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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2024

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission File Number 1-37816

ALCOA CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**81-1789115**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
201 Isabella Street, Suite 500, Pittsburgh, Pennsylvania	**15212-5858**
(Address of principal executive offices)	**(Zip Code)**

(Registrant's telephone number, including area code): 412-315-2900

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	AA	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

The aggregate market value of the registrant's voting stock held by non-affiliates at June 28, 2024 was approximately $7.1 billion, based on the closing price per share of Common Stock on June 28, 2024 of $39.78 as reported on the New York Stock Exchange.

Indicate the number of shares outstanding of each of the registrant's classes of stock, as of the latest practicable date.

Title or Class	Outstanding Shares as of February 14, 2025
Common Stock, par value $0.01 per share	258,884,337
Series A Convertible Preferred Stock, par value $0.01 per share	4,041,989

DOCUMENTS INCORPORATED BY REFERENCE

Part III of this Form 10-K incorporates by reference certain information from the registrant's Definitive Proxy Statement for its 2025 Annual Meeting of Stockholders to be filed pursuant to Regulation 14A.

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Note on Incorporation by Reference

In this Form 10-K, selected items of information and data are incorporated by reference to portions of Alcoa Corporation's Definitive Proxy Statement for its 2025 Annual Meeting of Stockholders (Proxy Statement), which will be filed with the Securities and Exchange Commission within 120 days after the end of Alcoa Corporation's fiscal year ended December 31, 2024. Unless otherwise provided herein, any reference in this Form 10-K to disclosures in the Proxy Statement shall constitute incorporation by reference of only that specific disclosure into this Form 10-K.

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PART I

Item 1. Business.

(dollars in millions, except per-share amounts, average realized prices, and average cost amounts)

The Company

Alcoa Corporation, a Delaware corporation (Alcoa or the Company), is active in all aspects of the upstream aluminum industry with bauxite mining, alumina refining, and aluminum smelting and casting. The Company has direct and indirect ownership of 26 operating locations across nine countries on six continents.

The Company's operations are comprised of two reportable business segments: Alumina and Aluminum. The Alumina segment primarily consists of the Company's bauxite mines and alumina refineries, which generally includes the mining of bauxite and other aluminous ores, as well as the refining, production, and sale of smelter grade and non-metallurgical alumina. The Aluminum segment consists of the Company's aluminum smelting and casting operations along with most of the Company's energy production assets.

On August 1, 2024, Alcoa completed the acquisition of Alumina Limited, which primarily consisted of the acquisition of Alumina Limited's noncontrolling interest in the Alcoa World Alumina and Chemicals (AWAC) joint venture (described below). Prior to the acquisition, the Alumina segment primarily consisted of a series of affiliated operating entities held in AWAC. Upon completion of the acquisition by Alcoa, Alumina Limited and, as a result, the operations held by the AWAC joint venture, became wholly-owned by Alcoa Corporation.

Aluminum, as an element, is abundant in the earth's crust, but a multi-step process is required to manufacture finished aluminum metal. Aluminum metal is produced by refining alumina oxide from bauxite into alumina, which is then smelted into aluminum and can be cast into many shapes and forms.

Alcoa smelts and casts aluminum in various shapes and sizes for global customers, including developing and creating various alloy combinations for specific applications.

Aluminum metal is a commodity traded on the London Metal Exchange (LME) and priced daily. Additionally, alumina is subject to market pricing through the Alumina Price Index (API), which is calculated by the Company based on the weighted average of a prior month's daily spot prices published by the following three indices: CRU Metallurgical Grade Alumina Price, Platts Metals Daily Alumina PAX Price, and FastMarkets Metal Bulletin Non-Ferrous Metals Alumina Index. As a result, the prices of both aluminum and alumina are subject to significant volatility and, therefore, influence the operating results of Alcoa.

Alcoa Corporation became an independent, publicly traded company on November 1, 2016, following its separation (the Separation Transaction) from its former parent company, Alcoa Inc. References herein to "ParentCo" refer to Alcoa Inc. and its consolidated subsidiaries through October 31, 2016, at which time it was renamed Arconic Inc. and since has been subsequently renamed Howmet Aerospace Inc.

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Business Strategy

Alcoa's business strategy is designed to create stockholder value while aligning with our purpose, vision, and values.

Over the past five years, the Company has made significant progress in reducing complexity and optimizing its portfolio of mining, refining, and smelting assets. In 2024, Alcoa safely curtailed the Kwinana alumina refinery in Australia, acquired Alumina Limited and subsequently benefited from the increased alumina exposure, and announced the sale of its 25.1% ownership in the Saudi Arabia joint venture. In the near term, Alcoa will focus on maintaining operational stability while strategically managing its portfolio to maximize profitability and value creation, including advancing Australia mine approvals, improving the long-term outlook for the San Ciprián operations (Spain), and completing the Alumar smelter (Brazil) restart while maintaining operational stability.

To strengthen our competitive position, Alcoa has identified priorities that address both immediate and long-term opportunities:

Achieving Safety Performance and Operational Excellence

- While strong today, the Company aims for a step change in safety performance, creating a workplace where risk is minimized, and employees thrive.
- Alcoa is committed to operational excellence by optimizing processes and modernizing the Alcoa Business System, a methodology used by Alcoa to improve its operating processes.

Building a High-Performance Culture

- A high-performance culture, where pursuit of continuous improvement is a core element, is key to achieving our strategic objectives. This includes leveraging new talent across the organization, setting clear and solid objectives, providing constructive feedback, and implementing a refreshed behavior model.

Disciplined Capital Allocation

- Alcoa seeks to utilize its capital allocation framework to maintain a strong balance sheet and sustain and improve existing operations while deploying excess cash effectively, focusing on returning capital to stockholders, transforming the portfolio, and executing on targeted investments in growth opportunities.

Targeted Growth

- Alcoa plans to pursue pragmatic growth opportunities, organically and inorganically, when returns exceed the cost of capital and deliver value to its stockholders.
- The Company plans to continue to invest in breakthrough technologies at a measured pace, respecting the time required for research, development, and commercialization efforts, as well as the Company’s investment capacity.
- The Company seeks to increase value from a strong sustainability position, which includes the industry’s most comprehensive suite of products made with lower carbon emissions. The Sustana™ brand includes EcoDura™ aluminum (recycled content), EcoLum™ aluminum (low carbon), and EcoSource™ alumina (also low carbon).

With an emphasis on safety, operational excellence, and continuous improvement, Alcoa’s portfolio of assets is well positioned to deliver stockholder value across business cycles. By following disciplined capital allocation and making pragmatic growth investments, the Company is prepared to adapt and thrive in an evolving industry landscape.

See Part II Item 7 of this Form 10-K in Management’s Discussion and Analysis of Financial Condition and Results of Operations under caption Business Update for more information.

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Joint Ventures

Saudi Arabia Joint Venture

In December 2009, Alcoa entered into a joint venture with the Saudi Arabian Mining Company (Ma'aden), which was formed by the government of Saudi Arabia to develop its mineral resources and create a fully integrated aluminum complex in Saudi Arabia. Ma'aden is listed on the Saudi Stock Exchange (Tadawul). The joint venture complex includes a bauxite mine with estimated capacity of 5 million dry metric tons per year; an alumina refinery with a capacity of 1.8 million metric tons per year (mtpy); and an aluminum smelter with a capacity of 804,000 mtpy.

The joint venture is currently comprised of two entities: the Ma'aden Bauxite and Alumina Company (MBAC) and the Ma'aden Aluminium Company (MAC). Ma'aden owns a 74.9% interest in the joint venture. Alcoa owns a 25.1% interest in MAC, which holds the smelter; AWAC, which became wholly-owned by Alcoa upon its completion of the Alumina Limited acquisition, holds a 25.1% interest in MBAC, which holds the mine and refinery. The refinery and smelter are located within the Ras Al Khair industrial zone on the east coast of Saudi Arabia.

On September 15, 2024, Alcoa entered into a share purchase and subscription agreement with Ma'aden, pursuant to which Alcoa agreed to sell its full ownership interest of 25.1% in the Saudi Arabia joint venture, comprised of MBAC and MAC, to Ma'aden in exchange for issuance by Ma'aden of approximately 86 million shares and $150 in cash. The shares of Ma'aden will be subject to transfer and sale restrictions, including a restriction requiring Alcoa to hold its Ma'aden shares for a minimum of three years, with one-third of the shares becoming transferable after each of the third, fourth, and fifth anniversaries of closing of the transaction. The transaction is subject to regulatory approvals, approval by Ma'aden's shareholders, and other customary closing conditions and is expected to close in the first half of 2025.

ELYSIS

ELYSIS™ Limited Partnership (ELYSIS) is between wholly-owned subsidiaries of Alcoa (48.235%) and Rio Tinto Alcan Inc. (Rio Tinto) (48.235%), respectively, and Investissement Québec (3.53%), a company wholly-owned by the Government of Québec, Canada. The purpose of ELYSIS is to advance larger scale development and commercialization of its patent-protected technology that eliminates direct greenhouse gas emissions from the traditional aluminum smelting process and, instead, emits oxygen. Alcoa first developed the inert anode technology for the aluminum smelting process that served as the basis for the formation of ELYSIS in 2018. Development scale quantities of aluminum produced by ELYSIS have been sold for commercial purposes, including to Ball Corporation for its low-carbon aluminum cup launched at the World Economic Forum in Davos, Switzerland and to Nexans, producing the world's first cable containing metal from this breakthrough technology. Further progress on ELYSIS technology was announced in 2024 with Rio Tinto's plans to launch the first industrial-scale demonstration of the breakthrough technology, which includes 10 ELYSIS smelting pots operating at 100 kiloamperes (kA), a size similar to those operating at smaller-scale commercial smelters. Alcoa has the right to purchase up to 40 percent of the metal produced from the demonstration, allowing for Alcoa customers to benefit from ELYSIS's carbon-free electrolytic process early in the technology development cycle. The target for first production is by 2027.

Alcoa World Alumina and Chemicals (AWAC)

On August 1, 2024, Alcoa completed the acquisition of all of the ordinary shares of Alumina Limited (Alumina Shares) through a wholly-owned subsidiary, AAC Investments Australia 2 Pty Ltd. At acquisition, Alumina Limited, a company previously listed on the Australian Securities Exchange, held a 40% ownership interest in the AWAC joint venture.

Under the Scheme Implementation Deed entered into in March 2024, as amended in May 2024, holders of Alumina Shares received 0.02854 Alcoa CHESS Depositary Interests (CDIs) for each Alumina Share (the Agreed Ratio), except that i) holders of Alumina Shares represented by American Depositary Shares, each of which represented 4 Alumina Shares, received 0.02854 shares of Alcoa common stock and ii) a certain shareholder received, for certain of their Alumina Shares, 0.02854 shares of Alcoa non-voting convertible preferred stock. The Alcoa CDIs are quoted on the Australian Stock Exchange.

At closing, Alumina Shares outstanding of 2,760,056,014 and 141,625,403 were exchanged for 78,772,422 and 4,041,989 shares of Alcoa common stock and Alcoa preferred stock, respectively. Based on Alcoa's closing share price as of July 31, 2024, the Agreed Ratio implied a value of A$1.45 per Alumina Share and aggregate purchase consideration of approximately $2,700 for Alumina Limited.

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The transaction consisted in substance of the acquisition of Alumina Limited's noncontrolling interest in AWAC, the assumption of Alumina Limited's indebtedness, the recognition of deferred tax assets primarily related to Alumina Limited's prior net operating losses and the tax allocation of the fixed asset valuation to individual assets, and the acquisition of cash and other current liabilities. The transaction was accounted for as an equity transaction where net assets acquired and transaction costs were reflected as an increase to Additional capital.

Prior to Alcoa's acquisition of Alumina Limited, Alcoa Corporation and Alumina Limited owned 60% and 40%, respectively, of AWAC, an unincorporated global joint venture consisting 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. The scope of AWAC generally includes the mining of bauxite and other aluminous ores; the refining, production, and sale of smelter grade and non-metallurgical alumina; and the production of certain primary aluminum products. Upon completion of the acquisition on August 1, 2024, Alumina Limited and, as a result, the operations held by the AWAC joint venture, became wholly-owned by Alcoa Corporation.

AWAC Operations

In 2024, AWAC entities' assets included the following interests:

- 100% of the bauxite mining and alumina refining operations of Alcoa's affiliate, Alcoa of Australia Limited (AofA);
- 100% of the Juruti bauxite deposit and mine in Brazil;
- 45% interest in Halco (Mining) Inc., a bauxite consortium that owns a 51% interest in Compagnie des Bauxites de Guinée (CBG), a bauxite mine in Guinea;
- 39.96% interest in the São Luís refinery in Brazil;
- 55% interest in the Portland, Australia smelter that AWAC manages on behalf of the joint venture partners;
- 25.1% interest in the mine and refinery in Ras Al Khair, Saudi Arabia;
- 100% of the refinery and alumina-based chemicals assets at San Ciprián, Spain;
- 100% of Alcoa Steamship Company LLC, a company that procures ocean freight and commercial shipping services for Alcoa in the ordinary course of business;
- 100% of the assets at the closed, former alumina refining facility in Point Comfort, Texas, United States; and,
- 100% interest in various assets formerly used for mining and refining in the Republic of Suriname (Suriname).

Others

The Company is party to several other joint ventures and consortia. See additional details within each business segment discussion below.

The Aluminerie de Bécancour Inc. (ABI) smelter is a joint venture between Alcoa and Rio Tinto located in Bécancour, Québec. Alcoa owns 74.95% of the joint venture through its 50% equity investment in Pechiney Reynolds Quebec, Inc., which owns a 50.1% share of the smelter, and two wholly-owned Canadian subsidiaries, which own 49.9% of the smelter. Rio Tinto owns the remaining 25.05% interest in the joint venture through its 50% ownership in Pechiney Reynolds Quebec, Inc.

CBG is a joint venture between Boké Investment Company (51%) and the Government of Guinea (49%) for the operation of a bauxite mine in the Boké region of Guinea. Boké Investment Company is owned 100% by Halco (Mining) Inc.; Alcoa World Alumina LLC (AWA LLC) holds a 45% interest in Halco (Mining) Inc. AWA LLC is part of the AWAC group of companies, which became wholly-owned by Alcoa upon its completion of the Alumina Limited acquisition.

On April 30, 2022, Alcoa completed the sale of its investment in Mineração Rio Do Norte (MRN) for proceeds of $10. An additional $30 in cash could be paid to the Company in the future if certain post-closing conditions related to future MRN mine development are satisfied. Related to this transaction, the Company recorded an asset impairment of $58 in the first quarter of 2022 in Restructuring and other charges, net on the Statement of Consolidated Operations. In addition, the Company entered into several bauxite offtake agreements with South32 Minerals S.A. (South32) to provide bauxite supply for existing long-term supply contracts.

Alumar is an unincorporated joint venture for the operation of a refinery, smelter, and casthouse in Brazil. The refinery is owned by AWAB (39.96%), Rio Tinto (10%), Alcoa Alumínio (14.04%), and South32 (36%). AWAB is part of the AWAC group of companies, which became wholly-owned by Alcoa upon its completion of the Alumina Limited acquisition. With respect to Rio Tinto and South32, the named company or an affiliate thereof holds the interest. The smelter and casthouse are owned by Alcoa Alumínio (60%) and South32 (40%).

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Strathcona calciner is a joint venture between affiliates of Alcoa and Rio Tinto located in Alberta, Canada. Calcined coke is used as a raw material in aluminum smelting. The calciner is owned by Alcoa (39%) and Rio Tinto (61%).

Hydropower

Machadinho Hydro Power Plant (HPP) is a consortium located on the Pelotas River in southern Brazil in which the Company has a 27.3% ownership interest through Alcoa Alumínio. The remaining ownership interests are held by unrelated third parties.

Barra Grande HPP is a joint venture located on the Pelotas River in southern Brazil in which the Company has a 42.2% ownership interest through Alcoa Alumínio. The remaining ownership interests are held by unrelated third parties.

Estreito HPP is a consortium between Alcoa Alumínio, through Estreito Energia S.A. (25.5%) and unrelated third parties located on the Tocantins River, northern Brazil.

Serra do Facão HPP is a joint venture between Alcoa Alumínio (35%) and unrelated third parties located on the Sao Marcos River, central Brazil.

Manicouagan Power Limited Partnership (Manicouagan) is a joint venture between affiliates of Alcoa and Hydro-Québec. Manicouagan owns and operates the 335 megawatt McCormick hydroelectric project, which is located on the Manicouagan River in the Province of Québec, Canada. Alcoa owns 40% of the joint venture.

Alumina

This segment consists of the Company's worldwide refining system, including the mining of bauxite, which is then refined into alumina, a compound of aluminum and oxygen that is the raw material used by smelters to produce aluminum metal. Bauxite is the principal raw material used to produce alumina and contains various aluminum hydroxide minerals, the most important of which are gibbsite and boehmite. Bauxite is refined into alumina using the Bayer process. The Company obtains bauxite from its own resources as well as through long-term and short-term contracts and mining leases. Tons of bauxite are reported on a zero-moisture basis in millions of dry metric tons (mdmt) unless otherwise stated.

Alcoa's alumina sales are made to customers globally and are typically priced by reference to published spot market prices. The Company produces smelter grade alumina and non-metallurgical grade alumina. The Company's largest customer for smelter grade alumina is its own aluminum smelters, which in 2024 accounted for approximately 32 percent of its total alumina shipments. A small portion of the alumina (non-metallurgical grade) is sold to third-party customers who process it into industrial chemical products. This segment also includes Alcoa's 25.1% share of MBAC. In September 2024, Alcoa entered into a share purchase and subscription agreement with Ma'aden, pursuant to which Alcoa agreed to sell its full ownership interest of 25.1% in the Saudi Arabia joint venture. See Part II Item 7 of this Form 10-K in Management's Discussion and Analysis of Financial Condition and Results of Operations under caption Business Update for more information.

In 2024, Alcoa-operated mines, mines operated by partnerships in which Alcoa has equity interests, and bauxite offtake agreements supplied 85 percent of bauxite volume to Alcoa refineries and the remaining 15 percent was sold to third-party customers. Alcoa-operated mines produced 33.7 mdmt of bauxite and mines operated by partnerships produced 4.6 mdmt of bauxite on a proportional equity basis, for a total Company bauxite production of 38.3 mdmt.

On April 30, 2022, Alcoa completed the sale of its investment in MRN. The Company entered into several bauxite offtake agreements with South32 to provide bauxite supply for existing long-term supply contracts.

Based on the terms of its bauxite supply contracts, the amount of bauxite Alcoa purchases from its minority-owned joint ventures, MRN (until its sale in April 2022) and CBG, differ from its proportional equity in those mines. Therefore, in 2024, Alcoa had access to 41.3 mdmt of production from its portfolio of bauxite interests and bauxite offtake and supply agreements and sold 6.4 mdmt of bauxite to third parties; 34.9 mdmt of bauxite was delivered to Alcoa refineries.

The Company primarily sells alumina through contracts containing two pricing components: (1) the API price basis and (2) a negotiated adjustment basis that takes into account various factors, including freight, quality, customer location, and market conditions, as well as through fixed price spot sales. In 2024, approximately 95 percent of the Company's smelter grade alumina shipments to third parties were sold on an adjusted API price or fixed price spot basis.

Information regarding the Company's bauxite mining properties and bauxite mineral resources and reserves is included in Part 1 Item 2 of this Form 10-K.

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Alcoa's alumina refining facilities and its worldwide alumina capacity stated in metric tons per year (mtpy) as of December 31, 2024 are shown in the following table:

Country	Facility	Nameplate Capacity[1] (000 mtpy)	Alcoa Corporation Consolidated Capacity[1] (000 mtpy)
Australia (AofA)	Kwinana	2,190	2,190
	Pinjarra	4,700	4,700
	Wagerup	2,879	2,879
Brazil	Poços de Caldas	390	390
	São Luís (Alumar)	3,860	2,084
Spain	San Ciprián	1,600	1,600
TOTAL		15,619	13,843

Equity Interests:

Country	Facility	Nameplate Capacity[1] (000 mtpy)	Alcoa Corporation Consolidated Capacity[1] (000 mtpy)
Saudi Arabia	Ras Al Khair (MBAC)	1,800	452

(1) Nameplate Capacity is an estimate based on design capacity and normal operating efficiencies and does not necessarily represent maximum possible production. Alcoa Corporation Consolidated Capacity represents our share of production from these facilities.

As of December 31, 2024, Alcoa had approximately 3,204,000 mtpy of idle capacity relative to total Alcoa consolidated capacity of 13,843,000 mtpy. The idle capacity includes: 2,190,000 mtpy at the Kwinana refinery, 800,000 mtpy at the San Ciprián refinery, and 214,000 mtpy at the Poços de Caldas facility.

In October 2024, the Company completed its five-year strategic portfolio review to improve cost positioning, or curtail, close, or divest 4 million metric tons of refining capacity. The Company exceeded its target for refining capacity with the decision to curtail the Kwinana refinery in January 2024. The Company continues to evaluate assets for opportunities for improvement to remain profitable throughout business cycles.

In June 2024, the Company completed the full curtailment of the Kwinana refinery, as planned, which was announced in January 2024. As of March 2024, the refinery had approximately 780 employees and this number was reduced to approximately 250 through the fourth quarter of 2024 to manage certain processes that are expected to continue until about the fourth quarter of 2025. At that time, the employee number will be further reduced to approximately 50. In addition to the employees separating as a result of the curtailment, approximately 290 employees have terminated through the productivity program announced in the third quarter of 2023 or redeployed to other Alcoa operations.

In 2022, production at the San Ciprián refinery was reduced to approximately 50 percent of the 1.6 million metric tons of annual capacity to mitigate the financial impact of high natural gas costs. In October 2024, Alcoa announced that it is progressing toward entering into a strategic partnership with IGNIS Equity Holdings, SL (IGNIS EQT), the majority shareholder in the IGNIS Group of Companies, a vertically integrated energy company based in Spain, to support the continued operation of the San Ciprián complex. Alcoa would continue as the managing operator of the San Ciprián operations, with IGNIS EQT holding 25 percent ownership. In January 2025, the Company, the Spanish national and Xunta regional governments, and IGNIS EQT signed a memorandum of understanding (MoU) that outlines a process for the parties to work cooperatively toward the common objective of improving the long-term outlook for the San Ciprián operations and focuses on the key areas of cooperation.

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Aluminum

This segment currently consists of (i) the Company's worldwide smelting and casthouse system and (ii) a portfolio of energy assets in Brazil, Canada, and the United States. The smelting operations produce molten primary aluminum, which is then formed by the casting operations into either common alloy ingot (e.g., t-bar, sow, standard ingot) or into value add ingot products (e.g., foundry, billet, rod, and slab). The energy assets supply power to external customers in Brazil and the United States, as well as internal customers in the Aluminum segment (Baie-Comeau (Canada) smelter and Warrick (Indiana) smelter) and, to a lesser extent, the Alumina segment (Brazilian refineries). This segment also includes Alcoa's 25.1% share of MAC, the smelting joint venture company in Saudi Arabia. In September 2024, Alcoa entered into a share purchase and subscription agreement with Ma'aden, pursuant to which Alcoa agreed to sell its full ownership interest of 25.1% in the Saudi Arabia joint venture. See Part II Item 7 of this Form 10-K in Management's Discussion and Analysis of Financial Condition and Results of Operations under caption Business Update for more information.

Smelting and Casting Operations

Contracts for primary aluminum vary widely in duration, from multi-year supply contracts to spot purchases. Pricing for primary aluminum products is typically comprised of three components: (i) the published LME aluminum price for commodity grade P1020 aluminum, (ii) the published regional premium applicable to the delivery locale, and (iii) a negotiated product premium that accounts for factors such as shape and alloy.

Alcoa's primary aluminum facilities and its global smelting capacity stated in metric tons per year (mtpy) as of December 31, 2024 are shown in the following table:

Country	Facility	Nameplate Capacity[1] (000 mtpy)	Alcoa Corporation Consolidated Capacity[1] (000 mtpy)
Australia	Portland	358	197
Brazil	Poços de Caldas[2]	N/A	N/A
	São Luís (Alumar)	447	268
Canada	Baie Comeau, Québec	324	324
	Bécancour, Québec	467	350
	Deschambault, Québec	287	287
Iceland	Fjarðaál	351	351
Norway	Lista	95	95
	Mosjøen	200	200
Spain	San Ciprián	228	228
United States	Massena West, NY	130	130
	Evansville, IN (Warrick)	215	215
TOTAL		3,102	2,645

Equity Interests:

Country	Facility	Nameplate Capacity[1] (000 mtpy)	Alcoa Corporation Consolidated Capacity[1] (000 mtpy)
Saudi Arabia	Ras Al Khair (MAC)	804	202

(1) Nameplate Capacity is an estimate based on design capacity and normal operating efficiencies and does not necessarily represent maximum possible production. Alcoa Corporation's consolidated capacity is its share of Nameplate Capacity based on its ownership interest in the respective smelter.

(2) The Poços de Caldas facility is a casthouse and does not include a smelter.

As of December 31, 2024, Alcoa had approximately 374,000 mtpy of idle smelting capacity relative to total Alcoa consolidated capacity of 2,645,000 mtpy. The idle capacity includes: 214,000 mtpy at the San Ciprián smelter, 54,000 mtpy at the Warrick smelter, 42,000 mtpy at the Alumar smelter, 33,000 mtpy at the Portland smelter, and 31,000 mtpy at the Lista smelter.

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In October 2024, the Company completed its five-year strategic portfolio review to improve cost positioning, or curtail, close, or divest 1.5 million metric tons of smelting capacity. The Company reached approximately 93 percent of its target for smelting capacity with the decision to restart capacity at the Warrick smelter completed in the first quarter 2024. The Company continues to evaluate assets for opportunities for improvement to be profitable throughout business cycles.

During 2024, the Company maintained the controlled pace for the restart of the Alumar smelter in São Luís, Brazil and continued actions to improve the smelter's overall performance. The site was operating at approximately 84 percent of the site's total annual capacity of 268,000 mtpy (Alcoa share) as of December 31, 2024.

In the fourth quarter of 2024, the Company completed the restart of 16,000 mtpy of previously curtailed capacity at the Portland smelter in Australia that began in the fourth quarter of 2023. The site was operating at approximately 83 percent of the site's total annual capacity of 197,000 mtpy (Alcoa share) as of December 31, 2024.

In the first quarter of 2024, the Company completed the restart of 54,000 mtpy of capacity at the Warrick smelter (Indiana) that began in the fourth quarter of 2023.

The San Ciprián smelter was curtailed in January 2022, as a result of an agreement with the workers' representatives in December 2021. In February 2023, under the terms of an amended viability agreement, Alcoa agreed to a phased restart of the smelter beginning in January 2024, to operate an initial complement of approximately 6 percent of total pots, to restart all pots by October 1, 2025 and to maintain 75 percent of the annual capacity of 228,000 mtpy from October 1, 2025 until the end of 2026. In March 2024, the Company completed the restart of approximately 6 percent of total pots at the San Ciprián smelter. In October 2024, Alcoa announced that it is progressing toward entering into a strategic partnership with IGNIS EQT to support the continued operation of the San Ciprián complex. Alcoa would continue as the managing operator of the San Ciprián operations, with IGNIS EQT holding 25 percent ownership. In January 2025, the Company, the Spanish national and Xunta regional governments, and IGNIS EQT signed an MoU that outlines a process for the parties to work cooperatively toward the common objective of improving the long-term outlook for the San Ciprián operations and focuses on the key areas of cooperation.

Energy Facilities and Sources

In 2024, energy comprised approximately 24 percent of the Company's total alumina refining production costs and electric power comprised approximately 22 percent of the Company's primary aluminum production costs.

Electricity markets are regional and are limited by physical and regulatory constraints, including the physical inability to transport electricity efficiently over long distances, the design of the electric grid, including interconnections, and the regulatory structure imposed by various federal and state entities.

Electricity contracts may be short-term (real-time or day ahead) or years in duration, and contracts can be executed for immediate delivery or years in advance. Pricing may be fixed, indexed to an underlying fuel source or other index such as LME, cost-based, or based on regional market pricing. In 2024, Alcoa generated approximately 10 percent of the power used at its smelters worldwide and generally purchased the remainder under long-term arrangements.

The following table sets forth the electricity generation capacity and 2024 generation of facilities in which Alcoa Corporation has an ownership interest. See also the Joint Ventures section above.

Country	Facility	Alcoa Corporation Consolidated Capacity (MW)	2024 Generation (MWh)
Brazil	Barra Grande	150	1,315,259
	Estreito	155	1,360,074
	Machadinho	126	1,105,950
	Serra do Facão	60	525,600
Canada	Manicouagan	133	1,164,467
United States	Warrick	657	2,838,977
TOTAL		**1,281**	**8,310,327**

The figures in this table are presented in megawatts (MW) and megawatt hours (MWh), respectively.

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Each facility listed above generates hydroelectric power except the Warrick facility, which generates substantially all of the power used by the Warrick smelting facility from the co-located Warrick power plant using coal purchased from third parties at nearby coal reserves. In 2024, Alcoa ceased using coal from the Alcoa-owned Liberty Mine, which was operated by a third-party coal company. In 2024, approximately 31 percent of the generation from the Warrick power plant was sold into the market under its current operating permits. Alcoa Power Generating Inc., a subsidiary of the Company, also owns certain Federal Energy Regulatory Commission (FERC)-regulated transmission assets in Indiana, Tennessee, New York, and Washington.

