



Confederation of  
Indian Industry



ATC Limited

# 23<sup>rd</sup> National Award for Excellence in Energy Management 2022

Team Members:

- Hanumant S Kulkarni  
HoD - Engineering & EHS
- P. Rajasekaran  
Energy Manager



# Company Profile: About Us

**1974** Established

**1<sup>st</sup>** Company in SIPCOT Hosur belt

**11.3 acres** Land Area

**2 acres (19%)** Build Area

**62%** Green Coverage

**19%** Roads and other open area

**144** Employees

**143** ESPs

**31** Trainees

**38** Managers

**9500** MnC / Annum  
Licensed Capacity



INTEGRATED MANAGEMENT SYSTEM



ISO 9001:2015



ISO 14001:2015



ISO 45001:2018

# HIGHLIGHTS



## Sustainability

- Divisional benchmark in 447 Units/MnC and 0.9kL/MnC
- Renewable energy share increased from 63 to 65% - Highest wind power generation in last 4 years
- Installed and commissioned 1 MW Offsite solar power plant
- Nil Lost Time Accident for 12 years



## Operational Excellence

- Highest cigarette volume of 7220 MnC in the last 3 years with enhanced efficiency from 64.4 to 67.5
- Low cost automated solution pilots - OTR and Filter shooter

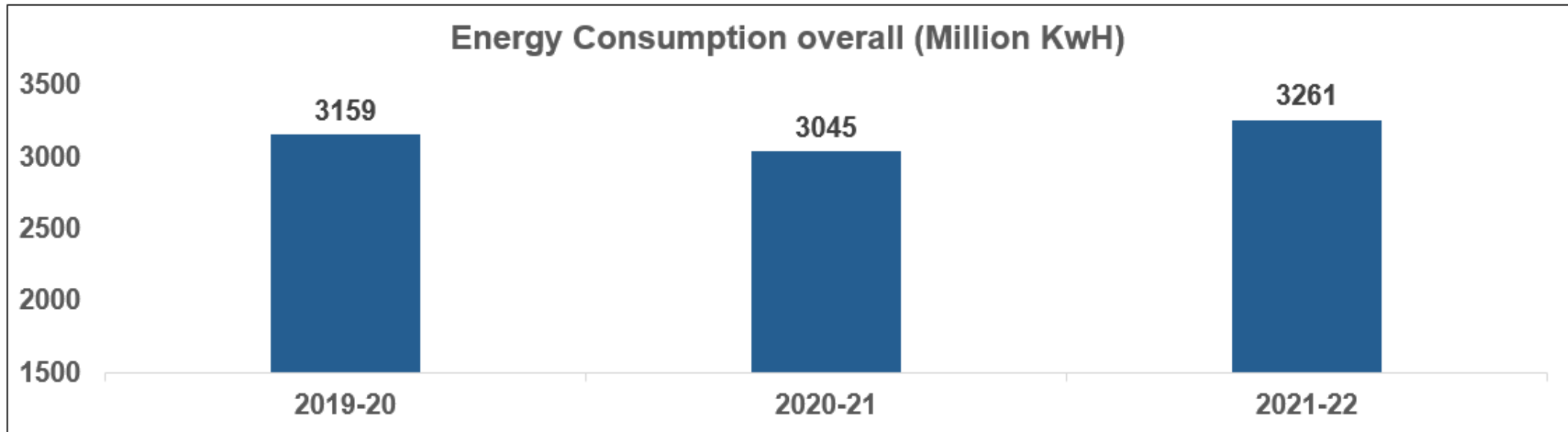
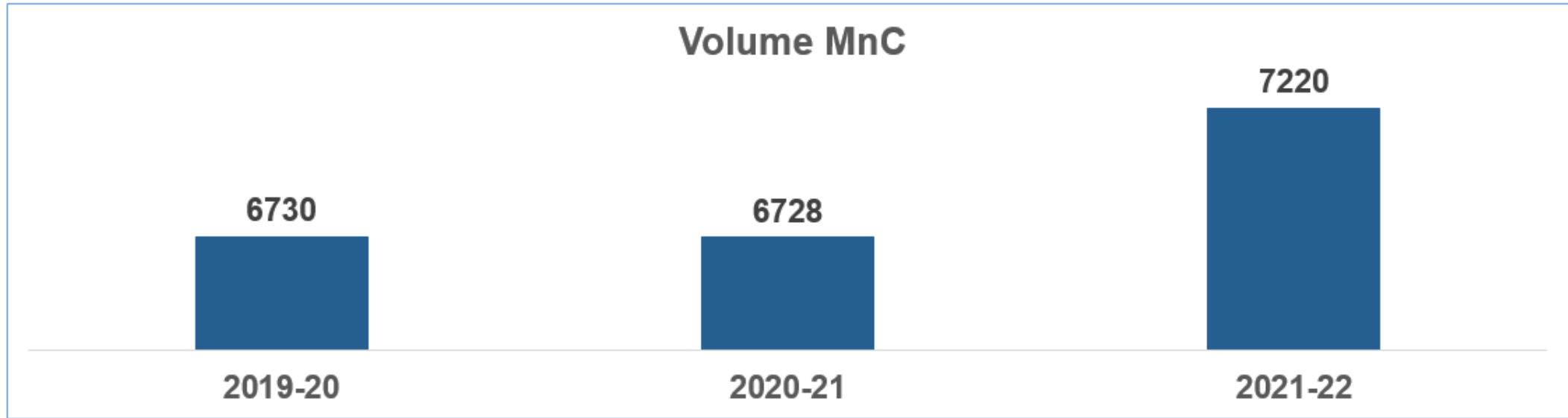


- Despite rising Covid cases and stringent lockdown measures, the Factory was able to operate with 100% manning
- Interruption free operations through management of transportation and vaccination

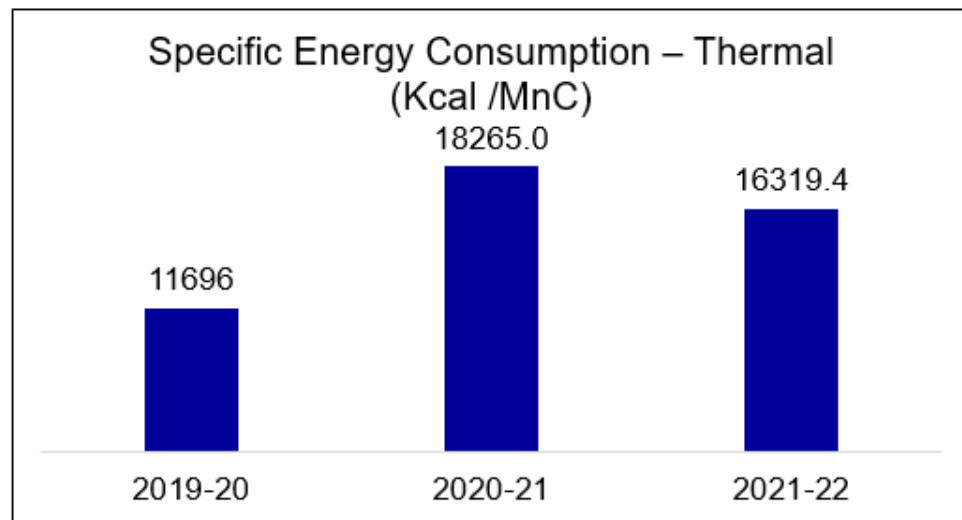
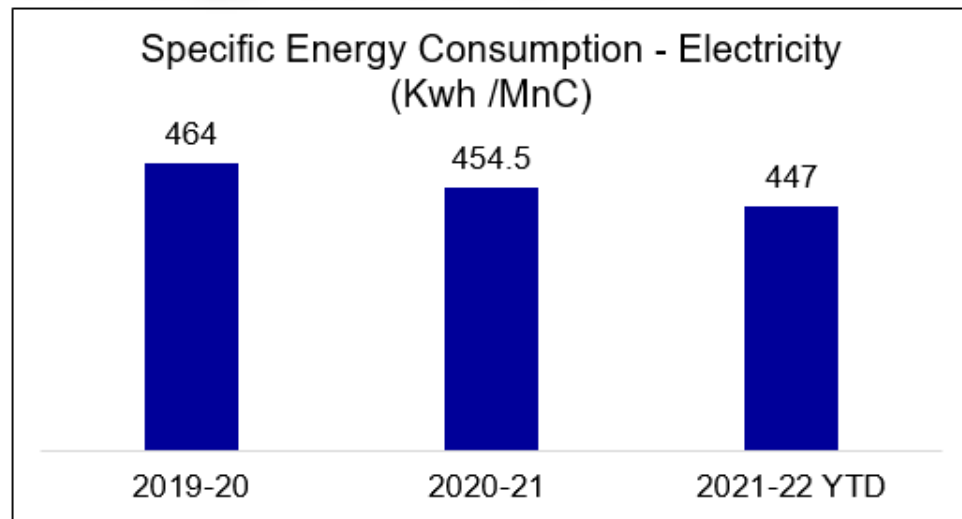


