INTRODUCTION

Unit Name:

Dalmia Cement Bharat Limited, Yadwad Plant, Belagavi

Members:

Mentor: Mr. Prabhat Kumar Singh (Unit Head)

Mr. Mukesh Kumar Sinha (Technical Head)

Presenting team:

1. **Mr. Manish Kumar Maheshwari (Sr.GM- E&I)**
2. **Mr. Ajay Kumar Singh (GM- Mechanical)**
3. **Mr. Avinash Dutta (Dy. Mgr- Process)**

Group Profile

Founded by Mr. Jaidayal Dalmia in 1939, Dalmia Cement is one of India's pioneering homegrown cement companies The company operates a manufacturing capacity of 30.75 MnT per annum (MTPA), across thirteen cement plants and grinding units which are spread across nine states

Unit Profile

Belgaum unit commissioned in March-2015, with 2MTPA Clinker and 2.5 MTPA Cement production capacity. Power Plant commissioned in Aug-2015 with capacity- 27MW
Products- OPC/PPC/DSP

MAJOR PROCESS/EQUIPMENT SPECIFICATION

Process Flow Diagram

Mining & Crushing

Mines
Yadwad Kunnal Mines
Crusher
Make- L&T
Cap- 900 TPH
Lime stone stacker/Reclaimer
Make-Takraf

Raw Mill & Coal Mill

Raw Mill
Make- KHD
RP-390TPH
Coal Mill
Make-FLS
Atox-40TPH
Coal Stacker and Reclaimer
Make-Takraf

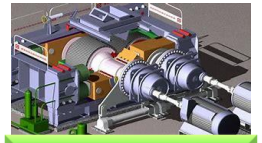
Green Fuel

Solid AFR Shredder
Make-SIDSA
Cap-25 TPH
Liquid AFR
Make- All flow
Extractor
Make- ATS
Cap-25 tph

Kiln & Cooler

Kiln
KHD-5500TPD

Cooler-
PFC cooler



Cement Mill

Cement Mill
Roller press
RP-1&2
Make-KHD
Cap-250 TPH
Ball Mill- KHD
Cap-330 TPH
OPC-240 TPH
PPC-290 TPH
(In combi circuit)

Packing Plant

Packing Plant
Make- Enexco
Spout-12(Double discharge)
3 Packers
Cap-180 TPH

IMPACT OF COVID-19

During Covid-19 Measures taken by the plant/unit to address the challenges

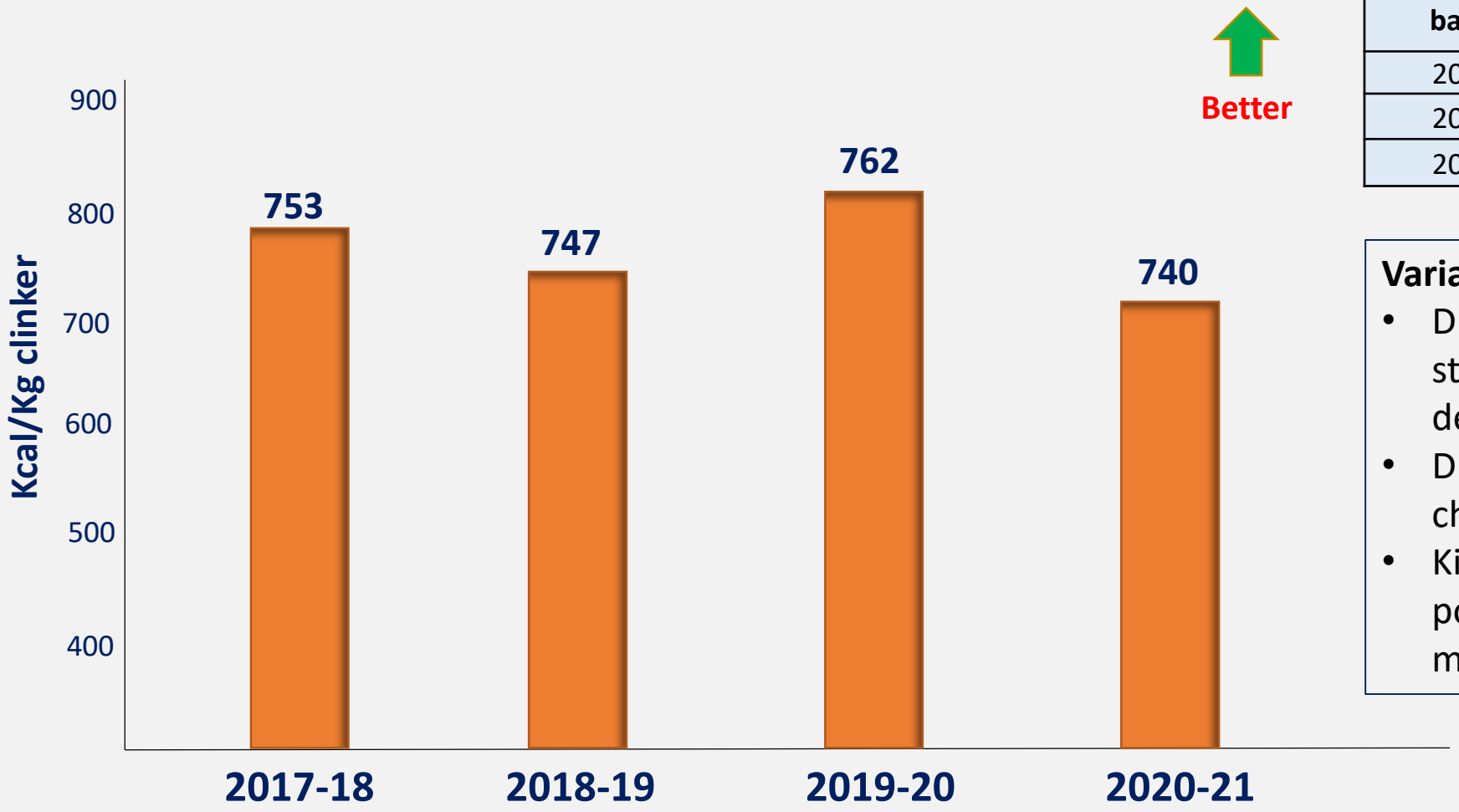
- Initiatives undertaken to improve capacity utilization
- Production planning rescheduled to improve the productivity
- Energy efficiency improvement measures undertaken
- Initiatives undertaken to improve energy performance of Utility areas

Impact due to COVID-19 on Energy Efficiency

- Covid 19 effected every human being and business, at the same time motivated to find out new ways and new normal for business.
- During covid period business has affected but gave a way to find alternates for cost optimisations and business excellence.
- One way of cost optimisation was to reduce energy cost by way of alternate low cost fuel, low cost electrical energy sources, optimisation of existing systems towards energy efficiency.
- Against a backdrop of slow energy efficiency improvements, the Covid-19 crisis added a new layer of uncertainty.

