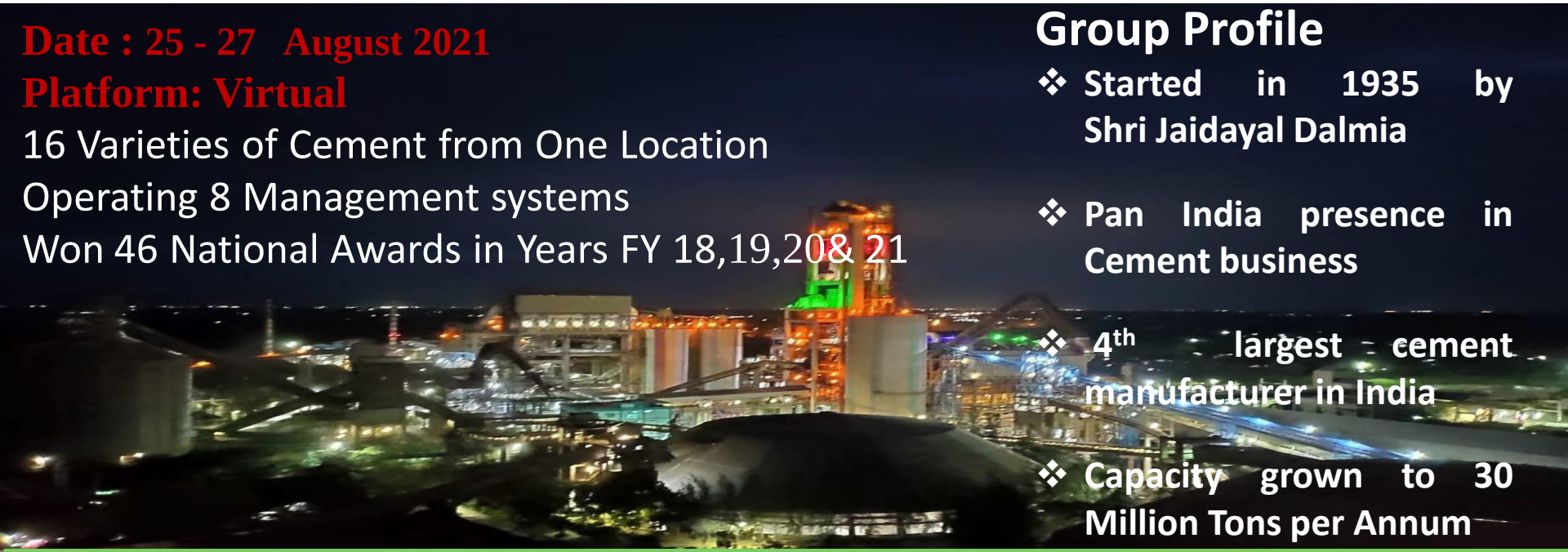
HEARTY WELCOME

Dalmia
Bharat Group

1. Brief introduction on Company / Unit- *Leading the way for over 8 decades*



Date : 25 - 27 August 2021

Platform: Virtual

16 Varieties of Cement from One Location

Operating 8 Management systems

Won 46 National Awards in Years FY 18,19,20& 21

Group Profile

- Started in 1935 by Shri Jaidayal Dalmia
- Pan India presence in Cement business
- 4th largest cement manufacturer in India
- Capacity grown to 30 Million Tons per Annum

Team : P.Balaji, Energy Manager, D.Kumaresan, Head-E&I and R.Rajamohan, Head-Sustainability,PH&Systems

M/s DALMIA CEMENT (BHARAT) LTD, DALMIAPURAM

Our Uniqueness

- Only Plant in the World , Making 16 Varieties and Operating 8 Management systems
- A Pre-independent, first born Indian Cement Plant, has won 46 National Awards in the recent 3 years , including the CII EHS 5 Star / CII National Energy leadership Awards.
- Lowest Carbon footprint in the World. (as a Group)
- Our Dalmiapuram Green Fuel TSR % in Jan21 touched 25%, Annual Avg.18.7%(20-21) Indian Avg., is @ 4%.
- Green fuel/AFR enhancement to replace Fossile is not only part of our National Agenda but also a Global main lever as well towards Carbon Nertrality & to combat climate change challenges.
- Water Positivity target – Our DPM Plant is 4.8 times
- Carbon Neutral Ambition - Carbon Negative Cement Group 2040.
- DPM is the First Green Pro Certification in the Country for PPC

Our Uniqueness

- **First Rank in the country in the CDP League Table .Ranked no.1 cement group globally on business readiness for low carbon transition (Source : CDP Global Cement Sector Report, April 2018)**

- **RE 100 - first cement company in the country to join RE100 (Third amongst all after Tata Motors and Infosys . (RE 100 is** a global collaborative initiative of the world's most influential companies committed to 100 per cent renewable power.**)**

- **100% renewable power under fossil free electricity initiative – 2030 . (**Being one of the greenest cement companies in the world, Dalmia Cement has set an ambitious interim target to increase four-fold its percentage of renewable energy consumption by 2030)

- **Double energy productivity - 2030 (EP 100)**

- **Renewable biomass and waste to replace fossil fuel use - 2035**

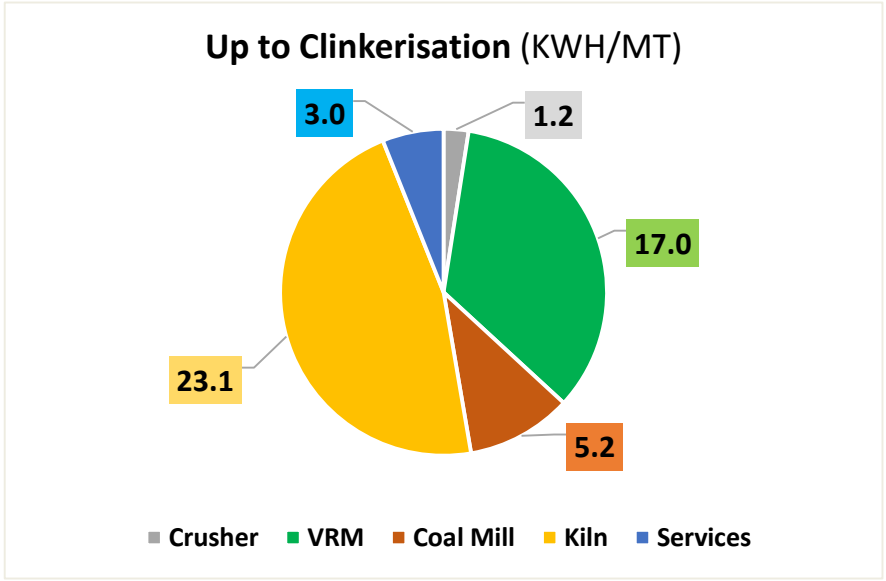
- **Third Indian Cement Company to sign the CSI Charter**

