

Alstom Industries Limited, Jagiroad, Assam. Subsidiary of Dalmia Cement (Bharat) Limited.

Mr. Uday Singh Rajput (Unit Head)

Presented by

Mr. Mrinmoy Baruah – Manager (Mechanical), Mo. 9678075689

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Brief Introduction

- Alstom Industries Limited, a subsidiary of Dalmia Cement (Bharat) Ltd, is operating a Cement Grinding Unit having installed capacity of 0.53 MTPA in Jagiroad, Assam, commissioned on 1st April, 2017.
- We are the first grinding unit in the history of Northeast India to have been nominated for the prestigious CII energy award twice continuously.
- Presently operating a PROMAC BALL MILL, designed at 50 TPH for PPC & we are operating at 74-75 TPH
- Predominantly manufacture Portland Pozzolana Cement (PPC) and Ordinary Portland Cement (OPC) maintaining 98% AQN, dispatches with road & railway.
- Certified with CII National Award For Excellence in Energy Management 2020, Greentech Effective Safety Culture Award 2021, 5S platinum category award from QCFI & ABK-AOTS.

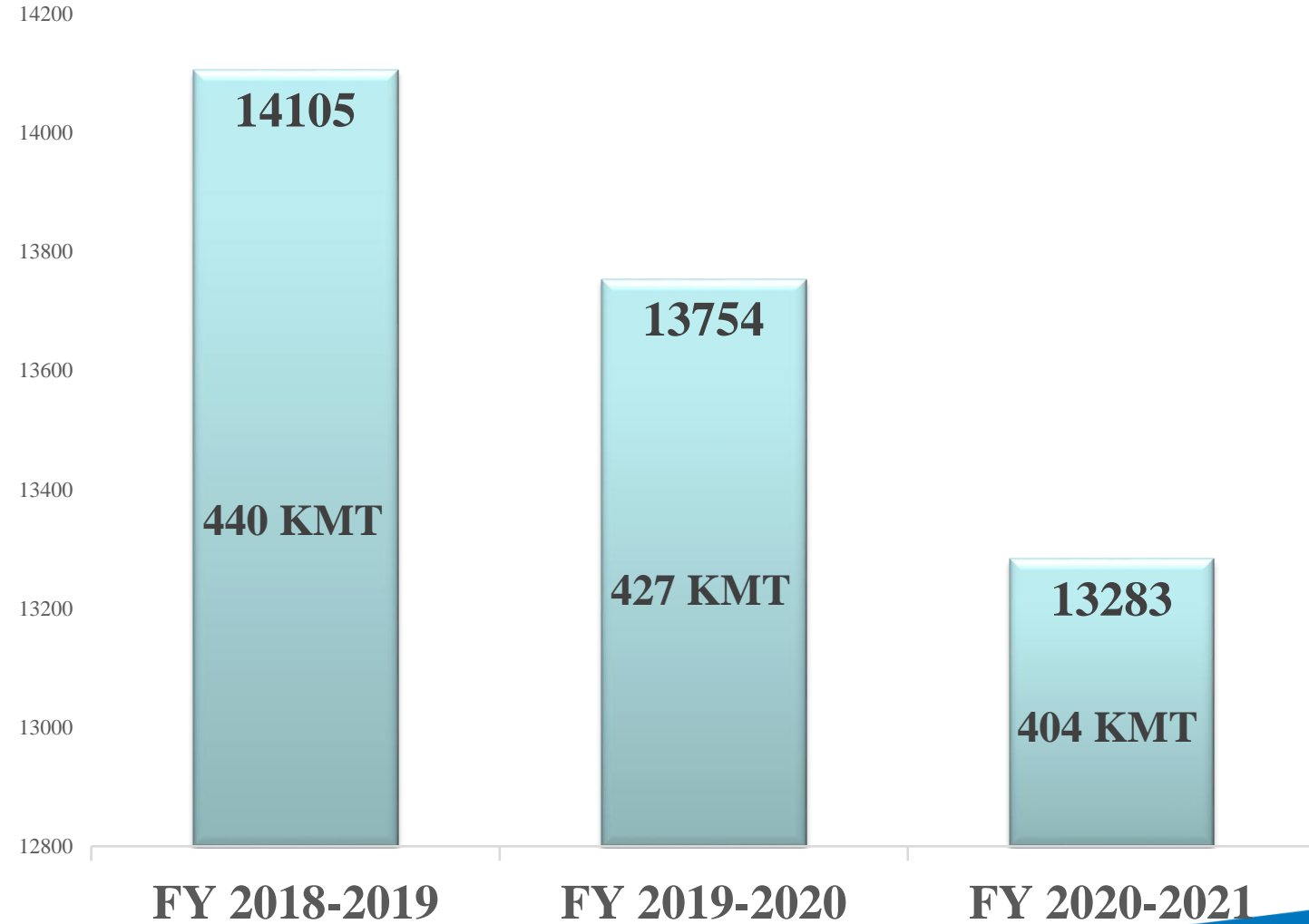


Energy Consumption Overview



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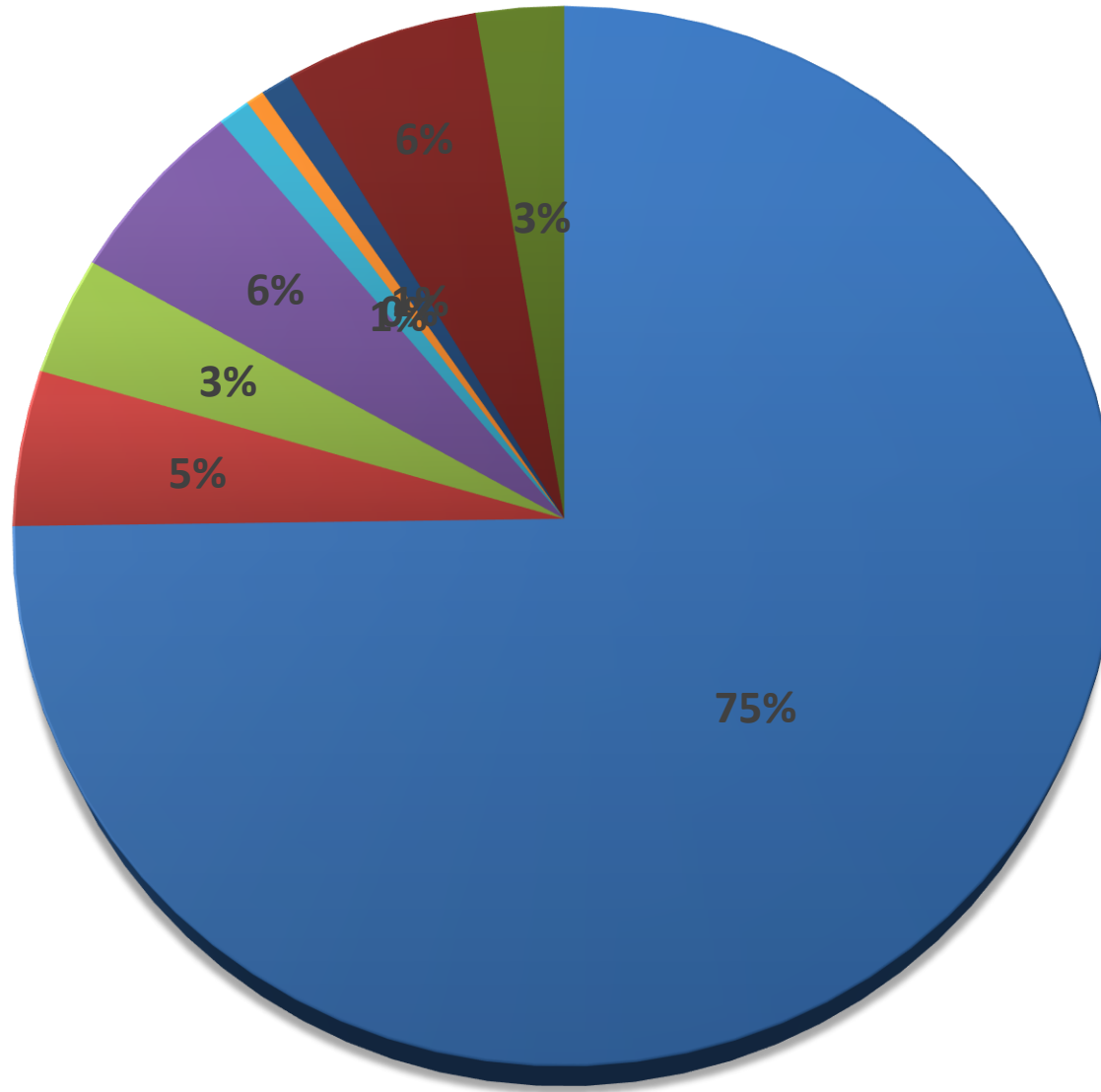
Overall Energy Consumption MWH



