CII NATIONAL Awards-2023-24

ITC Limited-Kidderpore Unit, India Tobacco Division

September- 2024

Presented By :

R K Himanshu – Head of Engineering | Shiv Kumar – IC Electrical | Ritesh kumar – IC Utilities

ITC: An Exemplar In Triple Bottom Line Performance

Environment

- **Water Positive** : 22 years in a row
- **Carbon Positive** : 19 consecutive years
- **Solid waste recycling positive** : 17 consecutive years
- Renewable Energy share> 50 %
- 7 units received Alliance for Water Stewardship (AWS) Platinum certification
- ITC's Climate Smart Agriculture programme has benefitted 10.5 lakh farmers across nearly 2.79 million acres

Economic

- Market Capitalization Over Rs.6.32 trillion rupees.
- Turnover: Over Rs. 70000 Crores.
- Powered by the vitality of world-class brands

Social

- 6+ million sustainable livelihoods supported
- 212 Million person days employment Farm/Social Forestry
- Benefitting 4 million farmers by E-Choupal till date
- Women focused initiative reached 6 Million Women

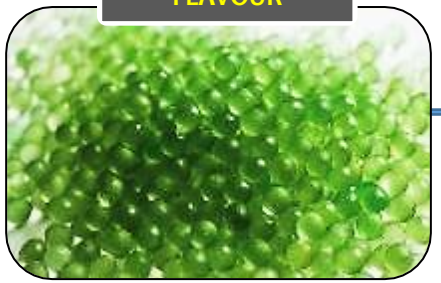
ITC Kidderpore

- Cigarette manufacturing operations by ITC commenced in 1935 in Kolkata Port Area
- Production Capacity – 12.2 Billion Cigarettes with flexibility in operations through world class Manufacturing facility
- Onsite Renewable Energy – 1.03MWh
- Green Landscaping Coverage - 31%
- IGBC Platinum Rating, ISO 9001, ISO 14001, ISO 18001, SA 8000 certified
- ISO 50001 Stage-1 completed

Operations on a 3 shift 300 day basis

Manufacturing Process Flow – Cigarette

ENCAPSULATED FLAVOUR



FILTER MFG

CIGARETTE MAKING

CUT TOBACCO

CIGARETTE PACKING

FINISHED GOODS STORAGE

SPIRAL CONVEYOR

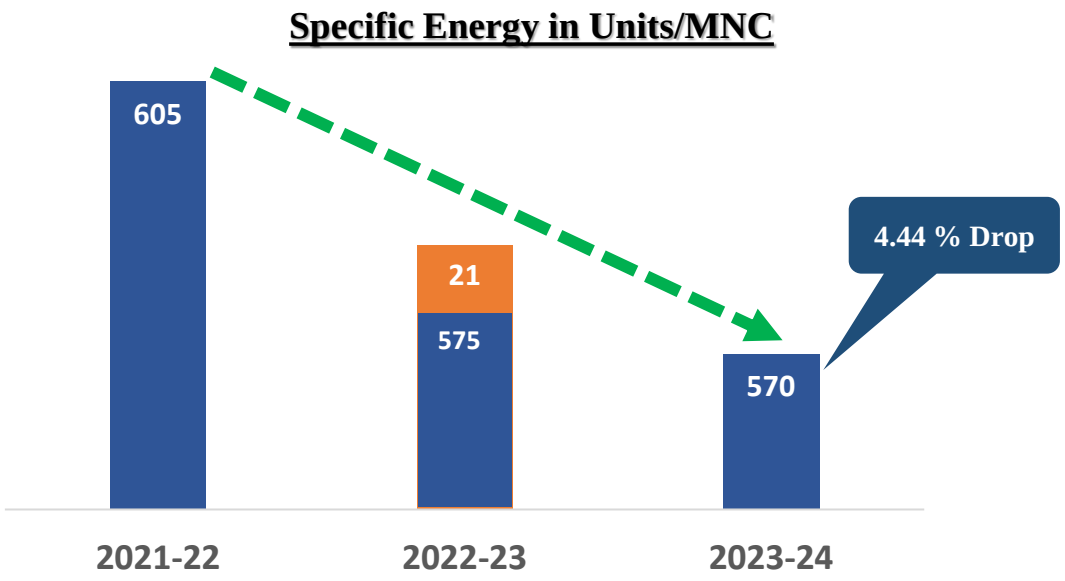
DUST RECOVERY SYSTEM

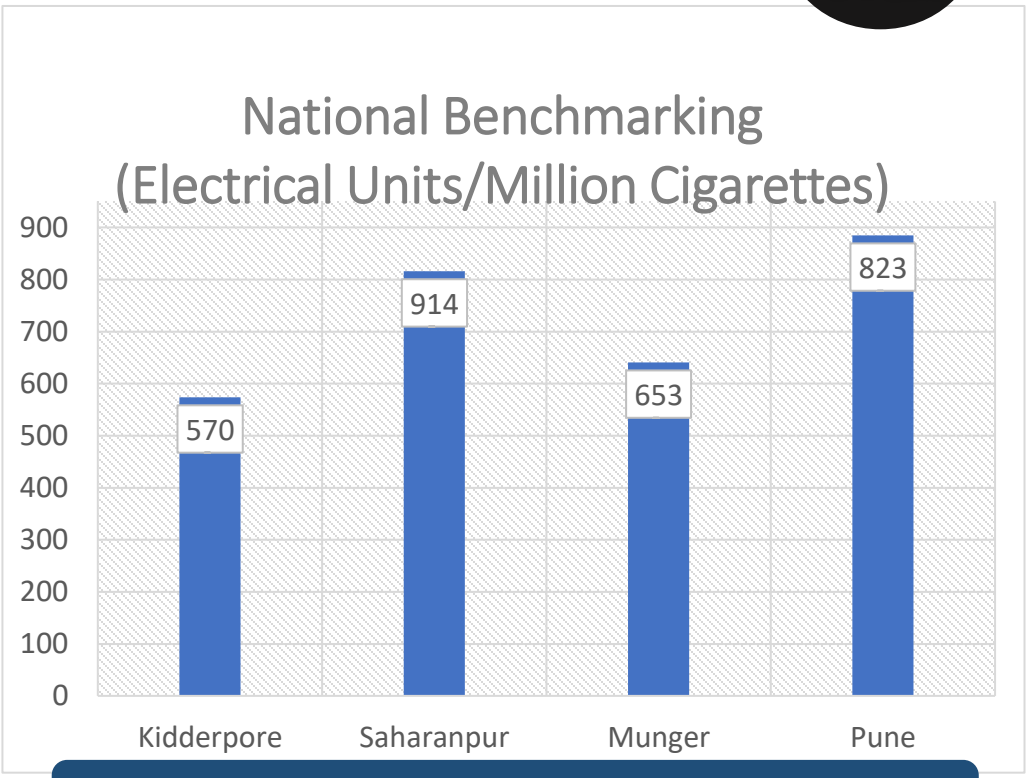
Highlights – 23-24

- Reduction in specific energy consumption by 4.44 % OLY
- Renewable Energy share increased by 95 % YOY
- increase in on-site solar power generation by 9% OLY
- Total investment of Rs 1.36 Crores for RE & Energy Conservation Initiatives.
- First entity in WB to Wheel Green Energy through ISOA
- Specific Water Consumption reduced by 5% OLY

Energy Management

Energy Performance 2023-24





- **Additional Load in FY2023-24**

1. New Machine trials & project works - 9 Units/MNC
2. Extended Heat Load On HVAC-7 Units/**MNC**
3. Volume reduced by 2%, causing impact on fix load-5 units/MNC

