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ENVIRONMENTAL ACTION

KEY 2019 RESULTS AND EVENTS

US\$384 million invested in environmental protection measures, 46% more than in 2018

Azovstal and Ilyich Steel completed significant ecological modernisation projects worth a total of US\$89 million

The Group reduced its gross GHG emissions in CO₂ equivalent by 10% year-on-year

Our assets decreased water consumption and water discharge by 9% and 10% year-on-year, respectively

We increased total energy savings by 22% year-on-year





ENVIRONMENTAL ACTION

OUR APPROACH

Environmental protection is a non-negotiable value at Metinvest; our primary strategic priority is to enhance sustainability, including by ensuring modern, energy-efficient and environmentally friendly production at our assets. To achieve this goal, we have been gradually reducing our environmental impact and tackling climate change, introducing efficient, energy-saving technology. The Group operates in compliance with local regulations while striving to operate in line with global best environmental practices. Metinvest has developed a roadmap for compliance with European environmental standards and steadily works to implement international environmental techniques and methods.

The measures introduced by the Group are aimed at mitigating the environmental impact of every stage of the production process. To this end, Metinvest has embarked on a comprehensive approach to automating environmental protection, allowing it to manage environmental indicators and risks in the medium and long term; unify environmental business processes; predict, model and minimise the impact of production sites; and pre-emptively identify potential environmental risks.

GRI 103-2

Metinvest's Policy and Principles in the Field of Health, Safety and the Environment guides our daily operations and ensures that managers at all levels are involved in environmental management. This cascades down from the level of the Supervisory Board, where the Health, Safety and Environmental Committee meets every quarter to discuss key environmental issues and determine the pace at which environmental programmes are rolled out at the Group's production facilities.

Metinvest conducts regular environmental site audits to ensure compliance with environmental legislation, evaluate the effectiveness of technology upgrades and scheduled maintenance, as well as revise risk registers to monitor environmental protection measures using internally designed checklists. We have assigned designated environmental protection departments at each production site responsible for environmental matters in accordance with procedures, policies and standards. We work closely with accredited laboratories that use modern equipment, which allows us to regularly monitor the environmental impact of our production activities.



GRI 103-3

Our environmental management system is designed to meet ISO 14001 standards. We regularly assess our key production assets for conformity with all requirements of this standard. As of the end of this reporting period, we have certified the environmental management systems of 15 of our assets¹ in compliance with the latest ISO 14001:2015 requirements.

Metinvest has been piloting an automated monitoring system at its Kryvyi Rih assets since 2017: 10 automatic monitoring posts check the areas affected by four of our assets². In 2019, we were elaborating reliable automated ways to report collected data directly to the city council.

The Group's Policy and Principles in the Field of Health, Safety and the Environment, issued in 2016, contains requirements for the conservation and optimal use of water resources, land restoration, emission reduction and waste management. It applies to all assets of the Group.

As part of the process of sustainably reducing Metinvest's environmental impact, one of our main goals in 2019-20 is to upgrade our existing management system to include additional functions, which will cover important aspects of sustainable development such as: enhancing the dialogue with internal and external stakeholders on environmental matters, extending the scope of greenhouse gas (GHG) emissions management, as well as implementing environmental digitalisation and comprehensive environmental monitoring.

SUPPORTING OPEN DIALOGUE

When it comes to environmental protection, engaging with stakeholders is crucial for detecting and addressing any red flags. Metinvest seeks to maintain an open dialogue with all stakeholders to jointly solve ecological issues in the regions where it operates. The official channel for submission of direct complaints is the Trust Line, through which individuals can lodge environmental complaints directly. Each complaint is registered in a unified automated incident management system, processed in accordance with Metinvest's procedures for internal corporate audit, verified and transmitted to the responsible directorate, which promptly takes the necessary action.

Metinvest makes every effort to deal with ecological questions at our assets. If we detect any irregularities after fact-checking a complaint, we send the results of our investigation back to the originator. In 2019, no direct complaints were lodged.

📄 **For more information about the Trust Line, please refer to the "Business Ethics and Anti-Corruption" section of the Report.**

In the interest of transparency, we do our best to keep all stakeholders informed about the environmental activities and regularly organise discussions on environmental matters. Our senior management and the general directors of our assets regularly meet with community leaders, voluntary organisations and NGOs. Metinvest also participates in the World Steel Association's Environment Committee, where we share our experience, educate ourselves and learn about the most effective industry practices from our peers all over the world.