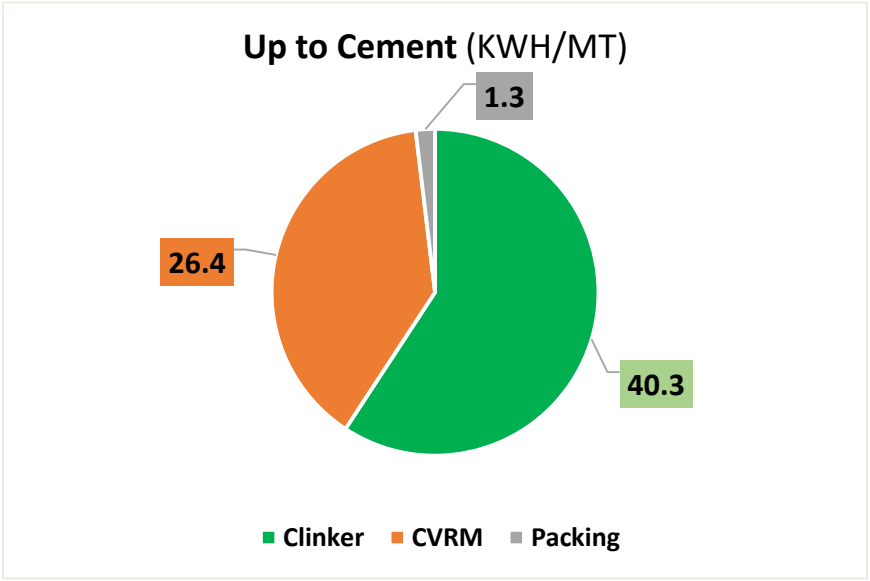
- **Wash Pledge adopting**

Presentation Coverage

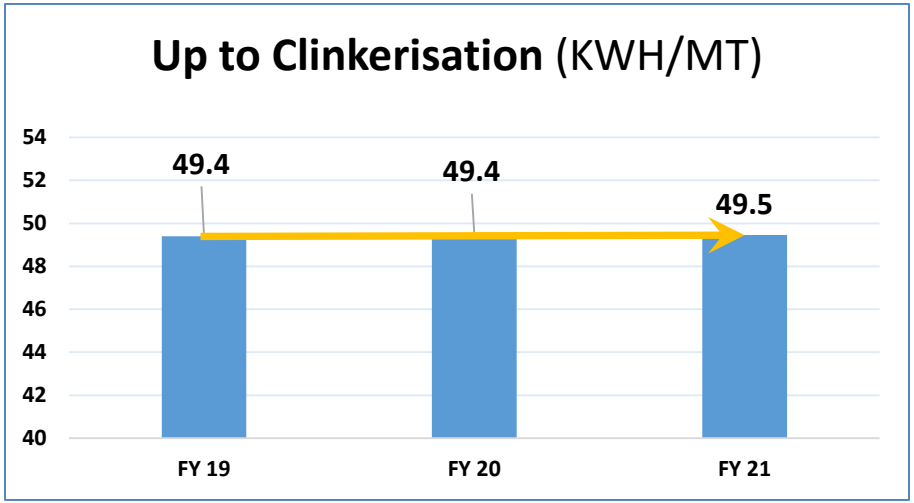
1. Brief introduction on Company
2. Energy Consumption Overview
3. Specific Energy Consumption in last 3 years
4. Information on Competitors, National & Global Benchmark
5. Energy Saving Projects implemented for last 3 years
6. Innovative Projects implemented
7. Utilization of Renewable Energy Sources
8. Utilization of Waste material as fuel
9. learning from CII Energy Award 2020 and Impact of COVID 19
10. GHG Inventorization
11. Green Supply Chain Management
12. Team work, Employee Involvement & Monitoring
13. Implementation of ISO 50001/Green Co/IGBC rating
14. Other information

2. Energy Consumption Overview - FY 20-21





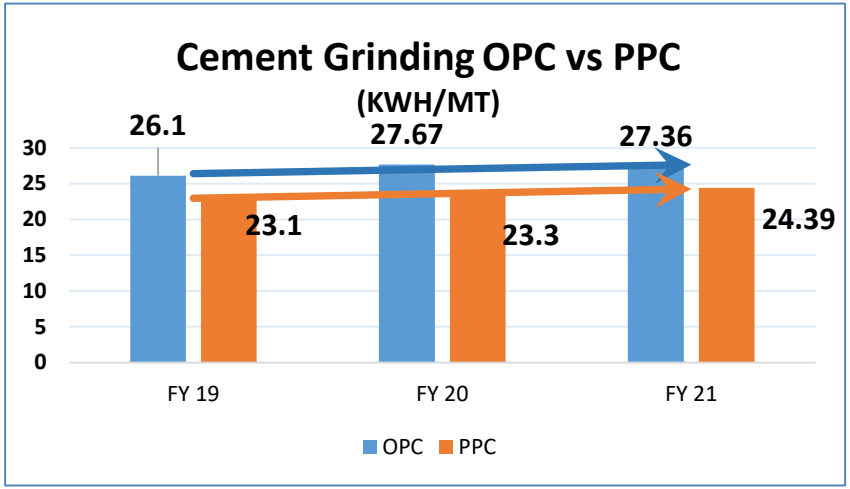
3. Specific Energy Consumption in last 3 years (upto clinkerisation)

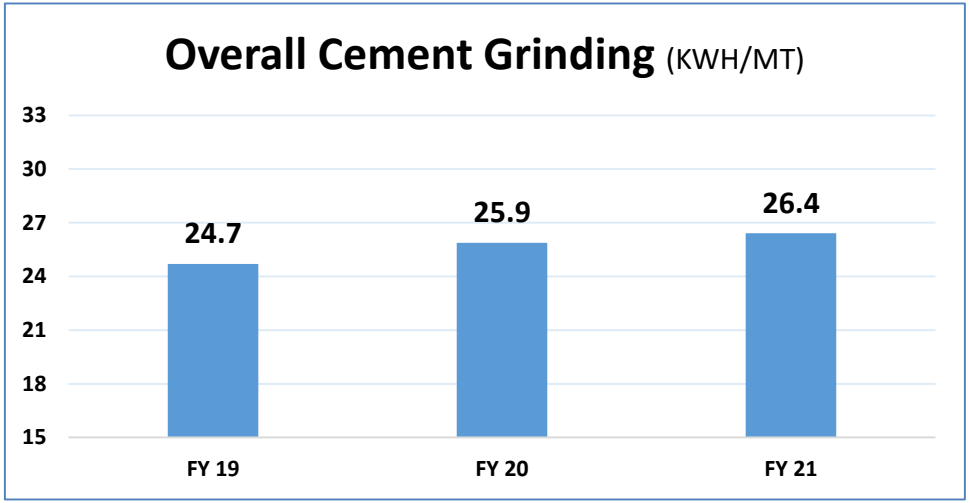


Section	UOM	FY 19	FY 20	FY 21
Crusher	KWH/MT Matl	0.83	0.84	0.84
Raw Mill	KWH/MT Matl	11.8	11.8	11.2
Coal Mill	KWH/MT Matl	56.4	53.5	55.5
Kiln	KWH/MT Clinker	21.7	22.4	23.1
Clinker	KWH/MT Clinker	46.5	46.4	46.5
Services	KWH/MT Clinker	2.9	3.1	3.0
Total Clinker	KWH/MT Clinker	49.4	49.4	49.5

Note: Upto Clinkerisation Power includes Shut down & Services Power

3.Specific Energy Consumption in last 3 years (Cement Grinding)