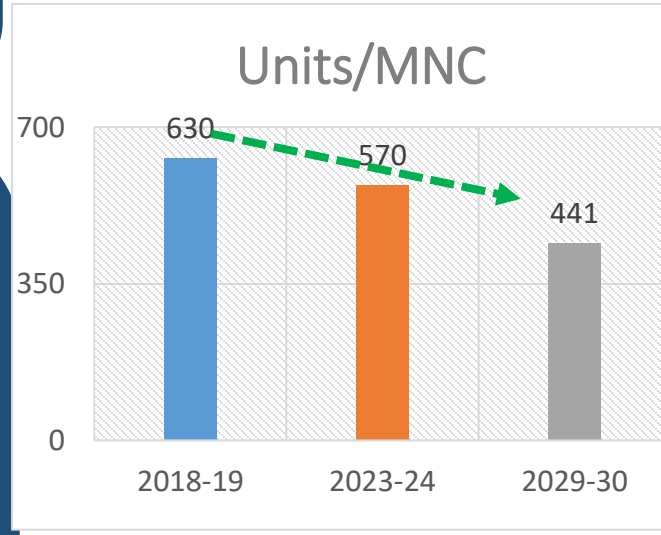
National Benchmark across ITD Units

Year	Production (Million Cigarettes)	Energy Consumption (mKWH)
2021-22	8583	5.20
2022-23	11611	6.67
2023-24	11387	6.49

Target Specific Energy Consumption

Target SEC - Long & Short Term & Renewable Energy

- 5% reduction in SEC in 2024-25 through investment of Rs. 2.27 Cr in energy saving initiatives
- 30 % reduction in overall SEC by 2030 (baseline taken as 2018-19)
- 100% renewable energy (Electrical) by 2030



Road Map – Initiatives Under induction and planning stage

- Adopt smart manufacturing (industry4.0) & digitalization (AI/ML) to optimize energy consumption by improving productivity & machine efficiency.
- Adopt UMS (Utility Management System) for Utilities equipment's ,consisting ML algorithms & controls to optimize energy.
- Replacement of 700 CFM compressors with energy efficient compressors
- Induction of IE3 and IE4 4 motors for SMD services
- Low approach cooling towers/ adiabatic cooling towers

Encon Projects Planned in 2024-25

Total Investment:

₹ 2.7 Crores

Potential Energy Saving:

580 **MWh**

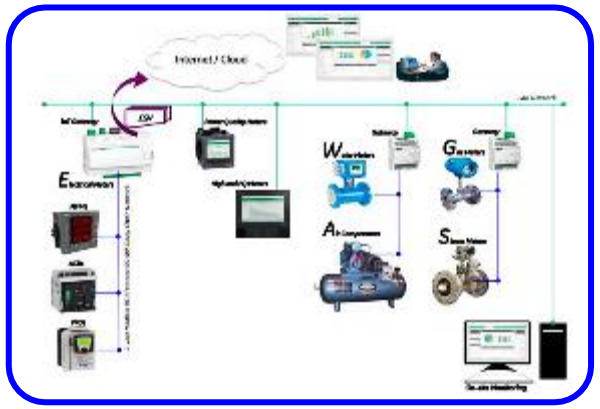
R: Replicable

- R AI/ML based Utility Management System implementation.
- R Energy efficient Dryers in Encapsulation plant
- R New Filter Viper System to feed filters to cigarette making lines
- R Replacement of Streetlights with battery operated solar street lights.
- R Energy efficient Pneumatic Fans for cigarette makers.
- R AHU Condensate water utilization Cooling tower.
- R Compressed air consumption optimization feasibility in Machines

Energy Management – Plan 2024-25

AL/ML based -Utility Management System(UMS)

Machine Learning based UMS platform will be introduced. UMS will act as a centralized platform to relate the energy consumption, trends & deviations & UMS will be able to directly access station/function wise machine production & energy data to directly find the root cause analysis.



Investment:

- Rs. 60 Lacs
- Payback period : 55 months

Envisaged Benefits:

- Saving of 180 MWH

Energy efficient centralized PDRF Fans -5nos.

Existing PDRF fans are 12 years old with a capacity of 17KW/800CFM/IE-1 motors.
New energy efficient PDRF fans with 12KW/800KW/IE-3 delivery the same amount of suction . One fan has been replaced and 5 such fans are planned in 24-25

Investment:

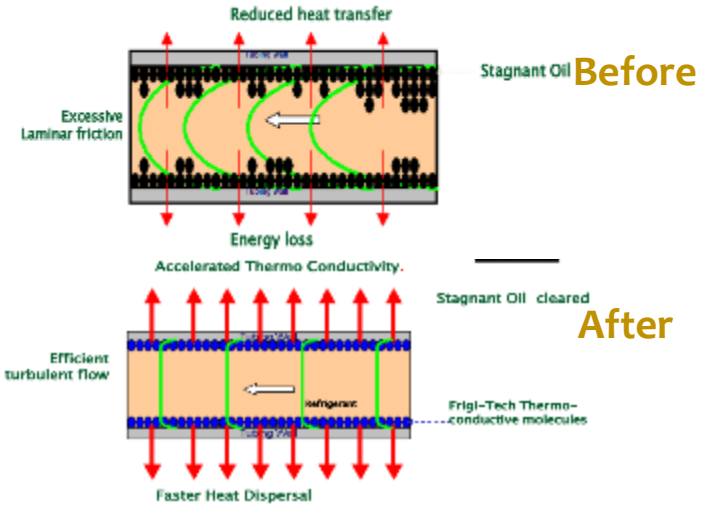
- Rs. 90 Lacs for 5 fan
- Payback period : 80 months

Envisaged Benefits:

- Saving of 700MWH for 5 fans

Frigi- tech oil additive for HVAC chiller compressor .

This oil additive when added to the chiller compressor oil will reduce the oil fouling by creating a thin film of lubrication and will result in faster heat dissipation and lesser energy .



Investment:

- Rs. 4.6 Lacs
- Payback period : 10 months

Envisaged Benefits:

- Saving of 76.5 MWh

Energy Saving projects implemented in last three years

Year	No. of energy savings projects	Investments (INR Million)	Electrical savings (MWH)	Thermal savings (Million Kcal/ MToE)	Savings (INR Million)	Impact on SEC (Units/MNC) (Electrical)
2021-22	6	25.03	1690	NA	5.48	196.90
2022-23	8	27	1030	NA	8.1	90.00
2023-24	8	13.6	440	NA	3.4	42

Encon Projects Implemented in 2023-24

Total Investment:

₹ 1.36 Crores

Total Energy Saving:

440 **MWh**

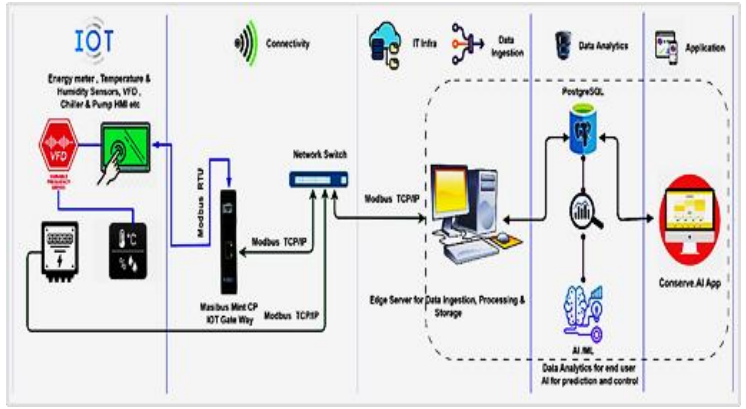
R: Replicable

- R — Nori-KooL Day light solution in Finished Goods Store to harvest sunlight
- R — Venturi based vacuum generators in Case packer.
- R — Close Loop Control of HVAC using AI/ML based solution
- R — New energy efficient DRF fan with IE-3 motor
- R — Heat Recovery Unit Installation in Capsule Dryers
- R — Compressed air - Close loop controls to optimize Air flow & Pressure based on flow sensors.

