

CII – Energy Excellence Award Presentation

Cipla

By Naresh Ganta, Site Head -EHS Umesh Arbole, Head - Engineering









With over decades of Caring for Life, we have adopted a patient centric approach in safeguarding their interests through high quality and affordable medicines

Geographical Coverage: Goa

Cipla

- Cipla Goa 1 site is situated in a Government Industrial Estate which consists of mainly pharmaceutical and electronic industries.
- The site is at approximately 25 kms from Panaji, the capital city of Goa and about 15 kms from Dabolim Airport.

>> Topography and Climate:

Average Annual Rainfall	: 330 centimeters
Height from Mean Sea Level	: 1,022 meters
Temperature Range	: 20°C to 32°C
Relative Humidity	: 57% to 86%



CIPLA Goa-I Brief on Manufacturing Units

manufacture various dosage forms as listed below:





2001 - Respiratory Solutions & Suspensions (Unit Dose), Nasal Spray



Vaidehi Soman



UNIT II

2001 - Pressurized Metered Dose Inhalers



Unit Head: Mr. Sandip Gunjal



UNIT-III

2001 - Tablets, Topical Preparations



Unit Head: Mr. Gurudatta Satarkar



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UNIT-IV

2001 - Tablets, Hard Gelatin Capsules



Unit Head: Mr. Machhindra Mohite



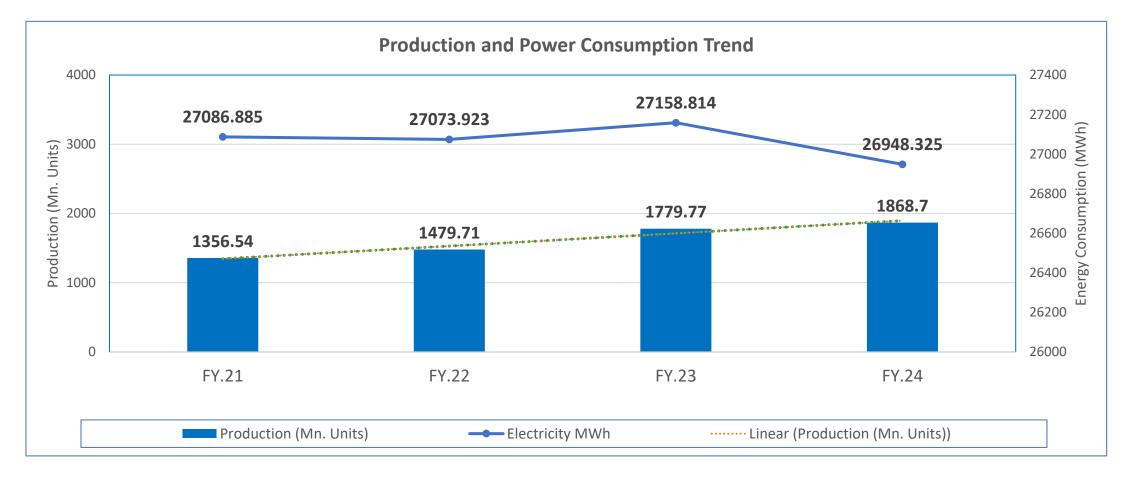
We Are Approved by

Cipla