In 2019, Azovstal held meetings and roundtable discussions in Mariupol with both the media and members of the public, who were able to visit our production sites, as well as environmental facilities that are under construction. Azovstal also took part in a business forum at Waste Management 2019, an international exhibition and conference dedicated to the discussion of legislative, financial and technological issues surrounding waste regulation.

Avdiivka Coke participates in numerous regional environmental programmes, as part of which it discloses information about the results of its activities on a quarterly basis. During 2019, Avdiivka Coke successfully participated in such programmes as "Clean Air", "Protecting the Environment of the Donetsk Region: Action Plan for 2013-20", the Regional Waste Management Programme and the Avdiivka Socio-Economic Development Programme. Environmental experts of Inkor Chemicals participated in an interregional scientific and technical conference titled "The Functioning and Sustainable Development of Environmental Protection Monitoring Systems".

- 1 Metinvest Holding, Azovstal, Ilyich Steel, Northern GOK, Central GOK, Ingulets GOK, Zaporizhia Coke, Metinvest-Promservice, Mariupol Machining and Repair Plant, Unisteel, Inkor Chemicals, Ferriera Valsider, Spartan UK, Metinvest Trametel and Promet Steel.
- 2 Ingulets GOK, Central GOK, Northern GOK and Kryvyi Rih Machining and Repair Plant.



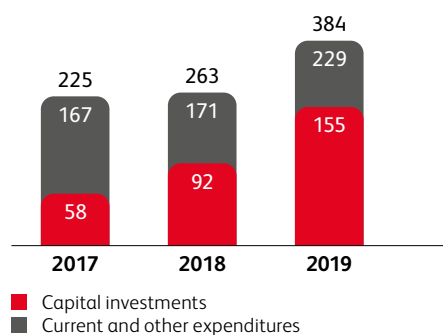
ENVIRONMENTAL ACTION

ENVIRONMENTAL MODERNISATION



In 2019, the Group invested US\$384 million in environmental protection measures encompassing various upgrades, with key projects focusing on reducing emissions and waste, increasing energy efficiency and conserving resources. With the help of this significant 46% year-on-year increase in such spending, we were able to complete several important long-term environmental projects. Of this amount, US\$155 million was allocated for capital investments, up 68% year-on-year following the expansion of the environmental modernisation programmes at our assets.

Metinvest's total environmental spending, US\$ million



Metinvest is making progress on numerous modernisation projects to mitigate its environmental impact. The key initiatives taking place at our steelmaking assets Azovstal and Ilyich Steel amount to US\$89 million.

At Azovstal, the Group rebuilt blast furnace no. 3, reconstructed the hot metal desulphurisation unit and performed a major overhaul of coke oven battery no. 1. Metinvest also decommissioned blast furnace no. 5 and started the design phase for overhauling blast furnace no. 6.

Following the closure of the sinter plant at Azovstal in 2012, Metinvest began to reconstruct the one at Ilyich Steel in 2015 to further lower emissions in Mariupol. With total investments slated at around US\$150 million, this sinter plant reconstruction is the largest environmental project in the history of independent Ukraine. The upgraded system for cleaning sinter gases will help to reduce emissions of dust by as much as 90% and of sulphur oxides by up to 42%.

The Group made steady progress in 2019 and aims to complete this project by the end of 2020.

Northern GOK advanced its project to replace the gas cleaning facilities of the Lurgi 552-A roasting machine and plans to complete it in 2021. Central GOK conducted regular maintenance of its tailing storage facilities and carried out related work on the water supply and slurry pipelines.

Extensive maintenance was conducted at the oven chambers of Avdiivka Coke and Zaporizhia Coke to decrease air emissions.

INVESTING IN GREEN CITIES

During the first RE:THINK international investment forum, which took place in Mariupol in 2019, Metinvest signed a six-year Memorandum on Cooperation with Mariupol, Zaporizhia and Kryvyi Rih to invest in environmental projects in these cities. Total investments in environmental modernisation are expected to exceed US\$400 million and focus on two areas: improving production processes and reducing environmental impact. Metinvest aims to help implement a range of programmes that will change the environmental situation in Ukraine.

