

HEIDELBERGCEMENT INDIA

SDG7 Energy Compact of [Company/City/Stakeholder]

A next Decade Action Agenda to advance SDG7 on sustainable energy for all, in line with the goals of the Paris Agreement on Climate Change

	HEIDELBERGCEMENT INDIA	
SEC	TION 1: AMBITION	
	Auchitians to achieve CDC7 by 2020 (Diana an	
1.1.	Ambitions to achieve SDG7 by 2030. [Please se	lect all that apply, and make sure to state the baseline of each target. The energy policies instiguted five-year plans ato targets for companies (organizations could be based on their corporate strategy)
(ivie	mber states targets could be based on their NDC	cs, energy policies, national nve-year plans etc. targets for companies/organizations could be based on their corporate strategy)
	□ 7.1. By 2030, ensure universal access to affordable, reliable, and modern energy services.	Target(s): Increase in Alternate Fuel and Raw Material (AFR) usage 5 times. (From ~ 4% to ~ 20%). This target will be achieved by creating AFR feeding facilities at Narsingarh plant for Line-2 and 3 Kilns. Upgradation of Calciner/ step combustor and the AFR Feeding facilities including preprocessing at Sitapuram. Upgradation of AFR feeding facilities and preprocessing is proposed at Yerraguntla plant.
		Time frame: 2030
		Baseline: 2019
		 Context for the ambition(s): Biomass, plastic waste and other types of waste are available which can substitute coal in cement many consumption of AFR will save natural resources and ultimately reduce generation of CO2.
	7.2. By 2030, increase substantially the	7.2.1 Increase green power intake by approx. 180% wrt 2019.
	share of renewable energy in the global	Time frame: Till 2030 in a phased manner
	energy mix.	Baseline: 2019
		Context for the ambition(s): Cement manufacturing is energy intensive. We partly depend on Grid Power to meet our Heidelberg Cement is progressing to transit to low carbon energy sources. We aim at increasing the share of renewabl electricity energy mix which will ultimately result in less CO2 emissions.
		Target(s): 7.2.2 Increased share of renewable energy (considering WHR as renewable energy) and Grid mix by installation of 21 M Time frame: Till 2030 in a phased manner Baseline: 2019
		Context for the ambition(s): Waste Heat from cement manufacturing can be better utilized by installation of Waste He Power generated from the WHRS can substitute non-renewable power that is being sourced from state grid. Heidelberg Cement is adopting latest technology to avail low carbon emitting energy. We target to increase the produ renewable / green energy in our energy mix which will ultimately result in less CO2 emissions.
		\Box 7.2.3 Addition of 23 MW solar power sources.
		Time frame: Till 2030 in a phased manner
		Baseline: 2019
		Context for the ambition(s): Solar Power is a natural source and termed as green power. Our ambition is to install Sola
		carbon neutral cements by that are less dependent on coal-based Grid Power.
		This target is to increase the share of renewable / green energy in our energy mix which will ultimately result in less CO
		□ 7.2.4 Agreement for sourcing 17 Gwh/annum wind power under Scope-2
		Time frame: Till 2030 in a phased manner
		Baseline: 2020
		Context for the ambition(s): As stated above Cement manufacturing is energy intensive. We party depend on grid pow
		energy demand. Heidelberg Cement is targeting for low carbon emitting power sources.
		We target to increase the share of renewable / green energy in our energy mix which will also result in reduction of ca
		focused on onsite renewable energy projects and PPA for offsite sources. We have signed a PPA for sourcing Wind Pow

ufacturing. Thus, increased	
electrical energy requirement. le / green power in our	
MW WHR @ Yerraguntla plant.	
eat Recovery System WHRS.	
ction and consumption of	
ar Power Plants and produce	
O2 emissions.	
ver to meet our electrical	
rbon emissions. We are er.	

