

POLICY to Reduce & Monitoring the GHG Intensity, Raw Materials & Water Consume part of KUMA Policy 2024-2026 rev. April 2026



EPD Certification – find the certificates on www.kumaromania.ro category About Us/Certifications <https://www.kumaromania.com/certifications/>



KUMA – Environmental Product Declaration (EPD) Summary

KUMA has obtained an independently verified Environmental Product Declaration (EPD) in accordance with EN 15804, the leading European standard for assessing the environmental performance of construction products through Life Cycle Assessment (LCA).

An EPD provides transparent, science-based data on a product's environmental impact across its life cycle — from raw material extraction and manufacturing to end-of-life recovery and recycling.

For KUMA composite washbasins, the certified A1–A3 (cradle-to-gate) carbon footprint is 1.53 kg CO₂e per kg of product, covering raw materials, upstream transport and manufacturing.

This places KUMA significantly below the estimated European average for mineral composite washbasins (approximately 1.8–2.4 kg CO₂e/kg), positioning the product among the better-performing solutions in its category, with an estimated carbon footprint around 25–30% lower than the European market average.

Beyond carbon performance, the EPD also confirms:

- Zero environmental impact during the use phase (B modules)
- Low water consumption in production
- Integration of secondary / recycled materials
- End-of-life recycling and resource recovery benefits (Module D)

Overall, KUMA's EPD confirms a strong environmental profile, making it a competitive specification choice for sustainable residential, hospitality and green-certified building projects.

A. POLICY TO REDUCE INDIRECT EMISSIONS- ELECTRICITY

This approach to reduce the GHG intensity is now more important than ever in the context of the unprecedented increase in energy purchase costs both on the local and European markets, but also in the current climate and environmental emergency.

The highest energy consumption in our business sector comes from electric & gas energy consumption.

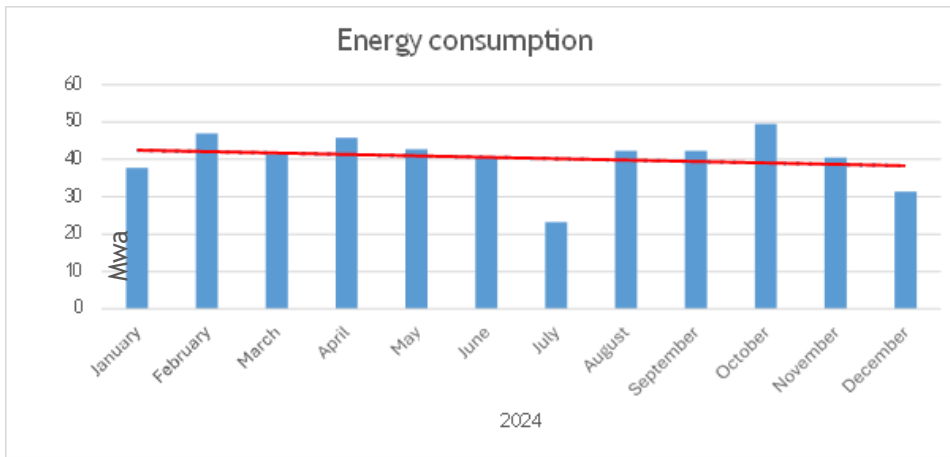


Fig. 1 Monthly evolution of electricity consumption recorded by SC KUMA ROMANIA SRL in 2024