The consolidated capacity of the Brazilian energy facilities shown above in MW is the assured energy, representing approximately 53 percent of hydropower plant nominal capacity. The Brazilian hydroelectric facilities produce energy which is transmitted across the national grid to Alcoa's refineries in Brazil and the excess generation capacity is sold into the market.

Below is an overview of our external energy for our smelters and refineries.

	External Energy Source	
Region	**Electricity**	**Natural Gas**
North America	*Québec, Canada* Alcoa's smelter located in Baie-Comeau, Québec, purchases approximately 25 percent of its electricity needs from Manicouagan Power Limited Partnership under an agreement that expires in February 2036. Otherwise, all electricity consumed by the three smelters in Québec is purchased under contracts with Hydro-Québec that expire on December 31, 2029. The Baie-Comeau contract has an automatic renewal through February 2036. *Massena, New York (Massena West)* The Massena West smelter in New York purchases power from the New York Power Authority (NYPA) pursuant to a contract between Alcoa and NYPA that expires in March 2026.	Alcoa generally procures natural gas on a competitive bid basis from a variety of sources, including natural gas producers and independent gas marketers. Contract pricing for gas is typically based on a published industry index such as the New York Mercantile Exchange (NYMEX).
Australia	*Portland* This smelter purchases power from the National Electricity Market (NEM) variable spot market in the state of Victoria and has fixed-for-floating swap contracts with AGL Hydro Partnership, Origin Energy Electricity Limited, and Alinta Energy CEA Trading Pty Ltd, for a combined 587 MW that expire on June 30, 2026. In August 2023 and September 2024, the smelter entered into nine-year fixed-for-floating swap contracts with AGL Hydro Partnership for a combined 587 MW effective July 1, 2026. Each of these swap contracts manage exposure to the variable energy rates from the NEM spot market under long-term power purchase agreements, which may include purchases of power from renewable energy sources.	*Western Australia* AofA uses gas to co-generate steam and electricity for its alumina refining processes at the Kwinana (see below), Pinjarra, and Wagerup refineries, and to fuel the calcination furnaces at each site. The Kwinana refinery was fully curtailed in June 2024, and the Company is evaluating alternatives to resell, swap or redeploy the gas secured for the Kwinana refinery. Prior to 2022, AofA secured a significant portion of gas supplies through 2032. On a combined basis, these gas supply arrangements are expected to cover approximately 90 percent of the Pinjarra and Wagerup refineries' gas requirements through 2027, with decreasing percentages thereafter through 2032. In 2024, AofA contracted for a portion of the additional gas supplies required starting in 2028 for a 10-year period.

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	External Energy Source	
Region	**Electricity**	**Natural Gas**
Europe	*San Ciprián, Spain* Since March 2024, when Alcoa completed the restart of approximately 6 percent of capacity, the San Ciprián smelter has been exposed to the electricity spot market. In 2022, Alcoa entered into two long-term power purchase agreements (PPAs) with renewable energy providers that are expected to supply up to 50 percent of the smelter's power needs at its full capacity. The supply of energy will continue to depend on the permitting and development of the windfarms included in the PPAs. In October 2024, Alcoa announced that it is progressing toward entering into a strategic partnership with IGNIS EQT to support the continued operation of the San Ciprián complex. Alcoa would continue as the managing operator of the San Ciprián operations, with IGNIS EQT holding 25 percent ownership. In January 2025, the Company, the Spanish national and Xunta regional governments, and IGNIS EQT signed an MoU that outlines a process for the parties to work cooperatively toward the common objective of improving the long-term outlook for the San Ciprián operations and focuses on the key areas of cooperation. *Mosjøen, Norway* Alcoa has several long-term power purchase agreements securing approximately 80 percent of the necessary power for the smelter through 2035. The remaining power at the smelter is purchased at spot rates. *Lista, Norway* Alcoa had several power purchase agreements securing approximately 90 percent of the necessary power for the smelter through 2024, and has a power purchase agreement securing approximately 80 percent of the necessary power for the smelter for 2025 through 2027. The remaining power at the smelter is purchased at spot rates. Financial compensation of the indirect carbon emissions costs passed through in the electricity bill is received in accordance with European Union (EU) Commission Guidelines and the Norwegian compensation regime. Beginning in 2024, 40 percent of the compensation is conditional on decarbonization investment by Alcoa in Norway. Complying with the additional condition can be achieved over multiple years, but not later than 2034. Compensation received for approved decarbonization investment is expected to be recognized over the useful lives of the related assets. *Iceland* Landsvirkjun, the Icelandic national power company, supplies competitively priced electricity from a hydroelectric facility to the smelter under a 40-year power contract, which expires in 2047 with a price renegotiation effective from 2028.	*Spain* The San Ciprián refinery has been operating at 50 percent of its capacity since the third quarter of 2022. The San Ciprián refinery has access to an adequate supply at Spanish (PVB) spot gas rates.

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	External Energy Source	
Region	**Electricity**	**Natural Gas**
South America	*Alumar* The Alumar smelter was operating at 84 percent of the site's total annual capacity of 268,000 mtpy (Alcoa share) as of December 31, 2024, following the restart that was announced in September 2021. The Alumar smelter purchases power under several long-term power purchase agreements that expire in 2038. Long-term power secured is from renewable sources.	

Sources and Availability of Raw Materials

The Company believes that the raw materials necessary to its business are and will continue to be available and that the sources and availability of such raw materials are currently adequate. Generally, materials are purchased from third-party suppliers under competitively priced supply contracts or bidding arrangements. Substantially all of the raw materials required to manufacture our products are available from more than one supplier. Some sources of these raw materials are located in countries that may be subject to unstable political and economic conditions, which could disrupt supply or affect the price of these materials.

Certain raw materials, such as caustic soda and calcined petroleum coke, may be subject to significant price volatility which could impact our financial results.

Alcoa sources bauxite from its own resources and believes its present sources of bauxite on a global basis are sufficient to meet the forecasted requirements of its alumina refining operations for the foreseeable future.

Certain alumina refineries generate electricity through the digestor process that meets or exceeds their power needs, while others purchase electricity from third-party suppliers.

For each metric ton (mt) of alumina produced, Alcoa consumes the following amounts of the identified raw material inputs (approximate range across relevant facilities):

Raw Material	Units	Consumption per mt of Alumina
Bauxite	mt	2.2 – 4.0
Caustic soda	kg	80 – 130
Electricity	MWh	0.17 to 0.30 total consumed
Fuel oil and natural gas	GJ	6 – 10.5
Lime (CaO)	kg	6 – 50

For each metric ton of aluminum produced, Alcoa consumes the following amounts of the identified raw material inputs (approximate range across relevant facilities):

Raw Material	Units	Consumption per mt of Primary Aluminum
Alumina	mt	1.91 – 1.94
Aluminum fluoride	kg	12.2 – 27.2
Calcined petroleum coke	mt	0.26 – 0.40
Cathode blocks	mt	0.003 – 0.007
Electricity	MWh	13.27 – 16.77
Liquid pitch	mt	0.08 – 0.12
Natural gas	mcf	2.1 – 4.9

Certain aluminum we produce includes alloying materials. Because of the number of different types of elements that can be used to produce various alloys, providing a range of such elements would not be meaningful. With the exception of a very small number of internally used products, Alcoa produces its aluminum alloys in adherence to an Aluminum Association (of which Alcoa is an active member) standard, which uses a specific designation system to identify alloy types. In general, each alloy type has a major alloying element other than aluminum but will also include lesser amounts of other constituents.

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Competition

Alcoa is subject to highly competitive conditions in all aspects of the aluminum supply chain in which it competes. Our business segments operate in key markets globally, and we are able to meet customer demand in North America, South America, Europe, the Middle East, Australia, China, and other parts of Asia.

We compete with a variety of both U.S. and non-U.S. companies in all major markets across the aluminum supply chain. Competitors include bauxite miners who supply to the third-party bauxite market, alumina suppliers, commodity traders, aluminum producers, and producers of alternative materials such as steel, titanium, copper, carbon fiber, composites, plastic, and glass.

With the Sustana brand, including EcoDura aluminum (recycled content), EcoLum aluminum (low carbon), and EcoSource alumina (also low carbon), the Company is well positioned to compete with others.

Alumina

We are the largest alumina producer outside of China and the largest supplier of third-party alumina outside of China. The alumina market is global and highly competitive, with many active suppliers, producers, and commodity traders. The majority of our product is sold in the form of smelter grade alumina. Our main competitors in the third-party alumina market are Aluminum Corporation of China, South32, Hangzhou Jinjiang Group, Rio Tinto, and Norsk Hydro ASA. In recent years, there has been significant growth in alumina refining in China and Indonesia.

Key factors influencing competition in the alumina market include cost position, price, reliability of bauxite supply, quality, and proximity to customers and end markets. We had an average cost position in the first quartile of global alumina production in 2024, as determined by CRU independent commodity intelligence. Increased production costs in 2024 caused by lower bauxite grades in Australia could place Alumina in the second quartile until new mine regions are accessed. Our refineries are strategically located near low-cost bauxite mines, which provide a long-term supply of bauxite to our refineries. Our alumina refineries include sophisticated refining technology to maximize efficiency with the bauxite grades from these internal mines.

We are among the world's largest bauxite miners. The majority of bauxite mined globally is converted to alumina for the production of aluminum. In 2024, Alcoa-operated mines, mines operated by partnerships, and bauxite offtake agreements supplied approximately 85 percent of bauxite volume to Alcoa refineries and approximately 15 percent of Alcoa's bauxite shipments were sold to third-party customers.

Our principal competitors in the third-party bauxite market include Rio Tinto and multiple suppliers from Guinea, Australia, and Brazil, among other countries. We compete largely based on bauxite quality, price, and logistics, as well as strategically located long-term bauxite resources in Brazil and Guinea, which is home to the world's largest reserves of high-quality metallurgical grade bauxite.

Aluminum

In our Aluminum segment, competition is dependent upon the type of product we are selling.

The market for primary aluminum is global, and demand for aluminum varies widely from region to region. We compete with commodity traders, such as Glencore, Trafigura, J. Aron and Gerald Group, and aluminum producers, such as Emirates Global Aluminum, Norsk Hydro ASA, Rio Tinto, Century Aluminum, and Vedanta Aluminum Ltd.

Several of the most critical competitive factors in our industry are product quality, production costs (including source, reliability of supply, and cost of energy), price, access and proximity to raw materials, customers and end markets, timeliness of delivery, customer service (including technical support), product innovation, and breadth of offerings. Where aluminum products compete with other materials, the characteristics of aluminum are also a significant factor, particularly its light weight, strength, and recyclability.

The strength of our position in the primary aluminum market is largely attributable to: our integrated supply chain and regional presence in key markets, primarily North America and Europe; long-term energy arrangements; the ability of our casthouses to provide customers with a diverse product portfolio in terms of shapes and alloys, while meeting high product quality standards; and low carbon footprint for the majority of our production, as approximately 87 percent of the aluminum smelting portfolio operated by the Company was powered by renewable (primarily hydropower) energy sources in 2024. Renewable energy is derived from natural processes that are replenished constantly, such as sunlight, wind, and hydropower. The Company intends to continue to focus on optimizing value add product capacity utilization.

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Patents, Trade Secrets, and Trademarks

The Company believes that its domestic and international patent, trade secret, and trademark assets provide it with a competitive advantage. The Company's rights under its intellectual property, as well as the technology and products made and sold under them, are important to the Company as a whole and, to varying degrees, important to each business segment. Alcoa's business as a whole is not, however, materially dependent on any single patent, trade secret or trademark. As a result of product development and technological advancement, the Company continues to pursue patent protection in jurisdictions throughout the world. As of December 31, 2024, Alcoa's worldwide patent portfolio consisted of approximately 360 granted patents and approximately 200 pending patent applications. The Company also has a number of domestic and international registered trademarks that have significant recognition within the markets that are served, including the name "Alcoa" and the Alcoa symbol. Patents may exist for 20 years from filing date, and trademarks may have an indefinite life based upon continued use.

Government Regulations and Environmental Matters

Alcoa's global operations subject it to compliance with various types of government laws, regulations, permits, and other requirements which often provide discretion to government authorities and could be interpreted, applied, or modified in ways to make the Company's operations or compliance activities more costly. These laws and regulations include those relating to safety and health, environmental protection and compliance, tailings management, data privacy and security, anti-corruption, human rights, competition, and trade, such as tariffs or other import or export restrictions that may increase the cost of raw material or cross-border shipments and impact our ability to do business with certain countries or individuals. Though we cannot predict the collective potential adverse impact of the expanding body of laws, regulations, and interpretations, we believe that we are in compliance with such laws and regulations in all material respects and do not expect that continued compliance with such regulations will have a material effect upon capital expenditures, earnings, or our competitive position. For a discussion of the risks associated with certain applicable laws and regulations, see Part I Item 1A of this Form 10-K.

Environmental

Alcoa is subject to extensive federal, state/provincial, and local environmental laws and regulations and other requirements in the U.S. and abroad, including those relating to the release or discharge of materials into the air, water, and soil; waste management, pollution prevention measures; the generation, storage, handling, use, transportation, and disposal of hazardous materials; and the exposure of persons to hazardous materials.

Alcoa is committed to the Global Industry Standard on Tailings Management (GISTM), an integrated approach to the management and operations of our tailings storage facilities to enhance the safety of these facilities. In August 2023, Alcoa's impoundments with very high or extreme consequence classification were audited by an independent third party and assessed as in conformance with GISTM as required by the International Council on Mining and Metals Conformance Protocol. This represents the first phase of implementation with lower consequence impoundment conformance required by August 2025.

Additionally, we are and may become subject to various laws and regulations related to the disclosures of emissions, the impact of climate change to our business, and plans to reduce such emissions. Recent laws and regulations pertaining to climate change and greenhouse gas emissions have been implemented or are being considered. In addition, as regulators and investors increasingly focus on climate change and other sustainability issues, we are subject to new disclosure frameworks and regulations. For example, the EU adopted the European Sustainability Reporting Standards (ESRS) and the Corporate Sustainability Reporting Directive (CSRD) that will require disclosure of the risks and opportunities arising from social and environmental issues and the impact of companies' activities on people and the environment. The CSRD applies not only to local operations in the EU, but under certain circumstances, to global companies with operations in the EU. The CSRD is applicable to Alcoa operations for 2025 with reporting in 2026. Further, in 2024 Australia passed legislation to mandate climate-related financial disclosures applicable to Alcoa effective for 2025 with reporting in 2026. We continue to monitor the development and implementation of such laws and regulations and continue to assess the extent of potential disclosures or other reporting requirements.

We maintain remediation and reclamation plans for various sites, and we manage environmental assessments and cleanups at approximately 60 locations, which include currently owned or operated facilities and adjoining properties, previously owned or operated facilities and adjoining properties, and waste sites, such as U.S. Superfund (Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)) sites. In 2024, capital expenditures for new or expanded facilities for environmental control were $131 and approximately $170 is expected in 2025. See Part II Item 8 of this Form 10-K in Note S to the Consolidated Financial Statements under caption Contingencies for additional information.

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Safety and Health

We are subject to a broad range of foreign, federal, state, and local laws and regulations relating to occupational health and safety, and our safety program includes measures required for compliance. We have incurred, and will continue to incur, capital expenditures to meet our health and safety compliance requirements, as well as to continually improve our safety systems.

For a discussion of the risks associated with certain applicable laws and regulations, see Part I Item 1A of this Form 10-K.

Human Capital Resources

Our core values – Act with Integrity, Operate with Excellence, Care for People, and Lead with Courage – guide us as a company, including our approach to human capital management. We believe that our people are our greatest asset. The success and growth of our business depend in large part on our ability to attract, develop, and retain talented, qualified, and highly skilled employees at all levels of our organization, including the individuals who comprise our global workforce, our executive officers, and other key personnel.

Alcoa's vision is to provide trusting workplaces that are safe, respectful, and inclusive and that reflect the communities in which we operate. Our aim is to build a more inclusive culture where employees feel valued, empowered, and respected. We continue to execute against our strategy, which is driven by our three pillars: (i) strengthen foundations; (ii) build awareness; and, (iii) drive accountability.

Our Company policies, including the Code of Conduct and Ethics, Harassment and Bullying Free Workplace Policy, and EHS Vision, Values, Mission, and Policy, support our mission to advance our Company culture and core values. Alcoa maintains a Human Rights Policy that applies globally to the Company, its partnerships, and other business associates, which incorporates international human rights principles encompassed in the Universal Declaration of Human Rights, the International Labor Organization’s Declaration on Fundamental Principles and Rights at Work, the United Nations Global Compact, and the United Nations Guiding Principles on Business and Human Rights.

The safety and health of our employees, contractors, temporary workers, and visitors are top priorities and key to our ability to attract and retain talent. We aspire to consistently work safely across our locations. We integrate our temporary workers, contractors, and visitors into our safety programs and data. We strive to foster a culture of hazard and risk awareness, speaking up and proactive incident reporting, and knowledge sharing.

Our safety programs and systems are designed to prevent loss of life and serious injury at our locations and include rigorous safety standards and controls, periodic risk-based audits, a formal and standardized process for investigating fatal and serious injury incidents (including potential incidents), management of critical risks and safety hazards, and efforts to eliminate hazards or implement controls to prevent and mitigate risks. We have operating standards based on human performance, which teach employees how to anticipate and recognize situations where errors are likely to occur, which help enable us to predict, reduce, manage, and prevent fatalities and injuries.

As of December 31, 2024, Alcoa had approximately 13,900 employees in 17 countries. As of December 31, 2024, women comprised approximately 20 percent of our global workforce. Approximately 10,300 of our global employees are covered by collective bargaining agreements with certain unions and varying expiration dates, including approximately 1,000 employees in the U.S., 1,900 employees in Europe, 1,400 employees in Canada, 3,500 employees in South America, and 2,500 employees in Australia.

The three collective bargaining agreements with le Syndicat des Métallos (FTQ) representing about 1,000 hourly employees at the Bécancour smelter in Québec, Canada expires on July 19, 2025. ABI is preparing to negotiate new collective bargaining agreements.

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Available Information

The Company's internet website address is https://www.alcoa.com. Alcoa makes available free of charge on or through its website its Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to, the Securities and Exchange Commission (the SEC). These documents can be accessed on the investor relations portion of our website, https://www.alcoa.com/investors. This information can also be found on the SEC's internet website, https://www.sec.gov. The information on the Company's website is included as an inactive textual reference only and is not a part of, or incorporated by reference in, this Annual Report on Form 10-K.

Dissemination of Company Information

Alcoa Corporation intends to make future announcements regarding Company developments and financial performance through its website, https://www.alcoa.com, as well as through press releases, filings with the SEC, conference calls, media broadcasts, and webcasts.

Information about our Executive Officers

The names, ages, positions, and areas of responsibility of the executive officers of the Company as of February 14, 2025, are listed below.

William F. Oplinger, 58, has served as President and Chief Executive Officer of Alcoa Corporation since September 24, 2023. Mr. Oplinger served as Executive Vice President and Chief Operations Officer of the Company from February 2023 until his appointment as President and Chief Executive Officer. From November 2016 through January 2023, Mr. Oplinger was Executive Vice President and Chief Financial Officer of the Company. Prior to this, Mr. Oplinger served as Executive Vice President and Chief Financial Officer of ParentCo from April 1, 2013 to November 2016. Mr. Oplinger joined ParentCo in 2000, and through 2013 held key corporate positions in financial analysis and planning and also served as Director of Investor Relations. Mr. Oplinger also held principal positions in the ParentCo's Global Primary Products division, including as Controller, Operational Excellence Director, Chief Financial Officer, and Chief Operating Officer.

Molly S. Beerman, 61, has served as Executive Vice President and Chief Financial Officer of Alcoa Corporation since February 1, 2023. Prior to this, Ms. Beerman was Senior Vice President and Controller of the Company from November 2019 through January 2023 and Vice President and Controller from December 2016 through October 2019. Ms. Beerman was Director, Global Shared Services Strategy and Solutions from November to December 2016. In 2016, Ms. Beerman held a consulting role with the Finance Department of ParentCo. From 2012 to 2015, Ms. Beerman served as Vice President, Finance and Administration for a non-profit organization focused on community issues. Prior to that, Ms. Beerman was employed by ParentCo from 2001 to 2012, having held several roles in the finance function and eventually becoming the director of global procurement center of excellence from 2008 to 2012. Ms. Beerman is a certified public accountant.

Renato Bacchi, 48, has served as Executive Vice President and Chief Commercial Officer of Alcoa Corporation since August 1, 2023. He leads the Company's sales and trading, marketing, supply chain, commercial operations, and procurement and oversees the Company's global energy assets and innovation and technology programs. Mr. Bacchi was Executive Vice President and Chief Strategy and Innovation Officer of Alcoa Corporation from February 2023 to August 2023. Previously, he was Executive Vice President and Chief Strategy Officer from February 2022 through January 2023, Senior Vice President and Treasurer from November 2019 through January 2022, and Vice President and Treasurer from November 2016 through October 2019. Prior to the Separation Transaction, Mr. Bacchi served as the Assistant Treasurer of ParentCo from October 2014 through October 2016 and the Director, Corporate Treasury from 2012 to 2014. Prior to this time, Mr. Bacchi held various roles of increasing responsibility in areas including finance, strategy, procurement, energy and sales. Mr. Bacchi joined ParentCo in Brazil in 1997.

Nicol A. Gagstetter, 46, has served as Executive Vice President and Chief External Affairs Officer of Alcoa Corporation since October 1, 2023. Ms. Gagstetter is responsible for global external affairs, communications, and sustainability, and she oversees the Alcoa Foundation. Ms. Gagstetter was the Global Head of Environment and Social, Copper Industrial Assets at Glencore International AG, a commodity trading and mining company, from August 2021 through September 2023. Ms. Gagstetter was a Senior Marketing Manager at Rio Tinto, a metals and mining company, from 2018 to 2021, and she previously held a variety of leadership roles and positions across external affairs, sustainability, and marketing in Rio Tinto's Commercial, Minerals, and Copper groups from 2008 to 2018.

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Andrew Hastings, 50, has served as Executive Vice President and General Counsel of Alcoa Corporation since September 1, 2023. Mr. Hastings has overall responsibility for the Company's global legal, compliance, governance, and security matters. Prior to joining the Company, Mr. Hastings was Senior Vice President and General Counsel at Lundin Mining Corporation, a mine owner and operator, from February 2019 through August 2023. Previously, Mr. Hastings held progressive legal and commercial roles at Barrick Gold Corporation, a mining company, most recently as Vice President, Joint Venture Governance from May 2018 to February 2019.

Tammi A. Jones, 45, has served as Executive Vice President and Chief Human Resources Officer of Alcoa Corporation since April 1, 2020. Ms. Jones oversees all aspects of human resources management, including talent and recruitment, compensation and benefits, inclusion, training and development, and labor relations. Ms. Jones served as Vice President, Compensation and Benefits of Alcoa Corporation from January 2019 through March 2020 and was the Director, Organizational Effectiveness from April 2017 to December 2018. From April 2015 through March 2017, Ms. Jones served as Human Resources Director, Aluminum (at ParentCo until the Separation Transaction), and she served as Human Resources Director for ParentCo Wheels and Transportation Products from April 2013 to April 2015. Ms. Jones joined ParentCo in 2006 and held a variety of human resource positions at ParentCo, including Human Resources Director, Europe Building & Construction and Human Resources Director, UK and Ireland in ParentCo's Building and Construction Systems division.

Matthew T. Reed, 52, has served as Executive Vice President and Chief Operations Officer of Alcoa Corporation since January 1, 2024. Mr. Reed is responsible for the daily operations of the Company's global bauxite, alumina, aluminum, and transformation assets. Mr. Reed was previously Vice President Operations, Australia and President, Alcoa of Australia from June 2023, when he joined the Company, through December 2023. Prior to joining Alcoa, Mr. Reed was the Operations Executive (Chief Operations Officer) of OZ Minerals Limited, a mining company based in South Australia, from September 2021 through May 2023. He was General Manager, Projects at OZ Minerals Limited from January 2021 through August 2021. Previously, Mr. Reed was the Executive Managing Director (Chief Operating Officer) at SIMEC Mining, a mining company based in South Australia, from September 2017 through December 2020.

Item 1A. Risk Factors.

There are inherent risks associated with Alcoa's business and industry. In addition to the factors discussed elsewhere in this report, the following risks and uncertainties could have a material adverse effect on our business, financial condition, or results of operations, including causing Alcoa's actual results to differ materially from those projected in any forward-looking statements. Although the risks are organized by heading, and each risk is described separately, many of the risks are interrelated. While we believe we have identified and discussed below the key risk factors affecting our business, there may be additional risks and uncertainties that are not presently known to Alcoa or that Alcoa currently deems immaterial that also may materially adversely affect us in future periods. See Part II Item 7 of this Form 10-K in Management's Discussion and Analysis of Financial Condition and Results of Operations under the caption Forward-Looking Statements.

Industry and Global Market Risks

The aluminum industry and aluminum end-use markets are highly cyclical and are influenced by several factors, including global economic conditions, the Chinese market, and overall consumer confidence.

The nature of the industries in which our customers operate causes demand for our products to be cyclical, creating potential uncertainty regarding future profitability. The demand for aluminum is sensitive to, and impacted by, demand for the finished goods manufactured by our customers in industries, such as the commercial construction, transportation, and automotive industries, which may change as a result of factors beyond our control. The demand for aluminum is also highly correlated to economic growth, and we could be adversely affected by large or sudden shifts in the global inventory of aluminum and the resulting market price impacts.

We believe the long-term prospects for aluminum and aluminum products are positive; however, we are unable to predict the future course of industry variables or the strength of the global economy and the effects of government intervention. Our business, financial condition, and results of operations may be materially affected by the conditions in the global economy generally, including inflationary and recessionary conditions, and in global capital markets, including in the end markets and geographic regions in which we and our customers operate. Many of the markets in which our customers participate are also cyclical in nature and experience significant fluctuations in demand for their products based on economic and geopolitical conditions, consumer demand, raw material and energy costs, foreign exchange rates, and government actions. Many of these factors are beyond our control.

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The Chinese market is a significant source of global demand for, and supply of, commodities, including aluminum. Chinese production rates of aluminum, both from new construction and installed smelting capacity, can fluctuate based on Chinese government policy, such as the level of enforcement of production capacity limits and/or licenses and environmental policies. In addition, industry overcapacity, a sustained slowdown in Chinese aluminum demand, or a significant slowdown in other markets, that is not offset by decreases in supply of aluminum or increased aluminum demand in emerging economies, such as India, Brazil, and several Southeast Asian countries, could have an adverse effect on the global supply and demand for aluminum and aluminum prices. Also, changes in the aluminum market can cause changes in the alumina and bauxite markets, which could also materially affect our business, financial condition, or results of operations. As a result of these factors, our profitability is subject to significant fluctuation.

A decline in consumer and business confidence and spending, severe reductions in the availability and cost of credit, and volatility in the capital and credit markets could adversely affect the business and economic environment in which we operate and the profitability of our business. We are also exposed to risks associated with the creditworthiness of our suppliers and customers. If the availability of credit to fund or support the continuation and expansion of our customers' business operations is curtailed or if the cost of that credit is increased, the resulting inability of our customers or of their customers to either access credit or absorb the increased cost of that credit could adversely affect our business by reducing our sales or by increasing our exposure to losses from uncollectible customer accounts. These conditions and a disruption of the credit markets could also result in financial instability of some of our suppliers and customers. The consequences of such adverse effects could include the interruption of production at the facilities of our customers, the reduction, delay or cancellation of customer orders, delays or interruptions of the supply of raw materials we purchase, and bankruptcy of customers, suppliers, or other creditors. Any of these events could adversely affect our business, financial condition, and results of operations.

We have in the past and could in the future be materially adversely affected by volatility and declines in aluminum and alumina demand and prices, including global, regional, and product-specific prices, or by significant changes in production costs which are linked to LME or other commodities.

The overall price of primary aluminum consists of several components: (i) the underlying base metal component, which is typically based on quoted prices from the LME; (ii) the regional premium, which comprises the incremental price over the base LME component that is associated with the physical delivery of metal to a particular region (e.g., the Midwest premium for metal sold in the United States); and (iii) the product premium, which represents the incremental price for receiving physical metal in a particular shape (e.g., foundry, billet, slab, rod, etc.) and/or alloy. Each of the above three components has its own drivers of variability.

The LME price volatility is typically driven by macroeconomic factors (including geopolitical instability), global supply and demand of aluminum (including expectations for growth, contraction, and the level of global inventories), and trading activity of financial investors. In 2024, LME cash prices reached a high of $2,695 per metric ton in May 2024 and a low of $2,110 per metric ton in January 2024.

While global inventories remained at historically low levels in 2024, high inventories could lead to a reduction in the price of aluminum and declines in the LME price have had a negative impact on our business, financial condition, and results of operations. Regional premiums tend to vary based on the supply of and demand for metal in a particular region, associated transportation costs, and import tariffs. Product premiums generally are a function of supply and demand for a given primary aluminum shape and alloy combination in a particular region. Periods of industry overcapacity may also result in a weak aluminum pricing environment.

A sustained weak LME aluminum pricing environment, deterioration in LME aluminum prices, or a decrease in regional premiums or product premiums could have a material adverse effect on our business, financial condition, or results of operations. Similarly, our operating results are affected by significant changes in key costs of production that are linked to LME or other commodities.