	7.3. By 2030, double the global rate of	Target(s):
	improvement in energy efficiency.	7.3.1 We target a 0.7% reduction in specific heat consumption.
		7.3.2 13% reduction in specific power consumption.
		7.3.3 Increase blended cement production by 11% to attain 83% share in 2030 from 72% in 2020 Time frame: 2030
		Baseline: 2020
		Context for the ambition(s): Heidelberg Cement India team strives to minimize the specific thermal and electrical energy production. We recognize the importance of achieving energy efficiencies to be able to lower our Carbon emissions an Under this agenda Heidelberg Cement India is adopting various energy savings measures and consistently putting effort consumption, reduction in specific energy consumption and reduction in clinker factor by increased production of blen In addition to the above, our plants have also participated in 2 PAT cycles as per GOI notifications. We have overachier received Escerts. We have reduced 0.1257 TOE/Ton from In PAT cycle-1 in 2012 to 0.0855 TOE/Ton in PAT cycle-2 in yet Target(c):
	□ 7.a. By 2030, enhance international	Taiget(s).
	energy research and technology including	 To improve technical skill of our workforce by imparting training and sensitizing the team alded by support from Darticipate in establishing Standards for production of groop compart ably supported by our Croup
	renewable energy, energy efficiency and	 Participate in establishing standards for production of green cement ably supported by our Group Adoption of bost practices available with our Group HeidelbergCompat AC
	advanced and cleaner fossil-fuel	 Adoption of best practices available with our Group HeidelbergCement AG Bonofitted from the P&D outcome of HeidelbergComent AG
	technology, and promote investment in	• Benefitted from the K&D outcome of Heidelbergcement AG
	energy infrastructure and clean energy	Context for the ambition(s):
	technology.	 HC India is a subsidiary of HeidelbergCement AG thus we have access to the technical advancement and resear.
		Group.
		 HeidelbergCement AG has activities in more than 50 countries with around 53,000 employees working at 3,000
		HeidelbergCement operates 103 Cement Plants and 43 Grinding Units with an annual cement capacity of 184 n
		number of ready-mixed concrete production and aggregates quarries sites.
		• The aim of research and development (R&D) at HeidelbergCement is to develop innovative products as well as
		new formulations, that aim at minimizing energy consumption and CO2 reduction.
		HeidelbergCement Group is installing the world's first full-scale CCS facility at its cement plant. A full-scale carb
		HeidelbergCement Norcem plant in Brevik, Norway and the Brevik carbon capture and storage (CCS) project wi
		tonnes of CO2 per year.
		HeidelbergCement announced its intention to upgrade its plant on the Swedish island of Gotland to become th
		cement plant. The installation at the Slite plant of HeidelbergCement's subsidiary Cementa will be scaled to cap
		of CO2 annually, which corresponds to the plant's total emissions. Additionally, the use of biobased fuels in the
		will be increased in line with the Group's commitment to significantly raise the share of biomass in the fuel mix
	7 h By 2020 expand infrastructure and	Target(s):
	upgrade technology for supplying modern	• To canture 1.8 million tonnes of CO2 annually by adopting the best available research & technology such a
	and sustainable energy services for all in	Water conservation: Improve the Water positive score
	developing countries, in particular least	Time frame: 2020
	developed countries, small island	Baseline: 2019
	developing States, and land-locked	Context for the ambition(s):
	their respective programs of support	 HC India is a subsidiary company of HeidelbergCement AG thus has access to the technical advancement and re-
		the Group.
		• The installation at the Slite plant of HeidelbergCement's subsidiary Cement will be scaled to capture up to 1.8 n
		By implementation of rainwater harvesting through rooftop structure and converting mined out areas into rese
		more water what we are sourcing for cement manufacturing.
1.2.	Other ambitions in support of SDG7 by 2030 and	net-zero emissions by 2050. [Please describe below e.g., coal phase out or reforming fossil fuel subsidies etc.]
	Target(s):	
	Time frame:	
ĺ	Context for the ambition(s):	

ergy requirement for its cement nd conserve natural resources. orts to lower its fuel nded cement etc. eved the reduction targets and year 2019.

m our Group.