Production & Power Consumption Trend

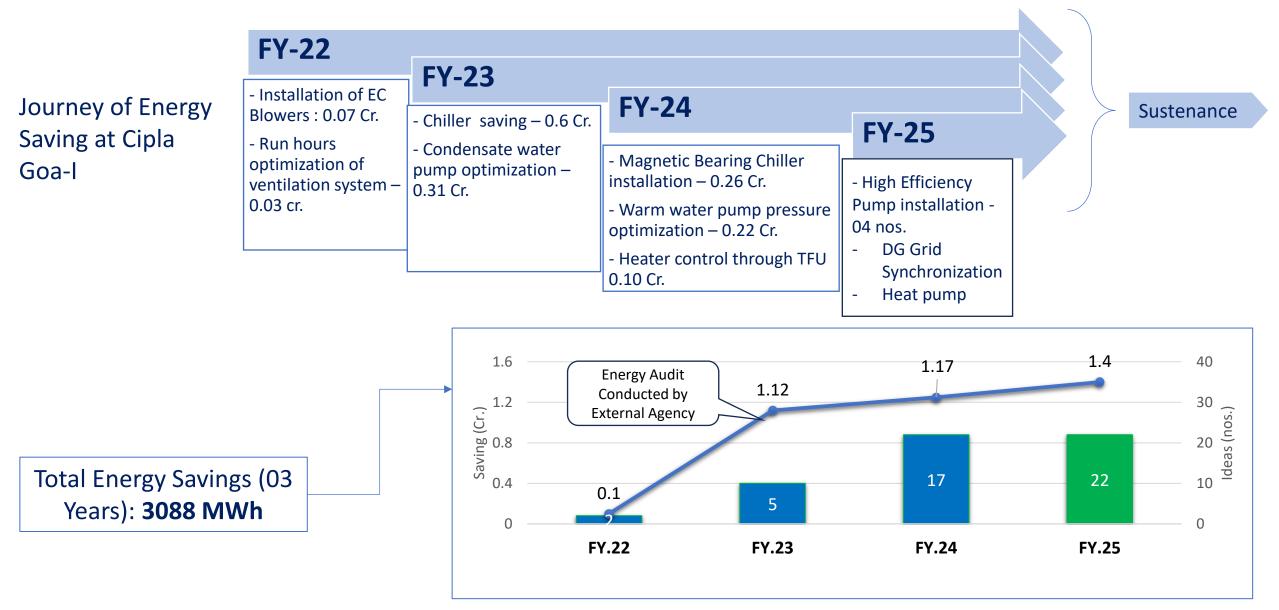




- Production is increased by 27.4% in 4 yrs.
- > Power Consumption is reduced by 0.5% (138 MWh) in last 4 yrs.
- Various small scale and large-scale projects implemented in last 04 yrs. resulting In reduction of Power Consumption.

Energy Saving Initiatives

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Sr. No.	ldea no.	Idea Description	Unit	Annualized Saving (Cr.)	Saving in MWH	tCO2e	Status
1	CS10002021	Installation of EC blowers in ventilation system	Unit-IV	0.07	93	75	
2	CS10001615	Running time optimization of ventilation systems	Unit-II	0.03	40	32	
			Total	0.1 Cr.	133	107	

Total Energy Saving (FY-22)133 MWh

Total IL4 Saving (FY-22)

0.1 Cr.

8

Sr. No.	ldea no.	Idea Description	Unit	Annualized Saving (Cr.)	Saving in MWH	tCO2e	Status
1	CS10002735	Chiller KWH saving by optimisation of flow to chiller	Utility	0.6	800	648	
2	CS10002631	Condenser water pump operation optimization	Utility	0.31	413	335	
3	CS10002942	Replacement of 150watt with 55watt Mercury lamp and 36watt with 18watt LED	Unit-IV	0.01	13	11	
4	CS10002943	Installation of an astronomical switch for street lighting	Utility	0.04	53	43	
5	CS10002735	Raise the chilled water set temperature by 1°C based on seasonal condition	Utility	0.098	131	106	
			Total	1.05 Cr.	1411	1143	





