

WATER AND SERVICE QUALITY

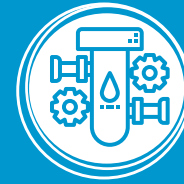
- Water quality
- Customer satisfaction
- Environmental management
- Protection of water sources
- Water security and risk management



Water and service quality

Water is the most important natural resource in our business. Obtained from surface and underground sources, it is treated and distributed to our customers for consumption and used in a wide variety of daily activities. After being used, potable water becomes sanitary sewage, which we collect and treat so that it is returned to the environment without causing damages or negative impacts.

Crucial to the continuity of our operations, the availability of water is a risk factor that we continually monitor. Through participation on committees managing drainage basins in the regions where we operate, we work to contribute to improving management and shared use of water.



Our actions to reduce internal consumption of potable water

- Internal campaigns to raise employee awareness

- Reuse of water to wash filters

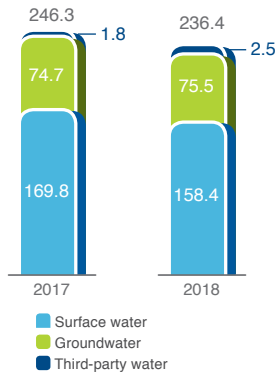
- Reuse of water to dilute chemical products used to clear out and clean wastewater systems

- Use of rainwater to wet dirt roads at the Civil Construction Waste Valuation Unit in Grajaú, which receives civil construction waste, preventing dust from being emitted. In 2018, 21,600 m³ of treated water was spared from use because of this solution

In 2018, we collected a total of 236.3 million cubic meters (m³) of water, which is 4% less in volume than the total collected in 2017. This reduction was made possible by improvements to systems and by loss controls in the distribution system.

We have adopted practices at our units and we train our employees on reducing consumption and reusing water in operational activities whenever possible, such as when washing filters and other equipment. In 2018, water reused reached a volume of 1 million cubic meters, corresponding to 17% of all water we used in internal processes and activities at water and wastewater units.

TOTAL WATER COLLECTION (MILLIONS OF M³)*



*The entire volume of water collected is considered fresh water, since its total concentration of dissolved solids is equal to or less than 1,000 mg/l.

143
WASTEWATER
TREATMENT
STATIONS

590
POINTS OF
SURFACE AND
GROUND WATER
COLLECTION

348
WATER SUPPLY
SYSTEMS



Unit in Pernambuco state

EFFICIENCY AND SUSTAINABILITY IN THE UTILITIES SECTOR

Serving customers in the country's key industrial sectors, in the utilities segment, promotes sustainability and efficiency in water consumption in Brazil. By offering services and technologies to produce reuse water and treat liquid effluents, we support mining, iron & steel, petrochemical and pulp & paper companies in being more productive and sustainable.

One of our assets is Aquapolo, the largest operation producing reuse water in Latin America. Located in the ABC metro region of the city of São Paulo, the unit supplies 650 liters per second to industries in the petrochemical complex of the city of Mauá and to other customers located along the water main. Production is done by reusing the effluent from the ABC Wastewater Treatment Station, held by Sabesp, a BRK Ambiental partner in Aquapolo, making it so that less of this effluent is returned to water bodies.

In the city of Jeceaba (MG), we are responsible for the design, construction and operation of the largest third-party utilities center for the iron and steel industry. The unit sees average water circulation in its systems of around 98%, which accounts for over 100 million m³ of water reused in 2018.

In Rio Grande do Sul, we operate the Águas Triunfo Distributor, serving companies in the South Petrochemical Complex. This unit provides clarified water that is used in thermal exchange processes, demineralized water for steam generation, and drinking water.

Aquapolo (SP)

Water quality

The quality of water supplied to our customers and the quality of effluents sent to water bodies, after undergoing treatment at unit stations, are constantly monitored and is a priority in operational management. Every month, we report information on the quality of water distributed on water bills, along with the number of analyses performed and compliance with potability standards, as defined by Brazil's Ministry of Health.

