Climate change and emissions

At Sagar Cements, we are committed to addressing climate change by integrating focused emission reduction measures into our manufacturing processes and strengthening climate considerations in our operational strategy.

Expansion of our renewable energy assets across plants, increased use of alternative fuels, energy efficiency and operational improvements are progressively reducing our reliance on conventional fossil fuels. These measures not only lower emission intensity but also prepare us for evolving regulations and stakeholder expectations.

Key highlights

SCOPE 1

614 kg CO_2/tonne
cementitious material
(Excluding biomass emissions)

4 kg CO_2/tonne
cementitious material
(Biomass GHG emission intensity)

SCOPE 2

30 kg CO_2/tonne
cementitious material

SCOPE 3

91 kg CO_2/tonne
of cement produced

Path to Net Zero 2050

SGC took a bold step towards climate leadership by committing to the Science Based Targets initiative (SBTi) and pledged to be a Net-Zero Company by 2050. In 2022, we formally committed to the SBTi and mobilised a cross-functional team to oversee GHG accounting, target setting and engagement with SBTi. In December 2024, our GHG emission reduction targets were validated by SBTi.

SBTi validated targets

Our GHG Emission reduction targets are validated by the Science Based Targets Initiative (SBTi) in line with the SBTi Corporate Net Zero Standard. SBTi has classified our scope 1 and 2 target ambition as in line with a 1.5°C trajectory.

Net Zero target: Sagar Cements Limited commits to reach net-zero greenhouse gas emissions across the value chain by FY 2050.

Near-Term targets: Sagar Cements Limited commits to reduce gross Scope 1 and 2 GHG emissions 18.8% per tonne of cementitious product by FY 2030 from a FY 2023 base year.

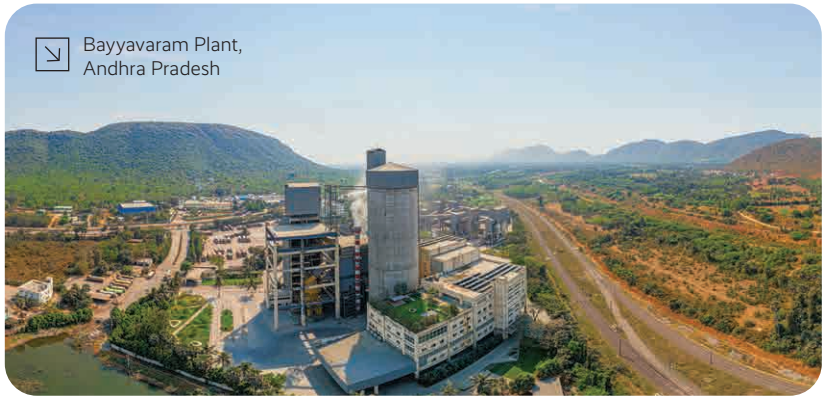
Long Term targets: Sagar Cements Limited commits to reduce gross Scope 1 and 2 GHG emissions 95.1% per tonne of cementitious product by FY 2050 from a FY 2023 base year.* Sagar Cements Limited also commits to reduce Scope 3 GHG emissions 97% per tonne of cement produced within the same timeframe.

We are the first Indian cement company to have long term CO_2 emission reduction targets, validated by SBTi, in line with the Corporate Net Zero Standard.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

THE NET ZERO STANDARD
APPROVED NET-ZERO TARGETS

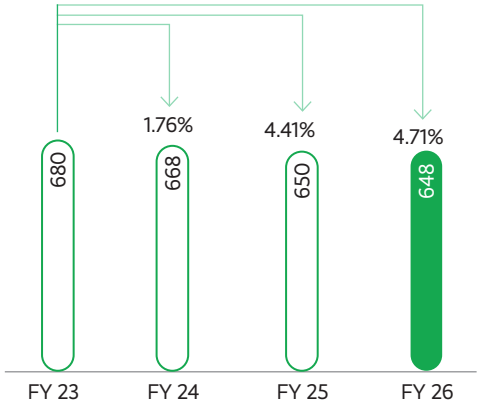
*The target boundary includes land-related emissions and removals from bio-energy feedstocks.