Most of our alumina contracts contain two pricing components: (1) the API price basis and (2) a negotiated adjustment basis that takes into account various factors, including freight, quality, customer location, and market conditions. Because the API component can exhibit significant volatility due to market exposure, revenues associated with our alumina operations are exposed to market pricing.

Market-driven balancing of global aluminum supply and demand may be disrupted by non-market forces.

In response to market-driven factors relating to the global supply and demand of aluminum and alumina, including energy prices and environmental policies, other industry producers have independently undertaken to reduce or increase production. Changes in production may be delayed or impaired by the ability to secure, or the terms of long-term contracts, to buy energy or raw materials.

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The impact of non-market forces on global aluminum industry capacity, such as political instability or pressures or governmental policies in certain countries relating to employment, trade, the environment, or maintaining or further developing industry self-sufficiency, may affect overall supply and demand in the aluminum industry. For example, the ongoing conflict between Russia and Ukraine could adversely impact macroeconomic conditions and result in heightened economic sanctions from international communities in a manner that adversely affects our industry. The disruption of the market-driven balancing of the global supply and demand of aluminum, a resulting weak pricing environment, and margin compression may adversely affect our business, financial condition, and results of operations.

Our participation in increasingly competitive and complex global markets exposes us to risks, including legal and regulatory risks and changes in conditions beyond our control, that could adversely affect our business, financial condition, or results of operations.

We have operations or activities in numerous countries and regions outside the United States, including Australia, Brazil, Canada, Europe, Guinea, and Saudi Arabia. The risks associated with the Company's global operations include:

- Geopolitical risks, such as political instability, coup d'états, civil unrest, strikes and work stoppages, expropriation, nationalization of properties by a government, imposition of sanctions, changes to import or export regulations and fees, renegotiation, revocation or nullification of existing agreements, leases, licenses, and permits, and changes to mining royalty rules or laws;
- Economic and commercial instability risks, including those caused by sovereign and private debt default, corruption, and changes in local government laws, regulations, and policies (including fiscal policies), such as those related to tariffs and trade barriers, trade tensions, taxation, exchange controls, employment regulations, carbon dioxide compensation support, and repatriation of earnings;
- Weakening macroeconomic conditions;
- Decreasing manufacturing activity, especially in the global automotive sector;
- War or terrorist activities;
- Major public health issues, such as a pandemic or epidemic, which could cause disruptions in our operations, supply chain, or workforce;
- Information systems failures or disruptions, including due to cyber attacks;
- Difficulties enforcing intellectual property and contractual rights, or limitations in the protection of technology, data, and intellectual property, in certain jurisdictions; and,
- Unexpected events, accidents, or environmental incidents, including natural disasters.

We have experienced some of these events, and while the impact of any of the foregoing factors is difficult to predict, any one or more of them could adversely affect our business, financial condition, or results of operations. Existing insurance arrangements may not provide sufficient coverage or reimbursement for significant costs that may arise from such events.

Unexpected or uncontrollable events or circumstances in any of the foreign markets in which we operate, including actions by foreign governments such as changes in foreign policy or fiscal regimes, termination of our leases or agreements with such foreign governments, increased government regulation, or forced curtailment or continuation of operations, could materially and adversely affect our business, financial condition, or results of operations.

We have in the past been and may in the future be unable to obtain, maintain, or renew permits or approvals necessary for our mining operations, which could materially adversely affect our operations and profitability.

Our mining operations are subject to extensive permitting and approval requirements. These include permits and approvals issued by various government agencies and regulatory bodies at the federal, state, and local levels of governments in the countries in which we operate. The permitting and approval rules are complex, are often subject to interpretations by regulators, which may change over time, and may be impacted by heightened levels of regulatory oversight and stakeholder focus on addressing environmental and social impacts of mining activities.

Changing expectations and increased information required by regulators has in the past and could in the future make our ability to comply with the applicable requirements more difficult, inhibit or delay our ability to timely obtain the necessary approvals, if at all, result in approvals being conditioned in a manner that may restrict the Company's ability to efficiently and economically conduct its mining activities, require us to adjust our mining plans, or preclude the continuation of certain ongoing operations and mining activities or the development of future mining operations. Failure to obtain, maintain, or renew permits or approvals, or permitting or approval delays, restrictions, or conditions has in the past and may in the future impact the quality of the bauxite we are able to mine and could increase our costs and affect our ability to efficiently and economically conduct our operations, potentially having a materially adverse impact on our results of operations and profitability.

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In addition, the permitting processes, restrictions, and requirements imposed by conditional permits or approvals, and associated costs and liabilities, have in the past and may in the future be extensive, which can delay or prevent commencing or continuing exploration or production operations. This has in the past adversely affected and could in the future adversely affect the Company's mining operations and production, as well as our refining and smelting operations, and has in the past and could in the future require us to curtail, close, or otherwise modify our production, operations, and sites. In addition, these processes, restrictions, and requirements have in the past resulted and could in the future result in the Company's mining permits being rescinded or modified, or adjustment to our mining plans, to mitigate against adverse impacts to sites within or near our mining areas that have environmental, biodiversity, or cultural significance. Such actions have in the past had and could in the future have a material adverse impact on our results of operations and profitability. For example, the Company seeks annual approvals from the Western Australia government for rolling five-year mine plans to maintain operations at the Huntly and Willowdale bauxite mines. This statutory annual mine approvals process for the Company's 2023-2027 Mining and Management Program (MMP) took longer than it had taken historically due to increased requirements and expectations from stakeholders with respect to certain environmental matters. As a result of the prolonged approval process, the Company began mining lower grade bauxite in April 2023, which impacted the Company's refineries and cost structures by increasing the use of caustic, energy, and bauxite and decreasing alumina output. The Company's 2023-2027 MMP and 2024-2028 MMP were approved, subject to certain conditions, which amongst other requirements, accelerates cash spend of approximately $40 during the period from 2024 through 2027 from asset retirement obligations already recorded.

Our operations and profitability have in the past and could in the future be impacted by rising energy costs and interruptions or uncertainty in energy supplies.

Our refineries and smelters consume substantial amounts of natural gas and electricity in the production of alumina and aluminum. The prices for and availability of energy have in the past and could in the future be impacted by volatile market conditions resulting from factors beyond our control such as weather, political, regulatory, and economic conditions. For example, the San Ciprián refinery and smelter incurred substantial losses in 2024 and in prior years as a result of a challenging economic environment, primarily due to the high cost of energy. In October 2024, Alcoa announced that it is progressing toward entering into a strategic partnership with IGNIS Equity Holdings, SL (IGNIS EQT), the majority shareholder in the IGNIS Group of Companies, a vertically integrated energy company based in Spain, to support the continued operation of the San Ciprián complex. Alcoa would continue as the managing operator of the San Ciprián operations, with IGNIS EQT holding 25 percent ownership. In January 2025, the Company, the Spanish national and Xunta regional governments, and IGNIS EQT signed a memorandum of understanding that outlines a process for the parties to work cooperatively toward the common objective of improving the long-term outlook for the San Ciprián operations and focuses on the key areas of cooperation.

Though we have ownership in certain hydroelectricity assets, we also rely on third parties for our supply of energy resources consumed in the manufacture of our products. Energy supply contracts for our operations vary in length and market exposure, and we have been and could be negatively impacted by:

- Significant increases in LME prices, or spot electricity, fuel oil and/or natural gas prices;
- Unavailability of or interruptions or uncertainty in energy supply or unplanned outages due to political instability, droughts, hurricanes, earthquakes, wildfires, other natural disasters, equipment failure, or other causes;
- Unavailability of long-term energy from renewable sources in particular locations or at competitive rates;
- Curtailment of one or more refineries or smelters due to the inability to extend energy contracts upon expiration, negotiate new arrangements on cost-effective terms, or the unavailability of energy at competitive rates; and,
- Curtailment of one or more facilities due to high energy costs that render their continued operation uneconomic, discontinuation of power supply interruptibility rights granted to us under a regulatory regime in the country in which the facility is located, or due to a determination that energy arrangements do not comply with applicable laws, thus rendering the operations that had been relying on such country's energy framework uneconomic.

Events, such as those listed above, have in the past and could in the future result in high energy costs, the disruption of an energy source, finding a replacement energy source at a higher cost, the requirement to repay all or a portion of the benefit we received under a power supply interruptibility regime or carbon dioxide compensation schemes, or the requirement to remedy any non-compliance of an energy framework to comply with applicable laws. These events have disrupted our operations and resulted in production curtailments that could have a material adverse effect on our business, financial condition, or results of operations.

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Our operations and profitability have been and could continue to be adversely affected by unfavorable changes in the cost, quality, or availability of raw materials or other key inputs, or by disruptions in the supply chain.

Our business, financial condition, and results of operations have been and could continue to be negatively affected by unfavorable changes in the cost, quality, or availability of energy, raw materials, including carbon products, caustic soda, and other key inputs, such as bauxite, as well as freight costs associated with transportation of raw materials and key inputs to refining and smelting locations. We may not be able to fully offset the effects of higher raw material or energy costs through price increases, productivity improvements, cost reduction programs, or reductions or curtailments to production at our operations. A decrease in the quality of raw materials or key inputs has in the past and could continue to cause increased production costs, which also has in the past and could continue to result in lower production volumes. For example, the Company is currently mining and processing lower grade bauxite in Western Australia, which has caused increased production costs. Changes in the costs of bauxite, alumina, energy, and other inputs during a particular period may not be adequate to offset concurrent sharper decreases in the price of alumina or aluminum and could have a material adverse effect on our operating results.

In addition, due to global supply chain disruptions, we may not be able to obtain sufficient supply of our raw materials, energy, or other key inputs in a timely manner, including due to shortages, inflationary cost pressures, trade policies, or transportation delays, which could cause disruption in our operations or production curtailments. Though we have been able to source our raw materials and other key inputs in adequate amounts from other suppliers or our own stockpiles to date, there can be no guarantee that our operations or profitability will not be adversely affected in the future. Our suppliers, vendors, and customers could experience similar constraints that could impact our operations and profitability.

Global Operational and Regulatory Risks

Our global operations expose us to risks related to economic, political, and social conditions, including the impact of trade policies, tariffs, and adverse industry publicity, which may negatively impact our business and our ability to operate in certain locations.

We are subject to risks associated with doing business internationally, including foreign or domestic government fiscal and political crises, political and economic disputes and sanctions, social requirements and conditions, the imposition of tariffs and other actions taken by governments, and adverse industry publicity. These factors, among others, bring uncertainty to the markets in which we compete, and may adversely affect our business, financial condition, and results of operations.

In the United States, the U.S. government has taken actions with respect to the implementation of significant changes to certain trade policies, including import tariffs and quotas, modifications to international trade policy, the withdrawal from or renegotiation of certain trade agreements, and other changes that have affected U.S. trade relations with other countries, any of which may require us to significantly modify our current business practices or may otherwise materially and adversely affect our business or those of our customers. The U.S. government continues to review trade policies and negotiate new agreements with countries globally that could impact the Company. To the extent that further agreements are reached on a broader range of imports, or these tariffs and other trade actions result in a decrease in international demand for aluminum produced in or imported into the United States or otherwise negatively impact demand for our products, our business may be adversely impacted, and could further exacerbate aluminum and alumina price volatility and overall market uncertainty. While the U.S. government has recently established or threatened to establish new tariffs on imports of Mexican-, Canadian- and Chinese-origin and on certain raw materials of any country of origin, including aluminum, the status of any such tariffs is fluid and the ultimate impact on the Company will be based on a number of variables that are not known at this time. The impact on the Company will be based on the final tariffs imposed, which we are not able to predict at this time.

In addition, we operate in communities around the world, and social issues in the communities where we operate have affected and could continue to affect our operations; furthermore, incidents related to our industry have generated and could continue to generate negative publicity and impact the social acceptability of our operations in such locations, including by damaging our reputation, our relationships with stakeholders, and our competitive position. Growing expectations of hosting communities as well as increasing social activism pose additional challenges to our operations and our ability to expand our business. For example, community and stakeholder concerns in Juruti, Brazil have affected our ability to access certain mining areas at times. In certain jurisdictions, there are increasing regulatory developments to protect minority groups, such as Indigenous people in Australia. This could have an adverse effect on our ability to secure expansions to our operations at all or in the expected timeframe, could significantly increase our cost of doing business, and could disrupt our operations.

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We may be exposed to significant legal proceedings, investigations, or changes in foreign and/or U.S. federal, state, or local laws, regulations, or policies.

Our results of operations or liquidity in a particular period could be affected by new or increasingly stringent laws, regulatory requirements or interpretations, or outcomes of significant legal proceedings or investigations adverse to the Company. We may become subject to unexpected or rising costs associated with business operations, compliance measures, or provision of health or welfare benefits to employees due to changes in laws, regulations, or policies. We are also subject to a variety of legal and compliance risks, including, among other things, potential claims relating to health and safety, environmental matters, intellectual property rights, governance, employment practices, employee and retiree benefit matters, product liability, data privacy, taxes and compliance with U.S. and foreign export, anti-bribery, and competition laws, and sales and trading practices. We could be subject to fines, penalties, interest, or damages (in certain cases, treble damages). In addition, if we violate the terms of our agreements with governmental authorities, we may face additional monetary sanctions, costs, clawbacks, and other impacts.

While we believe we have adopted appropriate risk management and compliance programs to address and reduce these risks, the global and diverse nature of our operations means that these risks continue to exist, and additional legal proceedings and contingencies may arise from time to time. In addition, various factors or developments can lead the Company to change current estimates of liabilities or make estimates for matters previously not susceptible of reasonable estimates, such as a significant judicial ruling, judgment, or settlement, or significant regulatory developments or changes in applicable law. A future adverse ruling or settlement or unfavorable changes in laws, regulations or policies, or other contingencies that the Company cannot predict with certainty could have a material adverse effect on our results of operations or cash flows in a particular period. See Part I Item 3 of this Form 10-K and Part II Item 8 of this Form 10-K in Note S to the Consolidated Financial Statements under caption Contingencies.

Changes in tax laws or exposure to additional tax liabilities could affect our future profitability.

We are subject to income taxes in both the United States and various non-U.S. jurisdictions. Changes in foreign and domestic tax laws, regulations, or policies, or their interpretation and application by regulatory bodies, or exposure to additional tax liabilities could affect our future profitability. For example, in October 2021, a new framework for international tax was agreed to by 137 member countries and jurisdictions of the Organisation for Economic Co-operation and Development (OECD), including the two-pillar solution for a global minimum level of taxation. While the future of Pillar One remains uncertain, the global minimum tax under Pillar Two is fully effective or is expected to be fully effective in 2025 in most of the countries in which we operate. The implementation of the Pillar Two Framework in these countries did not have a material impact during 2024, but they could in the future should the Company's tax profile change. We continue to monitor any additional guidance released by the OECD, along with the pending and adopted legislation in the countries in which we operate.

Our domestic and international tax liabilities are dependent upon the distribution of profits among the different jurisdictions in which we operate. Our tax expense includes estimates of additional tax that may be incurred for tax exposures and reflects various estimates and assumptions. The assumptions include assessments of future earnings of the Company that could impact the valuation of our deferred tax assets. Our future results of operations could be adversely affected by changes in the effective tax rate as a result of a change in the mix of earnings in countries with differing statutory tax rates, changes in the overall profitability of the Company, changes in tax legislation and rates, changes in generally accepted accounting principles, and changes in the valuation of deferred tax assets and liabilities. Significant changes to tax laws or regulations and the positions of taxing authorities could have a substantial impact, positive or negative, on our effective tax rate, cash tax expenditures and cash flows, and deferred tax assets and liabilities. For example, in December 2023, the U.S. Treasury Department clarified that commercial grade aluminum can qualify for Section 45X of the Advanced Manufacturing Tax Credit, enacted as part of the Inflation Reduction Act (IRA). Section 45X provides a tax credit for certain costs incurred in the production of critical minerals, including aluminum. In the fourth quarter of 2023, the Company recorded a full year benefit of $36 related to its Massena West (New York) smelter and its Warrick smelter. On October 24, 2024, the U.S. Treasury finalized the Proposed Regulations under Section 45X with important modifications including the ability to include the cost of certain direct and indirect materials in the cost base of the credit. The Proposed Regulation on the definition of aluminum was not finalized; the U.S. Treasury has indicated it will finalize the definition at a later date. In 2024, the Company recorded benefits of $71 related to its Massena West smelter and its Warrick smelter, including $30 for the full year 2023 and 2024 benefit resulting from the October update.

We are subject to tax audits by various tax authorities in many jurisdictions, such as Australia, Brazil, Canada, and Norway. For example, in July 2020, AofA received Notices of Assessment from the Australian Taxation Office (ATO) related to the pricing of certain historic third-party alumina sales, and the ultimate resolution of this matter is uncertain at this time. We regularly assess the potential outcomes of examinations by tax authorities in determining the adequacy of our provision for income taxes. The results of tax audits and examinations of previously filed tax returns or related litigation and continuing assessments of our tax exposures could materially affect our financial results. See Part II Item 8 of this Form 10-K in Notes Q and S to the Consolidated Financial Statements under captions Unrecognized tax benefits and Contingencies, respectively.

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Climate change, climate change legislation or regulations, and efforts to reduce greenhouse gases (GHG) and build operational resilience to extreme weather conditions may adversely impact our operations and markets.

Several governments or regulatory bodies in areas where we operate, such as in the United States, Australia, Brazil, Canada, and the EU, have introduced or are contemplating legislative and regulatory change in response to the potential impacts of climate change, which could result in changes to the margins of GHG intensive assets and energy-intensive assets. These regulatory mechanisms relating to carbon may be either voluntary or legislated and the inconsistency of associated regulations may impact our operations directly or indirectly through customers or our supply chain. Assessments of the potential impact of future climate change legislation, regulation, and international treaties and accords are uncertain, given the wide scope of potential regulatory change in countries in which we operate and the diversity in the scope and development of such regulations. For example, in 2021, the European Commission proposed a Carbon Border Adjustment Mechanism (CBAM) as a levy on carbon-intensive imports, which was provisionally approved in December 2022. In October 2023, the CBAM entered into application of its transitional phase, which applies to aluminum, with the first reporting period for importers ending January 31, 2024, and full implementation of CBAM will begin on January 1, 2026. We may realize increased capital expenditures, costs, or taxes resulting from required compliance with revised or new legislation or regulations, including costs to purchase or profits from sales of allowances or credits under a carbon credit/pricing or "cap and trade" system, increased insurance premiums and deductibles as new actuarial tables are developed to reshape coverage, a change in competitive position relative to industry peers, and changes to profit or loss arising from increased or decreased demand for goods produced by the Company and, indirectly, from changes in costs of goods sold.

Though we are investing in technology to reduce the production of GHG in the manufacture of our products, such as our ELYSIS partnership aluminum smelting technology and other technologies that are designed to limit the production of carbon in alumina refining, in certain aspects of our operations, our ability to reduce our GHG emissions is also dependent on the actions of third parties, especially energy providers, and our ability to make significant changes in our GHG emissions. As a result, we could face additional costs associated with any new regulation of GHG emissions, and our ability to modify our operations to avoid these costs may be limited in the near term.

We also have operations in jurisdictions that have implemented or are developing regulations covering a variety of environmental and social topics, including GHG emissions, such as the European Union's Corporate Sustainability Reporting Directive, and similar regulations under consideration in U.S. states and other countries in which we operate, which contain new and extensive disclosure requirements that may require additional resources and costs associated with compliance. If we fail to comply with the various reporting frameworks, we could face scrutiny from stakeholders and regulators, incur monetary penalties and reputational harm, and could become subject to litigation or result in other material impacts to our business.

In addition, regulations to combat climate change could impact the competitiveness of the Company, including the attractiveness of the locations of some of the Company's assets. The global focus on climate is raising awareness in all countries, such as the agreement at the 26th United Nations Climate Change Conference of the Parties (COP26) by many governments of countries where the Company operates to combat deforestation, which could adversely affect our ability to mine and operate in sensitive areas like the Jarrah Forest and the Amazon.

The potential physical impacts of climate change or extreme weather conditions on the Company's operations are highly uncertain, could be significant, and will be particular to the geographic circumstances. These may include changes in rainfall patterns, wildfires, heat waves, shortages of water or other natural resources, changing sea levels, changing storm patterns, flooding, increased frequency and intensities of storms, and changing temperature levels. Any of these may disrupt our operations, hinder transportation of products to us or of our products to customers, interrupt energy supplies, prevent access to our facilities, negatively impact our suppliers' or customers' operations and their ability to fulfill contractual obligations to us, and/or cause damage to our facilities, all of which may increase our costs, reduce production, and adversely affect our business, financial condition, or results of operations. Measures to mitigate or adapt our assets, including current operations, closed or curtailed locations, and impoundment structures, to the potential physical climate-related risks may increase costs. In addition, we rely on our customers and suppliers to assess their own potential physical impacts of climate change and implement appropriate mitigation or adaptation actions. Thus, we may not be able to influence the resiliency of our suppliers or customers to potential physical impacts of climate change.

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Our business, financial condition, and results of operations could be adversely affected by disruptions in the global economy caused by ongoing regional conflicts.

The global economy has been negatively impacted by ongoing regional conflicts, such as the conflict between Russia and Ukraine and the conflict in the Middle East. Such adverse and uncertain economic conditions have exacerbated supply chain disruptions and increased our costs for certain raw materials and energy, particularly in Spain which impacted the viability of the San Ciprián operations. Additionally, in 2022, in response to the conflict between Russia and Ukraine, we ceased purchasing raw materials from and selling our products to Russian businesses. Furthermore, governments in the U.S., United Kingdom, and European Union have each imposed export controls on certain products and financial and economic sanctions on certain industry sectors and parties in Russia. To date, these actions and other ongoing regional conflicts and responses have not had a material adverse impact on the Company's business, but they could have material negative impacts if the conflicts continue and global sales of our products are affected.

Increased trade barriers or restrictions on global trade, or retaliatory measures taken in response, as well as the destabilizing effects of regional conflict, could also adversely affect our business, financial condition, and results of operations by limiting sales, restricting access to required raw materials, or raising costs thereof. Destabilizing effects that these ongoing regional conflicts may pose for the global oil and natural gas markets could also adversely impact our operations by further increasing our energy costs. In addition, further escalation of geopolitical tensions related to such conflicts could result in loss of property, cyber attacks, additional supply disruptions, an inability to obtain key supplies and materials, reduced production and sales, and/or operational curtailments, and adversely affect our business and our supply chain.

We are exposed to fluctuations in foreign currency exchange rates and interest rates, as well as inflation and other economic factors in the countries in which we operate.

Economic factors, including inflation and fluctuations in foreign currency exchange rates and interest rates, competitive factors in the countries in which we operate, and volatility or deterioration in the global economic and financial environment, have in the past and could in the future affect our business, financial condition, and results of operations. Changes in the valuation of the U.S. dollar against other currencies, particularly the Australian dollar, Brazilian real, Canadian dollar, euro, and Norwegian kroner, which are the currencies of certain countries in which we have operations, may affect our profitability, as some important inputs are purchased in other currencies, while our products are generally sold in U.S. dollars. As the U.S. dollar strengthens, the cost curve shifts down for smelters outside the United States, but costs for our U.S. smelting portfolio may not decline.

We face significant competition globally within and beyond the aluminum industry, which may have an adverse effect on profitability.

We compete with a variety of both U.S. and non-U.S. aluminum industry competitors as well as with producers of other materials, such as steel, titanium, plastics, composites, ceramics, and glass, among others. Use of such materials could reduce the demand for aluminum products, which may reduce our profitability and cash flow. Factors affecting our ability to compete include increased competition from overseas producers, our competitors' pricing strategies, the introduction or advancement of new technologies, equipment by our competitors or our customers, government regulation or support of certain material production, changes in our customers' strategy or material requirements, and our ability to maintain the cost-efficiency of our facilities. Certain competitors possess financial, technical, and management resources to develop and market products that may compete favorably against our products, and consolidation among our competitors may also allow them to compete more effectively. In addition, our competitive position depends, in part, on our ability to operate as an integrated aluminum value chain, leverage innovation expertise across businesses and key end markets, and access an economical power supply to sustain our operations in various countries. See Part I Item 1 of this Form 10-K under caption Competition.

We may not achieve our strategies or expectations relating to environmental, social, and governance considerations, which could expose us to potential liabilities, increased costs, reputational harm, and other adverse effects on our business.

We have established strategies and expectations relating to certain environmental, social, and governance considerations, including regarding reducing GHG emissions, reducing water usage, reducing waste, improving safety performance, and managing social risks across our operations. These strategies and expectations reflect our current plans and aspirations, and there is no guarantee that they will be achieved. Our ability to achieve any such strategies or expectations is subject to numerous factors and conditions, some of which are outside of our control. Examples of such factors include, but are not limited to, evolving legal, regulatory, and other standards, processes, and assumptions, the pace of scientific and technological developments, increased costs, the availability of requisite suppliers, energy sources, or financing, and changes in carbon markets. Failures or delays (whether actual or perceived) in achieving our strategies or expectations related to these matters could expose us to potential liabilities, increased costs, reputational harm, and other adverse effects on our business.

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Furthermore, many governments, regulators, investors, employees, customers, media outlets, and other stakeholders are increasingly focused on environmental, social, and governance considerations relating to businesses, and in some cases have divergent views on these issues, including relating to climate change and GHG emissions, biodiversity, and human capital strategies and programs. Our business may face increased scrutiny from such stakeholders and if our strategies relating to environmental, social, and governance considerations do not meet stakeholder expectations and standards, which continue to evolve and may differ across jurisdictions in which we operate, our business, financial condition, results of operations, and reputation could be adversely impacted. Similarly, our failure or perceived failure to pursue or fulfill our strategies and manage expectations; comply with federal, state, regional, or international ethical, environmental, or other standards, regulations, or expectations; adhere to public statements; satisfy reporting standards; or meet evolving and varied stakeholder expectations within the timelines we announce, or at all, could have adverse operational, reputational, financial, and legal impacts.

We are subject to a broad range of health, safety, and environmental laws, regulations, and other requirements in the jurisdictions in which we operate that may expose us to substantial claims, costs, and liabilities.

Our operations worldwide are subject to numerous complex and increasingly stringent federal, state, local and foreign laws, regulations, policies, and permitting, licensing, and other requirements, including those related to health, safety, environmental, and waste management and disposal matters, which may expose us to substantial claims, costs, and liabilities. We may be subject to fines, penalties, and other damages, such as natural resource or community damages and the costs associated with the investigation and cleanup of soil, surface water, groundwater, and other media under laws such as CERCLA (commonly known as Superfund) or similar U.S. and foreign regulations. These laws, regulations, policies, and permitting, licensing, and other requirements could change or could be, and have been, applied or interpreted in ways that could (i) require us to enjoin, curtail, close, or otherwise modify our operations and sites, including the implementation of corrective measures, the installation of additional equipment or structures, or the undertaking of other remedial actions, or (ii) subject us to enforcement risk or impose on or require us to incur additional capital expenditures, compliance or other costs, fines, penalties, or damages, any of which could adversely affect our results of operations, cash flows and financial condition, and the trading price of our common stock.

The costs of complying with such laws, regulations, policies, and other requirements, including participation in assessments, remediation activities, and cleanups of sites, as well as internal voluntary programs, are significant and will continue to be so for the foreseeable future. Environmental laws may impose cleanup liability on owners and occupiers of contaminated property, including previously owned, non-operational, or divested properties, regardless of whether the owners and occupiers caused the contamination or whether the activity that caused the contamination was lawful at the time it was conducted. As a result, we may be subject to claims arising from current or former conditions at sites that we own or operate currently, as well as at sites that we owned or operated in the past, and at contaminated sites that have always been owned or operated by third parties, regardless of whether we caused the contamination or whether the activity that caused the contamination was lawful at the time it was conducted. Liability may be without regard to fault and may be joint and several, so that we may be held responsible for more than our share of the contamination or other damages, or even for the entire share.

In addition, because environmental laws, regulations, policies, and other requirements are constantly evolving, we will continue to incur costs to maintain compliance and such costs could increase materially and prove to be more limiting and costly than we anticipate. Evolving standards and expectations can result in increased litigation and/or increased costs, all of which can have a material and adverse effect on our business operations, earnings, and cash flows. Future compliance with environmental, health, and safety legislation and other regulatory requirements or expectations may prove to be more limiting and costly than we anticipate and may disrupt our business operations and require significant expenditures. Our business, financial condition, or results of operations in a particular period could be materially affected by certain health, safety, or environmental matters, including remediation costs and damages related to certain sites.

Our operations include impoundment structures, which could impact the environment or cause exposure to hazardous substances or other damage, which could result in material liabilities to us.

Some of our operations generate waste and other byproducts, which we contain in tailing facilities, residue storage areas, and other structural impoundments that are subject to extensive regulation and increasingly strict industry standards. Failure of storage areas caused by extreme weather events, erosion, or unanticipated structural failure of impoundments could result in severe, and in some cases catastrophic, damage to the environment, natural resources, or property, or personal injury and loss of life. The impact that our operations may have on the environment, as well as exposures to hazardous substances or wastes associated with our operations, could result in significant costs, civil or criminal damages, fines or penalties, and enforcement actions issued by regulatory or judicial authorities enjoining, curtailing, or closing operations or requiring corrective measures, any of which could have a material adverse effect on Alcoa.

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The secondary listing of the Alcoa common stock on the Australian Stock Exchange (ASX) via CDIs could lead to price variations and other impacts on the price of Alcoa common stock.