Sr. No.	Idea no.	Idea Description	Unit	Annualized Saving (Cr.)	Saving in MWH	tCO2e	Status
1	CS10003652	High efficient Magnetic Chiller installation	Utility	0.26	347	281	
2	CS10004120	3 way to 2 way valve installation - Savings in hot water pumps	Utility	0.22	293	238	
3	CS10004174	Heater control in dehumidifier through thyristor firing units	Unit-II	0.108	144	117	
4	CS10004119	Decluttering of local Chiller by installing PHE for process cooling	Unit-I	0.08	107	86	
5	CS10003640	EC blowers installation in AHU	Unit-II	0.05	67	54	
6	CS10003791	Optimization frequency of secondary pump through header pressure feedback in chilled water system	Utility	0.032	43	35	
7	CS10004097	kWh Savings by Cooling water set pressure optimization of Unit 1 and 3	Utility	0.015	20	16	
8	CS10003644	kWh Saving by Energy efficient ETP Garden Pump	Utility	0.01	13	11	
9	CS10003620	Decluttering of Exhaust Blower Motors	Unit-II	0.01	13	11	
10	CS10002231	Process area room parameters optimization – Energy saving in Dehumidifier	Unit-II	0.01	13	11	
			Total	0.79 Cr.	1060	860	

CompletedUnder ProgressAt RiskPending10

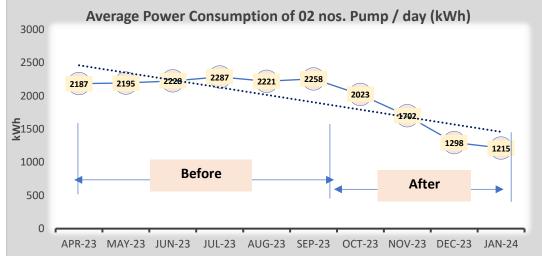


Sr. No.	ldea no.	Idea Description	Unit	Annualized Saving (Cr.)	Saving in MWH	tCO2e	Status
11	CS10004232	AHU decluttered & two or more are clubbed	Unit-IV	0.11	122	98	
12	CS10004153	Thyristor Installation for heater control	Unit-IV	0.095	127	103	
13	CS10003659	Energy efficient fans in cooling tower (FRP to E GRP)	Utility	0.064	85	69	
14	CS10003656	Warm water pump run optimization	Utility	0.048	64	52	
15	CS10003657	EC Blowers in air handling unit	Unit-III	0.035	47	38	
16	CS10004048	Dehumidifier heater control with Thyristors	Unit-III	0.015	20	16	
17	CS10004092	Plug fan to EC Blower in ventilation system	Unit-III	0.014	19	15	
			Sub Total	0.38 Cr.	484	391	



Major energy saving project

Delivery Pressure Optimization in Warm Water Pumps – 03 nos.



Before

Motor rating :30 kW Op. hour : 24 hr /day, 2 pump Avg. monthly consumption : 68 MWh

After

Avg. monthly consumption : 35 MWh Average Power Saving / Year : **317.88 MWh**

Cost : 0.22 Cr./Annum

Installation of 500 & 1000 TR Magnetic Bearing Chiller



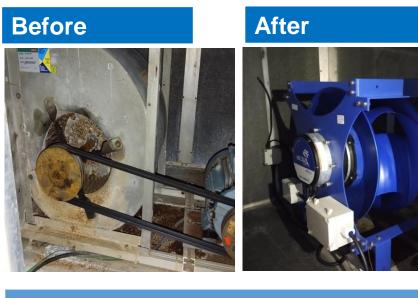
Specification	Obsolete Chiller	Newly Installed Chiller
Capacity (TR)	500 (3 nos.)	500 + 1000
Туре	Centrifugal	Centrifugal, Magnetic Bearing
Specific Power Consumption (kW/TR)	0.65	0.52
Power Consumption (MWh/Year)	5940	4770

2 chiller, 8000 hr/annum, 75% loading

Power Saving : 1170 MWh/Annum Aprox. Cost Saving : Rs. 0.87 Cr/Annum

Major energy saving project

Electronically Communicated Blowers Installation



Planned for Installation (Nos.)	Installed (Nos.)	Cost Saving
14	14	0.099 Cr.