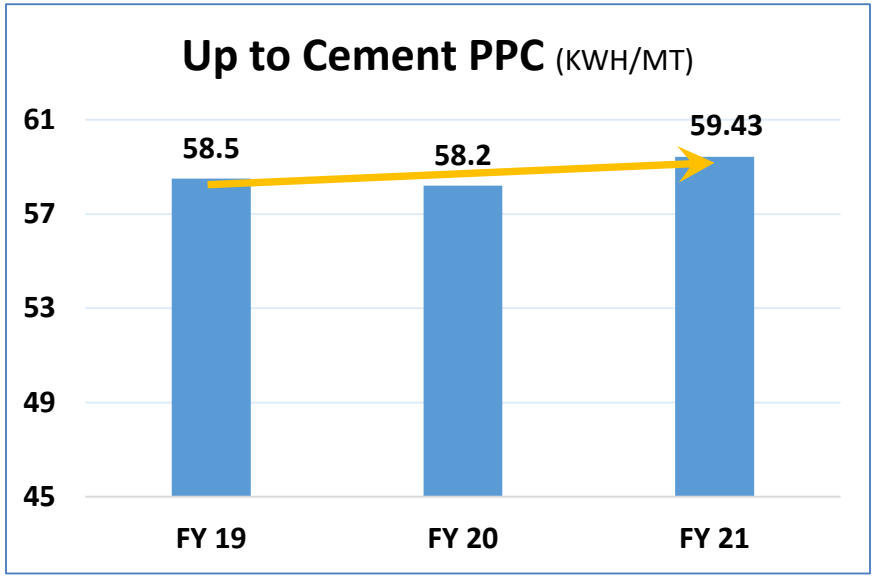


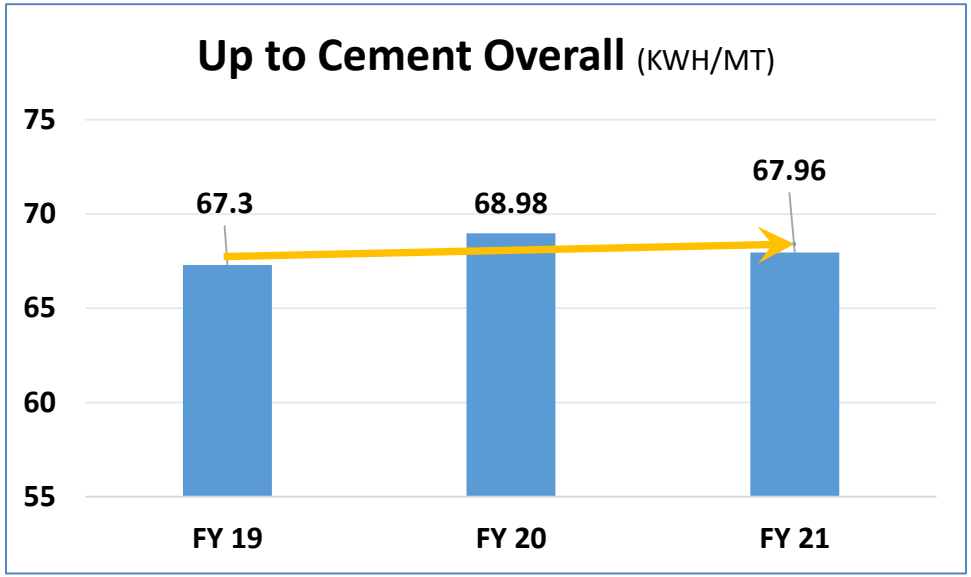


1. **Wet fly ash % increased from 7 % to 11 % in PPC**
2. **OPC blaine increased from 2900 to 3100 based on market requirement**

- CC ratio - 1.25 1.17 1.18
- Due to PPC power increase

Upto Cement - PPC & Overall





- Overall Cement power increased due to 4 % WFA increase in PPC cement

Specific Energy consumption in PPC

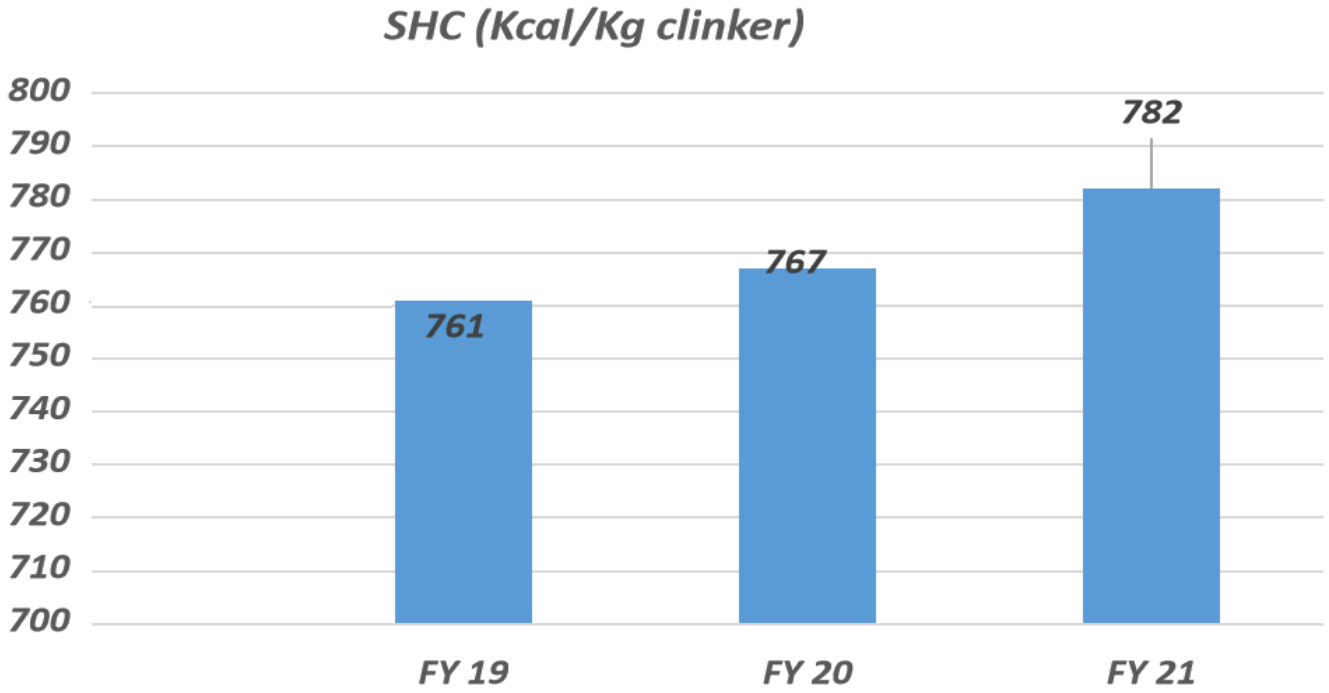
Section	UOM	FY 19	FY 20	FY 21
Crusher	KWH/MT Matl	0.83	0.84	0.84
Raw Mill	KWH/MT Matl	11.8	11.8	11.2
Coal Mill	KWH/MT Matl	56.4	53.5	55.5
Kiln	KWH/MT Clinker	21.7	22.4	23.1
Clinker	KWH/MT Clinker	46.5	46.4	46.5
Services	KWH/MT Clinker	2.9	3.1	3.0
Total Clinker	KWH/MT Clinker	49.4	49.4	49.5
Cement Mill	KWH/MT Ceme	23.1	23.3	24.4
Packing	KWH/MT Ceme	1.36	1.31	1.3
Total Cement	KWH/MT Ceme	58.5	58.2	59.4

Specific Energy consumption in OPC

Dalmia Bharat Group

Section	UOM	FY 19	FY 20	FY 21
Crusher	KWH/MT Material	0.83	0.84	0.84
Raw Mill	KWH/MT Material	11.8	11.8	11.2
Coal Mill	KWH/MT Material	56.4	53.5	55.5
Kiln	KWH/MT Material	21.7	22.4	23.1
Clinker	KWH/MT Clinker	46.5	46.4	46.5
Services	KWH/MT Clinker	2.9	3.1	3.0
Total Clinker	KWH/MT Clinker	49.4	49.4	49.5
Cement Mill	KWH/MT Cement	26.1	27.7	27.4
Packing	KWH/MT Cement	1.36	1.31	1.29
Total Cement	KWH/MT Cement	74.5	76.0	74.7

SHC



1. Lesser OPC volume and special clinker production in H1 of FY21 during low volume
2. Increase in SHC due to high moisture content in RDF (upto 35 %) and Paper mill plastic (upto 50 %)