Alcoa common stock is listed as CDIs on the ASX in addition to its existing primary listing on the New York Stock Exchange (NYSE).

Dual listing may result in price variations between Alcoa's securities listed on the different exchanges due to a number of factors, including that Alcoa common stock listed on the NYSE is traded in U.S. dollars and CDIs listed on the ASX are traded in Australian dollars, inherently introducing exchange rate volatility, and differences between the trading schedules and time zones of the two exchanges, among other factors. A decrease in the price of Alcoa's securities in one market may result in a decrease in the price of Alcoa's securities in the other market. Dual listing also presents the Company with the opportunity to raise additional funds through the issuance of CDIs, which could cause dilution to stockholders.

We may not be able to obtain or maintain adequate insurance coverage.

We maintain various forms of insurance, including insurance covering claims related to our properties and risks associated with our operations. Our existing property and liability insurance coverages contain exclusions and limitations on coverage. In connection with renewals of insurance, we have experienced, or could experience in the future, additional exclusions and limitations on coverage, significantly increased self-insured retentions and deductibles, and significantly higher premiums. We may not be able to procure adequate insurance coverage for certain risks, if at all, and existing insurance arrangements may not provide sufficient coverage or reimbursement for significant costs that may arise. As a result, in the future our insurance coverage may not cover claims to the extent that it has in the past and the costs that we incur to procure insurance may increase significantly, either of which could have an adverse effect on our results of operations.

Business Strategy Risks

We have incurred, and may incur in the future, significant costs associated with our strategy to reduce complexity and optimize our portfolio of mining, refining, and smelting assets, and we may not be able to realize the anticipated benefits from announced plans, programs, initiatives relating to our portfolio, capital investments, and developing technologies.

We are executing a strategy to achieve safety performance and operational excellence, build a high performance culture, maintain a disciplined approach to capital allocation, and pursue targeted growth opportunities by implementing productivity and cost-reduction initiatives, optimizing our portfolio of assets, and investing in technology development. We have been taking decisive actions to reduce complexity and optimizing our portfolio of assets by safely curtailing the Kwinana (Australia) refinery, acquiring Alumina Limited, and announcing the sale of our 25.1% ownership in the Saudi Arabia joint venture.

We have taken actions and may continue to plan and execute other actions to grow or streamline our portfolio. There is no assurance that anticipated benefits of our strategic actions will be realized. With respect to portfolio optimization actions such as divestitures, curtailments, closures, and restarts, we may face barriers to exit from unprofitable businesses or operations, including high exit costs or objections from various stakeholders, the lack of availability of buyers willing to purchase such assets at prices acceptable to us, delays due to any regulatory approvals or government intervention, continuing environmental obligations, and third parties unwilling to release us from guarantees or other credit support provided in connection with the sale of assets. In addition, we may retain liabilities from such transactions, have ongoing indemnification obligations, and incur unforeseen liabilities for divested entities if a buyer fails to honor all commitments.

Our business operations are capital intensive, and portfolio optimization actions such as the curtailment or closure of operations or facilities may include significant costs and charges, including asset impairment or restructuring charges and other measures. There can be no assurance that such actions will be undertaken or completed in their entirety as planned at the anticipated cost or will result in being beneficial to the Company. The effect of closures, curtailments, and divestitures over time will reduce the Company's cash flow and earnings capacity and result in a less diversified portfolio of businesses, and we will have a greater dependency on remaining businesses for our financial results. Additionally, curtailing certain existing facilities, whether temporarily or permanently, may require us to incur curtailment and carrying costs related to those facilities, as well as further increased costs should production be resumed at any curtailed facility, which could have an adverse effect on our business, financial results, and results of operations.

In October 2024, we completed our five-year strategic portfolio review to improve cost positioning, or curtail, close, or divest 1.5 million and 4 million metric tons of smelting and refining capacity, respectively. We reached approximately 93 percent of our target for smelting capacity with the decision to restart capacity at the Warrick smelter completed in the first quarter 2024, and exceeded our target for refining capacity with the decision to curtail the Kwinana refinery in January 2024. We continue to evaluate assets for opportunities for improvement to remain profitable throughout business cycles. Our announced technologies under development to support our long-term goal of being one of the lowest carbon-producing alumina refineries and aluminum smelters includes investments to develop, implement, and commercialize new technologies to reduce carbon emissions in the aluminum production

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process. We may not be able to implement, fully or in a cost-effective or timely way, the actions necessary to achieve this strategy and goal, which actions could include capturing, maintaining and/or expanding margins from new products, continued product innovation investment in research and development projects and new technologies, successful deployment and commercialization of effective new technologies, and cost-effective long-term energy solutions. We may not achieve the expected results from technology innovation or other benefits, including certain emissions or environmental-related goals, or expected profitability associated with this strategy. In addition, even if we are able to cost effectively develop our technologies, alternatives to technologies may be more acceptable to the market. Executing these actions also diverts senior management time and resources from our regular business operations, each of which could adversely affect the Company's business, financial condition, and results of operations.

Joint ventures, other strategic alliances, and strategic business transactions may not achieve intended results. We may experience operational challenges in integrating or segregating assets for such a venture or transaction, and such a venture or transaction could increase the number of our outstanding shares or amount of outstanding debt and affect our financial position.

We participate in joint ventures, including some instances where the Company is a minority owner and does not operate the assets, have formed strategic alliances, including some instances with governments, and may enter into other similar arrangements in the future. For example, Alcoa is minority owner of a joint venture with the Saudi Arabian Mining Company (Ma'aden). Although the Company has sought to protect our interests, joint ventures and strategic alliances inherently involve special risks and may not achieve the intended results. Whether or not the Company holds majority interests or maintains operational control in such arrangements, our joint venture and other business partners may take certain actions and positions, or experience difficulties that may negatively impact the Company and/or its reputation, such as:

- Advancing economic, political, social, or business interests or goals that are inconsistent with, or opposed to those of, the Company and our stakeholders;
- Exercising veto rights to block actions that we believe to be in our or the joint venture's or strategic alliance's best interests;
- Taking action contrary to our policies or objectives with respect to our investments; and,
- As a result of financial or other difficulties, be unable or unwilling to fulfill their obligations under the joint venture, strategic alliance, or other agreements, such as contributing capital to expansion or maintenance projects.

We continuously evaluate and may in the future enter into additional strategic business transactions. For example, in October 2024, Alcoa announced that it is progressing toward entering into a strategic partnership with IGNIS EQT to support the continued operation of the San Ciprián complex. Any such transactions could happen at any time, could be material to our business, and could take any number of forms, including, for example, an acquisition, merger, sale or distribution of certain assets, refinancing, or other recapitalization or material strategic transaction. There can be no assurance that our joint ventures, strategic alliances, or additional strategic business transactions will be beneficial to us, whether due to the above-described risks, unfavorable global economic conditions, increases in costs, foreign currency fluctuations, political risks, government interventions, retained liabilities, indemnification obligations, or other factors. Evaluating potential transactions and integrating completed ones may divert the attention of our management from ordinary operating matters. In addition, to the extent we consummate an agreement for the sale and disposition of an asset or asset group we may experience operational difficulties segregating them from our retained assets and operations, which could impact the execution or timing of such dispositions and could result in disruptions to our operations and/or claims for damages, among other things.

If we engage in a strategic transaction, we may require additional financing that could result in an increase in the number of our outstanding shares of stock or the aggregate amount and/or cost of our debt, which may result in an adverse impact to our credit ratings or adversely impact our business, financial condition, or results of operations. The number of shares of our stock or the aggregate principal amount of our debt that we may issue in connection with such a transaction could be significant.

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Available Capital and Credit-Related Risks

Our business and growth prospects may be negatively impacted by limits on our ability to fund capital expenditures.

We require substantial capital to invest in growth opportunities and to maintain and prolong the life and capacity of our existing facilities. Our ability to generate cash flows is affected by many factors, including market and pricing conditions. Insufficient cash generation or capital project overruns may negatively impact our ability to fund as planned our sustaining and return-seeking capital projects, and such postponement in funding capital expenditures or inadequate funding to complete projects could result in operational issues. For 2025, we project capital expenditures of $700, of which $625 is for sustaining capital projects and $75 is for return-seeking capital projects. If our technology research and development projects prove feasible with an acceptable expected rate of return, our capital expenditures for return-seeking projects would increase significantly over the next several years. To the extent our access to competitive financial, credit, capital, and/or banking markets becomes impaired, our operations, financial results, and cash flows could be adversely impacted. We may also need to address commercial, political, and social issues in relation to capital expenditures in certain of the jurisdictions in which we operate. If our interest in our joint ventures is diluted or we lose key concessions, our growth could be constrained. Any of the foregoing could have a material adverse effect on our business, results of operations, financial condition, and prospects.

Deterioration in our credit profile or increases in interest rates could increase our costs of borrowing money and limit our access to the capital markets and commercial credit.

The major credit rating agencies evaluate our creditworthiness and issue specified credit ratings. These ratings are based on a number of factors, including our financial strength and financial policies as well as our strategies, operations, and execution of announced actions. These credit ratings are limited in scope and do not address all material risks related to an investment in us, but rather reflect only the view of each rating agency at the time its rating is issued. Nonetheless, the credit ratings we receive impact our borrowing costs as well as our access to sources of capital on terms advantageous to our business. Failure to obtain or maintain sufficiently high credit ratings could adversely affect our interest rates in financings, our liquidity, or our competitive position, and could also restrict our access to capital markets. In addition, our credit ratings could be lowered or withdrawn entirely by a rating agency if, in its judgment, the circumstances warrant. If a rating agency were to downgrade our rating, our borrowing costs could increase, our funding sources could decrease, and we would need to rely on our cash flows from operations. As a result of these factors, a downgrade of our credit ratings could have a materially adverse impact on our future operations, cash flows, and financial position.

Our indebtedness impacts our current and future operations, which could adversely affect our ability to respond to changes in our business and manage our operations. Failure to comply with agreements related to our outstanding indebtedness, including events beyond our control, could result in an event of default that could materially and adversely affect our business, financial condition, results of operations, and/or cash flows.

Alcoa and Alcoa Nederland Holding B.V. (ANHBV), a wholly-owned subsidiary of Alcoa, are party to a revolving credit agreement with a syndicate of lenders and issuers named therein (as subsequently amended, the Amended Revolving Credit Facility). Alcoa and ANHBV are also party to a revolving credit agreement available to be drawn in Japanese yen (as subsequently amended, the Amended Japanese Yen Revolving Credit Facility). The terms of the Amended Revolving Credit Facility, Amended Japanese Yen Revolving Credit Facility, and the indentures governing our outstanding notes contain covenants that could impose significant operating and financial restrictions on us upon non-compliance, including our ability to, among other things:

- Make investments, loans, advances, and acquisitions;
- Amend certain material documents;
- Dispose of assets;
- Incur or guarantee additional debt and issue certain disqualified equity interests and preferred stock;
- Make certain restricted payments, including limiting the amount of dividends on equity securities and payments to redeem, repurchase or retire equity securities or other indebtedness;
- Engage in transactions with affiliates;
- Materially alter the business we conduct;
- Enter into certain restrictive agreements;
- Create liens on assets to secure lenders and issuers;
- Consolidate, merge, sell or otherwise dispose of all or substantially all of Alcoa's, ANHBV's or a subsidiary guarantor's assets; and,
- Take any actions that would reduce our ownership of AWAC entities below an agreed level.

The Amended Revolving Credit Facility required us to comply with financial covenants which includes maintaining an interest expense coverage ratio of not less than 3.00 to 1.00 for the 2024 fiscal year, and a debt to capitalization ratio not to exceed .60 to 1.00. As of January 1, 2025, the minimum interest coverage ratio requirement reverted to 4.00 to 1.00. The results of the calculation of these

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ratios, when considering the Company's existing debt obligations, affects and could restrict the amount of additional borrowing capacity under the Company's Amended Revolving Credit Facility or other credit facilities, and ANHBV's ability to make restricted payments, to make investments, and to incur indebtedness.

In addition, obligations under the Amended Revolving Credit Facility are secured by, subject to certain exceptions, a first priority security interest in substantially all assets of the Company, the Borrower, the material domestic wholly-owned subsidiaries of the Company, and the material foreign wholly-owned subsidiaries of the Company located in Australia, Brazil, Canada, Luxembourg, the Netherlands, Norway, and Switzerland including equity interests of certain subsidiaries that directly hold equity interests in AWAC entities.

The Amended Japanese Yen Revolving Credit Facility includes covenants that are substantially the same as those included in the Amended Revolving Credit Facility. In addition, obligations under the Amended Japanese Revolving Credit Facility are secured by, subject to certain exceptions, a first priority security interest in substantially all assets of the Company, the Borrower, the material domestic wholly-owned subsidiaries of the Company, and the material foreign wholly-owned subsidiaries of the Company located in Australia, Brazil, Canada, Luxembourg, the Netherlands, Norway, and Switzerland including equity interests of certain subsidiaries that directly hold equity interests in AWAC entities.

Our ability to comply with these agreements may be affected by events beyond our control, including prevailing economic, financial, and industry conditions. These covenants could have an adverse effect on our business by limiting our ability to take advantage of financing, merger and acquisition, or other opportunities. The breach of any of these covenants or restrictions could result in a default under the Amended Revolving Credit Facility, the Amended Japanese Yen Revolving Credit Facility, or the indentures governing our notes and other outstanding indebtedness, including such indebtedness for which the Company is a guarantor.

See Part II Item 7 of this Form 10-K in Management's Discussion and Analysis of Financial Condition and Results of Operations under caption Liquidity and Capital Resources – Financing Activities and Part II Item 8 of this Form 10-K in Note M to the Consolidated Financial Statements for more information on the restrictive covenants in the Company's revolving credit facilities.

If an event of default were to occur under any of the agreements relating to our outstanding indebtedness, including the Amended Revolving Credit Facility, the Amended Japanese Yen Revolving Credit Facility, and the indenture governing our notes, we may not be able to incur additional indebtedness under the Amended Revolving Credit Facility or the Amended Japanese Yen Revolving Credit Facility and the holders of the defaulted debt could cause all amounts outstanding with respect to that debt to be due and payable immediately. We cannot assure that our assets or cash flow would be sufficient to fully repay borrowings under our outstanding debt instruments if accelerated upon an event of default, which could have a material adverse effect on our ability to continue to operate as a going concern. Further, if we are unable to repay, refinance, or restructure our secured indebtedness, the holders of such indebtedness could proceed against the collateral securing that indebtedness. In addition, any event of default or declaration of acceleration under one debt instrument also could result in an event of default under one or more of our other debt instruments.

We cannot guarantee that we will continue to return capital to our stockholders through the payment of cash dividends and/or the repurchase of our common stock. The reduction or discontinuation of the payment of cash dividends to our stockholders or the repurchase of our shares of common stock could adversely affect the market price or liquidity of our shares.

In October 2021, the Company's Board of Directors initiated a quarterly cash dividend program, at $0.10 per share and authorized a $500 common stock repurchase program, which was fully used with the completion of $150 in repurchases during the third quarter of 2022. In July 2022, the Board of Directors approved an additional common stock repurchase program under which the Company may purchase shares of its outstanding common stock up to an aggregate transactional value of $500, depending on the Company's continuing analysis of market, financial, and other factors (the July 2022 authorization). This common stock repurchase authorization does not have a predetermined expiration date. As of December 31, 2024, $500 remained available for repurchase pursuant to this authorization. The Company is under no obligation to pay any cash dividends to stockholders or to repurchase our outstanding shares of common stock at any particular price or at all, and the payment of dividends and/or repurchases of stock may be limited, suspended, or discontinued at any time in our discretion and without notice. The Company set each of the current dividend and July 2022 authorizations at a level it believes is sustainable throughout the commodity cycle, based on our current financial position and reasonable expectations of cash flow. In addition, as described elsewhere in this "Risk Factors" section, the Company's Amended Revolving Credit Facility and Amended Japanese Yen Revolving Credit Facility could inhibit the Company's ability to make certain restricted payments, including the amount of dividends and payments to redeem, repurchase, or retire equity securities or other indebtedness, if the Company does not maintain certain financial ratios.

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The Company intends to pay dividends on a quarterly basis. Dividends on Alcoa Corporation common stock and preferred stock are subject to authorization by the Company's Board of Directors. The payment, amount, and timing of dividends, if any, depends upon matters deemed relevant by the Company's Board of Directors, such as Alcoa Corporation's financial position, results of operations, cash flows, capital requirements, business condition, future prospects, any limitations imposed by law, credit agreements or senior securities, and other factors deemed relevant and appropriate.

Declines in asset values or increases in liabilities, including liabilities associated with benefit plans or taxes, can reduce stockholders' equity. A deficit in stockholders' equity could limit our ability under Delaware law to pay dividends and repurchase shares in the future.

The reduction, suspension, or elimination of our cash dividend or our common stock repurchase program could adversely affect the market price of our stock and/or significantly increase its trading price volatility. The payment of any future dividends and the existence of a common stock repurchase program could cause our stock price to be higher than it would otherwise be and could potentially reduce the market liquidity for our stock. Additionally, any future payment of dividends or repurchases of our common stock could negatively impact our financial position and our ability to fund ordinary and existing operations, capital expenditures, the payment of taxes, and growth or other opportunities.

Cybersecurity Risks

Cyber attacks, security breaches, system failures, software or application vulnerabilities, or other cyber incidents may threaten the integrity of our information technology infrastructure and other sensitive business information, disrupt our operations and business processes, expose us to potential liability, and result in reputational harm and other negative consequences that could have a material adverse effect on our business, financial condition, and results of operations.

We depend on information and communications technology, networks, software, and related systems to operate our business, including production controls and operating systems at our facilities and systems for recording and processing transactions, interfacing with customers, financial reporting, and protecting the personal data of our employees and other confidential information. Our global operations require increased reliance on technology, which expose us to risks of theft of proprietary information, including trade secrets and other intellectual property that could have a material adverse effect on our business, financial condition, and results of operations. The protection of such information, as well as sensitive customer information, personal data of our employees, and other confidential information, is critical to us. We face global cybersecurity threats, which may range from uncoordinated individual attempts to sophisticated and targeted measures, known as advanced persistent threats, directed at the Company. In addition, a number of our employees work remotely, which has generally increased cybersecurity vulnerabilities and risk to our information technologies systems.

Cyber attacks and other cyber incidents are becoming more frequent and sophisticated, are constantly evolving, including through the use of artificial intelligence, and are being made by groups and individuals with significant resources that employ a wide range of expertise and motives. Such attacks are also increasing in complexity, which may make cyber attacks more difficult to detect, contain, and mitigate. Cyber attacks and security breaches may include, but are not limited to, unauthorized attempts to access information or digital infrastructure, efforts to direct payments to fictitious parties, viruses, ransomware, malicious codes, hacking, social engineering (such as phishing and SMSishing), denial of service, human error, and other electronic security breaches, any of which could have a material adverse effect on our business, financial condition, and results of operations. Certain techniques used in cyber attacks may not be immediately detectable, we may be unable to anticipate or detect these techniques, such as use of a zero-day exploit or unknown malware, immediately identify the scope and impact of an incident, contain the incident within our systems, or implement preventative or remediation measures, which may have a material adverse effect on our business, financial condition, and results of operations. In addition, we utilize third-party vendors for certain software applications, storage systems, and cloud computing services. Cyber attacks, security breaches, or other incidents on the information technology systems of our service providers or business partners could materially impact us. We have in the past experienced attempts and incidents by external parties to penetrate our and our service providers or business partners networks and systems. Such attempts and incidents to date have not had a material adverse effect on our business, financial condition, or results of operations.

We continue to assess potential cyber threats and invest in our technology infrastructure to address these threats, including by monitoring networks and systems, training employees on cyber threats, and enhancing security policies of the Company and its third-party providers. While the Company continually works to strengthen our systems and security measures, safeguard information, and mitigate potential risks, there is no assurance that such actions will be sufficient to prevent or timely detect cyber attacks or security breaches. Some intrusions could manipulate or improperly use our systems or networks, disclose, or compromise confidential or protected information, destroy, or corrupt data, or otherwise disrupt our operations, and because of any of these things could have a material adverse effect on our business, financial condition, and results of operations.

In addition, some cybersecurity incidents could negatively impact our reputation and competitive position, and could result in litigation with third parties, regulatory action, loss of business, theft of assets, and significant remediation costs, and because of any of these things, have a material adverse effect on our financial condition and results of operations. Such security breaches could also result in a violation of applicable U.S. and international privacy and other laws, and subject us to litigation and governmental investigations and proceedings, any of which could result in our exposure to material civil or criminal liability. For example, the European Union's General Data Privacy Regulation (GDPR) subjects companies to a range of compliance obligations regarding the handling of personal data. In the event our operations are found to be in violation of the GDPR's requirements, we may be subject to significant civil penalties, business disruption, and reputational harm, any of which could have a material adverse effect on our business, financial condition, or results of operations. Some cyber attacks or breaches could require significant management attention and resources and result in the diminution of the value of our investment in research and development, which could have a material adverse effect on our business, financial condition, or results of operations.

Though we have disaster recovery and business continuity plans in place, if our information technology systems, or those of our third-party providers, are damaged, breached, interrupted, or cease to function properly for any reason, and, if the disaster recovery and business continuity plans do not effectively resolve the incident on a timely basis, we may suffer interruptions in our ability to manage or conduct business and we may be exposed to reputational, competitive, and business harm as well as litigation and regulatory action, which may materially and adversely impact our business, financial condition, or results of operations.

Labor- and Pension-Related Risks

Union or workforce disputes or arrangements and other employee relations issues, as well as labor market conditions, could adversely affect our business, financial condition, or results of operations.

A significant portion of our employees are represented by labor unions or worker groups in a number of countries under various collective bargaining agreements or similar arrangements with varying durations and expiration dates.

We may not be able to satisfactorily renegotiate our agreements when they expire. In addition, existing arrangements may not prevent strikes, work stoppages, work slowdowns, union organizing campaigns, or lockouts at our facilities in the future. We may also be subject to general country strikes or work stoppages unrelated to our business or collective bargaining agreements. A labor dispute or work stoppage of employees could have a material adverse effect on production at and shipping from one or more of our facilities, and depending on the length of work stoppage, on our business, financial condition, or results of operations. Additionally, in the current competitive labor market, if we lose critical or a significant number of workers to attrition, it may be difficult or costly to find and recruit replacement employees, which could have a material adverse effect on our business, financial condition, and results of operations.

A decline in the liability discount rate, lower-than-expected investment return on pension assets, and other factors could affect our business, financial condition, results of operations, or amount of pension funding contributions in future periods.

Our results of operations may be negatively affected by the amount of expense we record for our pension and other postretirement benefit plans, reductions in the fair value of plan assets, and other factors. We calculate income or expense for our plans using actuarial valuations in accordance with accounting principles generally accepted in the United States of America (GAAP).

These valuations reflect assumptions about financial market and other economic conditions, which may change based on changes in key economic indicators. The most significant year-end assumptions used by the Company to estimate pension or other postretirement benefit income or expense for the following year are the discount rate applied to plan liabilities and the expected long-term rate of return on plan assets. In addition, the Company is required to make an annual measurement of plan assets and liabilities, which may result in a significant charge to stockholders' equity. See Part II Item 7 of this Form 10-K in Management's Discussion and Analysis of Financial Condition and Results of Operations under caption Critical Accounting Policies and Estimates—Pension and Other Postretirement Benefits and Part II Item 8 of this Form 10-K in Note O to the Consolidated Financial Statements. Although GAAP expense and pension funding contributions are impacted by different regulations and requirements, the key economic factors that affect GAAP expense would also likely affect the amount of cash or securities we would contribute to the pension plans.

Potential pension contributions include both mandatory amounts required under federal law and discretionary contributions to improve the plans' funded status. While the Company took several actions in recent years to improve the funded status of its pension plans and adjust its asset allocation to reduce variance risk, declines in the discount rate or lower-than-expected investment returns on plan assets could have a material negative effect on our cash flows. Adverse capital market conditions could result in reductions in the fair value of plan assets and increase our liabilities related to such plans, adversely affecting our liquidity and results of operations.

Item 1B. Unresolved Staff Comments.

None.

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Item 1C. Cybersecurity.

Risk Management and Strategy

The Company's processes for assessing, identifying, and managing material risks from cybersecurity threats are integrated into our overall Enterprise Risk Management (ERM) process. As part of the ERM, the Company focuses on developing multi-layered, collaborative processes to identify, monitor, and manage risks from cybersecurity threats. Risks are grouped into categories that management can then assess, monitor, and prioritize based on the likelihood of an occurrence, level of impact, and mitigating factors.

Our various cybersecurity risk management processes apply to various functions, including but not limited to, third-party suppliers and vulnerability management. We employ processes and technologies to bring visibility to, and protect against, cybersecurity risk, to include real time monitoring of network traffic and email. The Company also has a comprehensive body of policies and standards for assessing, identifying, and managing material risks from cybersecurity threats, including an incident response plan, business continuity plan, crisis management plan, as well as disaster recovery mechanisms, which are tested and updated. Additionally, the Company employs staff that are specifically dedicated to raising cybersecurity awareness and training within the organization.

The Company engages third-party assessors, consultants, and auditors to assist in assessing, identifying, and managing risk from cybersecurity threats. Third parties assist the Company by (i) providing regular penetration testing and vulnerability assessments; (ii) assessing and maintaining our formal incident response policies, including the use of tabletop testing; and (iii) providing multiple sources of threat intelligence information that are fed directly into our technical security platforms and our awareness campaigns, including ongoing network monitoring. The Company also has a comprehensive third-party information security audit program in place.

Alcoa has implemented processes designed to identify and mitigate cybersecurity threats associated with our use of third-party service providers. Such providers are subject to a security risk assessment prior to engagement to determine if they meet defined levels of security capabilities. Our master services agreements with third-party service providers generally carry a number of security requirements, including audit rights for the Company. After engagement, third-party service providers are subject to audits in which contract owners within Information Technology Automation Solutions (ITAS) validate that any certifications a vendor had upon engagement are maintained throughout the life of the agreement.

We have in the past experienced attempts and incidents by external parties to penetrate our, our service providers', and our business partners' networks and systems. Such attempts and incidents to date have not had a material adverse effect on our business, financial condition, or results of operations. See Part I Item 1A of this Form 10-K for more information on risks.

Governance

The Alcoa Board of Directors (Board), in coordination with the Audit Committee, is responsible for the oversight of our cybersecurity risk management program, and specifically, reviews and oversees the Company's risk management and strategy relating to cybersecurity, including cybersecurity developments and threats and the Company's process for assessing, managing, and mitigating material cybersecurity risks and threats. The Audit Committee and the Board receive regular updates regarding the state of the Company's cybersecurity program, cybersecurity developments, and emerging threats. The Chief Information Security Officer (CISO) and the Chief Information Officer (CIO) regularly update the Audit Committee and the Board regarding the Company's strategy to mitigate cybersecurity risks, which includes regular vulnerability assessments and employee training on cybersecurity matters. Alcoa's CISO is responsible for maintaining identified material cybersecurity risks within the Company's ERM platform. On a quarterly basis, the CISO reviews and updates risks, as well as the control procedures in place. These risks are regularly reported to the Audit Committee and Board.

Alcoa's CISO has thirty years of experience in information technology, including over fifteen years in cybersecurity, and prior to joining Alcoa, was the CISO of the U.S. business of a large global insurance and asset company and was responsible for the security of data, systems, and processes supporting customer assets. Alcoa's CISO maintains professional certifications in information security, participates in intelligence sharing organizations, and has extensive cybersecurity risk management experience in manufacturing organizations and reports to the CIO. Alcoa's CIO has almost thirty years of information technology experience, including a diverse knowledge in manufacturing and process control solutions, corporate applications, infrastructure, and service delivery operations. The CISO closely collaborates with the CIO and Chief Financial Officer (CFO) in managing material risks from cybersecurity threats. Alcoa also maintains an information security steering committee (ISSC), which oversees current and emerging cybersecurity risks and investments in the cybersecurity risk protections for the Company. The steering committee is comprised of a cross-functional team of leaders from across Alcoa's business groups, including the CISO (the ISSC Chair) and CIO.