Power Saving : 132 MWh/Annum Aprox. Cost Saving : Rs. 0.099 Cr/Annum

AHU Decluttered & two or more area clubbed

Sr. No.	Existing AHU / Ventilation Unit		Proposed AHU / Ventilation Unit			0
	AHU/ Ventilation no.	Area	AHU/ Ventilation no.	Served Area	Savings MWH	Saving in cost (cr.)
1 1	LFA-62 (3860 CFM)	Wash Area (Room No- 657)	Decluttered		84.69	0.063
2	(1600 CEM)	Storage Area (Room No- 664)	Clubbed with AHU - LFA-57 (4100 CFM)	Cleaned Area (Room No- 711), Storage Area (Room No- 664)	28.76	0.0215
3	LFA-69 (1691 CFM)		Clubbed with AHU -LFA-67 (2600 CFM)	Granulation Hall (Room No- 639), Capsule Filing IV (Room No- 644)	34.917	0.026
					MWh 122	Cr. 0.11

Major energy saving project

De-humidifier Thyristor Panel





Unit	II	III	IV	Total
UOM	MWh	MWh	MWh	MWh
	-	0.54	-	0.54
Q-2	-	0.62	1.46	2.08
	-	2.2	1.46	3.66
	-	3.74	9.28	13.02
Q-3	-	1.28	9.28	10.56
	8.11	2.06	12.92	23.08
	14.34	3.74	12.92	30.99
Q-4	12.838	3.321	12.92	29.08
	14.33	3.519	12.92	30.77
Total	49.61	21.02	73.15	143.78

Power Saving : 300 MWh/Annum Aprox. Cost Saving : Rs. 0.22 Cr/Annum

kWh Saving by Energy efficient ETP Garden Pump









Parameters	OLD	GP-02 (NEW)	
Flow rate (m3/hr)	40	55	
Operating hrs.	3.4	2.5	
KWh	16.83	10.98	
AVERAGE	10.98	16.83	
SAVING IN KWh	5.85		

Reduced operation hrs. with efficient pump

Power Saving : 42 MWh/Annum

Aprox. Cost Saving : Rs. 0.031 Cr/Annum

Major energy saving project

Declutter of reciprocating process chiller – 2 no.

Before





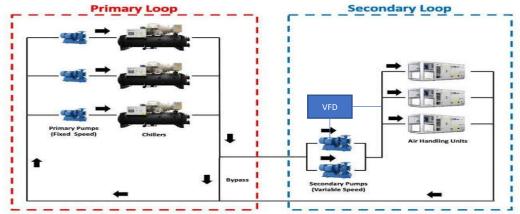
Reciprocating chiller (25 TR) Kw/ TR	Central utility chiller Kw/TR	Energy Saving
1.04	0.56	0.48

2 chiller, 250 hr/annum, 75% loading

Power Saving : 107 MWh/Annum

Aprox. Cost Saving : Rs. 0.08 Cr/Annum

Secondary chilled water Pump operation based on header pressure feedback



Parameters	Before	After	
Flow rate (m3/hr)	260	250	
Frequency	50	43-45	
KWh	33	29	
SAVING IN KWh	4		

Opertion hours : 24 hrs.

Power Saving : 35 MWh/Annum

Aprox. Cost Saving : Rs. 0.026 Cr/Annum

Major energy saving project

Cooling water pump pressure optimization – 2 no.

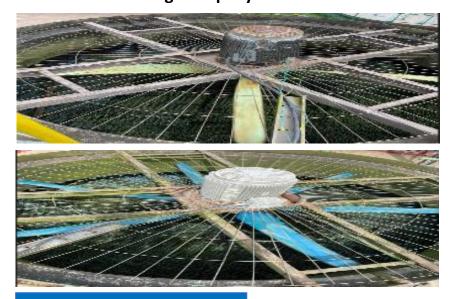
Parameters	Before	After
Flow rate (m3/hr)	100	80
Frequency	50	45
KWh	22	19.5
SAVING IN KWh	2.5	

Opertion hours : 24 hrs.