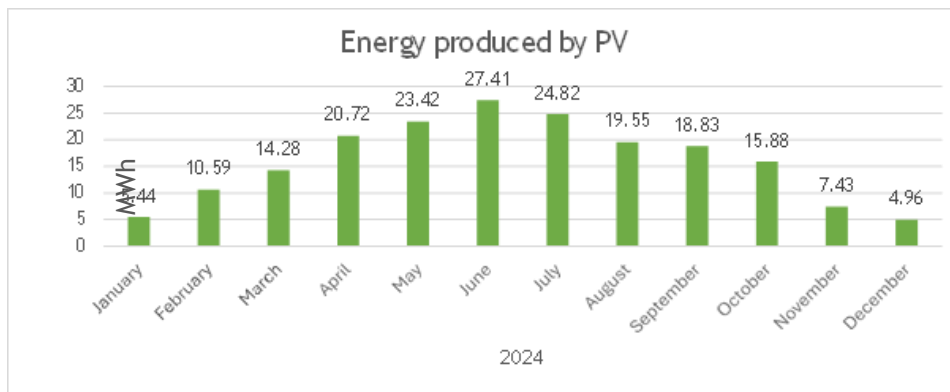


Fig. 2 Monthly evolution of electricity produced by PV in 2024

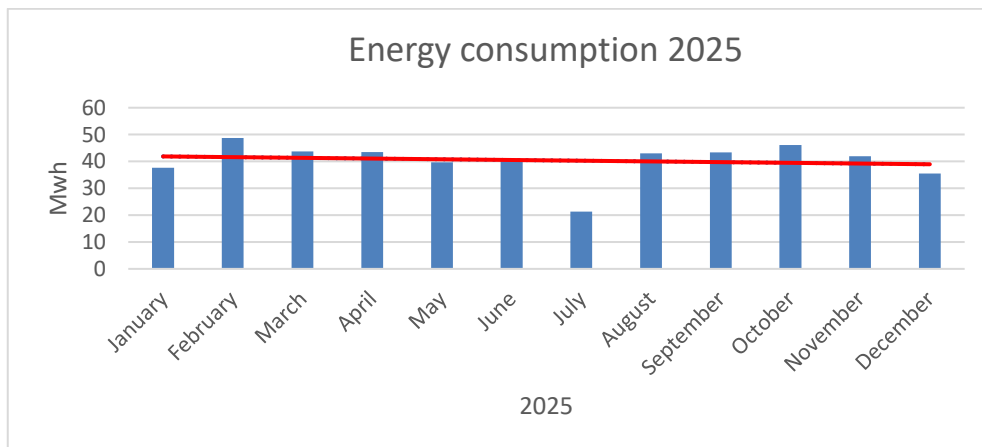


Fig. 3 Monthly evolution of electricity consumption recorded by SC KUMA ROMANIA SRL in 2025

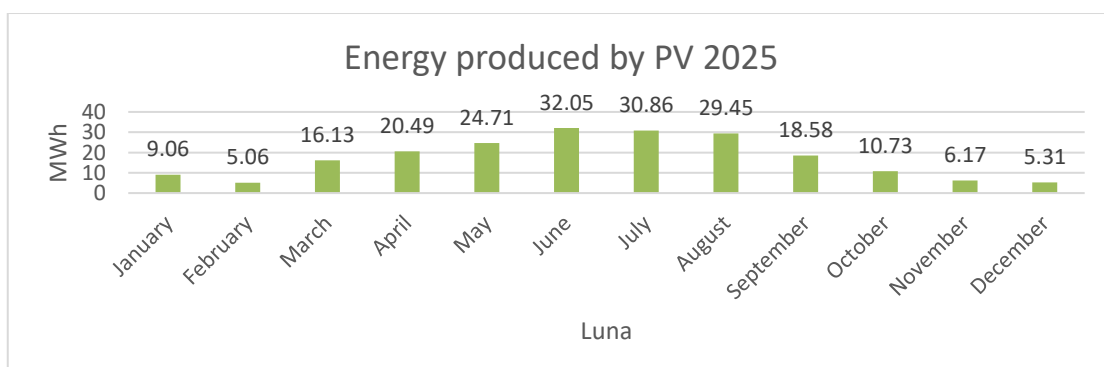
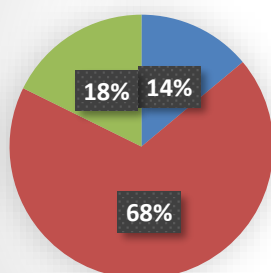


