
ANALYSIS AND REVIEW OF FORECASTS OF WORLD METALLURGICAL COKE PRODUCTION

© **S.A. Kravchenko**, PhD in Technical Sciences, **S.V. Chaplianko**, PhD in Technical Sciences "STATE INSTITUTE FOR DESIGNING ENTERPRISES OF COKE OVEN AND BY-PRODUCT PLANTS" (SE "GIPROKOKS"), 61002, 60 Sumska str., Kharkiv, Ukraine)

The article considers and analyses the volumes of global iron and steel production in 2019-2023. It is shown that during this period it had fluctuating trends: the deviation between the minimum and maximum values was 109 million tonnes (7.7 %) for iron and 112 million tonnes (5.7 %) for steel. Domestic steel production in 2019-2021 was characterised by an increase of 1.1 million tonnes (5.2 %) in iron and fluctuations (the deviation was 0.8 million tonnes, i.e. 3.7 %) in steel, and a sharp decrease of 14.8 million tonnes (69.7 %) in steel. t (69.8 %) for iron and 15.1 million tonnes (70.6 %) for steel in 2022 and a further decrease of 0.4 million tonnes (6.2 %) for iron and 0.1 million tonnes (1.6 %) for steel in 2023 is due to the consequences of Russia's armed aggression against Ukraine.

The article considers and analyses the volumes of global production of metallurgical coke in 2019-2021. It is shown that during this period it had fluctuating trends: the deviation was 21 million tonnes (3.0 %). The volume of coke production in China in 2020-2023 increased at an average annual growth rate of 2.2, 2.4, and 3.8 %, respectively. Domestic production of metallurgical coke in 2019-2021 was characterised by a decrease in volume by 0.44 million tonnes (5.2 %), and a rapid decrease by 5.6 million tonnes (59.0 %) in 2022 is also due to the consequences of armed aggression.

Separate forecasts for global metallurgical coke production in the short and long term are considered. It is shown that there is no consensus on the development of global coke production. The most negative scenario is a decline in global coke production to \$84.016 billion (USD) in 2029, while the most positive is an increase to \$325.78 billion in 2034. In 2024, on average, the global metallurgical coke market will be around \$106 billion according to negative forecasts and around \$205 billion according to positive forecasts.

Given the World steel Association's weak positive outlook for global steel production, as well as the existing increase in coke production in China in 2020-2023 and the planned expansion of coke production capacity in India and Brazil, a restrained positive outlook for global coke production is most likely (for 2024 and beyond).

Keywords: cast iron, steel, metallurgical coke, coke-chemical production, analysis, forecast.

Corresponding author S.V. Chaplyanko, e-mail: chaplianko_sv@ukr.net
