sustainable outlook, and our safe production processes.

As a result of our solution mining technique, the amount of waste produced is reduced to zero, minimizing the carbon emissions that would typically be released into the ambient environment during classical mining technique; and, we produce products within minimized environmental impacts by using processes that consume less energy. In this way, we have adopted a work model that contributes to the fight against climate change.

The economic and social value that we have created will lead our way to our success tomorrow. As the Kazan Soda Elektrik family, we whole-heartedly believe that with our unwavering support for this sustainable journey and with our collective knowledge, we shall achieve great success along the way. I would like to thank all of our stakeholders whose trust and support have never wavered on our way.

**CEO**  
**Gürsel Usta**



## A Message from our General Manager





Dear Stakeholders,

Our Kazan Soda Elektrik project that commenced operations in 2017 has an annual production capacity of 2.5 million tonnes of soda ash and 200 thousand tonnes of sodium bicarbonate, contributing both to our nation's economy and employment policies.

We continue on this journey we started in 2011, assimilating to our long term strategic targets and to the 10 fundamental principles in the United Nations (UN) Global Compact and to our long term strategic targets.

As we prepared our report, we took care to not only include the subjects that are of particular importance to Kazan Soda Elektrik, but also those that are of importance to you, our stakeholders. As Kazan Soda Elektrik, we endeavor to support the transformation to a low carbon economy in the global fight against climate change. Within this framework, we not only give priority to environmentally friendly production, but also to annually obtaining and sharing with you, our stakeholders, the ISO 14064 Carbon Footprint certification that documents our carbon footprint and the ISO 14046 Water Footprint that documents our water footprint from accredited third party establishments.

We aid in the development of all stakeholders we work with to reach the standards of Kazan Soda Elektrik.

In order to leave behind a more livable planet for future generations, with the knowledge of our responsibility towards society and the environment, we are focused on efficient use of resources and circular economy solutions. We continue to generate value-added and positive impacts in this area with our superior performance for all of our stakeholders. Environmental sustainability is always kept as a top priority.

We continue to work to improve our performance regarding carbon, energy, waste and water; and to minimize our negative impacts while tracking our impact targets. The environmentally friendly and innovative technologies that we have developed are important contributions to the existence of a sustainable ecosystem. Evolving from here, we bring to life business models that take into consideration economic, environmental and social progress; and we are focused on a broad spectrum of activities that will decrease our carbon footprint ranging from material selection to product design and from production to recycling programs.

By sharing our policies with our stakeholders, we guarantee an effective partnership and open communication. We would like to thank you, our valued stakeholders, for contributing to the development of this sustainability report and for being with us every step of the way.

**General Manager**  
**M.Tanzer Ergül**



# About Kazan Soda Elektrik





## About Kazan Soda Elektrik



Kazan Soda Elektrik Inc. an affiliate of the Ciner Group, was founded in the year 2011 in Ankara to contribute to the Turkish economy, with being sustainable, kind to nature and environmentally friendly, innovative and increased values within the scope of vision of being world leader on producing dense soda ash and sodium bicarbonate.

Within its 20 km<sup>2</sup> area of operations, it produces 2.5 million tonnes of dense soda ash and 200,000 tonnes sodium bicarbonate from 1.6 billion tonnes of trona ore. With its 99.8% purity ratio, it produces the purest soda ash in the world.

As one of the largest supporters of innovative technology and young minds, Kazan Soda Elektrik is continuously upgrading its technology.

93% of its products are exported to European, North and South American, African and the Asian Pacific countries, with the remaining 7% being distributed within Turkey.

## About Kazan Soda Elektrik

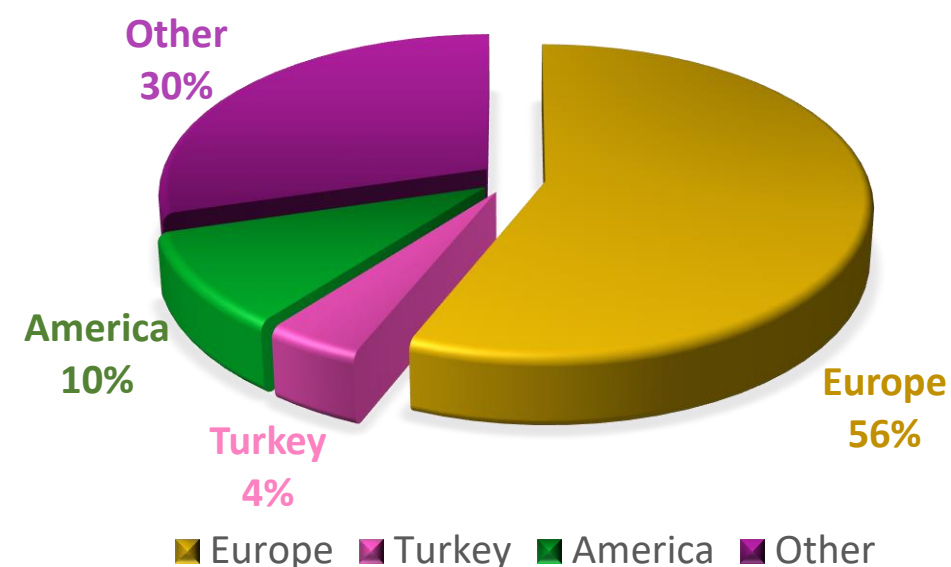
Using solution mining, hot water is injected into the trona ore 600 m under the surface, causing it to dissolve and rise to the surface. As a result of this technology, production is carried out in a completely harmless, environmentally friendly manner, respectful of human lives, agriculture and animal husbandry.

Products are shipped to over 40 countries with export targets of 600 million USD thanks to the logistical network of Kazan Soda Elektrik.

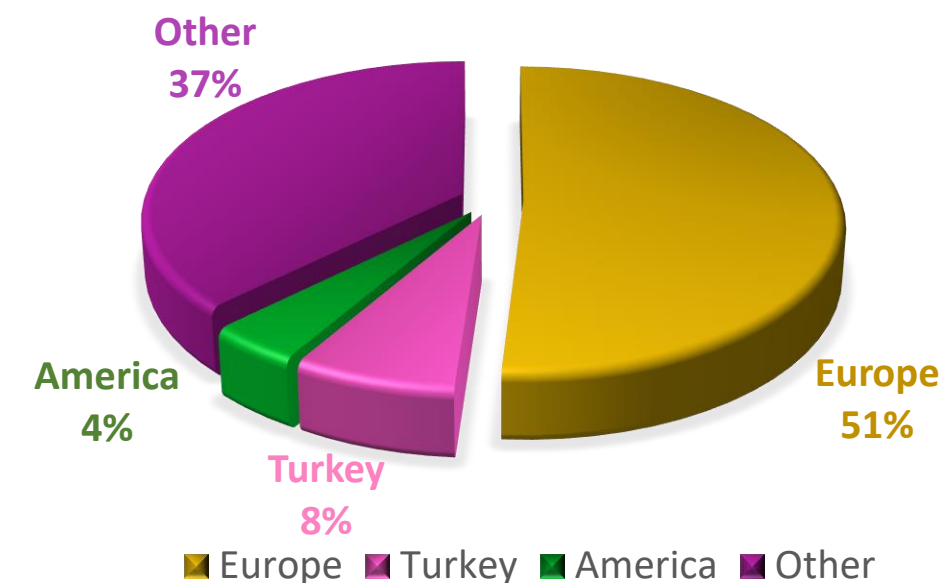
As one of Turkey's largest chemical exporters, the sodium carbonate (soda ash) and sodium bicarbonate products that Kazan Soda Elektrik produces are offered on the market around the globe.

Strategically, it serves as a leader in the global soda ash industry in terms of production volume, product quality and supply chain dependability, technology and process innovation,-safety and environmental standards- and it continues to improve, every day.

The electrical and steam energy it requires for production is generated on-site by a natural gas cogeneration plant, providing 2.3 billion kW/hour of the city of Ankara's electrical needs.

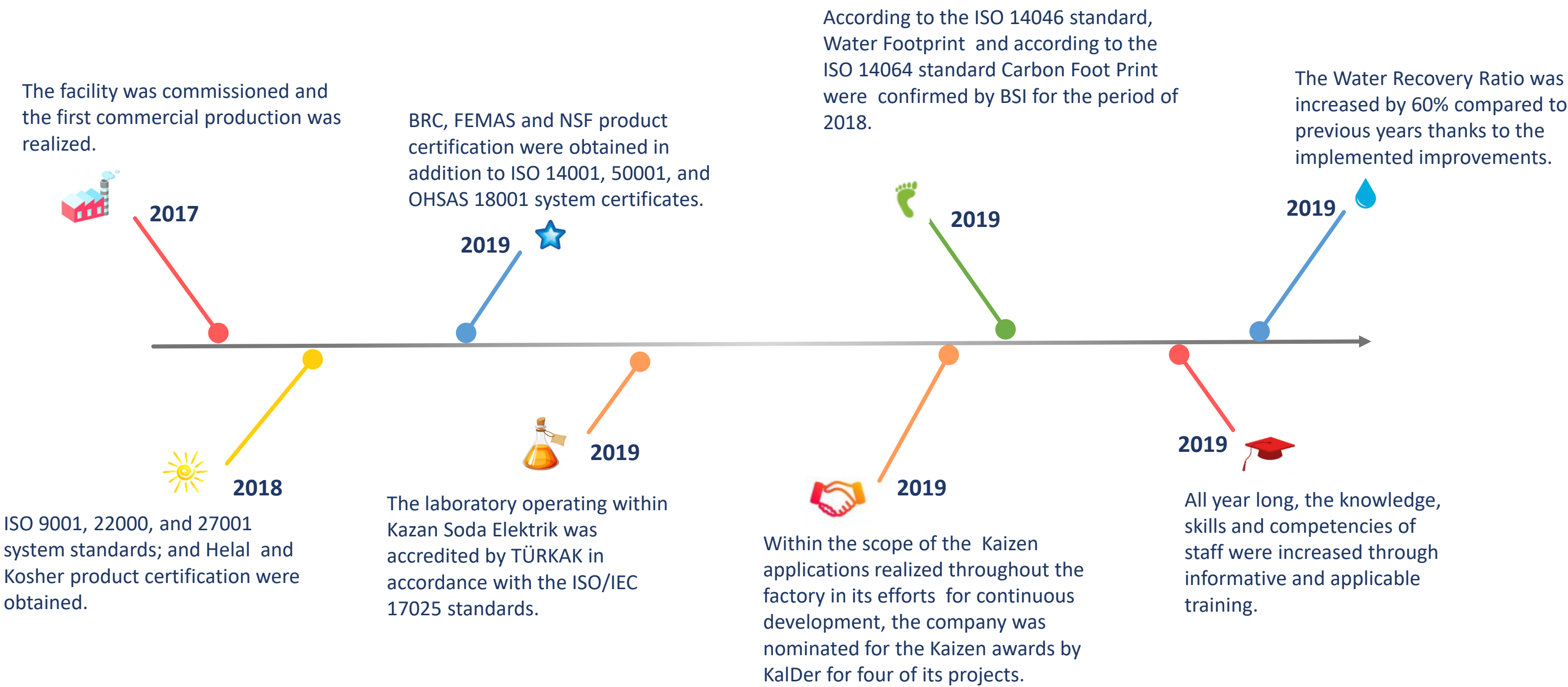


Distribution of 2018 Regional Net Sales



Distribution of 2019 Regional Net Sales

# Sustainability Corner Stones





# Featured Activities of 2019





## Featured Activities of 2019

The Kazan Soda Ethics Committee was established to extend the ethic values to employees and to ensure they are handed down to future generations.



Overall, at the facility, in the year 2019:

- 440 fruit trees,
- 30,000 cypress trees,
- 250 lavender plants,
- 2,000 cedar pine trees,
- 20,000 dwarf spreading juniper bushes, and
- 80 decorative black locust trees were planted.

In the year 2018, 67 hives were kept as part of the apiculture social responsibility project and in 2019 the number of hives was increased to 107. In August, the honey harvest was shared with local residents.



6 plant species that are deemed locally and regionally endemic species within our country were identified by an 8 person expert academic team via site studies carried out at our factory and flora research studies.

Works carried out in the “Endemic Plant Protection Area” were conducted with local residents. Locals were given training on “Environmental Awareness” and “Protection of Wild Life and the Environment”.



The seeds of the six local and regional endemic species identified within our area of activity (Campanula damboldtiana, Aethionema dumanii, Aethionema turcica, Scutellaria yildirimlii, Sideritis galatica, Salvia tchihatcheffii) were submitted to the Turkey Seed Gene Bank.



Management Approach

Kazan

SODA ELEKTRİK



The base of Kazan Soda Elektrik's sustainable success is a strong sense of corporate management leading the actions.



# Management Approach

At Kazan Soda the corporate management approach is based upon the principles of openness, transparency, just treatment and accountability.

The corporate management implementations are based on active stakeholder participation, active audit mechanisms and transparent reporting, and is supported by advanced systems and standards.



## Kazan Soda Elektrik Management Structure

Kazan Soda Elektrik stands out with its strong management structure whose mission is to contribute to the economy of both Turkey and all locations we are found by increasing the quality of both production and services. This is accomplished with our vision to be the world's leading producer of dense soda ash and sodium bicarbonate that follows technological develops, is sustainable, is sensitive to nature and the environment, is innovative and has the ability to add value; and our approach of giving importance to our young, dynamic and educated work staff, continuously developing, reinventing ourselves, and aiming for 100% customer satisfaction.

With the adoption of corporate management principles and corporate social responsibility understanding, and with the long standing approach that the environment must be used in an informed manner, Kazan Soda Elektrik believes that it is possible to create sustainable economic value through these principles.

A Board of Directors is part of the corporate management structure.

The Board of Directors is comprised of seven members, one of which has the status of General Manager.

The persistent progress that Kazan Soda Elektrik has made in the area of corporate management has generated the base of stakeholder's trust.

The corporate management structuring and detailed information about high ranking managers can be found on our website in the "About Us" and "Corporate" sections.

### Board of Directors

Name-Surname	Position
Gürsel Usta	Chairman of the Board
Ali Coşkun Duyak	Vice President of the Board
Cevdet Özçevik	Member of the Board
Erdal Yavuz	Member of the Board
Orhan Yüksel	Member of the Board
Selçuk Yeşiltaş	Member of the Board
Mustafa Tanzer Ergül	Member of the Board and General Manager

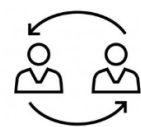


# Communication with Stakeholders





## Communication with Stakeholders



Stakeholders are defined as the establishments and institutions, people and communities impacted by the company's activities and those that impact the company's.