Fig. 4 Monthly evolution of electricity produced by PV in 2025

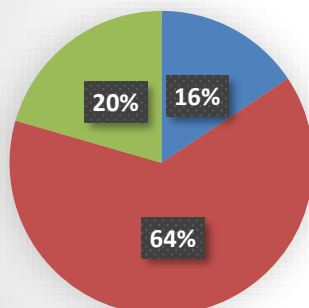
Description	2024	2025
MW from PV introduced into public network	85	90
MW consumed from public network	417	367
MW consumed from PV	108	118
Total electric energy consumed-MW	525	491
Co2 avoided using PV-tons	101	98
MW consume reported on no.of tones cast	12.85	7.2

Mwh produced and consumed 2024



- MW from PV introduced into public network
- MW consumed from public network
- MW consumed from PV

Mwh produced and consumed 2025



- MW from PV introduced into public network
- MW consumed from public network
- MW consumed from PV

WHAT MEASURES HAVE WE TAKEN TO REDUCE THE ENERGY CONSUME per tone cast

- Use of renewable energy- KUMA RO installed at the end of 2022 a 0.2MW photovoltaic central
- energy efficiency
- process optimization

Since August 2024, KUMA signed a PPA contract with the energy provider and 100% of the energy used from public network comes from renewable sources. A new additional document was signed until 30th June 2026.KUMA is committed to continue a PPA contract during 2026-2028.

The photovoltaic panel for electricity generation with an installed capacity of 0.2 MWh reduced the amount of greenhouse gas by about 198 tons CO2 between 2024-2025.

KUMA will invest according to a Project with European funds, for another photovoltaic plant with a capacity of 0.2 MWh, which will mean a decrease in the amount of greenhouse gases by another 90 tons CO2 per year.

Resolution 2026: KUMA got access to EU FUNDS (in Dec.2024) for a new photovoltaic plant - project which will be implemented in 2026.

Summary of energy efficiency measures proposed for implementation at SC KUMA ROMÂNIA SRL

Proposed measures	Energy saving		Investment	Recovery time
	TEP/year	Tone CO2/year	EUR	Years
Organizational measures	0.95	3.30	-	2025-2026
The installation of a new photovoltaic power plant with a capacity of 0.20 MW	17	80-90	192,000	3

In the Energetic Report dated oct.2024 some measures are extracted from the Report- in order to reduce the electricity consume:

1. Ensures the use of heating only in the areas where it is needed.

We Consider zoned heating of the building to allow temperature regulation for each individual area/section.

In the casting & polishing section- we should keep a constant temperature of 20-22 drg due to the casting technology- in wintertime we use 2 gas heated ventilation systems combined with 2 gas central heating units to ensure the temperature requested.

In summertime we use 10 innovative cooling systems-low energy consume- to cover the entire production area.

In the packaging area- in wintertime: we use the heat released by the compressors and introduce it into the section; no other heating units are required.

Areas such as storage spaces and corridors or areas where there is a high level of physical activity require less heat.

Intelligent control systems provide cost-effective methods to regulate temperature in buildings based on occupancy and usage levels.

TARGET: 2025-2026 to change one gas heated ventilation system (Air Treatment Plant) with a new generation of ventilation system with heat recovery unit, more efficient -it will reduce the overall consumption in terms of gas and energy with 5-8%.

RESOLUTION 2026: KUMA got access to EU FUNDS (in Dec.2024) for a new equipment:

Air Treatment Plant- project which will be implemented in 2026.

2. Preventing heat loss by improving insulation and reducing infiltration, coupled with ventilation control (preferably with heat recovery), can significantly reduce energy costs.

In 2022 KUMA started to “seal” the roof (1000 sqm): insulation with rigid polyurethane foam.

