Decarbonising the Cement Industry

The Public-Private Partnership Approach

Decarbonising Cement Production

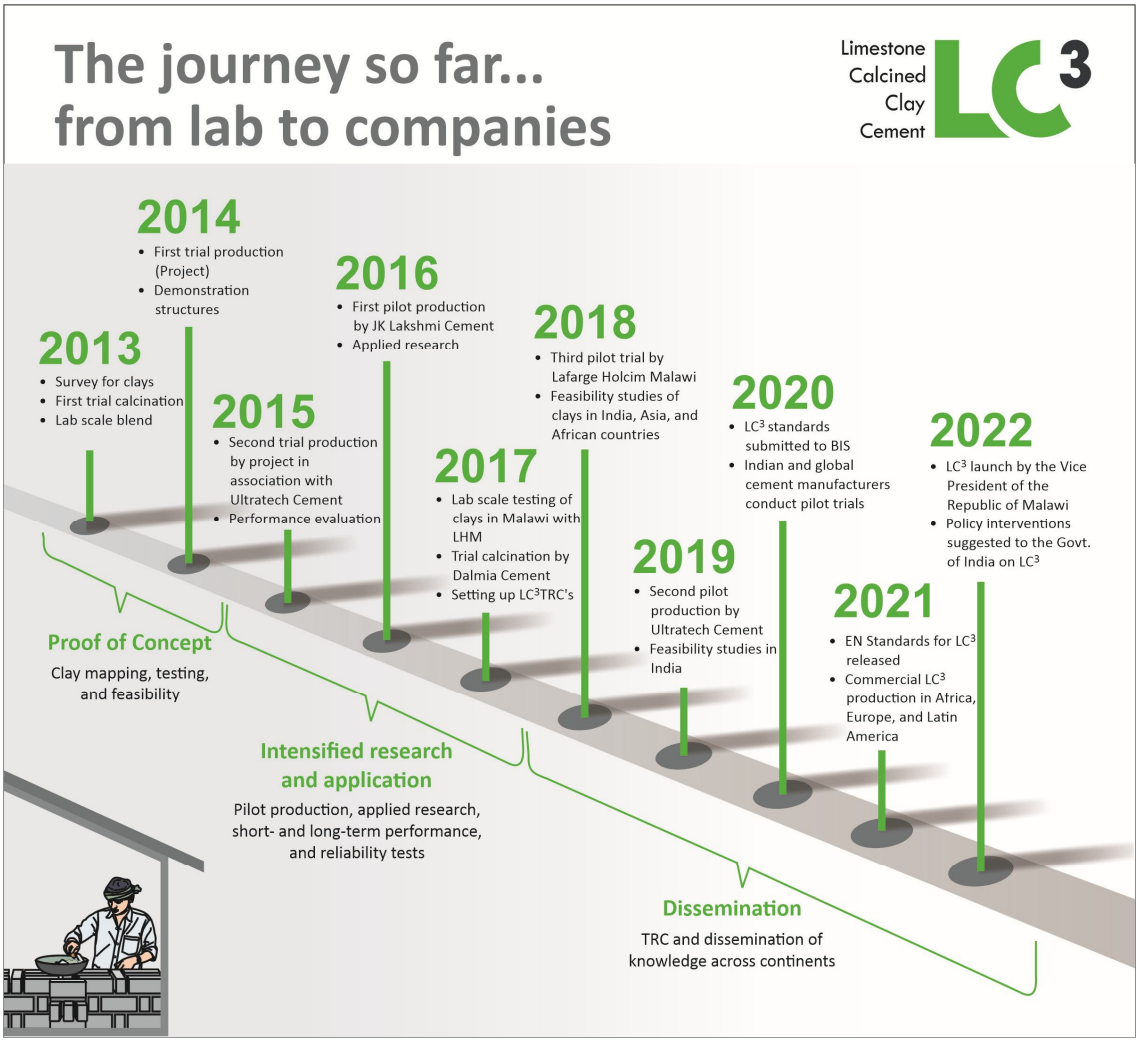
Cement production is one of the most resource- and energy-intensive processes, causing a significant impact on the environment and natural resource base. Despite the substantial progress by the Indian cement industry in enhancing energy efficiency, GHG emissions from the cement sector are still significantly higher (187 million tonnes of CO_2 in 2015-16) (GHG Platform India, 2016). The projected demand for building materials and infrastructure in India will translate into a threefold expansion of the cement industry until 2050, resulting in a proportionate increase in the sector's carbon dioxide (CO_2) emissions. This is a cause for concern as the release of such large quantities of CO_2 into the atmosphere will exacerbate global warming and intensify the effects of climate change.

About Limestone Calcined Clay Cement (LC_3)

Limestone Calcined Clay Cement or LC_3 is a new type of composite cement based on a blend of clinker, calcined clay, and raw limestone. The ratio of the clinker content in the mix can be reduced to as low as 50%. The LC_3 technology has several advantages over Ordinary Portland Cement (OPC) and Portland Pozzolanic Cement (PPC), such as:

- It reduces CO_2 emissions up to 40% as compared to OPC
- It has a low energy consumption
- It has comparable strength with OPC
- It demonstrates enhanced durability

LC^3 has emerged as one of the major innovations in the last decade to address the environmental crisis emanating from the cement industry. The technology reduces the clinker factor in cement production by the addition of calcined clay and waste limestone. It has been developed through sustained and collaborative efforts by a consortium of École Polytechnique Fédérale de Lausanne (EPFL) Switzerland, Indian Institute of Technology (IIT) Delhi, IIT Madras, and Centro de Investigación y Desarrollo de Medicamentos (CIDEM) Cuba, with support from Swiss Development and Cooperation, India, Embassy of Switzerland. The Society for Technology and Action for Rural Advancement (TARA), Development Alternatives Group (DA Group) is the technology's implementation partner.



Know more about LC3 Technology - https://www.lc3trcindia.com/

Public–Private Partnership Approach

The public–private partnership (PPP) drives the amalgamation of the innovative power of business with resources, knowledge, and the experience of development work. It involves cooperation on the part of governments, civil society, and responsible companies, allowing the skills and resources of all those involved to be combined. With the PPP strategy, the DA group intends to strengthen the concerted action of official development cooperation and private business activity towards decarbonizing the cement industry. The objective of this approach is to promote the private sector's involvement, wherein business opportunities and the need for development policy action overlap towards decarbonisation. The PPP approach will bring opportunities for sustainability, broad impact, and innovation and scalability by creating structures wherein large amounts of carbon emissions can be mitigated. It is envisioned that the partnership will eventually mobilize additional contributions from the private sector, lead to the utilisation of public know-how with a view to more efficient service delivery, and promote the private sector's investment as a growth engine towards meeting the country's NDC targets.