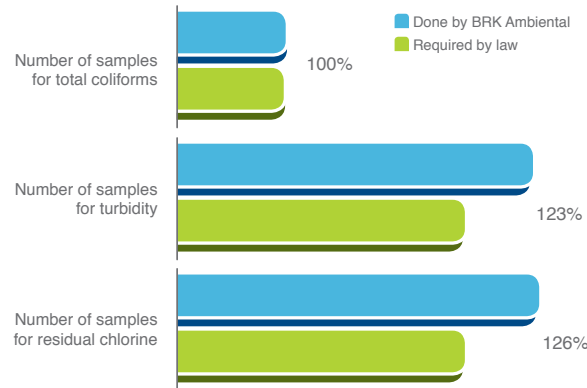
Our customers have clear access to parameters that include turbidity, chlorine amounts, color, pH and others, in compliance with industry regulations. Every year, in the month of March, we publish the Annual Water Quality Report, with information on water quality, information on the source of water collection, the treatment process and relevant data on improvements made to the water production system and planned investments.

To guarantee the quality of water and of the supply service, we have a management and monitoring system with various indicators, following the standards and frequency of analysis established by federal, state and municipal laws. Some of these aspects vary according to the city served, which is why units act diligently in order to guarantee the compliance of their operations. Flow and losses in the distribution system are among the indicators assessed, supporting continual improvement plans and increased efficiency.



Rio das Ostras unit (RJ)

WATER QUALITY ANALYSIS*



+
720,000
SAMPLES
ANALYZED
IN 2018

*Proportion of tests done by BRK Ambiental in relation to the number required by law.

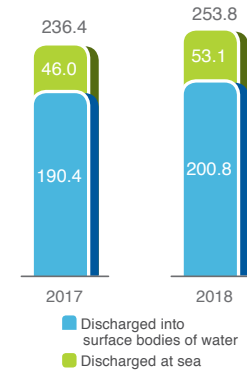


PROCESSES TO ASSESS THE QUALITY OF WATER PROVIDED AND OF TREATED EFFLUENTS COMPLY WITH MINISTRY OF HEALTH REQUIREMENTS AND WITH LOCAL LAWS APPLICABLE TO EACH OF OUR CONCESSIONS

The monitoring process also assesses quality parameters for the effluent returned to water bodies after processing in our wastewater treatment stations. At units located in Tocantins, analysis includes assessment of water quality at anterior (upstream) and posterior (downstream) points from the location where our wastewater is discharged, aimed at guaranteeing there are no negative impacts on the quality of these receiving bodies.

In the cities of Blumenau (SC) and Rio Claro (SP), our control extends to the characteristics of the effluent released into the collection system by industrial customers, evaluating the presence of organic and inorganic elements that could compromise the quality of wastewater treatment at the station. This monitoring is done by the TARESC (the Portuguese acronym for Effluent Receipt Acceptance Agreement) Program, an effective tool for the industrial effluent to be closer to the conditions of sanitary sewage, reducing incidents of blockages in collection systems and problems at treatment stations, which are not equipped for this type of effluent.

EFFLUENTS DISCHARGED (MILLIONS OF M³)*



**The entire effluent discharge volume is considered fresh water, since its total concentration of dissolved solids is equal to or less than 1,000 mg/l.*

