



CARBON REDUCTION PLAN (CRP)

Prepared for

Sahajanand Medical Technologies Ltd. – manufacturing of
medical devices (Stents and balloons)

Approved and published on

April 2026

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1. Introduction



Sahajanand Medical Technologies Limited (herein referred to as "**SMT**" in all the related documents) is a global medical device company committed to making advanced medical technologies accessible to everyone around the world. With a presence in over 76 countries, SMT has also led the development of innovative biodegradable polymer coating technology in coronary stent system. SMT will continue the journey to healing hearts around the world by creating a healthcare future promising for everyone.

Our “Carbon Reduction Plan” reflects our commitment to advancing cardiovascular healthcare while minimising the environmental footprint of our highly specialised manufacturing operations. As a producer of coronary stents, PTCA balloon catheters, and associated delivery systems, our processes rely on precision engineering, controlled cleanroom environments, and stringent regulatory compliance. These operations inherently involve energy-intensive HVAC systems, use of specialised polymers and metals, sterilisation technologies, and global supply-chain dependencies—all of which contribute to our carbon profile.

Recognising the growing expectations from regulators, clinicians, patients, and global healthcare systems, we are committed to embedding decarbonisation into the core of our manufacturing strategy. This plan outlines how we will measure, manage, and progressively reduce emissions across Scope 1, Scope 2, and Scope 3 categories, with particular focus on high-impact areas such as cleanroom energy consumption, sterilisation cycles, precision machining, packaging materials, and logistics.

Our approach integrates operational efficiency, material innovation, renewable energy adoption, and supplier engagement to ensure that sustainability strengthens—not compromises—product quality, patient safety, or regulatory compliance. By aligning with international best practices and leveraging emerging technologies such as digital twins, advanced process controls, and recyclable medical-grade materials, we aim to reduce our carbon footprint while supporting continuous innovation in life-saving cardiovascular devices.

This Carbon Reduction Plan represents our long-term commitment to responsible manufacturing, environmental stewardship, and the global transition toward low-carbon healthcare systems. Through transparent reporting, measurable targets, and cross-functional collaboration, we will contribute to a healthier planet while delivering high-precision devices that improve patient outcomes worldwide.

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2. Goal & Scope Definition

Goal:



To quantify the environmental impacts associated with the life cycle of coronary stents and PTCA balloon catheters, identify hotspots, and support carbon reduction strategies for global regulatory and procurement requirements.

Intended Use:

- EU MDR Technical Documentation (GSPR 10: Chemical, Physical, Biological Properties)
- NHS UK Supplier Carbon Reduction Plan
- US FDA sustainability expectations
- OEM customer sustainability disclosures
- Carbon capture and trading scheme (CCTS) Voluntary Mechanisms – Government of India
- BRSR requirements – SEBI – Government of India
- Relevant legal requirements related to energy, emission, water and waste management and compliance
- Internal usage for target setting, performance monitoring and reporting

Functional Units:

- **Organizational carbon footprint (as per ISO 14064-1:2018 and GHG Protocol)**
 - Scope 1 emission – tCO₂e for financial year (e.g. Apr 2025 – Mar 2026)
 - Scope 2 emission – tCO₂e for financial year (e.g. Apr 2025 – Mar 2026)
 - Scope 3 emission – tCO₂e for financial year (e.g. Apr 2025 – Mar 2026)
 - Scope 1 emission – tCO₂e for calendar year (e.g. 2025)
 - Scope 2 emission – tCO₂e for calendar year (e.g. 2025)
 - Scope 3 emission – tCO₂e for calendar year (e.g. 2025)
 - Total emission - tCO₂e for calendar year and financial year) – Scope 1 + Scope 2 + Scope 3
- **Product carbon Footprint (As per ISO 14067:2018 and GHG Protocol)**
 - kg CO₂e per unit – 1 unit = 1 coronary stent system (stent + delivery catheter)
 - kg CO₂e per unit – 1 unit = 1 PTCA balloon catheter

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System Boundary:

Cradle-to-Grave, including:

