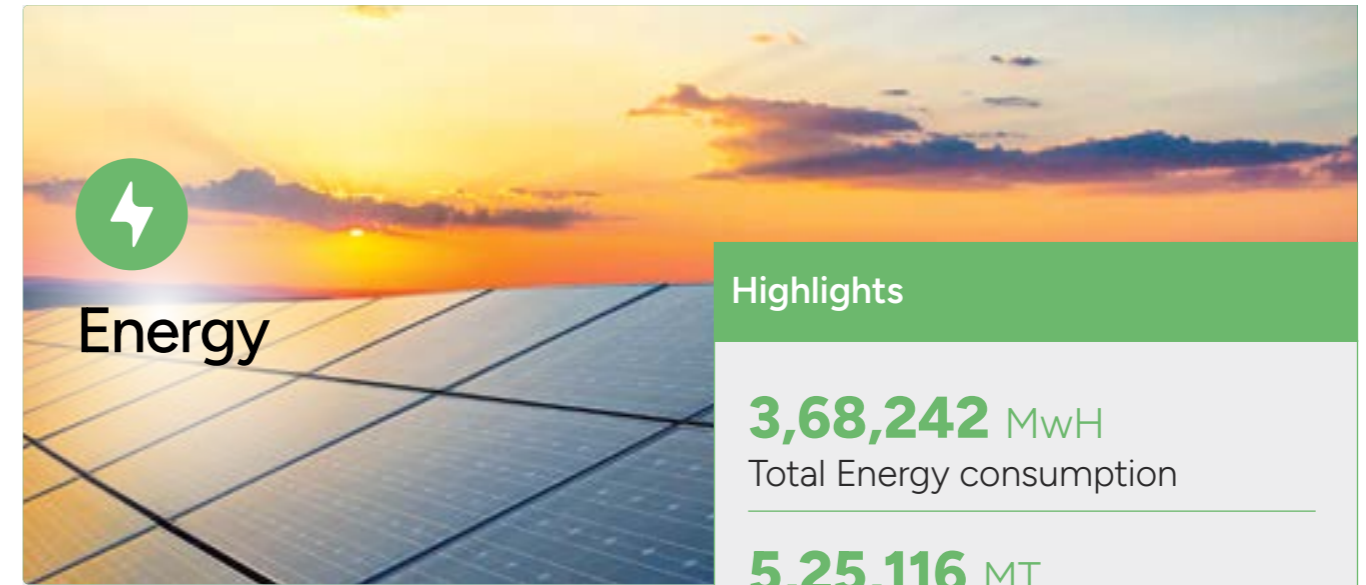
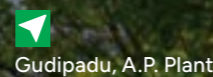


Limiting impact to conserve resources

Sagar Cements has pledged to become Net Zero by the year 2050. Efforts are in full swing to achieve this milestone by minimising carbon footprint and maximising resource efficiency. Multiple initiatives are underway, while several more are planned to accomplish this goal. It includes using industrial waste as an alternate fuel, zero liquid discharge, waste heat recovery system, switching to renewable power etc. Biodiversity management has also been given priority status as our operations impact the local flora and fauna at site locations. A risk management framework associated with climate and allied risks works as a firewall to safeguard the interests of the company and the operating environment.

SDGs impacted



Energy

Highlights

3,68,242 MWh
Total Energy consumption

5,25,116 MT
Total Fuel Consumption
(Including Alternate Fuel 35,999 MT)

77.79 kWh/MT
Energy Intensity

3,01,006 MWh
Non-Renewable Energy Consumption

67,236 MWh
Green Energy Consumption

59,518 MWh
Waste Heat Recovered

23.96 MW
Clean energy capacity

700.28 Kg CO₂/tonne
Group carbon footprint

1.56 MW
Solar power portfolio

27%
Energy from Green sources
(including 32,248 MWh Hydro Power exported)

Cement manufacturing has always been very energy intensive business. As a part of our net zero pledge, we have been increasing our usage of non-fossil fuel sources to meet our energy needs. Digitisation and innovative process interventions are being done to achieve better efficiency towards energy savings.