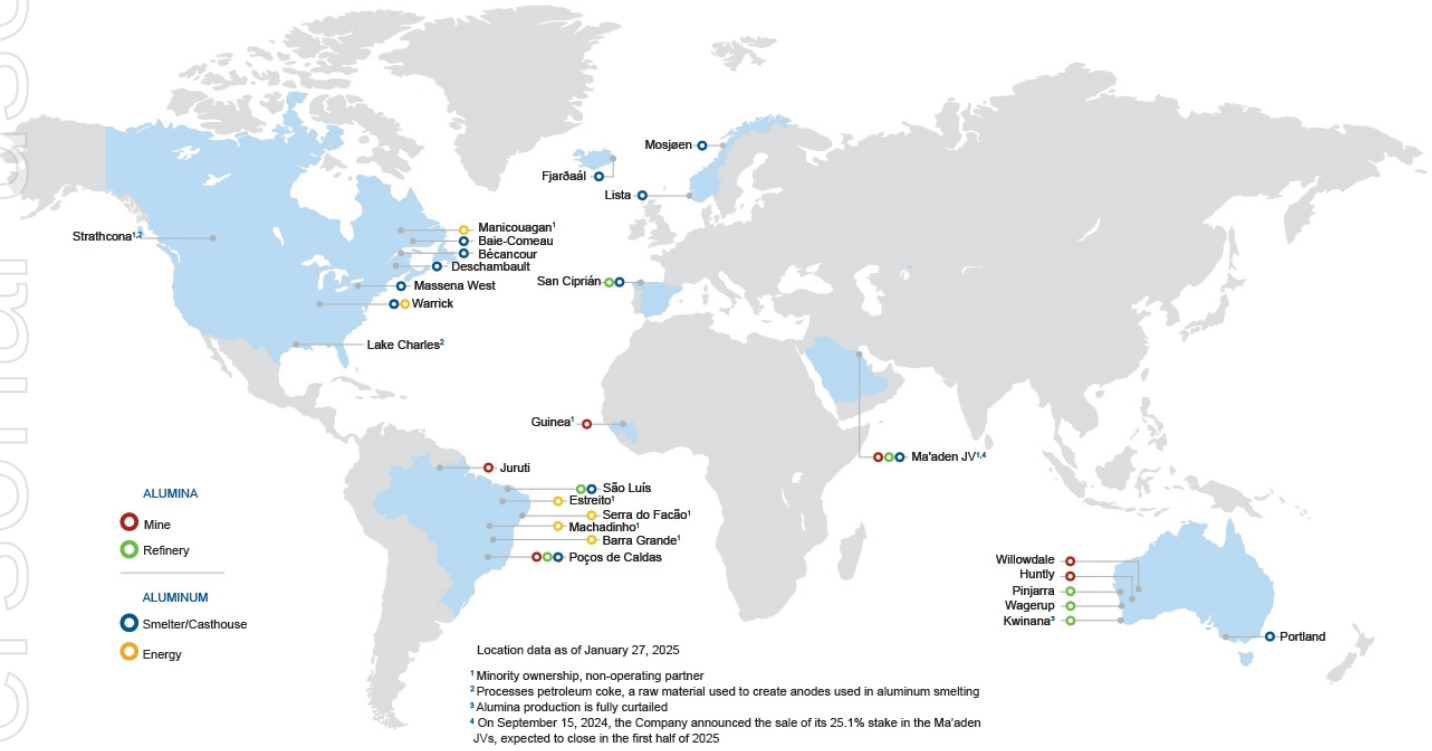
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The Company has established comprehensive incident response plans that set forth the processes through which cybersecurity incidents are managed, including how management is informed of cybersecurity incidents. As part of these plans, incidents are evaluated, classified, and elevated to an executive team which includes the CISO and executives on the Crisis Response Team. Once elevated, these executives are ultimately responsible for the management, mitigation, and remediation of incidents.

Item 2. Properties.

Alcoa Corporation's principal executive office, located at 201 Isabella Street, Pittsburgh, Pennsylvania 15212-5858, is leased. Alcoa also leases several office facilities and sites, both domestically and internationally. In addition, Alcoa owns or has an ownership interest in its production sites, both domestically and internationally. Alcoa owns active mines and operations classified under the Alumina and Aluminum segments of its business. These include facilities and assets around the world used for Alcoa's bauxite mining and alumina refining, aluminum smelting and casting production, and energy generation. Capacity and utilization of these facilities varies by segment and the level of demand for each product. See Part I Item 1 of this Form 10-K for additional information, including the ownership, capacity, and utilization of these facilities, used in the Alumina and Aluminum segments. A discussion of our bauxite mining properties is below.

The following map shows the locations of our operations as of December 31, 2024:



Alcoa Locations and Properties.

Although Alcoa's facilities vary in terms of age and condition, management believes that its facilities are suitable and generally adequate to support the current and projected operations of the business. See Part II Item 8 of this Form 10-K in Notes B and K to the Consolidated Financial Statements for more information on properties, plants, and equipment.

Bauxite Mining Properties

Alcoa has access to large bauxite deposit areas with mining rights that extend, in the cases of Darling Range and Juruti, more than 15 years from the date of this Form 10-K. The Company obtains bauxite from its own resources located in the countries listed in the table below, as well as pursuant to both long-term and short-term contracts and mining leases. Tons of bauxite are reported on a zero-moisture basis in millions of dry metric tons (mdmt) unless otherwise stated.

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As of December 31, 2024, the Company's individually material mining properties, as determined in accordance with subpart 1300 of Regulation S-K, are our bauxite mining properties in the Darling Range of Western Australia (Darling Range) and Juruti, Brazil (Juruti).

As used in this Form 10-K, the terms "mineral resource," "measured mineral resource," "indicated mineral resource," "inferred mineral resource," "mineral reserve," "proven mineral reserve" and "probable mineral reserve" are defined and used in accordance with subpart 1300 of Regulation S-K. Under subpart 1300 of Regulation S-K, mineral resources may not be classified as "mineral reserves" unless the determination has been made by a qualified person (as defined under subpart 1300 of Regulation S-K) that the mineral resources can be the basis of an economically viable project. Part or all of the mineral deposits (including any mineral resources) in these categories may never be converted into mineral reserves. Further, except for the portion of mineral resources classified as mineral reserves, mineral resources do not have demonstrated economic value. Estimates of inferred mineral resources have too high of a degree of uncertainty as to their existence and may not be converted to a mineral reserve. Therefore, it should not be assumed that all or any part of an inferred mineral resource exists, that it can be the basis of an economically viable project, or that it will ever be upgraded to a higher category. Likewise, it should not be assumed that all or any part of measured or indicated mineral resources will ever be converted to mineral reserves. Management relies on estimates of our recoverable mineral reserves, which estimation is complex due to geological characteristics of the properties and the number of assumptions made and variable factors, some of which are beyond our control.

The following table shows the AWAC and/or Alcoa share (proportion) of annual production tonnage at each of our bauxite mining properties and in the aggregate for each of the last three fiscal years. AWAC became wholly-owned by Alcoa upon its completion of the Alumina Limited acquisition on August 1, 2024.

Summary of Attributable Annual Bauxite Production (mdmt) for the years ended December 31, 2024, 2023, and 2022, respectively:

Country	Property (Region)	2024	2023	2022
Australia	Darling Range (Western Australia, WA)	27.7	30.9	31.4
Brazil	Juruti (Pará State)	5.6	5.0	4.9
Brazil	Trombetas (Pará State)[(1)]	—	—	0.5
Brazil	Poços de Caldas (Minas Gerais)	0.4	0.4	0.4
Guinea	Boké (Sangaredi)	3.4	3.6	3.6
Saudi Arabia	Al Ba'itha (Al Qassim)	1.2	1.1	1.3
		38.3	41.0	42.1

(1) Amounts shown for the year ended December 31, 2022 represent production prior to the Company's sale of its interest in the MRN mine in April 2022. Related mining operations were not material to the Company's business or financial condition after consideration of both quantitative and qualitative factors assessed in the context of the Company's overall business and financial condition.

The following tables summarize certain information regarding our bauxite mining properties. The information that follows relating to Darling Range and Juruti is derived, for the most part, from the technical report summaries relating to such properties prepared in compliance with Item 601(b)(96) and subpart 1300 of Regulation S-K. Portions of the following information are based on assumptions, qualifications, and procedures that are not fully described herein. Reference should be made to the full text of the Technical Report Summary for Darling Range, Western Australia, dated February 20, 2025, with an effective date of December 31, 2024, filed as Exhibit 96.1 to this Form 10-K (the Darling Range TRS), and the Technical Report Summary for Juruti, Brazil, dated February 24, 2022, with an effective date of December 31, 2021, incorporated by reference as Exhibit 96.2 to this Form 10-K (the Juruti TRS), which are incorporated by reference herein.

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Bauxite Interests and Operators:

Property (Region)	Access/Transportation	Operator	Owners' Mining Rights[1]	Expiration Date of Mining Rights	Titles, Rights, Leases or Options	Area (hectares)
Darling Range[2] (WA)	Accessed by road. Ore transported via long-distance conveyor and rail to refineries.	AofA	100%	2045	Mining lease from the WA Government. ML1SA.	702,261
Juruti[3] (Pará State)	Accessed by road from Juruti town, by boat along the Amazon River, or by air from Juruti Airport. Ore transported from the mine to Juruti port by company-operated rail.	AWAB	100%	2100[4]	Mining licenses from the Government of Brazil and Pará. Mining rights do not have a legal expiration date. Various permits have been administratively renewed or are in the process of being renewed.	200,255
Poços de Caldas (Minas Gerais)	Accessed by road. Ore transported from the mine to the refinery by road.	Alcoa Alumínio	100%	2031[4]	Mining licenses from the Government of Brazil and Minas Gerais. Company claims and third-party leases. Operation licenses were renewed and unified and now expires in 2032.	11,008
Boké (Sangaredi)	Accessed by road from Sangaredi and public airports. Ore transported by company-operated rail to Kamsar port.	CBG	22.95%	2038	Mining lease from Government of Guinea. The lease is renewable in 25-year increments. CBG's rights are specified within the Basic Agreement and Amendment 1 to the Basic Agreement with the Government of Guinea.	293,900
Al Ba'itha (Al Qassim)	Accessed by road. Ore is transported to the refinery by rail and truck.	MBAC	25.1%	2037	Mining lease granted to Ma'aden by Kingdom of Saudi Arabia Ministry of Petroleum and Mineral Resources, with a duration of 30 years. Exclusive rights to utilize bauxite and annexed minerals.	14,776

(1) Owners' Mining Rights reflects Alcoa's ownership interest(s) in the properties and related share (proportion) of the mineral resources and reserves and annual production.

(2) For more information, see Individual Property Disclosure—Darling Range below.

(3) For more information, see Individual Property Disclosure—Juruti below.

(4) Brazilian mineral legislation does not limit the duration of mining concessions; rather, the concession remains in force until the deposit is exhausted. These concessions may be extended later or expire earlier than estimated, based on the rate at which these deposits are exhausted and on obtaining any additional governmental approval, as necessary.

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Bauxite Mine Types and Facilities:

Property (Region)	Development Stage	Type of Mine and Mineralization	Processing Plant	Other Facilities
Darling Range[1] (WA)	Production/ Operating	Open-cut mines. Bauxite is lateritic formed through weathering of Archean granites and gneisses	N/A Ore crushing only.	Administrative buildings and workshops, crushers, long-distance conveyors. Power supplied from natural gas.
Juruti[2] (Pará State)	Production/ Operating	Open-cut mines. Bauxite is lateritic formed through weathering of Cretaceous Alter do Chao Formation sedimentary sequence.	Fixed plant for ore crushing and washing.	Mine: Administrative buildings and workshops, water supply pumps and pipeline from Juruti Grande, ore stockpiles, railroad, tailings thickening and settling ponds. Port: Administrative buildings, port control, ore stockpiles, rail siding, and ship loader. Power supplied by thermoelectric units at the mine and port.
Poços de Caldas (Minas Gerais)	Production/ Operating	Open-cut mines. Bauxite derived from the weathering of nepheline syenite and phonolite.	N/A Run of mine (ROM) trucked to refinery stockpiles.	Mining offices and services are located at the refinery. Power supplied by commercial grid.
Boké (Sangaredi)	Production/ Operating	Open-cut mines: The bauxite deposits within the CBG lease are of two general types. TYPE 1: In-situ laterization of Ordovician and Devonian plateau sediments locally intruded by dolerite dikes and sills. TYPE 2: Sangaredi type deposits are derived from clastic deposition of material eroded from the TYPE 1 laterite deposits and possibly some of the protoliths from the TYPE 1 plateaus deposits.	N/A Ore crushed and dried at Kamsar port facilities.	Mine: Administrative buildings, workshops, and water/power supply are in Sangaredi. Port: Administrative buildings, port control, ore stockpiles, ore drying facilities, rail siding, and ship loader. Power supplied by fuel oil generators at the mine and port.
Al Ba'itha (Al Qassim)	Production/ Operating	Open-cut mine. Bauxite occurs as a paleolaterite profile developed at an angular unconformity between underlying late Triassic to early Cretaceous sediments (parent rock sequence Biyadh Formation) and the overlying late Cretaceous Wasia Formation (overburden sequence).	Fixed plant for ore crushing and train loading	The mine includes fixed plants for crushing and train loading; workshops and ancillary services; power plant; and water supply. There is a company village with supporting facilities

(1) For more information, see Individual Property Disclosure—Darling Range Mines below.

(2) For more information, see Individual Property Disclosure—Juruti below.

Bauxite Mineral Resources and Mineral Reserves

In accordance with subpart 1300 of Regulation S-K, management engaged SLR International Corporation as the qualified persons to prepare technical report summaries for the disclosure of mineral resources and reserves at Darling Range and Juruti. The tables shown below of resources and reserves by mining property were prepared using the results of the procedures performed by the qualified persons, which have no affiliation with or interest in Alcoa or our mining properties.

Summary of Attributable Bauxite Mineral Resources Exclusive of Mineral Reserves at December 31, 2024:

	Measured			Indicated			Measured + Indicated			Inferred		
Property (Region)	Tonnage (mdmt)[1]	Alumina (%)	Silica (%)	Tonnage (mdmt)[1]	Alumina (%)	Silica (%)	Tonnage (mdmt)[1]	Alumina (%)	Silica (%)	Tonnage (mdmt)[1]	Alumina (%)	Silica (%)
Darling Range (WA)[2]	139.6	30.4	1.8	48.7	30.3	1.4	188.4	30.4	1.7	101.4	32.4	1.2
Juruti (Pará State)[3]	5.6	44.5	5.3	58.4	45.3	4.4	64.0	45.3	4.5	514.3	45.6	4.6
Poços de Caldas (Minas Gerais)[4]	2.1	38.0	4.8	7.5	36.5	5.2	9.6	36.8	5.1	3.0	35.4	5.3
Boké (Sangaredi)[5]	—	—	—	1,357.2	46.6	2.3	1,357.2	46.6	2.3	173.5	45.8	2.4
Al Ba'itha (Al Qassim)[6]	—	—	—	—	—	—	—	—	—	0.7	48.3	11.7

(1) This table shows only the Alcoa share (proportion) of mineral resources. The reference point for the mineral resource is the in situ predicted dry tonnage and grade of material to be delivered to the refinery stockpile following the application of mining design parameters. Metallurgical recovery has not been directly considered in the estimation of the mineral resource as the Darling Range operations do not include a conventional processing plant, only crushing. The metallurgical recovery of the refineries (Kwinana, Pinjarra, and Wagerup) are beyond the boundaries of the mining operations. Certain totals may not sum due to rounding.

(2) Alumina for the Darling Range is stated as Available Alumina (as $A.Al_2O_3$) and Silica is stated as Reactive Silica (as $R.SiO_2$). Darling Range mineral resources are estimated using an alumina life of mine price of $500 per ton and a caustic soda life of mine price of $300 per ton. Mineral resources for the polygonal models are estimated at a $\geq$ 27.5% $A.Al_2O_3$ and $\leq$3.5% $R.SiO_2$ cut-off grade and at a minimum mining thickness of 1.5 meters (m).

(3) Alumina for Juruti is stated as Available Alumina (as $A.Al_2O_3$) and Silica is stated as Reactive Silica (as $R.SiO_2$). Juruti mineral resources are estimated at a pit discard cut-off value based on a benefit calculation that determines whether a block is economically viable and has a minimum thickness of 1 m. Further, mineral resources are estimated using a long-term bauxite price of approximately $35 (wet-base) per ton, representing a 30% increase over the mineral reserve bauxite price.

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(4) Alumina for Poços de Caldas is stated as Available Alumina (as $A.Al_2O_3$) and Silica is stated as Reactive Silica (as $R.SiO_2$). Poços de Caldas mineral resources are estimated at a pit discard cut-off value based on a benefit calculation that determines whether a block is economically viable.

(5) Alumina for Boké is stated as Total Alumina (as $T.Al_2O_3$) and Silica is stated as Total Silica (as $T.SiO_2$). Boké resources are estimated at a ≥ 41% $T.Al_2O_3$ and ≤10% $T.SiO_2$ cut-off grade. Tonnage reported on a 3% moisture basis.

(6) Alumina for Al Ba'itha is stated as Total Available Alumina (as TAA) and Silica is stated as Total Silica (as $T.SiO_2$). Al Ba'itha mineral resources are estimated at a ≥ 40% TAA cut-off grade.

The following table shows only the Alcoa share (proportion) of mineral reserves. These estimates are periodically updated to reflect past bauxite production, updated mine plans, new exploration information, and other geologic or mining data. Given the Company's extensive bauxite resources, the abundant supply of bauxite globally, and the length of the Company's rights to bauxite, it is not cost-effective to establish bauxite reserves that reflect the total size of the bauxite resources available to the Company. Certain totals may not sum due to rounding.

Summary of Attributable Bauxite Mineral Reserves at December 31, 2024:

	Proven			Probable			Total		
Property (Region)	**Tonnage** (mdmt)[1]	**Alumina** (%)	**Silica** (%)	**Tonnage** (mdmt)[1]	**Alumina** (%)	**Silica** (%)	**Tonnage** (mdmt)[1]	**Alumina** (%)	**Silica** (%)
Darling Range[2]	26.1	29.2	1.6	397.6	30.8	1.6	423.7	30.7	1.6
Juruti (Pará State)[3]	43.5	47.6	3.6	33.0	46.3	3.5	76.5	47.0	3.5
Poços de Caldas (Minas Gerais)[4]	0.9	40.8	3.6	1.4	39.8	3.9	2.3	40.2	3.8
Boké (Sangaredi)[5]	74.3	47.0	1.9	3.7	48.7	2.5	78.1	47.1	1.9
Al Ba'itha (Al Qassim)[6]	14.0	50.2	8.0	31.8	45.5	11.1	45.7	46.9	10.1

(1) This table shows only the Alcoa share (proportion) of mineral reserves. The reference point for the mineral reserve is the refinery processing plant gate, with crushing, washing (as applicable), and transportation being the only process employed. Metallurgical recovery factor for extractable alumina of 93% has been applied during optimization at Darling Range. Certain totals may not sum due to rounding.

(2) Alumina for the Darling Range is stated as Available Alumina (as $A.Al_2O_3$) and Silica is stated as Reactive Silica (as $R.SiO_2$). Darling Range mineral reserves are estimated at variable cut-off grades, dependent on grade, operating costs and ore quality for blending to meet refinery target grades. Mineral reserves are estimated using a base alumina price of $400 per ton and a delivered price for caustic of $500 per ton.

(3) Alumina for Juruti is stated as Available Alumina (as $A.Al_2O_3$) and Silica is stated as Reactive Silica (as $R.SiO_2$). Juruti mineral reserves are estimated at a pit discard cut-off value based on a benefit calculation that determines whether a block is economically viable. Further, mineral reserves are estimated using a one-year weighted average bauxite price of approximately $27 per ton, based on contractual agreements with an Alumina segment refinery.

(4) Alumina for Poços de Caldas is stated as Available Alumina (as $A.Al_2O_3$) and Silica is stated as Reactive Silica (as $R.SiO_2$). Poços de Caldas mineral reserves are estimated at a pit discard cut-off value based on a benefit calculation that determines whether a block is economically viable.

(5) Alumina for Boké is stated as Total Alumina (as $T.Al_2O_3$) and Silica is stated as Total Silica (as $T.SiO_2$). Boké reserves are estimated at a ≥ 45% $T.Al_2O_3$ and ≤10% $T.SiO_2$ cut-off grade. Tonnage reported on a 3% moisture basis.

(6) Alumina for Al Ba'itha is stated as Total Available Alumina (as TAA) and Silica is stated as Total Silica (as $T.SiO_2$). Al Ba'itha mineral reserves are estimated at a ≥ 40% TAA cut-off grade and a minimum mining thickness of 1.0 m.

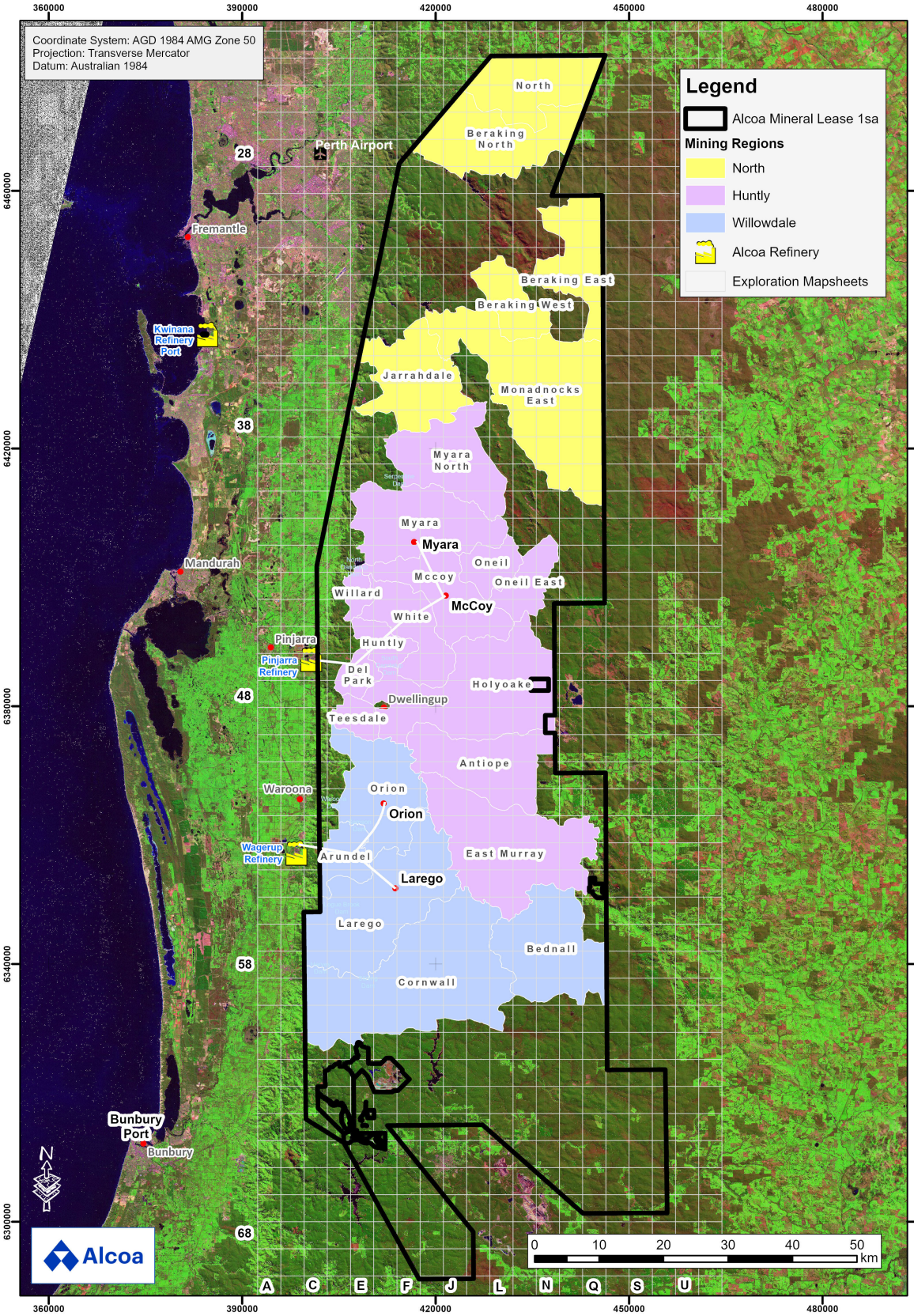
Individual Property Disclosure—Darling Range

Property Location and Description

The Darling Range bauxite deposits comprise the mining centers of (i) Huntly, located approximately 80 kilometers (km) to the southeast of Perth and 30 km northeast of Pinjarra, Western Australia, Australia, and (ii) Willowdale, located approximately 100 km south-southeast of Perth and 20 km southeast of Waroona, Western Australia, Australia. The Huntly and Willowdale mining centers/regions are separate open pit, surface mines and are both located within Mining Lease ML1SA. Darling Range is owned and operated by Alcoa through AofA.

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All spatial data used for mineral resource and reserve estimation are reported using a local grid based on Australian Map Grid 1984 system (Zone 50) and using the Australian Geodetic Datum 1984 coordinate set. The approximate coordinates of the mining areas are 410,000 m East and 6,390,000 m North (Huntly) and 410,000 m East and 6,365,000 m North (Willowdale).



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Darling Range Location, Lease Area, Mining Centers, and Mining Regions

Refer to the Darling Range TRS in Sections 2.0 through 5.0 for more information on the Darling Range mining centers – their history, location, accessibility, and other relevant details.

Infrastructure

The figure above illustrates the relative location of each of the individual mining areas within the Huntly and Willowdale centers. These areas include, but are not limited to, Myara, Larego, Orion, and Arundel.

Mining infrastructure in the Darling Range is generally concentrated in the Myara area in the northwest of the Huntly mining center, and at the Larego area (20 km southeast of the Wagerup refinery) in the center of the Willowdale mining center. Both infrastructure areas include:

- Ore crushing and handling facilities;
- Ore stockpile stacker/reclaimer;
- Maintenance facilities;
- Sampling stations;
- Site offices including a production tracking room;
- Haul road networks;
- Overland conveyors, as illustrated on the above map;
- Water supplies consisting of abstraction from licensed surface water sources supplemented with treated wastewater from vehicle washdowns, stormwater runoff, and maintenance workshops; and,
- Power supply lines direct from certain of the Company's refineries.

Personnel are sourced from the area around Perth, Western Australia, which benefits from a skilled workforce due to the relatively large number of operating mines in the region.

Huntly is accessible from the South Western Highway via Del Park Road, which connects the town of North Dandalup in the north with Dwellingup in the south. From Del Park Road, a 3 km road following the route of the bauxite conveyor to the Pinjarra refinery provides access to the Huntly site administration offices. Willowdale is similarly accessible, 19 km from the South Western Highway via Willowdale Road, a road to the south of Waroona. There are several airstrips in the region, although the closest major airport is in Perth, approximately 70 km north of North Dandalup. The nearest commercial port is at the Kwinana refinery, approximately 40 km south of Perth.

While an extensive haul road network and overland conveyors transport crushed bauxite from the main mining hub to the Wagerup and Pinjarra refineries, bauxite was also transferred to the Kwinana refinery via the Kwinana freight railway system, using the Kwinana–Mundijong line prior to the full curtailment of the refinery in the second quarter of 2024.

Alcoa's Darling Range mining operations do not produce mine waste in the same manner as conventional mining operations and waste dumps are not constructed.

Alcoa's Darling Range facilities are in a well-maintained condition. Net book value of these facilities as of December 31, 2024 of $569 is included in Properties, plants, and equipment, net on the Consolidated Balance Sheet.

Refer to the Darling Range TRS in Sections 14.0 and 15.0 for more information on the surface infrastructure and facilities of the Darling Range.

Land Tenure and Permitting

Bauxite occurrences were first recorded in the Darling Range in 1902, with studies and exploration subsequently conducted by the Geological Survey of Western Australia until the 1950s. Commercial exploration took place from 1957 by Western Mining Corporation Ltd (later Western Australia NL, or WANL), across a large portion of southwest Western Australia within a Special Mineral Lease (ML1SA) granted in 1961. Commercial mining first took place within the Darling Range in 1963 at the former Jarrahdale mining center with WANL having joined with Alcoa. The Huntly and Willowdale mines commenced commercial production in 1972 and 1984, respectively. Huntly supplies bauxite to the Pinjarra refinery (approximately 17 Mtpa), while Willowdale supplies the Wagerup refinery (approximately 10 Mtpa). The Kwinana refinery was also supplied by Huntly until the completion of the full curtailment of the refinery in the second quarter of 2024.

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The ML1SA lease allows for exploration and mining of bauxite within the tenement boundaries. ML1SA was granted in 1961, by the State Government of Western Australia under the Alumina Refinery Agreement Act, 1961 (the Act 1961), for four 21-year periods, and the current lease expires on September 24, 2045. The State Government concession agreement includes the provision for conditional renewal beyond 2045. Alcoa pays rent for each square mile of ML1SA in accordance with the Act 1961, providing exclusive rights to explore for and mine bauxite on all Crown Land within the ML1SA. The current lease covers an area of 702,261 hectares (ha).

There are certain annual requirements to maintain the existing permits and approvals associated with ML1SA, including:

- Submission of annual mine plans for mining associated with the Wagerup refinery;
- Maintain public Completion Criteria documentation for its bauxite mining operations;
- Annual submission and approval of Mining and Management Programs (MMPs) that include five-year mining schedules;
- Annual reporting of bauxite processed and any non-compliances to maintain environmental operational licenses; and,
- Maintain compliance with environmental protection orders.

The ML1SA area includes sub-lease arrangements made between Alcoa and the Worsley Alumina joint venture participants (the Worsley Participants). The agreements, made in August 2001 and September 2016, provide bauxite mining concessions to the Worsley Participants. No mineral resources or mineral reserves attributable to the Darling Range mining areas have been declared within these sub-lease areas.

Constraints on mining activities within the ML1SA concession are in place, among others, which prevent mining within: 200 m of the top water level margin of any water reservoirs; Serpentine Pipehead Dam Catchment; National Parks; Aboriginal Heritage Sites; Old Growth Forest; formal Conservation Areas; and 50 m of granite outcrop (greater than 1 ha), and Mining Avoidance Zones (MAZ) around the Western Australian forest towns of Dwellingup and Jarrahdale. Mineral resources and mineral reserves have not been defined in these restricted areas.