“SIGNING THE MEMORANDUM IS JUST ONE OF THE STEPS WE HAVE TAKEN TO SYSTEMICALLY MODERNISE OUR PRODUCTION FACILITIES AND GIVE FINANCIAL SUPPORT TO MAJOR ENVIRONMENTAL PROJECTS. WE DO OUR BEST TO IMPROVE THE OVERALL ENVIRONMENTAL SITUATION AND STANDARD OF LIVING IN THE CITIES WHERE WE OPERATE.”

Yuriy Ryzhenkov, Chief Executive Officer



BEST ENVIRONMENTAL PROGRAMMES

The ecological modernisation projects of Ilyich Steel, Azovstal and the Zaporizhstal JV were recognised among the top 20 environmental programmes in Ukraine according to Vlast Deneg (the Power of Money), a reputable Ukrainian business journal providing expert analytics.

Additionally, the Zaporizhstal JV was named Eco-Investment Leader 2019 at the “Ecotransformation-2019” Ukrainian business forum for its investments in environmental production modernisation over the past seven years.



ENVIRONMENTAL ACTION

MITIGATING IMPACT ON AIR QUALITY



Metinvest aims to reduce its air emissions by implementing numerous projects while increasing overall production efficiency, since environmental protection is one of our key priorities. In 2019, we fully complied with the pollutant thresholds set in the air emission permits for all the primary sources of emissions at our sites, including sinter and pelletising plants, blast furnaces, basic oxygen furnaces and coke batteries.

In 2019, after overhauling blast furnace no. 3, Azovstal decreased the dust emissions of its blast furnace unit and provided the furnace with new environmental protection equipment. In 2020-21, Azovstal plans to continue improving the aspiration system of its blast furnaces, mixers and rotary kilns, as well as in the iron desulphurisation units and basic oxygen furnaces.

Within the sinter plant reconstruction project, Ilyich Steel has already commissioned new bag filters for the six sintering machines in its sintering and cooling zones, as well as for another six machines in its sintering zones where the cooling zones were previously equipped with high-efficiency electrostatic filters. The reconstruction project is expected to be completed in 2020. The asset will also continue to renovate its blast furnaces and basic oxygen furnace shop with a focus on gas cleaning systems, dust-cleaning and aspirating in 2020.

Mariupol Machining and Repair Plant managed to reduce dust emissions by 30% by modernising its gas treatment plant and shot-blasting chamber. Zaporizhia Coke overhauled three coke batteries, which reduced its emissions by 45%.

GRI 305-7

Gross emissions, thousand tonnes

Year	Nitrogen dioxide (NO ₂)	Sulphur dioxide (SO ₂)	Carbon monoxide (CO)	Solids (dust)	Total
2017	15.3	20.3	240.6	29.4	314.3
2018	15.7	19.7	270.6	30.0	344.5
2019	14.6	18.1	288.0	26.0	354.0 ³

In 2019, Inkor Chemicals launched an emissions purification project for the crystallisation compartment of naphthalene production. The asset will finish this optimisation in 2020.

GRI 305-1

ADDRESSING CLIMATE CHANGE

Metinvest is fully aware of the gravity of climate change and contributes to tackling it. The Group takes inventory of its GHG emissions, starting from 2020 actively participates in discussions around Nationally Determined Contribution (NDC) and Green Deal projects, and makes every effort to develop strategies and initiatives aimed at minimising its carbon emissions. We have chosen a risk-based approach to integrating climate risks into our plans and business processes, allowing us to minimise our carbon emissions in the long run.

Determining our current level of GHG emissions, as well as formulating goals and approaches to reduce our impact on the climate, is very important for Metinvest and makes up just one part of our general approach to environmental protection. In view of the rapprochement between Ukraine and the EU, we will be reviewing all climate impact requirements applicable to the Group's activities.

Following the ratification of the Association Agreement between Ukraine and the EU, we have been preparing to comply with a number of important EU legislative acts related to environmental protection, including Directives 2010/75/EU and 2003/87/EU, which stipulate regulatory requirements for emissions based on the best available techniques in Europe. These directives cover issues ranging from environmental monitoring to the system for determining GHG quotas and emissions trading. To ensure full conformity, Metinvest plans to take part in pilot projects to obtain integrated environmental permits in the near future. By applying the best available techniques, the Group will be able to develop highly advanced environmental protection measures and adopt operational methods at its assets that comply with the most rigorous European standards.