rch facility available with the

0 production sites. million tonnes including

s process improvements and

bon capture facility at the vill enable capturing of 400,000

he world's first carbon-neutral pture up to 1.8 million tonnes e cement production at Slite x. The full-scale capturing of

as CCU and CCS

esearch facility available with

million tonnes of CO2 annually ervoirs, we are harvesting

SECTION 2: ACTIONS TO ACHIEVE THE AMBITION

bescription of action (please specify for which ambition from Section 1)As described in section 7.1 to increase green power share.	Start and end date2020-30
ncrease in Alternate Fuel and Raw Material (AFR) usage 5 times (from ~ 4% to ~ 20%). Biomass, plastic waste and other type of waste are available wh an substitute coal in cement manufacturing. Thus, more utilization of AFR will save natural resources and ultimately less generation of CO2. his target will be achieved by providing a feeding facility at Narsingarh plant for Line-2 and 3 Kilns. We are upgrading Calciner/ step combustor and the FR Feeding facilities including preprocessing at Sitapuram. Upgradation of AFR feeding facilities and preprocessing is proposed at Yerraguntla plant.	ich
escription of action (please specify for which ambition from Section 1) As described in section 7.2 energy mix.	Start and end date2020-30
.2.1 Increase green power intake by approx. 180% wrt 2019 Till 2030 in a phased manner. Cement manufacturing is energy intensive industry. We par epend on our Grid Power to meet our electrical energy demand. Heidelberg Cement is targeting to transition to low carbon energy sources. This target to increase the production and consumption of renewable / green energy in our energy mix which will ultimately result in less CO2 emissions.	:ly t is
.2.2 Increased share of renewable energy (considering WHR as renewable energy) and Grid mix by installation of 21 MW WHR till 2030 in a phased nanner. Waste Heat from cement manufacturing can be better utilized by installation of Waste Heat Recovery System WHRS this will contribute to our ower requirement and less sourcing of Grid Power. Heidelberg Cement adopt new technology to get low carbon energy. This target is set to increase t roduction and consumption of renewable / green energy in our energy mix which will ultimately result in less CO2 emissions.	he
.2.3 Addition of 23 MW solar till 2030 in a phased manner. Solar Power is the natural source and termed as green power. Our ambition is more and m nstallation of Solar Power Plant and produce more carbon neutral cement by less sourcing of Grid Power. This target is set to increase the production a onsumption of renewable / green energy in our energy mix which will ultimately result in less CO2 emissions.	ore nd
.2.4 Agreement for sourcing 17 Gwh/annum wind power under Scope-2 till 2030 in a phased manner. As stated above Cement manufacturing is energy neuronal tensive industry. We party depend on grid power source to meet our electrical energy demand. Our company has target to received low carbon energy from the green power sources. This target is set to increase the production and consumption of renewable / green energy in our energy mix which will lso result in reduction of carbon emissions. We are focused on onsite renewable energy projects and PPA offsite. We have PPA for sourcing Wind Power energy in the production of carbon energy for sourcing Wind Power energy in the production of the	y Sy r.
Description of action (please specify for which ambition from Section 1) As described in section 7.3 to reduce specific cement power consumption. Heidelberg Cement India Limited has planning for 0.7% reduction in specific thermal intake 13% reduction in specific electrical power intake & increase lended cement production by 11% to attain 83% in 2030 from 72% in 2020 Heidelberg Cement India team always strive to minimize the specific thermal and electrical energy requirement for cement production. From our previ- xperience we understand that improving energy efficiency is the key agenda for Carbon emission reduction and natural resource conservation. Under his agenda Heidelberg Cement India is adopting various energy savings measures and continuous giving efforts to lower fuel consumption and better esource uses with the aim of increase in energy efficiency, reduction in specific energy consumption and reduction in clinker factor by production of hore blended cement etc. In addition to above our plants have participated in 2 PAT cycles as per GOI notifications to plants. We have overachieved the reduction and received scerts. In PAT cycle-1 from 2012 from 0.1257 TOE/Ton we reached at 0.0855 TOE/Ton in PAT Cycle-2 in year 2019	the bus