Encon Projects implemented in 2023-24

Automatic HVAC control using AI/ML

- Introduced smart sensors for ambient real time data with production floor conditions.
- Integrate all HVAC system and created dashboard for performance monitoring.
- Automatic control of chiller set point based on ambient & shop floor conditions



Investment:

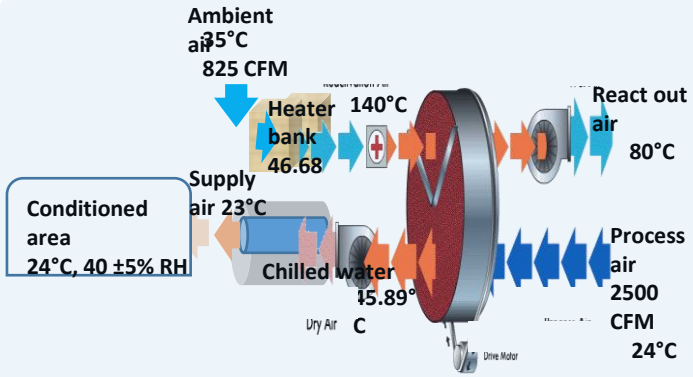
- Rs. 60 Lacs

Envisaged Benefits:

- Saving of 128 MWh/Annum
- Payback period : 56 months

Heat recovery systems

- The reactivation air was heated using heater to 140°C.
- Warm humid air is exhausted back into the atmosphere at around 80°C.
- Scope of recovering heat from the exhaust



Investment:

- Rs. 80 Lacs

Envisaged Benefits:

- Saving of 105 MWh/Annum
- Payback period : 53 months

Nori-kool day light system

- Norikool is a daylighting system that uses skylights to provide natural light to buildings and industries with features such as
  1. UV protection
  2. Uniform lighting

Investment

Rs. 15 Lacs

Envisaged Benefits

- Payback period : 36 months
- Saving of 62 MWh/Annum

Smart Factory

Smart manufacturing,
unlocking new possibilities

Business Context

Heavy impetus on smart manufacturing & benchmarking against "Lighthouse" standards

Lighthouse approach

- Agile approach
- IIoT platform based architecture
- People capability building

Key Value Drivers

Digital assembly & machines

- Shop-floor data integration
- Secondary manufacturing
- Capsule Mfg.
- Capsule Filter Mfg.

Digital enabled sustainability

- AI/ML based smart utility management system.
- AI / ML based control of HVAC
- IIoT based compressed air monitoring of SMD machines
- Utility Management System

Digital performance management

- UMS will be a central platform to access factory data to create alerts for energy deviation all around.
- HVAC equipment performance monitoring & alert generation in case of deviations

Digital maintenance

- SQL based digital maintenance system for SMD shop floor
- HVAC equipment automatic maintenance alerts generation

Digitalization Journey so far…

Journey of manual data collection from machines to advanced analytics

Data acquisition from shop-floor technology

- Upgradation of obsolete technology on shop floor for facilitating integration
- Exploration and deployment of smart sensors to capture critical process parameters
- Firmware upgradation of machine PLCs to bring it to same platform

Design of network architecture

- Conceptualization & implementation of contemporary OT network architecture
- Industrial grade active & passive components for 10 GBPS high speed OT network
- ITSS standard segmentation of shop floor machines in line with ICS guidelines

Visualization of data

- Live display of real time performance of machines for quick analysis and actioning
- Trend analysis of live rejection and downtime data

OT-IT Integration

- New generation firewall for IT security compliance -
- Visualization of SCADA and historian access on IT network –
- Auto-mails and SMS triggers for quick review and actioning

Advanced Analytics

- IIoT based platforms for advanced analytics

Azure Grafana MindSphere by SIEMENS

- In-house coding platforms for easy analysis **(Ex. Low code no code)**

Power BI Microsoft PowerApps

10+ Use Cases identified and under implementation

Innovation

Design Innovation Process

Key Drivers towards Fostering the Culture of Innovation

1 Technology Absorption

2 Automation

3 Industry 4.0

4 Industry Scan

Amaze Innovate Re-create

UMS - Utility management system(AI-ML) - Case-1

Problem Statement

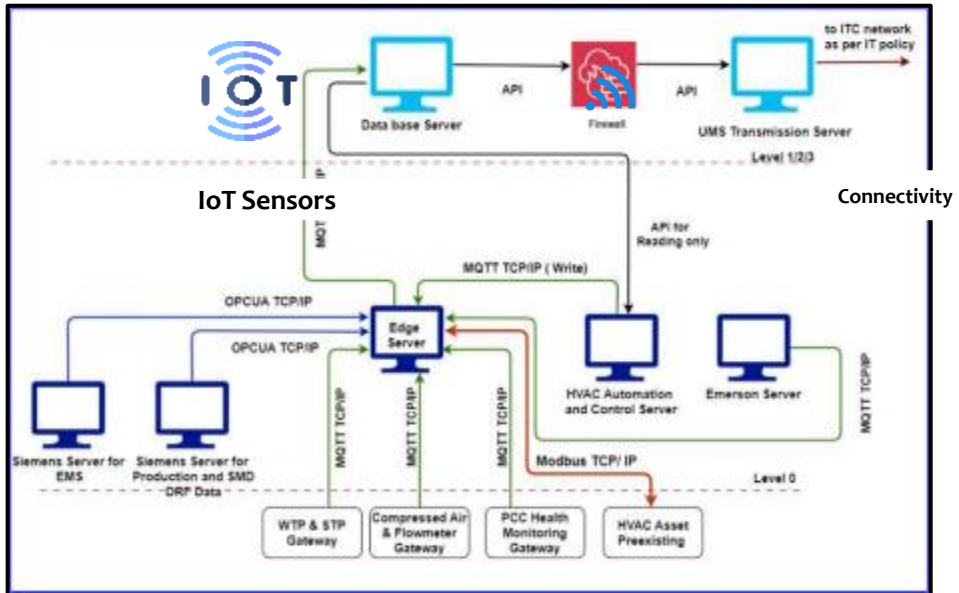
- Currently, there is system of monitoring energy consumption of plant equipment's in Silo's
- By leveraging BLP Orion AI & ML based solution, unit plans to improve energy performance
- Existing system like EMS, compressed air consumption needs to be directly linked to manufacturing lines

Solution implemented

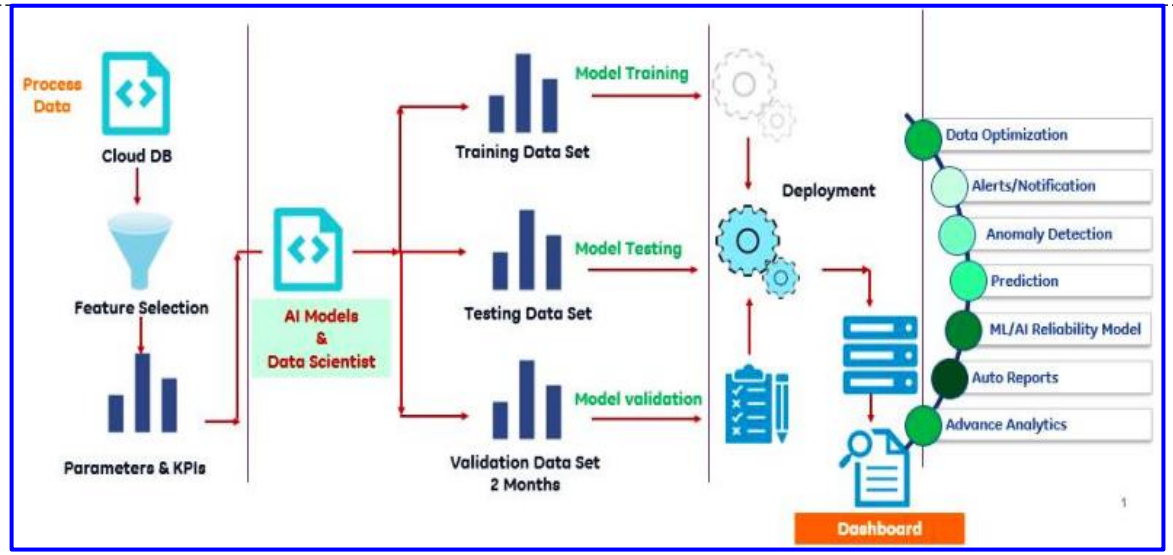
- By use of Industry 4.0 , The proposed utility management system will integrate energy meters, DRFs, compressors, and HVAC with production
- Data of ~1000 parameters would be captured into a single platform for visualization, KPI calculations, report generation, alerts/alarms
- Data driven analysis and benchmarking, along with real-time visualization of performance in dashboard, will be made available.

