ICU Medical Costa Rica

Environmental

Sustainability Report – 2024

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INTECO
SISTEMA DE GESTIÓN DE LA ENERGÍA CERTIFICADO
INTE/ISO 50001:2018
SGEN-006/2021

CERTIFIED IQNet MANAGEMENT SYSTEM

CARBONO INVENTARIO
Reconocido por el Gobierno de Costa Rica
EXPEDIENTE DCC-PP-034-2024
Ver alcance y vigencia en www.cambioclimatico.go.cr

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Section 01

General Content

Section 01

OUR HISTORY

ICU Medical Costa Rica LTDA is located in Heredia and starts its operation in 1999.

- 3122 employees
- 680K ft2, with 10 cleanroom
- Operation vertically integrated divided in 3 Focus Factories

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Section 01

OUR OPERATION

Assembly Focus Factory

- 385.5 MM subassembly units-159 SKUs and 120 MM sets units-782 SKUs.
- 110 automated pieces of equipment based on friction fit, ultrasonic welding, laser welding.
- 10 manual operation Final Lines.
- Packaging equipment such as Pouch, Form Film & Seal and Carton Line.
- In-house E-Beam sterilization process

Molding Focus Factory.

- 2 billion molded parts and 600 MM feet of tubing for 157 SKUs .
- 64 presses/extruders for Conventional Molding, Liquid Silicon Injection, Tubing Extrusion and Insert Molding
- 1 vacuum deposition PVD Coating, 1 Ultrasonic Welder and 1 Pad Printer.
- Robust in-house tool shop to support the operation

Infusion Pumps Focus Factory

- 2 Build to order Manufacturing Lines for 1 PLUM 360 line, 2 PLUM DUO lines, 1 PLUM SOLO line, 1 CADD line. 1 MF4000 line.
- 59K Infusion Pumps units and spare parts and accessories to support service activities.
- 8 years with no manufacturing related complaints in Infusion Pumps.

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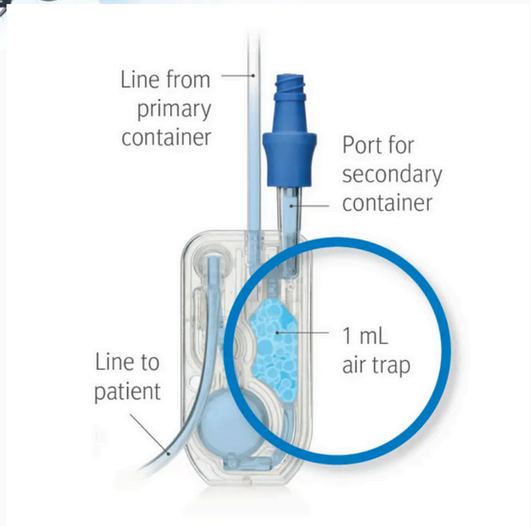
Section 01

OUR PRODUCTS

Plum 360™

Large Volume Infusion Pump

- Award-winning clinical performance
- Active pumping technology
- Direct secondary connection
- Reduce burden of IV pump alarms



Unique delivery with the Plum™ cassette

The Plum 360 infusion system's unique delivery system leverages the Plum cassette to deliver fluids differently—without common setup errors and alarms you may experience with other pumps. Unlike most other infusion pumps, the Plum 360 infusion pump does not rely on gravity. Instead, it uses an active pumping mechanism to deliver fluid.

Hang the bags where it is convenient for you

The secondary line connects directly to the Plum cassette, and with this direct connection, the Plum 360 actively draws fluid directly from the secondary container and doesn't require medication to be placed at specified heights to ensure accurate delivery. The direct connection of the secondary line to the Plum cassette also allows the system to detect when a clamp is closed, alerting the clinician right away that there is an occlusion.

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Section 01

OUR PRODUCTS

CADD–Solis™

A single infusion platform for pain management

Multiple delivery methods can be combined to meet your clinical practice

- Continuous rate
- Programmed Intermittent Bolus (PIB)
- Patient Controlled Analgesia (PCA)
- Patient Controlled Epidural Analgesia (PCEA)
- Clinician bolus

Medfusion™ 4000

- When you need to care for the most vulnerable patients who can only accept tiny fluid volumes, you need a syringe pump that is designed for your specialized needs. Medfusion is trusted among the top pediatric, specialty and adult hospitals because of its ease of use, design for specific care areas and populations, and precise medication delivery.