SP. ENERGY CONSUMPTION IN LAST 4 YRS

Specific Thermal Energy Consumption Kcal/Kg Clinker



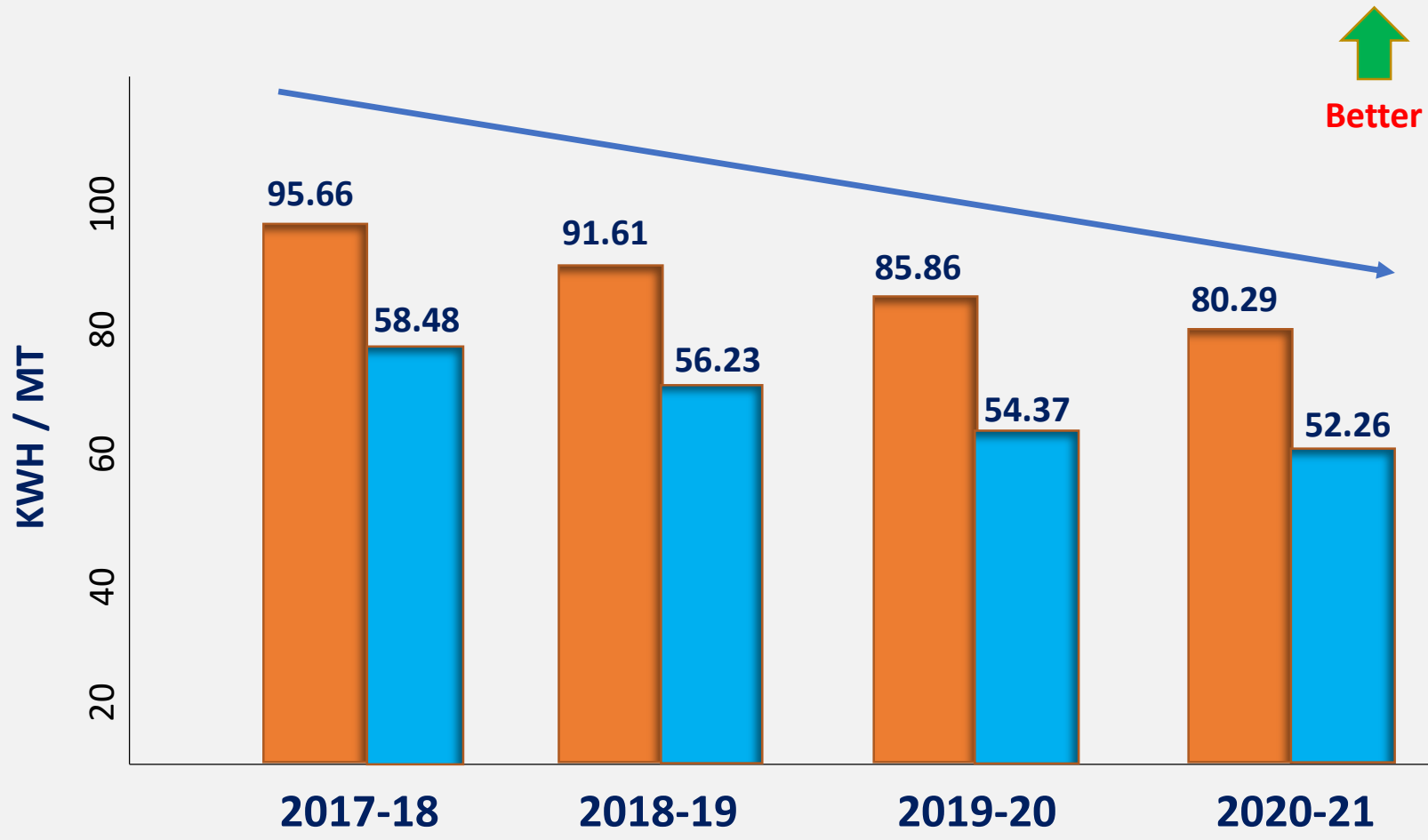
Reduction with baseline	Improvement (%)
2018-19	0.8
2019-20	-1.2
2020-21	1.7

Variation:

- Due to Monthly stoppage based on demand.
- Due to frequent change in fuel mix.
- Kiln major shutdown postponed due to major modification.

SP. ENERGY CONSUMPTION IN LAST 4 YRS

Specific Electrical Energy Consumption total Clinker/Cement – kWH/MT



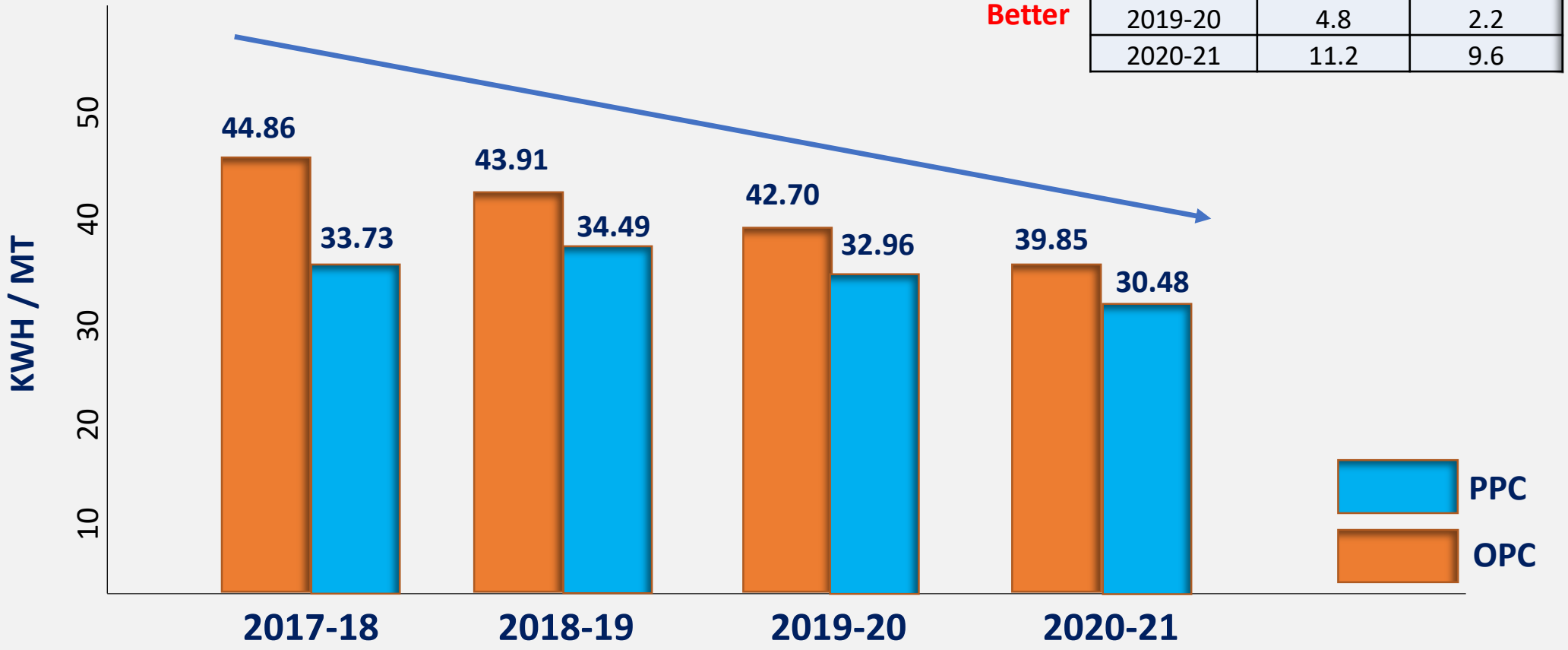
Reduction with baseline	Kwh/MT Clinker (%)	Kwh/MT Cement (%)
2018-19	2	3.8
2019-20	5.96	7.1
2020-21	14.1	10.6

SP. ENERGY CONSUMPTION IN LAST 4 YRS

Specific Electrical Energy Consumption OPC/PPC Grinding– kWH/MT

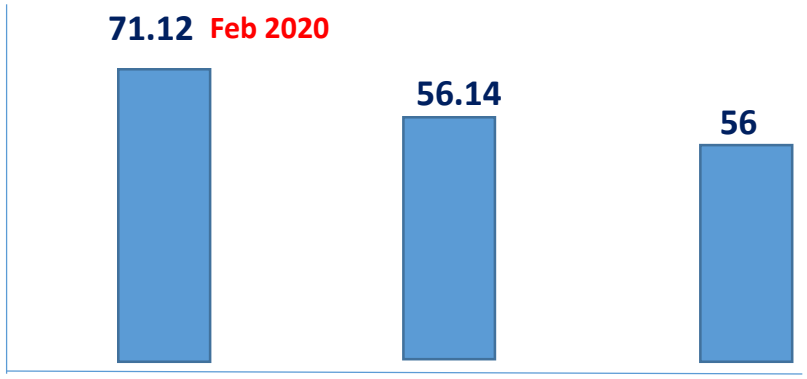
Better

Reduction with baseline	Kwh/MT Cement (%)	
	OPC	PPC
2018-19	2.1	-2
2019-20	4.8	2.2
2020-21	11.2	9.6