# Manufacturing Process Flow





# Specific Energy Consumption



Total Saving: 15.7Units/MnC

Breakdown in HVAC affected the SEC

## Audit/gaps/Benchmarking

- Auto Cut off valves at machines head – 3 Units/MNC
- Smart Compressed Air Flow and Pressure Control – 2 Unit/MNC
- DRFs Bags Replacement – 3 Unit/MNC

## New technologies

- Replacement of DRF Motors with IE4– 2 unit/MNC
- CDRF Fan replacement – 2 Unit/MNC
- Energy Efficient Pumps for Chilled Water – 1.7 Units/MNC

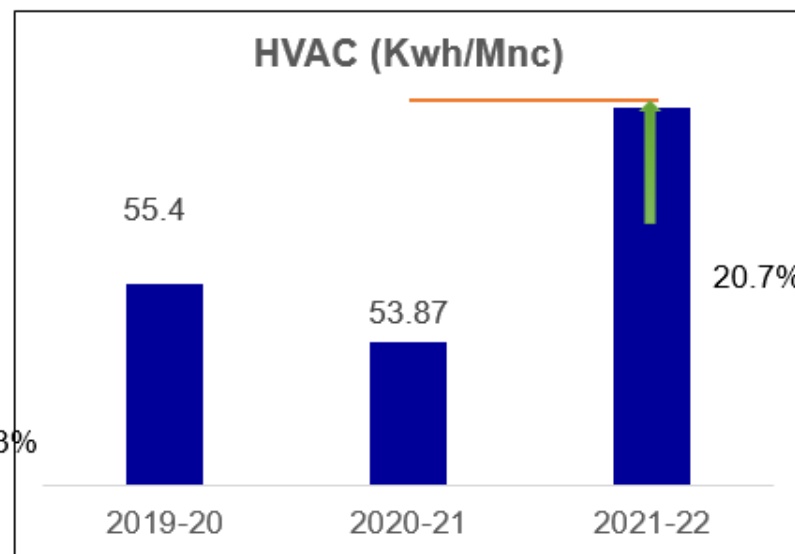
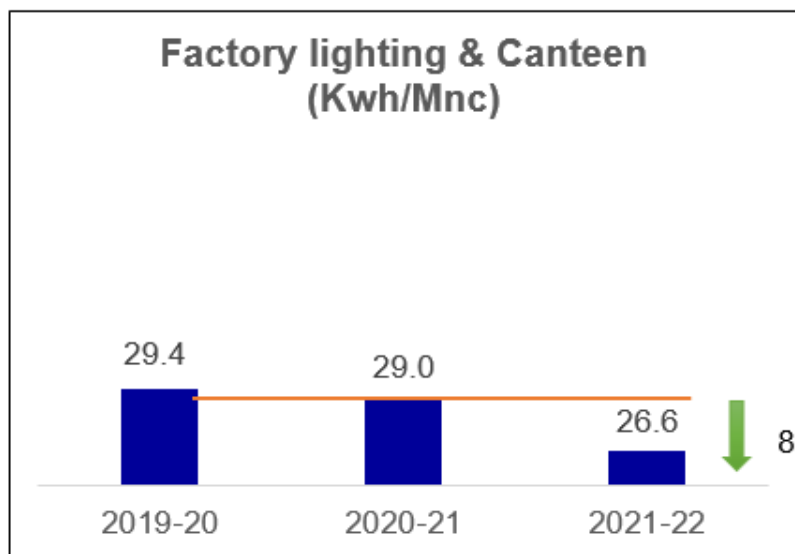
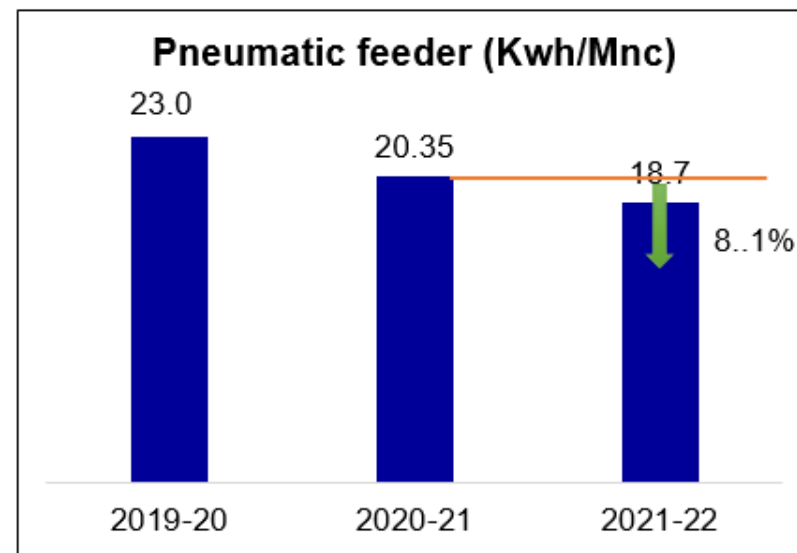
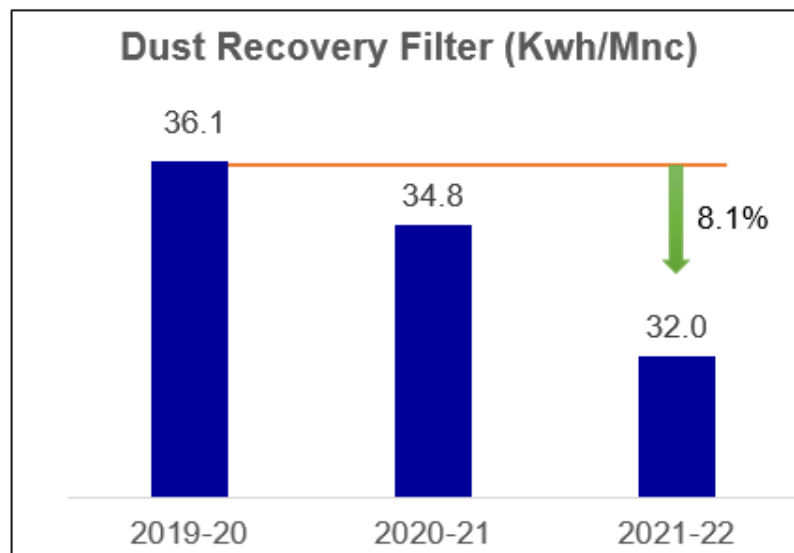
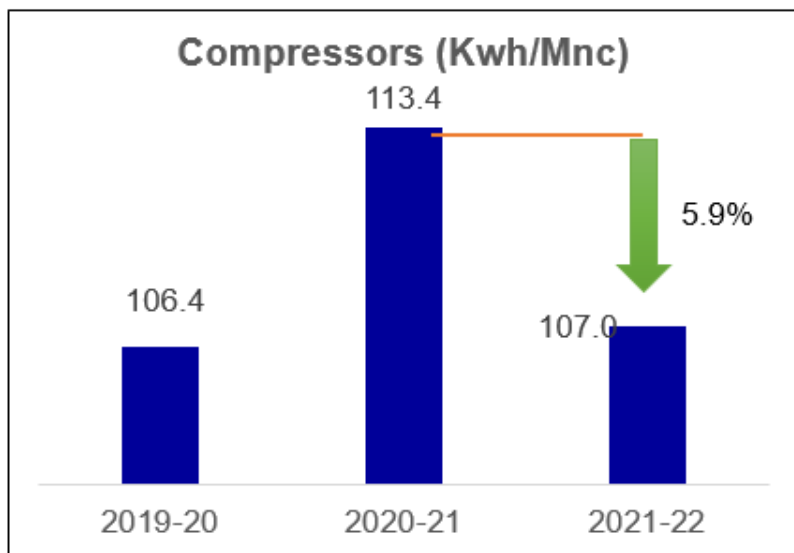
## Automation & Control

