Despite the profound external challenges, Metinvest maintained operational continuity and increased output of key products in 2020, largely given its investments of recent years.

# Continuity\_\_\_amid challenges

#### **GREATER INTEGRATION PAYS OFF**

In 2020, the Group's vertical integration and self-sufficiency in key production inputs was a critical source of strength. Amid the unprecedented global challenges of the year, the business delivered strong operational results. In the Mining segment, these included greater iron ore concentrate output. In the Metallurgical segment, Metinvest increased output of hot metal, crude steel and semi-finished and finished goods.

achievement was consolidating control of Pokrovske Coal, the largest producer of high-quality coking coal in Ukraine. Following this, the Group has significantly strengthened its self-sufficiency in this raw material.

After the reporting period, another notable

For more details about Pokrovske Coal, see the case study on page 25.

## MINING SEGMENT

Metinvest is a top ten global iron ore producer and the second largest<sup>10</sup> in Eastern Europe, in terms of both annual output and reserves. As of 31 December 2018, the reporting date of the Group's most recent assessment of iron ore resources and reserves in accordance with the JORC Code, it had Ore Reserves of 2,296 million tonnes grading 34.2% FeT and 25.3% FeM and Mineral Resources of 10,163 million tonnes grading 35.2% FeT and 26.2% FeM.

Metinvest's iron ore extraction and processing assets are Ingulets GOK, Northern GOK and Central GOK. They produce concentrate with an Fe content that ranges from 65.0% to 70.5%. Northern GOK and Central GOK operate pelletising plants with a combined production capacity of 11 million tonnes of pellets as of 2020. Their pellets have an Fe content from 63.2% to 67.5%. In 2020, Central GOK completed the upgrade of its beneficiation plant, unlocking the production of iron ore concentrate with 70.5% Fe content and pellets with 67.5% Fe content used in DRI technology.

In addition, the Group has a 45.9% interest in Southern GOK, which is classified as a joint venture. It produces concentrate with an Fe content from 65.2% to 68.7%. Metinvest resells the majority of the asset's products. The Group's iron ore facilities are all located in the city of Kryvyi Rih, which is around 600 kilometres from its Mariupol steelmakers. This relative proximity helps to ensure the long-term security of iron ore supplies for them.

The Group currently mines iron ore from open pits at its enterprises (one at Ingulets GOK, two at Northern GOK and three at Central GOK) through a process of drilling, blasting and removing overburden to external dumps. It also has an underground operation at Central GOK. After shipment to onsite crushing, beneficiation and flotation facilities, as well as pelletising plants, the raw material is processed further.

10 Own estimate based on companies' public production information for 2020, excluding Chinese and Indian companies. Wastewater from the production process, known as 'tails', is sent to the tailings storage facility at each enterprise. In 2019, Metinvest undertook an audit of its tailings storage facilities to assess dam stability. This found that each of its four facilities complies with local regulations and has capacity sufficient for many years of operations. Strict controls are in place to monitor them.

In 2020, the Croup increased iron ore extraction by 4% year-on-year to 71,318 thousand tonnes. Together with the effect of operational improvements and use of third-party ore for processing at Central GOK, this resulted in iron ore concentrate output rising by 5% to 30,501 thousand tonnes.

In 2020, the iron ore product mix was affected by weak demand for pellets and reduced premiums for them globally. Consequently, Metinvest decreased total pellet output by 26% year-on-year to 7,554 thousand tonnes, while increasing the remaining concentrate volumes comparably to 21,107 thousand tonnes.

Iron ore concentrate production

30,501KT

+5% 30,501 29.028 27.353 4.904 4 415 12.739 12.245 10,660 12.278 12,344 12.858 2019 2020 2018 Ingulets GOK Central GOK Northern GOK

In the reporting period, the Group's self-sufficiency in iron ore, which is calculated as actual iron ore concentrate production divided by actual consumption of iron ore products to produce hot metal, was 299%.