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Section 01

OUR PRODUCTS

Plum Solo™ and Plum Duo™

Single- or dual-channel clinician-driven infusion technology that combines ease of use with proven medication delivery and safety

Lead a new wave of IV therapy performance with an intuitive platform designed to help bring safety, simplicity, and clarity to patient care. Comprised of Plum™ precision IV pumps and LifeShield™ IV safety software, this fully IV-EHR interoperable, future-ready platform empowers you to raise the performance of your IV Therapy practice—enhancing safety and efficiency across all IV touchpoints.

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Section 01

OUR PROPOSE

"Save lives"

Section 01

OUR INTEGRATED ENERGY AND ENVIRONMENTAL MANAGEMENT SYSTEM POLICY

"ICU Medical Costa Rica with its integrated Energy and Environmental Management System contributes to environmental sustainability and competitiveness, through innovation in energy and environmental efficiency continuous improvement, environmental protection, pollution prevention, rational use of resources, compliance with legal requirements and other requirements of the organization for the improvement of energy and environmental performance"

Section 01

Environmental Certifications and Recognitions

2011
Ecological Blue Flag program

Bandera Azul Ecológica
COSTA RICA / CAMBIO CLIMÁTICO

2021
ISO 50001 Energy Management System

2024
Carbon footprint inventory

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2025
ISO 14001 Environmental Management System

2025
ICU Medical Sustainability Award

Section 02

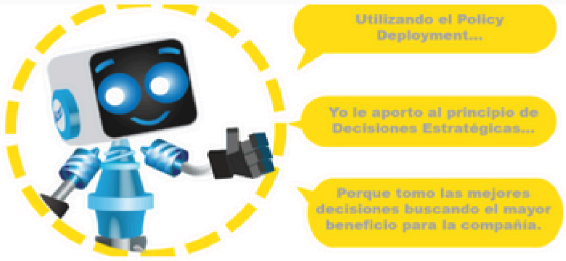
Environmental Strategy

ICU Medical Costa Rica as response for the needs and expectation of our interested parties has develop an middle and long term strategy for environmental sustainability that analyze the life cycle of our products, with the goal of reduce our environmental impacts as part of our adaptation to the climate change.

Section 02

Policy Deployment

As part of our OPEX system within the Alignment Pillar, ICU Medical Costa Rica evaluates and defines its strategy annually. This process includes a dedicated section focused on environmental considerations.



Policy Deployment ICU Medical Costa Rica

Our Purpose	WE SAVE LIFES

	Corporate Strategy	Long Term Strategic Objectives	◂ ALIGNMENT ▸	Winning Aspiration	True North
C	Reduce cost and capital - Execute manufacturing network strategy (MFG, Supply Chain & Real State) - Deliver on committed VIP projects for 2025 $45M - Develop strategy to address labor cost inflation in Mexico - Capture procurement cost reductions; strengthen processes - Progress EMEA O2C integration, plan for ROW and Mfg - Inventory reduction by $18M to improve free cash flow - Continue disciplined allocation of capex; improve execution and tracking of projects - Monitor and mitigate trade policy changes ("Tariffs")	- Strategic cost reduction that allows maintaining the competitiveness of the operation. - Disruptive Innovation Management that allows taking advantage of unexplored or even unknown opportunities, through new ways of thinking and conceiving reality.	◉		En ICU Medical Costa

5.	Environmental Sustainability and Operational Excellence Management	▶	▶	▶					●		
5.1	Obtain Shingo Prize Award	▶	▶	▶					◈	◈	◈
5.2	Obtain ISO14001 Certification		▶	▶					◈		
5.3	Improve Carbon Inventory estimation method		▶	▶					◈		
5.4	Complete integration of the Energy and Environment System (SIGEA)		▶	▶					◈		
5.5	Reduce the amount of potable water consumed through the rainwater recovery system	▶	▶	▶					◈		
5.6	Replace the amount of electricity consumed from a distributor with self-generated clean energy through the implementation of phase 2 of the photovoltaic system	▶	▶	▶					◈		

This strategy define the strategic goals for the organization and is communicated to all the employees every quarter