Bayyavaram Plant,
Andhra Pradesh

GHG intensity

Scope 1 & 2 (kg CO_2e/tonne cementitious material)



GHG emissions

We continue to closely monitor greenhouse gas emissions across our operations. Over the past two years, we have made steady progress in emission reduction.

Scope 1

(tCO_2e)

Scope 2

(tCO_2e)

Scope 3

(tCO_2e)

for 10 Scope 3 categories

OVERALL EMISSION INTENSITY

Scope 1*

($kg\ CO_2$ / ton cementitious)

Scope 2

($kg\ CO_2$ / ton cementitious)

Scope 3

($kg\ CO_2$ / ton cementitious)

* this includes emissions from biomass

Scope 3 emissions breakdown (tCO_2e)

Scope 3 Category	Emissions (tCO_2e)	
	FY 2026	FY 2025
1. Purchased goods and services	17,103	12, 158
2. Capital goods	5,865	3,131
3. Fuel and energy-related activities	3,95,515	3,15,725
4. Upstream transportation and distribution	16,513	15,629
5. Waste generated in operations	14	18
6. Business travel	2,061	2,378
7. Employee commuting	218	62
9. Downstream transportation and distribution	39,223	41,364
10. Processing of sold products	34,320	37,191
12. End-of-life treatment of sold products	59,496	52,486
Total	**5,70,327**	**4,80,142**

Note: Scope 3 increased due to enhanced data capturing and estimation accuracy. We used more suitable emission factors.

Air emissions

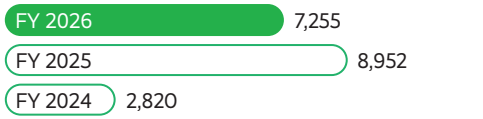
Managing air emissions remains an important aspect of SGC's environmental stewardship across its manufacturing facilities. Continuous improvements in process control, fuel management and pollution control systems are reflected in the emission performance trends over the last two years.

Dust - Absolute emissions

(tonnes)

NOx - Absolute emissions

(tonnes)



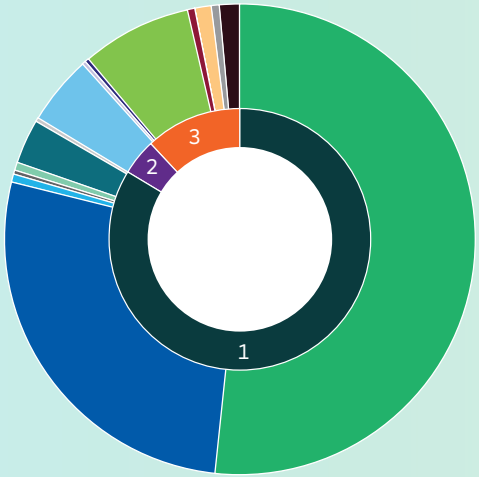
SOx - Absolute emissions

(tonnes)

Decarbonisation pathway

Sagar Cements Limited (SGC) has developed a structured decarbonisation roadmap to translate long-term commitments into measurable operational actions. We have a seven-lever decarbonisation strategy that integrates operational efficiency, cleaner energy adoption, material innovation. Together, these levers guide our efforts to progressively reduce GHG intensity across our value chain while maintaining operational reliability and supporting the growing demand for sustainable construction materials.

SGC GHG emissions landscape



FY 2023 Baseline

Scope 1	634 kg CO_2e/Tonne Cementitious
Scope 2	34 kg CO_2e/Tonne Cementitious
Scope 3	94 kg CO_2e/Tonne Cement

Key decarbonisation imperatives

1 RESPONSIBLE MANUFACTURING

To reduce overall emissions from cement manufacturing process by adopting sustainable practices across day-to-day operations.

2 VALUE CHAIN PARTNERSHIPS

Encouraging emission reduction through better industry practices, partnerships and hand-holding stakeholders.

3 TECHNOLOGY & INNOVATION

Use of latest technology and digitalisation for reducing carbon footprint.