3 The total increase in emissions in 2019 is mostly related to gaseous components, such as carbon monoxide, which comes from the combustion process. For instance, the new bag filters installed at Ilyich Steel's sinter plant require greater air pressure, which consequently leads to a higher volume of this gas. In addition, the emissions of dust, sulphur oxides (SO_x) and nitrogen oxides (NO_x) are decreasing.



HELPING TO DEVELOP GHG EMISSIONS TRADING

Since 2017, Metinvest has been participating in a joint project with the World Bank and Ukraine's Ministry of Ecology and Natural Resources to create a national GHG emissions trading system (ETS).

The Zaporizhstal JV and Central GOK also acted as pilot sites to develop mechanisms for monitoring, recording and verifying GHG emissions with the view of codifying such practices in national legislation. In 2019, these assets developed drafts of monitoring plans and conducted test verifications.

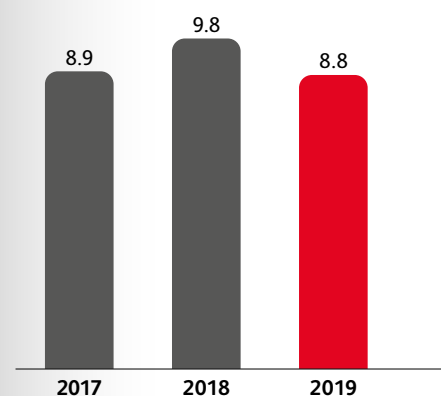
The project's next stage is to implement the Ukrainian emissions trading system in accordance with Directive 2003/87/EU.

“THE PROJECT’S GOAL IS TO TRAIN STAFF AND PREPARE THE PLANTS FOR THE INTRODUCTION OF A SYSTEM FOR MONITORING AND REPORTING GREENHOUSE GAS EMISSIONS, AS WELL AS THE NATIONAL GREENHOUSE GAS EMISSIONS TRADING SYSTEM.”

Yuriy Ryzhenkov, Chief Executive Officer

In 2019, Metinvest reduced its direct GHG emissions by 10% year-on-year to 8.8 million metric tonnes of CO₂ equivalent. This was primarily due to alterations in blast furnace utilisation at Azovstal, as well as the shutdown of blast furnace no. 3 at Ilyich Steel and coke chambers at coke producers for major overhaul.

Gross direct GHG emissions of CO₂ equivalent, million tonnes



Note: GHG emissions were calculated for each asset using the methodologies imposed by local regulators⁴.

⁴ For more information on GHG emissions, please refer to Annex 3.

ENVIRONMENTAL ACTION

PROTECTING WATER RESOURCES



GRI 303-1; 303-2

Metinvest seeks to improve its water management practices by completing environmental projects. We strive to uphold high national standards for water usage and discharge, as water is an integral part of our production processes. The Group consumes fresh water from surface water sources (including the Azov Sea), ground water wells, and public water networks based on special water permits and maximum permissible dump specifications, in addition to reusing processed water. Our assets regularly conduct instrumental and laboratory studies of surface and wastewater to track their impact and control their compliance with environmental standards.

To ensure that we use water as responsibly as possible, we are launching new projects to modernise wastewater treatment equipment, recycle water used in technological processes, as well as reuse mining and wastewater. At our mining assets, water circulates in a closed cycle between tailings storage and plants.

Azovstal has repaired a block of air heaters and transitioned to a new closed-type cooling system for blast furnace no. 3. Moreover, the plant has stopped using sea water for cooling one of its blast furnaces in favour of a closed-loop water system. This was made possible by replacing cast-iron thermal protection elements and installing a new evaporative cooling system.

Avdiivka Coke has completed a major overhaul of its fan-cooling tower to make its water recycling systems more effective. Inkor Chemicals has replaced the cooling towers used for recycling water supply and installed a new pumping module in its heat-power unit. These measures will increase the rational use of water in production systems.

Central GOK has regularly worked to improve the water quality of the Ingulets River and Karachunovskoye reservoir by using the water supply of the Dnipro-Ingulets canal to backwash the Ingulets River, which is subject to mine water impact.