For the purpose of sustainable growth, Kazan Soda Elektrik aims to make all benefits provided to stakeholders sustainable and gives importance to the increase in awareness of stakeholders by building business partnerships in its activity areas.



Due to the great importance we extend to both internal and external stakeholders, this presents the opportunity for regular communication with our stakeholders and to be an inclusive corporate firm.



As a result of the feedback we obtain from our stakeholders we understand the expectations of stakeholders and identify actions as the need arises. Additionally, we can approach risks and opportunities in a more comprehensive way.



Kazan Soda Elektrik acts under the knowledge of the importance of product and service development, provision of transparent and accountable management approach, and sustained and improvable stakeholder participation. Since our first day, we have adopted a simple management process focused on stakeholders and based on ethics.



Kazan Soda Elektrik knows that the development of effective communication with stakeholders is of the utmost importance, and by establishing regular contact on a variety of platforms with its stakeholders, it shapes its work through the contributions of stakeholders.





# Stakeholder Groups and Communication Platforms

Stakeholder Groups	Communication Platform	Content/Applications	Time Frame
Employees	Trainings, events, OHS committee meetings, KAIZEN groups, internal bulletins	Worker needs and expectations, talent management, reward system	OHS Committee Meetings: Monthly
Customers	Customer satisfaction questionnaires, bi-annual Soda Ash Magazine, customer visits, customer audits, social media accounts	Customer satisfaction ranking, stakeholder notification, one-on-one communication with customers.	Customer satisfaction questionnaires: Annually Soda Ash Magazine: Bi-annually
Local Public and Local Administrations	Local community meetings and annual events	Requests and suggestions of local communities, identification of stakeholder needs, briefings about Kazan Soda Elektrik	Community public meetings: Bi-annually
Public Institutions	Meetings and one on one interviews, conferences, audit reports, official correspondence, corporate web site	Audits, reporting, correspondence for official business	In the event of audit periods and official operations
Distributors	One-on-one interviews, bi-annual Soda Ash Magazine, website, social media accounts for joint projects	Purchasing transactions, customer visits, needs and expectations discussion meetings	Constant via E-mail and telephone, as required for one-on-one meetings
Suppliers	Annual supplier's day, one-on-one interviews, audits, corporate website, social media accounts	Purchasing transactions, discussion of contract and specification contents, product quality and safety, supplier expectations	Supplier's Day: Annually One-on-one meetings: As required within defined periods
Universities	Internship programs, career days, conferences, corporate website, social media accounts	Inclusion of intern and employee CVs to the Kazan Soda Elektrik pool and evaluation implementations	Internship programs: A continuous year. Career Days: 2-3 times a year





# Sustainability Management



## Sustainability Management

Kazan Soda Elektrik believes that the key to success is a sustainable business model.

Shaping its business operations in a sustainable way in order to leave behind a better world for future generations, in light of this perspective, Kazan Soda Elektrik is carrying out implementations that increase social, economic and environmental value; and meet the expectations of stakeholders.

In order to increase the contributions of staff in Kazan Soda Elektrik's work in sustainability, training on sustainability is provided. In this way, employees are supported in better integrating in all of the corporate sustainability target processes.

Within the scope of efficiently using natural resources and our waste minimization/zero waste project, we are working with the Ministry of Environment and Urbanization and related university academicians to utilize the Ca and Na based salts from production activities as a by-product.



It is aimed that the aforementioned studies will be completed in the year 2020 and that as a result all products will be utilized.

In 2019, our LCA Life Cycle Analysis was revised and confirmed by the accredited verification third party, Rina.

Through the Life Cycle Analysis, all of the environmental impacts resulting from the life cycle of product, including the processing and procurement of raw materials, manufacturing, use, final disposal and the transportation required between these steps, are evaluated in detail. With this “cradle to the grave” approach, actions are identified to prevent the transfer of environmental impacts of a product from one life step to the other.



The building blocks of sustainability are constructed by integrating employees into all activities. The sustainable targets and performance indicators that add value to Kazan Soda Elektrik corporate structure were determined with the participation of the entire staff.

## Sustainable Management

It is accepted that medium and long term targets are strategic targets. Our strategic targets were designed in line with Kazan Soda Elektrik's mission and vision, in addition to experience gained. The five year strategy plan created as a result of these targets consists of goals, fundamental principles and policies, baseline analyses, performance indicators, action programs and resource needs. Kazan Soda Elektrik's global and regional sustainability goals meet the framework of ethical rules. In particular, as a result of our country's role in the Kyoto Protocol and the Paris Agreement, the Emission Trading System (ETS) is closely watched and ETS and its yields are incorporated into future strategy trends. Sector experts and academicians are consulted on subjects such as the impact of climate change, efficient resource use and water management.

Around the world, support for the development of low-emission technologies is growing quickly and the expectations of our stakeholders are also leaning in this direction. With the rise in awareness regarding global warming and climate change,

companies that adopt low emission technologies are preferred. Within the scope of the Biodiversity Protection and Monitoring Project that Kazan Soda Elektrik has put into practice due to its sensible environmental policies and social responsibility consciousness, it is aimed to protect and promote terrestrial and aquatic biological diversity.

As such, the flora in the activity area and area of influence were identified through field studies that were carried out over four seasons by an eight person academic team who are experts in their field. According to the detailed flora studies performed, six of the species identified were determined to be locally and regionally endemic to Turkey.

The seeds of these six regionally and locally distributed endemic species identified in the area of activity (*Campanula damboldtiana*, *Aethionema dumanii*, *Aethionema turcica*, *Scutellaria yildirimlii*, *Sideritis galatica*, *Salvia tchihatcheffii*) were collected by the academic team during the appropriate periods and submitted to the "Turkey Seed Gene Bank" (Herbaryum).

# Financial Investments

Strategically, Kazan Soda Elektrik continues to lead in the global soda ash industry in terms of safety and environmental standards with its production volume, product quality and supply chain reliability, and innovation in technology and operations. In order to improve the Kazan Soda Elektrik facility which was established in 2011, more than two billion USD were invested, directly after which the company commenced operations in 2017.

After increasing its production through 2018 and 2019, Kazan Soda Elektrik has an annual soda ash and sodium bicarbonate production of 2.5 million tonnes and 200,000 tonnes, respectively.

In the next two years, in order to increase our annual production of soda ash 600,000 tonnes more annually by the year 2023, and in order to further decrease costs, it is planned to make further investments worth more than 80 million USD.

At the Kazan Soda Elektrik facility it was estimated that by using the solution mining method the economic life of the trona reserves is 45 years. The facility was designed and constructed by one of the leading engineering companies in the world, TCC. Siemens turbine and energy power plant technologies, rotating equipment and control systems are used. The company’s financial operations are periodically audited and authenticated by an independent auditing firm, namely DRT Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş (DRT Independent Auditing and Certified Freelance Public Accounting).





# Solution Mining and Production Technique

The trona ore, which has a molecular structure of  $\text{Na}_2\text{CO}_3 \cdot \text{NaHCO}_3 \cdot 2\text{H}_2\text{O}$ , is located approximately 650 m under the surface.



A close-up photograph showing a person's hands pouring a bright blue, glowing liquid from their palms into a large pile of white powder. The liquid has a viscous, syrupy texture and is illuminated from below, creating a strong blue glow. The background is dark and out of focus, suggesting an industrial or laboratory setting.

# Solution Mining and Production Techniques

Trona ore, with its  $\text{Na}_2\text{CO}_3 \cdot \text{NaHCO}_3 \cdot 2\text{H}_2\text{O}$  molecular structure, found 650 m under the surface is extracted to the surface via vertical and horizontal bore holes through which hot water is sent with a solvent to dissolve the trona. The dissolved trona ore is then transferred via the aid of wells and pumps to the production area.

Through the solution mining technique that Kazan Soda Elektrik has selected over conventional mining, environmentally-friendly production has been adopted and in this way natural sodium carbonate and sodium bicarbonate production is realized.

The trona solution that is derived from the mining solution wells is first sent to a pretreatment unit to remove impurities, after which it is sent to a stripper-evaporator unit where its concentration is increased and the  $\text{NaHCO}_3$  concentrations are transformed to  $\text{Na}_2\text{CO}_3$ . After the stripper-evaporator unit, Decahydrate crystals are produced in the Decahydrate unit. After Decahydrate Crystallization Unit, the two streams of deca solution separated are sent to the monohydrate and sodium bicarbonate crystallization units. From which they pass to the centrifuge and drying units where the natural sodium carbonate and sodium bicarbonate products are obtained.

Soda ash, which makes up the basis of many industrial production processes, is a compound that plays an invisible, but important role in the sustainable products that we use in our modern lives.

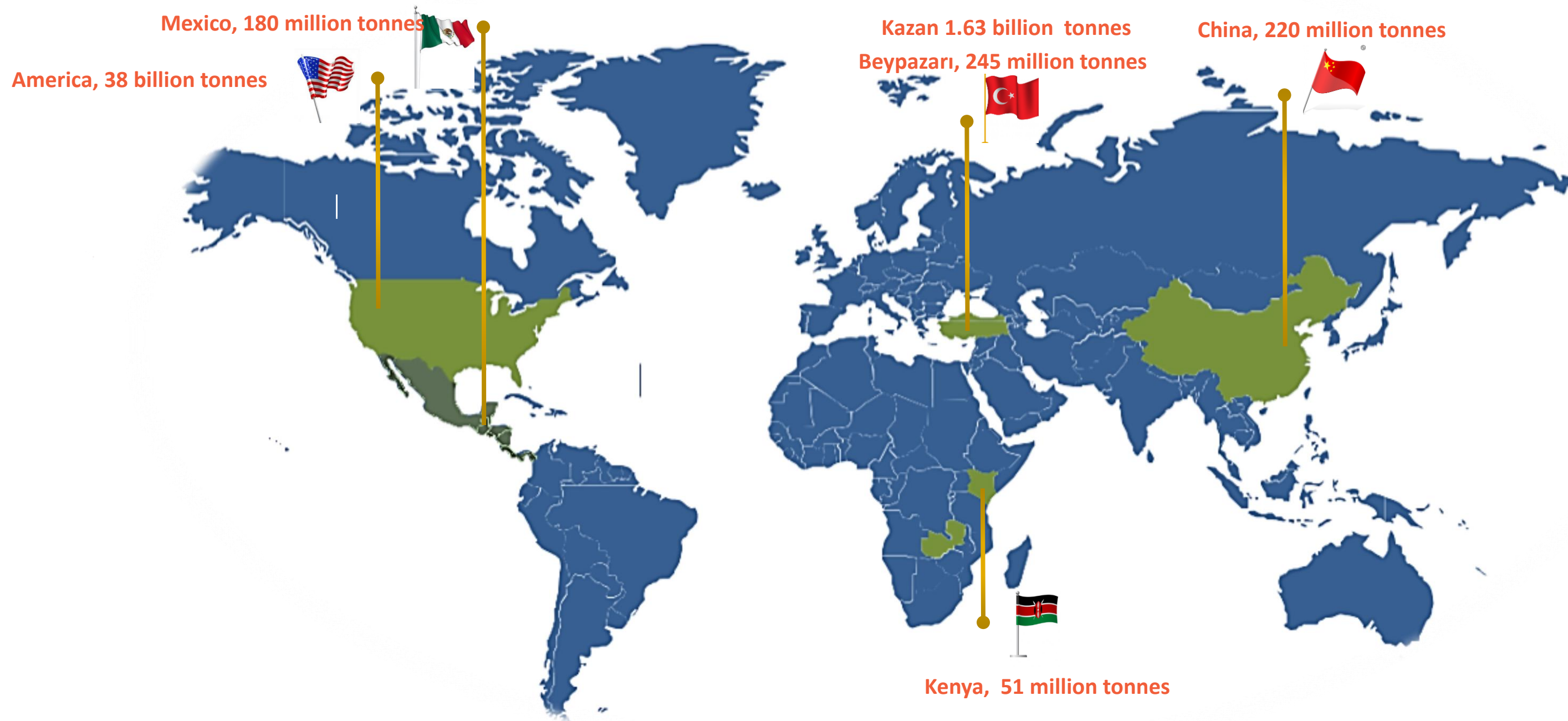
In addition to being one of the most commonly used inorganic compounds in the world, soda ash, is a safe and simple compound. In addition to playing a vital role in the industrial processes for glass and detergent production, it is an important compound in the food and pharmaceutical industries.

Kazan Soda Elektrik is proud to supply the entire world with high quality, natural soda ash through environmentally friendly production techniques.



## World Trona Reserves

The largest trona reserve beds in the world are found in southwest Wyoming, USA in the Green River basin, making up for 95% of the world's reserves. After the Green River basin, the second largest trona reserve bed is found in Ankara, Turkey in the District of Kazan.

