



WATERWORKS Kraków



*WITH YOU.
Every day.*

IN KRAKÓW
GOOD WATER
straight from the tap



prostozkranu.krakow.pl

WITH YOU.
Every day.

Kraków Waterworks is a modern and leading company among the biggest water enterprises in Poland. It is financially stable, uses state-of-the-art technologies, carries out multimillion investments, as part of long term strategies. Nowadays, the company stands as a synonym of quality and safety of supplied services.

Respect towards the environment's resources and its responsible usage are values transmitted to younger generations by the Kraków Waterworks. Multiway educational activities cover various age groups. Programs, which include: „The Droplet Academy”, „The Droplet's travel”, „It won't fit in a sewer!” and „The Bathyscaphe expedition. The Skratek mission.” are about forming the environmental awareness of children and youth.

The company publicises the product's high quality, and the safety of Kraków's residents in terms of water supply through the „In Kraków good water straight from the tap” campaign.

The campaign „It won't fit in a sewer!” highlights the issues of the usage of urban sewerage and sewage treatment.

Every year, the Kraków Waterworks is a winner of prestigious competitions and plebiscites. For many years, the company has been awarded with the „Fair Play Enterprise” title.



INFRASTRUCTURE



2 263 km
of water supply system



1 906 km
of sewage system



4
water treatment plants



2
sewage treatment plants



47
water system tanks



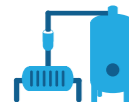
5
local sewage treatment plants



3
water pumping stations



77
sewage pumping stations



25
pressure boosting stations



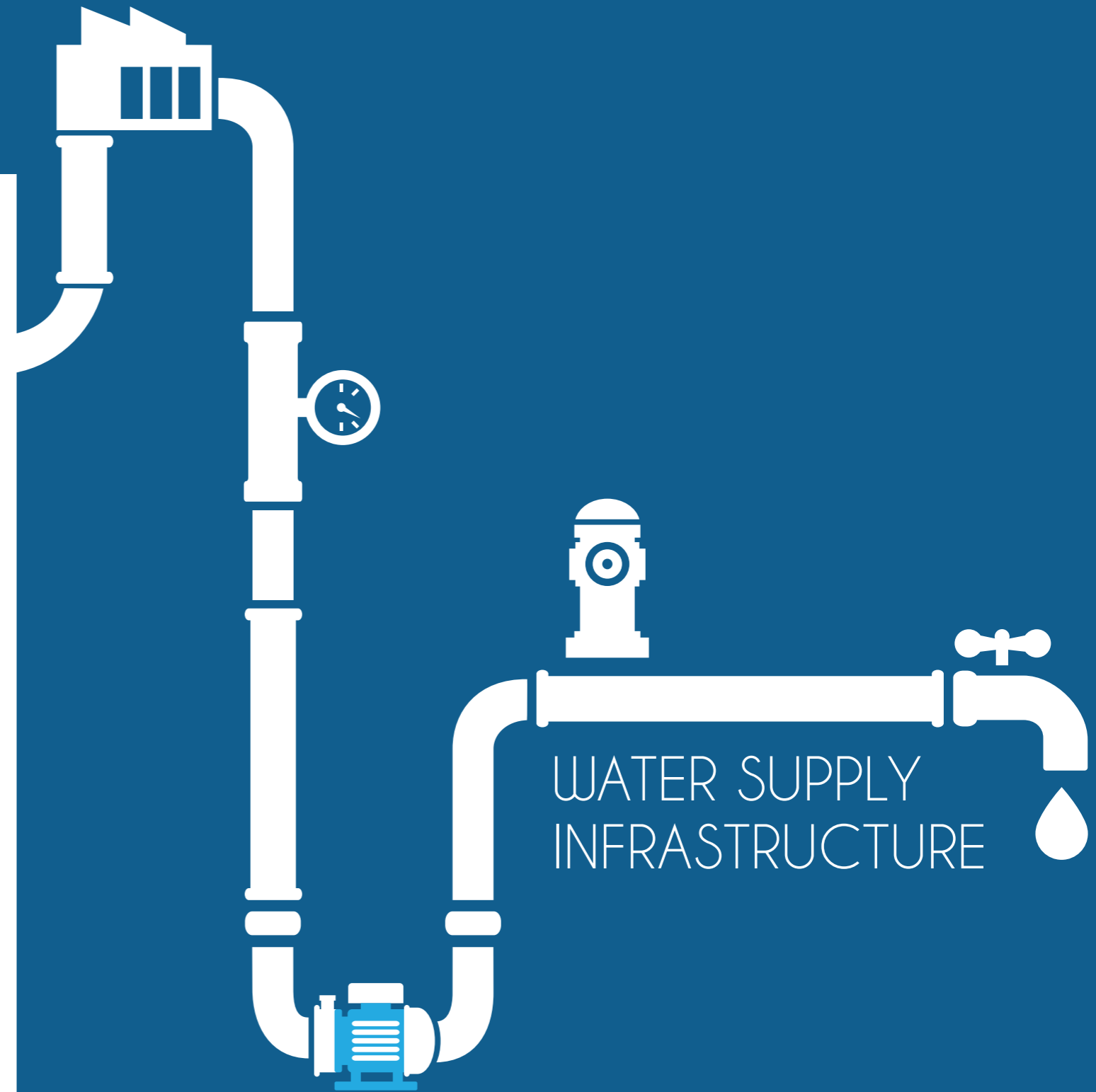
2
septic truck dumping stations



58 514
of water meters



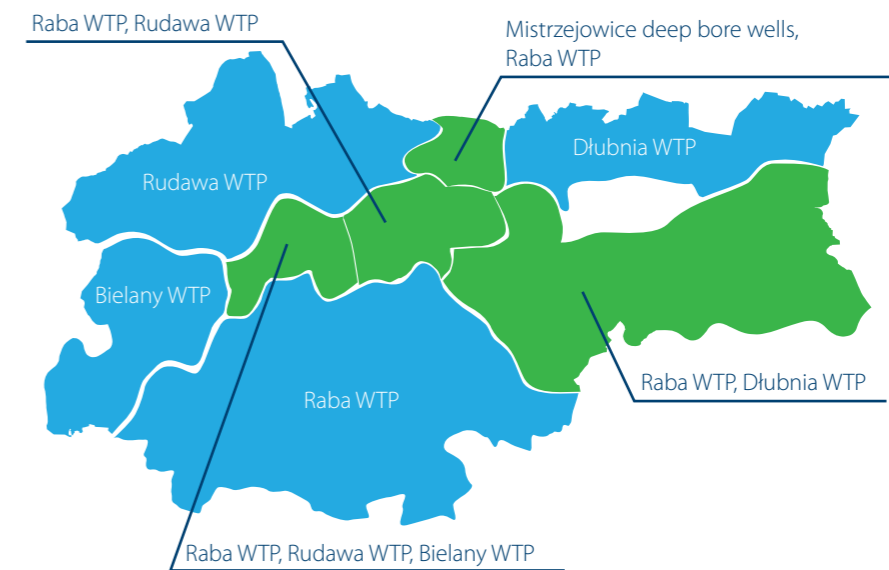
1
sludge incineration plant





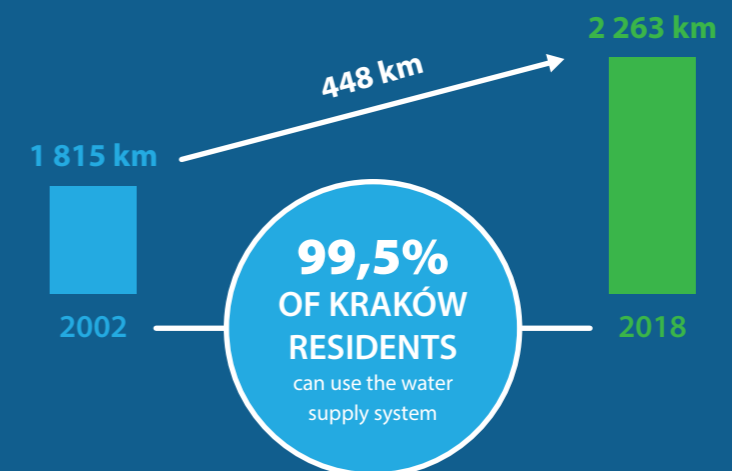
The water supply system of the city of Kraków is mainly built in a ring-system arrangement (water mains form closed circuits). This ensures a high reliability of water supply to Consumers from the system.