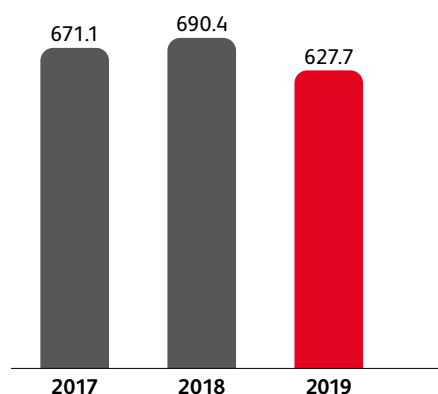
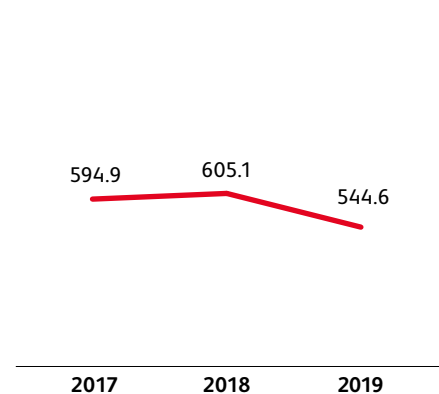
The Zaporizhstal JV launched its second modern filter press on the reverse cycle of water supply for gas treatment of open-hearth furnaces, which allowed it to increase shipment of iron-containing sludge used in production and eliminate the risk of polluting the Dnipro River with industrial wastewater.

GRI 303-4; 303-5

Water consumption⁵, million m³

Year	Total volume	Surface water	Ground water	Utilities	Other sources
2017	653.2	602.1	3.1	42.6	5.4
2018	671.8	617.2	3.2	43.6	7.8
2019	614.0	555.1	3.2	43.7	12.0

Note: Quarry water is the largest source of water in the "other" category, accounting for 2% of the overall volume of water consumed by Metinvest.

Total volume of water intake⁶ by the Group's assets, million m³Total volume of wastewater discharge at the Group's assets, million m³

5 Water consumption – the use of water withdrawn from water bodies in production operations and for household purposes.

6 Water intake – water withdrawal from water bodies for consumption or storage.

MANAGING WASTE



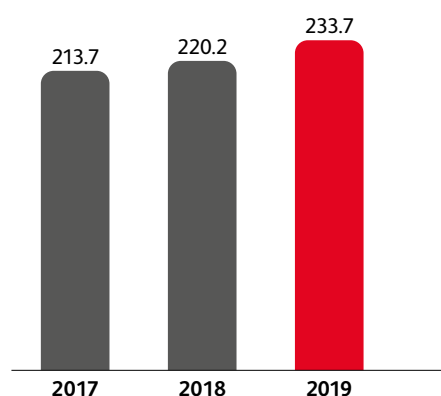
GRI 306-1; 306-2

Metinvest acknowledges that its operations generate industrial waste, including overburden and tailings from the enrichment process, slag and sludge. The Group therefore makes every effort to reduce the waste it creates.

Metinvest generated 234 million tonnes of waste in 2019, 94% of which was non-hazardous waste from mining assets in the form of overburden and tailings. During the reporting period, 28% of all waste by volume was recycled. The total weight of recycled waste increased by 9% year-on-year in 2019, which is a testimony to the positive effects of the

GRI 306-3

Total volume of waste generated at the Group's assets, million tonnes



Total weight of waste, million tonnes

Year	Total weight of generated waste	Weight of landfilled waste	Weight of waste transferred to third parties	Weight of recycled waste
2017	213.7	156.3	0.9	56.0
2018	220.2	158.7	0.9	60.1
2019	233.7	166.3	2.6	65.6

Group's multi-pronged effort to cut down on waste disposal and operational improvements.

As part of our approach to managing waste generation, we also seek to reuse and recycle waste in production processes as much as possible. In 2019, Metinvest implemented several projects to achieve these objectives.

GRI 306-1; 303-2

Metinvest minimises waste storage spaces by depositing its industrial waste in specially designated areas, such as mining allotments and slag and sludge ponds, and has enacted practices to ensure that mining allotments are used rationally. For example, overburden rocks are used at mining assets for crushed stone production, as well as for the construction and repair of automobile and railway links at mines.

By-products of metallurgical production are also partly recycled. Since 2004, Azovstal has been using equipment from the US manufacturer AMCOM to reprocess slag and extract metal-containing components (scrap). Using scrap not only reduces the volume of waste in the slag deposit, it also lowers the consumption of raw iron ore.