- Smart Remote of AC – 1 Unit/MNC
- Sustenance of Lighting Automation– 1 Units/MNC
- Auto cut off vacuum in Casepacker - 1 Unit/MNC

## Awareness Building

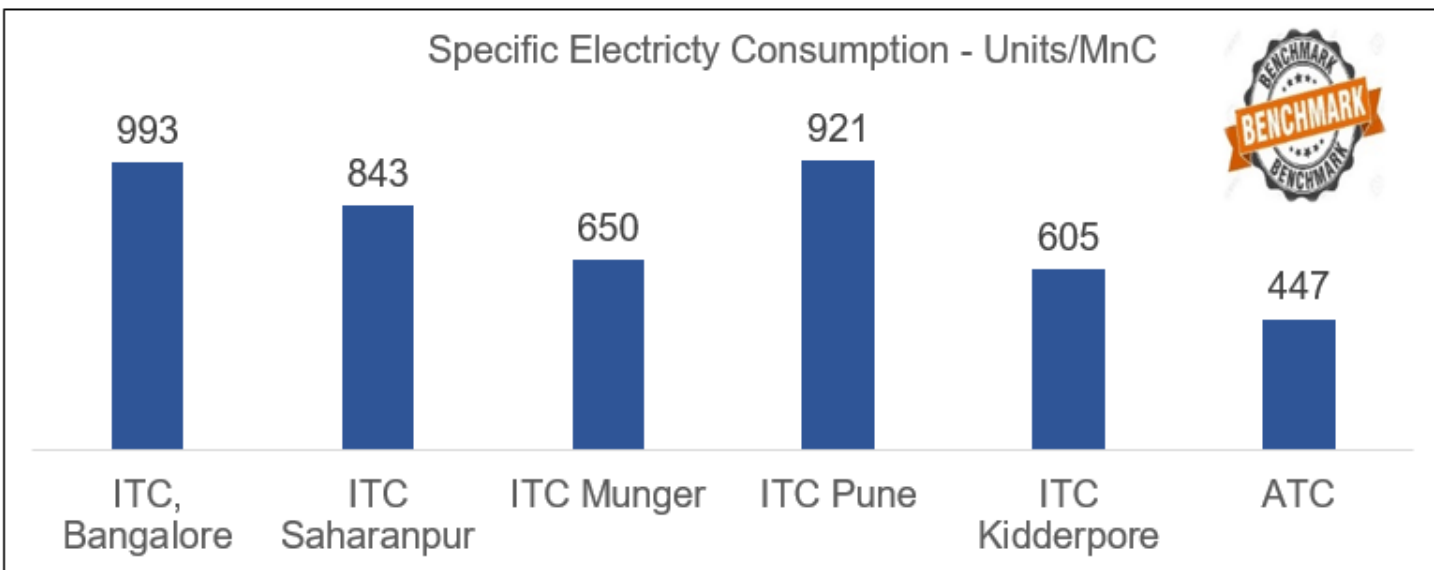
- Energy Conservation day celebration
- Sustenance Of Initiatives
- Admin Control

# Specific Energy Consumption

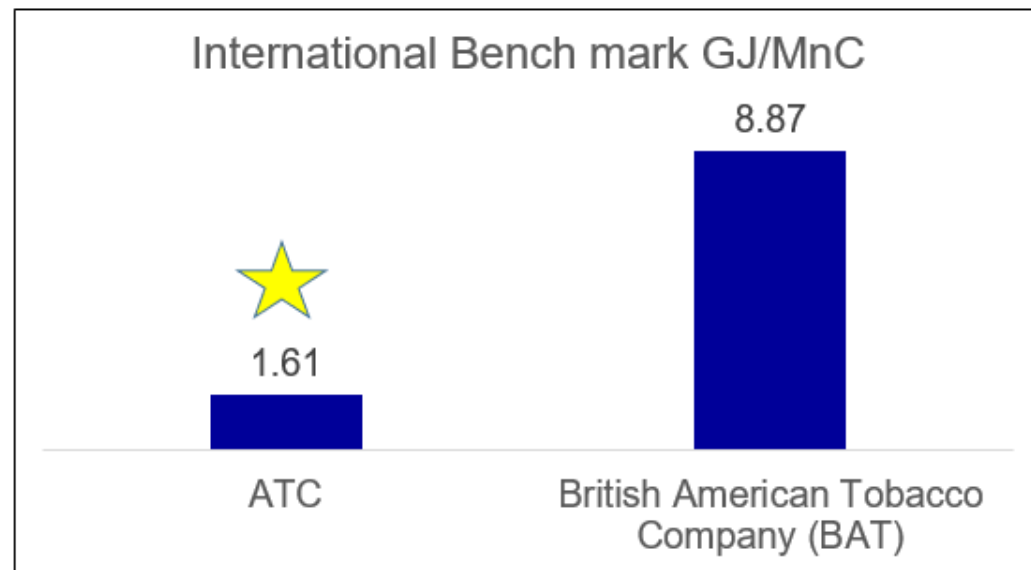


# Information on Competitors, National & Global benchmark

Specific Electricity Consumption - Units/MnC



International Bench mark GJ/MnC



Specific Energy Consumption Target – Unit / MNC

	2020-21	2021-22	Target 2021-22	Rationale
Overall	454	447	450	3% improvement

Product : Cigarette  
MOP : No. of Cigarettes produced in million (mnc)