Electrical Use for FY 2019-2020 (MWH)



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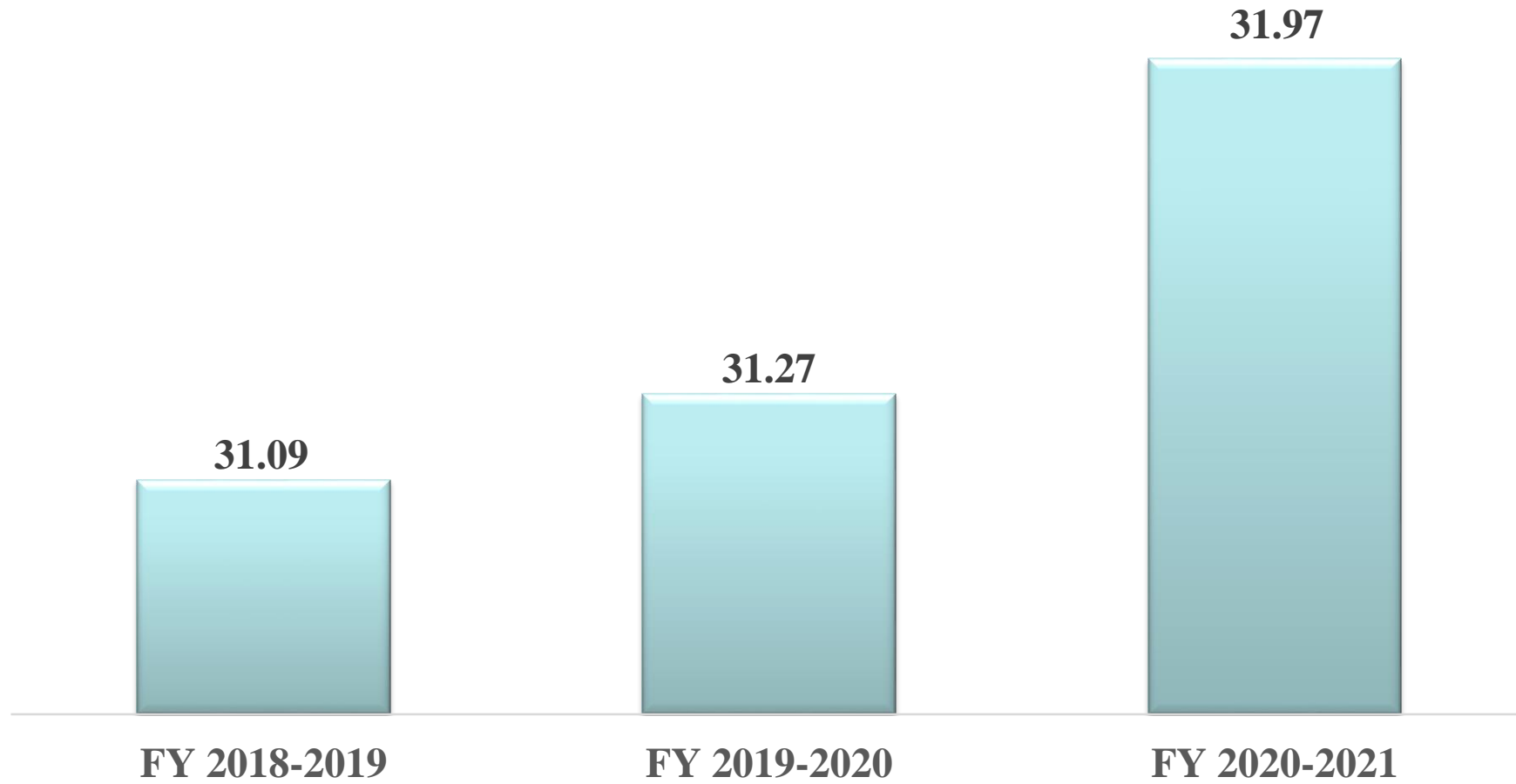
■ MILL ■ AUXILIARY ■ MATERIAL HANDLING ■ RC FAN ■ SEPARATOR ■ BAG FILTER-1 ■ SILO FEED ■ OTHERS ■ PACKING