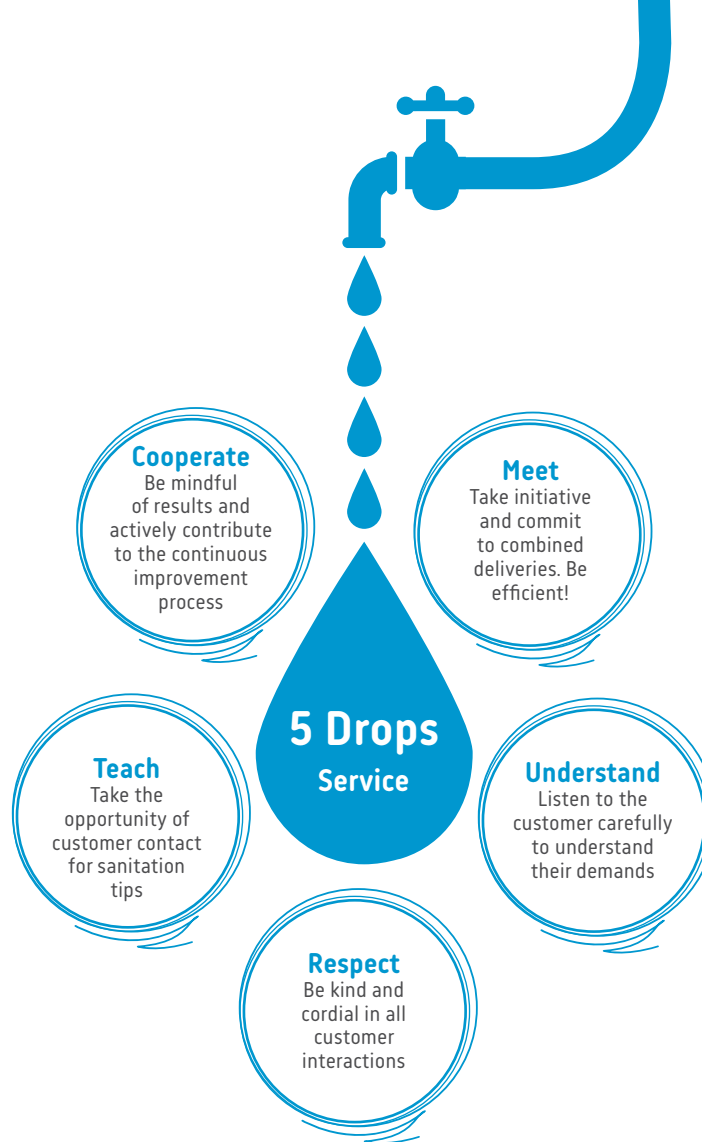
In 2018, a total volume of 253.8 million cubic meters (m³) of treated effluents was returned to water bodies by our operations. This 7.4% increase in relation to the previous year is positive, insofar as it reflects expansion of the wastewater collection and treatment system at our units.

Customer satisfaction

Our management model places the customer at the center of strategic decisions, focusing on excellence in service delivery and customer satisfaction at all points of relationship with the company. The actions and projects we develop for this purpose are included in the program “Hello! BRK ” (Olá! BRK), focused on employee training, the implementation of new technologies for service and increased efficiency.

The application of digital tools makes it feasible, for example, to understand the main demands and segment customers by profiles, aiming at the creation of more targeted and empathic debt collection rules. With business intelligence and machine learning techniques, we have also developed more agile programs for changing water meters. In addition to increasing people's satisfaction, these initiatives reduce financial losses and make debt negotiation more efficient.

Another action included in the program is the “5 Drops Service” (Atendimento 5 Gotas), which brings together the conducts to be followed by everyone who relates to BRK Ambiental's clients.



The benefits of the “Hello! BRK” materialize in various numbers



Increase of 5 percentage points in the average number of attendances made through the new BRK Ambiental website, designed to facilitate and stimulate access to online services.



Winner of 2nd place in the National Teleservices Award – ABT, in the “Service Operations” category. The event brings together the companies that performed outstanding actions to achieve excellence in customer relationships.



