

Decarbonizing Cement



IFC Cement Decarbonization Tool

Step One in Your Decarbonization Journey

Building on its \$7.1 billion cumulative cement industry investment portfolio, IFC has developed a tool to help cement companies in emerging markets to start planning the transition. The tool helps firms make an initial high-level assessment of major decarbonization options.

Rooted in IFC's global industry knowledge of over 50 years, the tool helps firms explore five decarbonization measures at the plant level:



Alternative fuels



Electric power supply mix



Blended cement



Waste-heat recovery



Select equipment configuration changes

The resulting analysis drives key strategic choices. It identifies anticipated greenhouse gas (GHG) reductions, high-level CAPEX needs, and estimated payback periods. This information then helps create an approximate Marginal Abatement Cost Curve. With these results, IFC's tool can become the basis for decarbonization strategies and new climate-friendly investment projects.

The Industry Context

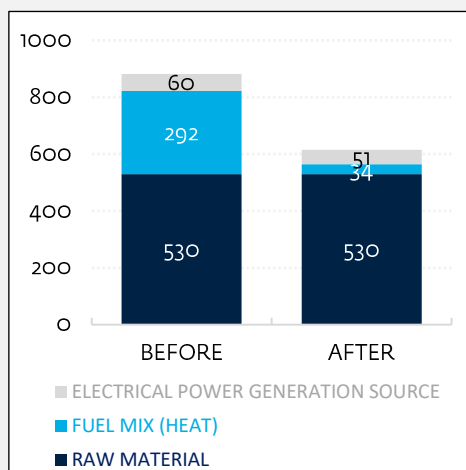
Moving to Net Zero

The cement industry is the source of over seven percent of GHG emissions. To reach net zero by 2050, it must decarbonize at a rate of 3 percent per year by 2030, the International Energy Agency estimates.

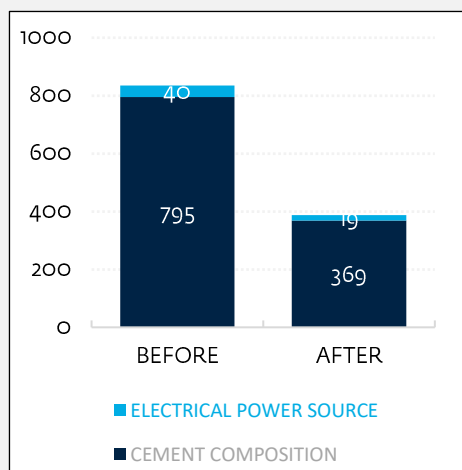
The first step of becoming a net zero cement producer requires taking a strategic stock of major commercially-proven decarbonization measures, drawing on advisory and investment support from a trusted global partner sharing a client's vision for sustainability, impact, and long-term success.

Example of the tool's outputs for a 5,500 tpd clinker integrated cement plant:

The charts below show the carbon footprint before and after the decarbonization measures were considered. The CAPEX is estimated at \$70m+ with the simple payback time. Ranging between less than eight years.



Clinker Production Specific CO₂ Emission Rate (kg CO₂/t)



Cement Production Specific CO₂ Emission Rate (kg CO₂/t)



Decarbonizing Cement



FOUR STEPS

We will support your company in defining needs, developing strategy, guiding implementation, and providing financing. Our tool has four components:

1

VISIT THE TOOL'S [WEBPAGE](#)

To learn more details and see client testimonials.

2

CONTACT IFC

To discuss your decarbonization ambitions and future investment needs.

3

DISCUSS THE RESULTS

Of the tool with IFC industry experts.

4

PARTNER WITH IFC

On advisory and investments needs to make your decarbonization ambition a reality.

PERCENTAGE CONTRIBUTIONS TO NET ZERO IN 2050*

36%

Carbon capture, utilization, and storage

22%

Efficiency in design and construction

11%

Efficiency in concrete production

11%

Savings in clinker production

9%

Savings in cement and binders

6%

Co2 sink: recarbonation

5%

Decarbonization of electricity

*Global Cement and Concrete Association: GCCA Concrete Future - Roadmap to Net Zero

CONTACT US

CementDecarbTool@ifc.org

Femi Akinrebiyo

Manager, Global Manufacturing
Fakinribeyo@ifc.org

Alexander Sharabaroff

Senior Energy Specialist
Asharaboff@ifc.org

Marek Stec

Senior Industry Specialist
Mstec@ifc.org

Margarita Talavera

Senior Investment Officer
Mtalavera@ifc.org

European Cement Research Academy (ECRA) has reviewed IFC's Cement Decarbonization Tool (Tool). Based on that review, ECRA believes that the Tool's approach and methodology are sound. Designed to produce approximate analyses of select decarbonization levers at a cement plant, the Tool produces initial estimates of acceptable quality for fuel and electricity consumption, greenhouse gas (GHG) emissions and indicative CAPEX, which are within acceptable ranges for these parameters as shown in the ECRA Technology Papers of 2022. ECRA further found that the Tool provides a satisfactory level of detail, enabling cement companies to effectively explore various decarbonization levels that may help reduce energy demand and thus may ultimately facilitate decarbonization efforts.