



# Climate change and emissions



At SGC, we are committed to addressing climate change through the adoption of advanced technologies and focused emission reduction strategies. Drawing on our operational expertise, we continue to enhance energy recovery by increasing the use of alternative fuels and co-processing materials from various industries. These efforts have reduced dependence on conventional resources, enhanced resource efficiency and helped us to align with sustainable manufacturing practices.

## Key highlights

### Scope 1

**611** kg CO<sub>2</sub>/tonne cementitious material (Excluding biomass emissions)

**5** kg CO<sub>2</sub>/tonne cementitious material (Biomass GHG emission intensity)

### Scope 2

**34** kg CO<sub>2</sub>/tonne cementitious material

### Scope 3

**83** kg CO<sub>2</sub>/tonne of cement produced

## Paving the path to Net Zero

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. By June 2024, we submitted the official target validation form, undergoing rigorous technical reviews, scenario modelling and validation of our GHG inventory. A key milestone involved an in-depth assessment of ten Scope 3 categories, including purchased goods, capital goods, fuel- and energy-related activities, transportation and other cement industry-specific emission sources.

## CDP Disclosure

In the Financial Year 2024, Sagar Cements participated in the CDP Disclosure for the very first time, marking a significant milestone. We are pleased to share that we have secured a B rating in both Climate and Water security.

## SBTi Validated Targets

After six months of evaluation, in December 2024, SBTi approved SGC's targets.

**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<sub>2</sub> emission reduction targets, validated by SBTi, in line with the Corporate Net Zero Standard.**



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



Mr. S. Srekanth Reddy, Joint Managing Director (JMD) addressing the leadership team, Plant heads and ESG team on the ESG Roadmap and Decarbonisation plan for Sagar Cements.



## CLIMATE CHANGE AND EMISSIONS



**Air emissions**

### Dust - Absolute emissions

(tonnes)



### NOx - Absolute emissions

(Tonne)



### SOx - Absolute emissions

(Tonne)



**Carbon emissions**

### Scope 1

(tCO<sub>2</sub>e)



### Scope 2

(tCO<sub>2</sub>e)



### Scope 3

(tCO<sub>2</sub>e)



\* for 4 Scope 3 categories

# for 10 Scope 3 categories

Scope 3 Categories	FY25	FY24
1. Purchased goods and services	12,158	18,135
2. Capital goods	3,131	7,826
3. Fuel- and energy-related activities	3,15,725	3,35,836
4. Upstream transportation and distribution	9,042	22,972
5. Waste generated in operations	18	52
6. Business travel	2,378	2,143
7. Employee commuting	62	347
9. Downstream transportation and distribution	41,364	43,254
10. Processing of sold products	37,191	28,387
12. End of life treatment of sold products	52,486	52,529
<b>Total</b>	<b>4,73,554</b>	<b>5,11,481</b>

Scope 3 emission intensity (kg CO <sub>2</sub> e/ tonnes cement produced)	FY 2025	FY 2024
Scope 3	83	94

Overall emission intensity (kg CO <sub>2</sub> e/tonne cementitious material)	FY 2025	FY 2024
Scope 1	616	634
Scope 2	34	34
<b>Total emission intensity (Gross)</b>	<b>650</b>	<b>668</b>



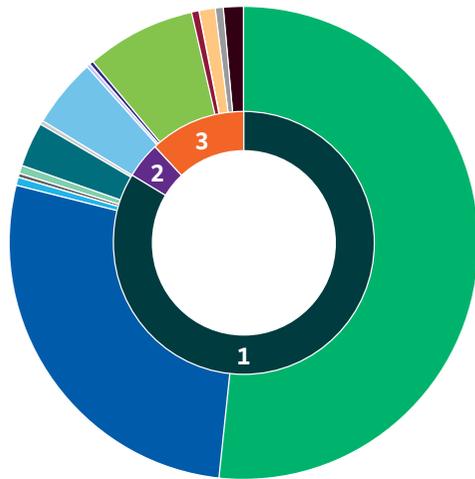
## CLIMATE CHANGE AND EMISSIONS

### Decarbonisation pathway

Our approach to climate change mitigation is grounded in a deep understanding of our emissions profile, backed by a meticulously crafted Decarbonisation pathway.

We started measuring Greenhouse Gas (GHG) footprint in FY 2018-19, across our assets, aligned with the GHG Protocol. We committed to SBTi in FY 2022-23, and by leveraging the latest science based methodology, we established near term targets (2030) and long term targets - Net Zero by 2050, validated by SBTi this year. We are clear about the levers contributing to our decarbonisation pathway, and have planned investments across levers in our business plan; ensuring our target is not only ambitious but also achievable.