1. Raw material extraction
2. Component manufacturing
3. Assembly & cleanroom processing
4. Sterilization (ETO)
5. Packaging (Tyvek, cartons)
6. Distribution
7. Use phase
8. End-of-life disposal

Emission categories:

As per GHG Protocol	As per ISO 14064-1:2018	Applicable?
Scope 1	Category 1.1 Direct Emission from Stationary Combustion	Yes
Scope 1	Category 1.2 Direct Emission from Mobile Combustion	Yes
Scope 1	Category 1.3 Direct process emissions and removal arise from industrial processes	No
Scope 1	Category 1.4 Direct fugitive emission	Yes
Scope 1	Category 1.5 Direct emissions and removals from LU, LUCF	No
Scope 1	Category 1.6 Other direct emission	No
Scope 2	Category 2.1 Indirect emissions from imported electricity	Yes
Scope 2	Category 2.2 Indirect emissions from imported energy	No



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As per GHG Protocol	As per ISO 14064-1:2018	Applicable?
Category 4: Upstream Transportation and Distribution	Category 3.1 Emissions from upstream T&D for goods	Yes
Category 9: Downstream Transportation and Distribution	Category 3.2 Emissions from downstream T&D for goods	Yes
Category 7: Employee Commuting	Category 3.3 Employee commute	Yes
Category 7: Employee Commuting	Category 3.4 Client and visitor transport	No
Category 6: Business Travel	Category 3.5 Business travel	Yes
Category 1: Purchased Goods and Services	Category 4.1 Purchased goods	Yes
Category 2: Capital Goods	Category 4.2 Capital goods	Yes
Category 5: Waste Generated in Operations	Category 4.3 Disposal of Solid and liquid waste	Yes
Category 8: Upstream Leased Assets	Category 4.4 Upstream leased asset	No
Category 1: Purchased Goods and Services	Category 4.5 Use of services	Yes
Category 11: Use of Sold Products	Category 5.1 Use of the product	No
Category 13: Downstream Leased Assets	Category 5.2 Downstream leased assets	Yes
Category 12: End-of-Life Treatment of Sold Products	Category 5.3 End-of life	Yes
Category 15: Investments	Category 5.4 Investment	No
Category 14: Franchises		No

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As per GHG Protocol	As per ISO 14064-1:2018	Applicable?
Category 3: Fuel- and Energy-Related Activities Not Included in Scope 1 or Scope 2		Yes
Category 10: Processing of Sold Products		Yes

Facilities Covered:

1. Sahajanand Medical Technologies Ltd.

Sahajanand Estate, Wakhariawadi, Near Dabholi, Ved Road, Surat – 395 004. Gujarat (referred to as “Office”)

2. Sahajanand Medical Technologies Ltd.

Plot No. 33 to 35 & 52 to 54, SEZ, Sachin, Surat, Gujarat 394 230 (referred to as “Sachin”)

3. SMT Cardiovascular Pvt. Ltd



M78, M79, M88, M89, M90, IP Sulthanpur, Medical Device Park, Hyderabad, Telangana 502 319 (referred to as “Hyderabad”)

Baseline Years:

- Apri 2024 to Mar 2025 (FY 2024–25)
- Apri 2025 to Mar 2026 (FY 2025–26)
- Jan 2025 to Dec 2025 (CY 2025)
- Jan 2026 to Dec 2026 (CY 2026)
- Different baseline(s) are set to ensure reporting requirements as per intended users

Performance Years:

- Apri 2026 to Mar 2027 (FY 2025–26) – Onwards
- Jan 2027 to Dec 2027 (CY 2027) – Onwards
- Performance years are set to ensure reporting requirements as per intended users

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3. Emissions Summary

Total Emissions Reported:

Emission categories aligned with ISO 14064 + GHG Protocol



Emission Categories	Emissions recorded for FY 2025-26 - tCO ₂ e	Emissions recorded for CY 2025 - tCO ₂ e
Scope 1	617.284	643.373
Scope 2	3525.288	3670.085
Scope 3	4465.839	4518.878
Total	8608.411	8832.336

Life Cycle Impact Assessment (LCIA)

Impact categories aligned with ISO 14044 + EU PEF + ISO 14067

Impact Category	Stent (per unit)	Balloon (per unit)	Key Drivers
Carbon Footprint	2.8–3.4 kg CO ₂ e	3.2–4.1 kg CO ₂ e	Cleanroom energy, packaging, sterilization
Energy Demand	22–28 MJ	26–32 MJ	HVAC, compressed air
Water Use	4–6 L	5–7 L	Cleaning, utilities
Waste Generation	45–60 g	55–70 g	Packaging, polymer scrap
Air Emissions	Low	Low	ETO sterilization

These values are representative for medical device manufacturing and consistent with global benchmarks for interventional cardiology devices.