Additionally, the 2023-2027 MMP requires additional constraints including: a reduction in mining activities inside higher risk areas within drinking water catchments; no mining within 1 km of the top water level after June 30, 2024; no new pit clearing in areas with an average pit slope greater than 16 percent within any Reservoir Protection Zone (RPZ, 2 km from reservoir top water level); an acceleration of forest rehabilitation and a reduction in open mining areas; and a maximum annual clearing footprint of 800 ha. In October 2024, the 2023-2027 MMP approval was rolled over to cover the time period of 2024-2028 with the same conditions, noting some temporal conditions of the 2023-2027 MMP had expired and Alcoa had met certain other conditions prior to October 2024. The mineral resources and mineral reserves have been adjusted to reflect the conditions and will continue to change as new commitments are made or if future approvals require additional constraints.

Mining on a day-only basis is conducted in “noise zones” where noise from the mining operations will potentially exceed allowable levels. The operation actively seeks to maintain lower noise levels than those mandated, thus mining in these areas is undertaken by contract miners on day shifts only.

The Company has all environmental permits and operating licenses required for current mining activities. Outcomes of and compliance with the management and monitoring programs are tracked within Alcoa’s Environmental Management System and reported within the Annual Environmental Review report.

Refer to the Darling Range TRS in Section 3.0 for more information on Land Permitting and Tenure for the Darling Range.

Geology and Exploration

The Darling Range comprises a low incised plateau formed by uplift along the north-south trending Darling Fault, a major structural lineament that extends for over 250 km, from Bindoon in the north to Collie in the south. Bauxite deposits have been identified throughout the Darling Range and generally occur as erratically distributed alumina-rich lenses. Lateralization and subsequent periodic activity of the Darling Fault has resulted in the current landform of scarps and deeply incised valleys on the western edge of the Darling Range.

Systematic exploration for bauxite within the region commenced in the 1960s and is currently conducted on a continuous basis to maintain sufficient mineral resources and mineral reserves to meet refinery supply. Current mine plans include further exploration throughout all areas where Alcoa has mining permits to sustain future production.

Refer to the Darling Range TRS in Sections 6.0 through 11.0 for more information on the geology, mineralization, and exploration history of the Darling Range, including Quality Assurance / Quality Control (QA/QC) procedures and data used in the current mineral resource estimate.

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Mining and Processing

The Huntly and Willowdale mines employ conventional open pit surface mining practices and equipment. Following definition of mineral reserve blocks, vegetation is cleared after which Alcoa operations commence stripping topsoil and secondary overburden removal using small excavators, scrapers, and trucks. Soil is stockpiled at the site, away from the proposed pit, for rehabilitation purposes. After completion of mining, overburden is progressively backfilled into adjacent exhausted pits, topsoiled, and rehabilitated by re-establishment of native vegetation, creating a stable post-mining landform that replicates the pre-existing environment.

The process plant for the Darling Range operations consists of two separate crushing facilities at the Huntly and Willowdale mines, respectively. Both facilities crush the ROM ore and convey the crushed ore to two separate refineries located at Pinjarra and Wagerup. The Pinjarra refinery is located adjacent to the east of the town of Pinjarra and is approximately 25 km southwest of the Huntly mining areas. The Wagerup refinery, supplied by Willowdale, is located immediately adjacent to the east of the South Western Highway, approximately 8 km south of Waroona and 20 km west of the Willowdale mining area. The Kwinana refinery was also supplied by Huntly until the completion of the full curtailment of the refinery in the second quarter of 2024. The Kwinana refinery is approximately 50 km northwest of Huntly in the city of Kwinana, approximately 40 km south of Perth.

The process plant is a dry crushing operation and therefore water is not required as a consumable for the plant. Alcoa's Darling Range mining operations do not produce mine waste in the same manner as conventional mining operations and waste dumps are not constructed.

Refer to the Darling Range TRS in Sections 12.0 and 13.0 for a detailed description of the mineral reserves and mining methods used in the Darling Range.

Environmental and Social

Alcoa's mine sites are monitored in accordance with the conditions of Government authorizations and its operational licenses at Huntly and Willowdale. Outcomes of and compliance with the management and monitoring programs are tracked within Alcoa's Environmental Management System and reported within a Triennial Environmental Review report.

Alcoa works proactively with key regulatory agencies to address operational incidents and implement operational improvements to reduce releases to the environment.

In December 2023, the Western Australian government granted a section 6 exemption under the Environmental Protection Act 1986 that allows Alcoa to continue its mining operations while the Western Australian Environmental Protection Authority (WA EPA) assesses the environmental impact of parts of the MMP, following a third party's referral of the Company's future and existing mine plans in existing mine regions to the WA EPA in the first quarter of 2023. Compliance against the section 6 exemption is monitored on a weekly basis by an independent compliance monitor and reported monthly to the Department of Water and Environmental Regulation. In connection with the section 6 exemption, AofA committed to provide a bank guarantee which demonstrates Alcoa's confidence that its operations will not impair drinking water supplies. In September 2024 and October 2024, AofA delivered bank guarantees totaling $62 (A$100). The requirement to provide financial assurance will expire upon the completion of the WA EPA's assessment of the Company's mine plans.

Alcoa is modernizing its environmental approvals framework for the Huntly bauxite mine and referred future mining plans to access Myara North and Holyoake to the WA EPA for assessment in 2020.

Refer to the Darling Range TRS in Section 17.0 for more information on the environmental, social, compliance, and permitting aspects of the Darling Range.

Mineral Resources and Mineral Reserves

In 2024, the economic cut-off for long term mine planning blocks at Darling Range was determined using an optimization that considers a base alumina price with deductions for costs associated with mining and processing the ore from each resource pit.

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For information on Darling Range mineral resources and mineral reserves, refer to the tables above. For comparative purposes:

- measured and indicated mineral resources were 188.4 mdmt and 198.4 mdmt as of December 31, 2024 and 2023, respectively, representing a decrease of 5 percent;
- inferred mineral resources were 101.4 mdmt and 106.9 mdmt as of December 31, 2024 and 2023, respectively, representing a decrease of 5 percent;
- probable reserves were 397.6 mdmt and 296.0 mdmt as of December 31, 2024 and 2023, respectively, representing an increase of 34 percent; and
- proven reserves were 26.1 mdmt and 48.0 mdmt as of December 31, 2024 and 2023, respectively, representing a decrease of 46 percent.

The decrease in measured and indicated mineral resources from December 31, 2023 to December 31, 2024 is reflected in the increase in reserves and is primarily due to changes in mine scheduling, partially offset by deferred mining of the RPZ and ongoing exploration activities. The decrease in inferred mineral resources from December 31, 2023 to December 31, 2024 is reflected in the increase in reserves and is primarily due to ongoing exploration activities. The mineral reserves increase from December 31, 2023 to December 31, 2024 is primarily attributable to pit optimization considering base alumina and caustic soda prices, changes in mine scheduling, ongoing exploration activities, and the conversion from mineral resources to mineral reserves, partially offset by deferred mining of the RPZ, constraints required under the 2023-2027 MMP, and mining depletion in 2024.

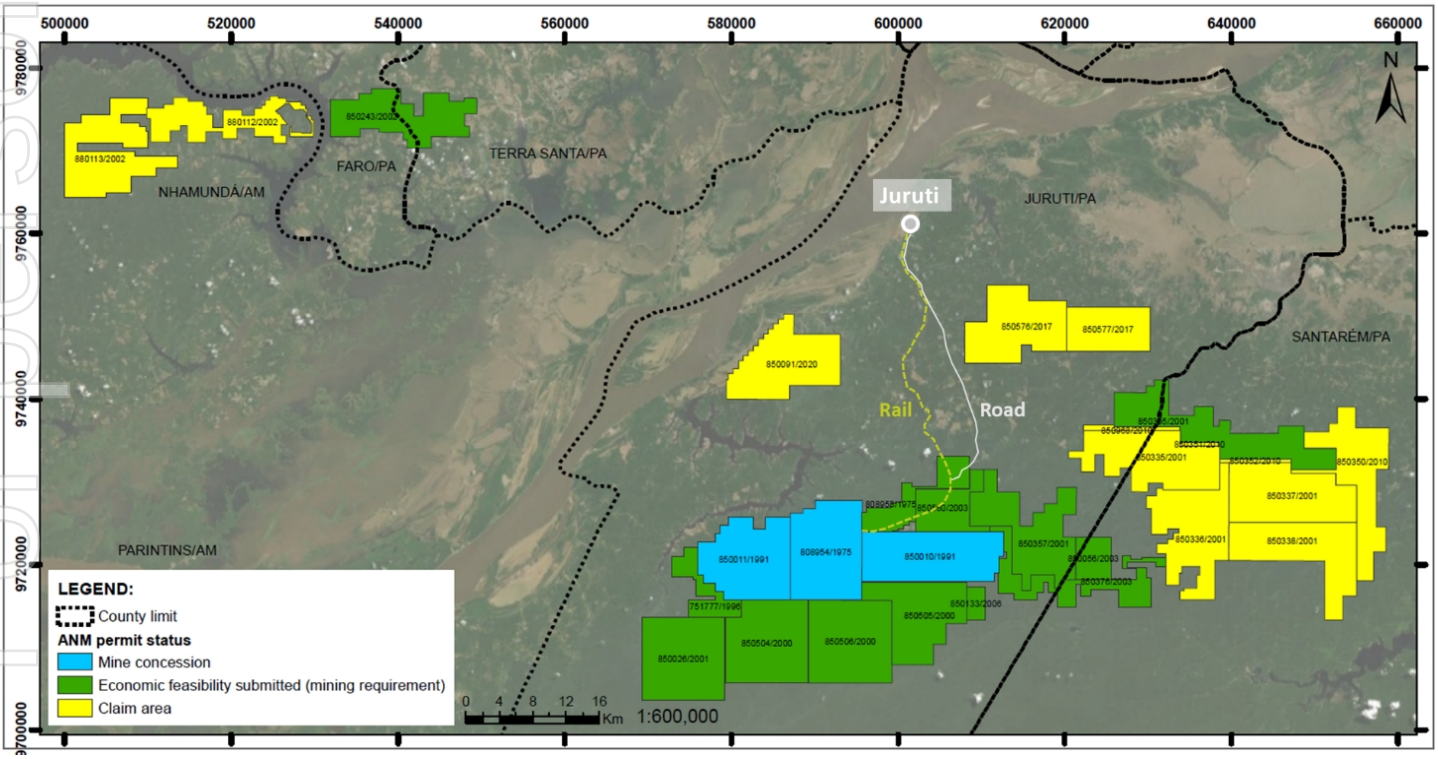
Additionally, refer to the Darling Range TRS Section 11.0 and 12.0 for more information on the mineral resources and mineral reserves of the Darling Range mines.

Individual Property Disclosure—Juruti

Property Location and Description

The Juruti bauxite mine is located in the west of Para State in northern Brazil. The mine is approximately 55 km south from the town of Juruti on the southern shore of the Amazon River. The mine is owned and operated by Alcoa through AWAB. The Juruti bauxite mine represents an established mining operation which commenced commercial production of bauxite in 2009.

All spatial data used for the mineral resource and mineral reserve estimation are reported using a local grid based on SIRGAS 2000 (21S). The approximate coordinates of the mining area for the Capiranga Central, Mauari, São Francisco, Mutum and Santarém plateaus are 618,879 m East and 9,721,768 m North, and for the Nhamundá plateau are 521,657 m East and 9,773,299 m North.



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Juruti Location and Bauxite Mine Permit Areas

Refer to the Juruti TRS in Sections 2.0 through 5.0 for more information on the Juruti mine – history, location, accessibility, and other relevant details.

Infrastructure

Infrastructure required for bauxite mining operations is well-established and available, the majority of which is located within the area of the Juruti bauxite mine. The required infrastructure includes the following:

- Rail siding and loading equipment;
- Bauxite beneficiation plant for ore crushing and washing;
- Mine waste facilities including tailings thickening lagoons and tailings disposal ponds;
- ROM and product stockpiles and materials handling conveyors;
- Ancillary buildings (offices, warehouses, laboratory, workshops);
- Fuel station;
- Water supply intake raft, pumps, and approximate 9 km pipeline from the Juruti Grande stream;
- Power generation via thermoelectric units at the mine and port;
- Surface water management including drainage channels and pumps;
- Off-site rail corridor between the mine and port; and,
- Port facilities including rail siding, material handling equipment, ship loader.

The Juruti mining area is connected to Juruti town and port facilities by a road that joins to the PA-257 road near the town, and a dedicated railway between the mining area and port. There are very few major roads across the region and the only major road in this area is the PA-257.

The nearest major city to Juruti is Santarem, approximately 160 km to the east and is only accessible by boat or by air from Juruti Airport (JRT) to Santarem-Maestro Wilson Fonseca Airport (STM). National roads connect Santarem to wider Para State including the port city of Belem on Brazil's northern coast, approximately 1,400 km by road via the 230 and PA-151 roads.

Juruti began production in 2009 and the facilities are in a well-maintained condition. Net book value of these facilities as of December 31, 2024 of $392 is included in Properties, plants, and equipment, net on the Consolidated Balance Sheet.

Refer to the Juruti TRS in Sections 14.0 and 15.0 for more information on the surface infrastructure and facilities of the Juruti mine.

Land Tenure and Permitting

All exploration and mining activities are managed by the National Mining Agency, Agencia Nacional de Mineracao (ANM), under the Mining Code (1967). Permits are granted by the ANM and fall into two categories:

- Exploration Permits: granted to support ongoing exploration activities. On submittal of an approved Exploration Report, the holder is then granted one year to present a Mining Plan as a precursor to obtaining a Mining Concession. Exploration Permits require:
  - Initial application fee and submission by a registered professional geologist or mining engineer;
  - Annual fee payment to the ANM;
  - Declaration of exploration expenditures on an annual basis; and,
  - Survey visit fee payment to the ANM.

- Mining Concession: following a successful Mining Plan submission, enabling exploitation once Environmental Licenses are granted. Concession holders are required to:
  - Commence mining activities within 6 months of being granted;
  - Submit annual reports on all mining / processing activities (Relatorio Annual de Lavra, or RAL) to the ANM;
  - Make compensation payments to landowners in line with the agreements made for mining easement; and,
  - Make Brazilian Mineral Royalty payments (Compensacao Financeira pela Exploracao de Recursos Minerais, or CFEM).

At Juruti there are three continuous mining concessions for an aggregated 29,410 ha, where current mineral reserves are determined. Brazilian mineral legislation does not limit the duration of mining concessions and instead the concession remains in force until the deposit is exhausted. These concessions may be extended later or expire earlier than estimated, based on the rate at which the deposits are exhausted and on obtaining any additional governmental approval, as necessary, such as operational licenses and environmental approvals.

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In addition to the mining rights, there are thirteen requests for mining concessions, thirteen exploration permits, and two requests for exploration permits. The aggregated area for these permits is 170,845 ha.

The mining operations at Juruti take place on third-party land and, in accordance with the Mining Concession requirements, Alcoa currently has agreements in place with respective landowners. Agreements form a "mining easement," which grants Alcoa access to the mining areas in exchange for compensation payments. As a result, there are no other titles, claims, leases, or options applicable to the exploration or mining permit areas which may limit Alcoa's rights. Similarly, there are no liens or encumbrances.

The Company has all environmental permits and operating licenses required for current mining activities; there are no liens or encumbrances.

Refer to the Juruti TRS in Sections 3.0 and 17.0 for more information on Land Permitting and Tenure for the Juruti mine.

Geology and Exploration

The bauxite deposit of the Juruti bauxite mine consist of several lateritic bauxite plateaus which exist over a large lateral extent (several km) in comparison to the total thickness of the deposit (typically up to 20 m below surface).

Systematic exploration for bauxite within the region has persisted since Alcoa's ownership and is currently conducted on a continuous basis to establish optimal mine plans to achieve a uniform quality of bauxite production. Current mine plans include further exploration throughout all areas where Alcoa has mining permits to sustain future production.

Refer to the Juruti TRS in Sections 6.0 through 11.0 for more information on the geology, mineralization, and exploration history of the Juruti mine, including QA/QC procedures and data used in the current mineral resource estimate.

Mining and Processing

Juruti is an active mining operation using surface strip mining methods over a total of eight plateaus whereby land clearance, topsoil removal, and overburden stripping is followed by bauxite deposit excavation and stockpiling. Waste is subsequently backfilled, and overburden and topsoil are re-instated for surface rehabilitation.

Juruti produces both a washed and unwashed bauxite product; however, all tonnage is presented on a zero-moisture basis. Bauxite processing takes place at a dedicated plant facility located at the Juruti mine site which has been operating since 2009 and comprises a simple comminution (crushing, screening) and washing circuit designed to remove fine particles from the ore.

Fine materials removed from ore are deposited in a thickening pond for settling and water reclamation, after which solid tailings are discarded into separate tailings ponds. There is currently one thickening pond and seven disposal ponds.

Refer to the Juruti TRS in Sections 12.0 and 13.0 for a detailed description of the mineral reserves and mining methods used in the Juruti mine.

Environmental and Social

Alcoa submits annual environmental reports in compliance with the Juruti operating licenses and approvals. Alcoa has shown that the Company works proactively with key regulatory agencies to address any operational non-compliances and implement operational improvements to reduce releases to the environment. No significant compliance issues were identified in the 2022/2023 and 2023/2024 annual environmental reports. Due to drought conditions, the mine applied for and received approval to move the water abstraction point in the Rio Juruti Grande water body in 2024. This new approval allows the abstraction of surface water at three points, to be used alternately. In 2024 the historically low water levels in the Amazon River required dredging to alleviate the impact on shipping operations. Closing the harbor affected community use, resulting in an increase in community complaints. Alcoa consulted the affected communities and have agreed upon compensation arrangements.

Refer to the Juruti TRS in Section 17.0 for more information on the environmental, social, compliance, and permitting aspects of the Juruti mine.

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Mineral Resources and Mineral Reserves

For information on Juruti mineral resources and mineral reserves, refer to the tables above. For comparative purposes:

- measured and indicated mineral resources were 64.0 mdmt and 64.2 mdmt as of December 31, 2024 and 2023, respectively, representing a decrease of less than 1 percent;
- inferred mineral resources were 514.3 mdmt and 563.6 mdmt as of December 31, 2024 and 2023, respectively, representing a decrease of 9 percent;
- proven reserves were 43.5 mdmt and 46.2 mdmt as of December 31, 2024 and 2023, respectively, representing a decrease of 6 percent; and
- probable reserves were 33.0 mdmt and 34.7 mdmt as of December 31, 2024 and 2023, respectively, representing a decrease of 5 percent.

The decrease in mineral resources is attributable to changes in the application of mineral rights to the block models. The decrease in mineral reserves from December 31, 2023 reflects mining depletion during 2024. Refer to the Juruti TRS for more information on the mineral resources and mineral reserves of the Juruti mine.

Internal Controls

Alcoa has a long history of mining bauxite, with the majority of bauxite production having been used to supply Alcoa refineries.

Internal controls used by the Company are informed by internal reviews, representation on Technical Committees of Joint Venture operations, and by reviews, audits, and studies performed by third-party mining consultants. The controls include: surveying of drillhole collar locations, drill sample logging, collection and security, database verification and security, quality assurance/quality control (QA/QC) programs, internal and third-party qualified person statistical analysis, internal and third-party qualified person model validation, and reconciliation. Modelling and analysis of the Company's resources is completed internally and reviewed by a qualified person, with the exception of Al Ba'itha where modelling and analysis is completed by a third-party consultant.

As the ore bodies are shallow and generally horizontal, two-dimensional seam modelling has been the standard practice; however, many operations are implementing more conventional 3D block modelling using geostatistical interpolation methods. Mineral resource estimation is validated internally through visual comparison of drillholes and model blocks as well as through the use of swath plots and statistical distributions. Mineral resource estimation is reviewed and adopted by a qualified person. Mineral reserve estimation is completed internally and reviewed by a qualified person, with the exception of Boké and Al Ba'itha where reserve estimation is completed by a third-party consultant.

Labelled samples from the drill site are securely transported for logging or temporary storage by the drilling contractor or Alcoa personnel. Additional transport to internal or external laboratories is controlled and completed, as necessary, by Alcoa personnel or by courier.

Drillhole databases are all site specific; most sites use industry standard drillhole database software, applications, and processes with security and backup protocols in place. Prior to modelling, secondary validation and cleansing of the modelling datasets is performed. Wherever possible, data collection is digital to allow direct loading into the database.

The Company has well-established QA/QC programs that are site specific. Although some programs are limited to laboratory protocols only covering analysis of duplicate pulps and standards, others involve, to varying degrees, the range of activities from twin hole drilling and collection of field duplicates, submission of blind duplicates and standards and submission of duplicate samples to umpire laboratories. Regardless of the level of QA/QC, all sites have well established and documented sampling and analysis regimes. QA/QC practices and available data are reviewed by a qualified person.

As discussed above, management relies on estimates for our mineral reserves and these estimates could change due to a number of factors, including future changes in: permitting requirements, geological conditions, ongoing mine planning, macroeconomic and industry conditions, and regulatory disclosure requirements. See Part I Item 1A of this Form 10-K for more information on risks.

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Item 3. Legal Proceedings.
(dollars in millions)

In the ordinary course of its business, Alcoa is involved in a number of lawsuits and claims, both actual and potential. Proceedings that were previously disclosed may no longer be reported because, as a result of rulings in the case, settlements, changes in our business, or other developments, in our judgment, they are no longer material to Alcoa's business, financial position or results of operations. See Part II Item 8 of this Form 10-K in Note S to the Consolidated Financial Statements for additional information regarding proceedings.

In addition to the matters discussed below, various other lawsuits, claims, and proceedings have been or may be instituted or asserted against Alcoa Corporation, including those pertaining to environmental, safety and health, commercial, tax, product liability, intellectual property infringement, governance, employment practices, employee and retiree benefit matters, and other actions and claims arising out of the normal course of business. While the amounts claimed in these other matters may be substantial, the ultimate liability is not readily determinable because of the considerable uncertainties that exist. Accordingly, it is possible that the Company's liquidity or results of operations in a particular period could be materially affected by one or more of these other matters. However, based on facts currently available, management believes that the disposition of these other matters that are pending or asserted will not have a material adverse effect, individually or in the aggregate, on the financial position of the Company.

St. Croix Proceedings - Abednego and Abraham cases. In January 2010, ParentCo was served with a multi-plaintiff action complaint involving several thousand individual persons claiming to be residents of St. Croix alleging personal injury or property damage from Hurricane Georges or winds blowing material from the St. Croix Alumina, L.L.C. (SCA) facility on the island of St. Croix (U.S. Virgin Islands). This complaint, Abednego, et al. v. Alcoa, et al., which added the then current owners of the facility to a February 1999 action, was filed in the Superior Court of the Virgin Islands, St. Croix Division.

In 2012, ParentCo was served with a separate multi-plaintiff action alleging claims essentially identical to those set forth in the Abednego v. Alcoa complaint.

In 2015, the Superior Court dismissed all plaintiffs' complaints without prejudice, permitting the plaintiffs to re-file the complaints individually. In 2017, the court issued an order that consolidated all timely complaints into the Red Dust Claims docket (Master Case No.: SX-15-CV-620). Following this order, a total of approximately 430 complaints were filed and accepted by the court, which included claims of approximately 1,360 individuals. In November 2018, the Red Dust Claims docket was transferred to the Complex Litigation Division within the Superior Court of the Virgin Islands. At such time, the Company was unable to reasonably predict an outcome or to estimate a range of reasonably possible loss, and thereafter the Red Dust Claims docket became inactive for several years. In March 2022, the Superior Court of the Virgin Islands issued an amended case management order dividing the complaints filed in the Red Dust docket into groups of 50 complaints, designated Groups A though I. The parties selected 10 complaints from Group A to proceed to trial as the Group A lead cases. In May 2024, the Court issued an amended case management order with regard to the Group A lead cases scheduling trials to begin in November 2024. The Court further ordered the parties to participate in mediation on or before August 31, 2024. Alcoa participated in the court-ordered mediation in August 2024 and reached a settlement agreement to resolve the matter in its entirety, which resulted in no further impact to Alcoa's results of operations. The settlement was finalized in January 2025 upon receiving signed release agreements or final dismissals from every plaintiff. This matter is now closed.

Environmental Matters

SEC regulations require disclosure of certain environmental matters when a governmental authority is a party to the proceedings and such proceedings involve potential monetary sanctions that the Company reasonably believes will exceed a specified threshold. Pursuant to these regulations, the Company uses a threshold of $1 for purposes of determining whether disclosure of any such proceedings is required.

Alcoa is involved in proceedings under CERCLA and analogous state or other statutory or jurisdictional provisions regarding the usage, disposal, storage, or treatment of hazardous substances at a number of sites. The Company has committed to participate, or is engaged in negotiations with authorities relative to its alleged liability for participation, in clean-up efforts at several such sites. The most significant of these matters are discussed in Part II Item 8 of this Form 10-K in Note S to the Consolidated Financial Statements under the caption Contingencies.

Intalco (Washington) Notice of Violation—In May 2022, the Company received a Notice of Violation (NOV) from the U.S. Environmental Protection Agency (the EPA). The NOV alleges violations under the Clean Air Act at the Company's Intalco smelter from when the smelter was operational. The EPA referred the matter to the U.S. Department of Justice, Environment and Natural Resources Division (the DOJ) in May 2022. The DOJ and the Company agreed to a stipulated settlement, which was filed with the United States District Court for the Western District of Washington at Seattle on July 18, 2024, requiring the Company to pay a civil fine of $5. On October 15, 2024, the Court approved the stipulated settlement of $5, and payment has been remitted by the Company. This matter is now closed.

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Asbestos Litigation

Some of our subsidiaries as premises owners are defendants in active lawsuits filed in various jurisdictions on behalf of persons seeking damages for alleged personal injury as a result of occupational exposure to asbestos at various facilities. Our subsidiaries and acquired companies all have had numerous insurance policies over the years that provide coverage for asbestos based claims. Many of these policies provide layers of coverage for varying periods of time and for varying locations. We have significant insurance coverage and believe that our reserves are adequate for known asbestos exposure related liabilities. The costs of defense and settlement have not been and are not expected to be material to the results of operations, cash flows, and financial position of Alcoa Corporation.

Item 4. Mine Safety Disclosures.

Not applicable.

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PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.
(dollars in millions, except share and per-share amounts)

Shares of the Company's common stock are listed on the New York Stock Exchange, its principal market, and trade in U.S. dollars under the symbol "AA." Alcoa Corporation CHESS Depositary Interests (CDIs), each representing one share of the Company's common stock, are listed on the Australian Stock Exchange and trade in Australian dollars under the symbol "AAI."

On October 14, 2021, Alcoa Corporation announced the initiation of a quarterly cash dividend program and the Board of Directors declared the first quarterly cash dividend of $0.10 per share of the Company's common stock, which was paid during the fourth quarter of 2021. Alcoa Corporation paid quarterly cash dividends of $0.10 per share in 2022, 2023, and 2024. Dividends on Alcoa Corporation common stock and Series A preferred stock are subject to authorization by the Company's Board of Directors. The Company intends to pay cash dividends on a quarterly basis; however, the payment, amount, and timing of dividends, if any, depends upon matters deemed relevant by the Company's Board of Directors, such as Alcoa Corporation's financial position, results of operations, cash flows, capital requirements, business condition, future prospects, any limitations imposed by law, credit agreements or senior securities, and other factors deemed relevant and appropriate. See Part II Item 7 of this Form 10-K in Management's Discussion and Analysis of Financial Condition and Results of Operations under caption Liquidity and Capital Resources – Financing Activities for more information.

As of February 14, 2025, there were approximately 7,200 holders of record of shares of the Company's common stock and approximately 39,800 holders of record of the Company's CDIs. Because many of Alcoa Corporation's shares and CDIs are held by brokers and other institutions on behalf of stockholders, the Company is unable to estimate the total number of stockholders represented by these holders.

Unregistered Sales of Equity Securities

Information required by Item 701 of Regulation S-K with respect to the Company's issuance of Alcoa common stock (including common stock underlying CDIs) and Alcoa Series A convertible preferred stock is included in the Company's Current Report on Form 8-K, filed with the SEC on August 1, 2024.

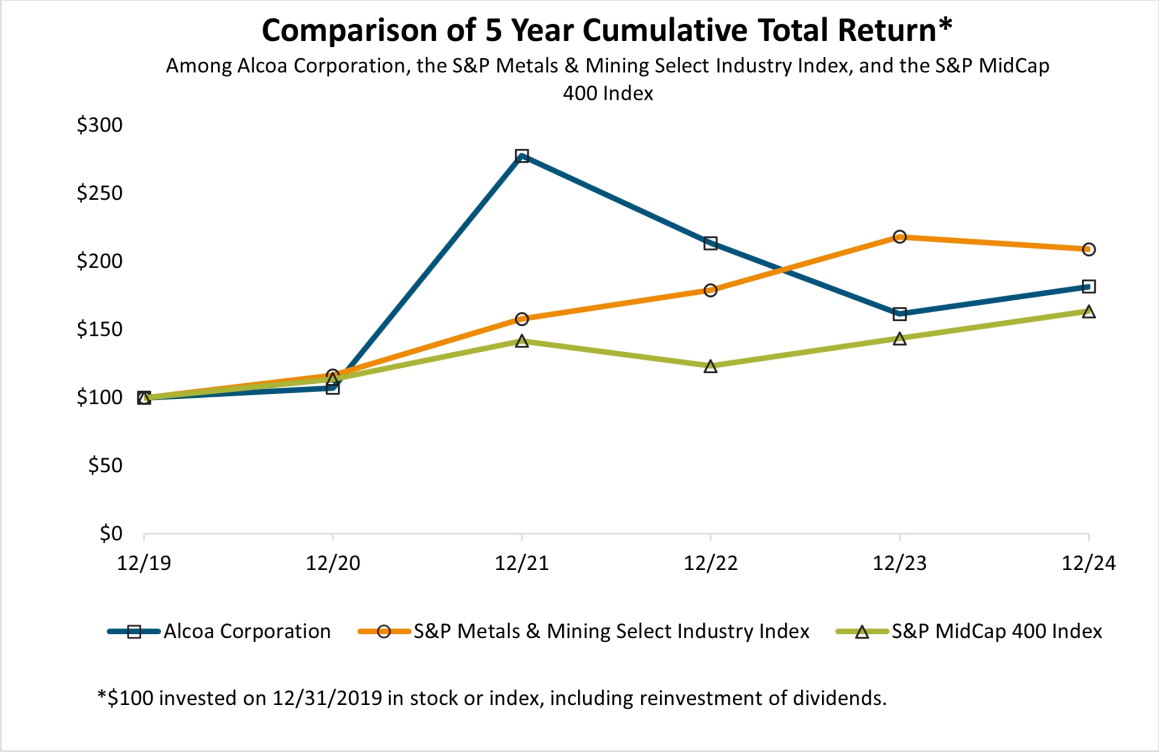
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Stock Performance Graph

The following graph compares Alcoa Corporation's cumulative total stockholder return (i.e., stock price change plus reinvestment of dividends) with the cumulative total stockholder returns of (1) the Standard and Poor's (S&P) Metals & Mining Select Industry Index, and (2) the S&P MidCap 400® Index. This comparison was based on an initial investment of $100, including the reinvestment of any dividends, on December 31, 2019 through December 31, 2024.