Overall Grinding Power



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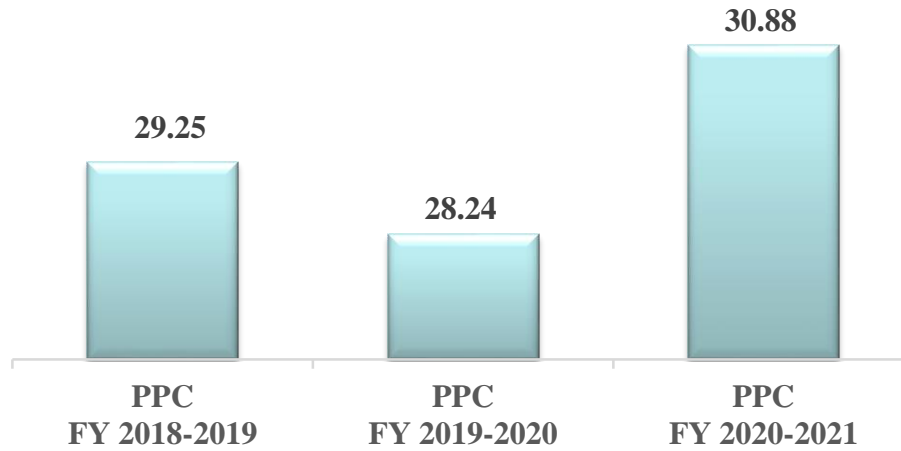
Overall KwH/MT



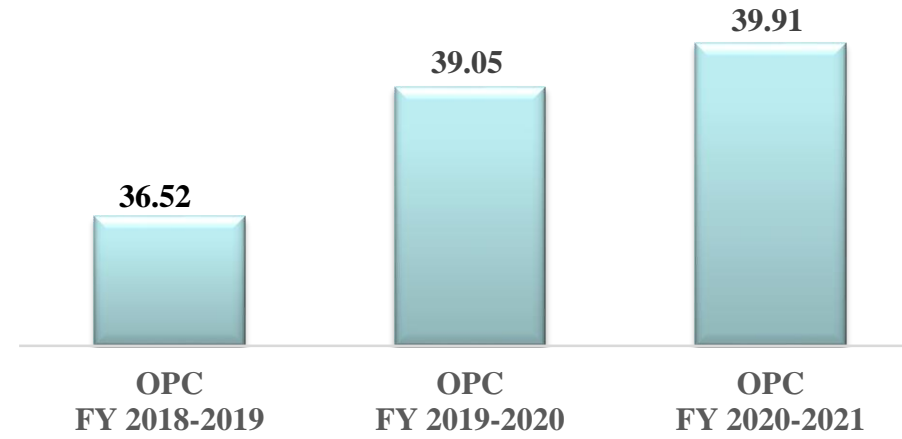
Sp. Energy Consumption Trend - Product Wise



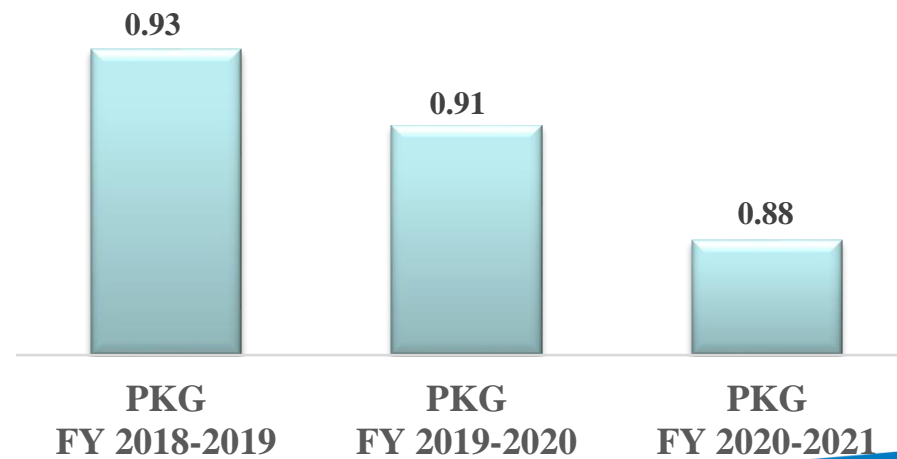
PPC KwH/MT



OPC KwH/MT



Packing KwH/MT



Impact of COVID 19



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- 1. Plant was operated with minimum manpower of 30% only during the critical months of COVID 19, following all COVID protocols.**
- 2. There was considerable impact in the dispatch of materials, as a result of this mill operation was also impacted & hence due to this the specific power was also on the higher side.**

Encon Project Planned in FY-2021-2022



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Cement mill separator up gradation.



Mill feed system modification.