Benefits envisaged

- A detailed analysis and benchmarking, along with real-time visualization of performance in dashboard, will be made available
- This will aid in correlating performance with external parameters and identifying reasons for any abnormalities.
- Envisaged overall electrical energy savings by **324 MWH/annum**



Connectivity



Energy efficient drying drums in capsule - Case 2

Current process

- Encapsulation Manufacturing is an integrated process of cigarette production. The Capsules after manufacturing are being dried in a dryer before being used in cigarette.
- The drying process involves use of drying drums , high power electrical heaters with 3 mm holes with a **20** kg batch running for 6.5 hrs.

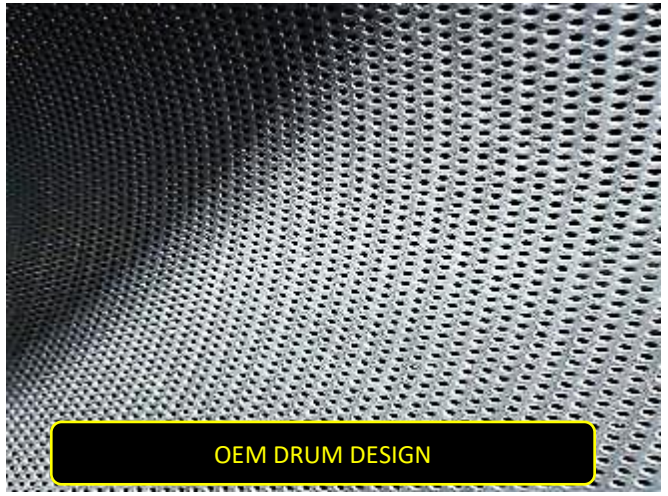
Modified process .

- Inhouse Designed and tested slotted drums for capsules drying process . Size - 2.5mm(W) x 50mm(L) .
- The New design is capable of drying **25** kg of capsule in a single batch of 6.0 hrs.

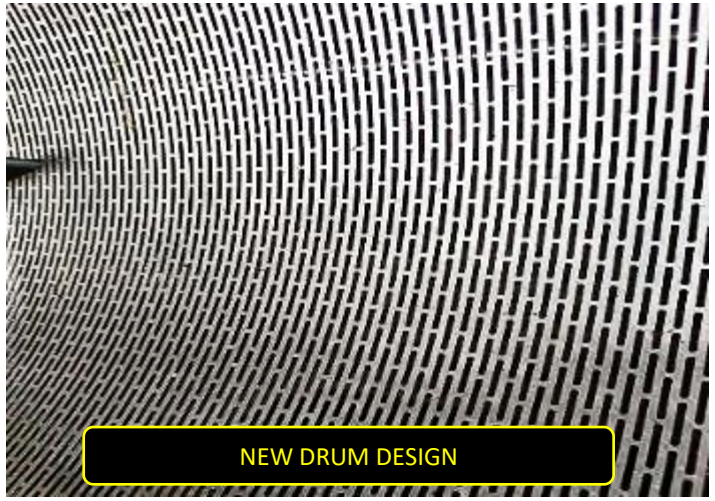
Benefits envisaged

- Reduction energy consumption by 5-8%.
- Potential to save **64,800** KWH/annum
- Can be replicated in all the dryers of ITD cigarette factories .

CAPSULE DEHUMIDIFIER DRUM



OEM DRUM DESIGN



NEW DRUM DESIGN

Frigi-Tech Oil additive for chiller comp.- Case-3

Problem Statement

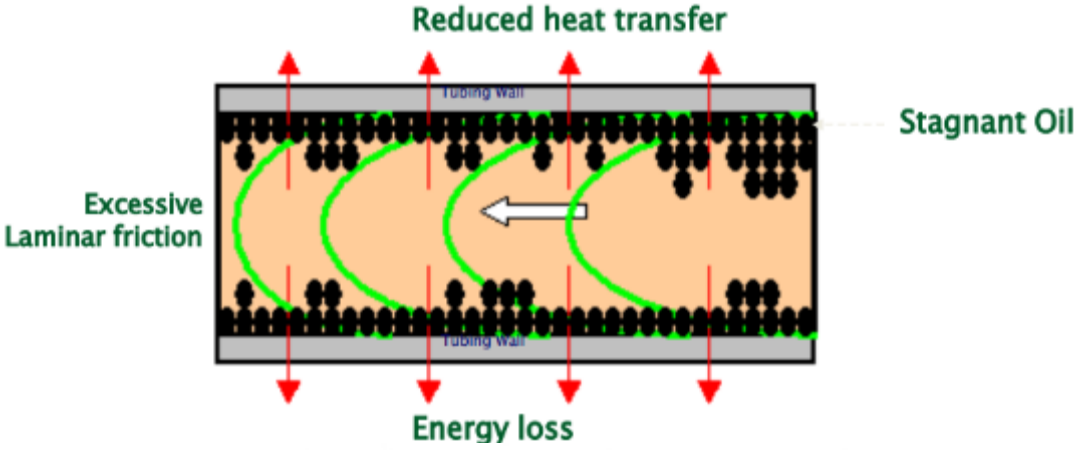
- Energy optimization of chiller compressors.
- Extend life of chiller compressor
- Oxidation & corrosion of chiller parts.

Solution implemented

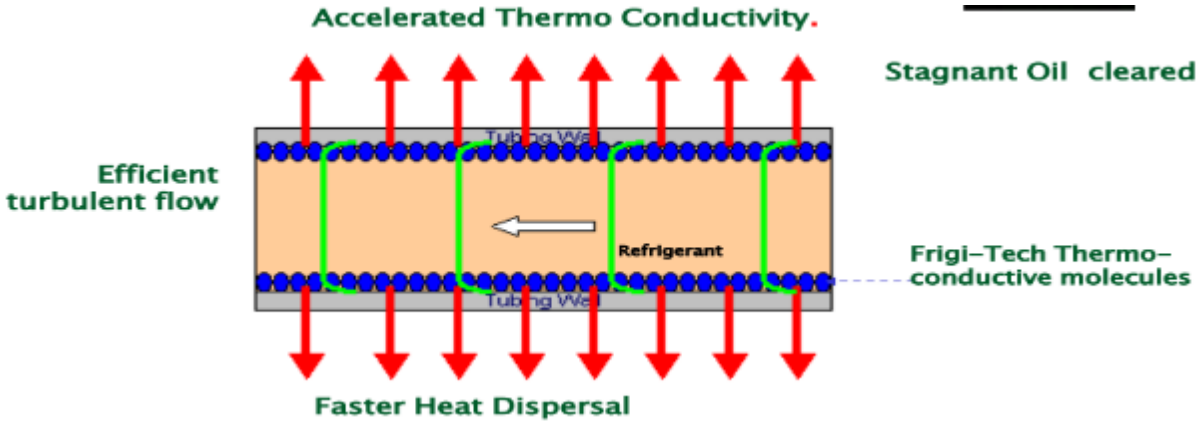
- Treating the chiller compressor with **Frigi-Tech Space Age Lubrication** Enhancement refrigerant Oil Additive.