Of the pellets produced, 2,634 thousand tonnes were allocated for hot metal production. In addition, 6,952 thousand tonnes of iron ore concentrate were combined with purchased iron ore concentrate and sinter ore to make 12,419 thousand tonnes of sinter at Ilyich Steel. This was then used in hot metal operations at both Mariupol steelmakers. During the reporting period, Metinvest's merchant iron ore product output grew by 8% year-on-year to 19,075 thousand tonnes. This came as merchant concentrate production surged by 32% to 14,155 thousand tonnes, mainly amid greater overall concentrate output and changes in the order book at Northern GOK. Merchant pellet output dropped by 29% to 4,920 thousand tonnes. Output of pellets with 67.5% Fe content totalled 1,004 thousand tonnes, compared with none in 2019, following the modernisation of the beneficiation plant at Central GOK. Overall, the Southern GOK joint venture produced 12,798 thousand tonnes of iron ore concentrate during the reporting period, up 4% year-on-year. As the asset stopped producing sinter in the third quarter of 2019 amid insufficient demand, its merchant concentrate output increased by 11% in 2020. Before the suspension of operations, it had produced 946 thousand tonnes of sinter in 2019.





#### **COKING COAL**

Metinvest produces high-quality coking coal at United Coal, in the central Appalachian region of the US. As evaluated by Marshall Miller, according to the US Geological Survey Circular 891, its overall coal reserves base was around 159 million tonnes as of 31 December 2020.

In 2020, United Coal extracted 7,281 thousand tonnes of raw coal, using both underground and surface mining techniques, down 13% year-on-year. Its overall coking coal concentrate output decreased by 3% to 2,883 thousand tonnes<sup>11</sup>, as operations were suspended at the Huffman mine in February and one block of the Affinity mine in late March. The effect of this was partly compensated by the commissioning of new sections at other mines. United Coal's output is primarily consumed by the Group's coke production facilities in Ukraine.

In March 2021, after the reporting period, Metinvest consolidated control of Pokrovske Coal, the largest high-quality coking coal asset in Ukraine. As of 1 January 2019, its JORC Mineral Resources and Reserves amounted to 248 million tonnes and 151 million tonnes, respectively.

In 2020. Pokrovske Coal mined 6.162 thousand tonnes of raw coal, using underground mining techniques, up 23% year-on-year, and produced 3,184 thousand tonnes of coking coal concentrate, up 12%.

#### For more details about Pokrovske Coal, see the case study on page 25.

Following the consolidation of Pokrovske Coal, Metinvest significantly strengthened its self-sufficiency in coking coal. The Group calculates its self-sufficiency as actual coal concentrate production divided by actual consumption of coal concentrate to produce coke required for production of hot metal. Coal consumption for PCI is included in the calculation.

Metinvest also sources coking coal externally. The Group works with numerous suppliers from neighbouring countries and further afield including the US, Canada, Australia and Indonesia

In June 2019, certain restrictions were introduced on Russian coking coal exports to Ukraine. In March 2020, when these were removed, Metinvest resumed sourcing coal from Russia.

#### **METALLURGICAL SEGMENT** COKE AND CHEMICALS

Metinvest's coking assets consist of Avdiivka Coke, Zaporizhia Coke, Dnipro Coke and the facilities at Azovstal, all of which are in Ukraine. Their current combined production capacity is around 7.4 million tonnes of wet wharf coke a year.

Metinvest also has a 23.71% stake in Southern Coke (classified as an associated company), another Ukrainian metallurgical coke producer, which has a current annual wet wharf coke production capacity of around 0.9 million tonnes.

During the reporting period, the Group's output of dry blast furnace coke grew by 3% year-on-year to 4,808 thousand tonnes. This followed the consolidation from April of Dnipro Coke's production, which amounted to 383 thousand tonnes over the rest of the year. Coke output at Avdiivka Coke declined by 258 thousand tonnes, as fewer ovens were in operation than in 2019.

In 2020, Metinvest's coke self-sufficiency, which is calculated as actual coke production divided by actual consumption of coke to produce hot metal, was 160%.