Current status on energy transition

Solar plants	Mattampally site	1.35 MW
	Bayyavaram site	0.13 MW
Waste heat recovery system	Mattampally site	8.8 MW
	Jeerabad site	5.3 MW
Solar roof panel	Corporate office	80 KW
Hydro GBC		4.3 MW
LIS		4.0 MW
Total		23.96 MW

Our targets

	2030	2050	Current status
Transport by Green Vehicles in %	30	100	Ordered
Share of renewables in operations in %	50	100	27
Specific electric consumption per ton of cement in kwh	70	65	78
Specific thermal consumption per ton of clinker in Kcal	700	685	726
Thermal Substitution ratio in %	25	50	3

Plan to action

- Reduce energy intensity by use of energy efficient processes and upgradation of equipment
- Minimise energy losses and maximise waste energy recovery
- Systems for monitoring energy generation and usage
- Migrating to zero emission transport and enhancing thermal efficiency



Emissions

Highlights

700.28 kg CO₂/t cementitious
GHG Intensity

500 MT SO_x emission | **3356** MT NO_x emission

Reducing our carbon footprint has been the primary agenda on our path to net zero. By transitioning to less energy-intensive processes and satisfying our energy needs to non-fossil fuel sources, we believe we will be able to deliver on our climate commitments. This undertaking involves huge capital investment to adapt the latest technology-based approaches and a change of mindset within our ecosystem.