Benefits envisaged

- Frigi-Tech additive has a potential to reduce the Chiller power consumption by **8-20** % by Removing the oil fouling and creating a thin film of lubrication on the metal surface & internal components extending the equipment's life.
- Potential savings 5% energy reduction



Before Frigi-Tech



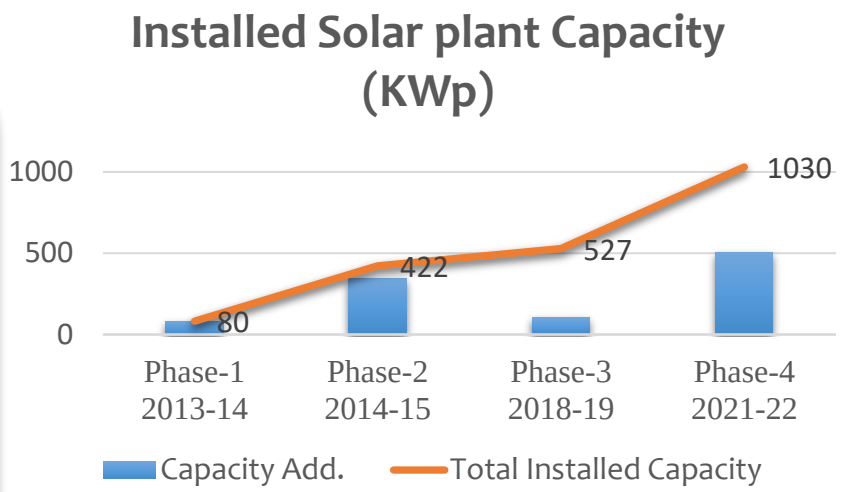
After Frigi-Tech

Sustainability – RE Portfolio

“ITC aspires to meet 100% of its electrical energy consumption from renewable sources by 2030”

Phase wise Investment made for Onsite Solar

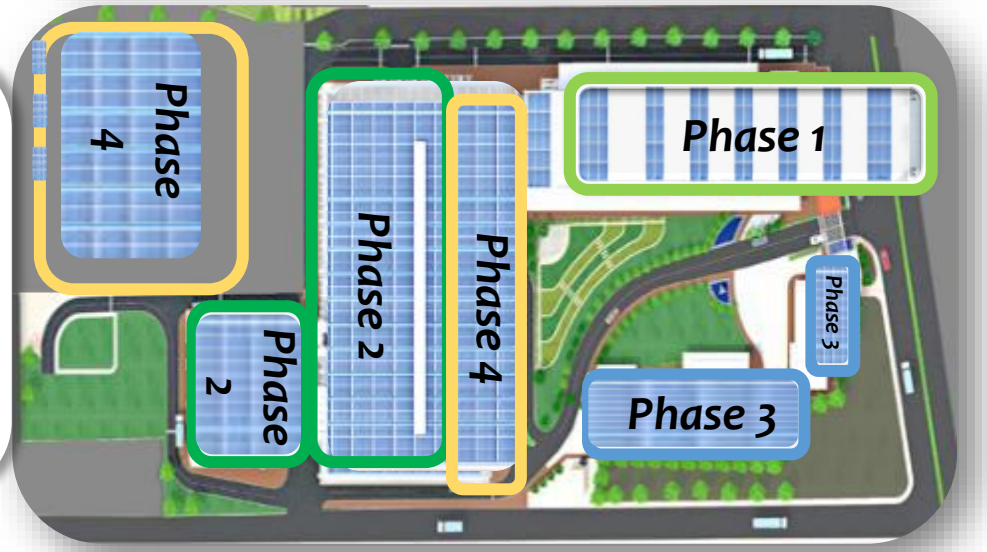
Solar Panels cleaning using drone in difficult to access areas.



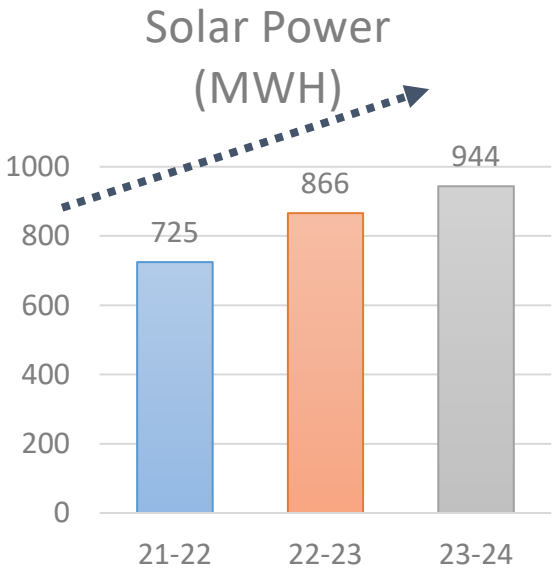
Total Capex Investment ~ Rs 5.6 Crores

Key Features

- Under emerging technology – Introduction of Drone for safe and effective cleaning of Solar panels to improve generation efficiency (POC done at site)
- Industry 4.0 based Online monitoring system

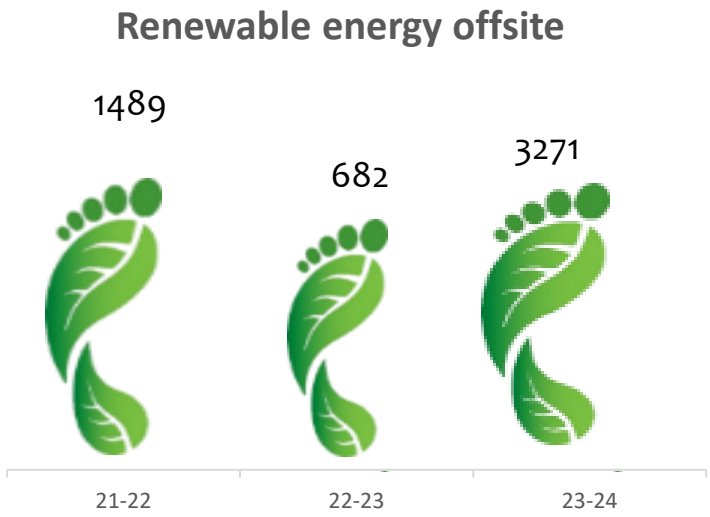


Utilization of renewable energy sources



Year	Type of Energy	Offsite/Onsite	Installed Capacity	Generation	% of overall Electrical energy
2020-21	Solar	Onsite	0.53 MW	354.93 MWh	5
2021-22	Solar	Onsite	1.03 MW	725.34 MWh	10
2022-23	Solar	Onsite	1.03 MW	866 MWh	10
2023-24	Solar	Onsite	1.03 MW	944 MWh	10

Utilization of renewable energy sources



Year	Type of energy	Offsite/Onsite	Generation (MWh)	% of overall electrical energy
2019-20	Wind	Offsite	NA	NA
2020-21	Wind	Offsite	316.00	5
2021-22	Wind	Offsite	640.18	9
2022-23	Green energy DISCOM	Offsite	1489	15
2022-23	Wind	Offsite	682	6
2023-24	Green Energy Discom (CESC)	Offsite	3271	35

Renewable Energy Plan ITC KIDDERPORE

Plan

Completed

2025-2030

Other sources

1) ISOA -
2) Power through IEX
3) Green Power from DISCOM
4) 20MWp off site solar Plant in Puruliya (WB)

~ 96 -100%

2023-24

Other sources

1) ISOA - Established
2) Power through IEX – Financially not viable
3) Green Power from DISCOM - Established

~ 40-45 %

2021-22

Phase-IV

504.3 KWp

Completed 10%

2014

Phase-II & III

439.4 KWp

2012

Phase –I

80 KWp

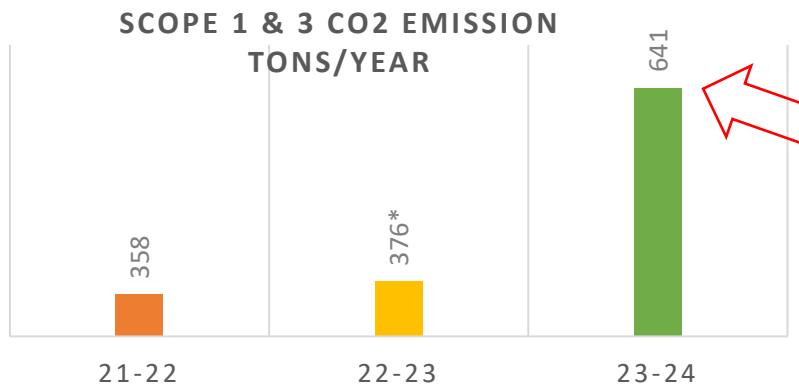
- **Key Interventions :**
- Renewable energy share increased from **31%** **to 45%**
- **9% increase** in on-site solar power generation OLY
- Continuous online monitoring of solar plant performance & rigorous maintenance
- Purchase of Green power from DISCOM

Hybrid solar wind farm

Hybrid Solar street lights

GHG Inventory 2023-24

Cigarette Mfg GHG Emission



Approach & Initiatives

- Augmented the Onsite solar power plant to 1.03 MWp.
- Started wheeling green energy from IEX and DISCOM starting from 2021 to cut down the CO2 emissions in coming years.
- Explored and started Purchase of green energy from Discom (CESC). In the year 2023-24, total 3271 MWh purchased from DISCOM at an additional cost of Rs 0.50 / kwh
- Set up in progress for installation of 20 MW offsite solar plant at Purulia, West Bengal .