4. Information on Competitors, National & Global Benchmark

Energy Bench Marking		
Sl. No.	**Section**	
A	**Electrical Power Consumption**	
1	LS CRUSHER (Kwh/MT of Limestone)	0.58
2	RAW MILL (Kwh/MT of Rawmeal)	10.80
3	COALMILL (Kwh/MT of Coal)	15.63
4	KILN (Kwh/MT of Clinker)	19.04
5	SPC Upto Clinkerisation (Kwh/MT of Clinker) with Shutdown Power	42.5
6	PACKING PLANT (Kwh/MT of Cement)	0.65
B	**Fuel Consumption (Kcal/Kg of Clinker)**	676

Energy Bench Marking		
Parameters (20-21)	**Electrical SEC (kWh / T of Cement)**	**Thermal SEC (kcal / kg of Clinker)**
Comparison of specific energy consumption (SEC)		
SEC : Dalmia Dalmiapuram	67.9	782
SEC Values for Competitor - 1	56.14	676
SEC Values for Competitor - 2	61.40	682
SEC Values for Competitor - 3	61.65	682
National Benchmark for SEC :	56.14	676
International Benchmark for SEC :	62.0	660

Road Map for FY 22 & 23

Project Lined up for Increasing TSR , SPC & SHC reduction

1. Line-1 Cooler upgradation
2. Line-2 Calciner height increase for achieving residence time 12 Sec
3. Chlorine bypass system
4. Preheater fan and Bag house fan modification
5. Coal mill Classifier upgradation for reducing SPC
6. Line-2 Top cyclone modification for improving efficiency

5. Energy Saving Projects implemented for last 3 years

Year	No.of Proposals	Investments Rs.Million	Savings Rs.Million	Pay Back Months
2018-19	14	86.28	65.91	16
2019-20	29	107.87	107.72	12
2020-21	8	420.7	151.18	30

6. Innovative Projects implemented

Innovation 1 – Increasing AFR from 15 % to 25 %

Existing System :-

1. Belt conveyor feeding system from storage area to precalciner .
2. Shredder and Feeding conveyor capacity – 15 TPH
3. Shredder output size < 100 mm in 2D
4. Indigenous double flap with minimum false air while feeding AFR
5. Uneven feeding of AFR based on shredder output

New System :-

1. Increased the Belt speed to improve capacity from – 15 TPH to 25 TPH
2. New shredder with recirculation / screen arrangement
3. Shredder output size < 60 mm in 3D
4. Uniform feeding of AFR via Extractor with calibrator
5. 100 % leak proof motorised double flap