Descri	ption of action (please specify for which ambition from Section 1)	
7.a Fo	llowing are the Continual process for the productivity improvement of plants and ultimately Group	
•	To improve technical skill of our workforce by imparting training and awareness program with support from Group Company	
•	Participate in laying down Standards for production of green cement at Group level	
•	Adoption of best practices available with our Group HeidelbergCement AG	
•	Benefitted from the R&D outcome of HeidelbergCement AG	
•	HC India is a subsidiary company of HeidelbergCement AG thus has access to the technical advancement and research facility available with the Group.	
•	The HeidelbergCement AG has activities in more than 50 countries with around 53,000 employees working at 3,000 production sites. HeidelbergCement AG operates 103 Cement Plants and 43 Grinding Units with an annual cement capacity of 184 million tonnes including number of ready-mixed concrete production and aggregates quarries sites.	
•	The aim of research and development (R&D) at HeidelbergCement AG is to develop innovative products as well as process improvements and new formulations, in order to minimise the use of energy and CO2 emissions.	
7.b		
•	To capture 1.8 million tonnes of CO2 annually by adopting the best available research & technology such as CCU and CCS from 2030 onward. HC India is a subsidiary company of HeidelbergCement AG thus has access to the technical advancement and research facility available with the Group The installation at the Slite plant of HeidelbergCement's subsidiary Cementa will be scaled to capture up to 1.8 million tonnes of CO2 annually, which corresponds to the plant's total emissions	

SECTION 3: OUTCOMES

3.1. Please add at least one measurable and time-based outcome for **each** of the actions from section 2. [Please add rows as needed].

mined out areas in reservoir; we are harvesting more water what we are sourcing for cement manufacturing.

Ou	tcome	Date
	Increased share of renewable energy (considering WHR as renewable energy) and Grid mix by installation of 21 MW WHR along with 23 MW solar and have an agreement for sourcing 17 Gwh/Annum wind power under Scope-2 and various energy saving measures adoption under Scope -1 including AFR promotion across various locations in India	
	Our planning is 0.7% reduction in thermal intake, 13% reduction in electrical power intake, increment in green intake by approx. 180% from current level, Increase in AFR usage from ~ 4% to ~ 20% and increase of PPC production at 83% from present 72% Our aim to achieve reduction in 11% CO2 emission with the aim of increase in energy efficiency, reduction in specific energy consumption and most focus is reduction of the clinker factor in cement production of more blended cement etc.	

SECTION 4: REQUIRED RESOURCES AND SUPPORT

4.1. Please specify required finance and investments for <u>each</u> of the actions in section 2.

Investment proposed by Heidelberg Cement India Limited is as under considering 1.00 USD = 74.29 INR

- For WHRS projects 29.480 MUSD is projected.
- For AFR facility development 13.04 MUSD is projected.
- For RE projects 9.09 MUSD is projected.
- For reduction in thermal intake & electrical intake projects at plants 0.55 MUSD is projected.
- •

4.2. [For countries only] In case support is required for the actions in section 2, please select from below and describe the required support and specify for which action. [Examples of support for Member States could include: Access to low-cost affordable debt through strategic de-risking instruments, capacity building in data collection; development energy transition pathways; technical assistance, etc.]

□Financing	Description		

t and end date		
nt of integrated energy plans and		

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In-Kind contribution	Description Intervention for resource availability is required to promote the RE
□ Technical Support	Description
⊠ Other/Please specify	Description Policy intervention is required for smoothness in system

SECTION 5: IMPACT

5.1. Countries planned for implementation including number of people potentially impacted.

The strategies and targets will be implemented in India for Heidelberg Cement India Limited & Zuari Cement Limited (Fellow Subsidiary of Heidelberg Cement India) plants located

5.2. Alignment with the 2030 Agenda for Sustainable Development – Please describe how <u>each</u> of the actions from section 2 impact advancing the SDGs by 2030. [up to 500 words, please upload supporting strategy documents as needed]