Electric Vehicle Charging Facility in parking area

100% renewable energy (Electrical Energy) by 2030 – Long term plan

1. To reduce overall CO2 emission of organization , Kidderpre- Kolkata port is being used to received all imported raw materials starting from 2023.
2. Due to shortest distance from China, Malesia etc Kolkata port is receiving all raw materials and transfer to factories all over India

Green Supply Chain

Beyond the Boundary-West Bengal

Solid Waste Management

Over 62,800 Household Covered and **3,781 MT Waste** Handled in 2023-24.

In 2024-25 , Plan to cover 85,540 Household and 5,115 MT waste

Renewable Energy for Society

Solar Panel Installation in Schools & Anganwadi till date:

- 6 Schools & **5 ANGANWADIS** covered.
- Total Renewable Energy Installed – 19.5 KW.

Plan to cover 15 Schools/Anganwadi in the current FY 2024-25

Infrastructure Support to Schools

Infrastructure Support provided to 26 Schools & **33 Community Toilet** Constructed **in 2023-24**.

Plan to provide Infrastructure Support to 27 Schools in 2024-25.

In-House Waste Management initiatives

Waste Reduction

Filter Maker Camera light & waste reduction .

Filter maker vison system created high waste due to false rejection.

Elect. team has changed the illumination LED light from 30 W to 45W bar. From Focus LED type from to IR LED light

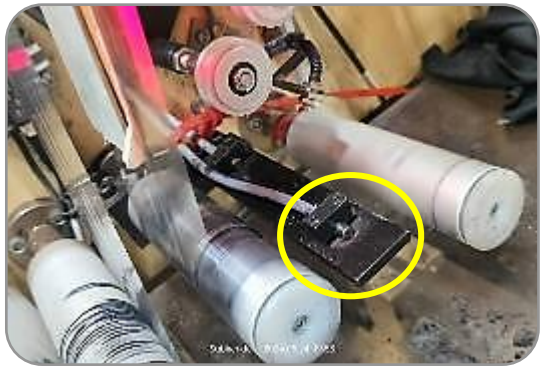
Waste Saving:1.5Kg/MNC

Maker cig. rejection reduction

Modified PLC program and rejected only one cigarette in place of 4 cigarettes.

Team modified cigarette detection cam.

Waste savings:1.1 Kg/MNC



BOPP Centralization check sensor installed

High BOPP film waste due to film wondering .

A new sensor has been added to check BOPP wonder.

After this intervention total waste eliminate due to BOPP wondering.

Waste Savings: 0.46 Kg/MNC

Gay wrap bobbin end sensor installation

Before we are changing Gay wrap bobbin on visual inspection and multiple times found core waste very high.

New automation for gay wrap bobbin end detection so core waste eliminated.

Waste Savings: 0.8 Kg/MNC

WMS Waste reduction & Productivity improvement

Energy Management – Monitoring & Review Mechanism

Corporate

- Yearly Sustainability review and reporting
- Corporate EHS Audit
- Sustainability Audit by third party