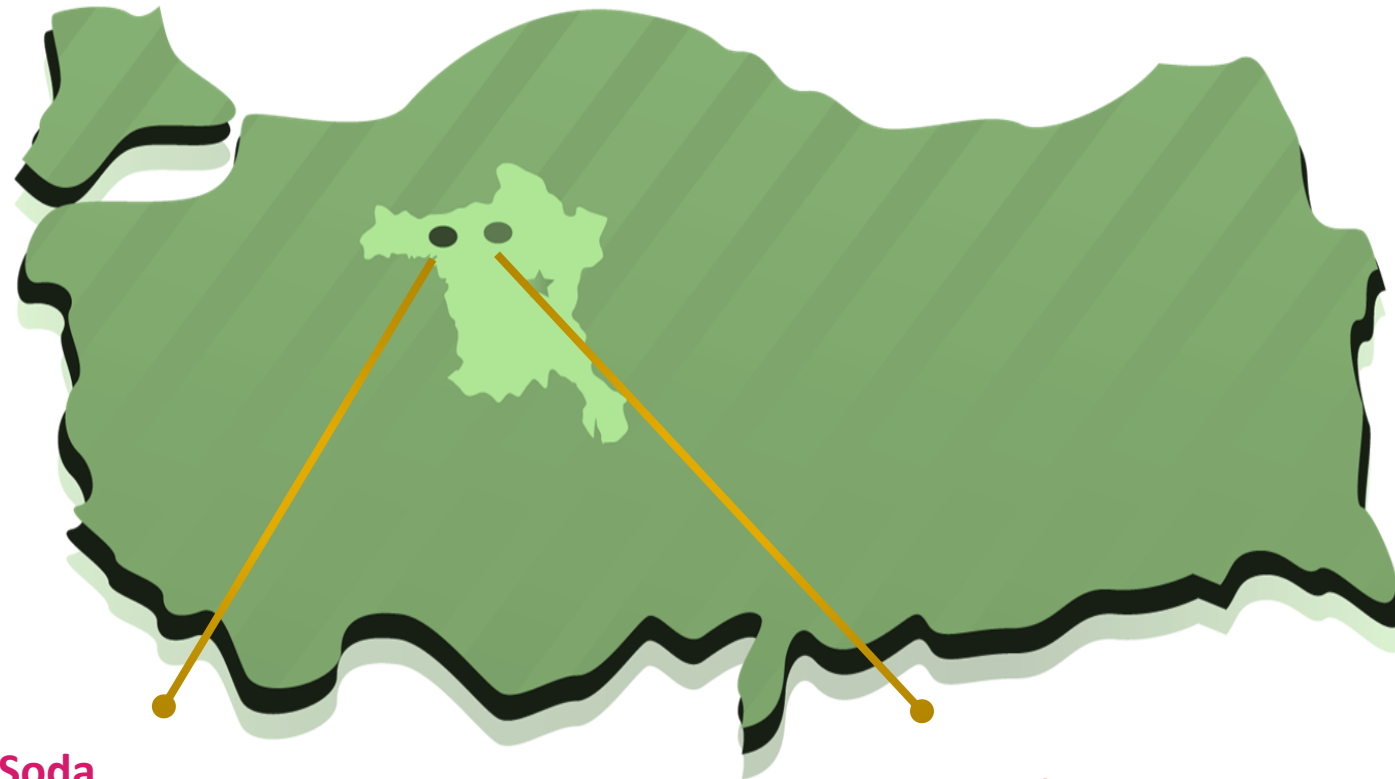




## Ciner Group Trona Reserves

Ciner Group carries out natural soda production at three locations in the World. The Ciner Group trona reserves are comprised of the deposits of Kazan Soda in the Ankara-Sincan region which are the largest reserves in Turkey and then Eti Soda deposits, and the deposits found in Wyoming, USA, management by Ciner Resources.

### TURKEY



**Eti Soda**  
**Beypazarı/ANKARA**  
**Known Trona Reserve: 245 Million**  
**Tonnes Trona**  
**Estimated Production Duration: 30 years**

**Kazan Soda**  
**Sincan/ANKARA**  
**Known Trona Reserve: 1.63 Billion Tonnes**  
**Trona**  
**Estimated Production Duration: 40 years**

### USA



**Ciner Resources**  
**Green River/Wyoming**  
**Total Reserve: 246 Million Tonnes Trona**  
**Estimated Production Duration: 60 years**



# Products and Areas of Use

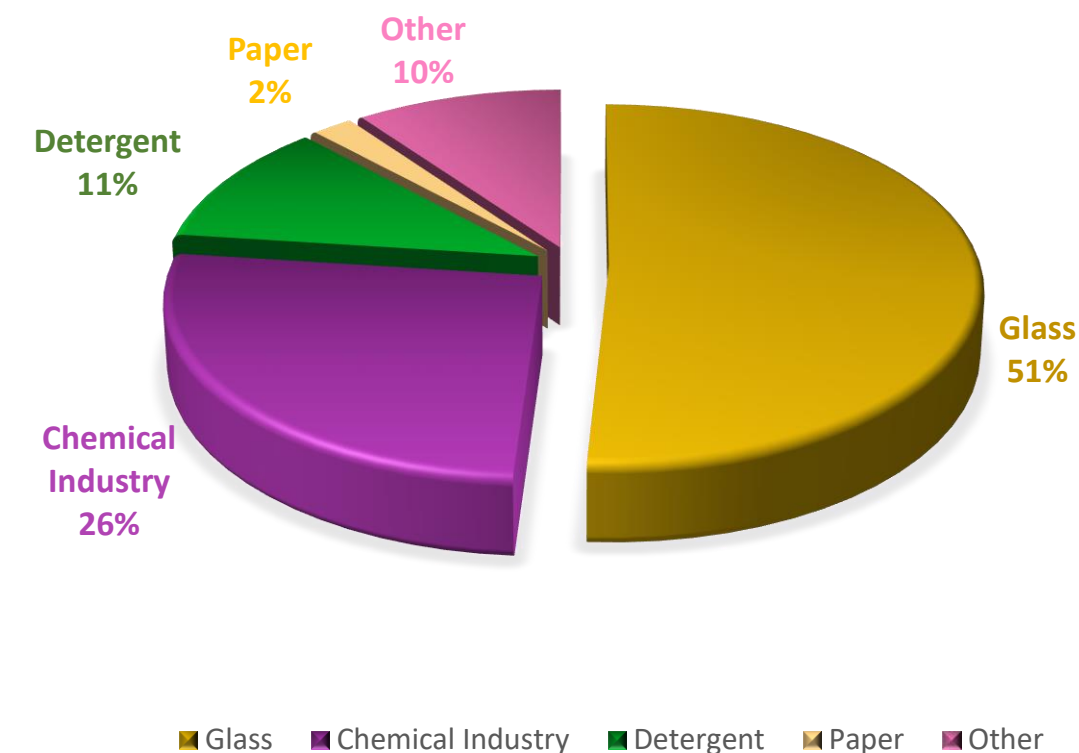




## Products and Areas of Use

### Sodium Carbonate

Sodium carbonate, also known as dense soda ash, is a white-colored basic salt with the chemical formula  $\text{Na}_2\text{CO}_3$ . The main industrial area in which dense soda ash is used is the glass industry. Soda ash is the second main raw material used in glass production after silica. The second highest consumer of soda is the chemical industry, but many other sectors such as detergent, paper and aluminum production all use soda. More than 50% of the sodium carbonate obtained from trona ore is sent to the glass manufacturing sector.



### Areas of Use



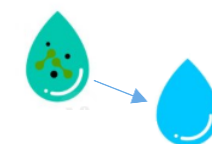
Soap and Detergent Industry



Cellulose and Paper Industry



Stack Gas Desulphurization



Water Hardness Removal



Water and Wastewater Treatment



Textile Industry

## Products and Areas of Use

### Sodium Bicarbonate

Sodium bicarbonate, which has a chemical formula of  $\text{NaHCO}_3$ , also known as sodium hydrogen carbonate is a white chemical compound that is clear and colorless when dissolved in water. Three types of sodium bicarbonate are produced at Kazan Soda Elektrik, namely food, technical and feed. The food type is used as an additive in the food industry, where the feed type is used as a feed additive in the animal feed industry. The technical type is used in various industrial areas such as in textiles and in stack gas, water and wastewater treatment. Sodium bicarbonate is also known as baking soda by the general public.

### Areas of Use



Food Additive Substance



Drinks



Health/Hemodialysis



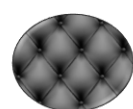
Toothpaste



Cleaning Supplies



Baking Soda



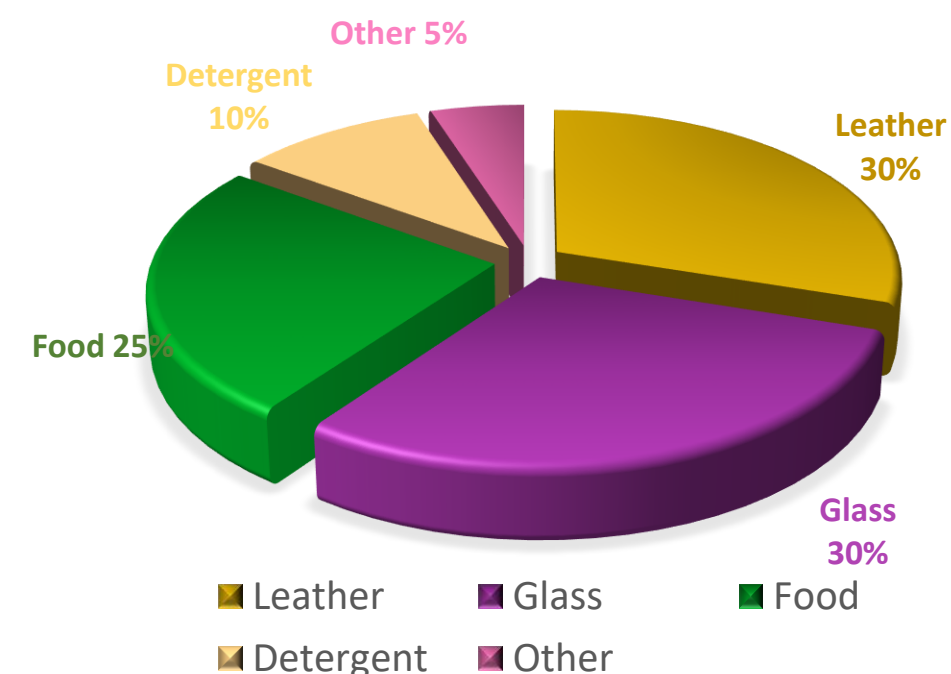
Leather Industry



Paper production



Stack Gas Treatment  
Water and Wastewater Treatment





# Sales Network



United Arab Emirates- Belgium- Brazil- Algeria- Denmark- Dominican Republic- Indonesia- Morocco- Ivory Coast- Finland- France- Guatemala- India- Holland- Iraq- Italy- England- Spain- Israel- Japan- Canada- Colombia- Latvia- Lebanon- Malaysia- Egypt- Moldova- Namibia- Nigeria- Norway- Panama- Peru- Portugal- Romania- Russia- Senegal- Chile- Ukraine-Jordan- New Zealand- Greece

# Sales Marketing

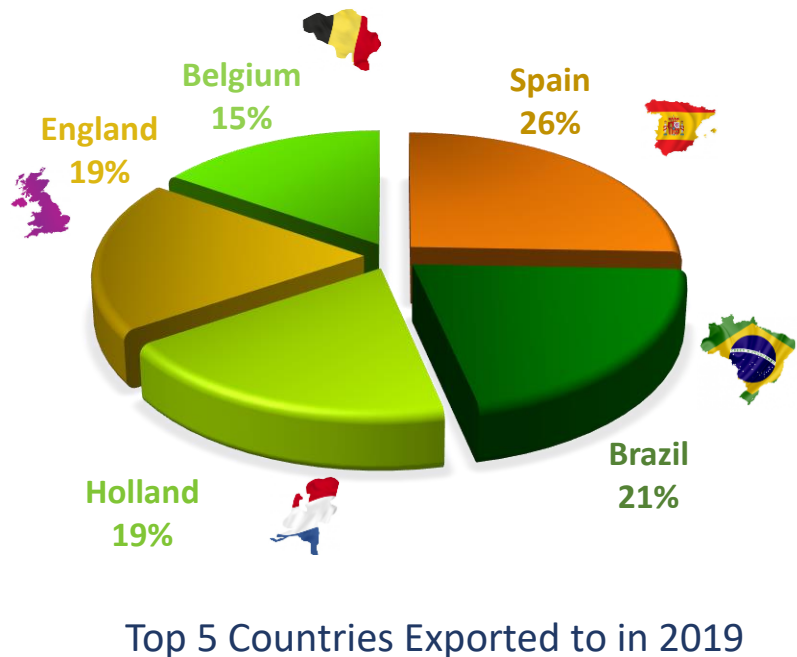
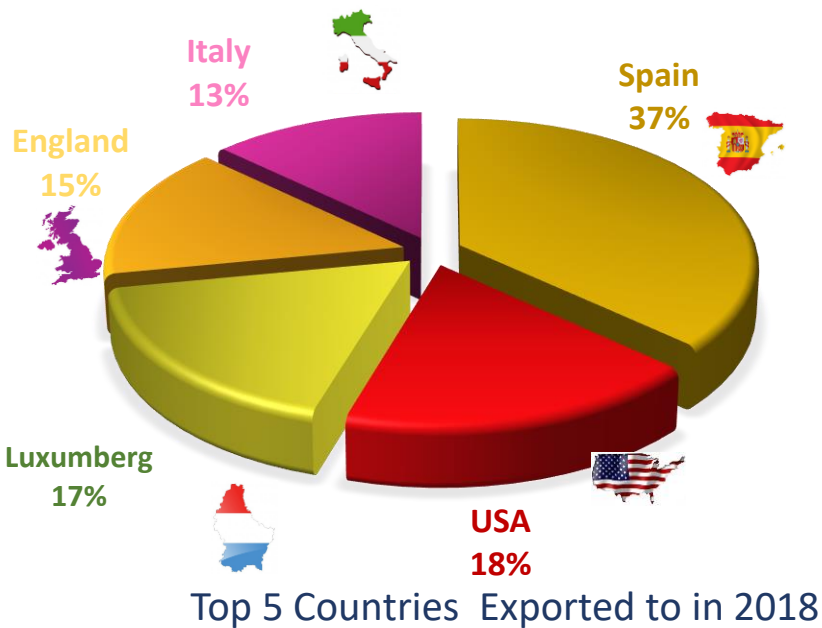
Kazan Soda Elektrik runs on the principle of always being customer oriented during all sales and marketing processes. Some of our top priorities are to understand the needs and expectations of customers, to define them and to take appropriate actions accordingly.

As such, the foundation of the prepared sales and marketing strategy, rests upon ensuring that sales are carried out to current and potential customers as requested, at the right time and under the right conditions; the generation of pricing strategies to maximize income and profits; identification and implementation of intervention measures of potential problems affecting consistent customer satisfaction;

the formation of coordination between departments before and after ordering; identification of profitable markets; inception of activities to enter these markets; and generation of new customers.

Dense soda ash and sodium bicarbonate products reach thousands of consumers around the world. For this reason, a responsible marketing approach has been adopted for the marketing activities, and marketing communication is directed in a way to inform consumers.

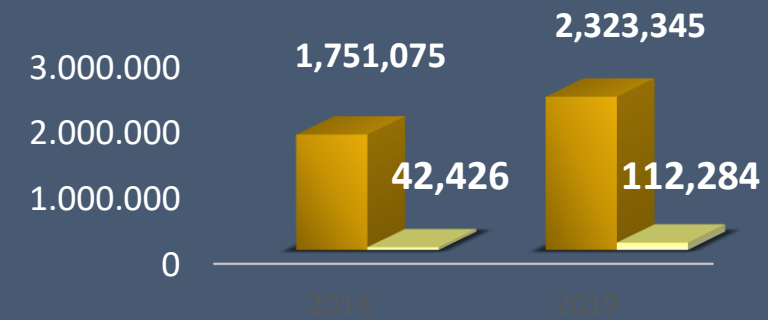
When products are exported, logistic activities are carried out according to the legal requirements of the countries they are being exported to.