MAP OF WATER SUPPLY ZONES



*WTP – Water Treatment Plant

WATER SUPPLY SYSTEM LENGTH



Water Treatment Plant BIELANY

Water Treatment Plant RUDAWA

Water Treatment Plant DŁUBNIA

Water Treatment Plant RABA

commissioning date:
1901



commissioning date:
1955

sources of water taken in:
the Sanka River



sources of water taken in:
the Rudawa River

maximum output:
50 000 m³/24-hour



maximum output:
55 000 m³/24-hour

current production:
12 000 - 15 000 m³/24-hour



current production:
22 000 - 28 000 m³/24-hour

disinfection technology:
sodium hypochlorite
produced from the kitchen salt in electrolyzers



disinfection technology:
ClO₂ (chlorine dioxide)

commissioning date:
1960



commissioning date:
1974

sources of water taken in:
Dłubnia River, deep bore wells



sources of water taken in:
the Dobczyce Reservoir

maximum output:
32 000 m³/24-hour



maximum output:
186 000 m³/24-hour

current production:
20 000 m³/24-hour

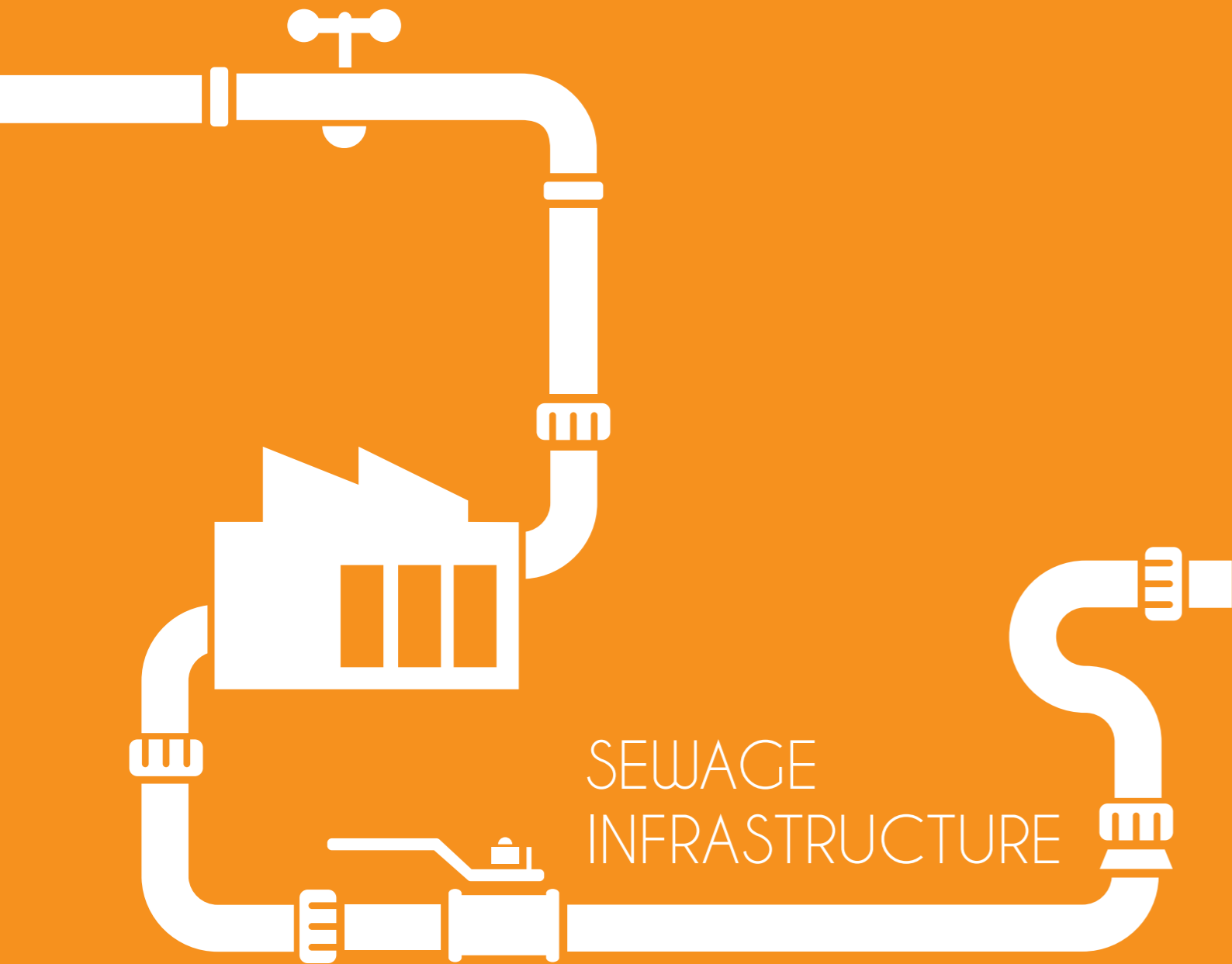


current production:
110 000 m³/24-hour

disinfection technology:
ClO₂, sodium hypochlorite
produced from kitchen salt in electrolyzers

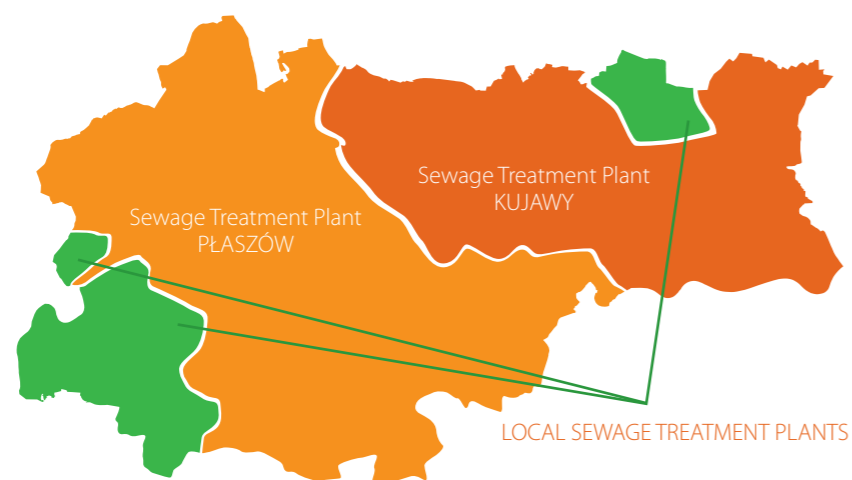


disinfection technology:
UV radiation and sodium hypochlorite
produced from the kitchen salt in electrolyzers



The sewage system of Kraków comprises two subsystems with their own sewage treatment plants. The Kraków subsystem with the Płaszów Sewage Treatment Plant and the Nowa Huta subsystem with the Kujawy Sewage Treatment Plant. Both subsystems operate by gravity, while in the areas where the elevation makes it impossible to discharge sewage into the central subsystem by gravity, there are local sewage networks with local sewage treatment plants. Kraków has a combined sewage system in central parts of the city, while in its outer parts, the system is separate.