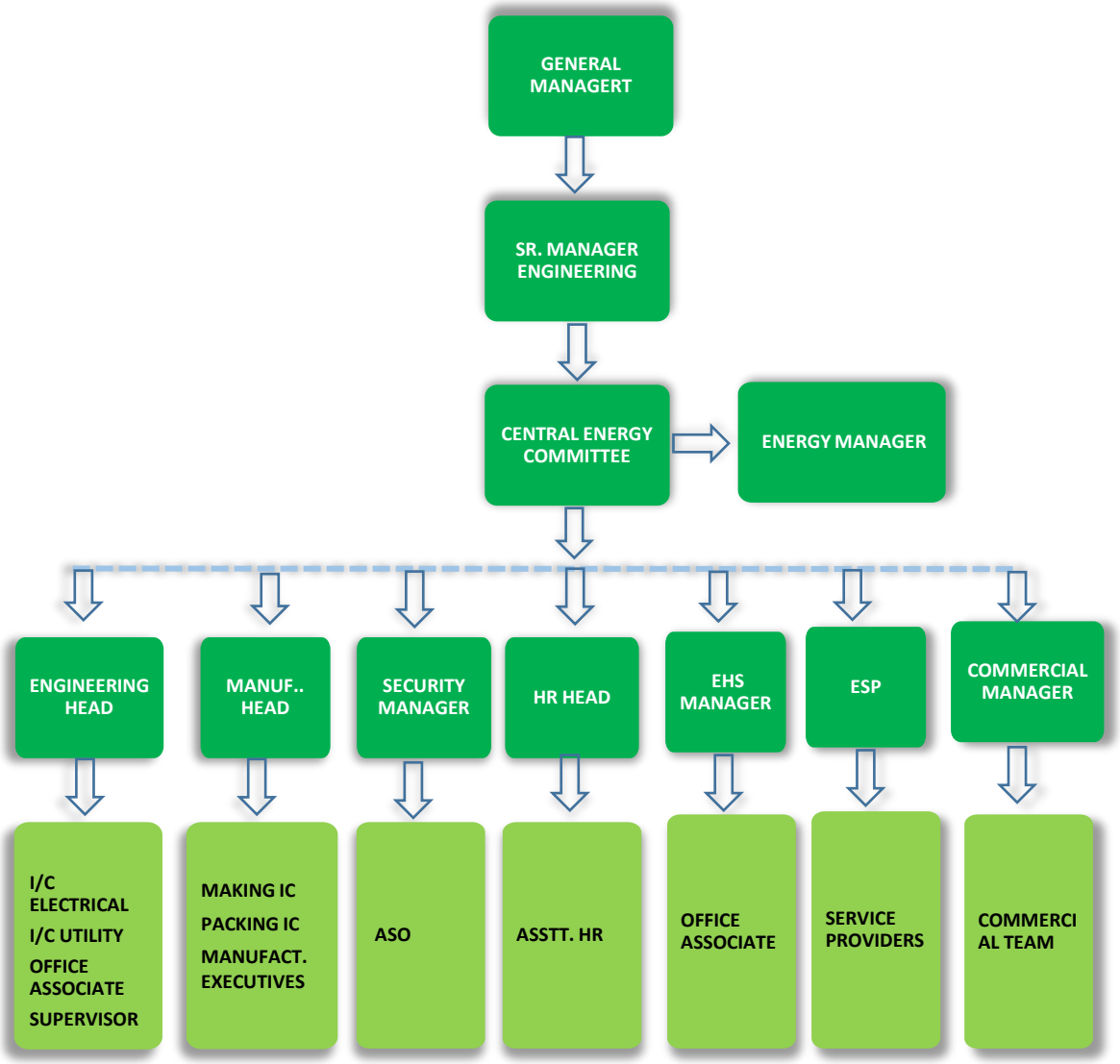
Division

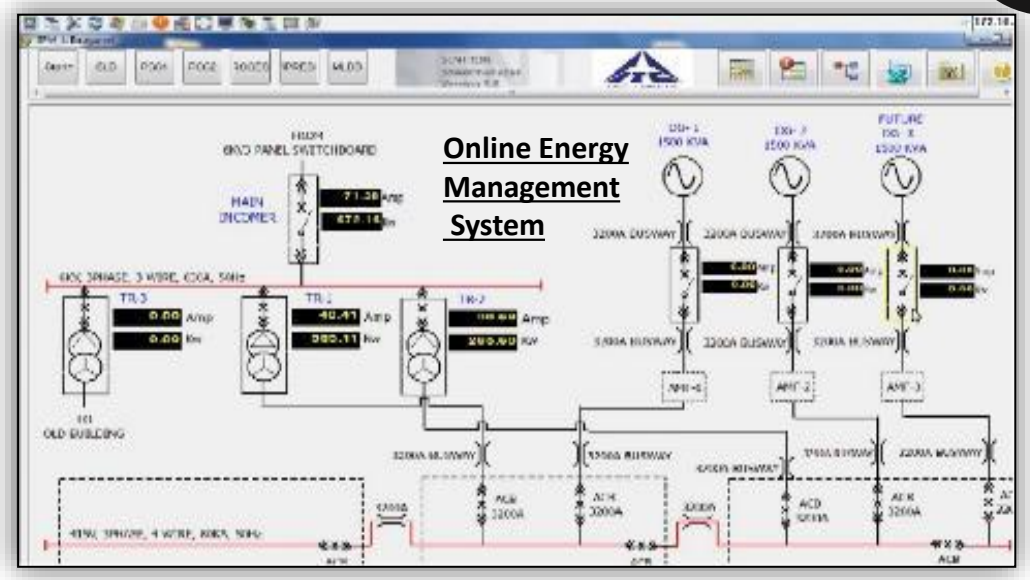
- Divisional EHS Audit
- Monthly Dashboard reporting
- Quarterly Sustainability reporting
- Annual Unit review

Unit

- Daily review by departments and Senior engineering Manager
- Month review by Unit Head

Energy Management – Monitoring & Review Mechanism





DAILY ENERGY REPORT - MARCH, 2019

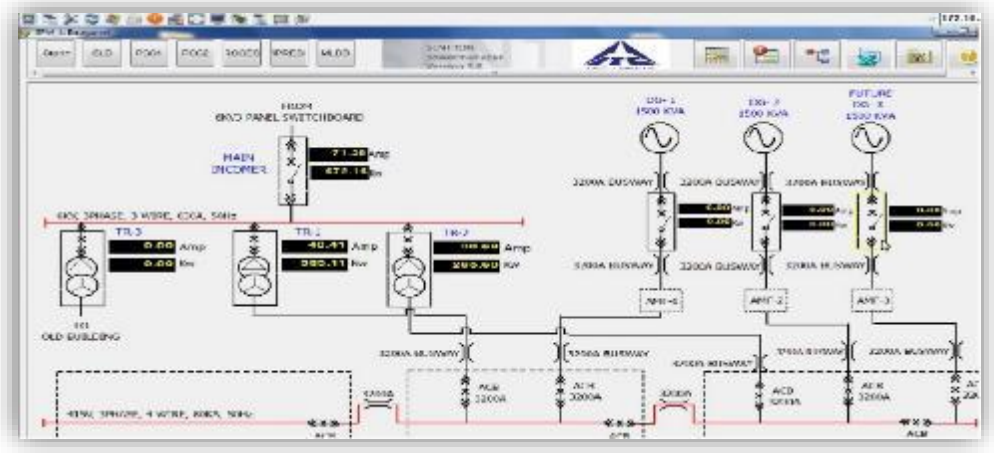
	Target Units/mnc	1/Mar	2/Mar	3/Mar	4/Mar	5/Mar	6/Mar	7/Mar	8/Mar	9/Mar
Production (mnc)	30	44	42	40	41	36	35	40	44	43
Total Unit Consumed	514414	20479	18422	17807	21420	19416	18746	20668	22360	22774
Total UNIT/MNC	680	469	441	451	526	534	538	511	513	533
Machines - Unit/mnc	188	184	166	168	173	180	181	172	183	182
Compressor Units/mnc	85	61	81	89	77	90	92	71	68	84
SMD PDRF Units/mnc	25	22	20	20	20	21	22	21	21	20
SMD CDRF Units/mnc	18	21	18	19	18	20	21	19	25	25
Laser Fan Units/mnc	5	4	4	4	4	4	4	3	3	3
Lighting Units/mnc	74	44	43	47	52	57	58	49	45	46
AHU Units/mnc	18	18	19	20	19	21	21	20	22	21
HVAC Units/mnc	97	22	20	26	56	60	55	35	32	38
Others Units/mnc	48	37	19	3	39	5	5	59	56	56
Others Utility Units/mnc	44	34	30	37	43	47	50	36	33	33
Filter Making Units/mnc	77	21	21	19	25	28	29	26	23	24
Machine efficiency (%)	70	65	79	80	77	74	71	77	67	66

ABSOLUTE CONSUMPTION

		1/Mar	2/Mar	3/Mar	4/Mar	5/Mar	6/Mar	7/Mar	8/Mar	9/Mar
Machines		8012	6928	6655	7037	6543	6314	6965	7998	7796
Compressor		2684	3389	3524	3130	3283	3203	2879	2970	3590
SMD PDRF		952	828	780	818	780	753	833	923	867
SMD CDRF		915	752	738	747	731	734	774	1097	1060
Laser Fan		154	155	156	153	141	133	123	127	148
Lighting		1939	1816	1868	2120	2081	2009	1986	1983	1981
AHU		801	800	772	785	758	729	813	962	903
HVAC + VRV & Ventilation		961	817	1008	2268	2190	1925	1432	1415	1645
Others		1637	796	109	1579	181	189	2377	2441	2379
Others Utility		1499	1275	1452	1759	1702	1736	1442	1453	1396
Filter Making		926	865	745	1024	1024	1022	1043	991	1009
	TOTAL	20479	18422	17807	21420	19416	18746	20668	22360	22774
Legend	Holiday			Greater than Target						
	Shut Down			Lower than Target						
	Sunday									