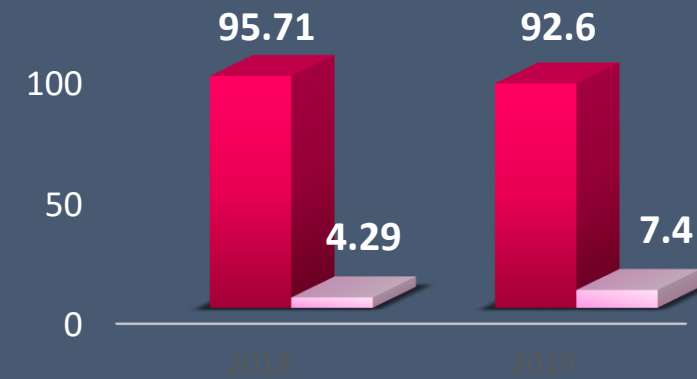
## Sales and Export Data

2018-2019 Net Sales Amount (tonne)



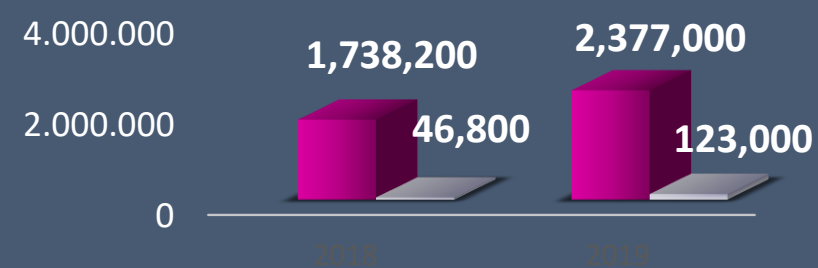
■ Soda Ash ■ Sodium Bicarbonate

2018-2019 Net Sales Distribution(%)



■ Exports ■ Domestic

2018-2019 Üretim Miktarı (ton)



■ Soda Ash ■ Sodium Bicarbonate

## Corporate Memberships

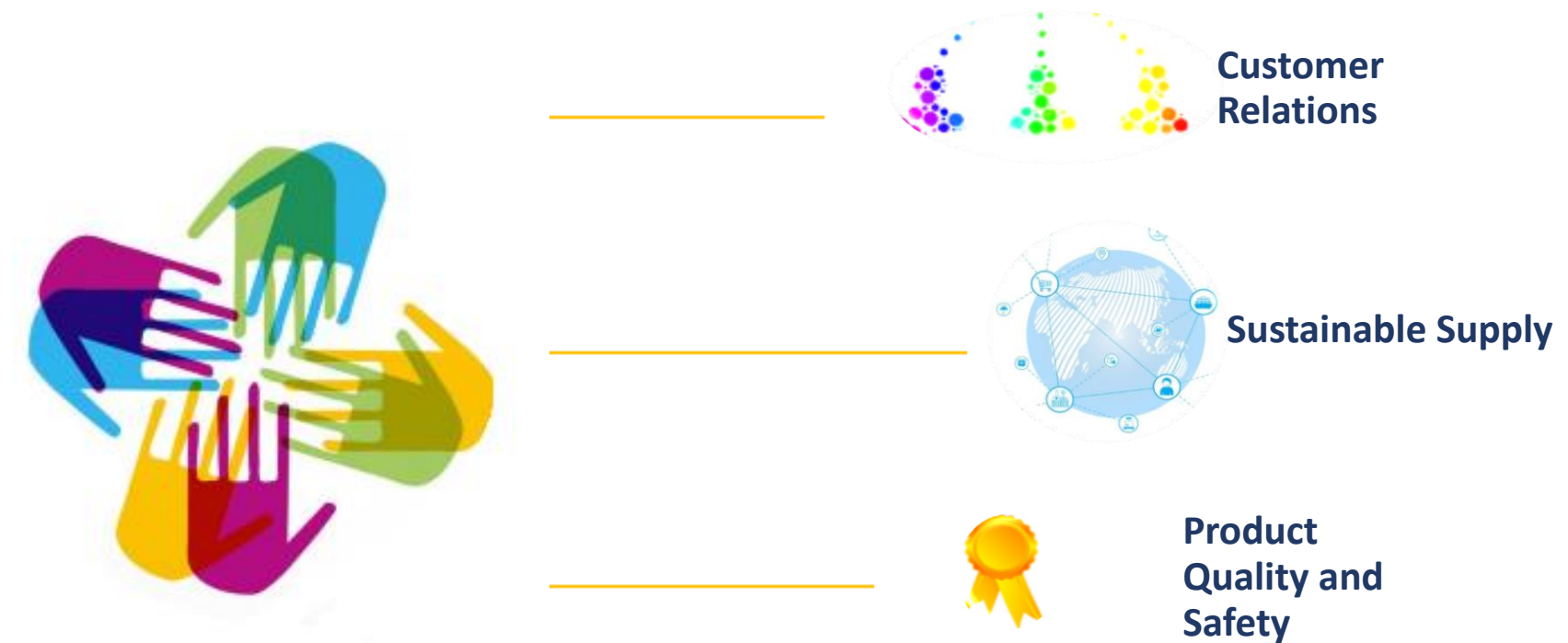
Ministry of Finance	Financial Data Sharing
Domestic Mining Development Foundation	Membership
Ankara Chamber of Commerce	Membership
Ankara Chamber of Industry	Membership
Turkish Statistical Institute	Financial and environmental data sharing, industrial production survey
AGED (Association of the Waste Paper Recycling Industrialists)	Environment contract
Turkish Cogeneration Association	Membership
SMRI (SOLUTION MINING RESEARCH INSTITUTE)	Pending Membership

## Value Chain Management

Kazan Soda Elektrik's supply chain entails 741 staff, more than 500 suppliers, and 23 distributors, one which is domestic and 22 which are abroad. We contribute to the improvement of all of our stakeholders by meeting their standards.

As a company with an annual production capacity of 2.7 million tonnes that exports to over 40 different countries, we aim to have a positive impact on the broad value chain we manage. Many joint projects are realized to benefit the development of employees, suppliers, local communities and distributors. As we are always required to present customers with the best products, product quality and safety also have their place on the value chain.

The current capacity and economic lifespan of the res underground trona reserves, which is the most important and only raw material required for production, is continuously monitored and tracked by the Mining Planning Department. In light of the continuous utilization of the mine, settling that may occur due to underground empty spaces that may develop is constantly monitored via measurements and these volumes are protected via sustainable applications.



### Stakeholder Remark

*‘For as long as we have worked with Kazan Soda Elektrik, I have witnessed first-hand the value that it has added in the area of sustainability to the environment, to communities, to employees and to stakeholders. The company gives priority to the needs and expectations of distributors while carrying out their commitments to sustainability, balancing the environment with their economic growth. We are proud to walk on this path together.’*

*Hakan Elkırımış / Main Chemical Sales Expert*

*VESKİM- İstanbul – Kazan Soda Elektrik's Distributor in Turkey*



## Sustainable Procurement

During all operation stages, from production to the logistics process, Kazan Soda Elektrik has adopted supplier management that is based upon mutual trust and cooperated, long-term relationships and development.

Completing activities in the high work standards defined by upper management and customer expectations, plays an important role in reaching the company's strategic targets. Within this scope, in order to support both corporate development and sustainable production third party confirmation of our adherence to ISO 14046 and ISO14064 is obtained.

The progress of all suppliers, dealers and distributors is contributed to and the positive impact on the value chain is magnified by increasing working principles to higher standards. In all supply and services procurement operations supplier risk management is applied based on risk analysis and, according to the level of risk, supplier questionnaires, visits or field audits are actualized.

All suppliers in the system are required to have the following system and product certifications: ISO 9001, ISO 14001, ISO 22000, BRC, ISO 27001, Turk Standardization Institution conformity, etc.).

Each year, our suppliers are analyzed by the Purchasing Department and are analyzed according to the Supplier Evaluation Survey. According to the points received in this survey, suppliers are given grades of A, B, C, or D. Suppliers that are slated in the A category are deemed as Approved Suppliers.

### ***Stakeholder Remark***

*We are proud of the collaboration we have with Kazan Soda Elektrik.*

*Amith Lalchund / Category Manager  
Protea Chemicals*



# Product and Quality Safety

Kazan Soda’s goal of being a world-wide preferred brand is ensured by meeting the requirements of product and service quality certifications including ISO 9001, 14001, 50001, 27001, 22000, OHSAS 18001, ISO/IEC 17025 management systems and product certifications including BRC, FEMAS, Helal Food, Kosher, NSF, TS 897, and TS 898.

All production activities are conducted in accordance with the ISO 22000 Food Safety Management System and HACCP Standards.

By allowing current and potential customers to view production first hand, on-site, briefings are given on topics such as production management, and quality and quality management systems. As such, Kazan Soda Elektrik, which is connected to consumers in over 40 countries with its soda ash and sodium bicarbonate products, can be audited upon request by its customers.



It is Kazan Soda Elektrik’s priority that its products are always safe and of high quality. Presenting products that are of world-wide accepted quality and safety and that the perpetuation of this quality and safety is ensured, is seen as a duty.

The latest technologies are used in production and mining production is carried out via 100% environmentally friendly solution mining. With our view of perfection in quality, during the production process and at the end of online production, checks are made in a laboratory environment and quality, safe products are consistently put forward.

In order to increase customer satisfaction, customer satisfaction studies are conducted on a product basis. The results of these studies impact the process of whether a product and its quality should be re-evaluated. Kazan Soda Elektrik Inc. ’s Quality Policy can be reached on our website.



# Customer Relations

Kazan Soda has a policy where all employees adopt the principles of customer satisfaction and customer focused business. In order to accomplish this, relevant business operations have been developed. Sustainable customer satisfaction is ensured through active, transparent and two-way communication with customers.

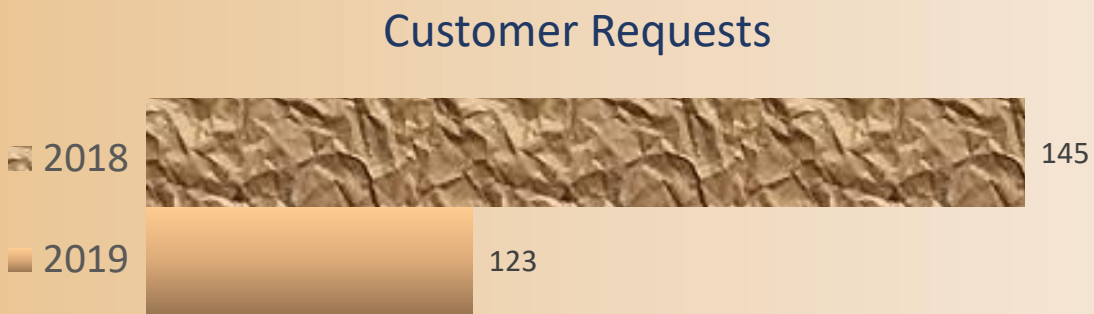
Within the scope of Customer Relations Management applications, identification of customer needs and expectations; determination of customer terms; assessment of customer suggestions and complaints; and the provision of sustainable customer satisfaction must be supported before and after sales.

Customer complaints are tracked by the Customer Relations Department and solutions are generated to prevent these complaints from reoccurring by ensuring communication between the complaint filers and relevant parties. Complaints are periodically reviewed and followed with the participation of senior management.

When customers visit our facilities they are accompanied by a team comprised of individuals from the Departments of Customer Relations, Quality Control, Sales and Marketing, Foreign Commerce, Logistics and Quality. In this way customer expectations, suggestions and complaints can be addressed on the spot.



The requests submitted to Kazan Soda Elektrik by customers via e-mail are actively managed. There were 147 requests in 2018, this number dropped to 120 in 2019.

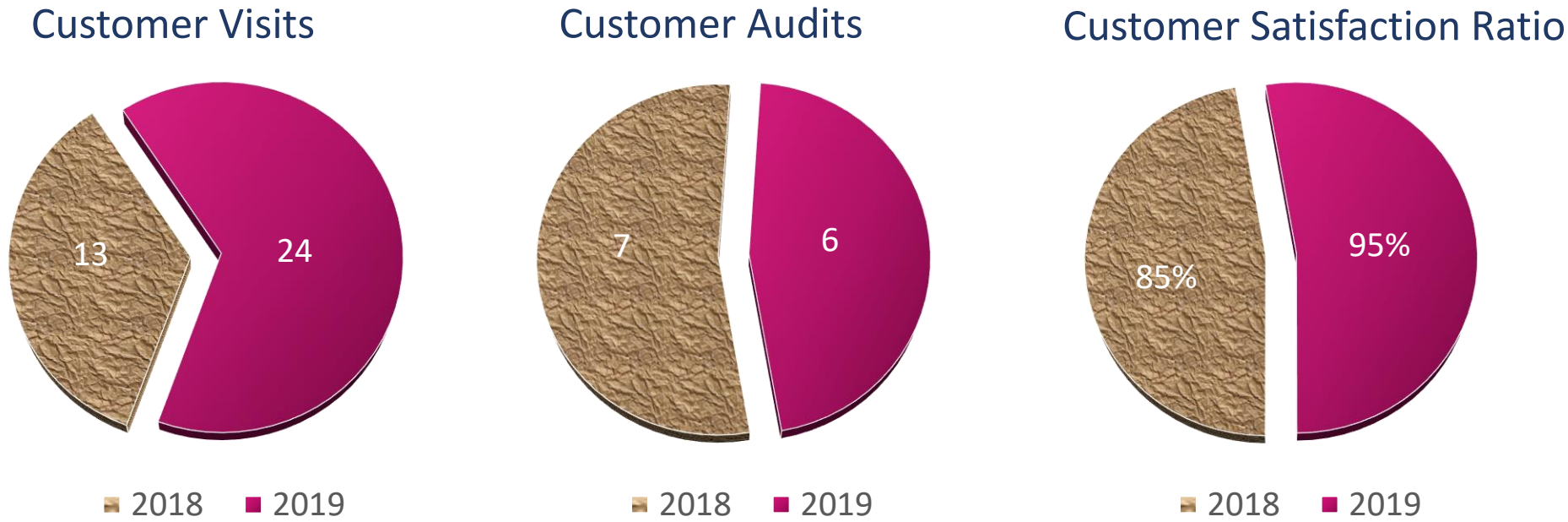


# Customer Relations

At the World Soda Ash Conference held each year in a different country, all soda ash customers and producers come together, providing the opportunity to meet with customers face to face. The company is introduced and promoted via presentations and new customers are acquired.