Levers of change

1.1 Energy Efficiency & Operational efficiency

1.2 Alternate Fuel Substitution & TSR Increase

1.3 Use of decarbonated raw Materials

2.1 Clinker Factor Reduction

3.1 Increase Green & Renewable Energy

3.2 Innovative technology

3.3 Green transportation

Efforts 2026

- **The Dachepalli preheater upgrade**
- **Inter-plant Energy and Emissions Audits conducted across all plants along with third-party audits**
- **Alternative fuel infrastructure expansion at Jeerabad**
- **Installing AFR Pre-processing facility for converting municipal solid waste to refused derived fuel (RDF) for use as alternate fuel in kiln**
- **1.06 % Decarbonated Raw Material utilised of the total raw meal production materials.**
- **Introduced PPC Super product converting OPC 53 users to PPC users.**
- **Sagar Cements Mobile Van showcasing strength testing of concrete with blended cements.**
- **6 MW Solar power plant commissioned at Dachepalli, Andhra Pradesh.**
- **WHRS project at Gudipadu**
- **Syngas as an alternative fuel at Mattampally**
- **Emission reduction through 11 Electric Vehicles adoption**

Sagar Cements Business Plan 2030 covers our business planning along with investments for decarbonisation levers and targets for improvement. It also covers, our major investment plan include Operational efficiency projects, Waste Heat Recovery systems, Solar power plants.

Decarbonisation pathway

To effectively respond to these challenges, our decarbonisation strategy is anchored on three core pillars, enabled by seven key levers of change.

RESPONSIBLE MANUFACTURING

We are committed to embedding sustainability into our core manufacturing operations to reduce overall emissions. Through responsible manufacturing practices, we aim to improve energy efficiency, lower emission intensity and strengthen operational resilience while maintaining cost effectiveness.

To save energy, we are modernising our kilns and grinding units with new digital tools and better process controls. At the same time, we are switching from traditional fossil fuels to biomass, Refuse-Derived Fuel (RDF), and other low-carbon alternatives to directly lower our Scope 1 emissions.

ENERGY EFFICIENCY & OPERATIONAL EFFICIENCY

Improving energy consumption across our plants is integral to our operations. This year, we undertook a structured Inter-plant energy and emissions audit programme across all our plants to identify actionable energy efficiency opportunities. The initiative brought together internal auditor teams to conduct energy audit including energy, process, mechanical and electrical functions, ensuring cross-functional collaboration.

Pre-audit data sharing and on-site assessments enabled identification of improvement areas across operations. The exercise focused on reducing energy consumption, improving process efficiency and strengthening plant-level capabilities. The identified measures were then implemented within a quarter and were reviewed in our monthly meeting with the management.

We also completed the commissioning of a six-stage preheater at the Dachepalli plant, which has enhanced its clinker production capacity and improved thermal energy consumption.

ALTERNATE FUEL SUBSTITUTION & TSR INCREASE

Sagar Cements works to replace fossil fuels with alternative fuels like biomass and agricultural waste, industrial waste to power our kilns and use waste products effectively. In FY 2026, we utilised 69,487 Tonnes of alternative fuels constituting 4.56% TSR. This year we utilised various alternative fuels including Spent Carbon Black, Shredded Plastic, Organic Residue, Organic Liquid Solvents, Dolochar, Spent Coffee, Biomass. We have started using Refused Derived Fuels (RDF) at one of our plants.

USE OF DECARBONATED RAW MATERIALS

To reduce process emissions and improve resource efficiency, we utilise alternative materials and industrial by-products in our manufacturing processes and kilns. This supports clinker optimisation and fuel substitution while enhancing operational efficiency, contributing to lower carbon intensity across cement production.

CASE STUDY

Alternative fuel infrastructure at Jeerabad

As part of our decarbonisation strategy, we have commenced the construction of Alternative Fuel and Raw Material (AFR) feeding systems at the Jeerabad plant. The project includes liquid AFR co-processing facilities and pneumatic conveying systems for enabling the use of waste-derived fuels generated during the production process.

With greater usage of alternative fuels, reliance on fossil fuel is expected to decline, thereby fostering resource circularity. The infrastructure will also support the long-term goal of increasing our Thermal Substitution Rate (TSR) across operations. It is expected to lower carbon emissions and improve energy sustainability in cement manufacturing.