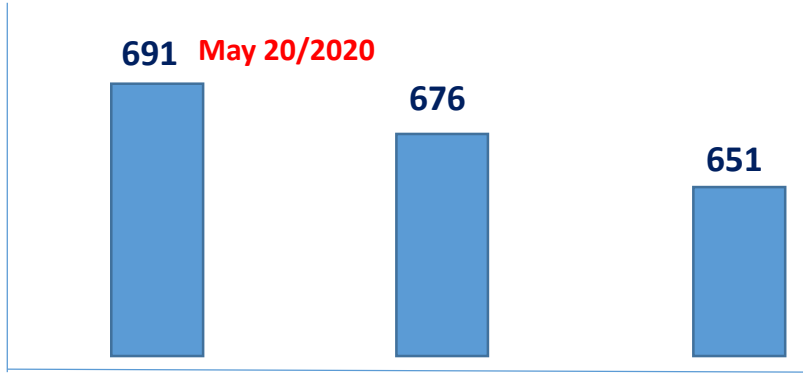
ENERGY BENCHMARKING

Total Plant Power (kWh/MT Cement)



❑ Best Achieve Figure ❑ National Best ❑ Global Best

SHC (kcal/kg Clinker



❑ Best Achieve Figure ❑ National Best ❑ Global Best

Higher Electrical Energy:

- 2019-20 : 71.12 kwh/MT Cement Power is high due frequent plant stoppage as per market demand.
- Covid-19 impact on production
- Petcoke grinding & consumption

Higher Thermal Energy:

- Due to Monthly stoppage based on demand.
- Due to frequent change in fuel mix.
- AFR Consumption of TSR up to 17% and maximum usage of hazardous & non – hazardous waste.

ROAD MAP TO ACHEIVE BENCHMARK

Dalmia BHARAT CEMENT

ENCON PROJECTS

- Cement Mill modification
- Chlorine bypass system
- Secondary crusher
- Cooler upgradation
- Pyro phase -2 modification
- VFD installation for fans

KAIZEN

- Employee motivation
- Kaizens on energy conservation

DIGITALIAZATION

- Online reports monitoring
- Monitor installed in sitting office area for continuous monitoring of SPC/SHE
- Alert from Mobile App related to SPC and SHC for 2 hrs

BRAINSTORMING

- Involvement of employee
- Development of ideas
- Monthly Energy review and action plant for reduction of SPC/SHC

UPGRADATION

- Technological upgradation for sustainability and improvement
- Low cost technical solutions

ENERGY AUDIT

- Third Party Audit
- Internal audit
- Comparing our values with National and Global bench marks

JOURNEY TOWARDS CARBON NEGATIVE

To achieve AFR of 40% TSR

Vision

In Journey of reduction of dependency on fossil fuels and as per management vision to become carbon negative by 2040, idea motivated us and management gave target to increase Alternate fuel to 40%.

Idea generation

A team formed and did the brainstorming on how to achieve management targets-
Mainly two bottle neck were observed
1. More pressure drop in PH and practically no margin in PH fans.
2. High chlorine content in fuel which are received from market, affects clinker quality and not allowing to use high AFR.

Solution

1. We have already enjoyed the benefit of bottom 4 cyclone modification which has reduced 100mmWG pressure drop and reduction in loading on PH fans this motivated to further increase the size of balance cyclones, this will not only reduce SPC of kiln but also creates margin in fan to feed more AFR.
2. We have searched in market and found innovative idea to tap high chlorine dust gases from kiln inlet to sperate out high Chloride dust by method of fast quenching by this way we can use high chloride material in system without affecting on Clinker quality.

Investment-

As both suggested modification/changes were not possible without investment hence we have taken capex approval from management.

ENCON PROJECTS

MAJOR ENCON PROJECTS PLANNED (2020-21)

Sl.No	Project Title	Annual Electrical Saving (million Kwh)	Annual Thermal Saving (million Kcal)	Project description
1	Waste heat recovery scheme	57.74	0	In view of green power initiatives and also to reduce the total generation cost of power , WHRS having Capacity of 10 MW is proposed for BGM Plant by using waste heat of Heater & Cooler (WHR)
2	Cooler Up gradation	2.87	47.85	To improve efficiency of cooler by upgradation of Cooler to improve the Specific power consumption and specific heat consumption
3	PH cyclone modification	2.78	23.13	By cyclone modification, pyroclone & TAD modification pressure drop across the preheater will reduce. This modification will result into reduction of SPC and SHC of pyro section
4	Cement Mill Modification	6.9	0	Cement Mill Up gradation to improve productivity and reduction of power consumption

ENCON PROJECTS

MAJOR ENCON PROJECTS PLANNED/ACHEIVED(2020-21)

Sl No	Project Title	Annual Electrical Saving (million Kwh)	Annual Thermal Saving (million Kcal)	Project description
4	Cement Mill Modification	6.9	0	Cement Mill Upgradation to improve productivity and reduction of power consumption
5	Chlorine Bypass system	0	42.551	Installation of Chlorine Bypass System to use high chloride low cost fuel (AFR) as a replacment of coal/ petcoke
6	VFD installation for various fans	0.5106	0	1. With VFD we can reduce the fan speed when there is less dusting at site. 2. This will help in power saving also. 3. By optimizing the fan flow, will also help in operational point of view
7	RAW mill Specific power reduction by optimizing the 421RA Fan operation logic	360000	0	RA fan taken in circuit with bag house DP auto mode, earlier it was running continuously 24 hrs, now its running hrs come down to 8 hrs on day basis. consumption

ENCON PROJECTS

ENCON PROJECTS (2019-20)

Sl no	Project Title	Annual Electrical Saving (million Kwh)	Annual Thermal Saving (million Kcal)	Total Annual Savings (Rs million)	Investment (millions)	Project description
1	HT motor cooling fan metal blades replaced with FRP blades	46953	0	0.431	0	1. Avg 15% energy is saved by replaced HT motor cooling fan metal blades with High efficiency FRP blades purchased from Encon engineering.
2	Energy Saving with new BFP - 750KW (new pump installed with new VFD)	429945	0	7.4	42	Energy Saving with new BFP - 750KW (new pump installed with new VFD)
3	PYRO Phase-1 Modification	1534800	19185000	160	80	Pyro Phase-1 modification
4	Installation of Chain conveyor for conveying the fines from bag filter 331FN3	237600	0	0.305	0	Installation of Chain conveyor for conveying the fines from bag filter 331FN3 to Product circuit reducing the power consumed in re circulation of the material
5	Energy conservation AT 481FN1 By installation of VFD	46080	0	0.24	0	Energy saving achieved by way of speed control and maintaining flow requirement as per process
6	Reduction of CCR building AC Power	123897	0	0.27	0	Package AC installation for CCR room

ENCON PROJECTS

ENCON PROJECTS (2018-19)

Sl no	Project Title	Annual Electrical Saving (million Kwh)	Annual Thermal Saving (million Kcal)	Total Annual Savings (Rs million)	Investment (millions)	Project description
1	Reduction of overall packing plant Sp.power	369600	0	1.785	2.1	Optimum capacity compressor installed for Packing plant
2	Energy conservation from Cooling Tower Fan	47520		0.229	0.01	Installation of RTD in return line of cooling tower water temperature
3	Cement Mill compressed air optimization	324720		1.568	0	Existing- Compressor with VFD not running in Close Loop. Load/Unload pressure set point is 5.8/6.7 bar. Modified-To be taken in close loop wrt pressure set point. Load/Unload pressure set point to be reduced to 5.2/6.0 bar
4	Pyro section compressor pressure optimization and running with VFD closed loop system	396000		1.912	0	1. Compressor running with VFD taken into closed loop logic. 2.Load/Unload pressure set point to be reduced to 5.6/6.3 bar

ENCON PROJECTS

ENCON PROJECTS (2018-19)

Sl no	Project Title	Annual Electrical Saving (million Kwh)	Annual Thermal Saving (million Kcal)	Total Annual Savings (Rs million)	Investment (millions)	Project description
5	Packing plant Bag filter fan power optimization using Closed loop logic	163132.2		0.7879	0	Bag filter fan VFD Logic was made in DCS to run bag filter in interlock mode with number of discharge from packer
6	Removal of VFD to avoid losses & use else where .Stator connection changed from Delta to Star.	73783.78		0.3563	0	1.Belt conveyor connection Convert DELTA to STAR. 2.Removed VFD from belt conveyor running above 95% speed. 3.Belt conveyor running hrs optimized wrt designed TPH
7	Replacement with High efficiency pump for WTP	122400		0.59119	0.8	Replacement of High efficiency pump WTP water pump reduction in power consumption
8	Performance efficiency of cooling in cement mill LC & energy saving by package AC outdoor tubing length reduction	33000		0.165	0.264	1.Cooling efficiency will increase which results our panels in much safer side. 2. Life of compressor will increase. 3. Energy saving will be achieved. 4. Equipment availability Improve.