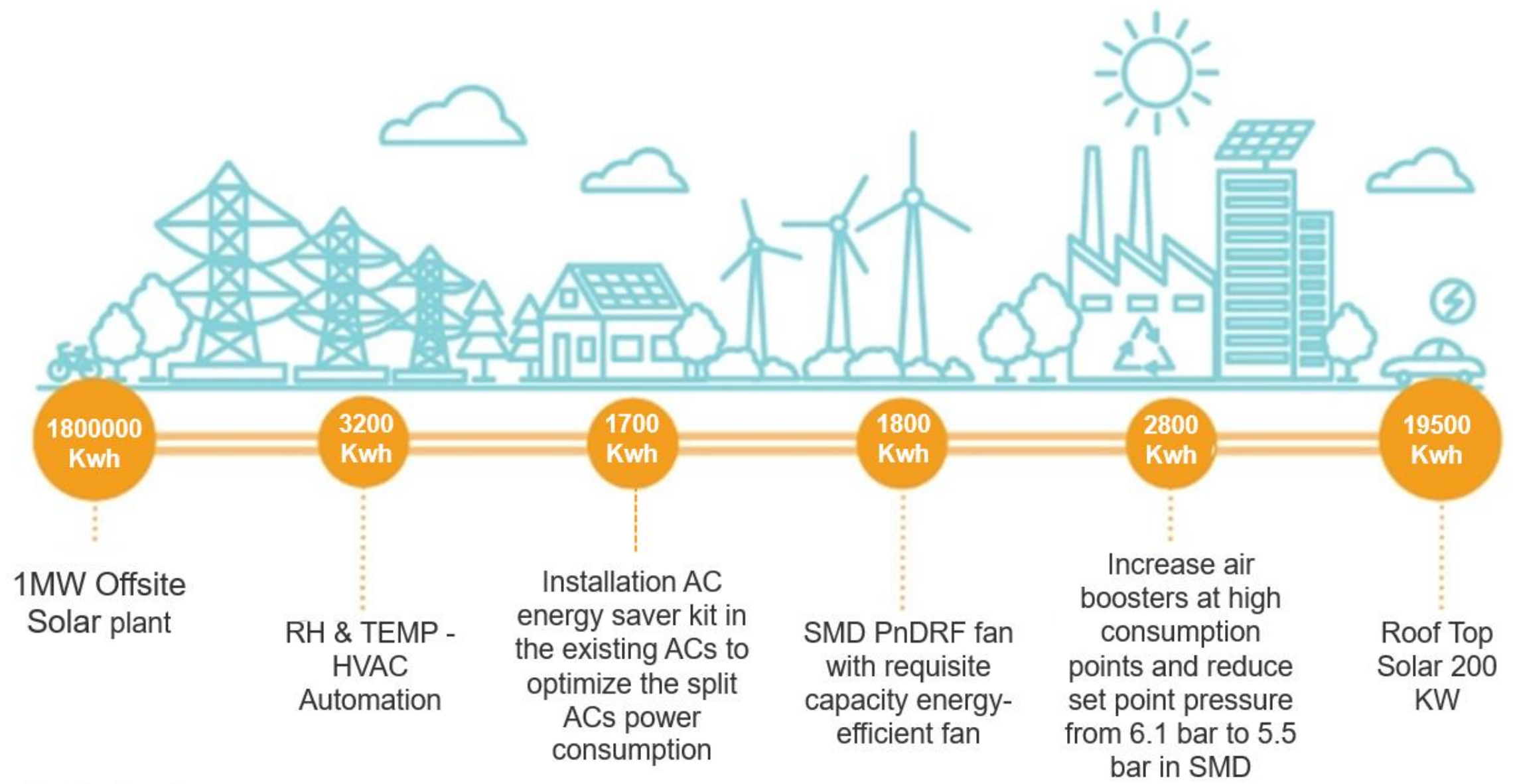
Hence, GJ/mnc is the unit used for Benchmarking in case of Cigarette Industries



# Specific Energy Consumption Targets

ATC 2030 S2.0 Target	2018-19 Baseline	2020-21 (A)	2021-22 (A)	2022-23 (Target)	2023-30 (Target)
50% Renewable Energy (Overall)	77%	63.84%	65.36%	90%	98%
30% Reduction in Energy (Units/MNC)	457.5	454 (0.76%↓)	447 (2.3%↓)	445 (2.8%↓)	320.25 (30%↓)
50% Reduction in Specific GHG Emissions (Ton/MNC)	0.357	0.379	0.227 (36%↓)	0.197 (45%↓)	0.108 (70%↓)

# Energy Saving Road Map



# Energy Saving Road Map

## Replacement of LPG gas with Induction Heating



Electricity  
consumed by  
Induction  
Heating :KWH  
30000/Annum  
Investment :  
Rs.26 Lakhs