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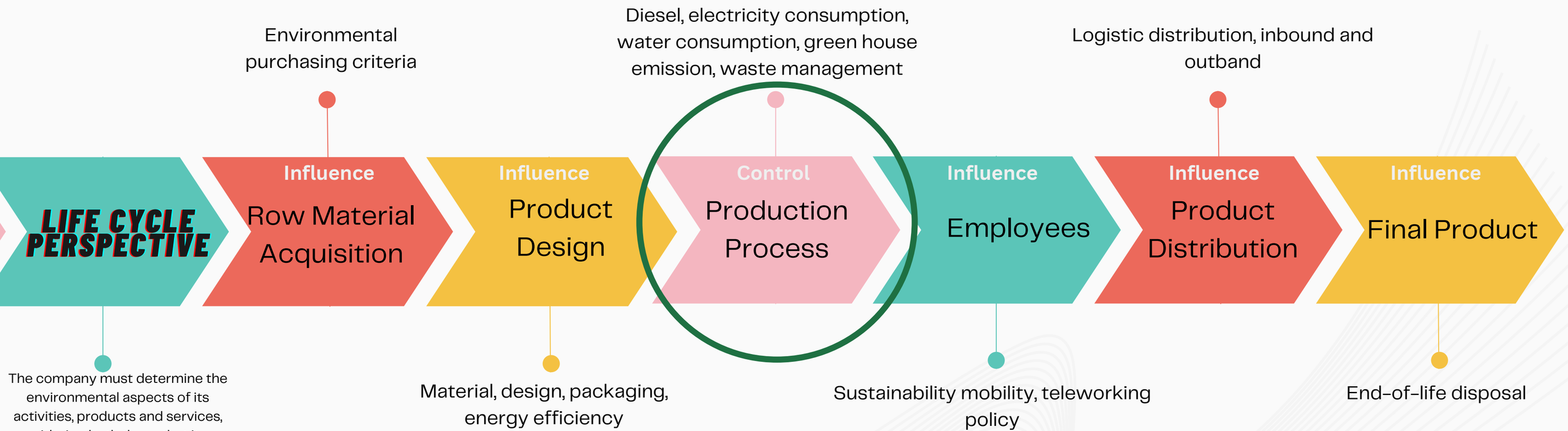
Section 02

COSTA RICA ENVIRONMENTAL STRATEGY

Propose: Incorporate environmental sustainability criteria into plant's decision making



Section 02

COSTA RICA ENVIRONMENTAL STRATEGY

Environmental goals 2024-2025

2024
Implement the Environmental Management system ISO 14001:2015

2025
Get the certification ISO 14001:2015 for Costa Rica

2024
Get the carbon footprint inventory recognition of Costa Rica government

2025
5%
Improve the estimation of carbon foot print inventory 2024

2024
51%
Integration of the energy and environmental management system

2025
Complete 100 % the integration of the energy and environmental management system

2024
62%
Implementation of the project of raining water coaptation system

2025
Reduce the 50% of potable water consumption through the rain water coaptation system

2024
Since 2020 the 6% of the energy consumption is generated from our existing solar panels (stage 1)

2025
Increased the renewable electric energy consumption through the implementation of solar panels stage 2

Section 02

COSTA RICA ENVIRONMENTAL STRATEGY

Environmental Priorities

ICU Medical as part of the evaluation of the most significant environmental aspects and impacts it has identifies the following 4 relevant topics to work with:

Water consumption

ICU Medical Costa Rica it has implemented a measure control of water consumption, and it has on the 2025 strategy reduce the potable water consumption through raining water coaptation system.
Also the waste water is treated through a wastewater treatment plant.

Waste generation

ICU Medical Costa Rica it has implemented a measure control of waste management since 1999, the pillars are based on the waste management hierarchy, through the implementation of different projects for waste reduction.

Energy Consumption

Since 2015 ICU Medical Costa Rica it has implemented an energy strategy related with the following workstreams:

- Technology Replacement
- Operational Efficiency
- Energy Rates
- Industrial control, Automation & Monitoring

Greenhouse gases emissions

Since 2024 Costa it has implemented a strategy to calculate the emissions of the plant this calculation es based on the ISO 14064-1:2019, INTE B5:2021 and Neutral carbon Costa Rica program based on the following workstreams:

- Identification of the greenhouse gasses emission sources
- Measure footprint
- Verification of the footprint