INNOVATIVE PROJECTS

Dalmia Bharat Cement

PH pressure drop reduced by increasing bottom 2 stage cyclone height.

Project-1

Objective

- SHC Reduction
- TSR%
- Power Savings

Pre implementation issue

- Due to poor sizing of solid waste (non shredded material), TSR is at 3% level

Actions

- Preparation of Layout considering site space constraints.
- In house Fabrication of equipment's.

Benefits & Results

- Cost savings due to Power – ₹ 156 lacs/Annum
- Cost savings due to Green Fuel - ₹---1350 lacs/Annum
- Total Cost Savings ₹ 1506lacs/Annum

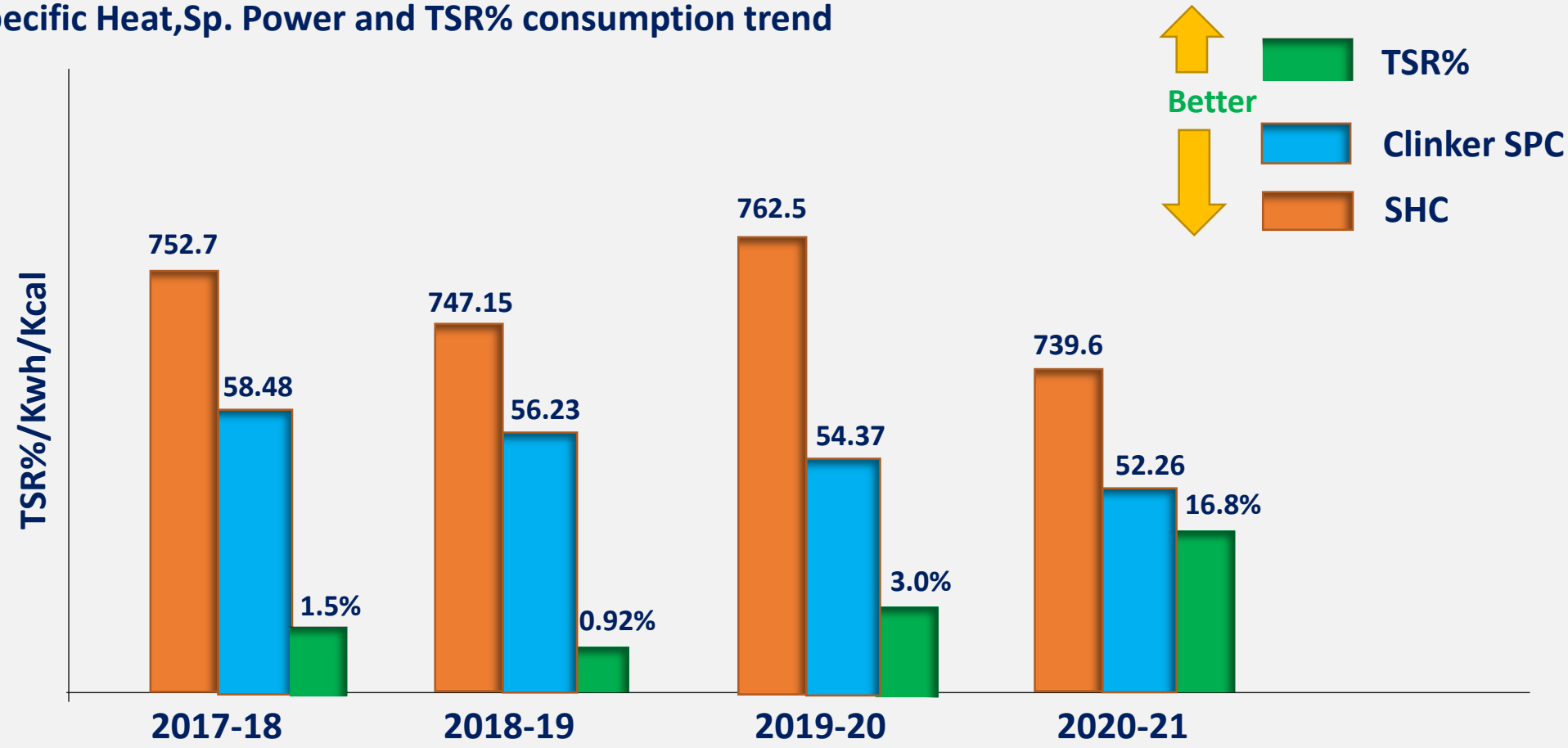
INNOVATIVE PROJECTS

Dalmia BHARAT CEMENT

PH pressure drop reduced by increasing bottom 2 stage cyclone height.

Project-1

Specific Heat,Sp. Power and TSR% consumption trend



INNOVATIVE PROJECTS

Green Fuel feeding circuit inhouse capacity enhanced

Project-2

Objective

- **Fuel Savings**
- **TSR%**
- **Cost savings**

Pre implementation issue

- Unable to increase solid waste above 15TPh as system is designed with 15TPH.

Actions

- Design study for increasing belt capacity with existing arrangement.