AFR Pre-Processing unit

Dalmia cement
FUTURE TODAY

1.Receipt material Storage

3. Eco star screen

2.Imported shredder

4. <60mm size collected in tipper

AFR Co-Processing unit

Dalmia cement
FUTURE TODAY

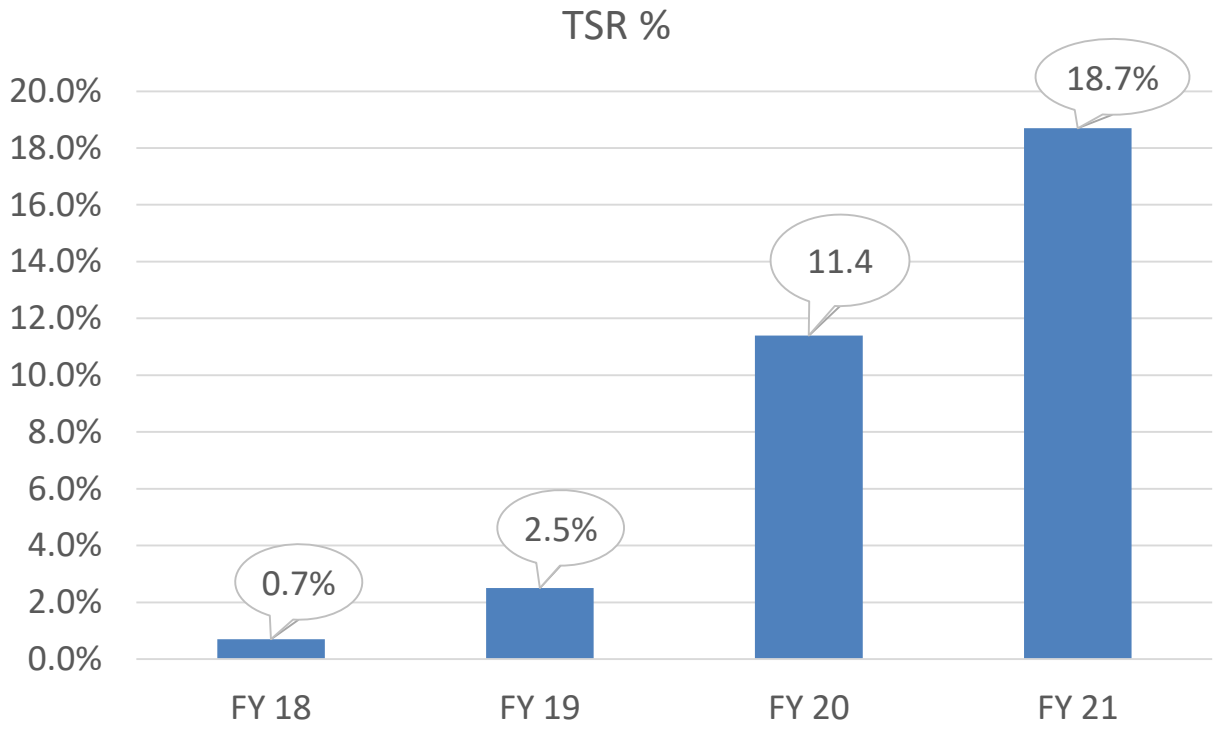
1. Shredded material Storage Shed

3. Conveying Belts 315 m

2. ATS extractor cum weigh

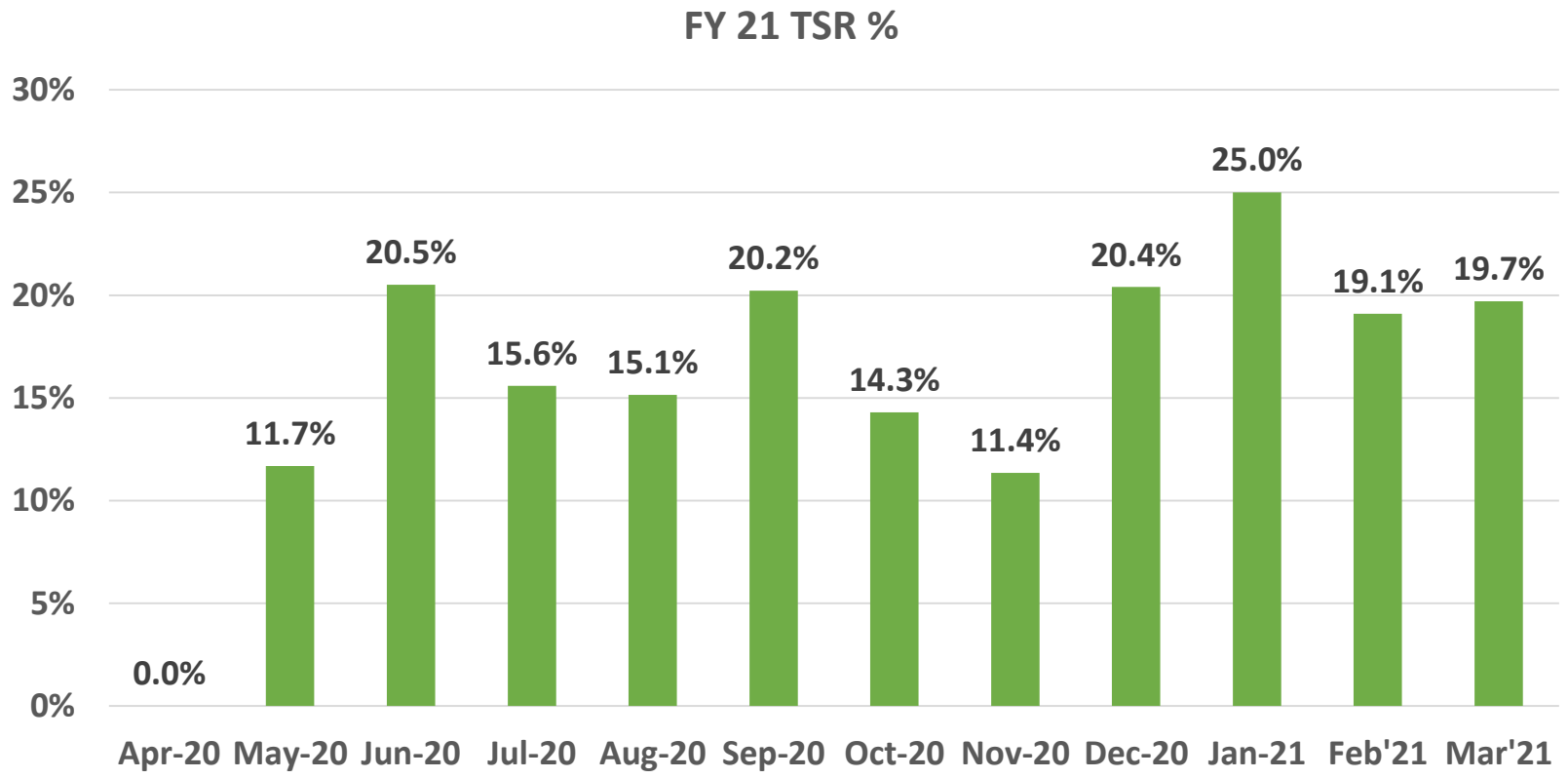
4. ATS Double flap

Innovation 1 – TSR Trend



Year	Quantity (MT)
FY 18	1761
FY 19	8071
FY 20	23463
FY 21	46599

Innovation 1 – TSR Trend FY - 21



Project 2 – Line-2 cooler upgradation

Challenges:

- Reducing the Cooler Heat loss
- Higher cooler outlet Clinker Temperature above 200 deg C

Action Taken :

* Replacing Grate cooler with new generation IKN Pendulum cooler

* Reduce Cooler loading to 45 MTPD/M2 with increase in cooler area

Results :

- SHC reduced by 41 Kcal/Kg clinker
- Achieved savings of 22044 Million Kcal in rupees 234 lakhs per annum

Project 3 – Upgradation of Coal Mill Fan DOL to VFD System

Challenges:

Line-1 Coal mill fan is operating in constant speed mode with damper for controlling the air flow leading to damper losses

Action Taken :

* Provided VFD for the motor to control the speed as per process requirement
* Removed the inlet damper from line to avoid pressure drop
* Now Fan is operating with reduced speed till 680 rpm without disturbing plant operation.

Results :

Achieved savings of 18250 KWH per annum (12.65 Units/Hr)

Project 4 – Replacement of HPSV Light Fittings by LED lights in Plant Area in Line-I & 2

Challenges :

* Non-Energy Efficient light fittings are in use
* Premature Failure is more during rapid cycling
* Non - Eco Friendly
* Poor performance in Low voltage

Action Taken:

Total Plant Light Fittings were replaced with LED

Result:

	Line 1 Plant	Line 2 Plant
Avg Lighting consumption (Oct 20 -Apr 21)	34568	70249
Avg Lighting consumption (May 21 -Jun 21)	31498	64823
Savings/Month	3070	5426
Savings/Year	36840	65112

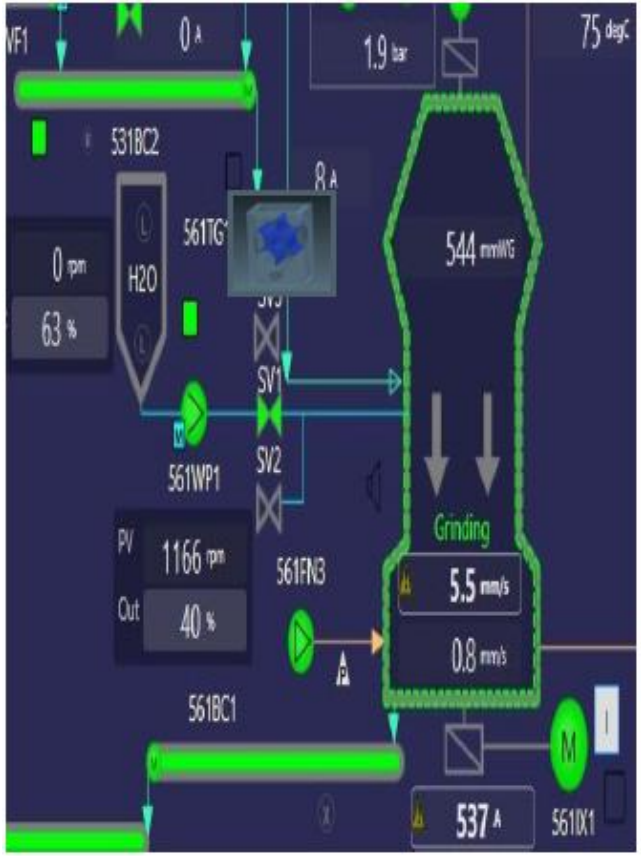
Project 05 - Conversion of 3KS to Star feeder

Challenges:

Huge false air entry in CVRM-1 mill feeding point. Because of 3KS (Triple flap gate with hyd.power back) system is not working properly and allowed huge amount of false air. Also it will impact mill fan power and flow.

Action Taken:

CVRM-1 mill feeding system modified with rotary air lock instead of triple flap feeding gate with hydraulic power pack for reducing false air and eliminate complicated system for easy maintenance. due to this above modification false air reduced from 22% to 13% and also 2 drives (1 belt conveyor + 1 triple flap gate) eliminated



Savings:

Reduction in Mill Fan Power Consumption- 70 Units /Hr

Total Savings (Units /Hr)	Power Cost (Rs. / Unit)	Running Hrs in FY (18-19)	Annual Savings, (Rs. Lakhs/year)	Investment Cost (Rs. Lakhs)	ROI (Months)
70	4.85	5614.5	19.06	17	10.70

Optimization of Package AC & Lighting power - LORAWAN Technology

Dalmia Bharat Group

Back Ground:

- AC's were functioned based on return air temperature (respective location temperature will always be 1 to 2 Deg lesser than AC room temperature).
- Lighting controls are based on timer / LDR /Manual operation at various locations.

Action Taken:

- Researched for Digital solution to optimum utilization of AC and lighting
- Automated the Package AC's and Lighting operations - LoRaWAN technology.