The stock performance information included in this graph is based on historical results and is not necessarily indicative of future stock price performance.



December 31,	2019	2020	2021	2022	2023	2024
Alcoa Corporation	$ 100	$ 107	$ 278	$ 213	$ 161	$ 182
S&P Metals & Mining Select Industry Index	100	116	158	179	218	209
S&P MidCap 400 Index	100	114	142	123	144	164

Issuer Purchases of Equity Securities

Fourth Quarter 2024	Total Number of Shares Purchased	Weighted Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Approximate Dollar Value of Shares that May Yet be Purchased Under the Program[1]
October 1 to October 31	—	$ —	—	$ 500
November 1 to November 30	—	—	—	500
December 1 to December 31	—	—	—	500
Total	—	—	—	

[1] On July 20, 2022, Alcoa Corporation announced that its Board of Directors approved a common stock repurchase program under which the Company may purchase shares of its outstanding common stock up to an aggregate transactional value of $500, depending on the Company's continuing analysis of market, financial, and other factors (the July 2022 authorization).

As of the date of this report, the Company is currently authorized to repurchase up to a total of $500, in the aggregate, of its outstanding shares of common stock under the July 2022 authorization. Repurchases under this program may be made using a variety of methods, which may include open market purchases, privately negotiated transactions, or pursuant to a Rule 10b5-1 plan. This program may be suspended or discontinued at any time and does not have a predetermined expiration date. Alcoa Corporation intends to retire repurchased shares of common stock.

Item 6. [RESERVED]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

(dollars in millions, except per-share amounts, average realized prices, and average cost amounts; metric tons in thousands (kmt); dry metric tons in millions (mdmt))

Forward-Looking Statements

This report 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 "aims," "ambition," "anticipates," "believes," "could," "develop," "endeavors," "estimates," "expects," "forecasts," "goal," "intends," "may," "outlook," "potential," "plans," "projects," "reach," "seeks," "sees," "should," "strive," "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, including, without limitation, statements regarding forecasts concerning global demand growth for bauxite, alumina, and aluminum, and supply/demand balances; statements, projections or forecasts of future or targeted financial results, or operating performance (including our ability to execute on strategies related to environmental, social and governance matters); statements about strategies, outlook, and business and financial prospects; and statements about capital allocation and return of capital. These statements reflect beliefs and assumptions that are based on Alcoa Corporation's perception of historical trends, current conditions, and expected future developments, as well as other factors that management believes are appropriate in the circumstances.

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. Such risks and uncertainties include, but are not limited to: (a) the impact of global economic conditions on the aluminum industry and aluminum end-use markets; (b) volatility and declines in aluminum and alumina demand and pricing, including global, regional, and product-specific prices, or significant changes in production costs which are linked to LME or other commodities; (c) the disruption of market-driven balancing of global aluminum supply and demand by non-market forces; (d) competitive and complex conditions in global markets; (e) our ability to obtain, maintain, or renew permits or approvals necessary for our mining operations; (f) rising energy costs and interruptions or uncertainty in energy supplies; (g) unfavorable changes in the cost, quality, or availability of raw materials or other key inputs, or by disruptions in the supply chain; (h) economic, political, and social conditions, including the impact of trade policies, tariffs, and adverse industry publicity; (i) legal proceedings, investigations, or changes in foreign and/or U.S. federal, state, or local laws, regulations, or policies; (j) changes in tax laws or exposure to additional tax liabilities; (k) climate change, climate change legislation or regulations, and efforts to reduce emissions and build operational resilience to extreme weather conditions; (l) disruptions in the global economy caused by ongoing regional conflicts; (m) fluctuations in foreign currency exchange rates and interest rates, inflation and other economic factors in the countries in which we operate; (n) global competition within and beyond the aluminum industry; (o) our ability to achieve our strategies or expectations relating to environmental, social, and governance considerations; (p) claims, costs, and liabilities related to health, safety and environmental laws, regulations, and other requirements in the jurisdictions in which we operate; (q) liabilities resulting from impoundment structures, which could impact the environment or cause exposure to hazardous substances or other damage; (r) dilution of the ownership position of the Company's stockholders, price volatility, and other impacts on the price of Alcoa common stock by the secondary listing of the Alcoa common stock on the Australian Securities Exchange; (s) our ability to obtain or maintain adequate insurance coverage; (t) our ability to execute on our strategy to reduce complexity and optimize our asset portfolio and to realize the anticipated benefits from announced plans, programs, initiatives relating to our portfolio, capital investments, and developing technologies; (u) our ability to integrate and achieve intended results from joint ventures, other strategic alliances, and strategic business transactions; (v) our ability to fund capital expenditures; (w) deterioration in our credit profile or increases in interest rates; (x) impacts on our current and future operations due to our indebtedness; (y) our ability to continue to return capital to our stockholders through the payment of cash dividends and/or the repurchase of our common stock; (z) cyber attacks, security breaches, system failures, software or application vulnerabilities, or other cyber incidents; (aa) labor market conditions, union disputes and other employee relations issues; (bb) a decline in the liability discount rate or lower-than-expected investment returns on pension assets; and (cc) the other risk factors discussed in Part 1 Item 1A of this Form 10-K and other reports filed by Alcoa Corporation with the SEC, including those described in this report.

We caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date they are made. 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. Market projections are subject to the risks described above and other risks in the market.

Form 10-K Disclosure

Overview

Our Business

Alcoa Corporation (Alcoa or the Company) is a vertically integrated aluminum company comprised of bauxite mining, alumina refining, aluminum production (smelting and casting), and energy generation. Aluminum is a commodity that is traded on the London Metal Exchange (LME) and priced daily. Additionally, alumina is subject to market pricing through the Alumina Price Index (API), which is calculated by the Company based on the weighted average of a prior month's daily spot prices published by the following three indices: CRU Metallurgical Grade Alumina Price, Platts Metals Daily Alumina PAX Price, and FastMarkets Metal Bulletin Non-Ferrous Metals Alumina Index. As a result, the price of both aluminum and alumina is subject to significant volatility and, therefore, influences the operating results of Alcoa Corporation.

Through direct and indirect ownership, Alcoa Corporation has 26 operating locations in nine countries around the world, situated primarily in Australia, Brazil, Canada, Iceland, Norway, Spain, and the United States. Governmental policies, laws and regulations, and other economic factors, including inflation and fluctuations in foreign currency exchange rates and interest rates, affect the results of operations in these countries.

Business Update

During 2024, Alcoa experienced strength in alumina and aluminum pricing and made significant progress on its key operational, commercial, financial, and capital allocation objectives, delivering on strategic actions and operational improvements.

Average alumina and aluminum prices increased by 37% and 7%, respectively, with the alumina price reaching an all-time high in the fourth quarter of 2024 driven primarily by supply disruptions. The increase in alumina price outweighed the increase in aluminum price. The alumina and aluminum markets ended 2024 in a volume deficit or balanced, respectively. The cost for energy and raw materials, including carbon products, caustic soda, and other key inputs decreased.

Nine of the Company's eleven smelters increased annual production, while the Mosjøen (Norway) smelter, the Warrick (Indiana) smelter, and the Company's smelters in Canada set annual production records. The Company's mine operations successfully operated under new mine conditions in Western Australia, which included daily observation of its mining and rehabilitation practices by certain regulators.

Commercially, the Company expanded a number of important customer and supplier relationships and invested in growth capital expenditures to enhance value add products to meet its customer demand.

The Company delivered changes to improve the financial performance of its operating portfolio. The Alumar (Brazil) smelter steadily improved stability and increased operating capacity to approximately 84 percent at December 31, 2024.

The Company announced the curtailment of the Kwinana (Australia) refinery in January 2024 and completed the full curtailment in the second quarter of 2024.

Alcoa completed the acquisition of Alumina Limited on August 1, 2024. The acquisition enhances Alcoa's position as a leading pure play, upstream aluminum company globally, while simplifying the Company's corporate structure and governance, resulting in greater financial flexibility and strategic optionality.

In September 2024, Alcoa announced the sale of its 25.1% interest in the Saudi Arabia joint venture to Ma'aden. This decision aligns with the Company's ongoing efforts to streamline its operations and is expected to provide Alcoa with enhanced financial flexibility.

In October 2024, Alcoa announced that it is progressing toward entering into a strategic partnership with IGNIS Equity Holdings, SL (IGNIS EQT), to support the continued operation of the San Ciprián complex. On January 21, 2025, the Company, the Spanish national and Xunta regional governments, and IGNIS EQT signed a memorandum of understanding that outlines a process for the parties to work cooperatively toward the common objective of improving the long-term outlook for the San Ciprián operations.

In November 2024, the Company began de-levering and repaid $385 drawn under the Alumina Limited Revolving Credit Facility, which was assumed in connection with acquisition.

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Alumina Limited Acquisition

On August 1, 2024, Alcoa completed the acquisition of all of the ordinary shares of Alumina Limited (Alumina Shares) through a wholly-owned subsidiary, AAC Investments Australia 2 Pty Ltd. At acquisition, Alumina Limited held a 40% ownership interest in the AWAC joint venture.

Under the Scheme Implementation Deed (the Agreement) entered into in March 2024, as amended in May 2024, holders of Alumina Shares received 0.02854 Alcoa CHESS Depositary Interests (CDIs) for each Alumina Share (the Agreed Ratio), except that i) holders of Alumina Shares represented by American Depositary Shares, each of which represented 4 Alumina Shares, received 0.02854 shares of Alcoa common stock and ii) a certain shareholder received, for certain of their Alumina Shares, 0.02854 shares of Alcoa non-voting convertible preferred stock. The Alcoa CDIs are quoted on the Australian Stock Exchange.

At closing, Alumina Shares outstanding of 2,760,056,014 and 141,625,403 were exchanged for 78,772,422 and 4,041,989 shares of Alcoa common stock and Alcoa preferred stock, respectively. Based on Alcoa's closing share price as of July 31, 2024, the Agreed Ratio implied a value of A$1.45 per Alumina Share and aggregate purchase consideration of approximately $2,700 for Alumina Limited.

For Alcoa stockholders, the transaction enhances Alcoa's vertical integration along the value chain across bauxite mining, alumina refining, and aluminum smelting, increases Alcoa's economic interest in its bauxite and alumina assets, simplifies governance, and reaffirms Alcoa's commitment to Western Australia. In addition to the implied premium over prior share prices, Alumina Limited shareholders' ownership is diversified to a large-scale, global upstream aluminum portfolio.

The transaction consisted in substance of the acquisition of Alumina Limited's noncontrolling interest in AWAC ($1,472), the assumption of Alumina Limited's indebtedness ($385), the recognition of deferred tax assets ($216) primarily related to Alumina Limited's prior net operating losses and the tax allocation of the fixed asset valuation to individual assets, and the acquisition of cash ($9) and other current liabilities ($1). The transaction was accounted for as an equity transaction where net assets acquired ($1,311) and transaction costs ($32) were reflected as an increase to Additional capital. Net income attributable to noncontrolling interest was recognized through July 31, 2024. In November 2024, Alcoa repaid the full amount ($385) of Alumina Limited's indebtedness and cancelled the agreement.

Saudi Arabia Joint Venture

On September 15, 2024, Alcoa entered into a share purchase and subscription agreement with Ma'aden, pursuant to which Alcoa agreed to sell its full ownership interest of 25.1% in the Saudi Arabia joint venture, comprised of the Ma'aden Bauxite and Alumina Company and the Ma'aden Aluminium Company, to Ma'aden in exchange for issuance by Ma'aden of approximately 86 million shares and $150 in cash. The implied value of the shares was $950 as of September 12, 2024, based on the volume-weighted average share price of Ma'aden for the previous 30 calendar days. The shares of Ma'aden will be subject to transfer and sale restrictions, including a restriction requiring Alcoa to hold its Ma'aden shares for a minimum of three years, with one-third of the shares becoming transferable after each of the third, fourth, and fifth anniversaries of closing of the transaction (the holding period). During the holding period, Alcoa would be permitted to hedge and borrow against its Ma'aden shares. Under certain circumstances, such minimum holding period would be reduced. The transaction is subject to regulatory approvals, approval by Ma'aden's shareholders, and other customary closing conditions and is expected to close in the first half of 2025. The carrying value of Alcoa's investment was $544 as of December 31, 2024.

Australia Mine Plan Approvals

During 2024, the Company continued to advance mine approvals for the next major Australian mine regions (Myara North and Holyoake), which were referred for accredited assessment by the WA EPA under the Accredited Assessment. Alcoa began the process in 2020, is focused on receiving approval by the first quarter of 2026, and anticipates mining in new regions will commence no earlier than 2027. Until then, the Company expects bauxite quality will remain similar to recent grades.

During the third quarter of 2024, the WA EPA set an indicative timeline for the next key step in the approval process, the public comment period, for early 2025.

The Company continues work to seek annual endorsement from the Western Australian State Government for its rolling five-year mine plan. Separately, in 2023, a third party referred the Company's current five-year mine plan to the WA EPA for assessment (Third-Party Referral). This Third-Party Referral remains under assessment, and the public comment period is expected to be in early 2025 in accordance with the WA EPA streamlined process.

The Company is committed to working collaboratively with the WA EPA and other stakeholders to achieve the indicative timelines set by the WA EPA.

Additionally, the Company is evaluating conditions recommended by the WA EPA in similar accredited assessment processes to address the majority of relevant published conditions in the Company's Environmental Review Document, which Alcoa will submit as part of the Accredited Assessment prior to the upcoming public comment period.

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Portfolio Actions

Portfolio Review

In October 2024, the Company completed its five-year strategic portfolio review to improve cost positioning, or curtail, close, or divest 1.5 million and 4 million metric tons of smelting and refining capacity, respectively. The Company reached approximately 93 percent of its target for smelting capacity with the decision to restart capacity at the Warrick smelter completed in the first quarter 2024, and exceeded its target for refining capacity with the decision to curtail the Kwinana refinery in January 2024. The Company continues to evaluate assets for opportunities for improvement to remain profitable throughout business cycles.

Kwinana Refinery

In June 2024, Alcoa completed the full curtailment of the Kwinana refinery, as planned, which was announced in January 2024. The Company's decision to fully curtail the refinery was made based on a variety of factors, including the refinery's age, scale, operating costs, and current bauxite grades, in addition to market conditions.

Prior to the curtailment, the refinery had been operating at approximately 80 percent of its annual nameplate capacity of 2.2 million metric tons since January 2023, when the Company reduced production in response to a domestic natural gas shortage in Western Australia due to production challenges experienced by key gas suppliers.

As of March 2024, the refinery had approximately 780 employees and this number was reduced to approximately 250 through the fourth quarter of 2024 to manage certain processes that are expected to continue until about the fourth quarter of 2025. At that time, the employee number will be further reduced to approximately 50.

San Ciprián Operations

On October 16, 2024, Alcoa announced that it is progressing toward entering into a strategic partnership with IGNIS EQT, the majority shareholder in the IGNIS Group of Companies, a vertically integrated energy company based in Spain, to support the continued operation of the San Ciprián complex.

The proposed agreement is conditional upon delivery of key areas of cooperation with San Ciprián's stakeholders, including the Spanish national government, the Xunta regional government, and San Ciprián employees and workers' representatives. Key areas include:

- Materially higher carbon dioxide compensation support;
- Permitting of power generation projects, especially those with existing agreements with San Ciprián;
- Support and approval for the bauxite residue area capital project; and,
- Flexibility within the February 2023 updated viability agreement, including access to restricted cash for operating needs and deferral or substitution of capital improvement commitments.

On January 21, 2025, the Company, the Spanish national and Xunta regional governments, and IGNIS EQT signed a memorandum of understanding that outlines a process for the parties to work cooperatively toward the common objective of improving the long-term outlook for the San Ciprián operations and focuses on the key areas of cooperation (see above).

Under the proposed agreement, Alcoa would contribute approximately $78 (€75), and IGNIS EQT would make an initial investment of approximately $26 (€25) to fund the operations. Alcoa would continue as the managing operator of the San Ciprián complex, with IGNIS EQT holding 25 percent ownership. Additionally, up to approximately $104 (€100) would be funded by Alcoa as needed for operations with a priority position in future cash returns. Further funding would require agreement by both partners and would be shared 75 percent by Alcoa and 25 percent by IGNIS EQT.

Alcoa has operated the San Ciprián complex for a number of years in a challenging economic environment, primarily due to the high cost of energy. In the first quarter of 2024, Alcoa launched a sale process while also working to identify solutions for the long-term viability of the operations.

Despite sharing information with 60 potential investors, no viable bid was made for 100 percent of the San Ciprián complex. The potential partnership with IGNIS EQT emerged as an alternative for San Ciprián in which Alcoa can leverage its expertise in managing global aluminum operations, combined with IGNIS EQT's strong knowledge of energy markets, to create value via market access and energy management services.

The refinery and smelter incurred substantial losses in 2024 and in prior years. As of December 31, 2024, the Spanish entities that own these operations had approximately $25 of available funding with cash on hand (excluding restricted cash to be made available for capital improvements at the site and smelter restart costs). Although aluminum and alumina prices improved during 2024, the San Ciprián complex remains unviable based on current and forward market assumptions for delivered energy in Spain and sales prices. Based on economic conditions as of December 31, 2024, the San Ciprián operations are expected to incur losses in 2025 and barring finalizing a partnership agreement with IGNIS EQT, Alcoa anticipates that available funding will be exhausted near the end of the first quarter of 2025.

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Warrick Operations

During the first quarter of 2024, the Company completed the restart of one potline (54 kmt) at the Warrick smelter in Indiana that began in October 2023, and incurred restart expenses of $3.

Other Matters

In February 2025, the U.S. government established a 25% tariff on a wide range of goods imported from Canada into the United States to take effect on March 4, 2025. Energy resources from Canada, which appears to include aluminum as it is listed as a critical mineral, will be subject to a lower 10% tariff. In addition, in February 2025, the U.S. government expanded tariffs existing under Section 232 of the Trade Expansion Act of 1962 (Section 232) by raising the aluminum tariffs from 10% to 25%, ending all country exemptions, phasing out specific product exclusions, and terminating all existing general approved exclusions. It is unclear if aluminum imported from Canada after March 12, 2025 will be subject to both the 10% tariffs on energy resources and the 25% Section 232 tariffs. Due to the uncertainty related to the application of the tariffs, Alcoa is unable to reasonably estimate the impact to the Company's results of operations until clarification is provided by the U.S. government.

In March 2024, the Company completed an offering of $750 aggregate principal amount of 7.125 percent senior notes due in 2031. This was the Company's first notes issuance under its Green Finance Framework, which prioritizes climate change mitigation expenditures related to circular or low carbon products, pollution prevention technologies, renewable energy, and water management. The Company is utilizing the net proceeds to finance and/or refinance, in whole or in part, new and/or existing qualifying projects on a two-year look back that meet certain eligibility criteria within its Green Finance Framework. The net proceeds also support the Company's cash position and ongoing cash needs, including with respect to its previously announced portfolio actions. The Company does not expect to allocate part of the net proceeds to significant capital investments in breakthrough technologies as those are not expected to occur within the applicable time period.

During the first quarter of 2024, the Company initiated and fully deployed a productivity and competitiveness program across its global operations and functions. The program is part of the Company's objective to improve overall competitiveness and profitability and includes a target to save approximately 5 percent of operating costs, exclusive of raw materials, energy and transportation costs, which are already under active management and cost control programs. Total savings are expected to approximate $100 on a run rate basis and to be achieved by the first quarter of 2025.

The Company paid a quarterly cash dividend of $0.10 per share of the Company's common stock (including common stock underlying CDIs) and Series A convertible preferred stock during 2024, totaling $90.

See the below sections for additional details on the above-described actions.

Basis of Presentation

The Consolidated Financial Statements of Alcoa Corporation are prepared in conformity with accounting principles generally accepted in the United States of America (GAAP). In accordance with GAAP, certain situations require management to make estimates based on judgments and assumptions, which may affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements. They also may affect the reported amounts of revenues and expenses during the reporting periods. Management uses historical experience and all available information to make these estimates. Management regularly evaluates the judgments and assumptions used in its estimates, and results could differ from those estimates upon future events and their effects or new information.

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Results of Operations

The discussion that follows includes a comparison of our results of operations and liquidity and capital resources for the fiscal years ended December 31, 2024 and 2023. For a comparison of changes for the fiscal years ended December 31, 2023 and 2022, refer to Management's Discussion and Analysis of Financial Condition and Results of Operation in Part II Item 7 of Alcoa Corporation's Annual Report on Form 10-K for the year ended December 31, 2023 (filed February 21, 2024).

	For the year ended December 31,	
Statement of Operations	**2024**	**2023**
Sales	$ 11,895	$ 10,551
Cost of goods sold (exclusive of expenses below)	10,044	9,813
Selling, general administrative, and other expenses	275	226
Research and development expenses	57	39
Provision for depreciation, depletion, and amortization	642	632
Restructuring and other charges, net	341	184
Interest expense	156	107
Other expenses, net	91	134
Total costs and expenses	11,606	11,135
Income (loss) before income taxes	289	(584)
Provision for income taxes	265	189
Net income (loss)	24	(773)
Less: Net loss attributable to noncontrolling interest	(36)	(122)
Net income (loss) attributable to Alcoa Corporation	$ 60	$ (651)

Selected Financial Metrics	**2024**	**2023**
Diluted income (loss) per share attributable to Alcoa Corporation common shareholders	$ 0.26	$ (3.65)
Third-party shipments of alumina (kmt)	9,005	8,698
Third-party shipments of aluminum (kmt)	2,590	2,491
Average realized price per metric ton of alumina	$ 472	$ 358
Average realized price per metric ton of aluminum	$ 2,841	$ 2,828
Average Alumina Price Index (API)[1]	$ 471	$ 343
Average London Metal Exchange (LME) 15-day lag[2]	$ 2,409	$ 2,249

[1] API (Alumina Price Index) is a pricing mechanism that is calculated by the Company based on the weighted average of a prior month's daily spot prices published by the following three indices: CRU Metallurgical Grade Alumina Price, Platts Metals Daily Alumina PAX Price, and FastMarkets Metal Bulletin Non-Ferrous Metals Alumina Index.

[2] LME (London Metal Exchange) is a globally recognized exchange for commodity trading, including aluminum. The LME pricing component represents the underlying base metal component, based on quoted prices for aluminum on the exchange.

Annual Comparison

Overview

Net income (loss) attributable to Alcoa Corporation increased $711 primarily as a result of:

- Higher average realized price of alumina and aluminum
- Lower equity losses
- Favorable energy and raw material costs
- Absence of Net income attributable to noncontrolling interest following Alumina Limited acquisition
- Favorable mark-to-market results on derivative instruments

Partially offset by:

- Higher restructuring charges
- Unfavorable currency impacts
- Higher taxes on higher earnings, partially offset by the absence of a net charge for valuation allowances on certain deferred tax assets in 2023
- Decrease in value add product sales

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Sales

Sales increased $1,344 primarily as a result of:

- Higher average realized price of alumina and aluminum
- Higher shipments of aluminum and alumina
- Increased offtake from an aluminum joint venture supply agreement

Partially offset by:

- Lower volumes and price from bauxite offtake and supply agreements
- Decrease in value add product sales

Cost of goods sold

Cost of goods sold as a percentage of sales decreased 9% primarily as a result of:

- Higher average realized price of alumina and aluminum
- Lower energy costs across both segments
- Favorable currency impacts
- Lower production costs in the Aluminum segment
- Favorable raw material costs

Partially offset by:

- Higher production costs in the Alumina segment

Selling, general administrative, and other expenses

Selling, general administrative, and other expenses increased $49 primarily as a result of:

- Higher labor and variable compensation costs and increased fees for professional services, primarily in support of portfolio transformation

Provision for depreciation, depletion, and amortization

The Provision for depreciation, depletion, and amortization increased $10 primarily as a result of:

- Higher depreciation in Brazil and Australia for mine reclamation and bauxite residue storage asset retirement obligations

Partially offset by:

- Lower amortization of mine development costs
- Lower depreciation due to the absence of write offs of assets for projects no longer being pursued

Interest expense

Interest expense increased $49 primarily as a result of:

- Interest incurred on the $750 7.125% Senior Notes issued in March 2024
- Interest incurred on the Alumina Limited Facility that was assumed on August 1, 2024, until Alcoa repaid outstanding amounts under the Alumina Limited Facility on November 29, 2024

Other expenses, net

Other expenses, net was $91 in 2024, compared with $134 in 2023. The favorable change of $43 was primarily a result of:

- Decrease in equity losses from the Ma'aden aluminum joint venture primarily due to higher sales volume, higher aluminum prices and the absence of a charge for a utility settlement, partially offset by higher alumina prices
- Favorable mark-to-market results on derivative instruments primarily due to higher power prices in the current year
- Decrease in equity losses from the Ma'aden bauxite and alumina joint venture primarily due to higher alumina prices and lower production costs
- Lower ELYSIS capital contributions, reducing loss recognition

Partially offset by:

- Unfavorable currency revaluation impacts primarily due to the U.S. dollar strengthening against the Brazilian real in the current year, partially offset by the absence of gains recognized in the prior year due to the U.S. dollar weakening against the Brazilian real

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Restructuring and other charges, net

In 2024, Restructuring and other charges, net of $341 primarily related to:

- $287 for the curtailment of the Kwinana refinery
- $40 to record additional asset retirement obligations and environmental remediation at previously closed sites
- $22 for take-or-pay energy contract costs at a previously closed site
- $12 for contract termination costs at the closed Intalco smelter

Partially offset by:

- $20 due to lower costs for environmental remediation and asset retirement obligations at the Intalco smelter and a previously closed site

In 2023, Restructuring and other charges, net of $184 primarily related to:

- $101 for the permanent closure of the previously curtailed Intalco aluminum smelter
- $53 related to the updated viability agreement for the San Ciprián aluminum smelter
- $21 for the settlement of certain pension benefits
- $15 to record net additional environmental remediation and asset retirement obligations at previously closed sites
- $11 for employee termination and severance costs, primarily related to Kwinana refinery productivity program

Partially offset by:

- $19 for the sale of unused carbon credits at a previously closed site

Provision for income taxes

The Provision for income taxes in 2024 was $265 on income before taxes of $289 or 91.7%. In comparison, the 2023 Provision for income taxes was $189 on a loss before taxes of $(584) or (32.4)%.

The increase in tax expense of $76 is primarily attributable to higher income in the jurisdictions where taxes are paid. Additionally, tax expense in 2023 included a charge of $152 to record a full valuation allowance against the deferred tax assets of Alcoa World Alumina Brasil Ltda. (AWAB), partially offset by the full reversal of the valuation allowance of $58 recorded against the deferred tax assets of the Company's subsidiaries in Iceland.

In December 2023, Alcoa recorded a valuation allowance of $154 against the net deferred tax assets of AWAB, of which $106 related to the balance as of December 31, 2022. The 2023 full valuation allowance was a result of AWAB's three-year cumulative loss position for the period ended December 31, 2023. The majority of AWAB's net deferred tax assets relate to prior net operating losses; the loss carryforwards are not subject to an expiration period. If AWAB continues to demonstrate sustained profitability management may conclude that AWAB's deferred tax assets may be realized, resulting in a future reversal of the valuation allowance, generating a non-cash benefit in the period recorded. AWAB's net deferred tax assets, excluding the valuation allowance, were $116 as of December 31, 2024.

The Company's subsidiaries in Iceland had a full valuation allowance recorded against deferred tax assets, which was established in 2015 and 2017, as the Company believed it was more likely than not that these tax benefits would not be realized. During 2023, after considering all positive and negative evidence, including the expectation that the jurisdiction will remain in a three-year cumulative income position, the Company determined that it is more likely than not that the net deferred tax assets will be realized. Based on this conclusion, the Company reversed the valuation allowance totaling $58 during 2023, generating a non-cash benefit from income taxes.