VALUE CHAIN PARTNERSHIPS

A key focus area is increasing the use of blended cements such as Portland Pozzolana Cement (PPC) and Portland Slag Cement (PSC), which help reduce the clinker factor—one of the largest contributors to cement-related emissions. We have introduced PPC Super product converting OPC 53 users to PPC users using the same strength. Sagar Cements Mobile Van is also promoting blended cements use showcasing strength testing of concrete with blended cements. This year, we also did blended cement promotion through engineers meet, IGBC events in our primary markets. With these efforts in B2B market, we have been able to increase our share of PSC and PPC sale. At our Dachepalli plant, 6 Stage modern preheater has been constructed using PPC entirely. Preheater construction with PPC cement is being highlighted in many events. This is an example of blended cements strength.

CLINKER FACTOR REDUCTION

By optimising clinker use and increasing the share of blended cement formulations, we continue to reduce process-related emissions while improving the overall environmental performance of our products.

We continue to strengthen our product portfolio by increasing the use of Supplementary Cementitious Materials (SCMs) and expanding the production of clinker-efficient blended cements such as PPC, PSC, IPC, CC and SRC. These initiatives support our goal of reducing the clinker factor to approximately 64% by 2030 and 50% by 2050, helping to lower process emissions while maintaining product quality, durability and performance.

PPC Super launched in FY 2025

Dachepalli Plant, Andhra Pradesh

TECHNOLOGY & INNOVATION

We leverage advanced technologies to reduce the carbon intensity of our operations. Technology plays a critical role in our decarbonisation journey by improving operational efficiency, optimising resource use and lowering environmental impact.

Alongside investments in solar, wind and hybrid renewable energy assets to decarbonise captive electricity consumption, we are partnering with renewable energy providers to further reduce Scope 2 emissions. We are also exploring digital twins and AI-based solutions to enhance monitoring and predictive maintenance.

INCREASING RENEWABLE AND GREEN ENERGY

In order to increase the share of renewable and green energy we are making efforts to increase solar power assets across our plants. This year we installed one 6 MW Solar Power Plant at Dachepalli, Andhra Pradesh.

We are also making efforts to increase the utilisation of renewable energy from current assets. We observed that excess hydro power could be used at Gudipadu along with Bayyavaram through wheeling and made efforts for the same. Since October 2025, we have started consumption of Hydro-power at Gudipadu Plant and consumed more than 45% energy from Renewable energy sources each month including solar and hydro power.

GREEN TRANSPORTATION

Driving down our own fleet's emissions is important target for us. We are focusing on including the use of lower-carbon trucks and evaluating options for fossil-fuel free trucks through retrofitting. We have introduced Electric Vehicles (EVs) across four of our plants. At Mattampally we have four EV loaders, on EV Road sweeping machine and at Dachepalli, we are using two EV loaders for material handling operations. At Bayyavaram, two EV trucks are utilised for transporting slag to the plant and for cement dispatch, along with one EV Loader supporting our efforts to reduce emissions from internal logistics and material movement. We are also using one EV loader at Jeerabad plant.

Solar Power Plant,
at Dachepalli, Andhra Pradesh

CASE STUDY

Advancing clean energy with Dachepalli 6 MW solar plant

We installed a 6 MW solar power plant at our Dachepalli unit in Andhra Pradesh to enhance our use of clean energy and cut carbon emissions. Started in July 2025, this project uses advanced "bifacial" solar panels that receive sunlight from both sides, making them more efficient than standard panels. The plant generates about 21.17 MWh of energy every day—covering around 7.75% of the Dachepalli factory's power needs—and will cut CO_2 emissions by about 5,487 metric tonnes every year.

With this asset we now have 36 MW of Renewable and Green energy capacity installed across plants.

5,487 tCO_2e
Emission reduction expected annually

CASE STUDY

Syngas as an alternative fuel: India's first for accelerating decarbonisation

Sagar Cements partnered in building Gasification facility for India's first commercial use of Syngas in preheater, produced from Biomass. The gasification facility is being installed at the Mattampally plant and is expected to convert cotton crop residues into syngas and biochar through an integrated biomass processing system.