At this conference, which is attended by an extensive team from the Departments of Sales & Marketing, Customer Relations, Exports and Logistics and Quality Control and Production, customer questions are answered effectively and in multifaceted ways.

Customer satisfaction is determined via a survey that is conducted at the end of the year. Customers assess the company through questions under multiple headings including sales services, delivery operations, product quality and customer services. Additionally, they provide insight into which areas Kazan Soda Elektrik provides good services and in which areas it needs to improve. Survey results are evaluated, reported, and after consultation with the respective responsible parties and senior management, the required actions are taken.



Customer satisfaction rates were 85% in 2018, which was increased to 95% in 2019.





## Corporate Risk Management

When corporate risk assessments are being made at Kazan Soda Elektrik, domestic and foreign stakeholder expectations, business operations, product requirements, and the expectations of legal and regulatory bodies are all taken into consideration. In order to perform corporate risk assessments effectively and to determine risks that can arise from processes or from process interactions, work groups comprised of all operation managers and experienced workers are formed. As such, a Strategic Planning, Risk and Opportunity Identification Procedure is employed as a compass. Baseline assessments are performed via Strengths-Weaknesses-Opportunities-Threats Analyses, (SWOT Analysis).

With the awareness that the most effective way of protecting the environment, society, natural resources, institutions and individuals, risks must be identified and proper management, risk management is approached comprehensively with investments whose resources are studied and risk models are studied by expert teams.

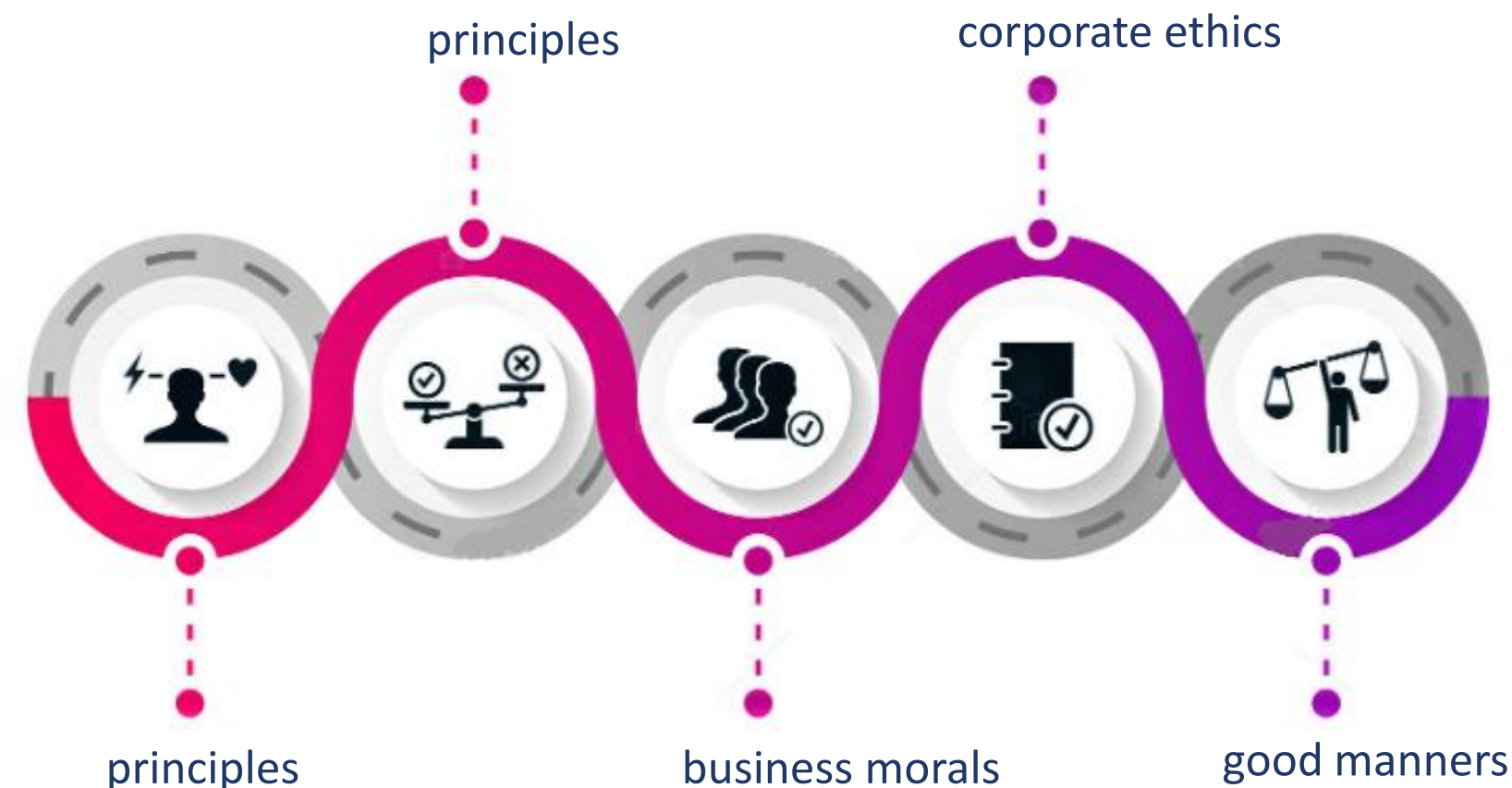
Risk and opportunity inputs are as follows:

Risk management approach is comprised of the following basic areas:

- » Business Continuity Management
- » Targets and Realizations
- » Needs, Suggestions, Expectations and Complaints of related Parties
- » Reputation Risk Management, etc.



## Business Ethics



Kazan Soda Elektrik acts with the forethought of creating a corporate culture in which the principles of ethical behavior are adopted by all. All stakeholders that are interacted with are approached with an understanding of national human and worker rights compliance, fairness and support for progress. All employees are valued by the company. No decisions, especially those regarding employment, salaries, trainings, promotions, discipline, retirement pensions and dismissals are based upon discrimination of race, religion, nationality, social class, age, gender, marital status, sexuality, political leanings, disabilities or pregnancy. Physical, psychological violence and/or verbal abuse towards workers or discipline punishments as a means of scaring employees are not allowed. When misconduct and or policy breaches are reported the required identify security conditions are met to prevent retaliation. Employees are encouraged to complain or make suggestions regarding their working conditions and to freely indicate any situation or subject that leads to dissatisfaction.

*All employees can apply via the Employee Suggestion and Complaint Notification Form or to the Ethics Committee either in written or verbal form of any complaints or reports related to the ethics implementations.*



## Code of Ethics

To transfer the ethical behavior principles adopted from the 10 fundamental principles of the United Nations (UN) Global Compact, on the job and awareness training is provided to all employees.

Procedures that contain the rules of ethics are shared with suppliers so that suppliers adopt and implement Kazan Soda Elektrik's principles of ethical behavior.

### Kazan Soda Elektrik's Principles of Ethical Behavior

- Protection of workers' rights and worker development,
- Protection of human rights and the environment,
- Support for civil society and the public welfare,
- Campaign against bribes, corruption, child labor and illegal land use,
- Protection of information confidentiality,
- Responding to customer needs and expectations in a feasible way, and
- Competition within ethical boundaries, avoidance of unfair competition, etc.



At Kazan Soda Elektrik the policy of performance management based on «Equal Pay for Equal Work» is applied. Pay scales according to title have been defined and salaries below these limits cannot be made.

Wages and overtime payments are carried out in accordance with all legal requirements. Salaries, overtime payments and additional benefits are provided to all employees on time and in full. No workers make less than the minimum wage. Employees are provided with payroll stubs showing their wages, overtime and additional benefits if they are applicable, and stoppages due to taxes and social security, each month.

Consent is obtained from workers for overtime hours. All hours worked above the legal weekly work hour limit are accepted as overtime and are paid accordingly. If workers have worked the work days as specified in law, then within every 7 day period at least 24 hours of uninterrupted time off is provided (the weekend). Overtime that is conducted on the weekend, general holidays, national and religious holidays is rewarded with time and a half pay.

## Our Employees

Kazan Soda Elektrik understands that investing in human resources and people ensures success in the future. In line with the mission of human resources, an all inclusive work environment that is equal opportunity, looks out for diversity, and is focused on progress. Relations between employees are based on the Human Resources Procedure whose foundations are justice, equality and honesty. As a company that has business in countries all around the world, we guide all of our operations in an ethical and transparent manner through its Business Ethics Principles.

Employees are designated into the appropriate department and position based on their know how and experience. Employees are rewarded for outstanding effort, performance and success with commendations, bonuses and promotions. When employees are assessed by department managers as having shown outstanding effort and success, commendations are given by the Human Resources Department. The reason for this commendation is listed and a note of it is made on the employee's record. Promotions are actualized by taking into account performance evaluations and findings on that employee's record.

### Diversity

Kazan Soda Elektrik aims to provide its employees with a work environment that is equal opportunity and respects diversity. As per the United Nations Global Compact, we are committed to provide a work environment that is just, equal, and respects human rights. In the human resources operations equal work and equal opportunities are present regardless of race, religion, language, age, nationality, ethnic identity or gender. We see the diversity and cultural varieties within the workforce as a vehicle for progress. At our plant of 741 workers, 84% are blue collar and 16% are white collar.







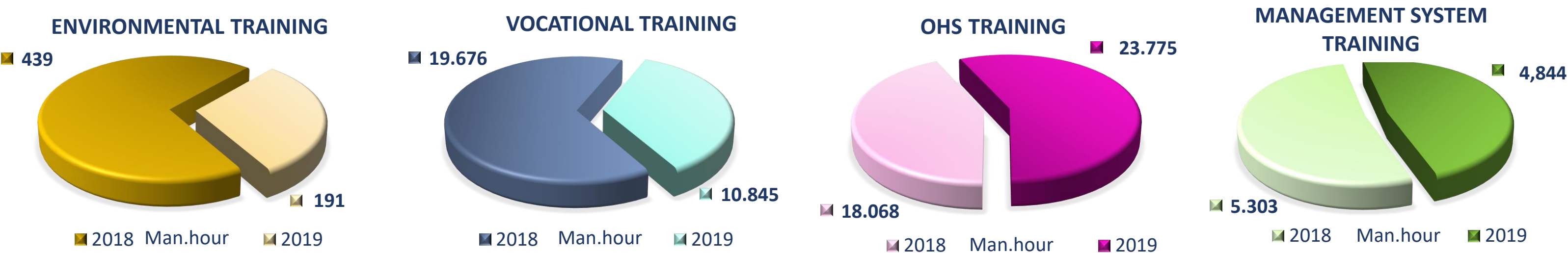
# Training and Development

Kazan Soda’s company principle of “Meeting employee training needs, contributing to personal growth, increasing employee satisfaction, ensuring department and company targets are met by generating team spirit within employees, increasing employee awareness of the environment and occupational health and safety" supports the development of employees.

The Human Resources (HR) and Training Departments generate a road map for effective managing and monitoring employee development processes.

In order to understand the progress all employees are making and to support this progress, performance is monitored and a proactive approach of encouraging employees to take initiative are being developed. The resources required for employee development are assessed and provided each year in the executive led Management Review meetings.

As per employee requests and requirements, training on the topics of occupational health and safety, the environment, vocational training, management systems and personal growth, are continuously provided each year by the Training Department.





## Employee Loyalty

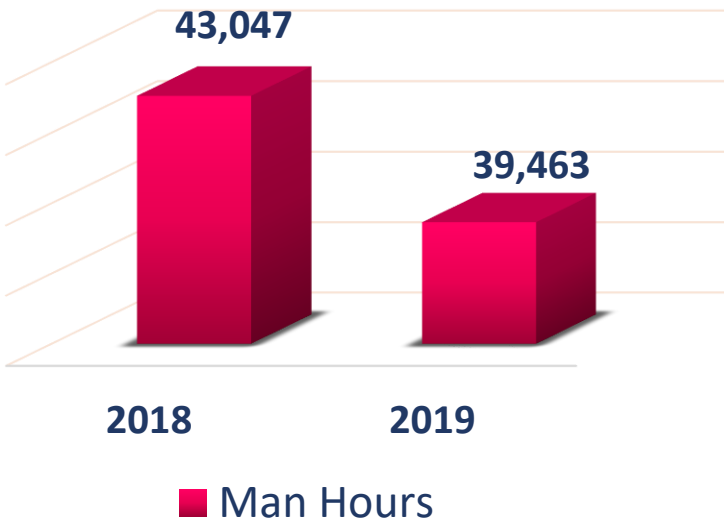
With Kazan Soda Elektrik’s HR Management innovative and sustainable approach of making employees feel valued, an environment of active communication and motivation is created in which employees can share their ideas.

As such, environments such as trips, parties, musical and sports activities are organized to allow management and colleagues to establish comfortable communication.

As required by the principles of ethical behavior, employees’ work and contributions to the system are regularly monitored via a performance assessment method that is built upon only objective evaluation criteria, that do not include any form of discrimination regarding religion, language, race, gender, or anything else. At the end of the assessment, employees are commended and rewarded with material compensation.

In order for employees to submit their verbal or written requests or complaints, the Ethics Committee has created Request, Suggestion and Grievance Boxes. Worker Satisfaction Surveys are carried out and evaluated by the Human Resources (HR) Department and are used to measure employee satisfaction. The results are passed on to management.

Training Distribution by Year



2018	Operational Personnel	Administrative Personnel
	38,021	5,026
2019	Operational Personnel	Administrative Personnel
	33,601	5,862

The Human Resources (HR) Department performs human resource planning, evaluates the current staff, decides whether manpower is sufficient and whether they will be sufficient for future requirements, draws up personnel profiles, selects potential employee candidates, carries out preparation work for hiring, and carries out performance assessments

## Occupational Health and Safety



Kazan Soda Elektrik aims to realize all steps of its activities in a healthy and safety work environment. In order to reach the goal of ensuring employee occupational health and safety, to reach zero work accidents and occupational diseases, risks are eliminated or reduced to levels that are acceptable by taking general and task specific occupational safety.



When giving an employee a task, the health and safety of that employee should be taken into consideration when considering the appropriateness of the task. Trainings to employees are provided regularly to instill a culture of occupational health and safety and to prevent accidents and injuries in the work place. New employees, employees whose duties have changed, subcontractor employees, and student interns are all given this training program.



The occupational health and safety rules at Kazan Soda Elektrik are applied to everyone in every position in the organization, including all stakeholders. An Occupational Health and Safety Unit has been established including a full time occupational health physician, A, B and C class occupational safety experts, and other health personnel in order to define and implement necessary occupational health and safety precautions as determine through proactive risk assessments; to prevent work accidents and vocational diseases; and to carry out protective health services to workers through first aid and emergency response.