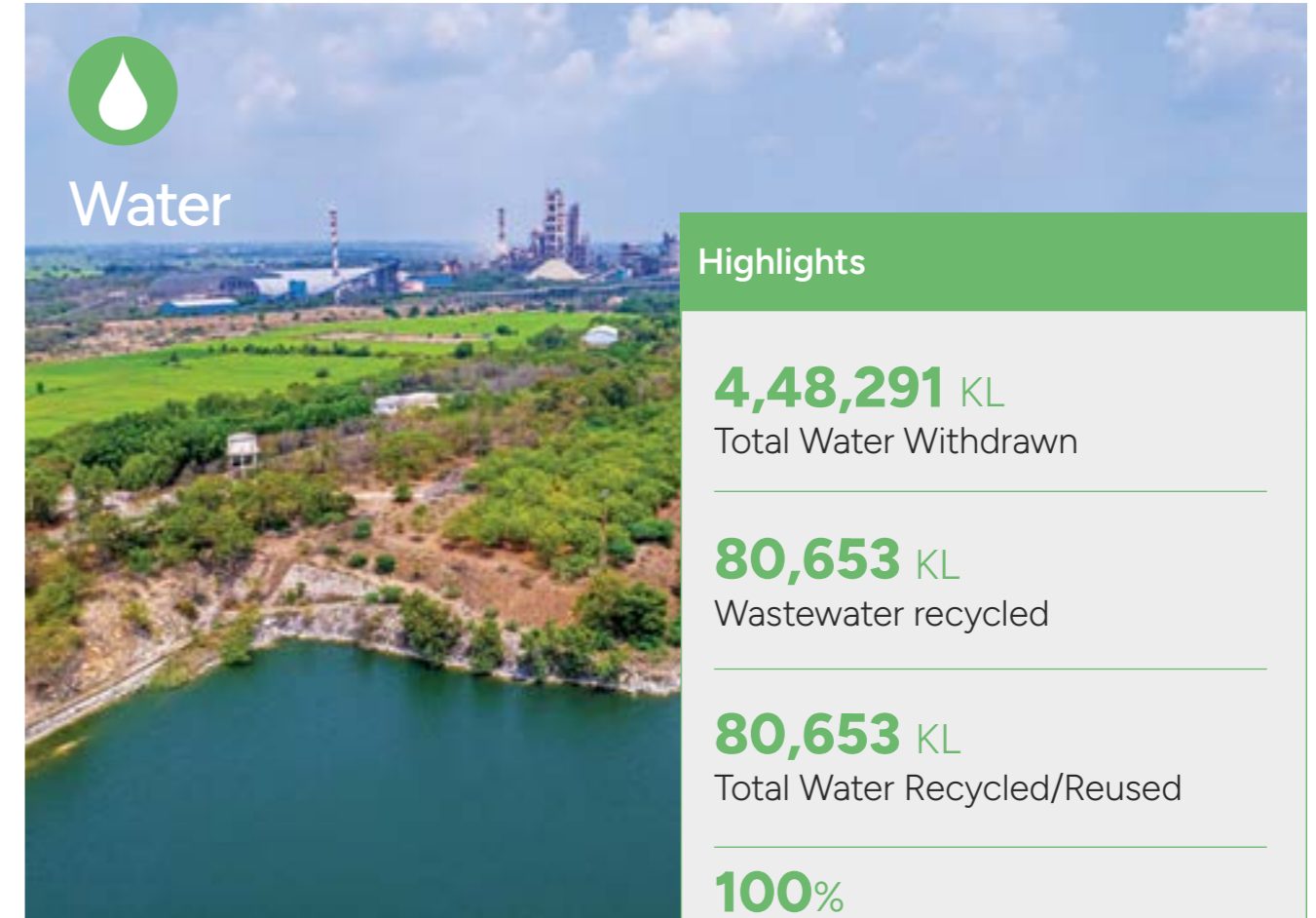
Our targets

	2030	2050	Current status
1. Substitution of RM with de-carbonated material in %	2	5	0.0
2. Specific Electric consumption in kwh	70	65	78
3. Thermal Substitution ratio in %	25	50	3
4. Clinker Factor in %	64	50	76
5. Specific Heat Consumption in KCal	700	685	726
6. Green Electricity Ratio in %	50	100	27
7. Transport by Green Vehicles in %	30	100	Ordered
Scope 1 reduction	495 Kg Net CO ₂ /MT		655
Scope 2 reduction	8 Kg Net CO ₂ /MT		25
Scope 3 reduction	15.5 Kg Net CO ₂ /MT		20
Aligned with SBTi 1.5 C scenario by 2030			
Initiate CCU/CCS to achieve net zero by 2050			

We have been capturing our GHG inventory since 2015. A large part of our emissions arise from limestone-based cement manufacturing process. Intensive efforts of operational efficiency are taken to reduce these numbers. We are also inventorying Scope 1, 2, 3 emissions in line with the SBTi guidelines and GHG protocol. Scope 1 and 2 inventory is done covering all aspects of business while Scope 3 is limited to emissions from transportation and logistics. We are also partnering with academic institutions and research centres to excel in carbon capture and storage.

Plan to action

A comprehensive environmental policy is in place to guide our teams to bring emissions down. Digitalisation and tech adoption across the value chain are important factors in achieving it. We also plan to reduce energy intensity while continuously increasing the ratio of green energy and alternate raw materials and fuels. Our performance objectives are mapped across the functional units and periodical reporting is done to all stakeholders.



Water

Highlights

4,48,291 KL
Total Water Withdrawn

80,653 KL
Wastewater recycled

80,653 KL
Total Water Recycled/Reused

100%
Industrial water requirement through rainwater harvesting

112 L/tonne
of cementitious Water Intensity

71
Rainwater harvesting structures created

We make a conscious effort to reduce our water usage. All manufacturing processes use harvested or recycled water, and fresh water is used only for human consumption. Our aim is to be water positive by upgrading water filtration plants, rainwater harvesting and zero liquid discharge. We are moving from water to air cooling systems to reduce and conserve water.

Our targets

- To be 10x water positive by 2030
- 20% reduction in freshwater withdrawal to be achieved by 2030

Water consumption pattern at SGC

Source of water	Quantity consumed in (KL)		
	FY2023	FY2022	FY2021
Surface	2,03,850	1,73,781	1,34,218
Ground	2,44,441	1,61,441	1,77,246
Total Water Consumed	4,48,291	3,35,221	3,11,464

Plan to action

- Introducing the water reporting system, including specific water consumption
- Measurement and monitoring of water sourcing and consumption
- Recycling/treatment of rejected water for reuse in process, plantation
- Promoting awareness about conservation among users



A robust waste management policy is in place to facilitate our agenda of reducing, reusing and recycling resources. At SGC, hazardous and non-hazardous waste is segregated by our teams and is disposed off by following all necessary protocols. We also use the waste from other industries by appropriately treating and using it as an input to our operations. It reduces hazardous waste ending up in landfills and degrading the environment.