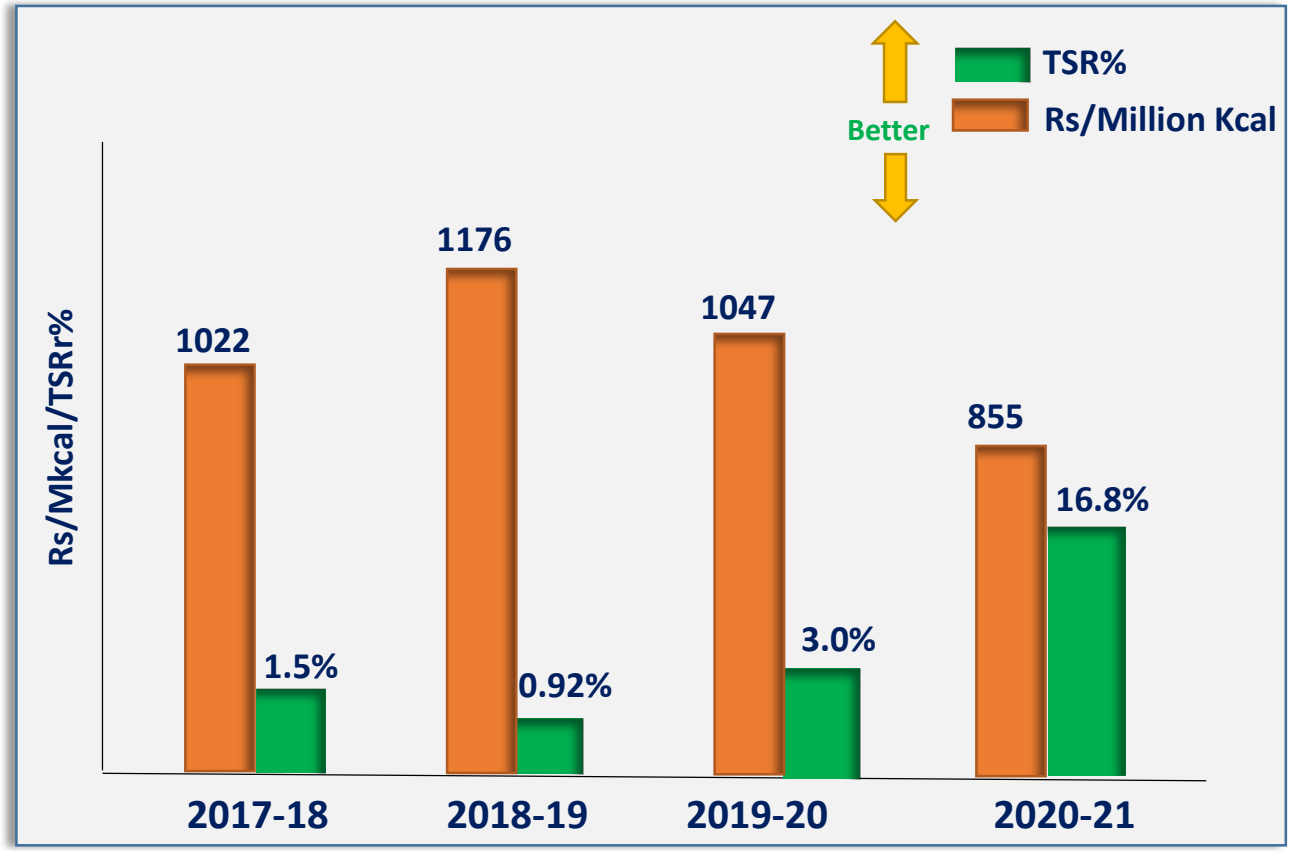
Benefits & Results

- Cost savings due to Green Fuel – ₹-1350 lacs/Annum
- Total Cost Savings - ₹ 1350 lacs/Annum

INNOVATIVE PROJECTS

Green Fuel feeding circuit in-house capacity enhanced

Project-2

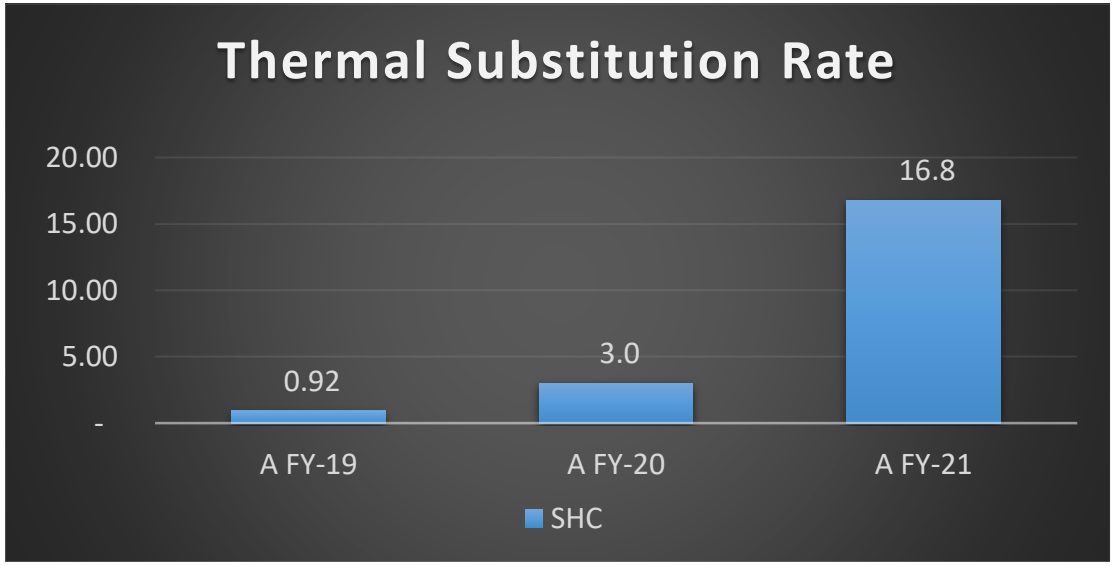


Green Fuel Equipment details

GF Feeding system Equipments details									
Equipment	Width	Density	Operating Load	Speed	Pulley Dia	Motor Rating	Pulled Dia After Modification	Speed	Operating Load
	MM	T/m3	TPH	m/sec	mm	KW	mm	m/sec	TPH
Feeding Circuit									
452BC6	1200	0.15	30	1	500	7.5			
452BC7	1200	0.15	30	1	500	5.5			
451BC1	1200	0.15	15	0.5	450	7.5	634	0.70	21
451BC2	800	0.15	15	1	450	7.5	634	1.41	21
451BC3	800	0.15	15	1	450	7.5	634	1.41	21
451BC4	800	0.15	15	1	450	7.5	634	1.41	21
451DP1	1000	0.15	20						

WASTE UTILIZATION MANAGEMENT

Sl No	Year	Waste Type	Qty (KMT)	GCV	TSR%
1	2018-19	Both hazardous and Non- Hazardous type	2.6	3638	0.92
2	2019-20	Both hazardous and Non- Hazardous type	8.69	3602	3
3	2020-21	Both hazardous and Non- Hazardous type	51.44	3084	16.8