Meetings are held at defined periods in order to increase the employee contributions to the system and to support the understanding of sustainable occupational health and safety management. Throughout the entire company Kaizen (Continuous Improvement) works are implemented.

### Accident Severity Ratio



**Accident Severity Ratio = (Total No. of days lost due to accidents / Total No. of man hours worked) x 1000**



# Kaizen Applications

## Kaizen-Continuous Improvement

Kaizen applications are executed by the Kaizen Committee in order for all employees to be make recommendations on the improvement and development of processes and methods that already exist within the company system; for these suggestions to be evaluated, and for those that are deemed fit, to be implemented. The Kaizen works have provided improvement in company production efficiency, energy efficiency, OHS, the environment and quality.



## Kazan Soda KIT (Kazan Improvement Teams) Teams

The Kazan KIT teams established by the Kaizen Committee derive solutions and ensure actions are taken through short meetings with on-site and with the appropriate departments. These solutions are defined through techniques including goal setting, baseline analysis, and problem solving. The teams address operational topics that support company goals, such as production losses, maintenance improvements, and/or other recommendations that are received by employees via the Kaizen Recommend and Win Form.



## Kaizen Recommend and Win System

The Before-After Kaizen and Kobetsu Kaizen improvement works carried out at Kazan Soda Elektrik are carried out by employees filling out Kaizen Recommend and Win Forms, which are collected in Kaizen Recommendation Boxes. Recommendations made by staff are reviewed weekly by the Kaizen Committee and when a project is completed, said staff are rewarded by the Committee.



**Kaizen Applications, which is a platform where employees, using their creativity, can present their ideas, identifying gaps that have been missed in tasks or task processes and developing solutions. This gives employees responsibility, the ability to prove themselves, and the ability to generate benefits through innovative and creative ideas.**





# Environmental Management





# Environmental Management

The mind set “Protecting the Environment and a Responsibility towards Future Generations” forms the foundation of the Environmental Management System. Here at Kazan Soda Elektrik we are proud of our facility here in Turkey that produces natural sodium carbonate and sodium bicarbonate using the environmentally friendly method of solution mining.

Internal company policies lead the way in environmental performance management. In addition to the approved corporate policies, all activities are in compliance with Turkish law.

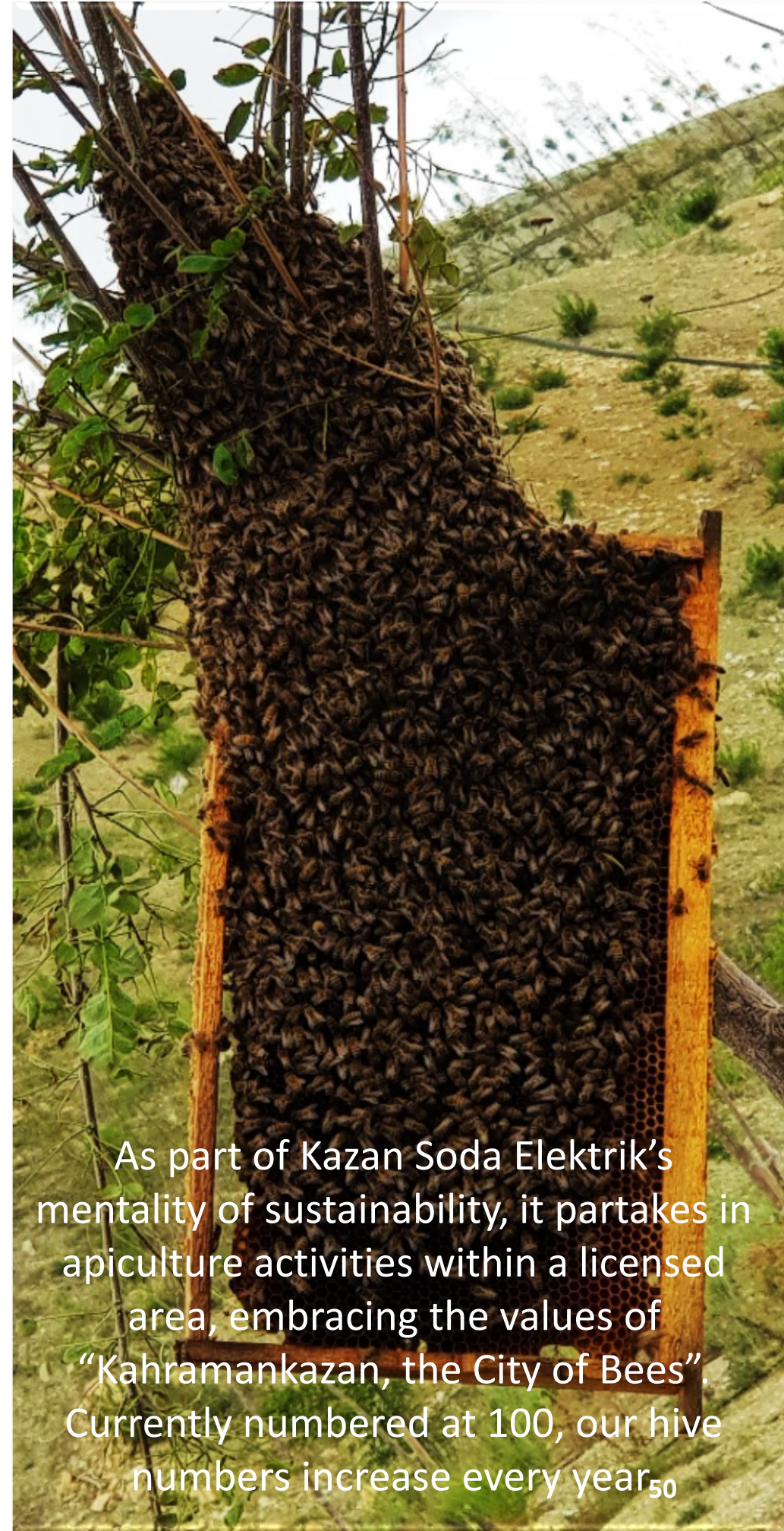
Kazan Soda Elektrik designs its business operations first and foremost according to the ISO 90001 Quality Management System and the international product and management standards it is integrated with including ISO 14001 Environmental Management System and ISO 50001 Energy Management System standards. The effectiveness of Kazan Soda Elektrik Management Systems is guaranteed audits conducted by independent

internationally accredited establishments and by company internal audits which are conducted periodically.

During the project the following goals were taken into consideration: low water consumption, waste minimization and recovery/recycling, low emissions, protection of sustainable agricultural land, and minimization of the impacts on the social community and living creatures in the impact area.

All of these factors were taken into consideration in our Quality, Operational Health and Safety, Environment and Food Safety Policies. All environmental impacts/aspects of our activities are taken into consideration and the resources needed to minimize these impacts is provided by management.

Having adopted the principle that wastes are a resource, opportunities for reuse are being identified. As a result of said works, waste amounts are being minimized.



As part of Kazan Soda Elektrik's mentality of sustainability, it partakes in apiculture activities within a licensed area, embracing the values of "Kahramankazan, the City of Bees". Currently numbered at 100, our hive numbers increase every year<sub>50</sub>



# Environmentally Friendly Production





# Environmentally Friendly Production



Through the solution mining technique, while performing mining activities underground, aboveground, by allowing the local community to use the agricultural land located on top of the mine, the already established agricultural production and animal husbandry activities are supported.



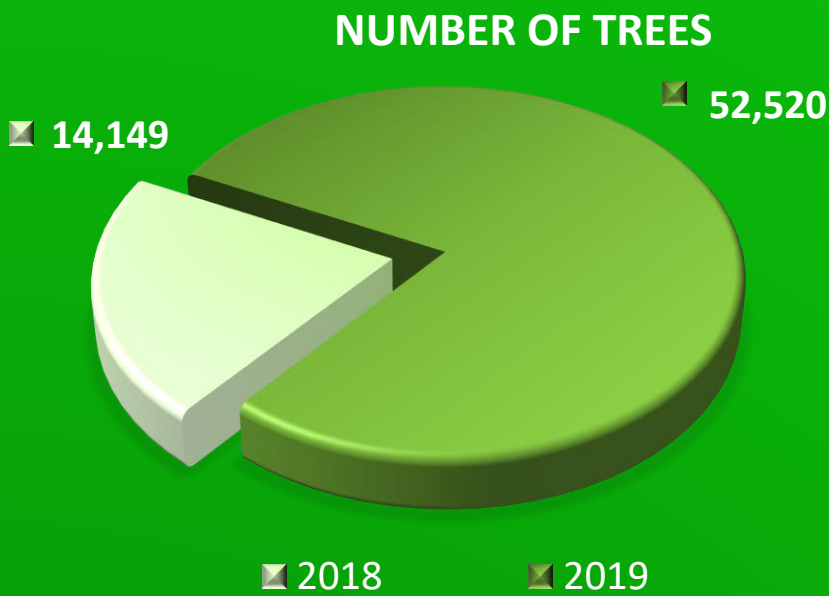
The CO<sub>2</sub> gas that is released when the sodium bicarbonate in the trona solution is transformed to sodium carbonate is utilized in the production of sodium bicarbonate. By reusing the process water streams in solution mining, natural resource consumption is reduced.



Solution recycling during sodium carbonate production is maintained at an optimum level. By-products formed during the production processes are added to the economy and a zero waste policy is applied.



By effectively tracking environmental performance, improvements are made in all areas. The Environment Management System is continuously updated by following new developments from around the world. Annual targets are determined in terms of environmental management throughout the plant. In order to ensure these targets are met, effective monitoring of environmental performance is realized.



As a result of Kazan Soda Elektrik’s sensitive environmental policy and social responsibility consciousness, terrestrial-aquatic biological diversity is protected and improved upon through the “Biodiversity Protection and Monitoring Project”.



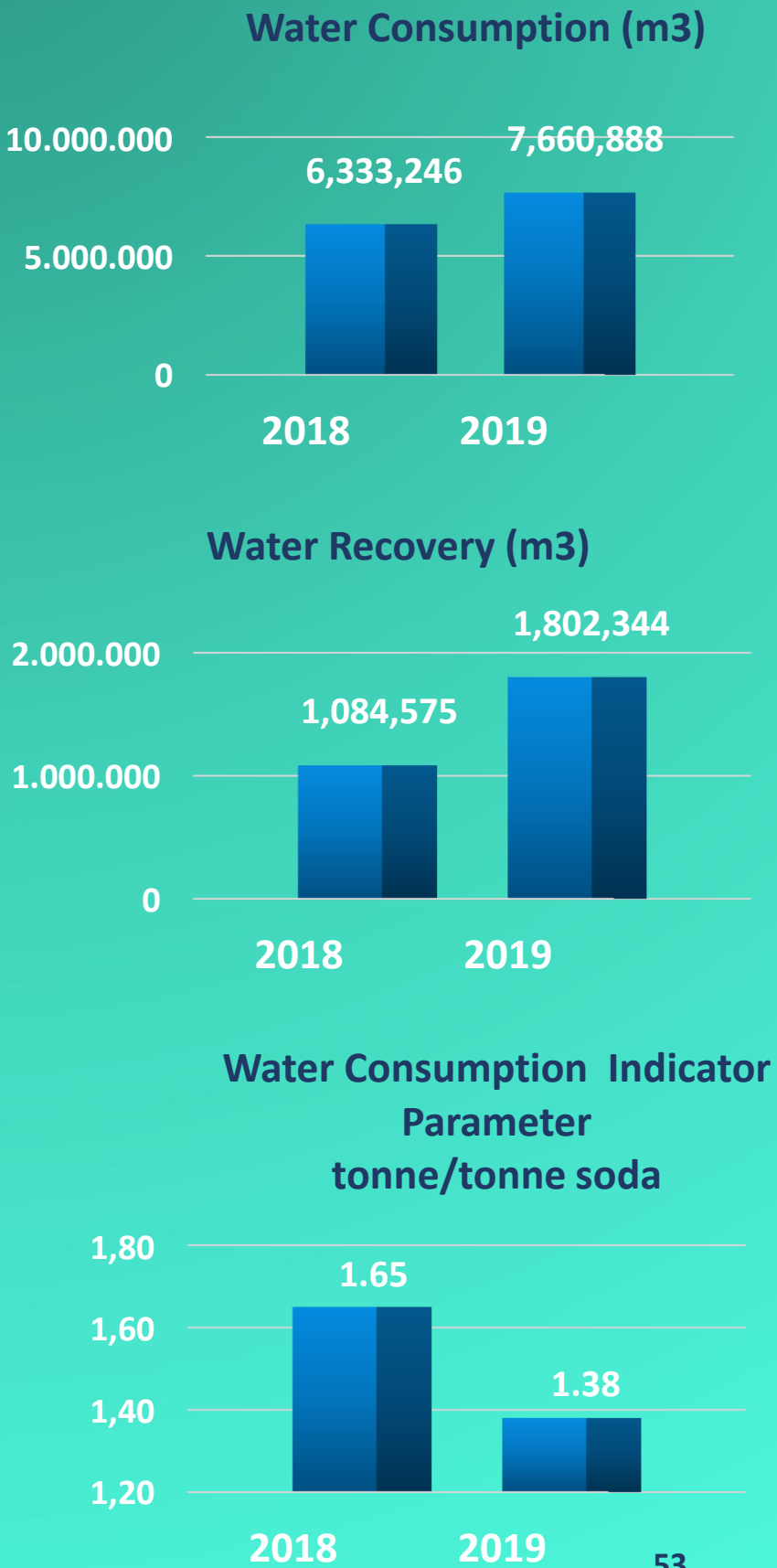
# Water Management

Water is the most important and necessary resource for the continuance of life. According to a report published by the United Nations Environment Program, over half of the world’s population will face water scarcity within the next 50 years.

Therefore, as Kazan Soda Elektrik we see that water used in every aspect of production is the most important gift we can pass on to future generations. In order to adapt our water management strategies to global change and to make them sustainable, questions regarding water are handled over a broad spectrum with adaptation being realized through new policies and corporate reforms. Once again, trainings provided to employees on water use increase employee awareness and knowledge.

In 2018, 1,084,575 m<sup>3</sup> of water was recycled within the plant. In 2019, this amount was increased to 1,802,344 m<sup>3</sup> through efficiency increasing projects. As a result this prevented the consumption of approximately 717,769 m<sup>3</sup> more of raw water. Through the efficiency increasing projects conducted in 2019, "Water Recovery" ratios were up 60% compared to the previous year. In 2018, a water management system was established to regulate the risks associated with water and to calculate the corporate water footprint in accordance with the ISO 14046 standard. Within this scope, the BSI verification institution confirmed the water data for the year 2018.