Power Saving : 20 MWh/Annum

Aprox. Cost Saving : Rs. 0.015 Cr/Annum

Replacement of Cooling Tower fan blades from FRP to E-glass epoxy – 5 no.



Before

Blade MOC : FRP (Fiber Reinforced Plastic) Power Load : 10.26 kWh Air Velocity : 7.71 m/s

After

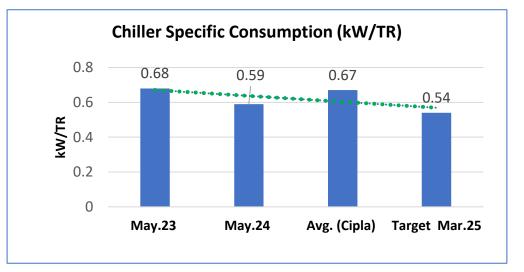
Blade MOC : EGRP (Epoxy Glass Reinforced Plastic) Power Load : 8.20 kWh Air Velocity : 9.73 m/s

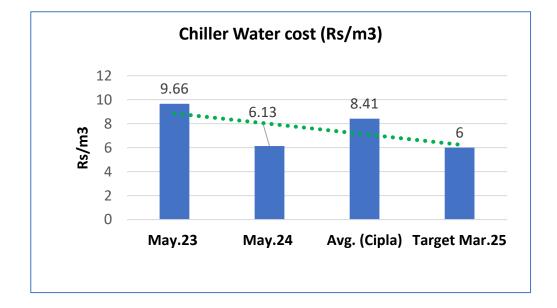
Power Saving : 86 MWh/Annum (for 5 no fan)

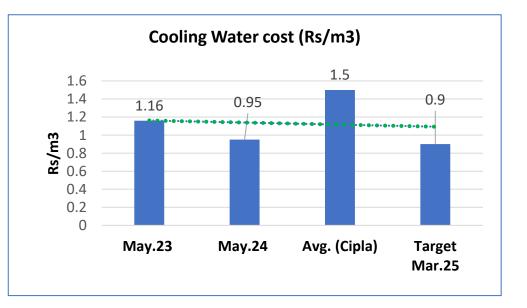
Aprox. Cost Saving : Rs. 0.06 Cr/Annum



Cipla Utility Benchmarking



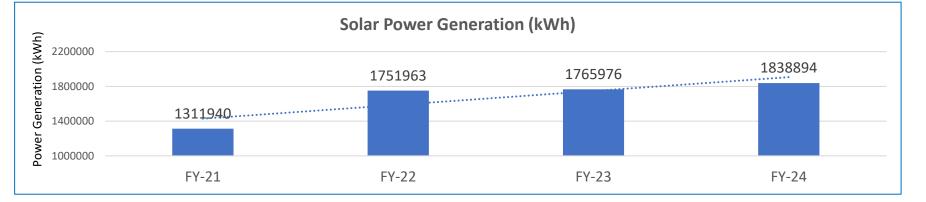




Green Energy Initiatives

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Financial Year	Generation (kWh)
FY-21	1311940
FY-22	1751963
FY-23	1765976
FY-24	1838894
Total	66,68,774