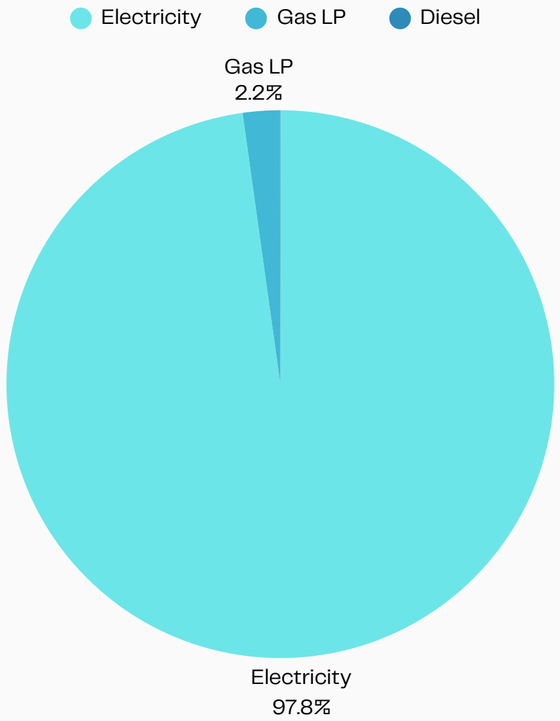
Section 03

Energy

Energy significant uses.

Section 03

Clasification of energy



1 AHU

Air handling Units for HVAC system

2 Cooling Towers

Cooling Towers and pumping system for HVAC

3 Chillers

Chillers

Section 03

Energy Consumption

- Since 2015 have been defined a reduction strategy that implicates investment for the energy efficiency of our main utilities systems, these contemplate the installation of high-quality analyzer on the main consumptions USE's (Cooling towers, Pumps System, AHU's and Chillers)
- Since 2021 Costa Rica site obtained the ISO 50001 certification that guarantee commitment for energy efficiency.
- Thanks to all the projects implemented since 2015 the electric billed has been reduced in 32 million dollars.
- ICU Medical stablished indicator where energy consumption is projected based on the fallowing relevant variables:
  a. Cooling degrees
  b. Heating Degrees
  c. Relative humidity
  d. Operations days
- The indicators are normalized applying linear regression, through this analysis is concluded that these variables are the relevant of our process.

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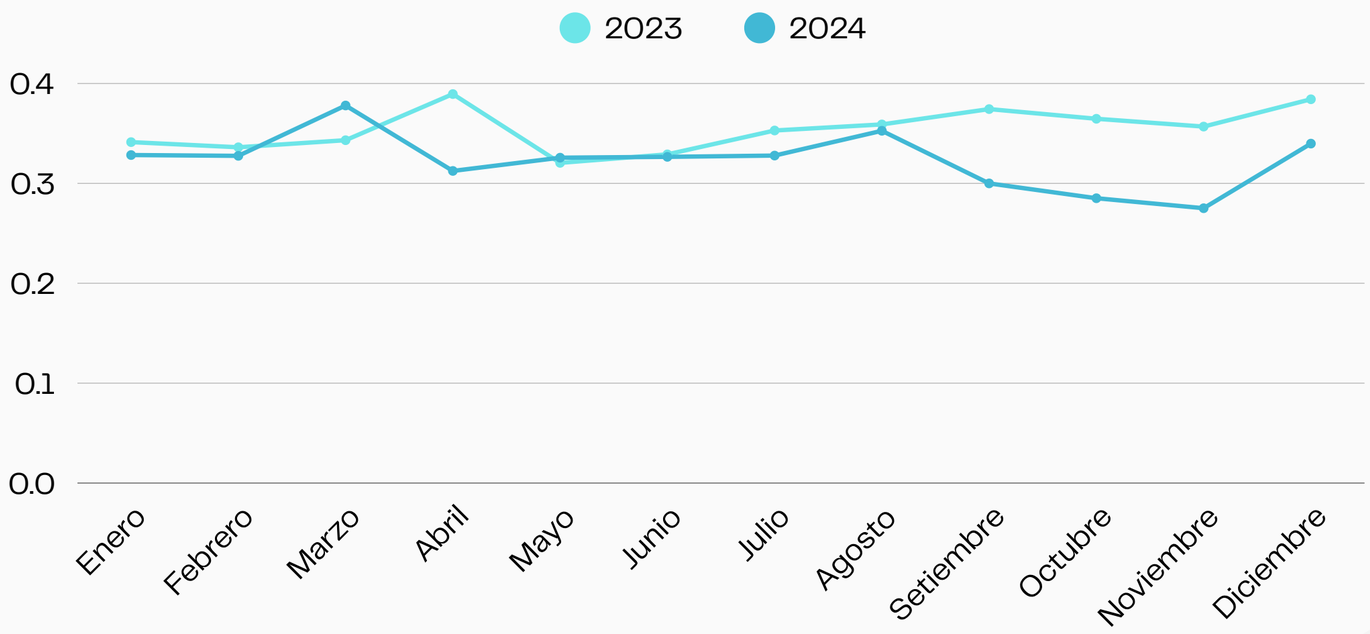
Section 03