Rigid polyurethane foam (PUR/PIR) is one of the most efficient, high performance insulation materials, enabling very effective energy savings with minimal occupation of space.

Better insulation in KUMA building brings additional benefits:

- energy savings
- protection of the environment: more stringent insulation regulations can cut European CO2 emissions by 5 % (60 % of the present European Kyoto target)

TARGET: 2024-2026 to finish to “seal” the roof with polyurethane foam - all 1500 sqm.

RESOLUTION 2026: the roof was insulated -1500 sqm –

3. **Installation of intelligent systems for heating, ventilation and air conditioning-**
We installed: 11 units in our company

With energy prices escalating and summers typically involving heat waves in Romania, the intelligent cooling systems offers a significant and increasing edge on refrigerated cooling, when it comes to energy efficiency, low water consume, healthier air flow for our employees, performance and easy install and maintenance.

4. **Installation of photovoltaic panels** is a smart long-term strategy to save on energy costs and ensure that the energy used in our business is clean and renewable. KUMA invested in a system 0.2MWh in 2022.
TARGET 2024-2026: to invest in a new photovoltaic system 0.2MWh - By adding the new photovoltaic system, we intend to decrease energy power consumption by another 10-15%.

5. **Administrative Area** - We installed in 2006 **Thermostats**, and they are set 19-20°C for heating, however we take into account the activities taking place in each space.

We place the thermostats in the right places – away from drafts and direct sunlight and away from any heating source.

We program the temperature with the smart thermostat so that when the building is unoccupied (e.g. at the weekend) we can adjust the temperature accordingly. However, it keeps the unused areas at a guard temperature to avoid degradation of the building envelopes and return to use mode easily and comfortable.

6. **Installation of centralized energy monitoring systems:** on all major power consumption equipment in the factory such as casting machines, ventilation systems and compressors.
These systems offer the possibility of monitoring and managing energy consumption, which can lead to the identification of potential cost reduction methods.

When we know where, when and especially how energy is used within our company, we can more easily identify energy waste, respectively the ways to save, which contributes to reducing costs.

7. **KUMA installed smart lighting systems using light sensors** outside and inside led lamps/bulbs, to optimize the duration of use of artificial lighting.

When no one is in the office or factory, these systems can reduce electricity consumption. Also, using systems for regulating the light intensity of the lighting sources, it is possible to additionally reduce the consumption of electricity depending on the level of natural light that the room benefits from. For example, if our administrative area benefits from direct sunlight, using lighting during lunch hours is ineffective.

In addition, we replaced incandescent bulbs with LED bulbs, reducing both energy costs and the company's carbon footprint.

B. POLICY TO REDUCE THE RAW MATERIALS & CHEMICALS CONSUME (Direct Emissions)

Kuma Romania S.R.L is committed to using constituent materials in a responsible and sustainable way, considering aspects such as efficiency in the use of resources, reducing waste and carbon emissions, as well as improving the performance of the final product in terms of sustainability and environmental impact. We are committed to regularly monitoring and reporting our progress in this direction to relevant stakeholders.

The new range of standard washbasins – will be a new concept - It means :

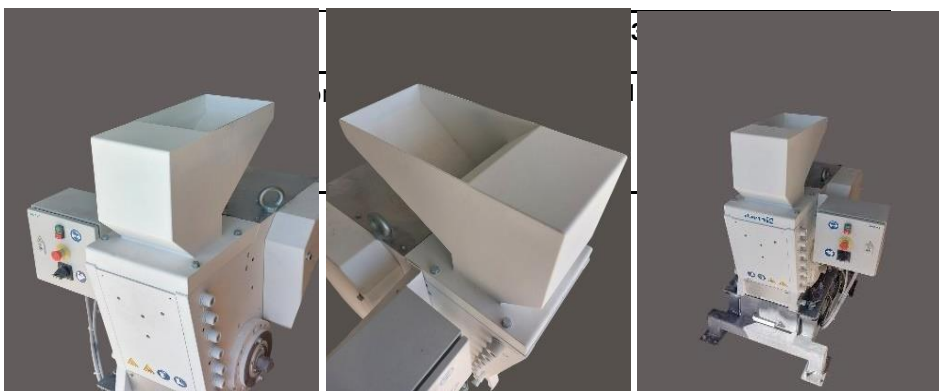
The **KUMA ECO STANDARD BL** concept represents a philosophy centered on sustainability, efficiency and reduced environmental impact.