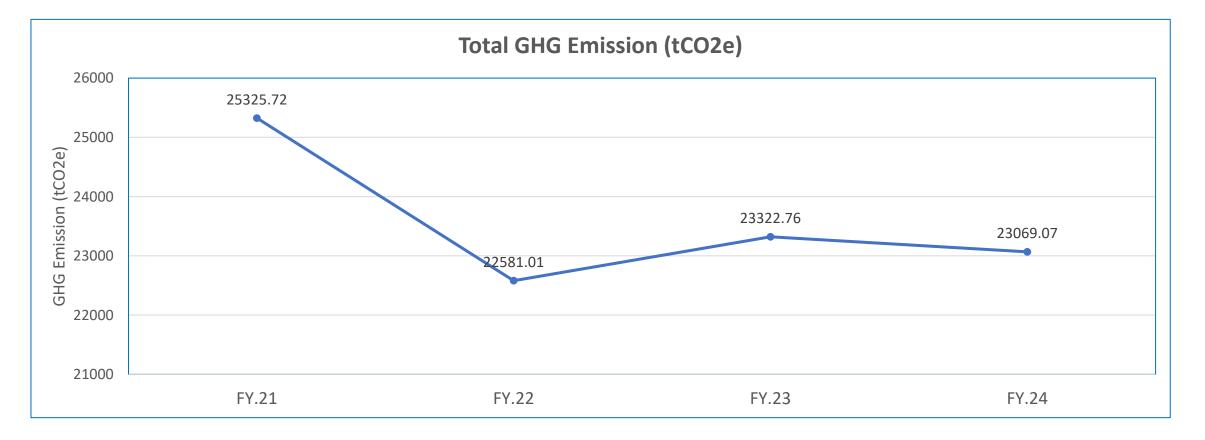
1250 kW capacity Solar installed on Building roofs of all 4 Units



12 kW Solar Tree installed in Factory Premise

- Solar energy increased by 28.5% in last 4 years.
- Increased solar roof areas inside plant premise.
- > 8% of total energy consumption is covered by Renewable Energy
- FY-25 Planned : Additional 55 kWp installation in progress.

Green House Gas Reduction Trend



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- > Various electricity saving projects are implemented
- > FO is replaced with natural gas for boiler & installation of briquette boiler.





REPLACEMENT OF FURNACE OIL BY PNG



- ✓ Switching over boiler from Furnace Oil to PNG is completed
 ✓ Approx. 300 Tons per year of Furnace oil is eliminated with PNG.
- ✓ Approx. 1065 Tons of CO2 is reduced per year.

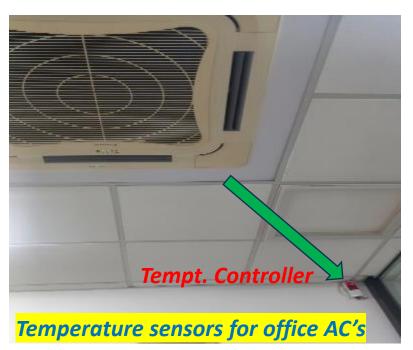
Other Energy Saving Initiatives

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Florescent lights replaced with LED lights







SUPPLY CHAIN MANAGEMENT SUSTAINABLITY POLICY



At Cipla, how we do things is as important as what we do. We follow the philosophy of "Caring for Life" and our Credo reflects a set of beliefs and timeless principles that strongly influence the way we live and the way we work. This core philosophy is embedded in our Supplier Code of Conduct.

These Standards reflect our internal values and the expectations of external stakeholders, such as patients, customers, regulators, investors and public. Furthermore, we find business relationships are more productive and effective when they are built on trust, mutual respect and common values, with zero tolerance for unethical or corrupt practices.

The Policy shall be effective from May 12, 2020 as approved by the MD & GCEO.

Cipla seeks and fosters relationships with suppliers who share a common commitment to:

- 1. Comply with applicable laws and regulations of all relevant territories,
- 2. Behave ethically and with integrity,
- Integrate quality and patient safety into business processes,
- 4. Respect human, employment rights and fair-trade principles
- 5. Promote safety, health and well-being of employees,
- 6. Embrace sustainability and operate in an environmentally responsible manner,
- Implement management systems to maintain business continuity, performance governance, and continuous improvement
- Disclose information associated with the supplier's impact on environment and social issues

These guiding principles strive to positively impact the lives of our customers, partners, the community, the environment at large and the patients we serve. Adherence to Cipla's Supplier Code of Conduct will enable businesses and communities to realize economic, social and environmental benefits. The enclosed Code enables us to select those suppliers who operate on these guiding principles and align with suppliers on what we stand for. Suppliers are expected to understand Cipla's expectations and manage them. In addition to this Code being a part of purchasing contracts, Cipla may take steps to assess a supplier's conformance to the Code.

