

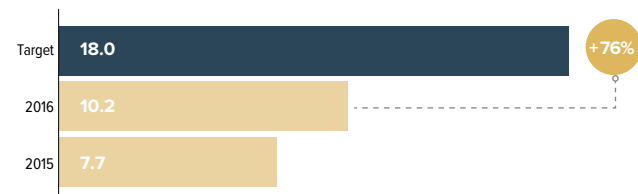
2 Major upgrade of production capacities

Focus on improving the cash cost profile, recovery rates, as well as environmental performance



Using new technology to upgrade Talnakh concentrator

Ramp-up of Talnakh concentration capacity, *mtpa*



- Higher metal recovery rates driven by the new technology and of ore processing from Norilsk to Talnakh Concentrator (Ni ~2%, Cu ~2%, PGM ~4%)
- Higher Ni content in nickel-pyrrhotite concentrates
- Lower content of sulphur per tonne of concentrate

The reconstruction of Talnakh Concentrator will transform the quality of the produced concentrate.

Stage 1 of the Talnakh Concentrator reconstruction saw the installation of the flotation equipment by Outotec (OK-100 flotation units), and pumping equipment by Warman with an integrated automated control system.

Stage 2 will see the installation of a unique semi-autogenous grinding mills by Metso Minerals.

This is a breakthrough solution never before used at Norilsk and Talnakh Concentrators.

The construction of a new tailings pit using cutting-edge waterproof geomembranes is nearing completion.

Building a single nickel smelting hub at Nadezhda Metallurgical Plant

Smelting capacity, *mtpa*

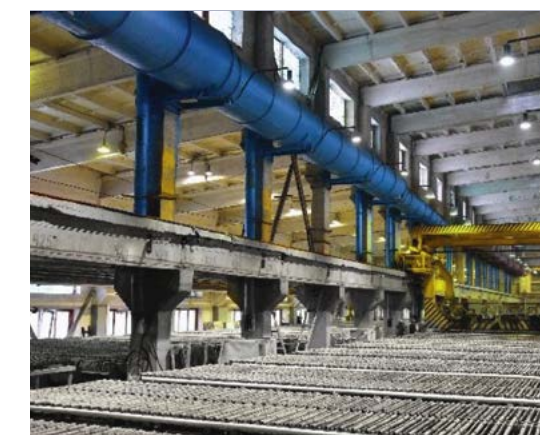


In August 2016, the Company shut down Nickel Plant, which had been in operation since 1942. The shutdown involved providing strong social guarantees to the plant workers.

To maintain and ramp-up the output, we expanded and upgraded the smelting capacities of Nadezhda Metallurgical Plant, which became a single smelting hub for all nickel feedstock from Polar Division.

Creation of a large modern refining hub at Severonickel Plant

Refurbishment of Nickel Electrolysis Shop-1 (NES-1)



- Additional 45 kt of refining capacity;
- Construction ended in 2015;
- CAPEX of ca. USD 16 mln.

Construction of Nickel Electrolysis Shop-2 (NES-2): technology upgrade and capacity ramp-up



- Additional 25 kt of capacity;
- Switching to a chlorine leaching technology;
- Construction to end by 2018 with full ramp up by 2019;
- CAPEX of ca. USD 300 mln.

Status

- Equipment is being supplied;
- Construction and installation is under way.

Nickel refining capacity at Kola MMC, *ktpa*