Key benefits for customers include:

- **LESS MATERIAL** - Economical Material Usage: KUMA STANDARD ECO BL concept not only delivers a high-quality design and functionality for our clients but also underscores our commitment to sustainability through the thoughtful reduction in material consumption.
- **LESS CO2 footprint** - Environmental Responsibility: By choosing the 12-15 mm thickness, clients actively contribute to environmental sustainability. The decreased CO2 footprint aligns with eco friendly building practices, reflecting a commitment to responsible design.
- **LESS weight** - Convenient Handling and Installation: The lighter weight of the KUMA ECO BL washbasins enhances ease of handling during transportation and installation, streamlines the construction process and potentially reduces labour and associated costs.
- **LESS installation height** - Versatile Application and Space Optimization: Clients gain flexibility in design and space utilization through the KUMA ECO BL adaptable standard range. The hybrid overflow system contributes to optimizing available space, providing clients with versatile design options.
- **LESS height on packaging boxes** - Cost-Effective Logistics: The reduced packaging box height translate to practical benefits for clients, simplifies construction logistics and contribute to more cost-effective transportation and storage

POLICY TO REDUCE THE COMPOSITE WASTE

We expect to reduce the composite waste with min.5% reported to tons of raw material cast- through valorification back in production of the crushed material. Our crusher-bought in August 2024, already works in order to crush the composite waste and to transform it in powder to be reused in the flow.



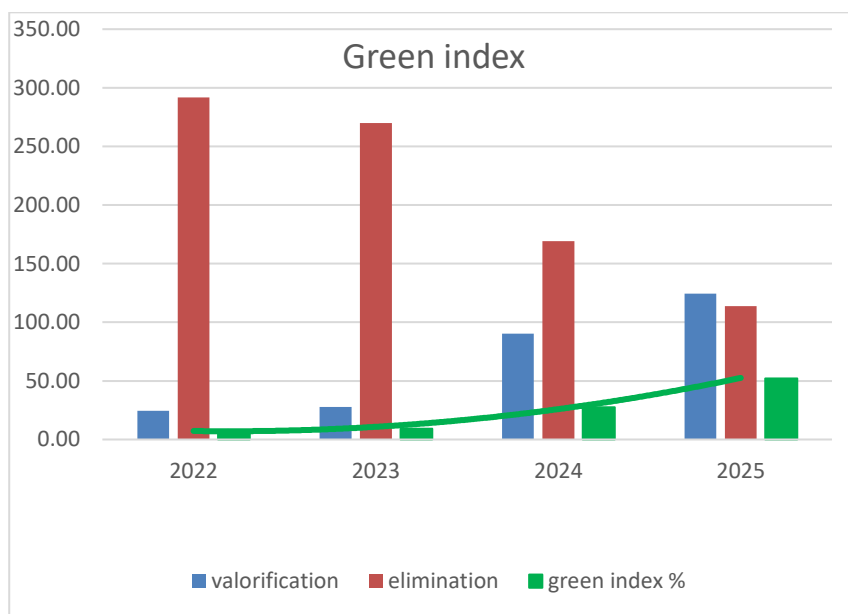
YEAR	2021	2022	2023	2024	2025
composite waste index (ton/raw material ton)	12.43	11.63	13.17	11.98	11.1

In the same consumption reduction register, the waste material (composite marble) from casting process is reused to cast brackets/consols since 2021. In 2025 we sold 3500 brackets (approx. 7 to)



KUMA will continue to cast these type of items and to offer in the market as alternative to other metallic brackets.

