Environment case studies

WATER USE

EVRAZ ZSMK REDUCES WATER INTAKE FROM TOM RIVER

EVRAZ ZSMK has launched a new slurry thickening facility for the gas cleaning equipment at its blast furnaces. The new equipment will reduce annual wastewater discharge and water intake from the Tom River by nearly 3 million cubic metres.

Previously, the water that was used to purify blast furnace gases was sent to the plant's slurry storage facility. Now, it is sent to a machine that separates and thickens the slurry. The clarified water is re-used in production, closing the blast furnace shop's water supply cycle.

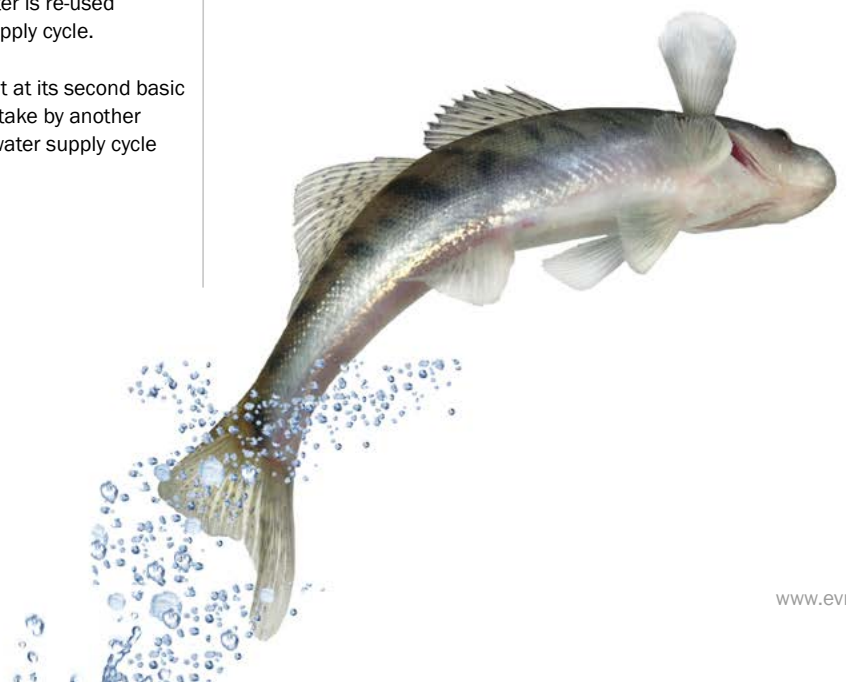
In 2019, EVRAZ ZSMK plans to install similar equipment at its second basic oxygen furnace shop, which will reduce annual water intake by another 1.5 million cubic metres. This will effectively close the water supply cycle for the plant's main metallurgical conversion facility.

BIODIVERSITY

EVRAZ ZSMK LAUNCHES MODERN FISH DIVERTER

A fish diverter has been installed at the on-shore pumping station to help safeguard young fish in the Tom River water intake.

The on-shore pumping station supplies water to the West Siberian Thermal Power Plant. Previously, fish were frequently harmed in the water intake. Now, a dual-stage fish diverter helps to prevent this. The first stage is a fine screen that does not allow large or medium-sized fish into the pumping station's intake chamber. The second stage is an electronic system to keep young fish away. An electrical pulse is sent through electrodes at a certain amplitude, creating an electrical field that diverts fish from the intake chamber and back into the river.



RASPADSKAYA GIVES TREES A SECOND LIFE

Employees of Raspadskaya have continued what has become an annual tradition of planting trees at childcare centres in Mezhdurechensk. In 2018, saplings from a mining allotment where the trees will be cleared were transplanted at the Kalinka childcare centre. In total, around 100 birch, acacia and fir saplings were transplanted at the kindergarten.

EVRAZ NTMK'S ECOLOGISTS PLANT 'GREEN DOCTORS'

EVRAZ NTMK's ecologists have planted 'green doctors' in the draining pond of the Vyazovka River and Nizhny Tagil pond, including chlorella algae, water hyacinth roots and, for the first time, water lettuce plants.

The chlorella algae multiply rapidly in the pond water, absorbing carbon dioxide and saturating the water with oxygen, which oxidises organic and inorganic substances.

The root system of the water hyacinth, which closely resembles an orchid, cleans the water effectively. This year, the ecologists experimented with water lettuce plants, which originated in Africa. Unlike the water hyacinth, it takes root in the bottom of the water body, forming a barrier. Its roots also have an effective cleansing factor.