Daily Energy Analysis & Reporting

Energy Management – Monitoring & Review Mechanism



Online Energy Management System

Energy Management Monitoring & Review Mechanism

Energy Demand 2018 - 19

MWH

		2017-18	Todate	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Electricity															
Secondary															
Machines	Units	1785399	1899801	104973	131933	170898	204174	152201	127830	154204	163092	166648	163159	180474	180214
	Units/mnc (cig)	197	190	206	207	189	196	194	232	200	186	194	207	187	184
Compressors+Laser Suction fan	Units	1066222	999283	63774	79606	97490	113240	82295	71187	75400	80047	85708	85118	78227	87102
	Units/mnc (cig)	117	103	125	125	108	108	105	129	98	91	100	108	81	89
CDRF	Units	163192	185130	9434	10468	14382	17268	12813	13030	13182	14523	17851	17723	22503	21955
	Units/mnc (Making cig)	18	19	18	16	16	17	16	24	17	17	21	22	23	22
Vaccum Blower	Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Units/mnc (MK8 cig)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pneumatic feed	Units	286831	259637	17334	21166	25417	28362	21368	18860	22269	23593	20105	19051	20493	21620
	Units/mnc (Making cig)	32	27	34	33	29	27	27	34	29	27	23	24	21	22
Lighting	Units	738049	659052	47781	51449	58365	62576	57398	53823	53524	52306	53660	56022	53023	59126
	Units/mnc (cig)	82	68	94	81	64	60	73	98	70	60	62	71	55	61
Subtotal		**4029693**	**4002903**	**248296**	**294632**	**366552**	**425619**	**326075**	**284730**	**318669**	**333562**	**343971**	**341072**	**354719**	**370017**
Production(mnc)		**9055**	**9070.57**	510	636	906	1044	784	551	770	876	861	788	966	977
units/ mnc (cig.)		**445**	**414**	**477**	**463**	**404**	**408**	**416**	**517**	**414**	**381**	**399**	**433**	**367**	**379**
units/mnc (conv.)		**445**	**414**	**477**	**463**	**404**	**408**	**416**	**517**	**414**	**381**	**399**	**433**	**367**	**379**
Filter Making	**Units**	**0**	**197649**	**0**	**0**	**0**	**11287**	**15680**	**21285**	**26113**	**26582**	**24616**	**22630**	**24326**	**26129**
	Units/mnc		**20**	**0**	**0**	**0**	**11**	**20**	**39**	**34**	**29**	**29**	**29**	**25**	**27**
HVAC															
Chillers 1		833340	832362	69174	96926	109875	126648	98854	82085	66226	51271	21518	9175	38480	62130
Chillers 2		0	0												
Sub total - Chillers	86.07163927	833340	832362	69174	96926	109875	126648	98854	82085	66226	51271	21518	9175	38480	62130
No of Chiller working days		0	0												
HVAC utility(Chiller & cond pumps, CT)		233057	217601	16142	23577	22575	23777	19260	16710	17005	14390	12296	10307	17181	24383
AHU 2		0	0												
Subtotal AHU (SMD+Roulette)	22.50144053	233057	217601	16142	23577	22575	23777	19260	16710	17005	14390	12296	10307	17181	24383
Subtotal		**1066397**	**1049963**	**85316**	**120503**	**132451**	**150426**	**118114**	**98795**	**83230**	**65660**	**33813**	**19481**	**55661**	**86513**
No. of AC working days		285	292	19	22	26	28	24	23	22	24	26	25	26	27
No. of AHU working days		**290**	**292**	19	22	26	28	24	23	22	24	26	25	26	27
units/AC working days		**3742**	**3596**	**4490**	**5477**	**5094**	**5372**	**4921**	**4295**	**3783**	**2736**	**1301**	**779**	**2141**	**3204**
units/mnc(conv.)		**118**	**109**	**167**	**189**	**146**	**144**	**151**	**179**	**108**	**75**	**39**	**26**	**68**	**89**
Others (UPS, Delphi, Roulette, Lift, Vehicle section charging, RO Plant, Innerframe slitter machine, etc.)	87.03324383	826841	841661	62388	62655	80354	70173	80919	64160	73160	72716	59990	61099	66687	87359
Subtotal		**826841**	**841661**	**62388**	**62655**	**80354**	**70173**	**80919**	**64160**	**73160**	**72716**	**59990**	**61099**	**66687**	**87359**
units/production day		**6296**	**6409**	**4159**	**2238**	**3494**	**2924**	**2890**	**2291**	**3048**	**2693**	**2307**	**2656**	**3176**	**3494**
units/mnc(conv.)		**91**	**87**	**133**	**98**	**89**	**67**	**103**	**116**	**95**	**83**	**70**	**78**	**69**	**89**
Grand Total	**Units**	**5922931**	**6092177**	**391000**	**477780**	**579357**	**657504**	**540789**	**468970**	**501172**	**497520**	**462390**	**444288**	**501893**	**570019**
Total Units Supplied	**Units**	**5922931**	**6092177**	**391000**	**477780**	**579357**	**657504**	**540789**	**468970**	**501172**	**497520**	**462390**	**444288**	**501893**	**570019**
units/mnc(conv.)		**654**	**630**	**766**	**761**	**639**	**650**	**690**	**851**	**651**	**568**	**537**	**564**	**519**	**583**

Monthly Dashboard System sharing with HO

DAILY ENERGY REPORT - MARCH, 2019

	Target Units/mnc	1/Mar	2/Mar	3/Mar	4/Mar	5/Mar	6/Mar	7/Mar	8/Mar	9/Mar
Production (mnc)	30	44	42	40	41	36	35	40	44	43
Total Unit Consumed	514414	20479	18422	17807	21420	19416	18746	20668	22360	22774
Total UNIT/MNC	680	469	441	451	526	534	538	511	513	533
Machines - Unit/mnc	188	184	166	168	173	180	181	172	183	182
Compressor Units/mnc	85	61	81	89	77	90	92	71	68	84
SMD PDRF Units/mnc	25	22	20	20	20	21	22	21	21	20
SMD CDRF Units/mnc	18	21	18	19	18	20	21	19	25	25
Laser Fan Units/mnc	5	4	4	4	4	4	4	3	3	3
Lighting Units/mnc	74	44	43	47	52	57	58	49	45	46
AHU Units/mnc	18	18	19	20	19	21	21	20	22	21
HVAC Units/mnc	97	22	20	26	56	60	55	35	32	38
Others Units/mnc	48	37	19	3	39	5	5	59	56	56
Others Utility Units/mnc	44	34	30	37	43	47	50	36	33	33
Filter Making Units/mnc	77	21	21	19	25	28	29	26	23	24
Machine efficiency (%)	70	65	79	80	77	74	71	77	67	66

ABSOLUTE CONSUMPTION

		1/Mar	2/Mar	3/Mar	4/Mar	5/Mar	6/Mar	7/Mar	8/Mar	9/Mar
Machines		8012	6928	6655	7037	6543	6314	6965	7998	7796
Compressor		2684	3389	3524	3130	3283	3203	2879	2970	3590
SMD PDRF		952	828	780	818	780	753	833	923	867
SMD CDRF		915	752	738	747	731	734	774	1097	1060
Laser Fan		154	155	156	153	141	133	123	127	148
Lighting		1939	1816	1868	2120	2081	2009	1986	1983	1981
AHU		801	800	772	785	758	729	813	962	903
HVAC + VRV & Ventilation		961	817	1008	2268	2190	1925	1432	1415	1645
Others		1637	796	109	1579	181	189	2377	2441	2379
Others Utility		1499	1275	1452	1759	1702	1736	1442	1453	1396
Filter Making		926	865	745	1024	1024	1022	1043	991	1009
	TOTAL	20479	18422	17807	21420	19416	18746	20668	22360	22774

Legend		
	Holiday	Greater than Target
	Shut Down	Lower than Target
	Sunday	

Daily Energy Analysis & Reporting

Awareness building

National Energy Conservation Day Celebration

Energy saving pledge by employees.

Poster making competition arranged for Energy Conservation Day

Energy Skit by employees .

Glimpse of energy conservation week celebration in factory .

Energy Quiz for employees .

Teamwork & Employee Participation Energy conservation

DESCRIPTION	PROJECT - 1	PROJECT - 2	PROJECT - 3	PROJECT - 4
Source of Encon Idea	Electrical supervisor	Electrician	ESP Supervisor	Production
Name of the Project	Office AC control based on the Human Prescence	Replacement of 40Watt CFL with 5 watt LED light on 1st floor	Packer vacuum pump off if maker not running for 20 minutes.	Interlocking Compressed air valve, when machine supply is off.
Idea Originated in the Year	2023	2023	2023	2023
Idea Implemented	Yes	Yes	Yes	Yes
Members in the Implementation Team	Shift IC & Electrical Supervisor	Electricians	Shift I/C & ESP supervisor.	Shift IC & Electrician
Date of Implementation	Apr-23	July -23	Aug-23	Oct-23
Energy Saved	8 MWH	9 MWH	11 MWH	7 MWH

Implementation of ISO 140001/ Green CO / IGBC Rating

The ITC Kidderpore Unit has been certified "Platinum" rating by IGBC Green Factory Building Rating System

The ITC Kidder pore unit has been certified with ISO 450001, ISO 90001 and SA 800.

136 Lakhs invested in Encon projects in 2023-24

270 Lakhs investment planned in 2024-25


Indian Green Building Council (IGBC)

ITC Limited, Kidderpore
Kolkata, W.B
IGBC Registration No. GFB111055

IGBC Green Factory Buildings Rating System

Platinum
February 2024

CII Learnings Implemented

Intelligent Flow Controller	BLDC fan in AHU	Energy Saver in AC	Automatic Tube Cleaning System
Implemented in FY 20-21	*Implemented in FY 19-20*	*Implemented in FY 19-20*	*Implemented in FY 20-21*

2 of our managers attended & cleared the CII Online Course on Certified Professional in Energy Efficiency in 21-22

AWARDS AND ACCOLADES

CII National Energy Leader (2022-23)

CII National Award for Excellent Energy Efficient Unit

3rd time in a row

IMeXI

Operational Excellence, Safe Factory and Smart manufacturing

5th ICC National Occupational Health & Safety- Platinum Award

CII Encon Eastern Region

3rd time in a row

CII ER SHE Excellence award

4th time in a row

Thank You

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