Since June 2019, as part of its social partnership with district and village councils in Donetsk region, Metinvest engages in non-commercial distribution of slag products from Azovstal and Ilyich Steel. This programme not only helps us to minimise our slagheap, it reduces the cost of local infrastructure development, as our by-products are used as free construction material. By the end of 2019, we provided almost 160,000 tonnes of slag products for road construction in villages close to Mariupol and other villages in Donetsk region.

Every year, the Zaporizhstal JV uses the entire volume of blast furnace by-products it creates to manufacture 1.5 million tonnes of construction materials. Scrap is extracted from the open-hearth slag and crushed stone is produced both for our own needs and for sale to external customers.

To uphold its commitments to the Stockholm Convention on Persistent Organic Pollutants, which aims to put an end to polychlorinated biphenyl (PCB) use in equipment, as of the end of 2019, Ilyich Steel had replaced 62% of its electric transformers that contained PCBs and transferred them to disposal.

Avdiiivka Coke reduces hazardous tarry waste generation through technical re-equipment of resin collectors and a chemical processing waste pumping unit. Avdiiivka Coke also participated in a joint project with the Organisation for Security and Co-operation in Europe (OSCE) and Ukraine's Ministry of Energy and Environmental Protection titled "Assistance in Expanding the Monitoring System in the Donbass Region". The project involved a study of the current state of Donbass tailings and their possible impact on bodies of water in a military environment.

ENVIRONMENTAL ACTION

PROTECTING ECOSYSTEMS AND BIODIVERSITY



GRI 304-2; 304-3; 304-4

Even though Metinvest does not operate in any protected natural areas, and its activities do not affect the habitats of species on the International Union for Conservation of Nature (IUCN) Red List or national conservation list, the Group has a number of initiatives in place to preserve biodiversity. Metinvest also engages in land restoration in its areas of activity.

Ingulets GOK participates in mining and biological restoration of old overburden dumps. In 2019, it carried out technical mining restoration at one such dump, where it was able to reclaim an area of 10.46 hectares. In addition, biological reclamation was carried out on a total area of 3.68 hectares. This mining reclamation was performed in three stages, consisting of rough surface planning, application of a fertile soil layer, and final planning. Biological reclamation involved planting 670 young trees, 25 kilogrammes of grass seeds, and approximately 30 kilogrammes of chestnuts. Overall, from 2014 to 2019, Ingulets GOK's efforts to restore disturbed lands encompassed a total area of 26.38 hectares.

In addition, Ingulets GOK undertakes voluntary commitments to support the Vizirka wildlife sanctuary, which was established in 2001 at the asset's initiative on the territory of depleted open-pit mines in Dnipropetrovsk region. The goal of the sanctuary is to protect and renew natural landscapes, as well as to enhance the biological diversity of Kryvyi Rih.

Central GOK is working to re-cultivate quarry no. 2 by covering it with overburden. In 2019, the plant deposited 11 million tonnes of waste rock into the quarry. These measures allowed to both reduce overburden storage spaces in dumps and save arable land.



LET'S SAVE THE DNIPRO RIVER TOGETHER

The Zaporizhstal JV actively participates in projects to restore and protect the Dnipro River. Each year, the asset organises the “Let’s Save the Dnipro Together⁷ project”. Since 2012, more than 8,000 local citizens have taken part, planting more than 715 trees and collecting over 124 tonnes of garbage. In addition, volunteers have released approximately 160,000 fish into the Dnipro River and set up 8,600 spawning areas, 30 floating nests and 30 bird feeders.

In spring 2019, more than 1,000 artificial gravel nests were placed in the Gulf of Otradnensky, helping the local fish population to grow more quickly. More than 27,000 juvenile grass and silver carp, known as natural river cleaners, were released into the water.

“THIS IS NOT THE FIRST TIME MY FRIENDS AND I HAVE PARTICIPATED IN THIS EVENT. IT REALLY HAS BECOME A GOOD TRADITION FOR US, ALLOWING US TO MAKE OUR CITY CLEANER.”

Oleksandra Tolchina, a worker at cold-rolling shop no. 1 at the Zaporizhstal JV

⁷ Metinvest’s Green Centre initiative has supported this project since 2019.

ENVIRONMENTAL ACTION

ENERGY EFFICIENCY



GRI 103-2

Metinvest continues to reduce the energy consumption of its production assets and cut the consumption of natural resources. As part of its systematic approach to saving energy and increasing energy efficiency, the Group has an Energy Programmes Division in the Operational Directorate at the Executive Team level, as well as Energy Management and Energy Efficiency departments at each production asset. The departments are responsible for local production operations and energy efficiency activities, and they provide reports on the effects that have been achieved to the Head of Engineering. We develop energy efficiency targets and energy saving programmes at all assets on an annual basis.