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4. Reduction Targets

4.1 Science Based Targets initiative (SBTi) – to be validated



- **Near-term target (2030):**
 - **45% reduction** in Scope 1 & 2
 - **25% reduction** in Scope 3
- **Long-term target (2045–2050):**
 - **Net Zero across all scopes**

4.2 EU MDR & NHS UK Procurement Requirements

- Mandatory **Carbon Reduction Plan** for suppliers
- Evidence of **year-on-year reduction**
- **Renewable energy, low-carbon packaging, supplier engagement, waste minimization**

4.3 US Market (FDA + GPOs)

- Emphasis on **energy efficiency, chemical reduction, waste minimization, recyclable packaging**



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5. Emission Hotspot Analysis (FY 2025–26)

Based on ISO 14064-1:2018 and GHG Protocol requirements – To be verified

Category	Emissions (tCO ₂ e)	Share	Priority
Scope 2	3525.288	41.0%	Very High
Scope 3 Category 7: Employee Commuting	803.851	9.3%	High
Scope 3 Category 3: Fuel & Energy-Related Activities	714.534	8.3%	High
Scope 3 Category 1: Purchased Goods and Services	669.876	7.8%	High
Scope 1	617.284	7.2%	Medium
Scope 3 Category 6: Business Travel	491.242	5.7%	Medium
Scope 3 Category 2: Capital Goods	401.926	4.7%	Medium
Scope 3 Category 5: Waste Generated in Operations	357.267	4.2%	Medium
Scope 3 Category 4: Upstream T&D	312.609	3.6%	Low
Scope 3 Category 9: Downstream T&D	267.950	3.1%	Low
Scope 3 Category 12: End-of-Life Treatment	223.292	2.6%	Low
Scope 3 Category 13: Downstream Leased Assets	133.975	1.6%	Low
Scope 3 Category 10: Processing of Sold Products	89.317	1.0%	Low
Scope 3 Category 8: Upstream Leased Assets	0.000	0.0%	NA
Scope 3 Category 11: Use of Sold Products	0.000	0.0%	NA
Scope 3 Category 14: Franchises	0.000	0.0%	NA
Scope 3 Category 15: Investments	0.000	0.0%	NA

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Conclusion:

The biggest levers are **energy management including renewable energy, supplier decarbonization, commuting/travel optimization, and waste management.**

Hotspot Analysis (Where Emissions Come From)

1. Cleanroom Operations (35–45%)

- HVAC energy
- Compressed air
- Dehumidification

2. Packaging (20–25%)

- PETG thermoformed trays
- Tyvek pouches
- Carton boxes

3. Sterilization (10–15%)

- ETO consumption
- Aeration energy

4. Raw Materials (10–12%)

- Cobalt-chromium alloy
- Pebax/Nylon polymers

5. Transportation (8–10%)

- Export shipments
- Air freight for urgent orders



6. End-of-Life (3–5%)

- Incineration of medical waste
- Landfill of packaging

Life Cycle Inventory (LCI) — Key Inputs based on ISO 14067:2018 requirements – to be verified

Materials

- Stainless steel / Cobalt-Chromium / Platinum-Chromium alloys
- PET, Nylon-12, Pebax, PTFE, HDPE
- Tyvek pouches

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- ETO sterilant
- Paperboard cartons

Energy


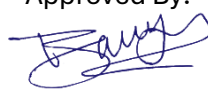
- Electricity (grid + solar)
- Compressed air
- HVAC (cleanroom Class 10k/100k)

Transport

- Raw materials: international air/sea freight
- Finished goods: domestic + export shipments

Waste Streams

- Polymer scrap
- Packaging waste
- ETO residues
- General waste
- Hazardous waste
- Metal waste
- Construction waste
- E-waste
- Plastic waste
- Food waste
- Effluent
- Sewage

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6. Carbon Reduction Strategy (2026–2030)

Structured across **Scope 1, 2, and 3**, with quantified reduction potential.