Inkor Chemicals, a chemical product manufacturer in Ukraine, was merged with Avdiivka Coke in December 2020.

> CONTINUED ON PAGE 26

- 11 Excludes the processing of purchased coal. 12 Starting in April 2020, the coke production data include production volumes of Dnipro Coke after the Group had increased its share in the





**Coke production** 

asset above 50%.



Dnipro Coke<sup>12</sup>

>

Metinvest has consolidated control over Pokrovske Coal. a leading producer of high-quality coking coal in Eastern Europe. This acquisition significantly strengthens the Group's self-sufficiency in coking coal.

#### A STRATEGIC ACQUISITION

Pokrovske Coal comprises several entities, the main ones being Pokrovske Collierv and Sviato-Varvarynska Beneficiation Factory. Together, they mine raw coal, enrich it and sell coking coal concentrate. The assets are located on the border of Ukraine's Dnipro and Donetsk regions, close to Metinvest's coke producers.

As of 1 January 2019, Pokrovske Coal had JORC Mineral Resources and Reserves of 248 million tonnes and 151 million tonnes. respectively, enough to maintain operations for at least 30 years. In 2020, it mined 6,162 thousand tonnes of raw coal, up 23% year-on-year, and produced 3,184 thousand tonnes of coking coal concentrate, up 12%.

In March 2021, after the reporting period, the Group increased its effective interest in the business to a controlling stake. This follows Metinvest's acquisition of 24.77% of the effective interest in it two years ago, as well as an option to purchase the remaining 75.22% from the other co-investors.

#### **FINANCIAL PROFILE**

According to management estimates, in 2020 Pokrovske Coal revenues fell by 24% year-on-year to US\$385 million. The main driver was a decrease in the benchmark coking coal price, partly compensated by greater volumes. EBITDA totalled US\$144 million, down 44%, amid lower selling prices, giving an EBITDA margin of 38%, down 13 percentage points. CAPEX increased by 15% to US\$121 million, of which 40% was spent on expansion. Key ongoing strategic projects include the construction of new mine block no. 11.

In 2019-20, amid a potential business combination with the Group, Pokrovske Coal restructured a significant part of its loans and borrowings. As of 31 December 2020, it had external debt of US\$535 million. This mainly consisted of a US\$480 million restructured debt facility maturing in 2030. Metinvest intends to manage the business' debt portfolio prudently.



#### SVIATO-VARVARYNSKA **BENEFICIATION FACTORY** Raw coking coal enrichment and coking coal concentrate production



MINE CONSTRUCTION, MACHINERY PRODUCTION. AND SERVICE AND REPAIRS Engineering and construction of underground mines, and equipment production and installation



**POKROVSKE COLLIERY** Raw coking coal mining

## **RESOURCES AS OF 1 JANUARY 2019**



EBITDA IN 2020



Passenger a transportatio	L SERVICES nd cargo on, special equipment e and rail transportation

REVIEW

CONTINUED

#### STEEL

**OPERATIONAL REVIEW** CONTINUE

Metinvest ranks 45th among steelmakers worldwide and fourth in Eastern Europe<sup>13</sup>. It has two steelmaking assets: Azovstal and Ilyich Steel. Both are integrated producers and located in Mariupol. Ukraine, near the Sea of Azov. The Group's total steel production capacity is 9.6 million tonnes a vear.

Metinvest also holds a 49.997% interest in Zaporizhstal, a joint venture that has annual production capacity of some 4 million tonnes of crude steel. It is also one of the Group's top purchasers of iron ore, creating additional synergy through Metinvest's share of its steelmaking capacity. In addition, its product mix is complementary to the Group's. The enterprise is located in Zaporizhia, in southeastern Ukraine, home to Zaporizhia Coke. It stands on the banks of the Dnipro River, a strategic transportation route and close to Metinvest's iron ore facilities in Kryvyi Rih.