Since 2013, we have been implementing an energy management system that conforms to the ISO 50001:2011 international standard and eight of the Group's assets have certified their energy management systems as compliant with its requirements⁸. In 2019, Ingulets GOK was certified in accordance with ISO 50001:2018, the newest energy management system standard.

GRI 103-3

An authorised ISO certification body carries out annual external audits of each asset. In 2019, our assets all successfully passed the external supervisory audits. The external audits confirmed that our documentation management system complies with ISO requirements, which cover standards, protocols, the energy conservation commission and documentation related to energy initiatives. Our internal audit matrix also

includes these issues, which allows us to check our findings even before the external audit.

Metinvest's regular internal audits of energy management systems guide us as we set goals for the year's energy saving programmes. All audits are performed in accordance with our Procedure for Conducting Internal Audits of Energy Management System at Production Sites, which lays out requirements for the composition of the audit committee, the frequency of inspections and reporting procedures. Metinvest has also developed a scoring system for assessing how the ISO is being implemented. We completed nine internal energy management system audits in 2019, allowing us to ascertain the status of these systems at each asset. Ilyich Steel delivered the best results of all production sites, followed by Avdiivka Coke and Mariupol Machining and Repair Plant.

In addition, we have developed and implemented a Methodology for Conducting an Energy Audit at Production Sites, consisting of basic principles and requirements, which lays out a unified approach for energy audits at the Group's assets. This allows us to identify inefficient use of energy resources, select optimal equipment and develop measures to reduce energy consumption. The energy saving committee and energy management teams at each production site are responsible for the auditing process.

8 Central GOK, Zaporizhia Coke, Azovstal, Ilyich Steel, Avdiivka Coke, Inkor Chemicals, Kryvyi Rih Machining and Repair Plant and Mariupol Machining and Repair Plant.



METINVEST'S SYSTEM FOR MANAGING ENERGY EFFICIENCY

Technological measures

- Management of raw material quality
- Technological optimisation
- Process automation

Technical measures

- Equipment repair
- Modernisation and replacement of inefficient equipment
- Development of accounting systems

Operational measures

- Development of differentiated standards and analysis of deviations
- Optimisation of technical modes and equipment
- Introduction of ISO 50001 and regular audits

GRI 302-1; 302-3; 302-4

In 2019, Metinvest decreased its total energy consumption as measured in tonnes of oil equivalent⁹ (TOE) by 7% year-on-year by reducing coke usage and increasing pulverised coal injection at Azovstal following the commissioning of blast furnace no. 3.

Direct energy use*, '000 TOE¹⁰

Year	Natural gas	Heating oil	Coke	Diesel fuel	Petrol	Metallurgical coal	Electric power	Total
2017	1,189.6	0	2,394.7	207.1	2.7	2,840.1	957.3	7,591.5
2018	1,312.0	0	2,256.3	213.5	2.5	3,072.0	975.4	7,831.7
2019	1,259.8	0	2,011.6	221.7	2.0	2,738.3	1,033.0	7,266.4

* Renewable sources were not used.

⁹ A tonne of oil equivalent is a unit of measurement equal to the amount of energy released by burning one tonne of crude oil.

¹⁰ Only purchased (or extracted) fuel was factored into our calculations. The coefficients used for conversion to TOE are as follows: natural gas – 1.15, heating oil – 1.37, coke – 0.94, diesel fuel – 1.45, petrol – 1.49, coal – 0.888, electric power – 0.123.

ENVIRONMENTAL ACTION

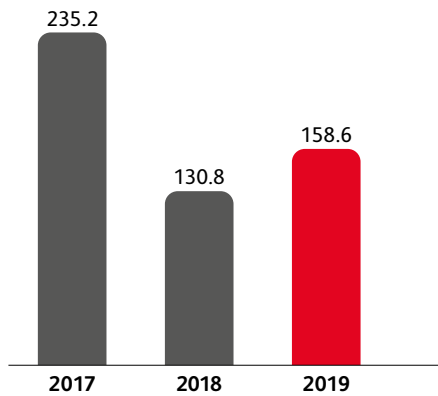
ENERGY EFFICIENCY CONTINUED

We have been able to successfully identify opportunities to recover and utilise energy sources, which allowed us to increase the total amount of energy saved by 22% year-on-year¹¹. We completed various energy-saving programmes at our production assets, which led to an economic effect of US\$38.2 million.