In order to recycle water, the production plant was designed as a closed system; steam used in production is condensed and is sent back to the mining and water treatment unit.



## Water Management

The Water Supply and Treatment Department is responsible for water management activity control and development, which are very important for the company. The supply, treatment, and conditioning of water according to the operations in which it is to be used are carried out by this department. Within this scope, it also generates and tracks work programs for the identification of corporate water risks and the execution of remedial actions.



A potential drought presents a risk for production activities. According to the Water Risk Atlas of the World Resources Institute (WRI), the Kazan-Sincan/Ankara region is categorized as level 4 regarding basic water stress, which correlates to a high (40%-80%) stress level. In turn, this gives us incentive to take new measures regarding water efficiency.

For the sake of water supply security, as an alternative to the Kurtboğazı Dam, the Kirmir spring has also been harnessed. Water analyses are carried out monthly by a third party accredited laboratory. The flow and volume of the water that is extracted from these sources, its use in production and the wastewater discharged are all monitored via meters and flowmeters.



Access to clean water and a hygienic work environment are an inextricable part of company Occupational Health and Safety Policy. All water parameter analyses are performed by the Quality Control Laboratory and are checked by the Water Supply and Treatment Department who then carries out any necessary mitigation measures.

With the Group Osmosis Kaizen Project that Kazan Soda Elektrik founded in 2019, by increasing the pure water production capacity, sodium carbonate production losses were prevented.



## Natural Resources Management

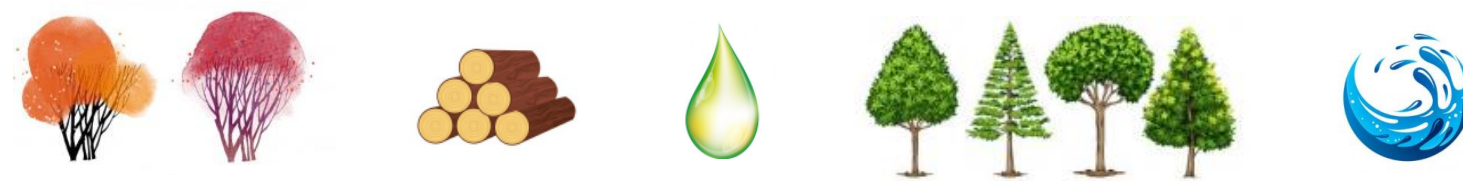
Within the scope of company operations, trona ore is extracted through the environmentally friendly known method of solution mining. After which it is subjected to various processes and sodium carbonate and sodium bicarbonate are attained.

With an annual production capacity of 2,500,000 tonnes of soda ash and 200,000 tonnes of sodium bicarbonate, in order to attain these products the plant used 10,073,713.4 tonnes and 12,830,618.5 tonnes of the raw material trona in the years 2018 and 2019, respectively.

Packaging of the main products (sodium carbonate and sodium bicarbonate) consists of wooden pallets and plastic packaging.

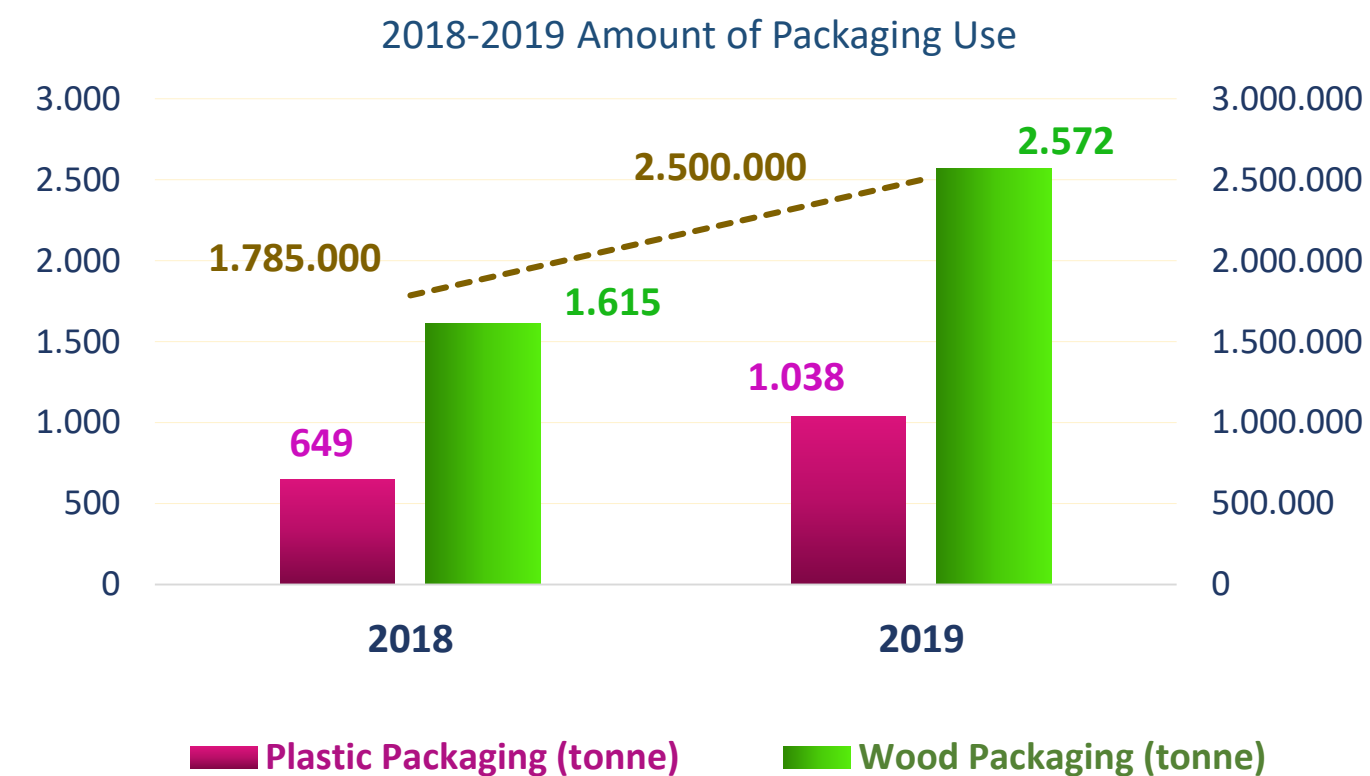
Each year the amount of packaging that is sent to market with our products and the plant's waste packaging materials are reported to the relevant public institutions.

In order to decrease the amount of natural resources used, all process waters are reused in the solution mining process.



Waste packaging materials are regularly removed from the plant via licensed companies to be recycled.

In order to save energy, all of the pipes through which hot solution, water and steam pass in the mining area and in the plant have been covered with polyurethane insulation and polyethylene. As per Environmental Policy, Kazan Soda Elektrik supplies its steam need via more environmentally friendly incineration technology of natural gas combined cycle plant.



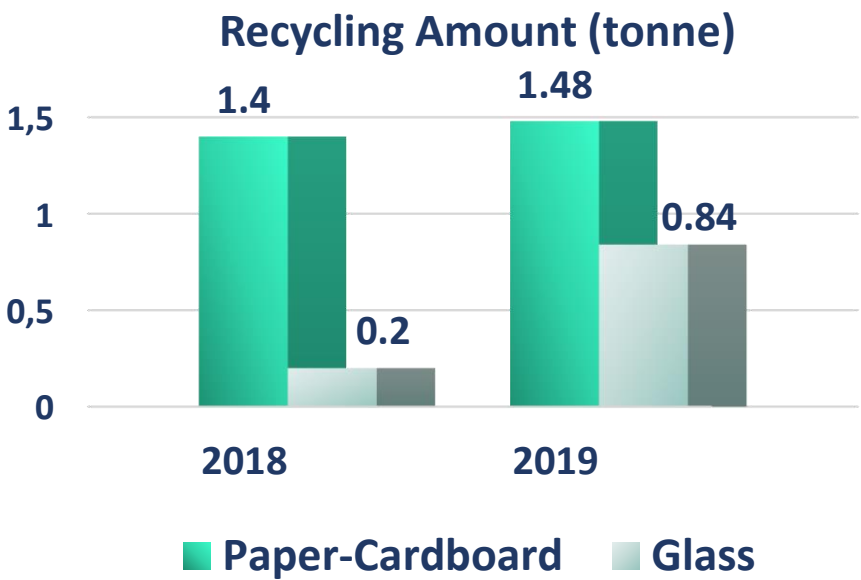
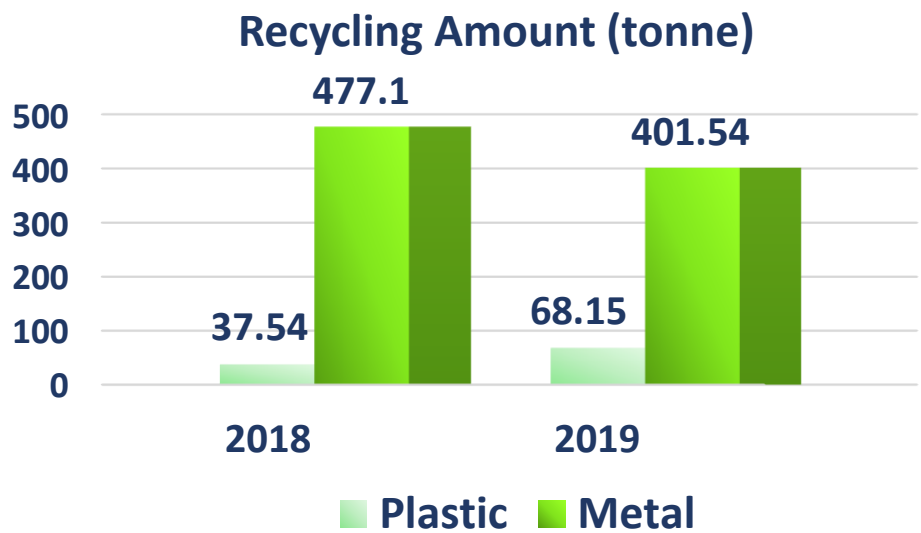
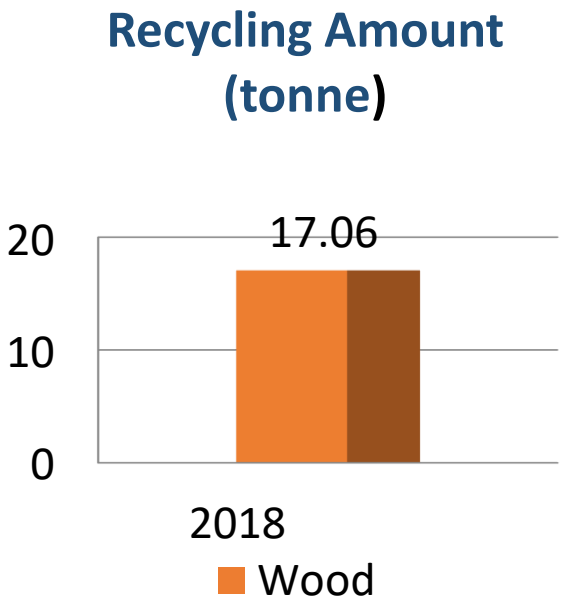
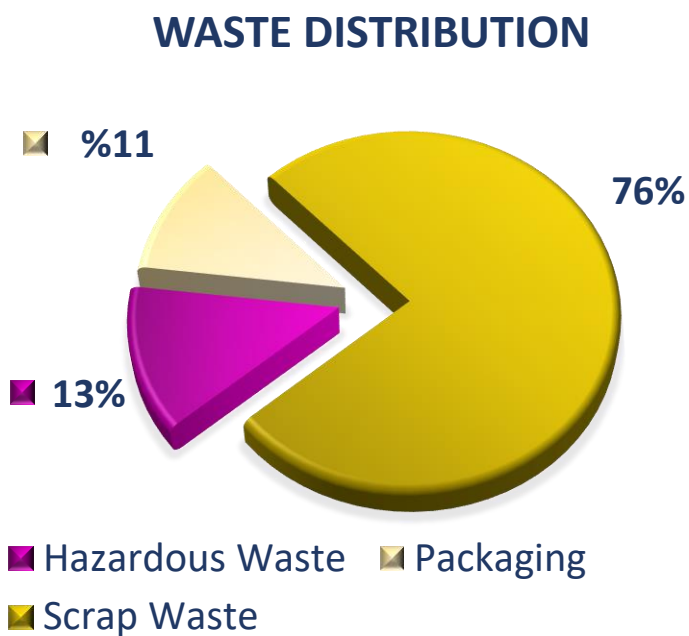
# Waste and Packaging Management

The Kazan Soda Elektrik waste management policy decreases wastes at the source, recycles and recovers waste when possible, and when this is not possible it disposes of wastes without negatively impacting the environment according to legal requirements.

As such, in order to reach targets, all employees receive training on environmental issues and activities are designed in order to generate and develop environmental consciousness. These works to increase the sense of responsibility for the environment continue to take place for all employees, no matter there position.

- By using the more environmentally friendly incineration technology, a natural gas combined cycled power plant to generate the steam requirements of the plant, waste ash generation is prevented.
- Bi-products resulting from company operations are not categorized as waste and their economic value is saved.
- As a result of using the solutions mining technique in the mining area, only trona is extracted, and wastes are prevented.