Waste disposal

Total hazardous waste disposed

Type of waste (MT)	FY2023	FY2022	FY2021
Hazardous Waste Generated	23.80	48.10	5.28
Non-Hazardous Waste Generated	58,806	63,077	34,894
Plastic Waste Generated	21	28	0
E-Waste Generated	0.08	3.48	0.27
Bio-waste generated	0.03	0.11	0.02
Total Waste Generated	58,851	63,156	34,900

Waste generated and consumed within the company

Type of waste	Unit	FY2023	FY2022	FY2021
CPP fly ash and coarse ash (consumption)	Tons	52,365	42,141	32,105
CPP bed ash	Tons	5,155	2,014	2,769
Waste Oils and Lubricants	Tons	20	44	5
Oils and Oil soaked Cotton Waste	Kgs	1,372	1,207	0
Total - Waste Generated and Consumed	Tons	57,542	44,201	34,879

Waste generated and disposed to third party

Type of waste	Unit	FY2023	FY2022	FY2021
Steel scrap	Tons	1,966	1,141	334
Belt Scrap	Tons	13	10	0
Batteries (Each weighted 10kg)	Number	235	280	20
E-Waste	Kgs	82.64	3,484	268.76
Pharma & Hospital Waste	Kgs	30.06	109.29	18.06
Others	Kgs	25,331	28,724	1.22
Old & Damaged tyres (Each weighted 5 kgs)	No's	140	33	0
HDPE Scrap	Kgs	20,920	27,520	0
Total - Waste Generated & disposed to third-party	Tons	1,309	18,955	20

AFR consumed

Type of waste (Tonnes)	FY2023	FY2022	FY2021
Chemical Gypsum	1,72,347	79,287	58,793
Fly ash	4,63,877	2,73,570	2,45,642
Slag	3,34,492	2,77,367	49,871
Spent Carbon	4,509	7,943	6,921
Carbon Black	75	156	835
Iron Sludge	1,557	2,868	2,441
Shredded Plastic	557	320	0
Residue Derived Fuels	1	96	882
Organic Residue	7,948	2,830	0
Organic Liquid Solvents	15,988	11,718	0
Rice Husk	5,006	4,628	0
Organic Waste	462	516	0
Chrome Sludge	16,236	0	0
Wooden Chips	188	0	0
Dolachar	1,265	1,013	0
Total - AFR	10,24,507	6,62,313	3,65,385

Plan of action

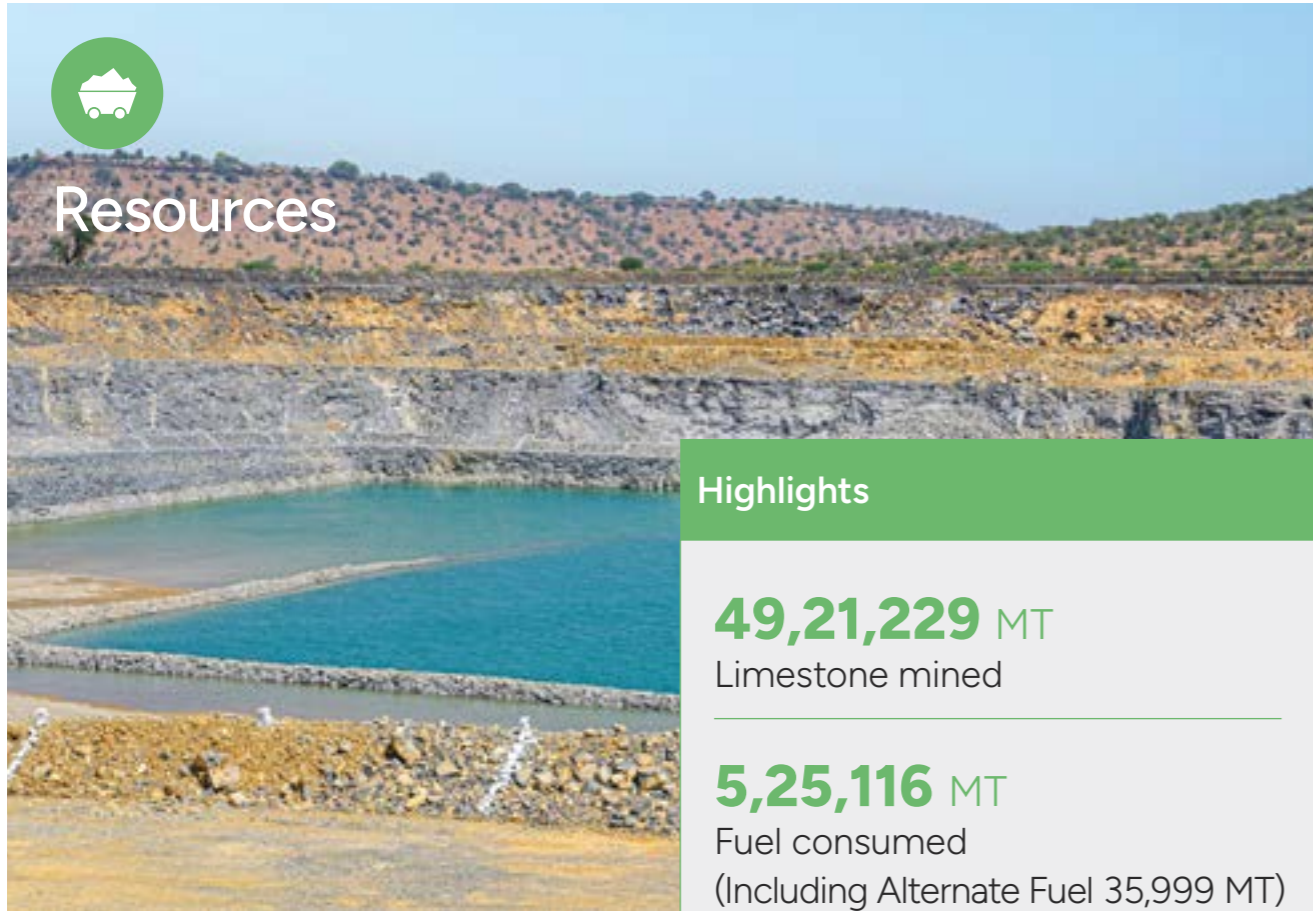
- Minimising waste generation by adopting a hierarchal approach to reduce, reuse, recycle and recover by making use of viable technologies
- Ensuring all waste collected, stored, transported, and disposed in an environmentally acceptable manner
- Promoting the use of blended cements, thereby utilising the waste/by-products of other industries
- Implement best practices to source and consume Refuse Derived Fuel (RDF) in the kiln process with the larger objective of reducing environmental impact
- Framework development for using construction waste in production processes