Energy KPI 2024

kW / h of energy / Final Units produced



8% less energy used for final units produced during 2024

2023: 0.35 kW / h used for each final unit

2024: 0.32 kW / h used for each final unit

Section 03

Energy reduction Projects

Technology High Efficiency Equipment

1. High efficiency centrifugal compressors vs Screw compressors
2. High efficiency magnetic bearing chillers vs centrifugal or screw chillers.
3. High efficiency modular counterflow cooling towers vs counterflow cooling tower.
4. Led and Natural lamps vs Incandescent and fluorescent lamps

Systems Redesign

1. HVAC System Temperature Control: Heat recovery to replace electrical resistances in AHUs.
2. HVAC System Make Up Air Temperature and Humidity Control: Ductwork from MUAs to AHUs.
3. .HVAC System Air Humidity Control: Chilled water stack cooling coils to replace Chilled-Glycol water cooling coils.
4. Electrical System energy sources: Install a Solar Photovoltaic Plant

Automation and Monitoring

1. Industrial network installation: Dedicated Optic Fiber network for utility equipment
2. Power Monitors installation: 80 New ION Meter
3. Power Control and Monitoring System Upgraded: PME modernization
4. Building Automation System Upgraded: Wonderware new version

Operational Efficiency

1.**OFCA System:**
- New pressure Set point defined
- Ambient Control Software Implementation

2.**HVAC System:**
- HVAC turn off outside of working hours
- Air Changes Reduction

3.**Cooling System Optimization**
- New pressure set point defined
- New temperature set point defined

4.**ISO50001 Certification**

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Section 04

Greenhouse gasses emission

Greenhouse gasses emission main sources

Section 04

Scope 1

- Refrigerants
- Gas LP
- Diesel
- Sprays and lubricants
- Clean agent system
- Propane
- Dry ice

Refrigerant consumed for HVAC system
Refrigerant consume for cooling systems (refrigerators, environmental chambers and others)
Gas LP consume for cafeteria and tool room oven
Diesel consume for fire protection pumps

Scope 2

- Electricity

Electricity consumed for all the process of the plant

Scope 4

- Waste Generation

All the waste generated in the process (Landfill, recycled, and hazardous waste)

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Section 04

Greenhouse gasses emissions

For the process of identification and quantification of our carbon foot print was made following the ISO 14064-1, INTE B5 and Costa Rican carbon neutral program 2.0

For calculate our carbon footprint the information sources use are bills, maintenance reports, inventory reports and others.

The steps followed for capture de information are the following:

- Training for the carbon footprint committee
- Identification of Greenhouses gasses emission sources
- Design and implement the system for capture the information of all the sources identified
- Calculate the carbon foot print
- Verification of our carbon footprint inventory by third party vendor
- Participate for the Costa Rican government recognition as carbon footprint inventory