- It will help to meet our Sustainability Target 2030 to reduce carbon dioxide emission of 3% by 2030 from 2019 level i.e. from 831 kgCO2/t Clinker to 806 kg
- Increased share of renewable energy (considering WHR as renewable energy) and Grid mix by installation of 21 MW WHR along with 23 MW solar and hav sourcing 17 Gwh/Annum wind power under Scope-2 and various energy saving measures adoption under Scope -1 including AFR promotion across various

5.3. Alignment with Paris Agreement and net-zero by 2050 - Please describe how <u>each</u> of the actions from section 2 align with the Paris Agreement and national NDCs (if applicable) and [up to 500 words, please upload supporting strategy documents as needed]

We have our Sustainability Commitment 2030 for the reduction of the GHG emissions which is aligned with Paris Agreement and following measures are adopted to achieve targe

- Replacement of the fossil fuel by alternative fuel and the clean fuel.
- Increased share of renewable energy (considering WHR as renewable energy) and Grid mix
- Reduction of the clinker content in the cement to produce 80% blended cement with the lowest clinker content by increasing the blending materials.
- Improving the energy efficiency for reduction of thermal energy and electrical energy

The actions mentioned in Section 2 will increase the share of non fossil fuel based energy resulted to achieve reduction in 11% specific CO2/t of cement emission w energy efficiency, reduction in specific energy consumption and most focus is reduction of the clinker factor in cement production of more blended cement etc. Increased share of renewable energy (considering WHR as renewable energy) and Grid mix by installation of 21 MW WHR along with 23 MW solar and have an agre Gwh/Annum wind power under Scope-2 and various energy saving measures adoption under Scope -1 including AFR promotion across various locations in India. W reduction in thermal intake, 13% reduction in electrical power intake, increment in green intake by approx. 180% from current level, Increase in AFR usage from ~ 4 PPC production at 83% from present 72%

- Apert from the above mentioned initiatives we also focused for rainwater harvesting in India and at Group level we are 6.7 times water positive through various initiatives harvesting and converting mined out pits in reservoirs for collection of rainwater that ultimately contribute the ground water.
- CSR is a major arm of Heidelberg Cement India limited working in surrounding villages of our plant setup with a aim of being a Good Neighbour.
- We are working in specific areas like education, health, livelihood enhancement, infrastructure development and social engagement.

SECTION 6: MONITORING AND REPORTING

6.1. Please describe how you intend to track the progress of the proposed outcomes in section 3. Please also describe if you intend to use other existing reporting frameworks to track progress on the proposed outcomes.

• Published audited Annual report.

at various location in India.	
gCO2/t Clinker. ve an agreement for s locations in India	
l support the net-zero emissions	by 2050.
et.	
ith the aim of increase in	
eement for sourcing 17 e are also working on 0.7% 1% to ~ 20% and increase of	
s like rooftop rainwater	

SECTION 7: GUIDING PRINCIPLES CHECK LIST

Please use the checklist below to validate that the proposed Energy Compact is aligned with the guiding principles.

- 1. Stepping up ambition and accelerating action Increase contribution of and accelerate the implementation of the SDG7 targets in support of the 2030 Agenda for Sustainable Development for Paris Agreement I. 1. Does the Energy Compact strengthen and/or add a target, commitment, policy, action related to SDG7 and its linkages to the other SDGs that results in a higher cumulative impact compared to existing frameworks? \boxtimes Yes \Box No
 - *I.2.* Does the Energy Compact increase the geographical and/or sectoral coverage of SDG7 related efforts? \square Yes \square No
 - 1.3. Does the Energy Compact consider inclusion of key priority issues towards achieving SDG7 by 2030 and the net-zero emission goal of the Paris Agreement by 2050 as defied by latest global analysis and data including the outcome of the Technical Working Groups? \boxtimes Yes \square No

II. Alignment with the 2030 agenda on Sustainable Development Goals – Ensure coherence and alignment with SDG implementation plans and strategies by 2030 as well as national development plans and priorities.