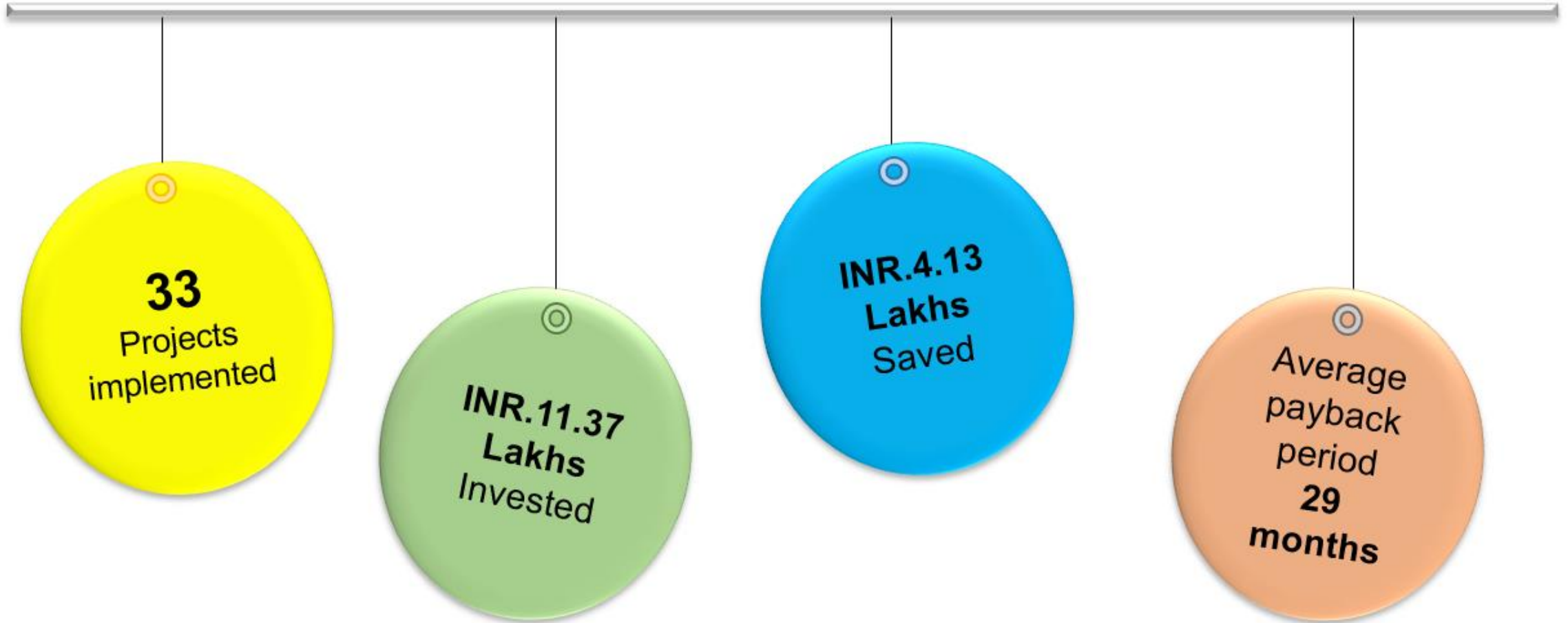
LPG Saving :  
11.2 Tonne /  
Annum

Cost Saving :  
Rs.12 Lakhs /  
Annum

Payback Period  
: 24 Months



## Energy Saving Projects executed in last 3 years



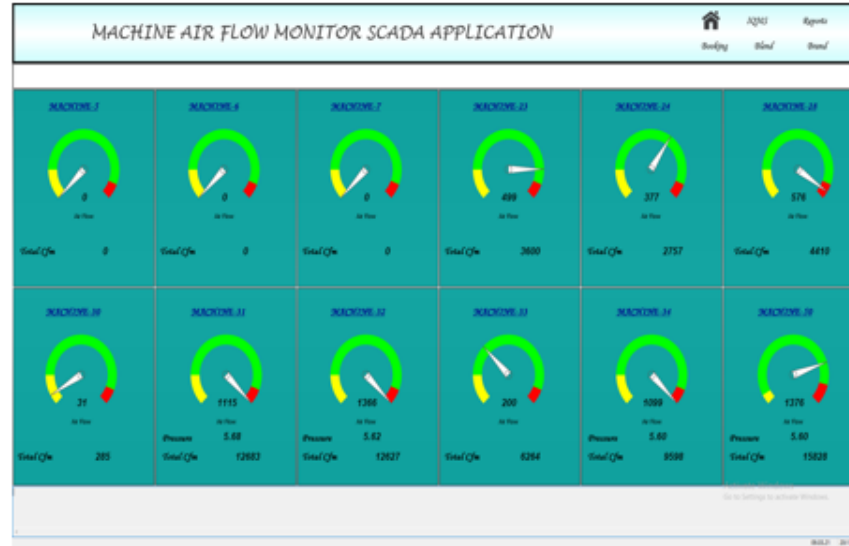
# Energy Saving projects implemented : 2018-20 ....contd



Year	No of Energy saving projects	Investments (INR Million)	Electrical savings ( Million kWh)	Thermal savings (Million Kcal/ MTOE)	Savings ( INR Million)	Payback period	Impact on SEC (Electrical, thermal) (Units/ Mnc)
FY 2021-22	11	3.296	177070	0	1.185	33.38	24.52
FY 2020-21	11	3.014	122750	0	0.987	36.64	18.24
FY 2019-20	11	5.055	295100	0	1.96	30.95	43.85



# ENCON Projects - Online Monitoring of Compressed Air



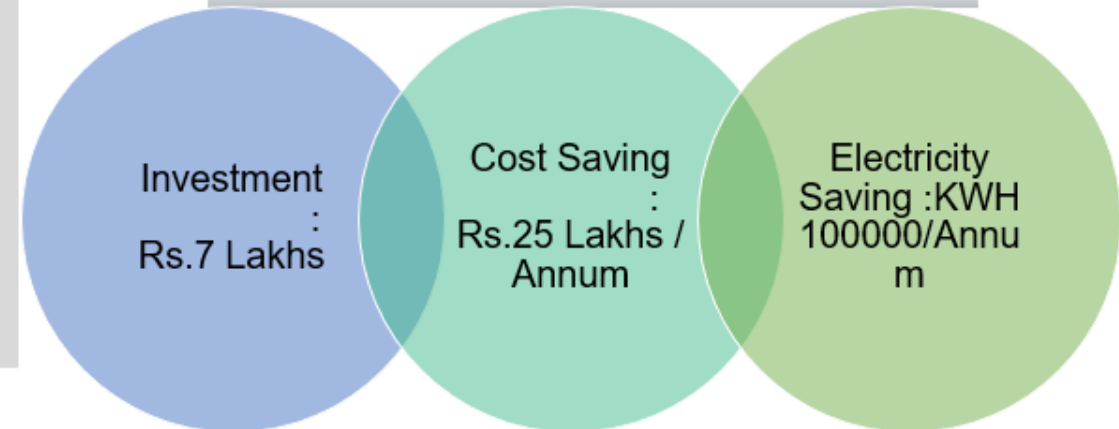
**AIR FLOW MONITOR OVER ALL REPORTS**

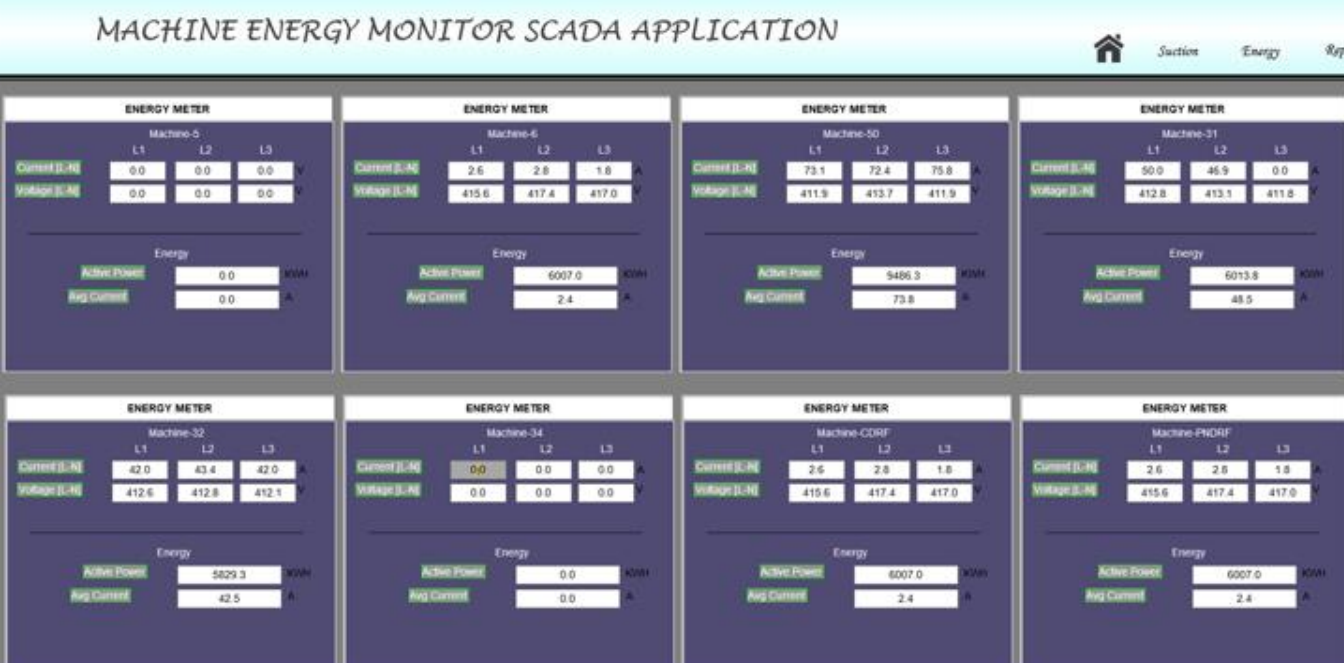
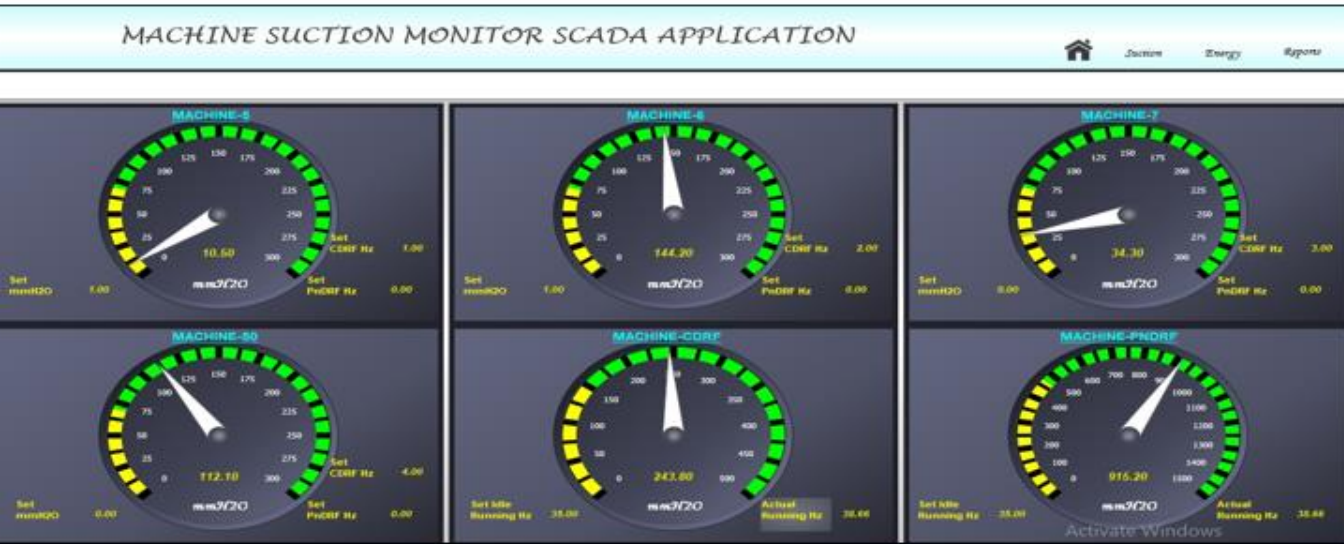
FROM DATE: 3/1/2021  
TO DATE: 3/10/2021