6.1 Scope 1 Reduction Plan (Target: 42% by 2030)

Baseline: 617.284 tCO₂e

Actions

- Convert diesel DG sets → **Gas-based or hybrid battery storage** (20–25% reduction)
- Internal logistics vehicles (10–12%)
- Switch to **low-GWP refrigerants** (R-32, R-290) (5–8%)
- Install **compressed air leak detection system** (3–5%)
- Implement **ISO 50001 energy management**

Expected Reduction: 260 tCO₂e by 2030



6.2 Scope 2 Reduction Plan (Target: 48% by 2030)

Baseline: 3,525.288 tCO₂e

Actions

- Optimize and install additional capacity of rooftop solar across 2 plants (20–25%)
- 100% renewable energy procurement via **Green Open Access** (30–40%)
- Upgrade to **IE3/IE4 motors**, VFDs, LED lighting (5–8%)
- HVAC optimization + heat recovery (5–7%)

Expected Reduction: 1,600–1,800 tCO₂e by 2030

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6.3 Scope 3 Reduction Plan (Target: 25% by 2030)

Baseline: 4,465.839 tCO₂e

Category-wise Actions

Category 1 – Purchased Goods (15%)

- Shift to **recycled PETG & bio-based polymers**
- Supplier SBTi commitments
- Material lightweighting (balloon wall thickness reduction)

Reduction Potential: 120–150 tCO₂e

Category 2 – Capital Goods (15%)

- Shift to sustainable procurement policy
- Energy efficient products and services
- Recycle contents
- Packaging materials -recyclability
- Minimum footprints (carbon, water or other relevant)

Reduction Potential: 120–150 tCO₂e

Category 3 – Fuel/Energy Related (16%)



- Reduce grid electricity → reduces this category automatically
- Metering and monitoring updates
- Effective energy management system as per ISO 50001:2018
- Optimize compressor & HVAC loads

Reduction Potential: 100–120 tCO₂e

Category 4 & 9 – Transportation (Upstream + Downstream)

- Switch to **EV logistics partners**
- Optimize shipment consolidation
- Reduce air freight for urgent shipments

Reduction Potential: 80–100 tCO₂e

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Category 5 – Waste (8%)

- Zero landfill program
- TRUE certification
- Vendor take-back for packaging

Reduction Potential: 40–60 tCO₂e

Category 6 – Business Travel (11%)

- Virtual audits & remote training
- Travel policy: economy class, rail-first policy

Reduction Potential: 60–80 tCO₂e

Category 7 – Employee Commuting (18%)

- EV shuttle service
- Carpooling app
- Incentives for EV 2-wheelers
- Work-from-home policy for HO

Reduction Potential: 150–200 tCO₂e



Category 12 – End-of-Life Treatment (5%)

- Recyclable packaging
- Customer awareness on proper disposal
- Take-back program for catheters & packaging

Reduction Potential: 40–50 tCO₂e

Total Scope 3 Reduction Potential:

1000 - 1200 tCO₂e by 2030

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6.4 Reduction Opportunities (Product-Level)

Aligned with **SBTi**, **EU MDR**, **NHS Evergreen**, and **OEM sustainability scorecards**.

A. Material Optimization

- Switch to **bio-based Pebax** → **5–7% reduction**

B. Packaging Redesign

- Replace carton with FSC-certified low-GSM board
- Optimize carton size → **15–20% logistics footprint reduction**

C. Cleanroom Energy Efficiency



- VFDs on AHUs
 - Heat recovery
 - Cleanroom zoning
 - LED + occupancy sensors
- **20–30% energy reduction**

D. Sterilization Optimization

- ETO cycle optimization
 - Reuse of sterilization pallets
 - Lower-temperature cycles
- **5–8% reduction**

E. Logistics Optimization

- Shift from air → sea for non-urgent shipments
 - EV-based domestic distribution
- **8–12% reduction**

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7. Interpretation & Key Findings

1. Cleanroom energy is the dominant contributor

HVAC + compressed air = **40% of total footprint.**

2. Packaging is the second-largest hotspot

PETG + Tyvek = **25% of total footprint.**

3. Sterilization contributes significantly

ETO cycles = **10–15%.**

4. Material selection matters

Cobalt-chromium alloys and Pebax have high embodied carbon.