Energy Saving projects implemented in last three years



Year	No of proposals	Investments (INR - Lacs)	Annual Electrical Saving (kWh)	Annual Electrical Saving (INR - Lacs)
2018-2019	10	171.77	1854508	132.9
2019-2020	1	60.0	423120	74.2
2020-2021	9	73.48	213840	10.69

Energy Saving projects implemented in last three years



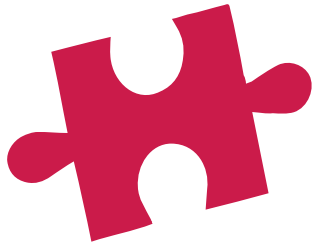
Sl. No.	Project Details	Investments In Lac	Annual Savings In Lac	Payback In Months
1	Fly ash at mill outlet	160	35.80	64
2	Installation of Screw conveyor for conveying the product of Mill Bag House to Product Air slide	5.24	35.80	1.75
3	Mill outlet duct diameter increase	0	9.20	-
4	Separator Optimisation	0	9.30	-
5	Delta to star conversion of 3 motors	0	3.20	-
6	Cooling tower logic modification with temperature	0	2.00	-

Energy Saving projects implemented in last three years



Sl. No.	Project Details	Investments In Lac	Annual Savings In Lac	Payback In Months
7	Grinding media optimisation	0	9.20	-
8	Silo Bucket Elevator Speed	3.72	18.10	0.73
9	VVFD for Mill Bag Filter fan	2.36	9.70	2.92
10	Replaced conventional light with LED at both high mast	2.30	3.90	7.12
11	Cooling tower interlock with temperature	0	1.20	-
12	VVFD for Mill Auxiliary Bag Filter	0.77	0.70	13.11
13	New Silo Bucket Elevator	60.00	74.20	9.7

Innovative Projects Implemented



Modification of silo top venting line

- Modified the venting line of the silo top bag filter and isolated the bag filter fan as well as RAL
- There was a subsequent reduction of specific power consumption by 0.15 Kwh/MT.
- Total Annual Saving of 3.97 Lacs.



Utilisation of Renewable Energy sources at NE Dalmia



Technology	Type of energy	Onsite/Offsite	Installed Capacity (MW)	Generation (mkWh)	% of overall electrical energy
Solar	Electrical	Offsite	9	1.7	48.64%

Learning from CII Energy Award 2020 or any other award program



1. Reduction of Compressor Pressure from 5.8 to 4.8 Kg/Cm², increased the off time delay from 4 sec to 6 sec for Main Product Bag Filter & Reduction of Comp. Air Pressure from 5.7 to 4.5 Kg/Cm² for Nuisance Bag Filters. Annual saving of 1.10 lacs.
2. RAL would be placed at the extraction point of fly ash at mill outlet. This will help in smooth flow of material from silo bin to mill outlet air slide.
3. Fixing of vibrators at hopper cones, belt chutes etc. to avoid jamming during monsoon. This has helped to prevent material fluctuations due to high moisture, & thereby maintaining uniform feed & hence control the specific power consumption.

RPO Obligation



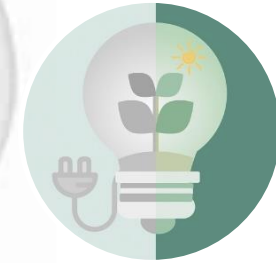
S.NO	Unit	Net Consumption From Open Access (MWHR)	RPO as per SERC (%)		RPO obligation (In MWH)		REC PURCHASED	
			Solar	Non Solar	Solar	Non Solar	Solar	Non Solar
1	USO	15958	7.00%	8.00%	1117	1277	0	0
2	LNK	9943	7.00%	8.00%	695	795	0.00%	0.00%
3	GCW	2397	7.00%	8.00%	168	192	-	-

- **GROUP TOTAL CAPACITY (120 MW)**

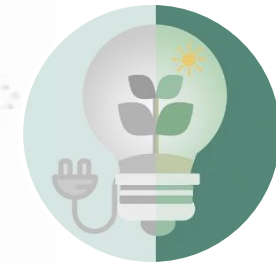
Information on GHG Inventorisation



Usage of 100% renewable power under fossil free electricity initiative - 2030 (RE 100)



Double energy productivity - 2030 (EP 100)