2021-03-09 sh_E	23	6099	16.27603912	598.4375
2021-03-09 sh_E	31	20255	1030	1503
2021-03-09 sh_E	0	0	0	0
2021-03-09 sh_E	28	6681	297.374115	665.104126
2021-03-09 sh_L	6	0	0	0
2021-03-09 sh_E	32	18867	239	1397
2021-03-09 sh_E	24	2271	123.9800034	230.577301
2021-03-09 sh_E	33	10458	192.5563965	352.539093
2021-03-09 sh_L	23	6129	16.27603912	615.8637085
2021-03-09 sh_E	50	25253	1001	2071
2021-03-08 sh_L	32	17406	249	1416
2021-03-08 sh_E	24	1587	0	217.816803
2021-03-08 sh_L	5	0	0	0.694444478
2021-03-08 sh_E	28	5178	0	665.104126
2021-03-08 sh_E	23	5049	16.27603912	677.690979
2021-03-08 sh_L	7	0	0	0

## ADVANTAGES:

- Actual air compressor data storage at centralized location
- Zero compressed air consumption in standby mode
- Actual air consumption and pressure indication in real time
- Pattern recognition for consumption profiles, leakage
- Selectable tolerance windows for error messages
- Determining cylinder leakage
  - ✓ Separation into internal and external leakage





1. Suction has monitoring from Each maker and DRF Line
2. With respect to machine booking , DRF drive frequency could be controlled through PLC.
3. Ensuring Stabilized suction in all units.
4. As well as energy monitoring system Developed for machines to analyse machine efficiency.
5. Both monitoring system having Report generation.



# Innovation Projects- Online Energy monitoring system



Power Monitoring Expert

Not secure | https://desktop-2f9gi53/Web/#Diagrams/lib/60471a5e-b062-4bd7-8a4f-807202b28343

Ecostruxure Power Monitoring Expert

supervisor | Logout | Help

Schneider Electric

DASHBOARDS DIAGRAMS TRENDS ALARMS REPORTS SETTINGS

Diagram Library

Home

Real Time

SLD

Communication

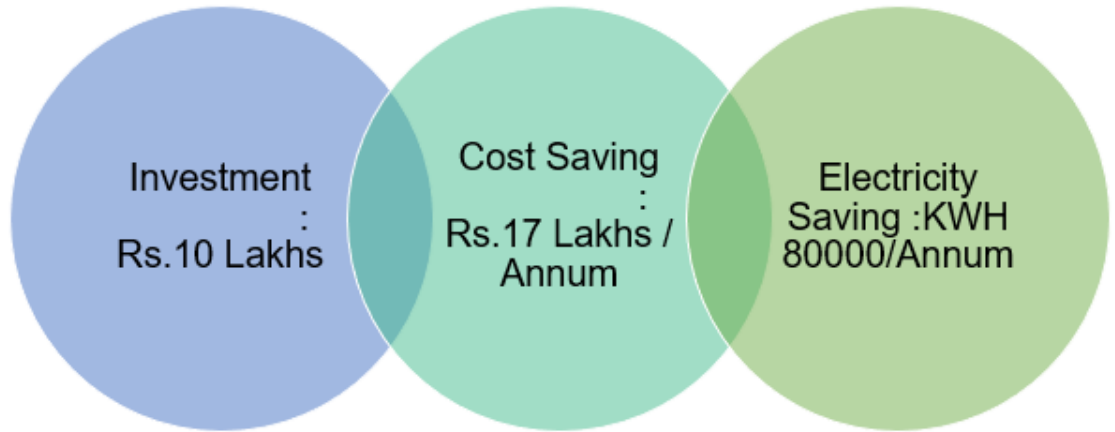
Equipments

Ecostruxure Innovation At Every Level

SaveEnergy

### Energy Management System ATC LIMITED

The diagram illustrates the Energy Management System (EMS) for ATC Limited. It shows a hierarchical power distribution system. At the top, there is an EB-INCOMER and three Diesel Generators (DG-1 (320kVA), DG-2 (625kVA), and DG-4 (625kVA)). Each DG unit is connected to a meter displaying kW and A. The power is then distributed to various loads, each also equipped with a meter. The loads include CTS, Sprinkler, Compressor, Capsule-2, Capsule-1, DRF, Canteen, Hydrent, 550kVA UPS, 80kVA UPS Spare, and HVAC. The system is managed by Schneider Electric's Ecostruxure Power Monitoring Expert software.





## Online Tobacco Recovery Machines

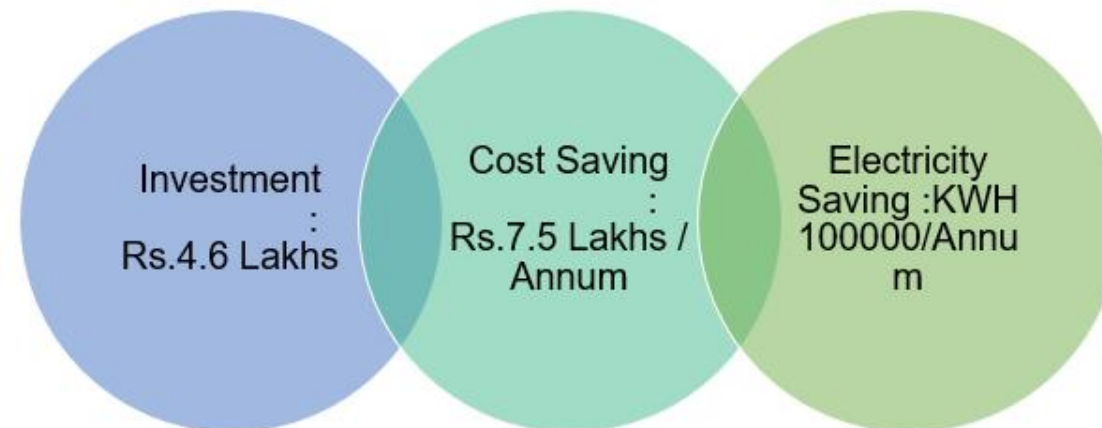
### **Benefit**

- Reduction in slitting sand [0.05% gain in tobacco utilization]
- Reduced operational challenges for waste cigarette management
- Reduced risk of NTRM
- Cost of total development is 45 lakhs for 3 OTR against the OEM Delphi cost of 150 lakhs