Besides this, KUMA is crushing part of the composite waste and is reusing it into the casting flow (5.6 to was reused in this way in 2025).



solution	2022	2023	2024	2025
valorification	24.50	27.80	90.41	124.48
elimination	291.70	270.00	169.23	113.83
green index %	7.75	9.33	27.41	52.00

2024-2026 WASTE MANAGEMENT TARGETS

As an integral part of VISION 2026, the **objectives of the waste prevention and reduction program** will be:

Vision 2024-2026 - min 30% recycling or energy recovery of industrial waste

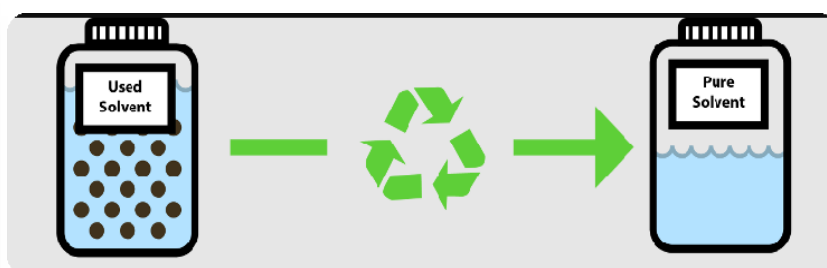


Which indicates a significant increase in waste recovery performance and demonstrates the achievement of the 30% target planned for 2026 in 2025.

C. POLICY TO REDUCE THE CHEMICAL SUBSTANCES USED IN PRODUCTION (DIRECT EMISSIONS)

REDUCTION OF THE QUANTITY OF CHEMICAL PRODUCTS (AUXILIAR) – RECYCLING AND RE-USING PART OF THEM

By installing recycling units for the cleaning agents used in production process, the consumption is reduced.



2024: Recycled acetone represented 14% from total consume

Waste acetone represented: 29%.

2025: Recycled acetone represented 18,5% from total consume

Waste acetone represented: 25%

Target for 2026- same level of recycling as in 2025

D. POLICY TO REDUCE THE VOC's COMPOUNDS DURING THE PROCESSES

Managing VOC (Volatile Organic Compound) emissions is a key aspect for our GHG report.

The substance which create volatile compounds is the styrene .

VOC Emission Reduction Strategies Describe the specific measures we have implemented to reduce VOC emissions:

- Our company together with the Suppliers find solutions to use substances with low % of styrene- both for resins and gelcoats. Not to mention that these substances have a higher cost and we face challenges in the market about this.
- Replacing VOC-based solvents with more environmentally friendly alternatives: for example, using VOC-free or low-VOC paints and solutions.
- Improving manufacturing processes to reduce chemical volatilization (e.g., optimizing the paint application process to reduce losses).
- VOC capture and recovery: Using capture systems - absorption ventilation systems/3 units for casting section,
- Improving ventilation and emission control through more efficient equipment that reduces the amount of VOCs released into the atmosphere.
- Automating processes to reduce manual interventions that can lead to VOC leaks
- Filtration and absorption systems in both sections: casting and polish sct.

KUMA is respecting the legislation in force and is measuring yearly the level of volatile compounds inside and outside. It's a legal request coming from the Environmental Approval and from the Department of Public Health. KUMA is in legal parameters about VOC's.

Its also important to mention that ISO14001 and 45001- have clear specifications in this respect and KUMA fulfills all requests of the standard- being verified once per year by third part.

VOC Emission Assessment Detail- , the monitoring methods used (e.g., chemical air analysis, measurements with special equipment made by an externalized company approved by Environmental Dpt.Prahova).

Results and Emission Reduction Presentation of the impact of the measures implemented.