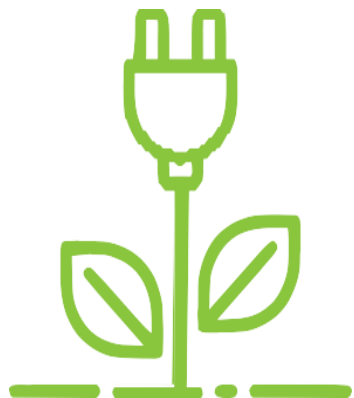


Renewable biomass and alternate fuels including plastic waste to replace fossil fuel use – 2035



Carbon Capture and Utilisation (CCU) for process emissions and Carbon Sequestration - 2040

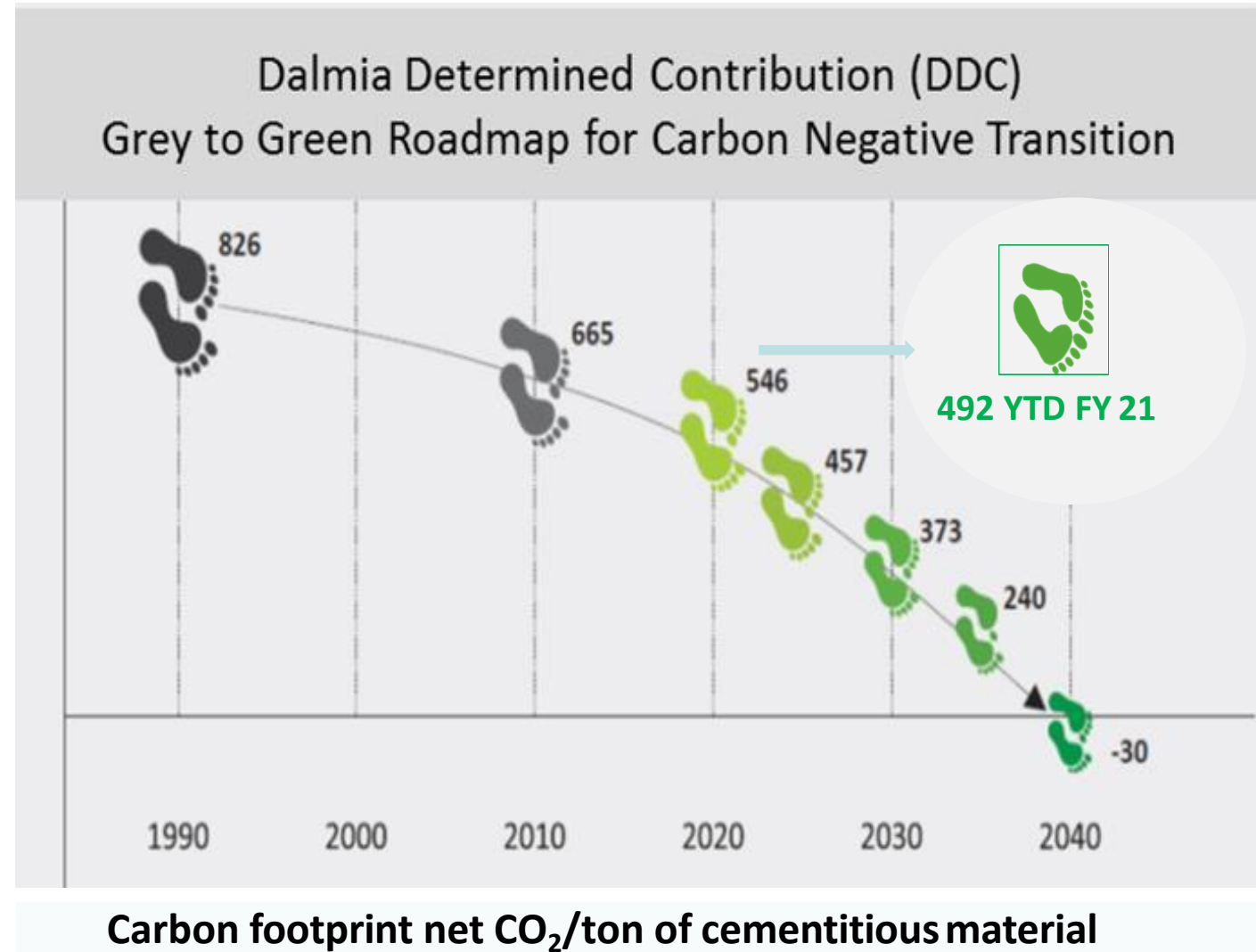
Absolute emissions of last three years



Year	Group Total kgCO₂ / Ton of Final Product
2020-21	492
2019-20	536
2018-19	546