Our targets

- Reduce clinker factor and use cementitious waste materials
- Installation of waste heat recovery system



Resources



Highlights

49,21,229 MT

Limestone mined

5,25,116 MT

Fuel consumed
(Including Alternate Fuel 35,999 MT)

1,46,164 MT

Gypsum consumed

38,354 MT

Iron ore consumed

1,557 MT

Iron Sludge consumed

The use of natural resources such as limestone, silica and iron ore are core to the smooth functioning of our business. Considering the restrictiveness of these resources we have adopted a circular economy business model where we are constantly developing ways to replace these raw materials with their recycled substitutes. Special efforts are made to source products locally thereby facilitating minimal environmental impact.

Our targets

	2030	2050	Current status
1. Reduction in clinker factor	64%	50%	75%
2. Increased use of carbonated raw materials	2%	5%	0.00

Plan to action

- By giving preference to materials, products and services with lower environmental impact than the equivalent market alternative.
- Integrating the concept of reduce, reuse and recycle in the sourcing model.
- Encouraging suppliers and partners to adopt best-in-class practices.
- Creating awareness through trainings and development.



Biodiversity



Highlights

33%

Company premises are fully compliant with CPCB guidelines

Established goshala for cow care

Actively participating in 'Harita Haram'

Telangana government initiative for afforestation

We are aware of the impact caused by cement manufacturing on flora and fauna specific to our site locations. Our teams undertake all relevant mitigation measures to make sure the surrounding living world can co-exist. We work towards restoring natural ecosystems after mine closure by planting native plant species, using controlled blasting to reduce dust and noise emissions.

Large scale plantations are undertaken for green belt development along with the use of organic fertilisers and vermi composting. We have invested in employee training for biodiversity management, training our employees to become biodiversity lead auditors and having them assigned the responsibility of managing the biodiversity in and around the plants. Implement biodiversity management plans across all our plant locations in line with our biodiversity policy.

Our targets

Creating a polyculture plantation across 5 hectares of land each year with about 1,000 saplings.

Plan of action

- Carrying out impact assessment studies and implementing mitigation measures
- Preserving endemic, threatened or endangered species and protecting the natural habitat around the plant premises
- Promoting biodiversity awareness among all employees through training
- Biodiversity conservation in partnership with relevant stakeholders, including local governments, farmers, local communities, self-help groups, and non-governmental organisations
- Increase carbon sequestration by restoration of degraded village commons, riverbanks and tanks, foreshore plantations, and development of community-managed forests.