II.1. Has the Energy Compact considered enabling actions of SDG7 to reach the other sustainable development goals by 2030? \boxtimes Yes \Box No

11.2. Does the Energy Compact align with national, sectoral, and/or sub-national sustainable development strategies/plans, including SDG implementation plans/roadmaps? 🛛 Yes 🗆 No

II.3. Has the Energy Compact considered a timeframe in line with the Decade of Action? \square Yes \square No

III. Alignment with Paris Agreement and net-zero by 2050 - Ensure coherence and alignment with the Nationally Determined Contributions, long term net zero emission strategies.

III.1. Has the Energy Compact considered a timeframe in line with the net-zero goal of the Paris Agreement by 2050? \boxtimes Yes \square No

III.2. Has the Energy Compact considered energy-related targets and information in the updated/enhanced NDCs? \boxtimes Yes \square No

III.3. Has the Energy Compact considered alignment with reaching the net-zero emissions goal set by many countries by 2050? \boxtimes Yes \square No

IV. Leaving no one behind, strengthening inclusion, interlinkages, and synergies - Enabling the achievement of SDGs and just transition by reflecting interlinkages with other SDGs.

IV.1. Does the Energy Compact include socio-economic impacts of measures being considered? \boxtimes Yes \square No

IV.2. Does the Energy Compact identify steps towards an inclusive, just energy transition? \square Yes \square No

IV.3. Does the Energy Compact consider measures that address the needs of the most vulnerable groups (e.g. those impacted the most by energy transitions, lack of energy access)? \boxtimes Yes \square No

V. Feasibility and Robustness - Commitments and measures are technically sound, feasible, and verifiable based a set of objectives with specific performance indicators, baselines, targets and data sources as needed.

V.1. Is the information included in the Energy Compact based on updated quality data and sectoral assessments, with clear and transparent methodologies related to the proposed measures? \square Yes \square No

V.2. Has the Energy Compact considered inclusion of a set of SMART (specific, measurable, achievable, resource-based and time based) objectives? \boxtimes Yes \square No

V.3. Has the Energy Compact considered issues related to means of implementation to ensure feasibility of measures proposed (e.g. cost and financing strategy, technical assistant needs and partnerships, policy and regulatory gaps, data and technology)? \boxtimes Yes \Box No

SECTION 8: ENERGY COMPACT GENERAL INFORMATION

8.1. Title/name of the Energy Compact

HC India Ltd. Sustainability Commitment 2030 SDG Ambitions Through Green Energy Transitions

8.2. Lead entity name (for joint Energy Compacts please list all parties and include, in parenthesis, its entity type, using entity type from below)

Heidelberg Cement India Limited (Fellow Subsidiary of Heidelberg Cement India), Plot Number 68, 2nd Floor, Sector 44- Gurgaon, Haryana-122002 & Zuari Cement Limited (Fellow Subsidiary of Heidelberg Cement India) Adventz Centre, No. 28, 2nd Floor, Cubbon Rd, Shivaji Nagar, Bengaluru, Karnataka 560001

8.3. Lead entity type

□ Government	□ Local/Regional Government	□ Multilateral body /Intergo
□ Non-Governmental Organization (NGO)	□ Civil Society organization/Youth	□ Academic Institution /Scient
⊠ Private Sector	Philanthropic Organization	□ Other relevant actor

8.4. Contact Information

Mr. SK Tiwari Director Technical Mob. No.- +91 8800577222 Mail Id- <u>sk.tiwari@heidelbergcement.in</u> Plot Number 68, 2nd Floor, Sector 44- Gurgaon, Haryana-122002

8.5. Please select the geographical coverage of the Energy Compact

□Africa ⊠Asia and Pacific □Europe □Latin America and Caribbean □North America □West Asia □Global

8.6. Please select the Energy Compact thematic focus area(s)

Energy Access Energy Transition Enabling SDGs through inclusive just Energy Transitions Innovation, Technology and Data Enabling SDGs through inclusive just Energy Transitions Energy Transitions, Technology and Data Enabling SDGs through inclusive just Energy Transitions

SECTION 9: ADDITIONAL INFORMATION (IF REQUIRED)

Please provide additional website link(s) on your Energy Compact, which may contain relevant key documents, photos, short video clips etc.

