

Material Flow Accounts of the Republic of Kazakhstan

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1. Key indicators

825,5	million	tonnes	700.3	million	tonnes	-125.2	million	tonnes
Domestic extraction of materials (end of 2023)			Domestic material consumption (end of 2023)			Physical trade balance (end of 2023)		

2. Main Results

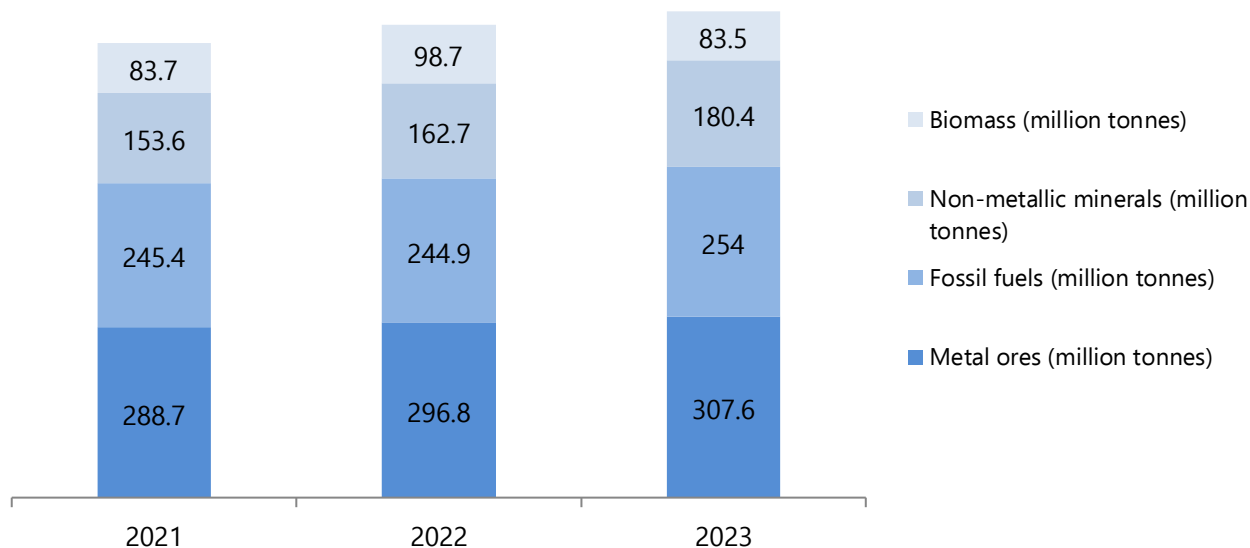
In 2023, domestic material consumption in Kazakhstan amounted to 700.3 million tonnes. Compared with 2021, the indicator increased by 49.0 million tonnes, or 7.5%. The growth in domestic material consumption reflects an increase in the volume of materials actually used by the national economy.

In 2023, domestic extraction of materials reached 825.5 million tonnes, while direct material input amounted to 834.4 million tonnes. Material exports significantly exceeded imports, resulting in a negative physical trade balance of –125.2 million tonnes.

Main Indicators of the material flow accounts

Indicator	Million tonnes		
	2021	2022	2023
Domestic extraction	771,5	803,2	825,5
Imports of materials	7,7	7,8	8,9
Exports of materials	127,9	122,2	134,1
Domestic material input	779,2	811,0	834,4
Domestic material consumption	651,3	688,8	700,3
Physical trade balance	-120,2	-114,3	-125,2
Net additions to stock	204,4	236,5	252,9

Structure of Domestic Extraction



Dynamic Tables

[Material flow account](#)

3. Glossary

Domestic extraction — the quantity of materials removed from the natural environment and used in the national economy.

Material imports — the inflow of materials, raw materials, semi-finished products and finished goods from other countries into the economic territory of the country.

Material exports — the outflow of materials, raw materials, semi-finished products and finished goods from the economic territory of the country.

Direct material input (DMI) — the sum of domestic extraction and material imports.

Domestic material consumption (DMC) — the amount of materials actually used by the national economy. It is calculated as direct material input minus exports.

Physical trade balance (PTB) — the difference between material imports and material exports in physical terms.

Domestic processed output (DPO) — materials returned by the economy to the environment after use in production and consumption.

Net additions to stock (NAS) — the increase in material stocks within the economy during the reporting period.

Biomass — materials of biological origin used in economic activities.

Fossil fuels — mineral-based energy materials, including coal, crude oil, natural gas and related products.

4. Methodological Notes

The Material Flow Accounts (MFA) are one of the core modules of the System of Environmental-Economic Accounting (SEEA 2012) and are designed to record the physical flows of materials between the environment and the economy.

The main objective of the accounts is to provide an integrated assessment of the use of material resources in economic activity and to analyse the impact of the economy on the environment.

The accounts record the extraction of natural resources from the environment, the movement of materials and products within the economy, and the flows of materials returned to the environment as waste, emissions and other residuals. This approach enables the complete life cycle of material resources—from extraction to final use and disposal—to be traced.

The indicators of the Material Flow Accounts are used to assess resource consumption, material intensity, resource efficiency and to provide a statistical basis for monitoring sustainable development. The accounts ensure the comparability of material flow statistics with macroeconomic indicators and support analysis of the relationship between economic growth and the use of natural resources.

5. Related Publications

[Environmental Tax Accounts](#)
[Accounts of System of Environmental-Economic Accounting of the Republic of Kazakhstan \(2024\)](#)

6. Useful Links

[Methodology for the formation of primary indicators required to build an environmental account in the System of National Accounts](#)

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