Long term CO2 emission reduction plan

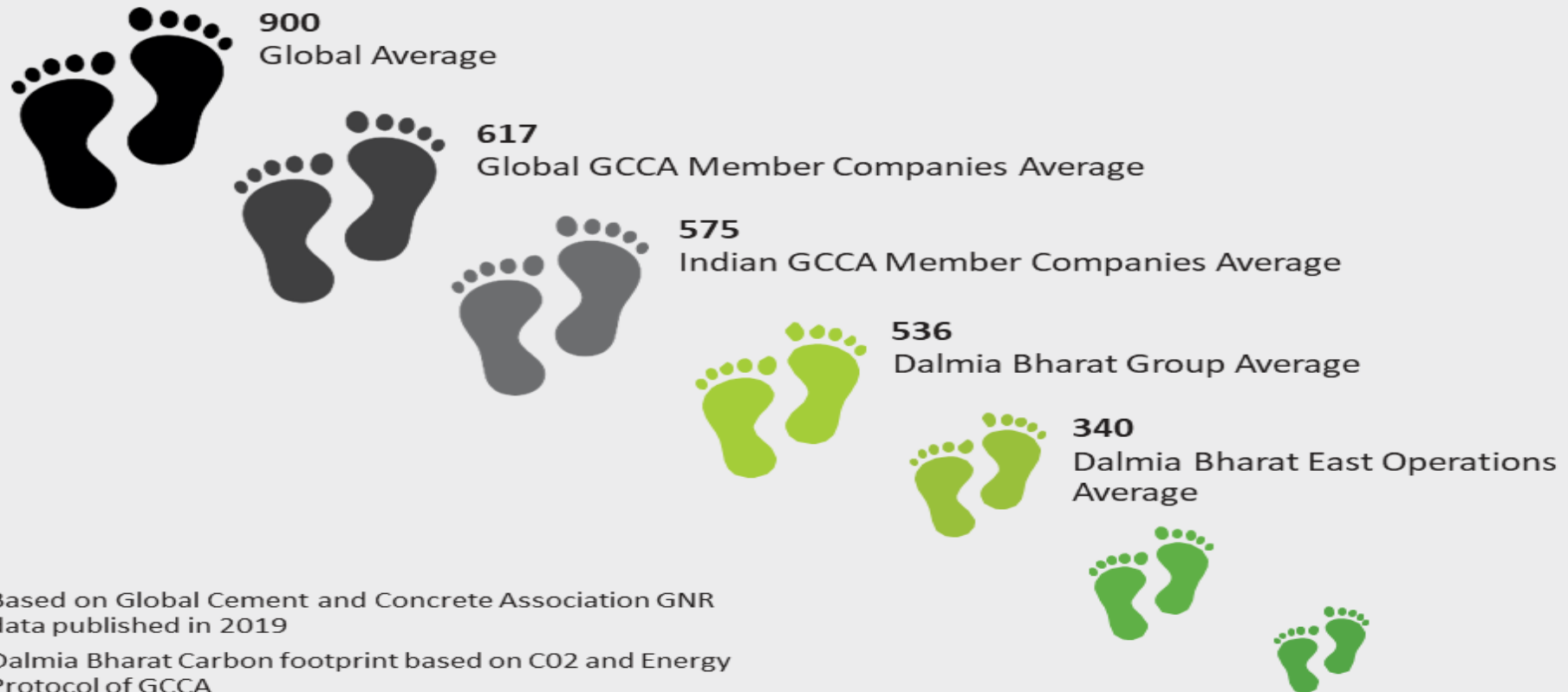
- 100% blended cement production by 2025
- Use of 100% renewable power under fossil free electricity initiative by 2030 (RE 100)
- Use of renewable biomass, hazardous waste, hydrogen and MSW to fully replace fossil fuel by 2035
- EV 100 commitment for sizable Electric Vehicle transition by 2030
- Development of Carbon Sinks / Carbon Sequestration
- Adoption of CCU and other advanced green technologies by 2040



Carbon Footprint Scenario in Global Cement Sector



Carbon Footprint Scenario in Global Cement Sector (Net CO₂ emissions in kg/ton of Cementitious material)



Green Supply Chain



- **Green purchasing:** Polyethylene sheet used in packaging shall be more than 20 micron. Packing material should be in good condition & it should be biodegradable material wherever possible.
- Freight tiger (Tracking consent).
- EPOD process implementation.
- RFID (Radio frequency identification) reader.