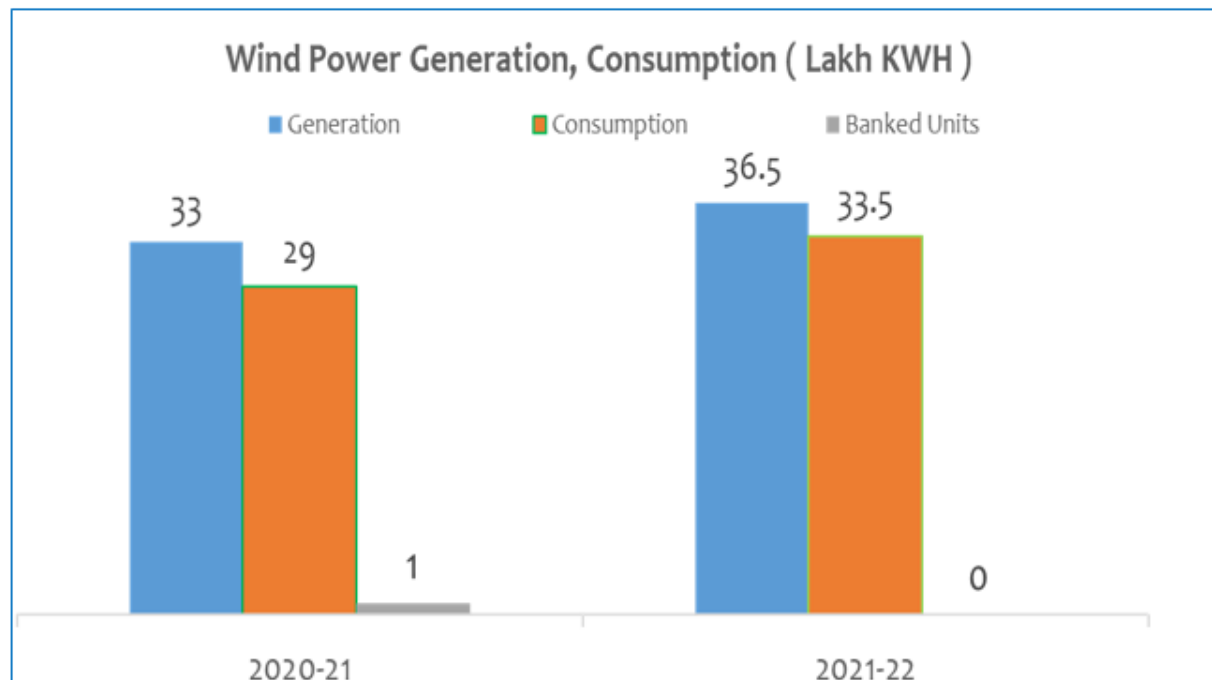


### **Key Activities & Plan**

- Pilot completed

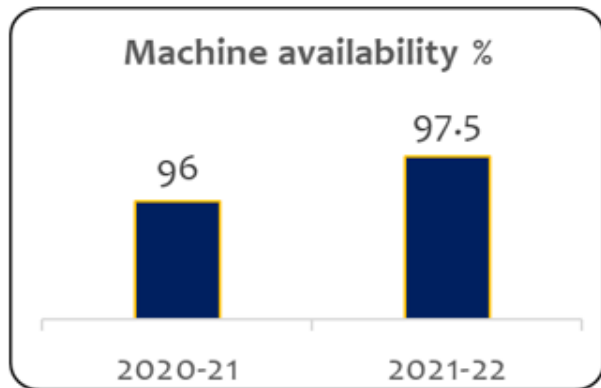
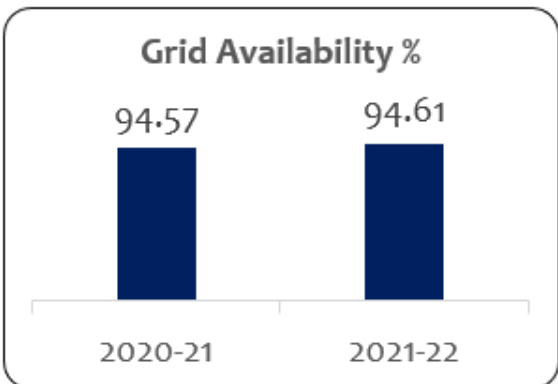


# Utilization of Renewable Energy sources



## Key Initiatives

- IGBT failure continued follow and replaced before peak session
- Mc made to run at Rated capacity from curtail mode
- Regular interaction with O&M team check Yearly Main records.
- Periodic visit to wind mill site and health check of Infra and machine.
- Trimming of trees at Our Feeder line path – No Feeder DT.





# Waste Utilization and disposal method

FY2019-20

**Cigarette paper**

Qty(MT/Year) : 6.4

**Oil cotton waste**

Qty(MT/Year):1.42

**Used Oil**

Qty (MT/Year) :0.6

%Total fuel :25.78%

FY2020-21

**Cigarette paper**

Qty(MT/Year) : 5.17:

**Oil cotton waste**

Qty(MT/Year):0.4

**Used Oil**

Qty (MT/Year) :0.54

%Total fuel :0.31%

FY2021-22

**Cigarette paper**

Qty(MT/Year) : 7.35

**Oil cotton waste**

Qty(MT/Year):0.28

**Used Oil**

Qty (MT/Year) :0.35

%Total fuel :2.16%

Type of waste generated	Quantity waste generated (MT/Year)	Disposal method
Cigarette paper	6.4	Recycle/reuse
Oil cotton waste	1.42	Incineration
Used oil	0.6	Recycle/reuse

Type of waste generated	Quantity waste generated (MT/Year)	Disposal method
Cigarette paper	5.17	Recycle/reuse
Oil cotton waste	0.4	Incineration
Used oil	0.54	Recycle/reuse

Type of waste generated	Quantity waste generated (MT/Year)	Disposal method
Cigarette paper	7.35	Recycle/reuse
Oil cotton waste	0.28	Incineration
Used oil	0.35	Recycle/reuse

## Scope 1

- LPG for cooking
- HSD for Generators

## Scope 2

- Purchased electricity from Grid

## Scope 3

- Raw Materials transportation
- Finished goods transportation

	Absolute Emission (Metric Ton)	Emission Intensity (KgCO <sub>2</sub> / Ton of Final Products)	Absolute Emission (Metric Ton)	Emission Intensity (KgCO <sub>2</sub> / Ton of Final Products)	Absolute Emission (Metric Ton)	Emission Intensity (KgCO <sub>2</sub> / Ton of Final Products)
2019-20	29.69	0.01	1.24	0	2525	1.15
2020-21	33.13	0.02	2.08	0	2156	0.98
2021-22	98	0.04	1.44	0	1603	0.73





# Off Site Solar Plant (Capacity 1MW)



Project Size: 1MW AC (1.2Mwp DC)  
 Project Site: Adanur village, Karur Dt, Tamilnadu