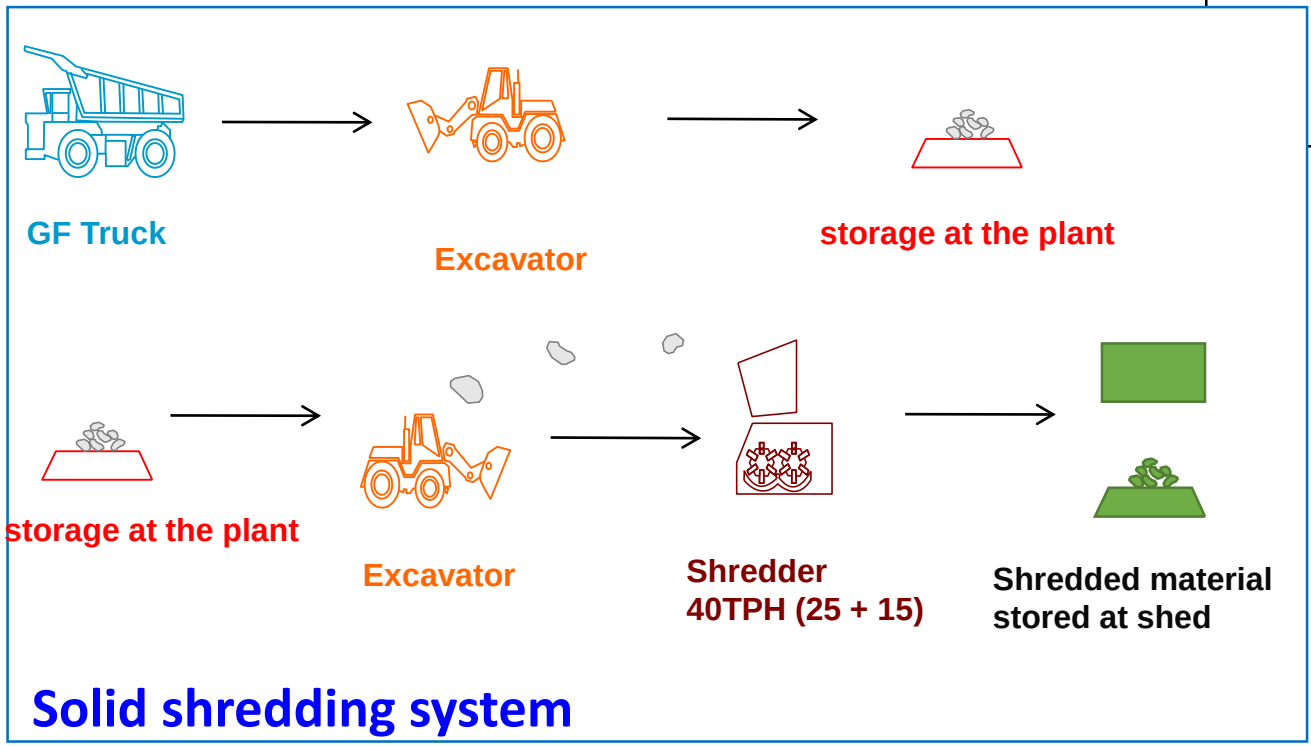


Modification done for Improvement

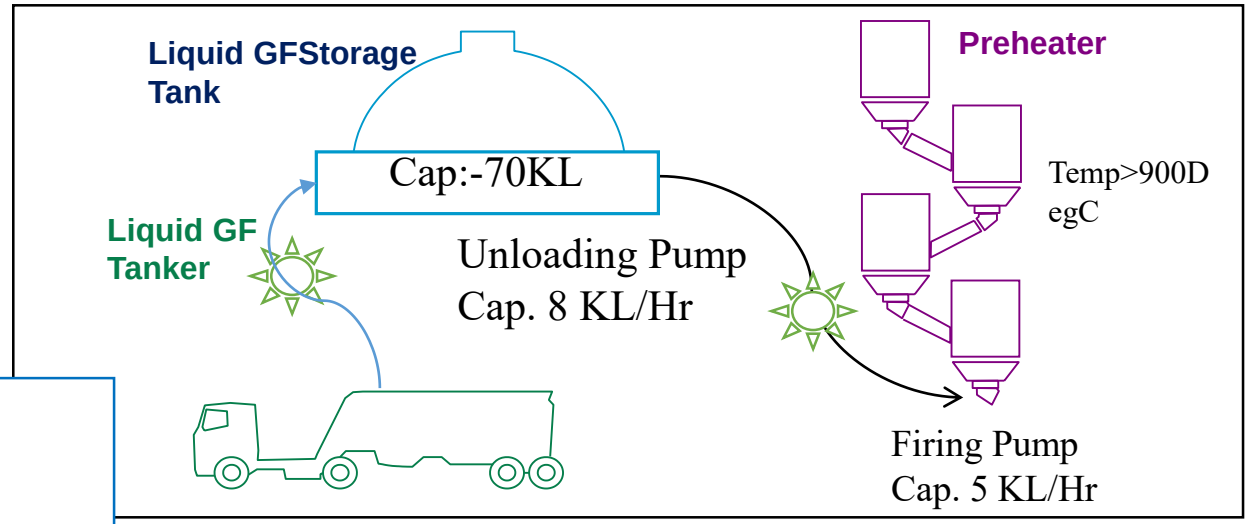
- All Belt conveyors top covered for avoiding spillage of solid waste by flying.
- All belt conveyor head pulley replaced to increase feeding capacity.
- Logic modification done for avoiding tripping with High CO with calculated risk.
- New Liquid waste storage tank commissioned with agitator for avoiding tripping of Liquid during tanker changeover.
- Shredder discharge chute modification done for avoiding jam.
- Extractor feeding hopper area opening made for feeding provision with Excavator.
- All three screw conveyor complete assembly replaced with new one received from sister Unit.
- Double flap gate operation tuning done for avoiding any jamming in DPC discharge chute.

WASTE UTILIZATION AND MANAGAMENT

Feeding Capacity			
System	Design	Rated	Operating
Solid AFR	20TPH	15TPH	22 TPH
Liquid AFR	5KL/Hr	5KL/Hr	5.6KL/hr



Solid shredding system



Liquid Green Fuel System

Modification done for Improvement.

- Screen removed over Screw hopper.
- Poking hole and Blasters installed at DPC discharge chute.
- DPC discharge chute slope/inclination modification.
- Auto reversal of Screw conveyors during high current.
- All feeding belt modified to reduce jamming tendency.
- Material feeding started with Excavator.
- Auto reversal of 15mt shredder..
- Onsite diesel filling with mines tanker.
- Process optimization for increasing liquid flow from 3000 to 5600kg/hr.
- PID for WF with Screw conveyors developed for consistent feeding.

UTILIZATION OF RENEWABL ENERGY RESOURCES

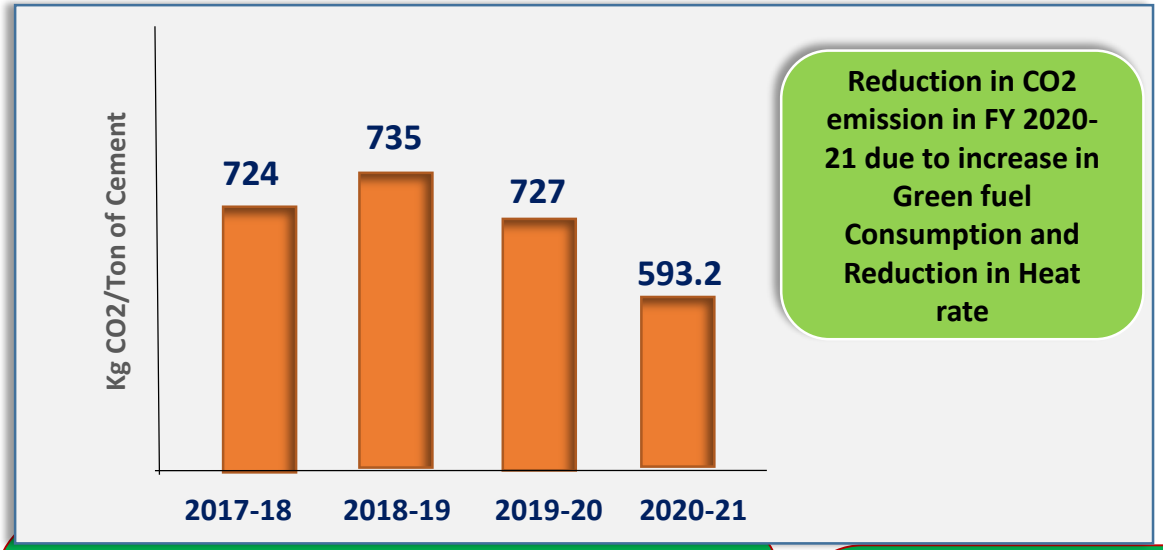
PERTICULARS	2017-2018	2018-2019	2019-2020	2020-2021
RPO Target (Solar and Non-Solar combined)	9681 (8.75% of Annual Electrical Captive Consumption)	17519 (13% of Annual Electrical Captive Consumption)	23030 (17.5% of Annual Electrical Captive Consumption)	22354 (18.75% of Annual Electrical Captive Consumption)
RPO Achieved	9686	17521	0	0

Variation:

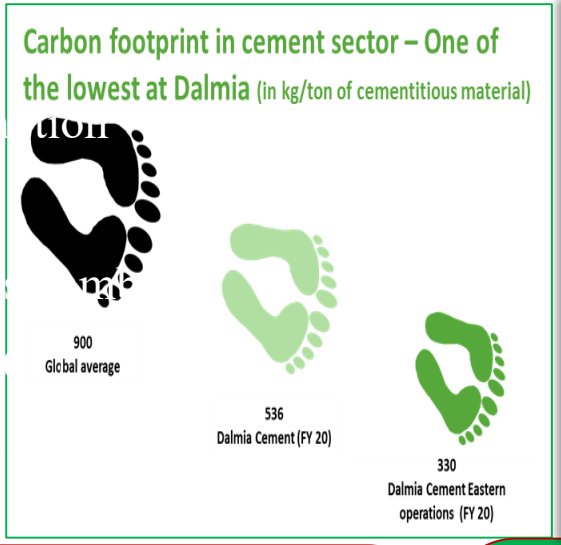
- Dispute is raised by REC generator's and matter in pending with CERC.