CATCHMENT AREA MAP OF SEWAGE TREATMENT PLANTS



Sewage Treatment Plant PŁASZÓW

Sewage Treatment Plant KUJAWY

commissioning date:
1974



commissioning date:
1999

Mechanical and biological
sewage treatment plant



Mechanical and biological
sewage treatment plant

Maximum sewage treatment plant capacity
(biological section):
328 000 m³/24-hour



Maximum sewage treatment plant capacity
(biological section):
70 000 m³/24-hour

average flow:
160 000 m³/24-hour



average flow:
55 000 m³/24-hour

treated sewage discharged into:
Drwina River (a tributary of the Wisła)



treated sewage discharged into:
the Wisła River

SEWAGE SYSTEM LENGTH





The Sludge Incineration Plant

The Sludge Incineration Plant is located within the perimeter of the Płaszów Sewage Treatment Plant. It was built as part of a project called Płaszów II Sewage Treatment Plant in Kraków whose construction was co-financed with EU funds. Its construction made it possible to significantly reduce the quantity of sewage sludge and thus contribute to protecting the environment.



commissioning date:
2010



capacity:
64 tons of dry weight/24h maximum

OBJECTIVES:



safe sewage sludge disposal



reducing the weight of waste by approximately 88%



solving the sewage sludge management problem for the entire Kraków urban area



EU Projects

Kraków Waterworks is successively realizing the policy of the comprehensive organization of water and sewage management in the area of the Kraków. The European Union subsidy initiated multimillion investments which directly improved the residents quality of life and the environmental situation.

THE VALUE OF EU PROJECTS
realized by the Kraków Waterworks in the years 2002-2018



PROJECTS COMPLETED:

Płaszów II Sewage Treatment Plant in Kraków

Kraków water and sewage management – Stage I, II, III, IV

IN PROGRESS:

Kraków water and sewage management – Stage V, VI



modernization and extension
of the sewage treatment plants Płaszów and Kujawy



construction
of the Sludge Incineration Plant



construction
of the Górka Narodowa East tanks



extension
of sewage and water supply system



reclamation
of the leachate lagoons



extension
of the smart management system





For the environment



A PHOTOVOLTAIC FARM

covers the energy requirements for the whole back office of the treatment plant



THE TURBINE ON THE TREATED SEWAGE OUTFALL

recovers about 10% of energy used to pump sewage



CO-GENERATION

the use of biogas to generate electricity and heat at sewage treatment plants Płaszów and Kujawy



WATER RECOVERY FROM THE TREATED SEWAGE

technological purposes (rinsing of devices, deodorization, cooling), washing vehicles, roads, squares and rinsing of the sewers



A TURBINE ON THE WATER TRANSIT

recovers about 20% of the energy used to pump the water for the treatment process.

ENERGY-SAVING SEWAGE TREATMENT PLANT PŁASZÓW



Power, 16 gigawatt hour

is used by 8 thousand households



Heat, 95 Joule

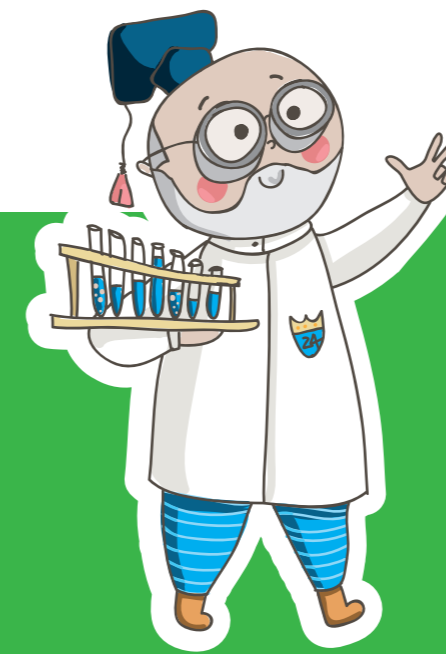
the annual amount used by over 3000 households



Environmental education

For many years, Kraków Waterworks has acted to protect the environment and promote ecological stances. The educational offer includes four programs for various age groups. It explains water and sewage treatment issues in simple terms. The program also provides the knowledge of environmental protection, especially in balanced water management.

For educational purposes, virtual tours were developed in four water treatment plants and two sewage treatment plants. Thinking about the children, Kraków Waterworks published the book „The Bathyscaphe expedition. The Tubeville mission”. Furthermore, two animated cartoons were made, „The tale of Kraków tap water” and „The tale of Kraków sewage treatment”.