### SGC GHG Emissions Landscape



#### FY 2023-24

Scope 1	634 kg CO <sub>2</sub> e/Tonne Cementitious
Scope 2	34 kg CO <sub>2</sub> e/Tonne Cementitious
Scope 3	94 kg CO <sub>2</sub> e/Tonne Cement

### Key Decarbonization 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

### Near Term Target

To reduce gross Scope 1 and 2 GHG emissions by 18.8% per tonne of cementitious product by FY 2030 from a FY 2023 base year

### Long Term Target

Net Zero by 2050

SGC Business Plan 2030 is aligned with investments and contributions are estimated from each lever.

SGC Business Plan 2030 Major investments in plan include Operational efficiency projects, Waste Heat Recovery systems, Solar power plants and processing and feeding systems for TSR across our plants.



## CLIMATE CHANGE AND EMISSIONS

### Incorporating climate change strategy

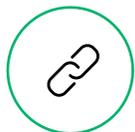
To tackle these challenges comprehensively, our decarbonisation strategy is built on three key pillars, each backed by targeted levers of change:



#### Responsible manufacturing

We are committed to embedding sustainability into our core manufacturing operations to reduce overall emissions. By focusing on responsible manufacturing practices, we aim to enhance energy efficiency, lower emission intensity, and maintain operational resilience and cost-effectiveness.

To optimise energy use we have undertaken initiatives for upgrading kilns and grinding units through digitisation, process control enhancements, and equipment modernisation. We are also replacing traditional fossil fuels with biomass, Refuse-Derived Fuel (RDF), and other low-carbon alternatives to directly cut Scope 1 emissions.



#### Value chain partnerships

We seek to drive decarbonisation efforts beyond our own operations through collaborations with our supply chain partners. Through these partnerships, we aim to foster innovation, advance circularity, and contribute meaningfully to reducing overall emissions.

Our focus areas include promoting the use of Portland Pozzolana Cement (PPC) and Portland Slag Cement (PSC) to lower the clinker factor, one of the largest contributors to cement-related emissions. We are also working closely with suppliers and research teams to enable higher blending ratios without compromising performance. These initiatives contribute to scope 1, 2 and 3 emission reductions.



#### Technology & innovation

We are harnessing advanced technologies to reduce the carbon intensity of our operations. Technology plays a crucial role in our decarbonisation journey, helping us drive efficiencies and reduce our environmental footprint.

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

### CASE STUDY



## Advancing clean energy with Gudipadu's 6 MW solar plant



 Gudipadu Plant, Andhra Pradesh

We have installed a 6 MW bifacial solar power plant at the Gudipadu unit to enhance green energy ratio, reduce carbon emissions and accelerate the Company's transition to renewable energy. Commissioned in January 2025, this project is equipped with 10,276 bifacial mono PERC modules and the plant generates an estimated 26-38 MWh energy per day, contributing around 10% of the unit's total energy consumption. The system is estimated to generate nearly 10 Million kWh of clean

energy. The use of bifacial modules, benefits from the ground albedo effect, observes 3-5% gain in energy generation compared to monofacial panels.

The project will reduce CO<sub>2</sub> emissions by approximately 7,160 metric tonnes annually, equivalent to planting 3.58 Lakhs trees annually.

**7,160 tCO<sub>2</sub>e**  
Emission reduction



## CLIMATE CHANGE AND EMISSIONS

### CASE STUDY



## Emission reduction through EV adoption



A pilot programme with six EVs was launched to assess their real-world performance, in emission reduction. A high-capacity charging stations were installed within three plants: Mattampally, Bayyavaram and Dachepalli to enable efficient charging during shifts. Drivers, mechanics, and operators were trained to ensure smooth integration. Data analytics tracked key metrics such as energy consumption and maintenance costs, confirming notable reductions in fuel dependency and operational expenses. EV loaders at Mattampally and Dachepalli, along with

EV trucks at Bayyavaram, demonstrated strong energy efficiency, with loaders consuming an average of 23.50 kW per hour and trucks operating at 1.36 kWh per kilometre.

The transition reduced 327 tCO<sub>2</sub>e emissions while improving worker safety and health through reduced exposure to harmful emissions. Productivity levels were maintained, and the initiative strengthened the Company's environmental credentials, attracting interest from sustainability-focused investors. It has resulted in lower operational costs, enhanced regulatory compliance and reinforced our long term commitment to sustainable growth.

### CASE STUDY



## Upgradation of fly-ash unloading system limits power consumption

At the Dachepalli plant, the operational team faced a challenge - prolonged idle compressor hours during fly ash unloading. The single unloading point caused delays, increasing energy consumption. To address this, a second unloading point was strategically installed alongside the existing system. With two tankers unloading simultaneously,

unloading time per tanker dropped from 60 to 40 minutes. Although compressor power usage rose slightly from 58 kWh to 60 kWh, the reduction in idle hours resulted in a net power saving of 19 kWh.

**19 kWh**  
Power saving

Mattampally Plant, Telangana