Section 04

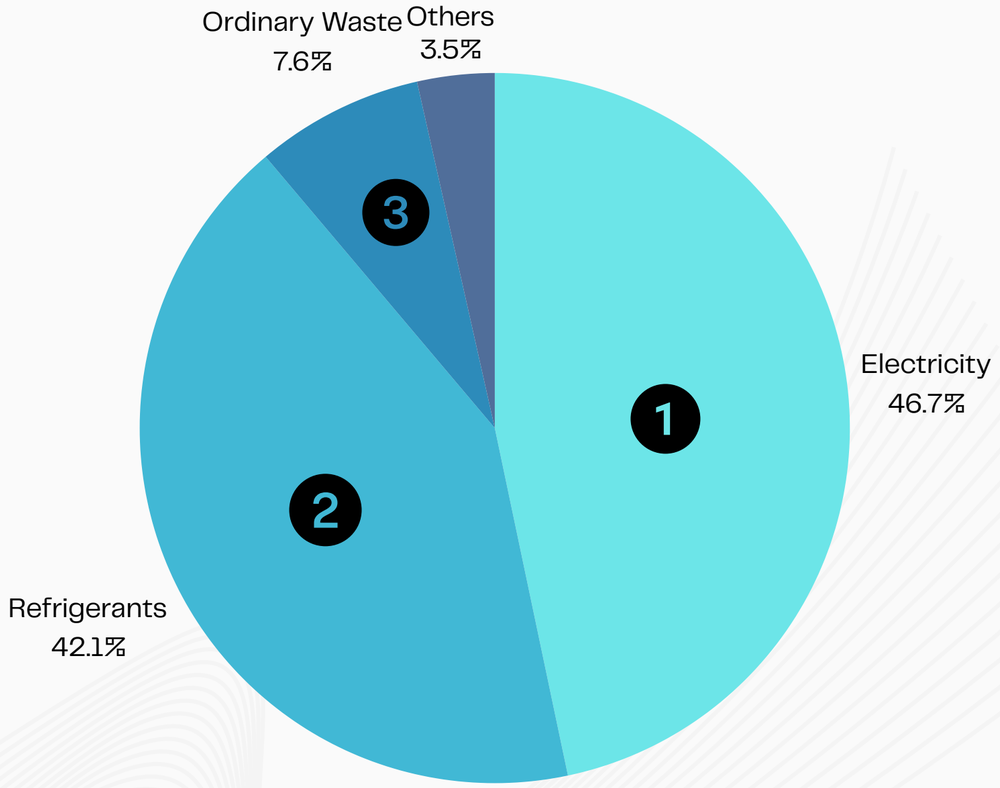
Our carbon footprint

Our carbon footprint is of 6987 tons of CO_2 e

62 grams of CO_2 e is emitted for each final unit produced

Costa Rica country has a renewable energy matrix, during 2024 the 86.8% of the energy were produced through renewable sources as hydroelectric,
geothermal and wind energy.
That contributes to been more competitive to carbon footprint emissions

Carbon footprint emissions category



Section 05

Water consumption

Water principal Consumers

Section 05

HVAC SYSTEM

Water consume for cooling towers system

Sterilized water consume for washing parts in Assembly Focus Factory

Washer of parts in Assembly Focus Factory

Water for human use

Washing hands, cafeteria, restrooms.

Maintenance Activities

Roof cleaning, garden maintenance, HKP activities and others

Section 05

Water Consumption

Our potable water is supplied by a third party Vendor.

ICU Medical has two storage water tanks of 33,289.0 gallons each, that ensure water viability in case of fails of our distributor, this water storage is treated to warrantied the potabilization and it has a system of annual monitoring to verified the water potabilization for process and employees, this lab test analyses physicochemical and microbiological parameters, based on Costa Rican legislation.

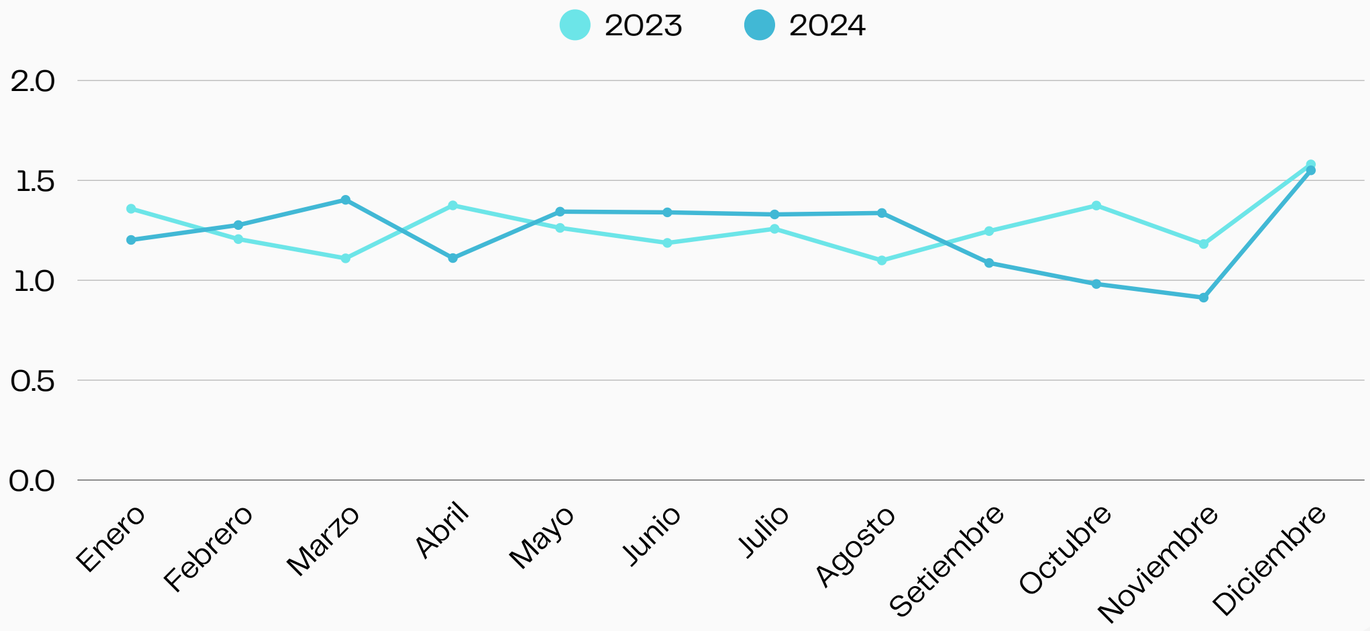
All our waste water is treated by a wastewater plant that accomplished all the legal requirements and its administered by the park.

