Water and beverages / WB-08

Energy in bottle production

Allocating blow moulding machine, compressor and chiller energy to each unit of output.

The tariff has gone up. Where the energy goes is not visible.

From 1 June 2026, the electricity tariff for legal entities increased. In PET bottle production, a large share of energy goes to blow moulding and compressed air, but it is usually visible only on a single plant-wide meter.

Conceptual architecture. No operating results are shown.

01 Meters	Blow moulding · Compressor · Chiller
02 Production	Line status · Unit counter · Format
03 Calculation	kWh / 1,000 units · Idle running · UZS at tariff
04 Analysis	Shift and format · Trend · Saving measures

At a glance

1,100 — Electricity tariff for legal entities, UZS/kWh, from 01.06.2026. Previously 1,000 UZS. [1]

2,000 — Natural gas price, UZS/m³, from 01.06.2026. [1]

Up to 70% — According to an industry publication, on some lines the blow moulding machine can account for this share of total energy consumption. [2]

November 2026

01 Evidence and context

Who it is for

Chief Power Engineer	Consumption by consumer.
Production Director	Energy by line.
Finance Director	Tariff and share in production cost.
Plant Owner	Payback of energy-saving projects.

Facts and global practice

Cabinet of Ministers Resolution No. 243 of 15.05.2026, effective 01.06.2026

Electricity tariff for Group I, II and IV consumers is 1,100 UZS/kWh; for Groups II and IV it was previously 1,000 UZS. [1]

Same resolution

Natural gas for all consumers (with certain category exceptions) is 2,000 UZS/m³. [1]

Industry publication, beverage bottling plant example

The blow moulding machine can account for up to 70% of total energy consumption; most of this is attributable to compressed air. [2]

UzBev association, no figures given

Energy and packaging prices have increased. [3]

Energy consumption depends on the line, bottle size and equipment age. For comparison, consumption should be calculated per 1,000 bottles or per litre.

02 Where the losses occur

Single meter

Total plant consumption is known, but blow moulding, compressor and chiller consumption are not visible separately.

Compressed air

If pressure is higher than required or air leaks, the compressor runs more than necessary.

Idle running

When the line stops, blow moulding and chilling equipment may keep running.

Not calculated per unit of output

If consumption per 1,000 bottles is unknown, savings cannot be proven.

How the loss is calculated

Energy cost	kWh per 1,000 bottles × tariff (UZS/kWh) × annual output (thousands of bottles)
Idle running	stoppage hours (h/year) × equipment power (kW) × tariff (UZS/kWh)
Compressed air	compressor consumption (kWh/year) × share due to excess pressure × tariff (UZS/kWh)
Tariff change	annual consumption (kWh/year) × (new – old tariff, UZS/kWh)

Illustrative calculations; establish the baseline, units and rates during the site assessment. Avoid counting the same loss twice.

03 Solution architecture

Energy accounting by consumer

Meters are installed on the main consumers, and consumption is displayed alongside line output.

01 Meters

Blow moulding · Compressor · Chiller

02 Production

Line status · Unit counter · Format

03 Calculation

kWh / 1,000 units · Idle running · UZS at tariff

04 Analysis

Shift and format · Trend · Saving measures

Modules

Energy monitoring	Meters and accounting by consumer	In development
Line signal collection	Operating status and unit counters	Engineering capability

Each module has a readiness status. Third-party results are not a forecast for your site.

04 Implementation and measurement

01 Energy audit

Temporary measurement on the main consumers.

Output: consumption breakdown.

02 Meters

Permanent meters and connection.

Output: daily data.

03 Measures

Measures on idle running, pressure and leaks.

Output: consumption is re-measured.

04 Control

Monthly report.

Output: Consumption trend per 1,000 bottles.

What is measured

Specific consumption	kWh / 1,000 bottles, by line	Meters, line
Blow moulding share	Blow moulding / total consumption	Meters
Idle running	Consumption while the line is stopped	Meters, line
Energy cost	UZS / 1,000 bottles	Calculation

What is needed to start

- Chief Power Engineer
- Electrical diagram and list of meters
- Line operating schedule
- Time window for meter installation

05 Readiness checklist and next step

01 Is blow moulding machine consumption measured separately?	Yes / No / Unknown
02 Is compressor consumption measured separately?	Yes / No / Unknown
03 Is chiller consumption measured separately?	Yes / No / Unknown
04 Is kWh per 1,000 bottles known?	Yes / No / Unknown
05 Is equipment switched off when the line stops?	Yes / No / Unknown
06 Is compressed air pressure set to actual demand?	Yes / No / Unknown
07 Are air leaks checked regularly?	Yes / No / Unknown
08 Has the new tariff been included in production cost?	Yes / No / Unknown
09 Is energy consumption compared across shifts?	Yes / No / Unknown
10 Is there a person responsible for energy?	Yes / No / Unknown

What we do not promise

• Fixed timeline and price without an audit

• Government resolutions and their deadlines

• Changes to line software without the equipment supplier's approval

• Unmeasured results or savings

• Tariff changes

• Savings of a specific percentage

Energy audit

We measure blow moulding, compressor and chiller consumption and calculate the energy cost per 1,000 bottles.

• Consumption breakdown

• Idle running and losses

• Plan of measures and meters

Scope, price and schedule are agreed after reviewing the site and its data.

06 Sources and scope

[1] Cabinet of Ministers Resolution No. 243 of 15.05.2026. buxgalter.uz; gov.uz/ru/minenergy, 15.05.2026.

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[2] Coca-Cola bottler reduces blowing pressure. foodprocessing.com.au.

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[3] UzBev association statement. gazeta.uz, 30.03.2026.

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