GHG INVENTORISATION

FY17	FY18	FY19	FY20	FY21	FY22
2.55 kg/ton Plantation – 230 nos	2.41 kg/ton Plantation – 4544 nos	2.04 kg/ton Plantation – 8066 nos	1.95 kg/ton Plantation – 1884 nos	2.00 kg/ton Plantation – 2500 nos	1.73 kg/ton Plantation - TBD



Reduction in CO2 emission in FY 2020-21 due to increase in Green fuel Consumption and Reduction in Heat rate



Action plan to reduce CO2 emission

- Optimizing energy consumption
- Use of alternative fuels
- Renewable biomass such as bamboo
- Use of hydrogen as fuel, CCU
- Heat electrification, solar calcination

For electricity related emissions

- Switching to waste heat recovery
- Use of renewable biomass in CPPs
- Commissioning of Solar, Wind projects
- Corporate procurement of RE

For calcination related emissions

- Optimizing clinker use
- Carbon sequestration
- Carbon Capture and Utilization (CCU)

GREEN SUPPLY CHAIN

Dalmia BHARAT CEMENT

INPUT

Utilization of waste

- GCP Dust- waste of Iron industry
- Using Low LSF Material
- Using of alkali rich limestone
- Utilization of Petcoke 100%
- Unloading of material through tippler

TRANSPORT

Efficientt Process/Technology

- Latest Pyro Processing Equipment
- Advance Grinding Mill
- Optimized Process
- Energy Monitoring & Utilization

GRINDING

Utilization of waste

- Bed Ash
- Fly Ash
- Slag

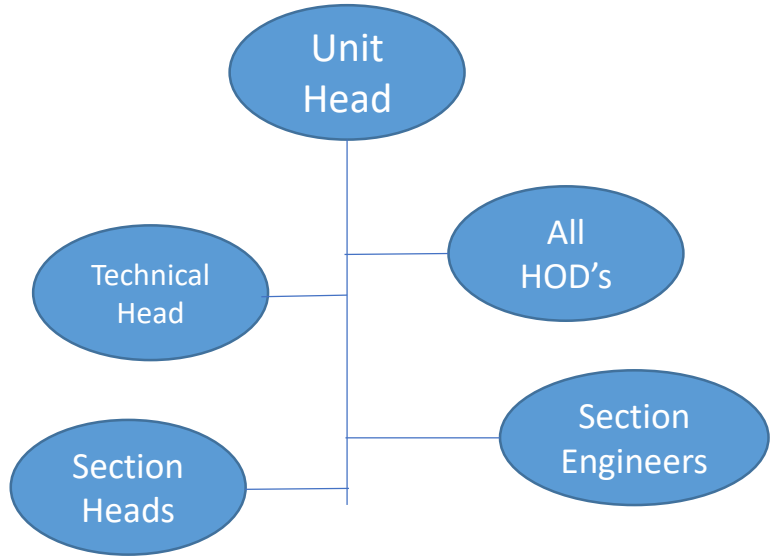
PACKING AND LOGISTIC

Product Logistic

- Given preference of green supply trucks for cement back loading
- Bulk & Trade Dispatch Improvement
- Utilization of Vehicle Master & Tracking
- Material Management & Planning

TEAM WORK, EMPLOYEE INVOLVEMENT & MONITORING

Energy review hierarchy



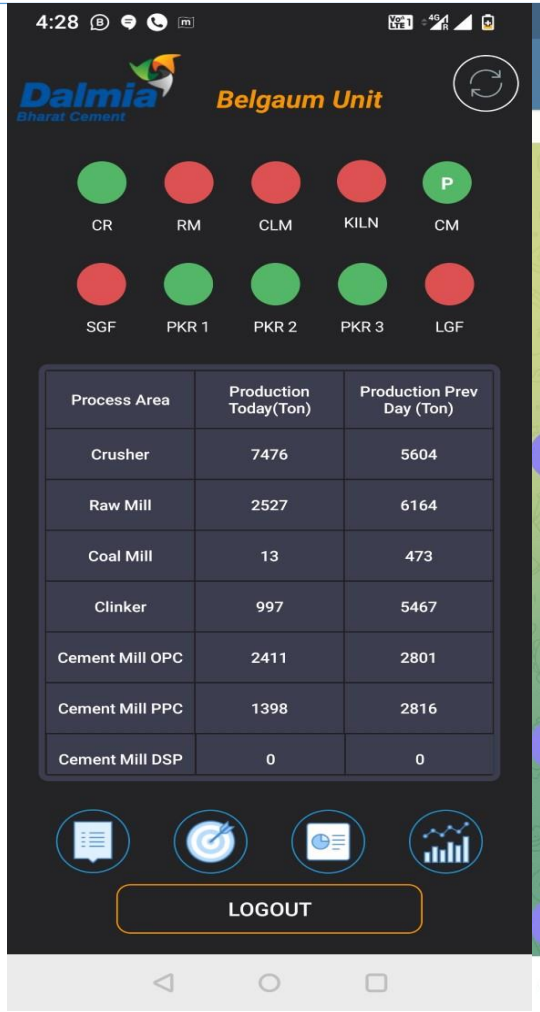
Daily monitoring system :-
Digitalization:-

1. Online Production and Power reports are generated and circulated to all concern.
2. Continuous key parameters monitoring through online mobile app.
3. SMS alerts through internet in every 2 hrs. for SHC & SPC monitoring for concerns.
4. One SCADA monitor with all process parameters, installed at employees sitting area where we can monitor and take action immediately.
5. Compressor load/unloading hours auto report generated.

Daily & monthly review meetings:-

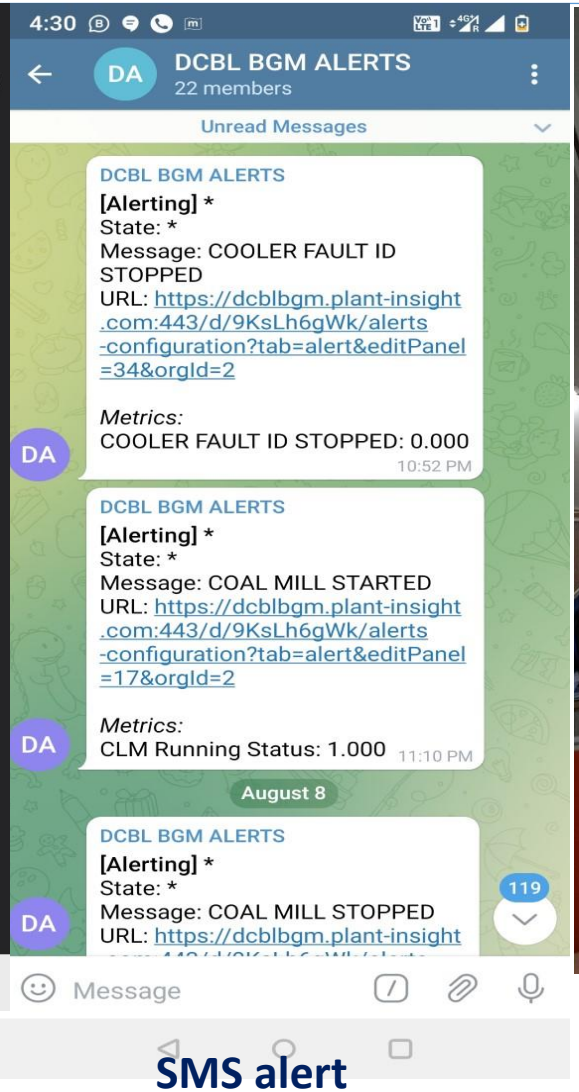
1. Daily production review meeting ,details discussion on SHC & SPC points chaired by Unit head.
2. Separate budget allotted for energy conservation like VFD bag filters fan capex, LED light capex etc.
3. Monthly energy meeting conducted to review SPC & SHC chaired by unit head sir, where also discussion, planning and action plans to reduce/optimize energy consumption.