For example: Percentage reduction in VOC emissions during the reporting period. Impact on air quality within the company premises or in the surrounding areas. Evaluation of the costs and benefits of these measures (implementation costs vs. savings generated through energy efficiency or reduction of legal penalties).

In **The Solvent Balance Sheet**-issued yearly according legislation,

	Parameter/acc.to COV Balance Report 2024	Determined Value/medium	Limited Value acc.legislation
1	Maximum VOC's emissions in waste gases	29.6 mg/Nmc	75 mg/Nmc
2	Fugitive Emission	12.5%	20%

	Parameter/acc.to COV Balance Report 2025	Determined Value	Limited Value acc.legislation
1	Maximum VOC's emissions in waste gases	10 mg/Nmc	75 mg/Nmc
2	Fugitive Emission	12.3 %	20%

Conclusion: Impact on air quality within the company premises or in the surrounding areas are much lower than the legal limits.

Future Plans for environmental protection and public health: the organization will take to further reduce VOC emissions in the long term- we hope that the resins will be developed without styrene content in the next 5 years and the price will not to be prohibitive.

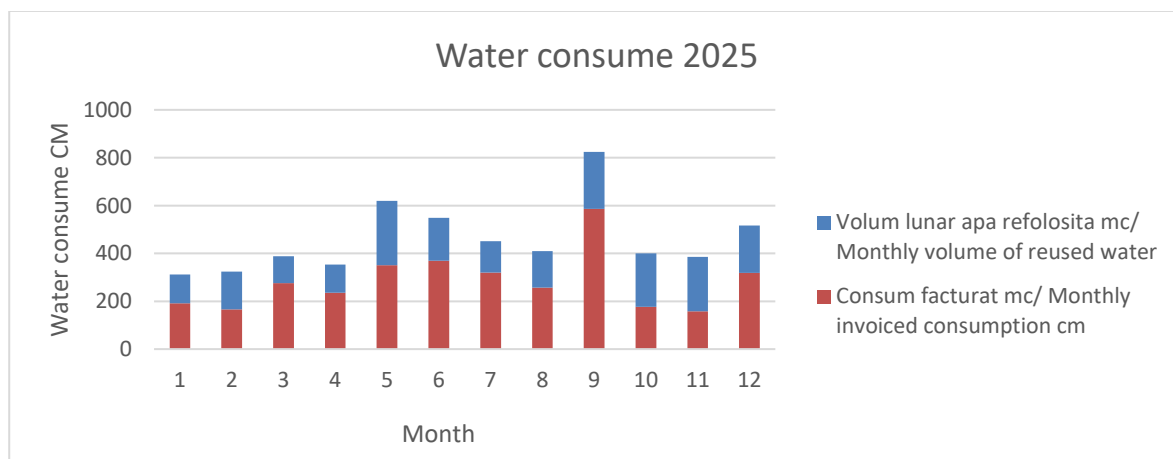
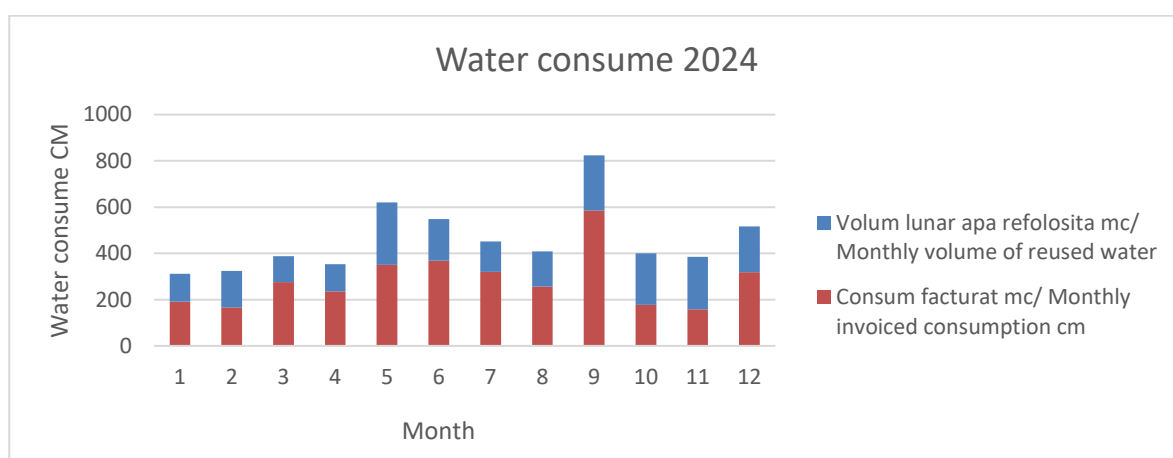
According to the legislation we will follow the legal rules in force.