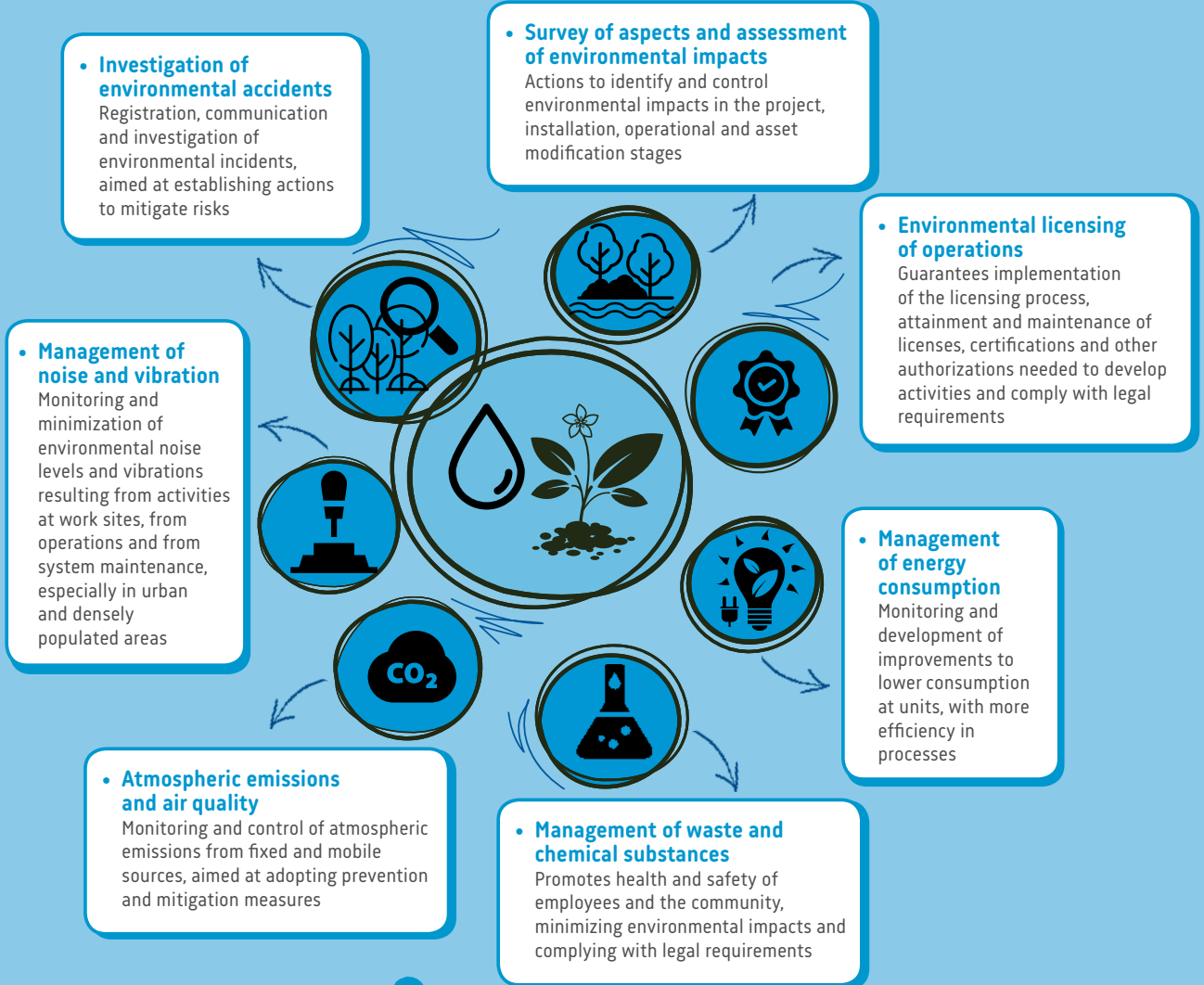
In Sumaré, the pilot unit for the implementation of the program, the 0800 satisfaction rate increased from **88% to 93%**.

Environmental management

In addition to water, a central matter at our business, we monitor and manage other environmental aspects connected to our activities. With the organizational restructuring we began in 2017, this management began to rely on greater centralization, aimed at standardizing processes and sharing good practices. Units are responsible for the execution of operational activities, according to corporate guidelines and applicable laws and regulations.

This work is done with the support of two modern software programs we use to manage the entire environmental licensing process for works and for systems that are already installed as well as legal aspects of health, safety and the environment. Using these tools, we monitor compliance with over 5,200 conditions for licensing and we transparently and efficiently maintain around 720 documents that assure our operations' compliance.

Among topics we observe in our environmental management are:

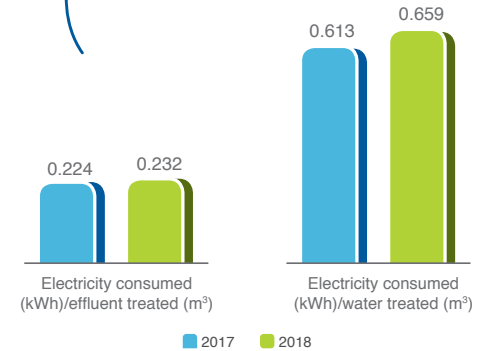




Macaé unit (RJ)

**1.06
MILLION OF GJ
OF ELECTRICITY
CONSUMED
IN 2018**

**ENERGY EFFICIENCY
IN OPERATIONS**



Electricity is essential to water treatment, wastewater pumping and effluent treatment operations, among other operational activities. In 2018, total electricity consumption was 1.06 million gigajoules (GJ), up by 7.7% compared to the previous year. This increase reflects expansion of the wastewater treatment system at units and increased consumption at the Aquapolo and Jeceaba utilities units.