Package AC Details		
Sl.No	**Location**	**Capacity TR**
1	Line 2 - CCR	34
2	Line 2 - RTC	22
3	Load center 2	51
4	BAG HOUSE LC	34
5	Load Center 1	103.5
6	CVRM 2 LC	22
7	CCR-1 BUILDING	140
8	Commercial	11
9	ACCOUNTS	22
10	Admin Building	22
11	CVRM-1	11
12	EDP	17.5
13	VRM-2	17.5
	Total	507.5

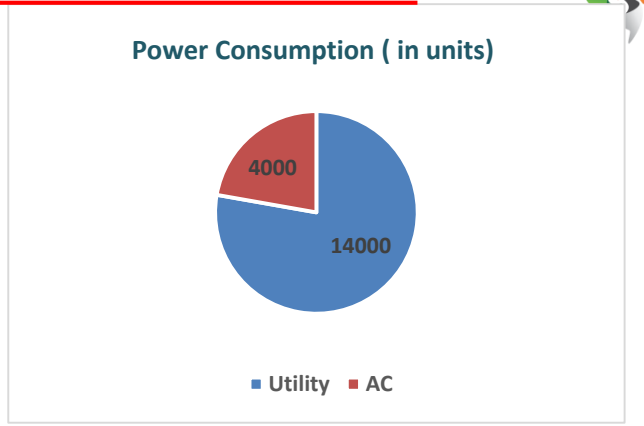
Optimization of Package AC & Lighting power - LORAWAN Technology

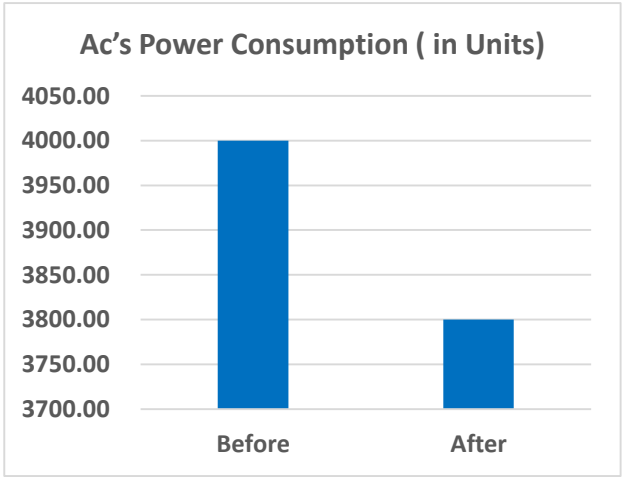
Benefits:

- Reliability Improvement (malfunctioning / breakdowns avoided)
- Alert message for system malfunction.
- Improved Efficiency.
- Increased Transparency.
- Better Customer experience & felxibility.

Savings:

- Annual Savings of 0.73 Lakh Units.
- Operation & Maintenance Cost reduction of Rs. 4 Lakhs / Year
- ROI of 30 Months.





Refractory Replacement in TAD

Need for Replacement

1. Fine clinker dust accumulation
2. Temperature loss (180 deg C) between Kiln hood and Precalciner end due to damage of expansion joints and refractory
3. Lesser TAD flow and temperature
4. High SHC
5. TAD damper jamming / stuck up

After Refractory replacement

1. No Fine clinker dust accumulation
2. Temperature loss reduced to < 60 deg C
3. Increase in heat recuperation
4. SHC saving of 15 Kcal/Kg clinker
5. Flexible operation of TAD damper

Refractory Replacement in TAD

Damaged and fine clinker dust in TAD

TAD Duct replacement 45 M

New Refractory installation for 65 M

7. Utilization of Renewable Energy Sources

RE 100

Dalmia Bharat Group

Renewable energy -

- Wind Mill
- We had installed windmill Farm - First in Cement Plant in the Tamil Nadu. Location and Capacities are as mentioned as below:
- Site-I : In Muppandal,Kanyakumari District

Capacity : 11.5 MW

- Site-II : In KarungulamVillage at Thirunelveli District

Capacity : 5.025 MW

7.Utilization of Renewable Energy Sources

Replacement of Electrical Energy with Renewable Energy	Annual Energy Generated in 2018-19 (million kWh)	% Share	Annual Energy Generated in 2019-20 (million kWh)	% Share	Annual Energy Generated in 2020-21 (million kWh)	% Share
Wind Energy	**24.3**	**16.6**	**23.3**	**15.9**	**21.9**	**14.9**
Replacement of Thermal Energy with Renewable Energy	**Equivalent Annual Fuel Savings in 2016-17 (million kcal/year)**	**% Share**	**Equivalent Annual Fuel Savings in 2017-18 (million kcal/year)**	**% Share**	**Equivalent Annual Fuel Savings in 2018-19 (million kcal/year)**	**% Share**

RE 100 - first cement company in the country to join RE100 (100% renewable Power by 2030).

Including WHRS 7 MW under Installation, Solar 5 MW under Installation out of 10 MW Approved.

SHARING BETWEEN DPM & ALR Plant

8. Utilization of Waste material as fuel

	FY19	FY20	FY21
Biomass	-	3,907	-
Carbon Black	5237	1,357	-
Chocolate Wrapper	109	33	-
Emery Paper Waste	34	23	-
Cpp ash	1549	-	-
Foot Wear Waste	3574	3,347	4,057
FRP Waste	285	361	203
High Ash Waste Mix Solid	57.3	1,977	887
Julie Flora	-	140	-
MSW	48	-	-
Oil Soaked Cotton Waste	-	573	740
Plastic Waste MLP	-	240	4145
PP Waste	1261	7,131	10,706
Pyrolysis Oil Emulsion	27	-	-
RDF	-	7,648	22,446

AF quantity (In addition we have done 15800 MT of Lime sludge in FY 20&21)

	FY19	FY20	FY21
Resin Waste	-	-	530
Rubber & Elastic Waste	-	59	160
Rubber & Foam Waste	-	-	293
Shredded Biomass Waste	-	227	-
Spent Wash	2959	1,136	448
Tyre Chips	-	-	191
Used PP Bag	-	15	54
Was. Mix. Liq	40	439	367
Was. Mix. Sol		160	-
GEPIL	3811	-	-
Palm Bunch	130	-	-
Organic liquid	-	-	133
ULB plastics	-	-	266
SCF	-	-	81
ETP sludge	-	-	7
Paint Sludge			21
Grinding sludge	-	-	18
Shredded RDF	-	-	194
Liquid Waste			650
			46,599

9. learning from CII Energy Award 2020 and Impact of COVID 19

1.Complete upgradation of conventional lights with LED lighting in plant.
2.Automation of AC and lighting system control through cloud-based technology
3.High energy efficiency IE3 Motors in place old low efficiency motors
4.High efficiency - 3 / 5 star rated Air conditioner.
5.High energy efficiency impeller for main process fan.
6.Usage of high chlorine content alternate fuel – Based on chlorine balance.
7.Installation of Pre-processing system for making Uniform quality of AFR
8.Handling / Addition of lime sludge in crusher
9.Installation of ATS make double flap, cycle time reduction from 14 S to 6 S
10.Installation of ATS extractor cum weigh feeder, for uniform feeding to reduced PC temperature fluctuation
11.Full-fledged laboratory for AFR analysis

Impact of COVID 19

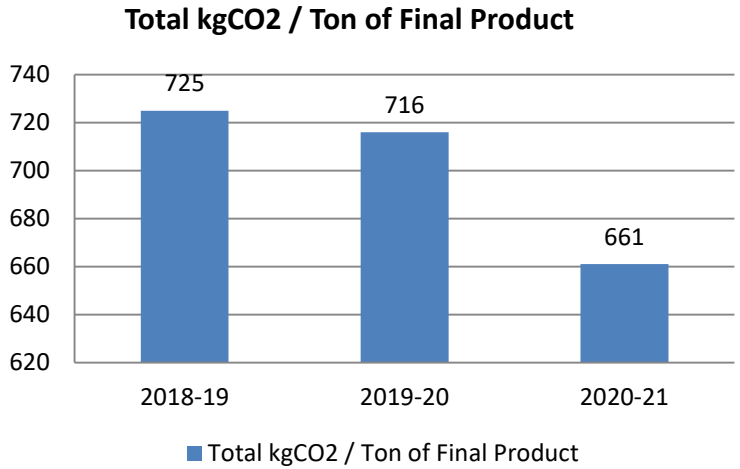
Several Energy efficiency Projects implemented during Covid period, including the ones below :

1. Air conditioners operation limited to only PLC,UPS, Server rooms and all other area's switched off.
2. All P & V - (pressurization and ventilation) system switched off
3. Silo top aeration blowers operation optimized
4. Lighting ON only in essential area's and all other locations switched OFF
5. Water pumps and compressors operation restricted
6. DG house - hot stand by equipment's switched off
7. Further, Utilizing lock down period availability, we had a brainstorming sessions on energy efficient measures and several measures initiated, including WHRS 7 MW under Installation, Solar 5 MW under Installation out of 10 MW Approved. Green Fuel Maximization Annual Average (TSR 18.7% in 20-21 & 25 % in a month as Monthly average) in-spite of COVID.