TEAM INVOLVEMENT & MONITORING



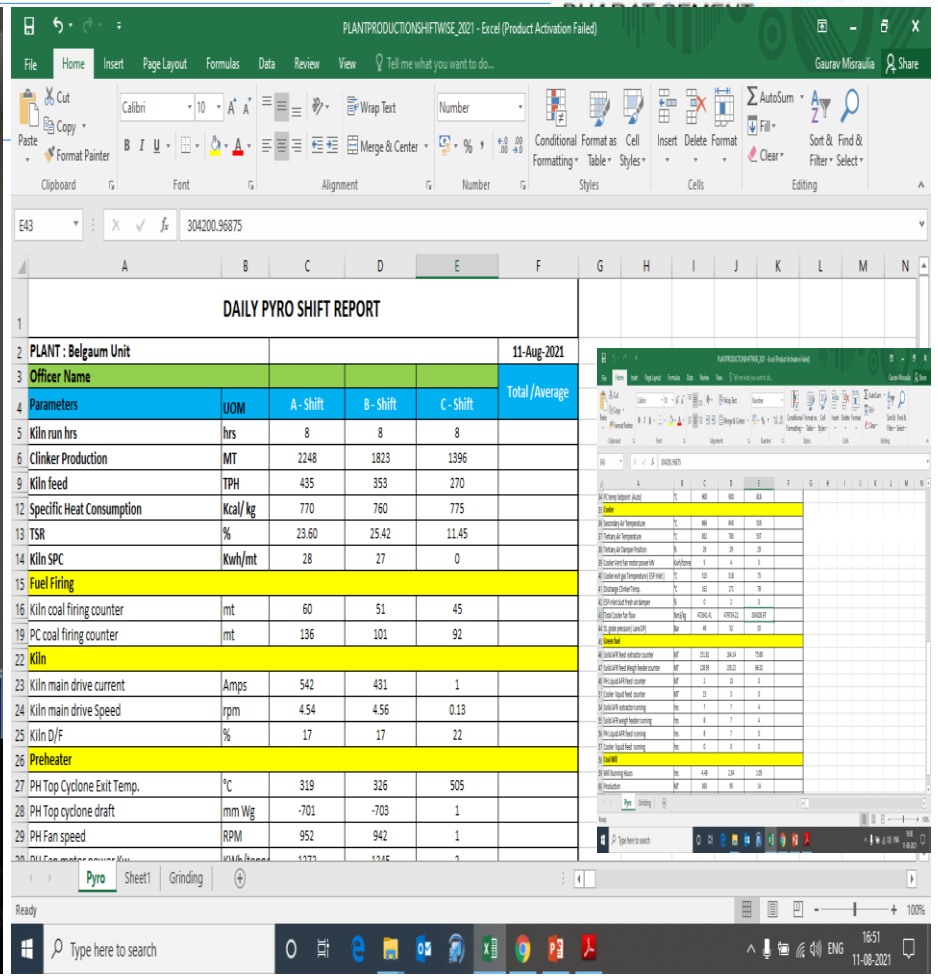
Process Area	Production Today(Ton)	Production Prev Day (Ton)
Crusher	7476	5604
Raw Mill	2527	6164
Coal Mill	13	473
Clinker	997	5467
Cement Mill OPC	2411	2801
Cement Mill PPC	1398	2816
Cement Mill DSP	0	0

Mobile app



SMS alert

Scada monitor in CCR sitting area



DAILY PYRO SHIFT REPORT

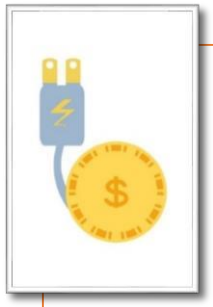
PLANT : Belgaum Unit					11-Aug-2021
Officer Name					Total /Average
Parameters	UOM	A - Shift	B - Shift	C - Shift	
Kiln run hrs	hrs	8	8	8	
Clinker Production	MT	2248	1823	1396	
Kiln feed	TPH	435	353	270	
Specific Heat Consumption	Kcal/ kg	770	760	775	
TSR	%	23.60	25.42	11.45	
Kiln SPC	Kwh/mt	28	27	0	
Fuel Firing					
Kiln coal firing counter	mt	60	51	45	
PC coal firing counter	mt	136	101	92	
Kiln					
Kiln main drive current	Amps	542	431	1	
Kiln main drive Speed	rpm	4.54	4.56	0.13	
Kiln D/F	%	17	17	22	
Preheater					
PH Top Cyclone Exit Temp.	°C	319	326	505	
PH Top cyclone draft	mm Wg	-701	-703	1	
PH Fan speed	RPM	952	942	1	

Auto Generated report

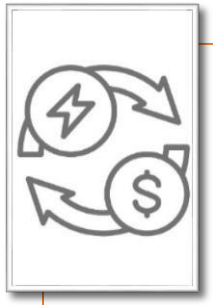
ENERGY FUND ALLOCATION

Proposed Energy Saving Projects scrutinized by Plant/ Technical Head.

Approval accorded immediately by Unit Head if Pay back is less than a year.



Energy saving proposal which having without/Marginal investment is approved by plant head after screening through Energy Cell/ Capex committee recommendation on monthly basis.



Energy saving proposal which involve high capex, require approval of Business Head through Plant head recommendation.
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The fund allocation for the Energy saving project For FY'21-22 was around 15% of total allotment.

Proposed fund allocation for Energy Saving Projects FY21-22

Energy saving project	
Total Fund Allocation (In Lacs)	1028.6
Fund Allotted to Energy saving Project (In %)	15 %

ENERGY EFFICIENCY TRAINING AND AWARNESS

SN	Program Name	Participants	External/ Internal
1	Provided training on importance of energy conservation	18	Internal
2	One day virtual training on VFD and its importance, how VFD saves power	15	Virtual/External
3	AC power reduction training program	10	Virtual/Internal
4	Siemens Advance power conservation training program	20	Virtual/External
5	One Day Online Advanced Training Program on Energy Efficiency by CII	22	Virtual/External
6	Energy Benchmarking & Low carbon technology roadmap by CII	22	Virtual/External

KAIZENS

PERTICULARS	2017-2018	2018-2019	2019-2020	2020-2021
Kaizens	25	35	70	58

LEARNING FROM CII ENERGY AWARD

- CII is renowned non profit organization, pioneer in industrial growth, sustainable improvement on power, heat, water consumption optimization.
- Initiatives taken by CII for power sector are excellent, we got to learn a lot from cross sectorial learning.
- Motivation for energy conservation and to improve on Energy efficiency and sustainability.
- The Awards motivate the companies to shine, to be known nationally and internationally for their innovations, products and services.
- We get very good support to know about Latest technologies and supplier details to implement in our plant without much hurdle.
- CII award participation helps to know about competitors and helps to create comitative environment to improve and innovate towards energy excellence.

ISO CERTIFICATION

Energy Management System standard

ISO 50001

- ISO 50001-2018:
- ISO 50001-2018: STAGE-2 visit was conducted in Dec-2020
- Certificate Issue Date: 4 April 2018
- ISO 50001-2018: Surveillance and transition Audit conducted in Dec'20
- ISO 50001-2018: Certificate Issue date – 7rd Dec'20
- Certificate Identity No. 100004259 14-MSC-RvA-IND

DNV

MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 10000425914-MSC-RvA-IND
Initial certification date: 07 December 2017
Valid: 07 December 2020 – 06 December 2023

This is to certify that the management system of
Dalmia Cement (Bharat) Limited
RS NO-394, Yadwad Village, Gokak Taluk,District Belagavi - 591136, Karnataka, India

has been found to conform to the Energy Management System standard:
ISO 50001:2018

This certificate is valid for the following scope:
Manufacturing of cement.

Place and date:
Barendrecht, 21 May 2021

For the issuing office:
DNV - Business Assurance
Zwolseweg 1, 2994 LB Barendrecht, Netherlands

MGMT. SYS. RvA C 024

IAF

Erie Koek
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL Business Assurance B.V., Zwolseweg 1, 2994 LB, Barendrecht, Netherlands - TEL: +31(0)102922689. www.dnvgl.com/assurance

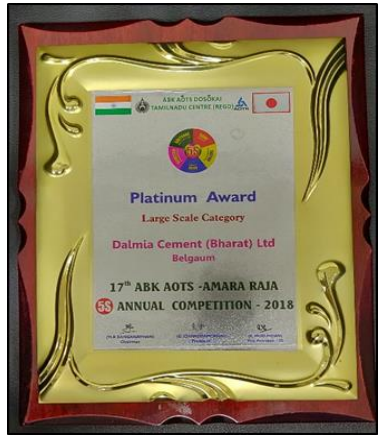
CERTIFICATES AWARDS AND APPRICIATION

State Level Safety 1st Prize from Directorate of Industries & Boilers

State Level Safety 2nd Prize from Directorate of Industries & Boilers for 19-20

Rotary Karnataka CSR Award under the category of Agriculture, Enviorment 19-20

CII SR EHS -Excellence 5S Rating Award by CII 2020



5S Platinum Award by ABK-AOTS 2018-19

Excellence in In-House Water Management Award by CII 2018-19

CII SR EHS -Excellence 5S Rating Award by CII 2018-19

FICCI- Safety Excellence Award

CII 5S -Excellence Award by CII 2018-19

Thank you

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Ph-9591386104