

Press Release

Vedanta Aluminium invites waste-to-wealth partnerships with cement industry for low-carbon products

- ***Organized a national workshop on the opportunities and benefits of using fly ash and bauxite residue for cement manufacturing***
- ***High potential for savings in cost and carbon emissions by cement industry***
- ***Ecosystem of industry experts to guide on technical aspects of blending***

New Delhi, 19th July 2021: Vedanta Aluminium Business, India's largest producer of the aluminium and value-added products, invites partnerships from cement producers for using its by-products for manufacturing low-carbon cement. The company expressed its interest for long-term collaboration with cement industry players on opportunities of using fly ash (a by-product in thermal power generation) and bauxite residue (a by-product of producing alumina from bauxite) in cement manufacturing, in a national workshop conducted with global industry experts.

The cement industry, which is exploring viable solutions to produce cement more sustainably, is the perfect circular economy partner for Vedanta Aluminium. Fly ash and bauxite residue, the two most voluminous by-products generated by the aluminium industry, can be used in cement and concrete manufacturing, providing cement manufacturers significant benefits in terms of quality output, cost and sustainability.

Fly ash can partially replace cement in concrete (or be used to produce blended cement), significantly improving durability and workability of cement. With a 30 – 33% blending ratio, fly ash can help save 270 kg of carbon emissions for every tonne of cement produced. Bauxite residue can be added to the raw mix in clinker manufacturing to replace virgin bauxite, improving its hydraulic properties and strength. Owing to high concentration of iron oxide and alumina, bauxite residue is a better substitute for laterite, used in clinker manufacturing. Moreover, the residual caustic in bauxite residue helps in controlling the emission of sulphur when used directly, making it a better fit for the purpose. Both fly ash and bauxite residue being industrial wastes themselves, come with significant cost and energy advantages as well.

Vedanta Aluminium's technical workshop was attended by over a hundred executives from the cement industry and featured globally renowned experts in this domain – Mr. Shreesh Khadilkar, ex-Director of Quality and Product Development at one of India's leading cement producers, and Mr. Robin De Beer, a concrete technologist from South Africa with 40+ years of experience in gainful utilization of fly ash in concrete.

Speaking at the webinar, Mr. Rahul Sharma, Dy. CEO – Vedanta Aluminium Business said, "We firmly believe that industries must develop waste-to-wealth value-chains to truly become sustainable. At Vedanta, we have made encouraging progress in this direction and intend to pursue it further. Long-term strategic collaborations, such as between Vedanta and India's key cement producers, will not only eliminate significant volumes of industrial waste from the system, but also provide the trifecta of quality, sustainability and cost benefits for the cement industry. We hope the Indian cement producers come forth to work with us on this innovative solution, which is a true win-win scenario for the industry and environment."

Sharing his insights and industry experience with the audience, Mr. Robin De Beer said, “Good quality fly ash can help reduce water demand, lower heat of hydration and significantly enhance workability of concrete, resulting in long-term strength and durability. This technical workshop is a great initiative by Vedanta to create awareness on how fly ash can support the sustainability agenda of the cement and concrete industry, while significantly improving the product performance.”

Mr. Shreesh Khadilkar added, “Bauxite residue has multiple advantages in cement manufacturing, such as lower silica relative to laterite/bauxite, higher alkali content and fine particles, which reduces grinding cost. It also improves hydraulic properties of cement. Indian cement industry should leverage this innovative opportunity to reap benefits of quality and sustainability.”

In line with its quest for fostering circular economy, in FY21, Vedanta Aluminium supplied over 3 lakh metric tonnes of fly ash to various cement plants in India. Since Feb’21, the company has also supplied over 30,000 metric tonnes of bauxite residue to cement manufacturers. The Business is additionally supplying fly ash free of cost to hundreds of local brick making MSMEs in its catchment. In FY21, Vedanta Aluminium supplied nearly 4 lakh metric tonnes of ash to brick manufacturers. Ash bricks are not only lighter and stronger than traditional clay bricks, but play a crucial role in preserving nutrient-rich topsoil from being used as the raw material. This amounts to estimated savings of 1.9 metric tonnes of topsoil for every tonne of ash brick manufactured. Besides, ash brick manufacturing is an eco-efficient process, contrary to the energy-intensive process of producing clay bricks in brick kilns that result in substantial greenhouse gas emissions. In fact, for every tonne of ash bricks manufactured, an estimated 5900 kg of carbon dioxide equivalent emissions is avoided.

To know more about this topic, please reach out to: info.wastetowealth@vedanta.co.in

Vedanta Aluminium Business, a division of Vedanta Limited, is India’s largest manufacturer of aluminium, producing half of India’s aluminium at 1.96 million tonnes per annum (MTPA) in FY21. It is a leader in value-added aluminium products that find critical applications in core industries. With its world-class Aluminium Smelters, Alumina Refinery and Power Plants in India, the company fulfils its mission of spurring emerging applications of aluminium as the ‘Metal of the Future’ for a greener tomorrow.

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About Vedanta Limited:

Vedanta Limited, a subsidiary of Vedanta Resources Limited, is one of the world’s leading Oil & Gas and Metals company with significant operations in Oil & Gas, Zinc, Lead, Silver, Copper, Iron Ore, Steel, and Aluminium & Power across India, South Africa, Namibia, and Australia. For two decades, Vedanta has been contributing significantly to nation building. Governance and sustainable development are at the core of Vedanta’s strategy, with a strong focus on health, safety, and environment. Giving back is in the DNA of Vedanta, which is focused on enhancing the lives of local communities. Under the aegis of Vedanta Cares, the flagship social impact program, Nand Ghars have been set up as model

anganwadis focused on eradicating child malnutrition, providing education, healthcare, and empowering women with skill development. Vedanta and its group companies have been featured in Dow Jones Sustainability Index 2020, and were conferred Frost & Sullivan Sustainability Awards 2020, CII Environmental Best Practices Award 2020, CSR Health Impact Award 2020, CII National Award 2020 for Excellence in Water Management, CII Digital Transformation Award 2020, ICSI National Award 2020 for excellence in Corporate Governance, People First HR Excellence Award 2020, 'Company with Great Managers 2020' by People Business and certified as a Great Place to Work 2021. Vedanta Limited is listed on the Bombay Stock Exchange and the National Stock Exchange in India and has ADRs listed on the New York Stock Exchange.

For more information, please log on to <https://www.vedantalimited.com>

About Vedanta Aluminium Business:

Vedanta Aluminium Business, a part of Vedanta Limited, is India's largest producer of Aluminium, producing almost half of India's Aluminium or 1.96 million tonnes per annum (MTPA) in FY21. Vedanta is a leader in value-added aluminium products that find critical applications in core industries. With its world-class Aluminium Smelters, Alumina Refinery and Power Plants in India, the company fulfils its mission of spurring emerging applications of aluminium as the 'Metal of the Future' for a greener tomorrow.

For more information, please log on to <https://vedantaaluminium.com/>

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