Further, several brainstorming sessions and conceptual planning carried out towards Carbon Net Zero Roadmap , which is under various stages of progress.

10. GHG Inventorization

GHG Emission - Low Carbon Technology Road Map- Dalmia Cement & IFC Disclosure to Public thro' Dalmia Sustainability Report



Our Group CEO (Cement) Shri.Mahendra Singhi represented india at the Highlevel signing ceremony of Paris Agreement on Climate Change.

11. Green Supply Chain Management

Sl. No.	Projects Implemented	Investment Made (Rs In Million)	Benefits Achieved	Description
1	Electronic Proof of Delivery (E- POD) An electronic proof of delivery (E-POD) is a digital format (usually PDF) of a traditional paper Delivery Order or Delivery Note. An E-POD is the electronic form of such a paper document, and it is a fast-growing trend and our DCBL Dalmiapuram Plant implemented the E-POD System	1.15	E-PODs saves time, prevents disputes, and reduce the company's carbon footprints.	A delivery order or delivery note is required to facilitate a delivery and upon a successful delivery which consists of handing over of goods from the driver to the end recipient, a signature or some endorsement is collected on the paper document as a delivery. This proof of delivery is essential for subsequent billing of the customer and serves as an important acknowledgment to mark the delivery as completed.An E-POD is the electronic form of such a paper document, and it is a fast-growing.

Green Supply Chain Management

Sl. No.	Projects Implemented	Investment Made (Rs In Million)	Benefits Achieved	Description
1	Radio Frequency Identification (RFID) implemented in yard IN / OUT ,Cement gate IN / OUT, Line1 & Line 2 packing House IN / OUT .	4.7	1.Capture vehilce time at various stages in the plant, uniformly and consistently. 2. Identify areas leading to increase in Plant OET & vehicle TAT. 3. Faster customer service result in increase in P2D 4	It gives better clarity and position / location of truck from yard in to yard out. Ø This gives visibility of trucks available at parking yard with order placed / want of order truck details. Ø Through RFID security guards save time to create yard slip by auto generating trip register. Ø DPM plant & cement business highly adopted with digitization and helped business lot in speed / accuracy.

Green Supply Chain – Cement Bulker %

	FY 18-19		FY 19-20		FY 20-21	
Bag/Bulk	Dispatch Quantity	Avg. Distance	Dispatch Quantity	Avg. Distance	Dispatch Quantity	Avg. Distance
BAG	1828075	172	555909	321	482793	308
BULK	507459	325	1503508	314	1586447	314
Grand Total	2335534	196	2059417	316	2069240	316

Bulker Quantity Increased - 82939 MT

Fuel Savings - 57224 Ltrs. x Rs.93 / Ltrs. of Diesel

Cost Saving - 53.22 Lakhs

Green Supply Chain – Back Hauling %

Results:

- ✓ Increased Backhaul Quantity = 69722 MT
- ✓ Fuel Savings = 92994 Ltrs. x Rs.93 / Ltrs. of Diesel
- ✓ Cost Saving = 86.48 Lakhs/annum

Green Supply Chain
Replication of Best Practices /

Reverse logic system for Limestone & Gypsum trucks

- Round Trip - Rs.126/Ton Straight Trip - Rs.200/Ton
- Savings - Rs.74/Ton Average Receipt/Day - 2400 Tons
- Installation of GPS tracking system, Monitoring of Supplier Rating Green Policy followed in our Purchase Order
- Green Purchasing: Polyethylene sheet used in packaging shall be more than 20 microns. Packing of material should be in good condition & it should be of bio- degradable material wherever possible
- Dalmia Cement encourages to re-use, re-cycle material
- PLMS (Plant Logistics Management System) Implementation
- RFID (Radio Frequency Identification) Reader
- FT (Freight Tiger)Tracking Consent
- FT IVR (Freight Tiger Interactive Voice Response) / E-POD
- Depot on Wheels/ Stacking on Platform in plant to reduce OET (**TAT reduced to 4.5 hrs)**

Green Purchasing Policy & in Purchase order

Dalmia Cement (Bharat) Limited, Dalmiapuram

Green Purchase Policy

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

The following shall be followed at DCBL, Dalmiapuram shall:
Energy:
a. All new purchases of electronic items & energy-using appliances 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 & 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.

11. Please mention the HSN code of the material being supplied on the invoice clearly.

12. DCBL reserves the right to recover the GST charged on any of your invoice(s), if it comes to our notice that the same has not been deposited with the Govt.

13. The invoice shall show clearly whether they cover "part order" or balance order and shall indicate the item number as well as DCBL Purchase order number clearly.

14. Avoid any spillage / leakage of material during loading, transit and unloading.

15. Material Safety Data Sheet (MSDS) to accompany with the material, especially for all hazardous material & notified as per Government rules in effect.

16. The equipment#s used for manufacturing, calibrating our supplies / servicing our machine(s) should have valid master calibration certificate. The same is to be share with us on request. For all calibration activities, you should have a valid NABL / QMS certification.

17. Green purchasing: Any plastic materials used in packaging shall adhere to the "Plastic Waste Management Rule - 2018. Packing of material should be in good condition & it should be of bio-degradable material wherever possible.

18. Dalmia Cement encourages all its stake holders to reduce, re-use, re-cycle all possible packing material etc, to

Our GST REG No: 29AADCA9414C1ZV CST No: Our TIN No: CENTRAL EXCISE REGN No: ECC.No: PAN No: RANGE & COMMISSIONARATE: & , DIVISION: CORPORATE IDENTITY NUMBER: U65191TN1996PLC035963