The Droplet Academy

15 000 of graduates



The Droplet's travel

5 000 of preschoolers



It won't fit in a sewer!

1 300 of students



The Bathyscaphe expedition. The Skratek mission.

1 000 of preschoolers



On tap water's trail

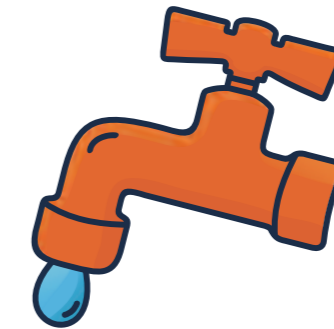
starts in September 2019



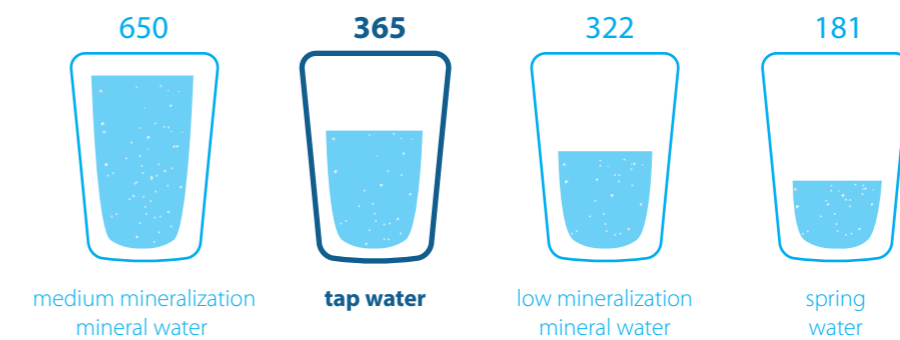
In Kraków good water straight from the tap

The purpose of the campaign „In Kraków good water straight from the tap” is to deepen the knowledge of the residents about the high quality of tap water. Furthermore, the campaign is about to encourage the drinking of generally available, cheap, and rich in minerals tap water. The campaign puts emphasis on the high safety of Kraków’s tap water which is guaranteed by daily quality controls.

As part of the campaign, the Kraków Waterworks has installed about 100 water drinking machines at schools, hospitals, offices and three devices in the public space.



The average values of mineral substances [mg/l]:



CHOOSE THE TAP WATER!
BE ECO!
SAY NO TO PLASTIC





It won't fit in a sewer!

The purpose of the campaign „It won't fit in a sewer!” is to increase people's awareness in terms of appropriate usage of the sanitary devices, the influence of human activity on the quality of the environment, functioning of the urban sewage system and technologies used in sewage treatment plants.

paper towels,
dental floss,
cotton buds, hair



wet wipes,
sanitary pads,
tampons, diapers



cigarette butts, coffee
grounds and used tea leaves,
chewing gum



medicines



leftovers



paints, oils, petrol



hardcore, stones,
sand



sheets of paper,
newspapers















Central Laboratory

Kraków Waterworks Central Laboratory has a certificate of Polish Center of Accreditation Nr AB776.

The Central Laboratory performs:

-  nearly 110,000 of examinations annually
-  200 markings of the physical, chemical and biological parameters in the water, water for consumption, sewage and sediments
-  the control of 140 physicochemical and bacteriological indicators in the drinking water (almost twice more than legal principle dictates)
-  105 accredited examination methods

CENTRAL LABORATORY – SCOPE OF SERVICES

-  physicochemical examination of water
-  microbiological examination of water
-  physicochemical examination of sewage
-  physicochemical and biological examination of sewage and biologically active sludge
-  taking samples for examinations
-  training and advice on the management system and technical competence of a research lab according to the standard PN-EN ISO:17025

IT WON'T FIT IN A SEWER!



sheets of paper,
newspapers



paints, oils,
petrol



medicines



hardcore,
stones,
sand



paper towels,
dental floss,
cotton buds, hair



wet wipes,
sanitary pads, tampons,
diapers



leftovers



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