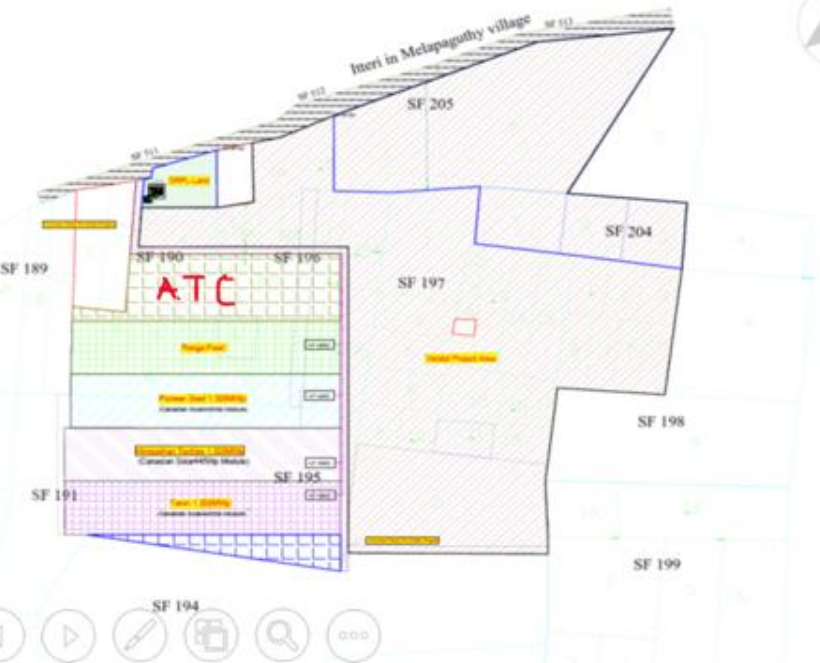
Total project Cost 6.16 cr  
 Land Size : 3.5 Acres  
 IRR: 17.4% (15yrs) 19.5% (25yrs)



Estimated Generation: 18 Lakhs units  
 ROI- 4.89 Years



Annual Electricity Savings (KWH): 1800000  
 Annual Saving (in lakhs): 126



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To ensure that its products and services comply with all applicable statutes and regulations;

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To work towards safe and optimal resource use over the life-cycle of its products and services, including recycling of resources wherever possible;

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To work towards ensuring that all goods and services are procured, manufactured and delivered through a system embedding its policies in terms of labour practices, human rights, ethics, occupational health, safety and environment;

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To work towards sourcing significant raw materials, products and services in a manner so as to continuously improve the balance between social, economic and environmental impacts;

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To work towards building capacity such that all the value chain partners, namely the third party manufacturers (TPMs), service providers including transporters and suppliers of significant raw materials, are sensitised and empowered to fulfil their roles and responsibilities towards sustainability;

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To raise the awareness of consumers on responsible disposal of products and packaging;

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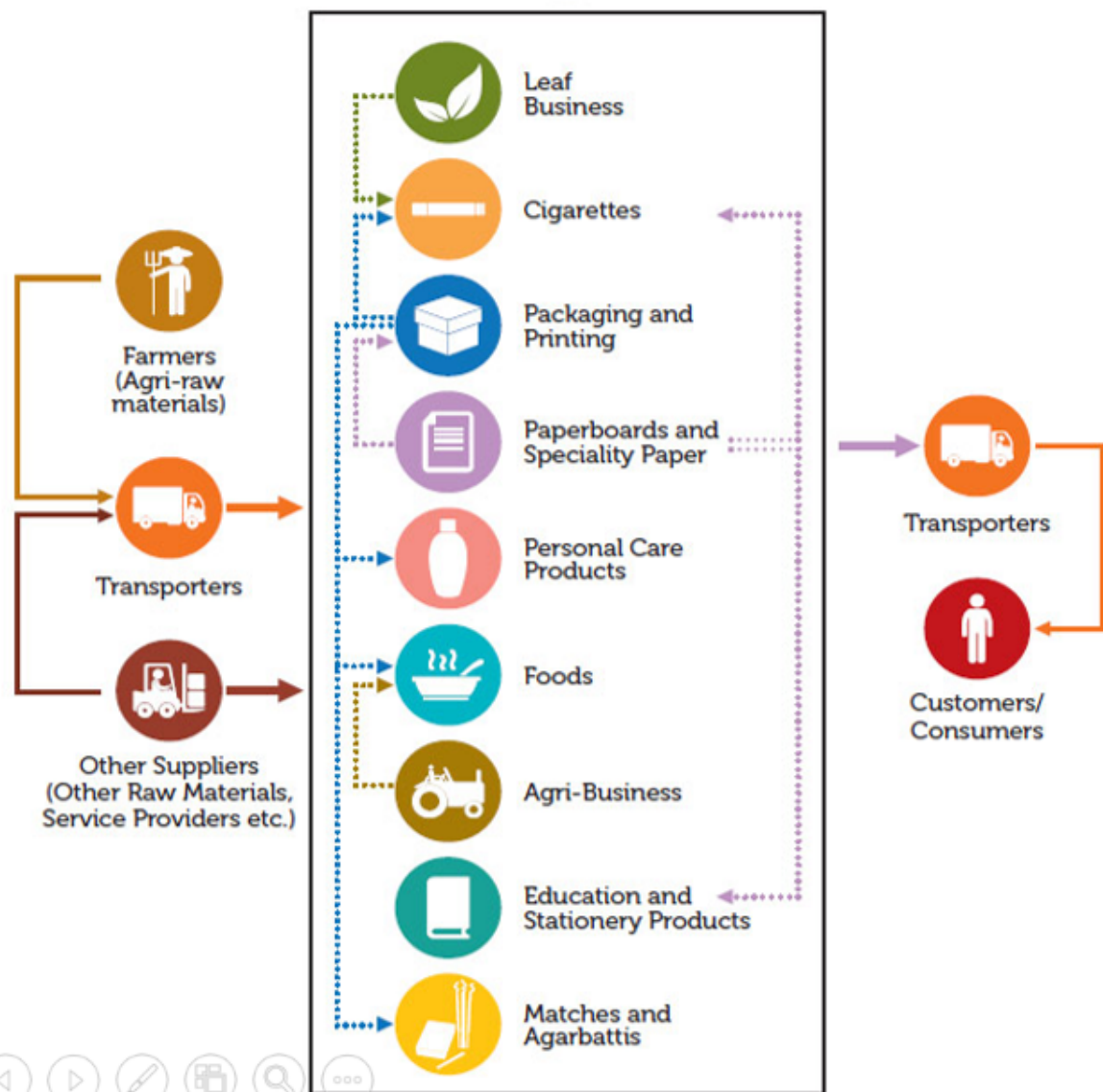
To continue to progressively factor in relevant social and environmental considerations during the process of development of products / services; To continue to recognise and respect the rights of people who may be owners of traditional knowledge, and other forms of intellectual property, wherever relevant.



# Green Supply Chain – ENCON Projects implemented by Vendor

Being a converter of tobacco into cigarettes for ITC Limited, ATC Limited sources most of its raw materials from ITC Limited.

The material flow across different divisions in ITC Limited is as follows:



- Almost 95% percent of our vendors are from ITC Ltd. Papers and boards are from ITC PSPD, Leaf tobacco is sourced from ILTD, Filters are sourced from ITC Essentra.
- Energy conservation and replication of projects are governed by corporate EHS at ITC Limited. All the projects are tracked for implementation along with the replication projects. So the projects originated in one division, are replicated across divisions.
- We try to maximize the efficiency of our logistic networks by using travelling salesman algorithm to optimize routes and maximize truck loads/dispatch.

# External recognitions



Energy Efficient Unit from CII National Level Energy management  
2021



FICCI Safety Systems Excellence Awards 2021

Thank You

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