Sagar Cements Limited and **'Sow & Reap Chara' Pvt. Ltd.** have signed a 10-Year Offtake agreement for setting up this Gasification facility. **Ankur Scientific** is the technology provider of the gasification process, **Cula Tech** Germany based dMRV provider, **Puro earth** the Carbon Registry, and last but not the least the vital part of the project are the **local farmer** network. The syngas produced will substitute fossil fuel in the cement manufacturing process, while biochar will be returned to farmers as soil-enriching manure. The initiative is expected to reduce approximately **6,000** tonnes of CO_2 emissions annually, By transforming agricultural residues into clean energy, the project reduces open-field burning and supports rural economies.

6,000 tCO_2e
Emission reduction expected annually

Electric vehicles at Mattampally, Telangana

CASE STUDY

Increasing number of electric vehicles across our plants each year

To reduce emissions from internal logistics and material handling operations, we have integrated electric vehicles (EVs) into our operational fleet. During the year, the Company deployed EV loaders at Mattampally, one EV loader at Bayyavaram and one EV loader at Jeerabad, increasing the total number of electric loaders and trucks across operations to eleven vehicles (11 EVs).

These vehicles are supported by a network of high-capacity charging stations and data analytics systems that help monitor performance and optimise usage. By replacing conventional diesel-powered equipment with electric alternatives, the initiative reduces fuel consumption, lowers greenhouse gas emissions and improves operational efficiency, reinforcing the Company's commitment to cleaner industrial mobility.

11
Electric Vehicles across plants

TCFD assessment: Strengthening climate risk adaptability

This year we conducted Climate Risk Assessment for all plants and consolidated Company level to understand the potential impact of Climate Change in line with Task Force on Climate related Financial Disclosures (TCFD) recommendations. Sagar Cements assesses climate risks following the TCFD framework and divides them into two main categories.

Physical risks

Refers to potential weather events that could directly affect our assets and operations. The potential impact of physical risks like Flood, Drought, Cyclone, Heatwave, Extreme temperatures were assessed across 6 plants of the Company.

Transition risks

Refers to the potential impacts of moving into a low-carbon economy like Increased pricing of GHG emissions, Enhanced emissions-reporting obligations, Costs to transition to lower emissions technology, Changing customer behaviour, Uncertainty in market signals, Increased stakeholder concern or negative stakeholder feedback. The evaluation was structured in accordance with the four pillars of the TCFD framework – Governance, Strategy, Risk Management and Metrics & Targets.

KEY OUTCOMES

- Climate risks evaluated across transition and physical risk categories
- Assessment aligned with four pillars of the TCFD framework
- Strengthened integration of climate considerations into risk management and strategic planning

Governance	Strategy	Risk management	Metrics and targets
Board's role We have Sagar Cements Climate Change Policy approved by the Board of Directors. The Board Risk Management and ESG Committee drives the climate change policy implementation, and climate action. It consists of five Board members and is chaired by the Joint Managing Director. The Committee meets twice a year overseeing climate-related strategies. **Leadership oversight** Our GHG Emission reduction targets are reviewed by Leadership team every month, for all the plants and the direction is set for improvements including climate risk. A two-way approach is followed to implement GHG targets across our Cement manufacturing plants. The Plant Head-led ESG Committee identifies areas for improvement specific to the Plant for target implementation.	The actual and potential impacts of climate-related risks and opportunities on Sagar Cements is discussed in Physical Risks and Transition Risks worksheet. The strategy, and financial planning will be integrated as part of Enterprise Risk Management (ERM) exercise, for all plants in the coming year.	Sagar Cements Enterprise Risk Management (ERM) Framework is designed to identify, assess and mitigate risks to minimise their potential impact and support the achievement of our long-term targets. Climate assessment will be included as a part of ERM framework and financial planning will be done for it.	We measure and disclose our GHG performance as part of our ESG Roadmap update within our Integrated Annual Report yearly. Our GHG Emission reduction targets are validated by SBTi. **SBTi validated targets** **Net Zero 2050** **Near-Term targets:** Reduce gross Scope 1 and 2 GHG emissions 18.8% per tonne of cementitious product by FY 2030 from a FY 2023 base year. **Long Term targets:** Reduce gross Scope 1 and 2 GHG emissions 95.1% per tonne of cementitious product by FY 2050 from a FY 2023 base year and Reduce Scope 3 GHG emissions 97% per tonne of cement produced within the same timeframe.