PARTY / OFFICE / ACKNOWLEDGEMENT / ACCOUNTS PAGE: 3 / 6

PEH-0051580731

12. Team work, Employee Involvement & Monitoring

Team Work in Encon / Monitoring & Reporting / Employee Involvement in Encon

Dalmia Bharat Group

	LINE 2 PLANT POWER STATEMENT						
	01-May-21						
Plant Sections	KWH Consump	Run Hrs	Production (tonnes)	TPH	KWH/hr	KWH / T	Mar'21 BP
Crusher 4							
Crusher 4 - Total	6670	12.3	8162	664	542	0.82	
Section Stoppage Power							0.77
Crusher-4 with Stoppage Power	6670	12.3	8162	664	542	0.82	
LS Crusher with Stoppage Power OPC	6670	12.3	8162	0	542	0.82	
LS Crusher with Stoppage Power SPL	0			664	0	0.00	
	LS TO CLINKER(without Stoppage)					1.18	
	LS TO CLINKER(with Stoppage)					1.18	
	LS TO CLINKER(with Stoppage) OPC					1.18	
VRM 3 Section	LS TO CLINKER(with Stoppage) SPL					0.00	
Main drive	24476	18.10	5328	294	1352	4.59	
Mill Fan	29646	18.1	5328	294	1638	5.56	
Auxiliaries	9780	18.1	5328	294	540	1.84	
VRM 3 - Total	63902	18.1	5328	294	3531	11.99	
Transfer Power to KHD							11.78
Total FLS Raw Mill Power	63902	18.1	5328			11.99	
Section Stoppage Power							
VRM 3 with Stoppage Power	63902	18.1	5328	294	3531	11.99	
OPC	63902	18.1	5328	294	3531	11.99	
OWC + SRPC	0			0	0	0.00	
	RAW MEAL TO CLINKER(without Stoppage)					18.23	
	RAW MEAL TO CLINKER(with Stoppage)					18.23	
	RAW MEAL TO CLINKER OPC					18.23	
FLS KILN Section	RAW MEAL TO CLINKER OWC + SRPC					0.00	
Bag House Fan	9595	19.70	3308.00	168	487	2.90	
Pre heater Fan	31504	19.7	3308	168	1599	9.52	
Kiln Main drive	5221	19.7	3308	168	265	1.58	
Cooler vent Fan	5651	19.7	3308	168	287	1.71	
Cooler fans & Grates	12692	19.7	3308	168	644	3.84	22.61

Team Work Involvement of employees

- ✓ Suggestion Scheme
- ✓ Good Work Award
- ✓ Long Service Award
- ✓ Employee of the Month
- ✓ EOM Training and Dinner
- ✓ Workers Education Class
- ✓ Nomination for Tamilaga Arasin Uyarntha Ulaipalar Virudhu
- ✓ Safety Quizzes in Gate Meeting
- ✓ Safety Messages Sharing in Gate Meeting
- ✓ Productivity week/ Environmental Day Celebrations Various Contests
- ✓ National Safety Day Celebrations Various Contests
- ✓ Health & Safety Committee Meeting Members Participation
- ✓ Various External Awards Participation
- ✓ Birthday Fiesta/Long service Mass Tree Plantation
- ✓ Trained for New Safety Approaches

13.Implementation of ISO 50001/Green Co/IGBC rating

IS/ISO 50001:2018, Green Pro Certification

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
MANAGEMENT SYSTEMS CERTIFICATION

FORMS

TITLE: Brief Audit Report
(Initial/Renewal/Surveillance/Special Audit

DOC: MSC-F6.4-44	ISSUE: 01	DATE: April 2019	Page 1 of 1
Prepared By:		Approved By: DDG(MSCD)	

(To be submitted to MR/CEO)

1.	Reference	EN/L-6000035.1
2.	Name of the Organization	M/s Dalmia Cement (Bharat) Ltd.,
3.	Address	Dalmiapuram Tiruchirappalli Dist 621651
4.	Type of audit	Third Party– Recertification Audit
5.	IS/ISO	IS/ISO 50001:2018
6.	Date(s) of audit	20-22 July 2021
7.	No. of NCs raised	Major : Nil Minor : Nil No. of NCs pending : No pending action
8.	Concerns raised	None
9.	Observation (report of conformity of the organization's management system with certification/registration requirements and effectiveness of the management system)	Implementation of Energy Management System as per IS/ISO 50001:2018 were found to be effective and also meet the requirements of the above standard and to firm's documented information.
10.	Conclusion/recommendation of the audit	Based on the audit findings the audit team unanimously Recommends Recertification of Energy Management System as per IS/ISO 50001:2018 Licence for the scope sought by the firm.

You are requested to give your comment, if any, on the above report and the findings of the audit within 7 days to MSCO(R). Root Cause Analysis to be carried out and corrective actions taken shall be informed to MSCO with 30 days. Please also give your comments on the performance of the auditors.

Signature:

Name: T.Rangasamy
Team leader:

Date 22.07.2021

CEO/MR

Energy Management SystemCertifiion
IS/ISO 50001:2018

GreenPro

CII
Confederation of Indian Industry

CII-Green Products and Services Council

hereby certifies that

Dalmia PPC/Vajram Cement

(GPDC10001)

manufactured by Dalmia Cement (Bharat) Limited meets the requirements of GreenPro Certification and qualifies as a Green Product.

This certification is valid till ***December 2022***

Jamshyd N Godrej
Chairman, CII-Godrej GBC

ParasuRaman R
Chairman, CII-Green Products & Services Council

K S Venkatagiri
Executive Director, CII-Godrej GBC

Supporting Council and programmes

Dalmia PPC - Green Pro Certified by CII

Implementation of ISO 50001/Green Co/IGBC rating

Dalmia Bharat Group

Keys to Success By Implementation of ISO 50001:2018

- ✓ *Well defined energy policy to become excellent energy efficient plant*
- ✓ *Gap analysis for the targets and corrective actions for acheiving the targets.*
- ✓ *Energy task force team consisting of people at different levels.*
- ✓ *Systematic approach to improve the energy performance*
- ✓ *Periodical review by top management.*
- ✓ *Availability of advanced tools like Expert optimizer & online reporting , etc.*
- ✓ *Inter-departmental cross-functional energy audits.*
- ✓ *Active participation in national level energy management programs, workshops.*
- ✓ *Young enthusiastic work force always quick to learn and eager to innovate and implement out-of-the-box ideas.*
- ✓ *Reduction of GHG Emission & Carbon footprint*

14. Other Information

1. Line 1 Cooler Upgradation to reduce SHC investment of 26 Crs – Target – May 2022
2. Increase in AF TSR % by 18.7 % in FY 21 and 20 % by 2022.
3. RE 100 - first cement company in the country to join RE100 (100% renewable Power by 2030)

4. Line 1 Old Silos Extraction automation Project

5. Lowest Carbon footprint in the World

6. First Rank in the country in the CDP (Carbon disclosure Plan) League Table

7.Double energy productivity - 2030 (EP 100)

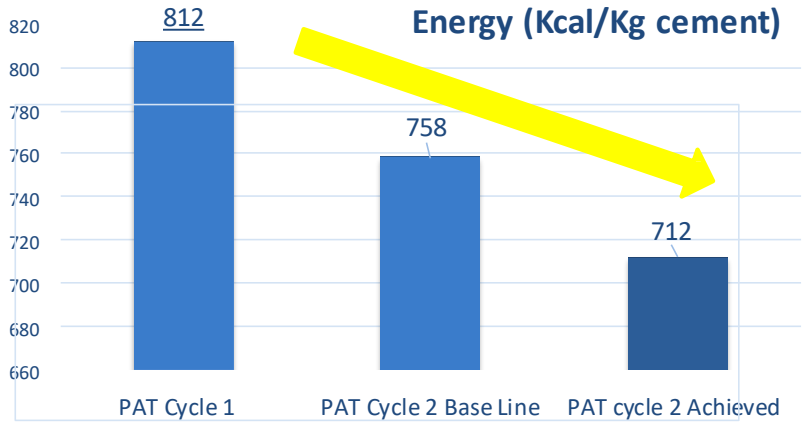
8.. Renewable biomass and waste to replace fossil fuel use – 2035

9. Water Positivity target – As Group 5 times Water Positive

10. Carbon Neutral Ambition - Carbon Negative Cement Group 2040 of Cement

Conclusion

1. Won 46 National Awards in the recent 3 years from CII and other Agencies.
2. Our AFR TSR at present is @ 18.7 % YTD thro' Solid Fuel .
   (An uniquness in Sustainability domain , not only with replicable inhouse innovations but also contributing to our National & Global Climate Change Agenda by already meeting Low Carbon Tech Raod map Target & a green solution for the waste management)
3. PAT Cycle Gtg



Our Manthra

We have never said "Yes to No"

(Made the impossible, Possible)