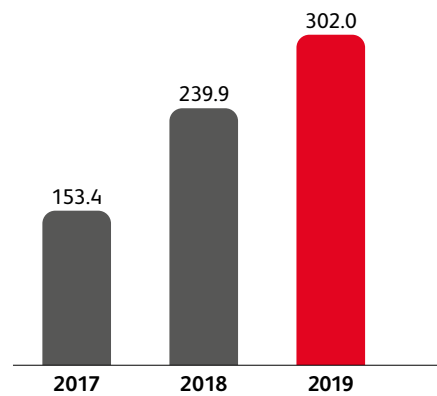
Electricity savings increased by 26% year-on-year thanks to effective modernisation projects at Azovstal, Ilyich Steel, Northern GOK and Central GOK. Such projects included optimising the vacuum filters and vacuum pumps used in operational processes, using blast furnace gas to generate electricity supplies, increasing in-house electricity generation and modernising the lighting system. We will keep working on optimising equipment to reduce idle time and change equipment usage phases to lower electricity costs.

In 2019, Metinvest spent US\$6.9 million on energy efficiency programmes. An increase in the number of energy service projects financed by YASNO Energy Efficiency LLC (YASNO; formerly DTEK ESCO) has resulted in a 39% year-on-year decrease in spending on energy efficiency programmes, while the number of projects went up from four in 2018 to 12 in 2019.

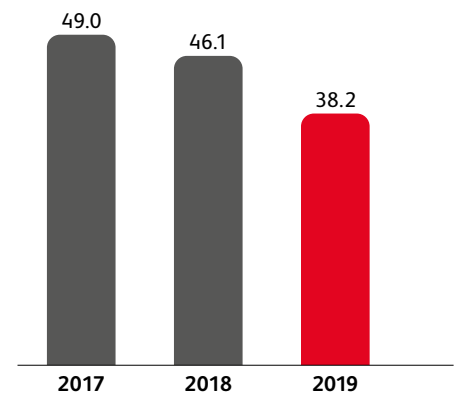
Total energy saved as a result of energy efficiency measures, '000 TOE



Electricity savings, million kWh



Economic effect of energy conservation, US\$ million (excl. VAT)



Note: A 30% decrease in the cost of natural gas has led to a nearly 17% year-on-year reduction in the economic effect of energy conservation.

¹¹ For more information on energy savings, please refer to Annex 3.





ENERGY SERVICE PROJECTS

Metinvest continues to implement joint energy efficiency projects with YASNO under energy service contracts. YASNO uses its own funds to implement turn-key projects for Metinvest, guaranteeing a reduction in energy resource consumption. According to the energy service contract, Metinvest pays for the services provided by means of economies achieved.

In 2019, our collaboration with YASNO resulted in the implementation of 12 energy service projects focused on improving the efficiency of secondary fuel use, modernising fuel-consuming units, increasing the efficiency of heat

exchange and compressor equipment, modernising slurry pumps and devising hydraulic schemes. The annual economic effect of these projects totals US\$5.6 million, with an estimated energy savings of 87 million kWh/year.

One successful example of such collaboration was a project with Ilyich Steel. Jointly with YASNO, the asset modernised ceiling lighting by installing more than 2,000 LED lamps at the oxygen converter shop and hot strip mill 1700, which makes it possible to decrease electricity consumption there by as much as 80%.

“ENERGY CONSERVATION ISSUES ARE PRIORITY TASKS FOR SUSTAINABLE DEVELOPMENT. MODERNISING LIGHTING AT OUR PRODUCTION SITES ALLOWS US NOT ONLY TO SAVE MONEY, BUT ALSO TO CREATE SAFER AND MORE COMFORTABLE WORKING CONDITIONS FOR OUR EMPLOYEES.”

Taras Shevchenko, General Director of Ilyich Steel



After effectively implementing the modernisation activities in 2019, we plan to continue such initiatives to achieve even more in 2020, including developing and implementing energy conservation programmes, executing energy service

contract projects, introducing natural gas substitution technology at Azovstal, optimising our fleet and transitioning to the updated ISO 50001:2018 standard.