

## Decarbonisation of Cement Production



TARA (Development Alternatives Group) and JK Lakshmi Cement Ltd. announce launch of a Strategic Partnership on Decarbonisation of Cement Production.

JK Lakshmi Cement Ltd., Sirohi, Rajasthan signed a long term MoU with Society for Technology and Action for Rural Advancement (TARA), Development Alternatives Group today on 3 May 2022. This launch is a counter offensive against the impending adverse effects of climate change and in sync with India's commitments made at COP26 by the Honorable Prime Minister of India, Shri Narendra Modi.

With this association TARA, aims to support JKL in achieving its carbon neutrality target by 2047 through the production of Limestone Calcined Clay Cement (LC3) and other technologies. This association is expected to be a game changer giving impetus to the industry's efforts in mitigating emissions, combating climate change and bringing a holistic change in the surrounding communities to create sustainable livelihoods at scale.

**TARA (DA Group) will be an applied research and Technical Support partner. It will -**

1. Spearhead the initiatives for Carbon Neutrality
2. Carry out quantification of GHG emissions for cement production
3. Initiate applied research and application on waste utilisation to enhance resource efficiency in the plant.

The MoU was signed in the presence of Dr. Jonathan Demenge, the Country Head of Swiss Development Corporation, Embassy of Switzerland, Mr. Arun Kumar Shukla, President, JK Lakshmi Cement Ltd, Dr. Arun Kumar, President, Development Alternatives Group and other senior officials from JKL, TARA, IITD, SDC.



Talking about the new partnership with TARA, Dr. S. K. Saxena, Sr. Vice President Works, Jaykaypuram, JK Lakshmi Ltd. said, "TARA works on a vision to build prosperous communities through long-term partnerships."



As our organisation takes this as a moral responsibility to build a better society through contributing towards mitigating climate change in cement production, our new partnership will further support us to drive impactful initiatives and enhance our already existing activities."

Dr. Arun Kumar, President of Development Alternatives remarked, "This Memorandum of Understanding seeks to foster a collaborative partnership between JK Lakshmi Cement Ltd. and TARA, based on shared interests, and by this collaboration, we aim at supporting decarbonisation of cement production in India, thereby contributing to the Nationally Determined commitments made at COP 26 by the Honourable Prime Minister of India."

Dr. Soumen Maity, Chief Technology Officer of TARA mentioned, "We had been associated with JKL from the inception of the LC3 project in India. Their continuous follow-up and belief on the LC3 project team of EPFL, IITD, IITM has helped immensely in developing the technology. JK Lakshmi was the first cement company in India to produce LC3 on commercial scale under the guidance of IITD and TARA. We hope to scale new heights in the coming years and be a value added partner to JKL".

## **Decarbonising Cement Production**

Cement production is one of the most resource and energy-intensive processes causing significant impact on the environment and natural resource base. In spite of the noteworthy progress by the Indian cement industry in enhancing energy efficiency, GHG emissions from the cement sector are still significantly higher (187 million tons of CO<sub>2</sub> in 2015-16) (GHG Platform India, 2016). The magnitude of projected demand for building and infrastructure in India will result in the cement industry expanding threefold till 2050, resulting in a proportionate increase in the sector's carbon dioxide (CO<sub>2</sub>) emissions. This is a cause for concern as the release of such large quantities of CO<sub>2</sub> into the atmosphere will exacerbate the extent of global warming and intensify the effects related to climate change.

## **About Limestone Calcined Clay Cement (LC3)**

Limestone Calcined Clay Cement or LC3 is a new type of composite cement based on a blend of clinker, calcined clay and raw limestone. Clinker content is as low as 50%. LC3 technology has several advantages over Ordinary Portland Cement (OPC) and Portland Pozzolanic Cement (PPC) such as:

1. Reduces emission of CO<sub>2</sub> up to 40% compared to OPC
2. Lower energy consumption
3. Comparable strength with OPC
4. Improved durability

LC3 is one of the major innovations in the last decade by a consortium of EPFL Switzerland, IIT Delhi, IIT Madras and CIDEM Cuba, supported by Swiss Development and Cooperation, India, Embassy of Switzerland to reduce the clinker factor in cement production by addition of calcined clay and waste limestone. TARA is an implementing partner.

## **About TARA**

TARA is a social enterprise set up in the year 1985 at New Delhi, India. It is an “incubation engine” of the Development Alternatives Group which has been providing development solutions in India and elsewhere. It is dedicated to sustainable development and is a research and action organisation striving to deliver socially equitable, environmentally sound, and economically scalable development outcomes.

## **About JK Lakshmi Cement Ltd.**

JK Lakshmi Cement Ltd. is a renowned and well-established name in the Indian Cement industry for three decades and has an annual turnover of over Rs. 5000 crores. It has a formidable presence in Northern, Western and Eastern India's cement markets. In the Sirohi district, Rajasthan, JKLC has been working on holistic development of the villages around the Jaykaypuram Cement plant in Pindwara, Sirohi, for the last 40 years. The plant has been a catalyst in the socio-economic growth of the region contributing in all spheres ranging from employment generation, health, education, rural infrastructure development, capability building, rescue & relief in case of natural calamities and emergencies.

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