Alsthom Industries Limited (Subsidiary of Dalmia Cement (Bharat) Limited) Green Purchase Policy

1. Aim at making our value chain environmental friendly and responsible
2. Committed to comply with the requirement of local laws and regulations related to environment in which it operates and from where it source any material, product or services.
3. Realize that the scope & nature of operations of our suppliers vary and hence emphasis | on these principles may vary accordingly

The following shall be followed at AIL, Jagiroad:

Energy:

- a) All new purchases of electronic items & energy-using appliance shall be energy efficient equipment's.
- b) All copiers and printers purchased or leased shall be capable of double-sided copying/printing.
- c) Complete phase out of incandescent, fluorescent light sources and CFL bulbs into LED.
- d) Insisting suppliers strive towards enhancing the efficiency and performance of the equipment and processes by continual improvement, monitoring and assessment of technology.
- e) Identifying the scope of replacing conventional sources of energy with sustainable and renewable sources in their operations thereby fighting for climatic change.

Teamwork, Employee Involvement & Monitoring



Team Electrical Efficiency



Abhishek
Anand



Koustav
Moni Deka



Mukesh
Kumar
Swarnkar



Amarjeet
Bhagat



Deepak
Gayan

Team Throughput (TPH)



Hirak
Raktim
Kaushik



Biswajit
Kelang



Monalisa
Konwar



Paran
Pratim
Hazarika



Prasanna
Deka

Team Reliability



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**Bibartan
Talukdar**



**Dibya Jyoti
Borah**



**Keshav
Kumar**



**Madhurja
Chakravarty**

LIST OF KAIZENS



Sl. No.	Description	Action Taken	Benefits
1	Mill tripped due to frequent girth gear grease pump tripping	Provided a standby grease line with different air filter so that maintenance could be done during continuous operation of the other grease line.	Plant Reliability increases
2	Low efficiency of D/W plant at lab also led to wastage of water.	Replaced with an efficient D/W Plant	Water and Time Saving
3	Laboratory open heater required frequent maintenance	Replaced with coil heater with insulated oven	Time and Cost Saving

LIST OF KAIZENS



Sl. No.	Description	Action Taken	Benefits
4	Truck loader chain failed frequently	Chain & socket redesigned and replaced	Cost Saving and Work Safety Increase
5	High Bag Burstage percentage	Modification of Bag conveying chute to lower the Speed of Bags	Bag Burstage percentage reduced
6	Flow ability issue from fly ash silo bin	Aerator fitted above the gate valve to purge air	Productivity Increase

CII National Award For Excellence in Energy Management 2020



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Greentech Effective Safety Culture Award 2021



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Ref.: EffSafety Decl/SC-14
19th July, 2021

Shri Uday Singh Rajput
General Manager
Dalmia Cement (Bharat) Limited
Cement Grinding Unit (Alsthom)

**Sub: Congratulations! Selected as WINNER for presentation of
"Greentech Effective Safety Culture" Award 2021 in Sonmarg on 27 Aug 2021.**

Dear **Shri Uday Singh Rajput**,

Congratulations!

On the basis of nomination documents submitted by you and awards evaluation virtual meeting held with our Jury Members, it is our proud privilege to announce your selection for presentation of the Most Prestigious **Greentech Effective Safety Culture Award 2021**. The Jury is quite impressed with your dynamic initiatives and achievements.

You are cordially invited to receive the Most Prestigious **Greentech Effective Safety Culture Award 2021** during the exclusive awards presentation and celebration being organized as a very high-profile networking and glittering ceremonial event at **Hotel Snowland, Sonmarg (J & K) on 27th August 2021**. This is your *exclusive complimentary invitation* for attending the Awards presentation program. We request you to submit your nomination Online thru: www.greentechevents.com.

We also request you to join us as Delegate for the 'Effective Safety Culture Summit' on 26-27 August 2021 and nominate your colleagues to participate in the Awards presentation and Summit by registering nominations online at greentechevents.com latest by 26th July 2021. Attached are details about participation.

In the meantime, we request you to please arrange to send us a video of upto 60 seconds, in a virus-free pen-drive, showcasing the initiatives adopted and its impact on the company, latest by 30th July 2021. The video will be played during the ceremonial awards presentation event.

Kamalleshwar Sharan
Chairman & CEO
Encl.: Brochure

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Greentech Foundation Charitable Trust : Regn. No. DEL - GR 22487

5S QCFI (Chennai Chapter) Platinum Award on 8th Sept 2019



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5S ABK-AOTS DOSOKAI (Chennai) Platinum Award on 23rd Jan 2020



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THANK YOU