The Group also has four rolling mills in other European countries: Ferriera Valsider and Metinvest Trametal in Italy, Promet Steel in Bulgaria and Spartan in the UK. The flat producers in Italy and the UK re-roll slabs from the Ukrainian steel mills into plates and coils and are close to local customers, while the Bulgarian long producer re-rolls third-party square billets into rebar, wire rod and other long products. Metinvest's total re-rolling capacity in Europe is around 2.1 million tonnes a vear.

The Group's subsidiary Unisteel operates a coil galvanising line. The plant is located in Kryvyi Rih, Ukraine, and can produce up to 100 thousand tonnes of such coils a year.

In 2020, Metinvest's hot metal output rose by 7% year-on-year to 8.475 thousand tonnes amid greater production at both Mariupol plants. At Azovstal, production climbed by 9%, as the high-efficiency blast furnace no. 3 was launched following its major overhaul and upgrade in June 2019, as well as the planned major overhaul of blast furnace no. 2 was completed in the fourth guarter of 2019.

At Ilyich Steel, output increased by 5%, mainly amid a low-base effect caused by the shutdown of blast furnaces nos. 3 and 5 for planned overhauls in 2019.

The Group's crude steel output rose by 9% year-on-year to 8,268 thousand tonnes because of two main factors. First, Ilyich Steel boosted production by 14% as hot metal was reallocated to steelmaking. Second, Azovstal increased output by 4% amid greater hot metal production.

From the total volume of crude steel produced. Azovstal and Ilvich Steel cast 7,751 thousand tonnes of slabs, of which 5.526 thousand tonnes went to their own rolling mills and Metinvest's European re-rollers to make flat products. In addition, Azovstal produced 517 thousand tonnes of steel ingots, which were used to make long products and rails.

During the reporting period, Metinvest's output of merchant semi-finished products rose by 5% year-on-year to 3.313 thousand tonnes, as the Mariupol plants boosted merchant slab output by 329 thousand tonnes in response to greater demand. Consequently, pig iron production declined by 14% to 1,088 thousand tonnes.

Output of finished products rose by 4% year-on-year to 5,833 thousand tonnes in 2020. In particular, output of flat products increased to 4,809 thousand tonnes, up 3%. This came amid greater hot-rolled coil production, following the modernisation of hot strip mill 1700 at Ilyich Steel and steady demand for the product, and greater cold-rolled product output in response to more orders, which fully compensated for the lower production of hot-rolled plates. Output of long products rose by 11% vear-on-vear to 794 thousand tonnes. driven mainly by more orders for rebar. Tubular product output edged down by 3% year-on-year to 151 thousand tonnes. Railway product output soared by 30 thousand tonnes to 79 thousand tonnes because of an increase in orders from Ukrainian Railways.

Overall, the Group's output of merchant pig iron and steel products totalled 9,146 thousand tonnes in 2020, up 4% year-onyear. The share of steel products increased by two percentage points to 88%, driven by their greater production.

To adapt to changing customer needs and market trends, in 2020, Metinvest developed 46 new steel products: semis, plates, hot-rolled coils, cold-rolled products, galvanised products and electric welded pipe.

During the reporting period, the Zaporizhstal joint venture produced 3,784 thousand tonnes of crude steel. down 6% vear-onyear. Finished steel goods accounted for 74% of the product mix and merchant pig iron for 26%

In July-September 2020, Metinvest acquired some 5.4% of Zaporizhia Refractories, increasing its interest to 50.79%, upon which the asset became a subsidiary of the Group. In the reporting period, Zaporizhia Refractories produced around 109 thousand tonnes of refractory products (excluding unmoulded refractories), namely 49 thousand tonnes of chamotte, 20 thousand tonnes of high-alumina products and 41 thousand tonnes of magnesia products.

#### **OUTLOOK FOR 2021**

In 2021 Metinvest intends to focus on enhancing its health and safety practices further. Other priorities will be improving product quality; increasing output at Ilyich Steel's hot strip mill 1700; and maintaining the operational efficiency indicators achieved in 2020, particularly the lower metal consumption rate at rolling mills.