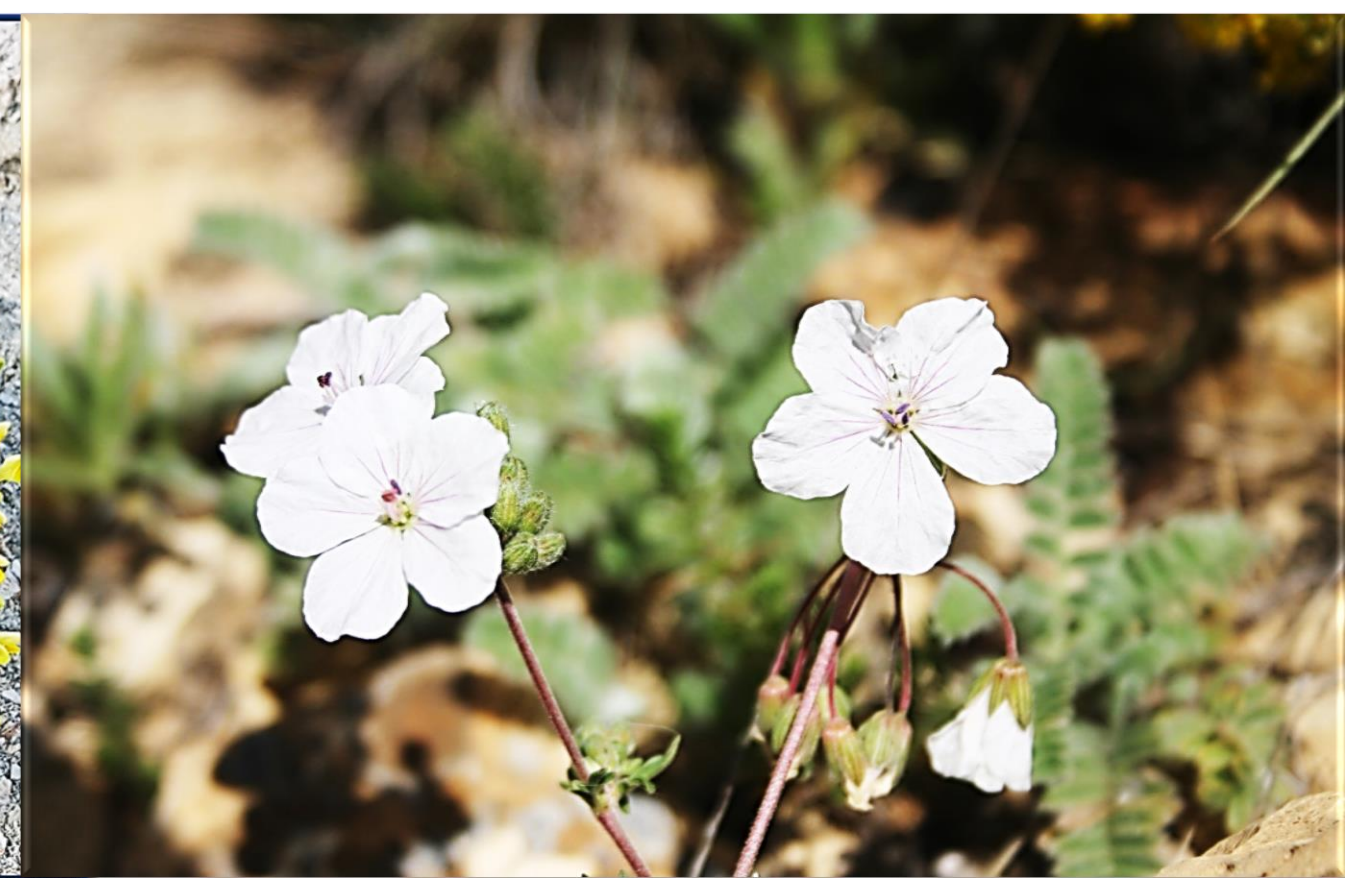
By decreasing the thickness of packaging and by optimizing the pallets that are used for carrying products, not only are environmental impacts limited, but cost savings are achieved as well.







## Biodiversity





## Biodiversity

As a result of Kazan Soda Elektrik' s sensitive environmental policy and social responsibility consciousness, terrestrial-aquatic biological diversity is protected and improved upon via the implemented “Biodiversity Protection and Monitoring Project”.

The seeds of the six local and regional endemic species identified within our area of activity (Campanula damboldtiana, Aethionema dumanii, Aethionema turcica, Scutellaria yildirimlii, Sideritis galatica, Salvia tchihatcheffii) were collected during the appropriate period by a team of academic experts and were submitted to the Turkey Seed Gene Bank.

In order to protect the endemic plant species that are distributed in the area of activity, an “Endemic Plant Protection Area” has been established, in which the habitat and species living within it are protected. In addition to this, some locally distributed species have been transplanted to this area to strengthen the population.

The area within the area of activity in which the best population of the species “Turkish rockrose (Aethionema turcica)”, which is endemic to Ankara, is found, has been placed under protection for the sake of protecting the area and to raise awareness.



Improvement works for the Biodiversity Protection and Monitoring Project that was started in 2019 with the awareness of environment protection, are ongoing.



## Climate Change and Energy Efficiency

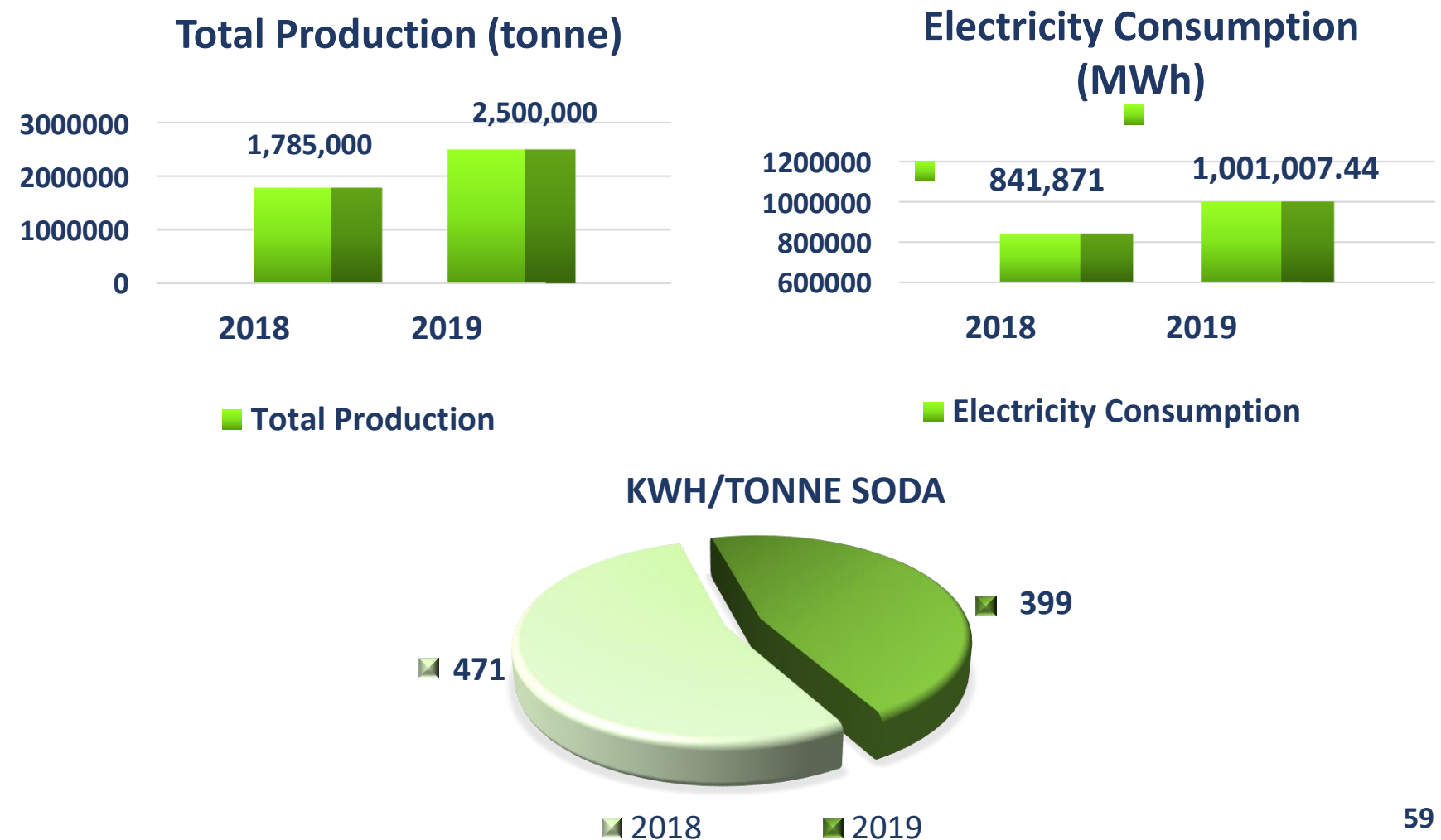
All of the steam and electricity required for the production of sodium carbonate and sodium bicarbonate are produced at the plant with the installed natural gas cogeneration plant. After all of the electricity needs of the plant have been met, the remaining 58% is sold to EPIAŞ and Park Cam, for Ankara's electricity needs.

Generation and consumption targets for the cogeneration plant are set and tracked by the Energy Generation Department. On the other hand, the Environment Department tracks the stack gas emissions online, 24 hours, 7 days a week, and reports to the relative ministry.

Kazan Soda Elektrik is aware of its responsibility to do its part in the fight against one of the biggest global problems of our age-climate change and global warming. The CO<sub>2</sub> gas that is released during the production of sodium carbonate is utilized when producing sodium bicarbonate via a closed circuit production method, resulting in significantly less carbon emissions and minimized environmental impacts. Each year during the reporting period, the greenhouse gas emissions are calculated and presented to the relevant official institutions. In the year 2019, the ISO 14046 standard Carbon Footprint and ISO 14046 standard Water Footprint were calculated voluntarily for company activity related emissions.

The information was confirmed by the data validation accreditation certification institution BSI via the on-site confirmation method, the carbon and water footprint reports were sustained and shared with stakeholders.

With its preventative environmental measures and targets set, Kazan Soda Elektrik aims to take its place among the firms leading the global fight against climate change and global warming. In 2019, while the production capacity increased by 40%, through improvement works the electricity needs per tonne product dropped by 15%.





# Community and Social Investments



Kazan Soda Elektrik, which gives great importance to social responsibility projects, lends its name to a variety of social responsibility projects each year. The social responsibility projects that were carried out in 2019 were actualized taking into consideration the local community's needs and requests and the awareness of environmental responsibility.

Kazan Soda Elektrik is located to the northwest of Ankara, in the vicinity of the İlyakut, Mülk, İncirlik and Fethiye Villages. The company attends to the local community very closely, providing all sorts of support.



With respect to Kazan Soda Elektrik's social responsibility towards education, the company provides 43 students with scholarships, including 35 at university, 7 in highschool and one in primary school.

Four hundred and forty fruit trees, 250 lavender plants, and a total of 52,770 trees were planted and it was aimed to protected and improve terrestrial-aquatic biodiversity through the "Biodiversity Protection and Monitoring Project".



It is targeted to increase the number of hives in the apiculture activities carried out as per Kazan Soda Elektrik's sensitive environment policy and social responsibility consciousness.

The necessary social facility, imam lodgings and watchmen's house were built in Fethiye Village.





# Performance Indicators

## Financial Tables

	Production Amount (Tonne)	Net Product Sales (Tonne)	By Regions (Tonne)			By Product Group (Tonne)	
			Turkey	Europe	Other	Soda Ash Dense	Sodium Bicarbonate
2018	1,785,000	1,793,501	76,900	1,008,537.53	708,063	1,751,075	42,426
2019	2,500,000	2,435,629	180,345	1,245,848.75	1,009,435	2,323,345	112,284
	Total Short Term Obligations (Million €)	Total Obligations (Million €)		Investment Expenses (Million €)	Personnel Expenses (Million TL)	Investments for Society's Benefit (Million TL)	
2018	1,765,642,678.32	6,592,656,088.21		991,544,529.57	42,079,867.88	1,331,970.44	
2019	1,032,053,454.58	5,931,768,553.21		332,804,135.25	65,596,500.29	427,376.13	



Performance Indicators

Social Data

	Distribution of Workers according to stature			Distribution of Workers by Contract Type			Distribution of Workers by Gender			Distribution of Workers by Age				Distribution of Workers Native vs. Foreign		
	Blue Collar	White Collar	Total	Perm.	Temp.	Total	Male	Female	Total	<30	30-50	50<	Total	Native	Foreign	Total
2018	560	97	657	565	78	657	603	54	657	311	299	47	657	580	77	657
2019	622	119	741	665	76	741	675	66	741	322	363	56	741	667	74	741

	Average Age by Worker Categories			Average Seniority by Worker Categories			Distribution of Native vs. Foreign Senior Managers			Distribution of Senior Managers by Gender ( %)		Worker Circulation (%)
	Senior Managers	Junior Managers	Experts and Officers	Senior Managers	Junior Managers	Experts and Officers	Native	Foreign	Total	Female	Male	
2018	43	31	36	8	4	4	16	0	16	%31.25	%68.75	%28.26
2019	46	32	35	9	4	4	19	0	19	%26.18	%73.68	%12.74



## Performance Indicators

### OHS Data

	Work Accident Severity Rate (1)		Work Accident Frequency Rate (2)		Work Accident Severity Ratio (3)		
<b>2018</b>		6,462		119		6.46	
<b>2019</b>		238		27.9		0.24	

	No. of Work Accidents	Work Accident Days Lost	Manpower Hours Worked	Total Production (Tonne)	Total No. of Employees within 12 Months	Accident/ Million Tonne Production	General Accident Ratio (4)
<b>2018</b>	151	8,198	1,268,732	1,785,000	7,585	85	1,991
<b>2019</b>	39	333	1,397,611	2,500,000	8,649	16	451

**(1)** Work Accident Severity Rate = (Total No of days lost due to accidents / Total No. of manpower hours worked) x 1,000,000

**(2)** Work Accident Frequency Rate = (Total No. of accidents / Total No. of manpower hours worked) x 1,000,000

**(3)** Work Accident Severity Ratio = (Total No of days lost due to accidents / Total No. of manpower hours worked) x 1000

**(4)** General Accident Rate = (Total No. of work accidents / Total No. of workers) x 100,000



Performance Indicators

Environmental Data

	Wastes (tonne)					Domestic Treatment (legal limit: 120 mg/L)	Industrial Treatment (legal limit: 150 mg/L)	Wastewater (m3)	
	Hazardous	Medical	Scrap	Packaging	Total			Domestic	Industrial
2018	95.184	0.119	477.1	56.2	533.3	71.165	31.57	83,949	-
2019	80.713	0.098	412.5	59.51	472.01	29.43	27.25	91,250	-

	Greenhouse Gas Emissions (tonne CO2/ tonne dense soda)	Consumption Values									
		Total	Trona (tonne)	Trona (tonne/ tonne soda)	Energy (kWh)	Energy (kWh/tonne soda)	Water (m3)	Water (m3/tonne soda)	Plastic (tonne)	Plastic (tonne/ tonne soda)	Wood (tonne)
2018	0.8792	10,073,713.40	5.64	841,871	471	6,333,246	1.65	649,074	0.0004	1,614.972	0.0009
2019	0.6260	12,830,618.50	5.13	1,001,007	399	7,660,888	1.38	1,038.378	0.0004	2,571.621	0.001





Those that love their country the  
most, are those that perform their  
duty the best.

-M. Kemal Atatürk

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