Our units have worked to reduce consumption through initiatives such as changing out conventional light bulbs for more efficient LED bulbs and installation of more efficient equipment for treating effluents and odors.

Despite these efforts, we saw an increase in relative power consumption and we are working to develop and implement action plans to enhance our performance.

In addition to electricity, we also monitor consumption of fuels needed by vehicle fleets and to move equipment used in works and services. In 2018, total rates remained unchanged compared to the year prior, with a notable decrease in natural gas and an increase in ethanol to power the fleet, which is the result of replacing fossil fuel with a renewable resource.

Energy generated from fuels (GJ)	2018	2017
Renewable resources		
Ethanol	12,278.2	8,179.9
Non-renewable resources		
Diesel	80,565.6	83,406.6
Gasoline	66,160.8	68,311.4
LPG	64,104.5	64,104.5
Natural gas	19.9	217.6
Subtotal	210,850.8	216,040.1
TOTAL	223,129.0	224,220.1

Protection of water sources

The activities we carry out of planting and recovering degraded areas, under the auspices of environmental management of our activities, contribute to preservation of wellsprings and the water bodies from which we remove water used in operations. These actions, which are in compliance with units' environmental licensing requirements, benefit local communities and amplify the positive impacts of our business model.

Our unit in Cachoeiro de Itapemirim (ES) is developing a project in partnership with the National Forest (or Flona) of Pacotuba, a conservation area of 449.44 hectares, maintained by Instituto Chico Mendes (ICMBio), to create a seed production area (or APS, its acronym in Portuguese), which will serve regional demand for seeds of native species.

This work consists of identifying and demarcating species suited for collection of seeds, which will be processed and taken to the Flona nursery to produce seedlings. In the project's current stage, seeds have already been cultivated and seedlings are in the growth phase and will later be planted in an area before being used in pastures and within the conservation unit's management zone.

**IN AN EFFORT TO PROTECT
WELLSPRINGS AND WATER SOURCES AND TO
GUARANTEE OPERATIONS' COMPLIANCE WITH
ENVIRONMENTAL REGULATORY REQUIREMENTS,
WE PROMOTE ACTIONS TO PLANT SEEDLINGS
AND RECOVER AREAS AT OUR UNITS**

*Cachoeiro de
Itapemirim unit
(ES)*





LIMEIRA (SP)

40,000
seedlings
planted
from 2017
to 2018

- 20,000 set to be planted in 2019
- 2.6 hectares under recovery process

RIO CLARO (SP)

8,853
seedlings
planted
(5.31 hectares)

- 950 to form a green belt
- 7,903 on preservation areas and private rural properties

MACAÉ (RJ)

1.1
hectare
monitored
(1,600 seedlings
were planted
in 2017)

CHAPADINHA (MA)

1,796
seedlings
planted
(2.3 hectares)

SUMARÉ (SP)

93
seedlings
planted
(0.1 hectare)

Water security and risk management

In 2018, we began a study in the state of Tocantins to develop a new assessment model for water security and availability to serve the public. Our goal is to evaluate the current situation of the Water Supply System in the region, where raw water collection takes place, and to design a long-term scenario (in 2036), considering aspects such as changes to land use, assessment of climate changes, risk analysis, hydrological monitoring plan and alternative solutions to guarantee water security.

In the study's first phase, which was finalized last year, we analyzed primary and secondary data on rain and flow in the region and identified the outlines of drainage basins, defining a hydrological monitoring plan. We also built models for regionalized analyses of data on water flow and water availability.

In the subsequent phases, we will study historical land use and occupation in the region, in an effort to evaluate the impact on water availability over time. We will also build a model to simulate rain volumes and flow in the basin, calibrating information with primary data obtained in field studies and creating a tool to assess water availability and risk analysis. With the support of these analyses, we expect to have grounds to propose measures and action plans to increase water security to supply the local population.



A STUDY THAT BEGAN
IN 2018 IN TOCANTINS
WILL LOOK AT THE CURRENT
WATER SUPPLY SITUATION TO PROJECT
A LONG-TERM VIEW (18 YEARS)

Saneatins (TO)