The MD&GCEO is authorized to amend the Code to give effect to any changes / amendments as maybe required from time to time.

Any questions and clarifications relating to this Policy should be addressed at supplierCOC@cipla.com

Cipla Ltd. Regd. Office Cipla House, Peninsula Business Park, Ganpatrao Kadam Marg, Lower Parel, Mumbai - 400 013 Phone +91 22 24826000 Fax +91 22 24826120 E-mail contactus@cipla.com Website www.cipla.com Corporate Identity Number L24239MH1935PLC002380



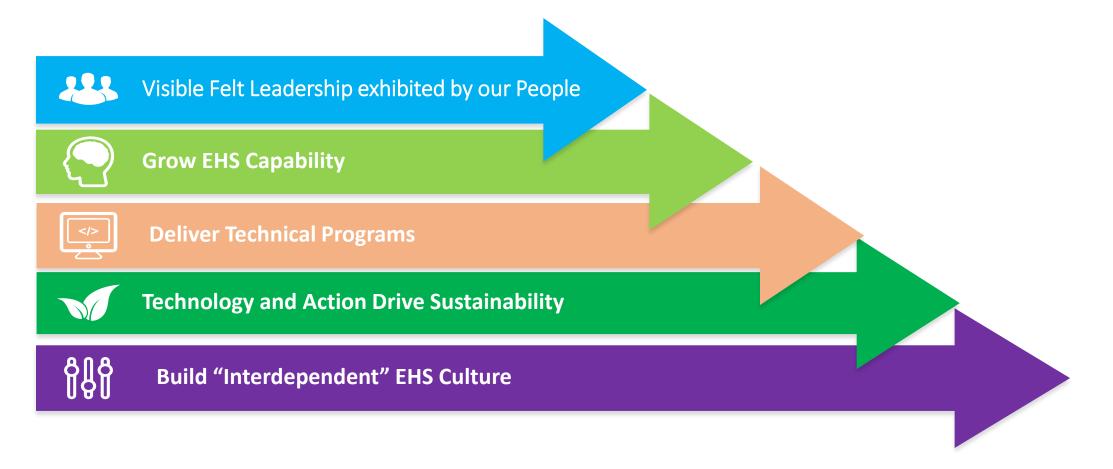
- Responsible and sustainable supply chain management is paramount for the holistic success of the capacity. In this intricate ecosystem, every link in the supply chain plays a pivotal role, influencing drug availability, quality and affordability.
- Supplier Code of Conduct Our Sustainability Policy and the Supplier Code of Conduct ('SCOC') is comprehensive and widely applicable to all our suppliers, ensuring adherence to the various measures, codes and principles of responsible conduct.
- During this year, 1,776 vendors (including 223 critical vendors) confirmed alignment to SCOC in comparison to 1,461 vendors (including250 critical vendors) for FY 2022-23.
- > Supplier distribution
- > Our commitment to quality within the supply chain
- ESG workshop for Suppliers
- Supply chain initiative Cipla is an associate member of the Pharmaceutical Supply Chain Initiative ('PSCI'). PSCI is a top membership body driving excellence in safety, environmental and social outcomes across the global pharmaceutical and health care supply chain.
- De-risking of supply chain Our commitment to responsible and quality supply chain practices goes beyond just being compliant.
- In FY 2023-24, we have been able to de-risk products worth revenue USD 147 million. Approximately 80+ opportunities were taken up for de-risking and achieving savings through competitive vendors, out of which we successfully onboarded ~35 new vendors.