13 World Steel Association ranking for 2020, based on tonnage produced and geographical location

of assets. 14 Merchant.

## **Crude steel production** 8,268KT



**Pig iron and steel product output<sup>14</sup>** 9,146KT

8,755

204 714

4,677

1.896

1,264

2019

8.795

205

817

4,747

1,382

1,644

2018

9,146

4,809

2,225

1.088

2020

Long products

Rails and pipes

26



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### **Capital expenditure**

Amid lockdown restrictions and volatile markets, the 2020 investment programme was one of the more prudent in Metinvest's history. Despite all the challenges faced, the Group executed it successfully.

## Investing prudently executing successfully

#### 2020 RESULTS

The Group expected 2020 to be challenging for the industry. It set several CAPEX priorities for the year: continue with the environmental agenda, complete ongoing strategic projects, conduct crucial maintenance and develop design for projects in the pipeline.

Overall capital expenditure totalled US\$663 million in 2020, down 37% year-onyear. In line with the priorities, investments in maintenance decreased by 34% and in strategic projects by 45%, bringing their shares in the total to 72% and 28% respectively (68% and 32% in 2019).

#### **COVID-19 IMPACT**

The pandemic posed a challenge to the timely completion of projects, which rely on both internal and external factors. Specifically, numerous contractors simply could not physically start work or missed equipment delivery dates because of closed borders and quarantine restrictions. As such, significant flexibility was needed in the project execution process. Metinvest found solutions to the challenges through the joint efforts of all stakeholders involved. Various digital solutions for working and communicating remotely enabled the Group to promptly address organisational issues and remain focused on the key areas.

#### **KEY PROJECTS**

At the steelmakers, the largest strategic projects focused on Ilyich Steel. The revamp of the hot strip mill 1700 was completed with the installation of a new down coiler, and equipment operation has reached the design parameters in 2021. The upgrade expanded the mill's capacity to at least 2.5 million tonnes of high-quality coils a year and increased coil weight to 32 tonnes. Overall investments in the project, including the down coiler, exceeded US\$135 million. An auxiliary infrastructure upgrade is also ongoing at the plant. A new air separation unit is being constructed to generate more oxygen and nitrogen for steel production. Basic engineering has been developed and commissioning is expected in the first half of 2022. The project's cost is around US\$80 million.

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Additional Informatior

At the iron ore producers, the upgrade of transportation infrastructure at Northern GOK and Ingulets GOK has progressed, and the new crusher and conveyor systems at both are expected to be completed in the second half of 2021. The systems will cost around US\$200 million at Northern GOK and US\$50 million at Ingulets GOK.

In terms of quality improvement at the mining assets, Metinvest completed the upgrade of beneficiation facilities at Central GOK in March 2020. It allowed for production of concentrate with 70.5% Fe content and pellets with 67.5% Fe content, which are used in DRI technology. Overall investments in the project amounted to US\$21 million.

The Group also worked on designs for new projects in the pipeline, including flotation technology, a new roasting machine and waste thickening initiatives at Northern GOK.

Despite the uncertainties, environmental CAPEX was ring-fenced and totalled a record US\$205 million in 2020, up 32% year-on-year. Among a long list of

CAPEX by segment

**US\$663M** 

environmental initiatives, the key project was the modernisation of the sinter plant at llyich Steel.

## For more details, see the Environment section (page 53).

#### **TECHNOLOGICAL STRATEGY**

In 2020, Metinvest began the process of updating its technological strategy. This was driven by the risk of significant pressure on global steel and iron ore markets in the future; greater focus on premium iron ore products; and a new decarbonisation challenge requiring innovative solutions.

#### **OUTLOOK FOR 2021**

**CAPEX by purpose** 

In 2021, the Group's investment priorities include maintaining environmental CAPEX and introducing more digital tools at both iron ore producers and steelmakers. Also in focus will be strategic projects, both existing and new initiatives guided by the technological strategy. These include the construction of a new cold-rolling mill at llyich Steel and thickening of beneficiation waste at Northern GOK.