E. WATER Consume - how we reduce:

1. Water Recycling and Reuse

- **Closed-loop systems:** Implement a closed-loop water system where water is continuously recycled within the production process.

We implemented in 2006 a reusable water system for industrial use, that recovers the water used in the production line, filters it using gravity storage tank and reuses it in the production again for cleaning, washing the floors.



Description	2024	2025
Yearly volume of reused water- (cbm)	2126	1773
Yearly invoiced consumption (cbm)	2871	2099

2. Efficient Water Management

- **Water metering and monitoring:** Install flow meters and sensors to track water usage at key points in the production process. Regular monitoring helps identify areas where water is being wasted or where consumption could be optimized.
- **Water audits:** We Conduct mostly regular water audits to evaluate where water is being used most heavily and find opportunities for efficiency improvements.

3. Process Optimization

- **Process modifications:** We Review the manufacturing processes to identify areas where water consumption can be reduced. For example, in certain manufacturing processes, water can be replaced with other substances or optimized to use less water for cooling or washing.

4. Water-efficient Equipment

- **Low-flow and high-efficiency equipment:** Install water-efficient equipment such as low-flow faucets, cooling systems, and high-efficiency washers. For example, using air-cooled chillers rather than water-cooled systems can save significant amounts of water.
- **Upgrade pumps and valves:** Modern, energy-efficient pumps and valves can reduce the need for excess water flow, thereby minimizing consumption.

5. Reducing Water Losses- with our maintenance Team.

- **Leak detection and repair:** Ensure that there are no leaks in pipes, valves, or other water infrastructure. Leaks can significantly increase water consumption over time.
- **Regular maintenance:** Ensure that all water-dependent equipment and machinery are regularly maintained to prevent inefficiency and waste.

6. Alternative Water Sources

- **Rainwater harvesting:** KUMA Collects and store rainwater for non-potable uses such as irrigation.
- **Use of non-potable water:** It was possible to replace potable water with non-potable sources for processes that don't require drinking water quality, such as production floorswashing, or landscaping.

7. Employee Awareness and Training

- **Training programs:** Educate employees on the importance of water conservation and the role they play in reducing consumption.

By implementing these strategies, KUMA can significantly reduce industrial water consumption, helping conserve resources, reduce operational costs, and minimize the environmental footprint.

F. As Part of our company's concern for a clean for environment , we plant every year decorative trees in KUMA garden- to become a nice place for break-time, fresh air, shadow.

In this way we contribute positively to the environment by absorbing CO₂, improving air quality, and enhancing biodiversity, all of which align with reducing greenhouse gas emissions.

In KUMA garden-park- we have oak trees, pink acacia trees, Japanese cherry trees, lilac decorative trees, a lot of flowers- nice environment for all of us.

Every tree planted reduces the Co₂ footprint with approx. 20 kg per year/per tree.
Since 2006 we have 25 mature trees and 25 young decorative trees, among other flowers.



KUMA ROMANIA/rev. April 2026