ISO Certifications



EHS Vision, Mission, Goal & 5 Priorities





O5 YEAR ASPIRATION : CARBON & WATER NEUTRAL ZERO WASTE TO LANDFILL 100% COMPLIANCE WELLBEING OF ALL EMPLOYEES-PARTNERS

Aspiration towards Environment and Sustainability





ZERO WASTE TO LANDFILL

All the hazardous waste generated at Cipla Goa is sent for incineration, recycling & co-processing.



EFFLUENT TREATMENT PLANT & ZLD

Dedicated waste water treatment plant at site. In FY 2023 Zero Liquid Discharge (ZLD) is commissioned to reduce fresh water foot print.

RAINWATER HARVESTING



02 nos. Rainwater harvesting tanks & 03 nos. Rainwater harvesting pits in the premises to reduce water footprint



WATER RECYCLING INITIATIVES

Water Initiatives completed at site to save fresh water consumption & additional projects planned to reduce the water foot print

Fuel conversion from FO to Briquette & PNG.

Energy saving initiatives, Roof top solar



MASS PLANTATION DRIVE

energy installed

GHG FOOT PRINT REDUCTION

To reduce the Carbon foot print and as a journey towards environment sustainability of carbon neutral, 2000 plant saplings are planted at site & 3000 sapling plantation with Verna Industrial Association

Zero Waste to Landfill Platinum Certificate





Verification Statement Registration No. 8121818024 Audt Report No. CIPLA 1, ZWL Report_30082023 Assessment Year: 2022-23 Note: A gale-to-gale approach is applied for ZWL vertication. This involves accounting for waste generation and disposal at the plant level. The waste handed over to the authorized waste henders as well as the waste sold are considered diversion. The reporting organization confirmed that the waste is not incinentated or landfilled by vendors or orekoz authorized recyclers. The verification does not cover the Ife cycle impacts arising from the process at authorized vendors or recyclem, i.e., beyond the reporting organization's For TUV India Pvt. Ltd. boundary Pune; 2023-00-01 Wards Diversities Califyrory; Benauline Obviousland Rule: The sensite diventities outs not have there 0.0 % Shows Diversion Rule: The marks alteration rate of least 60 % or above Gold Diversion Rule: The sensite diversion rate at least 60 % or above Plasteum Oversion Rule: The warks diversion rate at least 60 % or above haused on: 2023-09-01 Valid until: 2024-08-31 This Verification Distances is a full verification report & should be read in conjunction with 6. This Verification Distances remains the preserve of TUX' relia Tive. Lot. & shall be refused usen resulted. The use of his Venetigian Statement's subsective to the service massication's Terms & Constitute, 1. Uvi's negonalizing and stating an invest to the service of his Venetigian Statement is subsective to the service massication's Terms & Constitute, 1. Uvi's negonalizing and stating an invest to the service of his Venetigian Statement is subsective to the service of t relaying on this Verification Statement shared verify its calification of the energy (Downard com-Head Office: 801, Raheja Plaza - 1, L.B.S. Marg, Ghatkopar (W), Mumbai 400086, India I www.bay-nord.com/in

Hazardous Waste Dispose	Qty
Hazardous waste generated FY22-23	325.14 MT
Waste diverted from Landfill (Co- processing & recycling)	316.34 MT
Landfill	8.77 MT
Bio medical Waste (exemption)	23 KG
Hazardous Waste Divergence Rate	97.3%

Non- Hazardous Waste Dispose	Qty
Non-Hazardous waste generated	1637.17 MT
Waste diverted from Landfill (Recycling)	1637.06 MT
Landfill (Horticulture waste)	0.11 MT
Non-Hazardous Waste Divergence Rate	99.99%

Environment Awareness Program Conducted at Cipla Goa-I







ENVIRONMENT AWARNESS PROGRAMS IN FY-24

- 1. Energy Ambassador program -15 ambassadors at site
- 2. Energy saving theme-based campaigns
- 3. Watershed projects
- 4. 2000+ Mass Plantation & 400+Tree distribution to employees.
- **5.** *E*-waste collection Drive 28



Reimagining Tomorrow



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