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Alcoa receives funding to pilot carbon-reduction technology for alumina refining, supporting Refinery of the Future initiative

PITTSBURGH, April 11, 2022 – Alcoa Corporation (NYSE: AA) today announced that Australian governments have provided \$7.7 million of funding to conduct pilot trials on a new carbon reduction technology that supports Alcoa’s Refinery of the Future initiative.

Alcoa of Australia has received support to test electric calcination with \$6.4 million (A\$8.6 million) from The Australian Renewable Energy Agency (ARENA) and \$1.3 million (A\$1.7 million) from Western Australia’s Clean Energy Future Fund (CEFF).

Calcination is the final stage in the alumina refining process and uses fossil fuels, primarily natural gas, to heat alumina hydrate crystals. Electric calcination, when powered with renewable energy, has the potential to significantly reduce carbon emissions. Additionally, electrification of calciners would allow significant amounts of residual energy, currently lost in the atmosphere as steam, to be captured and reused, saving water and negating the need for stacks to vent that steam.

“We are the lowest carbon intensity alumina producer in the world, and we have a [technology roadmap](#) of future-oriented research and development projects with the goal to reduce our footprint even further,” said Eugenio Azevedo, Alcoa’s Vice President for Continuous Improvement. “With this support from Australian governments, we are working on our vision to reinvent the aluminum industry for a sustainable future, which includes advancing projects of global significance for the aluminum industry and its customers.”

While the application of electric calcination is still in the research and development phase, the technologies that support the process are proven. It is one of two research and development projects included in Alcoa’s [Refinery of the Future](#), which intends to unlock decarbonization at scale by delivering a cost-competitive refinery that will eliminate fossil fuels, as well as reduce freshwater use, and minimize and ultimately eliminate new bauxite residue deposits.

The grants announced today [complement the funding support](#) announced in 2021 by ARENA to support Mechanical Vapor Recompression (MVR), another technology that would use renewable energy to recycle low-pressure steam in alumina refining to generate process heat.

When combined with a decarbonized grid, MVR and electric calcination could reduce a refinery’s carbon emissions by about 98 percent and reduce fresh water use by up to 70 percent.

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The pilot project for electric calcination will include two stages. The first stage will run until the end of 2023 and will involve the study, selection, engineering and testing of technologies. Subject to satisfactory completion of the first stage, the second portion of the project will begin in the first quarter of 2024 and continue into mid-2026 with detailed design, construction and pilot testing of this emerging technology at Alcoa's Pinjarra refinery in Western Australia.

About Alcoa

Alcoa (NYSE: AA) is a global industry leader in bauxite, alumina and aluminum products with a vision to reinvent the aluminum industry for a sustainable future. With a values-based approach that encompasses integrity, operating excellence, care for people and courageous leadership, our purpose is to Turn Raw Potential into Real Progress. Since developing the process that made aluminum an affordable and vital part of modern life, our talented Alcoans have developed breakthrough innovations and best practices that have led to greater efficiency, safety, sustainability and stronger communities wherever we operate.

About Alcoa of Australia

Alcoa of Australia is owned by Alcoa World Alumina and Chemicals (AWAC), an unincorporated global joint venture between Alcoa Corporation and Alumina Limited that consists of a number of affiliated entities that own, operate or have an interest in bauxite mines and alumina refineries, as well as an aluminum smelter, in seven countries. Alcoa Corporation owns 60 percent of AWAC with Alumina Limited owning 40 percent.

Dissemination of Company Information

Alcoa Corporation intends to make future announcements regarding company developments and financial performance through its website at www.alcoa.com, as well as through press releases, filings with the Securities and Exchange Commission, conference calls and webcasts.

Forward-Looking Statements

This press release contains statements that relate to future events and expectations, and as such constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those containing such words as "aim," "ambition," "anticipates," "believes," "could," "develop," "endeavors," "estimates," "expects," "forecasts," "goal," "intends," "may," "outlook," "plans," "potential," "projects," "reach," "seeks," "sees," "should," "targets," "will," "working," "would," or other words of similar meaning. All statements by Alcoa Corporation that reflect expectations, assumptions or projections about the future, other than statements of historical fact, are forward-looking statements. Forward-looking statements are not guarantees of future performance and are subject to known and unknown risks, uncertainties, and changes in circumstances that are difficult to predict. Although Alcoa Corporation believes that the expectations reflected in any forward-looking statements are based on reasonable assumptions, it can give no assurance that these expectations will be attained, and it is possible that actual results may differ materially from those indicated by these forward-looking statements due to a variety of risks and uncertainties. Additional information concerning factors that could cause actual results to differ materially from those projected in the forward-looking statements is contained in Alcoa Corporation's filings with the Securities and Exchange Commission. Alcoa Corporation disclaims any obligation to update publicly any forward-looking statements, whether in response to new information, future events or otherwise, except as required by applicable law.

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