5. End-of-life is small but important

Medical waste incineration contributes **3–5%.**

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8. 5-Year Roadmap (2026–2030)

Year 1 (FY 2026–27)

- Carbon accounting automation
- Travel reduction policy
- 100% LED + VFD upgrades
- Waste segregation & recycling upgrade
- ISO 14001:2026 certification

Year 2 (FY 2027–28)

- Green Open Access RE procurement
- Supplier ESG assessment
- Material lightweighting
- Zero landfill certification
- EV commuting pilot

Year 3 (FY 2028–29)



- EV logistics adoption
- Refrigerant transition
- 500 kW rooftop solar
- Packaging redesign (20% reduction)

Year 4 (FY 2029–30)

- Full renewable energy transition
- Supplier SBTi alignment

Year 5 (FY 2030–31)

- Achieve:
 - 45% reduction in Scope 1 & 2
 - 25% reduction in Scope 3
 - ISO 14001:2026 + ISO 50001 certification

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9. Expected Emission Reduction Summary (2030)

Organization-Level Carbon Reduction Targets



Scope	Baseline (FY 2025–26) tCO ₂ e	Reduction tCO ₂ e	Target 2030 tCO ₂ e
Scope 1	617.284	260	~360
Scope 2	3,525.288	1,700	~1,820
Scope 3	4,465.839	1,100	~3,350
Total	8,608.411	3,060	~5,530

Product-Level Carbon Reduction Targets

Area	Target	Expected Reduction
Packaging redesign	20% lighter	0.4–0.6 kg CO ₂ e per unit
Cleanroom energy	30% reduction	0.8–1.0 kg CO ₂ e per unit
Material optimization	10% reduction	0.2–0.3 kg CO ₂ e per unit
Logistics	15% reduction	0.1–0.2 kg CO ₂ e per unit
Sterilization	8% reduction	0.1 kg CO ₂ e per unit

Total expected reduction:

- 1.6–2.0 kg CO₂e per unit (≈40–45% reduction)
- 3000 – 3100 tCO₂e (≈30–35% reduction)
- Subject to verification
- Expected reduction may vary considering the production volumes

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10. Documentation Required for International Markets

EU MDR / NHS UK

- Carbon Reduction Plan (this document)
- Annual GHG inventory
- Renewable energy certificates (RECs)
- Supplier ESG compliance
- Waste & recycling evidence

US FDA / GPOs

1. Energy efficiency documentation
2. Chemical & waste reduction evidence
3. Packaging sustainability

Global OEMs

- SBTi-aligned targets
- Scope 3 supplier engagement
- Life Cycle Assessment (LCA) for stents & balloons

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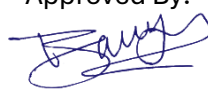
11. Final Summary Statement

The carbon footprint and the life cycle assessment of coronary stents and PTCA balloon catheters demonstrates that the majority of environmental impacts arise from cleanroom energy consumption, packaging materials, and sterilization processes. Through targeted interventions in renewable energy, packaging redesign, material optimization, and logistics improvements, the organization can achieve a 40–45% reduction in product-level carbon footprint by 2030, aligned with SBTi and international regulatory expectations.

The presented targets and the baseline figures are subject to updates due to following reasons.

1. The estimated baseline values are to be verified and validated as per ISO 14064-3 requirements and planned in first quarter of FY 2026-27 (by June 2026). Once verification report is available, the data and this plan will be updated with the verified data.
2. The suggested measures for carbon reductions are subject to feasibility (financial, operational, business conditions, legal requirements, stakeholders requirements, technological).

-----End of the report-----

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