The information source for all the water indicators are taken from the bills of our vendor.

Section 05

Water Consumption KPI 2024

Liters of water / Final Units produced



3% less water used for final units produced during 2024

2023: 1.26 liters of water used for each final unit

2024: 1.22 liters of water used for each final unit

Section 05

Water Consumption Projects

Replacement of lavatory faucet with photocell

In the restrooms were installed Photocell faucets, this use infrared technology to detect the presence of an object in front of it. This causes the flow of water to be activated. The sensor emits an infrared beam that reflects off the object and returns to the sensor.
This technology helps to reduce the water consumptions

Waterless urinals

In all men's restrooms were installed waterless urinals, these urinals are design for reduce the water consumptions, use gravity carries urine from the basin through a seal in a cartridge and into the plumbing drain system, while the seal prevents odors and sewer gasses from rising up the pipe and into the restroom.

Programmed irrigation system for green areas

The maximum withered system is used in summer, where an amount of water is dosed so that the grass is not lost > During the dry season you can observe the grass in its yellow color characteristic of the dry season

Drink Water Fountain

Drink water fountain deliver water directly to the user, reducing the use of water plastic containers.

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Section 06

Waste Management

Section 06

Waste Management Flowchart

Management Materials

Batteries from scrap, cardboard, alcohol, plastic like bags, plastic for palletizing and wood pallets

PVC

Plastic from scrap, cardboards, alcohol, solvents, plastic like bags, plastic for palletizing, lubricants and ink.

Assembly Focus Factory

Infusion Pumps

Electronics from scrap, batteries from scrap, cardboard, lubricants, alcohol, plastic like bags and plastic for palletizing

Molding Focus Factory

PVC

Plastic from scrap, cardboards, alcohol, plastic like bags, plastic for palletizing and Lubricants

Symbol	Meaning
⟷	Interaction between the processes

Section 06

Waste Management

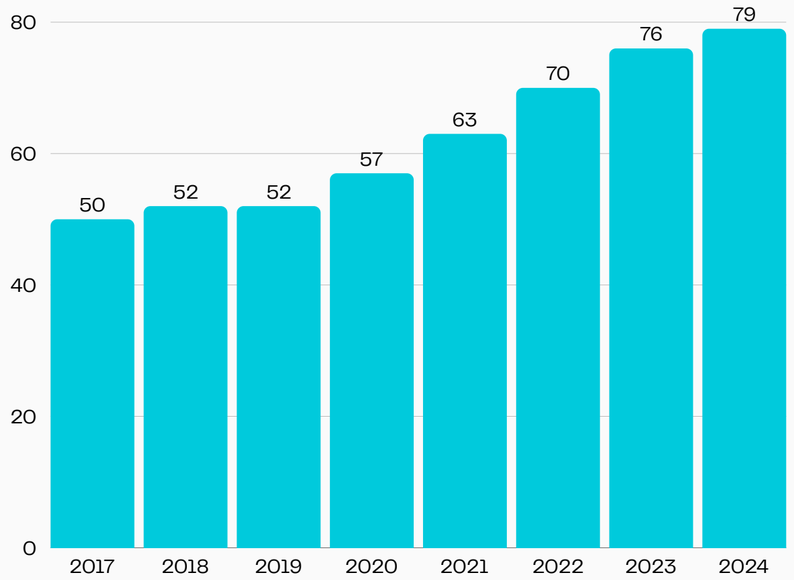
All our waste is treated through authorized waste management vendors.
ICU Medical Costa Rica ensure that the vendors meets with all the local legislation applicable through the contracts and requesting for all the permits applicable.
Annually we develop an inspection for all our vendors related with waste management to ensure that all our waste is manage in properly manner and meets all the local applicable legislation.
All the information capture for the measure of our KPI related with waste management is develop through the following sources:

- Waste management Certifications from our vendors
- Internal weight of our waste

Section 06

Waste Management KPI 2024

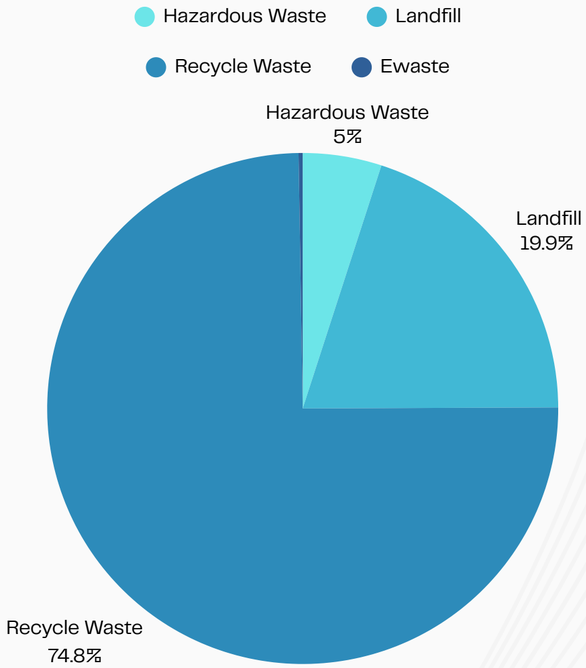
In 2024 the 79% of the waste is recycled (land fill vs recycled waste)



FOR EACH FINAL PRODUCT PRODUCED

17 GRAMS

OF WASTE IS GENERATED



Recycled Waste

Cardboard
Plastic
Organic waste (compost), wood, metals, paper

Landfill

Napkins, hairnets, shoe covers, hoods, scrap (assembly pieces with mix of plastics)

Hazardoues Waste

Solvents, ink, solids impregnated with hazardous waste, lubricants. batteries
This waste is incinerated

E-Waste

Electronic cards, hardward waste, equipment mantainace waste

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Section 06

Waste Management Projects

Reused of plastic solvent bottles during final lines assembly

Since 2020, final lines assembly implement a program that consist in the reutilization of solvent plastic bottles during the different shifts, and it was incorporated the used of safety cans for refill the bottles, that helps to reduced around a 30% of hazard waste generated in that process

20 % of recycled plastic is used for injection in molding parts

The 20% of plastic used in the injection process for hi-runners molding parts, is recycled through the incorporation of shredded scrap from sprues and runners of previous molded parts.

Design of cardbox reused for **80 times** in the warehouse storage

The cardbox used for temporary storage of molded parts are design for it's reutilization a minimum of 80 times, that reduce the quantity of cardbox waste generated in the process

Compost of our organic waste

Since 2022 we implemented a program for compost all the organic waste generated in the cafeteria area that helps to reduced around a 50% of cafeteria waste send to landfill

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Section 07

Summary of recognitions

Bandera Azul Ecológica
COSTA RICA / CAMBIO CLIMÁTICO

Ecological Blue Flag Program is launch by governmental institutions, which purpose is to motived to the companies to develop sustainability criteria, minimizing the risk generated by the climate change effects, through integral environmental management.

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The Carbon Neutral Country Program (PPCN) is a voluntary mechanism accessible to organizations, public and private companies, communities and event organizers, for reporting Greenhouse Gas (GHG) inventories, demonstrating actions to reduce, remove and offset emissions and strengthening decarbonization, developed by the Climate Change Directorate (DCC) of the Ministry of Environment and Energy (MINAE).

INTECO
SISTEMA DE GESTIÓN DE LA ENERGÍA CERTIFICADO
INTE/ISO 50001:2018
SGEN-006/2021

CERTIFIED IQNet MANAGEMENT SYSTEM

It provides a solid framework for public and private organizations to optimize energy efficiency. This concept refers to the ability to achieve the best results in an activity using the least amount of energy resources, thereby reducing the associated environmental impacts.

INTECO
SISTEMA DE GESTIÓN AMBIENTAL CERTIFICADO
INTE/ISO 14001:2015
SG-020/2025

IQNET
RECOGNIZED CERTIFICATION

ISO 14001 certification is an international standard that allows companies to demonstrate their commitment to environmental protection. INTECO is an accredited entity that can issue ISO 14001 certificates nationally and internationally.

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