Noncontrolling interest

Net loss attributable to noncontrolling interest was $(36) in 2024 compared with $(122) in 2023. These amounts are entirely related to Alumina Limited's 40% ownership interest in several affiliated operating entities prior to Alcoa's acquisition of Alumina Limited on August 1, 2024.

Net loss attributable to noncontrolling interest in 2024 was driven by restructuring costs partially offset by favorable average realized price of alumina. Net loss attributable to noncontrolling interest in 2023 reflects unfavorable production and raw material costs, unfavorable average realized price of alumina and equity losses from the Ma'aden bauxite and alumina joint venture.

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Segment Information

Alcoa Corporation is a producer of bauxite, alumina, and aluminum products. The Company has two operating and reportable segments: (i) Alumina and (ii) Aluminum. The primary measure of performance is Adjusted EBITDA (Earnings before interest, taxes, depreciation, and amortization) for each segment.

The Company calculates Segment Adjusted EBITDA as Total sales (third-party and intersegment) minus the following items: Cost of goods sold; Selling, general administrative, and other expenses; and Research and development expenses. Alcoa Corporation's Segment Adjusted EBITDA may not be comparable to similarly titled measures of other companies. The Chief Operating Decision Maker regularly reviews Segment Adjusted EBITDA to assess performance and allocate resources.

Segment Adjusted EBITDA totaled $2,065 in 2024 and $734 in 2023. The following information provides production, shipments, sales, Segment Adjusted EBITDA, and Adjusted operating costs data for each reportable segment, as well as certain realized price and average cost data, for each of the two years in the period ended December 31, 2024.

Alumina

	2024	2023
Bauxite production (mdmt)	38.3	41.0
Third-party bauxite shipments (mdmt)	6.4	7.6
Alumina production (kmt)	10,034	10,908
Third-party alumina shipments (kmt)	9,005	8,698
Intersegment alumina shipments (kmt)	4,194	4,125
Produced alumina shipments (kmt)	10,050	11,072
Third-party bauxite sales	$ 381	$ 484
Third-party alumina sales	4,281	3,129
Total segment third-party sales	$ 4,662	$ 3,613
Intersegment alumina sales	2,263	1,648
Total sales	$ 6,925	$ 5,261
Adjusted operating costs	3,110	3,487
Other segment items	2,407	1,501
Segment Adjusted EBITDA	$ 1,408	$ 273
Average realized third-party price per metric ton of alumina	$ 472	$ 358
Adjusted operating cost per metric ton of produced alumina shipped	$ 309	$ 315

In the above table, total alumina shipments include metric tons that were not produced by the Alumina segment. Such alumina was purchased to satisfy certain customer commitments. The Alumina segment bears the risk of loss of the purchased alumina until control of the product has been transferred to this segment's customers.

Adjusted operating costs include all production related costs for alumina produced and shipped: raw materials consumed; conversion costs, such as labor, materials, and utilities; and plant administrative expenses. Other segment items include costs associated with trading activity, the purchase of bauxite from offtake or other supply agreements, and commercial shipping services; other direct and non-production related charges; Selling, general administrative, and other expenses; and Research and development expenses.

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Overview. This segment represents the Company's global bauxite mining operations and worldwide refining system, which processes bauxite into alumina.

A portion of this segment's bauxite production represents the offtake from an equity method investment in Guinea, as well as Alcoa's share of bauxite production related to an equity investment in Saudi Arabia. Bauxite mined is primarily used internally within the Alumina segment; a portion of the bauxite is sold to external customers. Bauxite sales to third-parties are conducted on a contract basis.

The alumina produced by this segment is sold primarily to internal and external aluminum smelter customers; a portion of the alumina is sold to external customers who process it into industrial chemical products. Approximately two-thirds of the production of alumina is sold under supply contracts to third parties worldwide, while the remainder is used internally by the Aluminum segment. Alumina produced by this segment and used internally is transferred to the Aluminum segment at prevailing market prices. A portion of this segment's third-party sales are completed through alumina traders.

Generally, this segment's sales are transacted in U.S. dollars while costs and expenses are transacted in the local currency of the respective operations, which are the Australian dollar, the Brazilian real, and the euro. Most of the operations that comprise the Alumina segment are part of AWAC, which is now wholly-owned by Alcoa (see Noncontrolling Interest above).

This segment also includes Alcoa's 25.1% ownership interest in the mining and refining joint venture company in Saudi Arabia. In the third quarter of 2024, Alcoa entered into a share purchase and subscription agreement with Ma'aden, pursuant to which Alcoa agreed to sell its full ownership interest of 25.1% in the Saudi Arabia joint venture to Ma'aden in exchange for issuance by Ma'aden of approximately 86 million shares and $150 in cash.

Business Update. The average API of $471 per metric ton trended favorably compared to 2023 reflecting a 37% year over year increase. The majority of third-party alumina sales are linked to the API and the favorable price trend has resulted in strong results for the segment.

During 2024, the Alumina segment experienced favorable raw material costs compared to 2023, partially offset by higher production costs primarily due to operating the Australian refineries with lower grade bauxite.

Alumina production decreased 8% in 2024 compared to 2023 primarily due to the full curtailment of the Kwinana refinery in the second quarter of 2024 and reduced production at the Australia refineries due to lower grade bauxite, partially offset by increased production at the Alumar refinery due to the absence of unplanned equipment maintenance and increased operating levels at the San Ciprián refinery in 2024.

Kwinana Refinery

In June 2024, Alcoa completed the full curtailment of the Kwinana refinery, as planned, which was announced in January 2024. As of March 2024, the refinery had approximately 780 employees and this number was reduced to approximately 250 through the fourth quarter of 2024 to manage certain processes that are expected to continue until about the fourth quarter of 2025. At that time, the employee number will be further reduced to approximately 50. In addition to the employees separating as a result of the curtailment, approximately 290 employees have terminated through the productivity program announced in the third quarter of 2023 or redeployed to other Alcoa operations.

In 2024, Alcoa recorded restructuring charges, net of $287 related to the curtailment of the refinery including $220 for water management costs, $41 for employee related costs, $12 for take-or-pay contracts, $9 for asset retirement obligations, and $5 for asset impairments. Related cash outlays of approximately $300 (which includes existing employee related liabilities and asset retirement obligations) are expected through 2025, with $146 spent in 2024.

Capacity. At December 31, 2024, the Alumina segment had a base refining capacity of 13,843 kmt with 3,204 kmt of curtailed capacity. In the second quarter of 2024, curtailed capacity increased 1,752 kmt due to the full curtailment of the Kwinana refinery (see above).

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Production

Alumina production decreased 8% primarily as a result of:

- Full curtailment of the Kwinana refinery in June 2024
- Reduced production at the Australia refineries due to lower bauxite grade

Partially offset by:

- Increased production at the Alumar refinery due to decreased equipment maintenance
- Increased production at the San Ciprián refinery as the refinery was operating at 50 percent capacity in 2024 and 30 to 50 percent capacity in 2023

Third-party sales

Third-party sales increased $1,049 primarily as a result of:

- Higher average realized price of $114/ton principally driven by a higher average API
- Higher shipments of alumina primarily due to increased sales of externally sourced alumina to satisfy certain customer commitments and increased trading activity
- Favorable currency impacts

Partially offset by:

- Lower volumes and price from bauxite offtake and supply agreements primarily caused by the shift to intrasegment sales due to higher production at the San Ciprián refinery

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Intersegment sales

Intersegment sales increased $615 primarily as a result of:

- Higher average API on sales to the Aluminum segment
- Higher alumina shipments primarily due to the Alumar smelter and Warrick smelter restarts

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Segment Adjusted EBITDA

Segment Adjusted EBITDA increased $1,135 primarily as a result of:

- Higher average realized price
- Favorable raw material costs primarily on lower prices for caustic soda
- Favorable currency impacts
- Lower energy costs primarily due to favorable natural gas prices

Partially offset by:

- Higher production costs primarily related to operating certain of the Australia refineries with lower grade bauxite
- Write down of certain inventories to their net realizable value

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Forward Look.

The Alumina segment is expected to produce between 9.5 to 9.7 million metric tons of alumina in 2025, a decrease from 2024 due to the curtailment of the Kwinana refinery. In 2025, alumina shipments are expected to be between 13.1 and 13.3 million metric tons, consistent with 2024. The difference between production and shipments reflects trading volumes and externally sourced alumina to fulfill customer contracts due to the curtailment of the Kwinana refinery.

Further, in 2025, the Alumina segment expects higher raw material and energy costs to be partially offset by increased sales from bauxite offtake and supply agreements.

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Aluminum

	2024	2023
Aluminum production (kmt)	2,215	2,114
Total aluminum shipments (kmt)	2,590	2,491
Produced aluminum shipments (kmt)	2,277	2,166
Third-party aluminum sales	$ 7,359	$ 7,045
Other[(1)]	(129)	(120)
Total segment third-party sales	$ 7,230	$ 6,925
Intersegment sales	16	15
Total sales	$ 7,246	$ 6,940
Adjusted operating costs	5,488	5,281
Other segment items	1,101	1,198
Segment Adjusted EBITDA	$ 657	$ 461
Average realized third-party price per metric ton of aluminum	$ 2,841	$ 2,828
Adjusted operating cost per metric ton of produced aluminum shipped	$ 2,410	$ 2,438

(1) Other includes third-party sales of energy, as well as realized gains and losses related to embedded derivative instruments designated as cash flow hedges of forward sales of aluminum.

In the above table, total aluminum third-party shipments include metric tons that were not produced by the Aluminum segment. Such aluminum was purchased by this segment to satisfy certain customer commitments. The Aluminum segment bears the risk of loss of the purchased aluminum until control of the product has been transferred to this segment's customer. Additionally, Total shipments include offtake from a joint venture supply agreement.

The average realized third-party price per metric ton of aluminum includes three elements: a) the underlying base metal component, based on quoted prices from the LME; b) the regional premium, which represents the incremental price over the base LME component that is associated with the physical delivery of metal to a particular region (e.g., the Midwest premium for metal sold in the United States); and c) the product premium, which represents the incremental price for receiving physical metal in a particular shape (e.g., billet, slab, rod, etc.) or alloy.

Adjusted operating costs include all production related costs for aluminum produced and shipped: raw materials consumed; conversion costs, such as labor, materials, and utilities; and plant administrative expenses. Other segment items include costs associated with trading activity and energy assets; other direct and non-production related charges; Selling, general administrative, and other expenses; and Research and development expenses.

Overview. This segment consists of the Company's (i) worldwide smelting and casthouse system, which processes alumina into primary aluminum, and the (ii) portfolio of energy assets in Brazil, Canada, and the United States.

Aluminum's combined smelting and casting operations produce primary aluminum products, virtually all of which are sold to external customers and traders. The smelting operations produce molten primary aluminum, which is then formed by the casting operations into either common alloy ingot (e.g., t-bar, sow, standard ingot) or into value add ingot products (e.g., foundry, billet, rod, and slab). A variety of external customers purchase the primary aluminum products for use in fabrication operations, which produce products primarily for the transportation, building and construction, packaging, wire, and other industrial markets. Results from the sale of aluminum powder and scrap are also included in this segment, as well as the impacts of embedded aluminum derivatives related to energy supply contracts.

The energy assets supply power to external customers in Brazil and, to a lesser extent, in the United States, as well as internal customers in the Aluminum (Canadian smelters and Warrick (Indiana) smelter) and Alumina segments (Brazilian refineries).

Generally, this segment's aluminum sales are transacted in U.S. dollars while costs and expenses of this segment are transacted in the local currency of the respective operations, which are the U.S. dollar, the euro, the Norwegian krone, the Icelandic króna, the Canadian dollar, the Brazilian real, and the Australian dollar.

This segment also includes Alcoa Corporation's 25.1% ownership interest in the smelting joint venture company in Saudi Arabia. In the third quarter of 2024, Alcoa entered into a share purchase and subscription agreement with Ma'aden, pursuant to which Alcoa agreed to sell its full ownership interest of 25.1% in the Saudi Arabia joint venture to Ma'aden in exchange for issuance by Ma'aden of approximately 86 million shares and $150 in cash.

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Business Update. Aluminum prices increased 7 percent year over year with LME prices on a 15-day lag averaging $2,409 per metric ton in 2024.

During 2024, the Aluminum segment experienced favorable raw material costs for carbon materials that was more than offset by higher average alumina input costs.

During 2024, the Company maintained the controlled pace for the restart of the Alumar smelter and continued actions to improve the smelter's overall performance. The restart resumed in the second quarter after the smelter experienced operational instability in the first quarter of 2024. The site was operating at approximately 84 percent of the site's total annual capacity of 268 kmt (Alcoa share) as of December 31, 2024.

In the fourth quarter of 2024, the Company completed the restart of 16 kmt of previously curtailed capacity at the Portland smelter in Australia that began in the fourth quarter of 2023. The site was operating at approximately 83 percent of the site's total annual capacity of 197 kmt (Alcoa share) as of December 31, 2024.

In October 2024, the U.S. Treasury Department issued final regulations on the Section 45X of the Advanced Manufacturing Tax Credit, enacted as part of the Inflation Reduction Act (IRA Section 45X), which further clarified that some direct and indirect material costs can qualify for the credit. In the fourth quarter of 2024, the Company recorded the full year 2023 and 2024 benefit of $30 for the Massena West and Warrick smelters in Cost of goods sold related to this clarification.

In March 2024, Alcoa completed the restart of approximately 54 kmt of capacity at the Warrick smelter in Indiana that began in October 2023. Alcoa incurred restart expenses of $3 during the first quarter of 2024.

San Ciprián Smelter

In March 2024, Alcoa completed the restart of approximately 6 percent of total pots at the San Ciprián smelter as required by the February 2023 updated viability agreement. The Company incurred restart expenses of $5 in 2024. In connection with the December 2021 agreement and the February 2023 updated viability agreement, the Company has restricted cash of $86 remaining at December 31, 2024, of which $10 was released in February 2025 for 2024 expenditures, and the remaining $76 is available for capital improvements at the site and smelter restart costs.

Capacity. At December 31, 2024, the Aluminum segment had 374 kmt of idle smelting capacity on a base capacity of 2,645 kmt, a decrease from 2023 of 91 kmt in idle capacity primarily due to the Alumar, Warrick, San Ciprián, and Portland smelter restarts (see above).

Annual Comparison

Production

Production increased 5% primarily as a result of:
- Warrick smelter and Alumar smelter restarts

Third-party sales

Third-party sales increased $305 primarily as a result of:
- Higher shipments primarily due to the Alumar smelter and Warrick smelter restarts
- Increased offtake from a joint venture supply agreement
- Higher average realized price of $13/ton driven by a higher average LME (on a 15-day lag) partially offset by lower regional premiums and the absence of gains from the Alumar smelter restart hedge program which ended in December 2023
- Higher pricing at the Brazil hydro-electric facilities

Partially offset by:
- Lower trading activities
- Decrease in value add product sales due to lower product premiums in Europe and North America
- Unfavorable currency impacts

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Segment Adjusted EBITDA

Segment Adjusted EBITDA increased $196 primarily as a result of:

- Higher average realized price
- Lower energy costs, primarily in Brazil
- Higher pricing at the Brazil hydro-electric facilities
- Lower production costs primarily due to efficiencies at higher production rates

Partially offset by:

- Unfavorable raw material costs primarily on higher average alumina input costs, partially offset by lower market prices for carbon materials
- Decrease in value add product sales

Forward Look. Alcoa expects aluminum production to range between 2.3 and 2.5 million metric tons and aluminum shipments to range between 2.6 and 2.8 million metric tons in 2025. The increase in production and shipments in 2025 is due to smelter restarts.

Additionally, the Company engages in trading activity when favorable market conditions allow. Availability of trading opportunities in 2025 may impact the Company's shipment projection.

Further, in 2025, the Aluminum segment expects lower raw material costs will offset the absence of Ma'aden metal offtake, as expected with the announced sale of the Saudi Arabia joint venture, and certain lower product premiums. The segment also expects higher production costs with the absence of the IRA Section 45X benefit for 2023 recorded in 2024.

Reconciliations of Certain Segment Information

Reconciliation of Total Segment Third-Party Sales to Consolidated Sales

	2024	2023
Alumina	$ 4,662	$ 3,613
Aluminum	7,230	6,925
Total segment third-party sales	$ 11,892	$ 10,538
Other	3	13
Consolidated sales	$ 11,895	$ 10,551

Reconciliation of Total Segment Adjusted EBITDA to Consolidated Net Income (Loss) Attributable to Alcoa Corporation

	2024	2023
Total Segment Adjusted EBITDA	$ 2,065	$ 734
Unallocated amounts:		
Transformation[1]	(62)	(80)
Intersegment eliminations	(231)	7
Corporate expenses[2]	(160)	(133)
Provision for depreciation, depletion, and amortization	(642)	(632)
Restructuring and other charges, net	(341)	(184)
Interest expense	(156)	(107)
Other expenses, net	(91)	(134)
Other[3]	(93)	(55)
Consolidated income (loss) before income taxes	289	(584)
Provision for income taxes	(265)	(189)
Net loss attributable to noncontrolling interest	36	122
Consolidated net income (loss) attributable to Alcoa Corporation	$ 60	$ (651)

(1) Transformation includes, among other items, the Adjusted EBITDA of previously closed operations.
(2) Corporate expenses are composed of general administrative and other expenses of operating the corporate headquarters and other global administrative facilities, as well as research and development expenses of the corporate technical center.
(3) Other includes certain items that are not included in the Adjusted EBITDA of the reportable segments.

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Environmental Matters

See Part II Item 8 of this Form 10-K in Note S to the Consolidated Financial Statements under caption Contingencies—Environmental Matters.

Liquidity and Capital Resources

Alcoa Corporation's primary future cash flows are centered on operating activities, particularly working capital, as well as capital expenditures and capital returns. Alcoa's ability to fund its cash needs depends on the Company's ongoing ability to generate and raise cash in the future.

In 2024, the Company generated higher profitability due to higher prices for alumina and aluminum and lower raw material and energy costs, partially offset by higher restructuring charges. The strong financial results allowed the Company to maintain a strong balance sheet, including a strong cash position. Additionally, the Company successfully completed the following actions:

- Issued $750 of 7.125% Senior Notes due 2031 under the Company's new Green Finance Framework;
- Funded $580 in capital expenditures to sustain and grow our operations;
- Voluntarily repaid the $385 drawn under the Alumina Limited Revolving Credit Facility and cancelled the outstanding lender tranche commitments, effectively terminating the facility; and,
- Returned capital to stockholders of $90. In each quarter of 2024, the Board of Directors declared and paid a quarterly cash dividend of $0.10 per share of the Company's stock (including newly issued shares for the acquisition of Alumina Limited).

Management believes that the Company's cash on hand, projected cash flows, and liquidity options, combined with its strategic actions, will be adequate to fund its short-term (at least 12 months) and long-term operating and investing needs. Further, the Company has flexibility related to its use of cash; the Company has no significant debt maturities until 2027 and no significant cash contribution requirements related to its pension plan obligations (see Material Cash Requirements below for more information).

Although management believes that Alcoa's projected cash flows and other liquidity options will provide adequate resources to fund operating and investing needs, the Company's access to, and the availability of, financing on acceptable terms in the future will be affected by many factors, including: (i) Alcoa Corporation's credit rating; (ii) the liquidity of the overall capital markets; (iii) the current state of the economy and commodity markets, and (iv) short- and long-term debt ratings. There can be no assurances that the Company will continue to have access to capital markets on terms acceptable to Alcoa Corporation.

Changes in market conditions caused by U.S., global, or macroeconomic events, such as ongoing regional conflicts, high inflation, and changing U.S. or global monetary policies could have adverse effects on Alcoa's ability to obtain additional financing and cost of borrowing. Inability to generate sufficient earnings could impact the Company's ability to meet the financial covenants in our outstanding debt and revolving credit facility agreements and limit our ability to access these sources of liquidity or refinance or renegotiate our outstanding debt or credit agreements on terms acceptable to the Company. Additionally, the impact on market conditions from such events could adversely affect the liquidity of Alcoa's customers, suppliers, and joint venture partners and equity method investments, which could negatively impact the collectability of outstanding receivables and our cash flows.

At December 31, 2024, the Company's cash and cash equivalents were $1,138, of which $948 was held outside the United States. Alcoa Corporation has a number of commitments and obligations related to the Company's operations in various foreign jurisdictions, resulting in the need for cash outside the United States. Alcoa Corporation continuously evaluates its local and global cash needs for future business operations, which may influence future repatriation decisions. See Part II Item 8 of this Form 10-K in Note Q to the Consolidated Financial Statements for additional information related to undistributed net earnings.

Cash from Operations

Cash provided from operations was $622 in 2024 compared with $91 in 2023. Notable changes to the sources and (uses) of cash include:

- $954 favorable change in net income, excluding the impacts from restructuring charges, primarily due to higher alumina and aluminum pricing and lower raw material and energy costs;
- $168 less income taxes paid on prior year earnings, as well as on lower current year earnings in the jurisdictions where taxes are paid; and,
- ($525) in certain working capital accounts, primarily an increase in receivables in 2024 due to higher sales, a decrease in inventories in 2023 primarily on raw material prices, partially offset by an increase in accounts payable in 2024 due to higher alumina trading payables.

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In the third quarter of 2020, AofA paid approximately $74 (A$107) to the ATO related to the tax dispute described in Note S to the Consolidated Financial Statements in Part II Item 8 of this Form 10-K. Upon payment, AofA recorded a noncurrent prepaid tax asset, as the Company continues to believe it is more likely than not that AofA's tax position will be sustained and therefore is not recognizing any tax expense in relation to this matter. In accordance with Australian tax laws, the initial interest assessment and additional interest are deductible against AofA's taxable income. AofA applied this deduction beginning in the third quarter of 2020, reducing cash tax payments. Interest compounded in future years is also deductible against AofA's income in future periods. If AofA is ultimately successful, the interest deduction would become taxable as income in the year the dispute is resolved. In addition, should the ATO decide in the interim to reduce any interest already assessed, the reduction would be taxable as income at that point in time. During 2024, AofA continued to record its tax provision and tax liability without effect of the ATO assessment, since it expects to prevail. The tax payable related to deductions of interest on the assessment will remain on AofA's balance sheet as a noncurrent liability, increased by the tax effect of subsequent periods' interest deductions, until dispute resolution. At December 31, 2024 and December 31, 2023, the noncurrent liability resulting from the cumulative interest deductions was approximately $206 (A$332) and $199 (A$293), respectively.

The Company utilizes a Receivables Purchase Agreement facility to sell up to $150 of certain receivables through a special purpose entity (SPE) to a financial institution on a revolving basis. Alcoa Corporation guarantees the performance obligations of the Company subsidiaries, and unsold customer receivables are pledged as collateral to the financial institution to secure the sold receivables. At December 31, 2024 and December 31, 2023, the SPE held unsold customer receivables of $247 and $104, respectively, pledged as collateral against the sold receivables.

The Company continues to service the customer receivables that were transferred to the financial institution. As Alcoa collects customer payments, the SPE transfers additional receivables to the financial institution rather than remitting cash. In 2024, the Company sold gross customer receivables of $1,186, and reinvested collections of $1,170 from previously sold receivables, resulting in net cash proceeds from the financial institution of $16. In 2023, the Company sold gross customer receivables of $591, and reinvested collections of $477 from previously sold receivables, resulting in net cash proceeds from the financial institution of $114.

Cash collections from previously sold receivables yet to be reinvested of $50 and $99 were included in Accounts payable, trade on the accompanying Consolidated Balance Sheet as of December 31, 2024 and 2023, respectively. Cash received from sold receivables under the agreement are presented within operating activities in the Statement of Consolidated Cash Flows. See Part II Item 8 of this Form 10-K in Note I to the Consolidated Financial Statements for additional information related to this facility.

Financing Activities

Cash provided from financing activities was $201 in 2024 compared with $57 in 2023.

The source of cash in 2024 was primarily $737 of net proceeds from the bond issuance (see below), partially offset by $385 for the repayment of the Alumina Limited debt (see below), and $90 of dividends paid on stock.

The source of cash in 2023 was primarily $158 of net contributions from Alumina Limited (see Noncontrolling interest above) and $55 primarily related to the net issuance of short-term borrowings (see below), partially offset by $72 of dividends paid, $52 in financial contributions primarily related to the sale of the Warrick Rolling Mill, and $34 for payments related to tax withholding on stock-based compensation awards.

Credit Facilities.

Revolving Credit Facility

The Company and Alcoa Nederland Holding B.V. (ANHBV), a wholly-owned subsidiary of Alcoa Corporation and the borrower, have a $1,250 revolving credit and letter of credit facility in place for working capital and/or other general corporate purposes (the Revolving Credit Facility). The Revolving Credit Facility, established in September 2016, most recently amended and restated in June 2022 and amended in January 2024, is scheduled to mature in June 2027. Subject to the terms and conditions under the Revolving Credit Facility, the Company or ANHBV may borrow funds or issue letters of credit. Further, the Revolving Credit Facility contains financial covenants and customary affirmative and negative covenants (applicable to Alcoa Corporation and certain subsidiaries described as restricted), that, subject to certain exceptions, include limitations on (among other things): indebtedness, liens, investments, sales of assets, restricted payments, entering into restrictive agreements, a covenant prohibiting reductions in the ownership of AWAC entities, and certain other specified restricted subsidiaries of Alcoa Corporation, below an agreed level. The Revolving Credit Facility also contains customary events of default, including failure to make payments under the Revolving Credit Facility, cross-default and cross-judgment default, and certain bankruptcy and insolvency events.

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On January 17, 2024, Alcoa Corporation, ANHBV, and certain subsidiaries of the Company entered into Amendment No. 1 (Amendment No. 1) to the Revolving Credit Facility (Amended Revolving Credit Facility). The Amended Revolving Credit Facility provides additional flexibility to the Company and the Borrower by temporarily (i) reducing the minimum interest coverage ratio required thereunder from 4.00 to 1.00 to 3.00 to 1.00 and (ii) providing for a maximum addback for cash restructuring charges in Consolidated EBITDA (as defined in the Revolving Credit Facility) of $450, in each case for the 2024 fiscal year. As of January 1, 2025, the minimum interest coverage ratio requirement reverted to 4.00 to 1.00 and the maximum addback for cash restructuring charges in Consolidated EBITDA reverted to 15% of Consolidated EBITDA. The requirement that the Company maintain a debt to capitalization ratio not to exceed .60 to 1.00 was not changed by Amendment No. 1.

In connection with Amendment No. 1, the Company also agreed to provide collateral for its obligations under the Amended Revolving Credit Facility, which requires it to execute all security documents to re-secure collateral under the Amended Revolving Credit Facility by, subject to certain exceptions, a first priority security interest in substantially all assets of the Company, the Borrower, the material domestic wholly-owned subsidiaries of the Company, and the material foreign wholly-owned subsidiaries of the Company located in Australia, Brazil, Canada, Luxembourg, the Netherlands, Norway, and Switzerland including equity interests of certain subsidiaries that directly hold equity interests in AWAC entities.

After January 1, 2025, the Company may obtain a release of the collateral if the Company or the Borrower (as applicable) (i) has at least two of the following three designated ratings: (x) Baa3 from Moody's Investor Service (Moody's), (y) BBB- from Standard and Poor's (S&P) Global Ratings and (z) BBB- from Fitch Ratings and (ii) does not have any designated rating lower than: (x) Ba1 from Moody's, (y) BB+ from S&P Global Ratings and (z) BB+ from Fitch Ratings.

The Amended Revolving Credit Facility contains customary affirmative covenants, negative covenants, and events of default substantially comparable to the Revolving Credit Facility (other than those that are described above and other minor changes). The representations, warranties and covenants contained in the Amended Revolving Credit Facility were made only for purposes of Amendment No. 1 and as of specific dates and were solely for the benefit of the parties to the Amended Revolving Credit Facility.

As of December 31, 2024, the Company was in compliance with all financial covenants. The Company may access the entire amount of commitments under the Revolving Credit Facility. There were no borrowings outstanding at December 31, 2024 and 2023, and no amounts were borrowed during 2024 and 2023 under the Revolving Credit Facility.

Japanese Yen Revolving Credit Facility

In April 2023, the Company entered into a one-year unsecured revolving credit facility for $250 (available to be drawn in Japanese yen) (the Japanese Yen Revolving Credit Facility). Subject to the terms and conditions under the facility, the Company or ANHBV may borrow funds. The facility included covenants that are substantially the same as those included in the Revolving Credit Facility.

On January 17, 2024, Alcoa Corporation and ANHBV, entered into Amendment No. 1 to the Japanese Yen Revolving Credit Facility (Amended Japanese Yen Revolving Credit Facility) which contains changes that are substantially the same as those included in the Amended Revolving Credit Facility (as described above). Also in connection with this amendment, the Company agreed to provide collateral for its obligations with the same conditions as the Amended Revolving Credit Facility. On April 26, 2024, the Company entered into an amendment extending the maturity of the Japanese Revolving Credit Facility to April 2025.

As of December 31, 2024, the Company was in compliance with all financial covenants. The Company may access the entire amount of commitments under the facility. There were no borrowings outstanding at December 31, 2024 and 2023. During 2024, $201 (29,686 JPY) was borrowed and $196 (29,686 JPY) was repaid. During 2023, $10 (1,495 JPY) was borrowed and repaid.

Alumina Limited Revolving Credit Facility

In connection with the acquisition of Alumina Limited (see Note C), the Company assumed $385 of indebtedness as of August 1, 2024, representing the amount drawn on Alumina Limited's revolving credit facility.

At acquisition, the Alumina Limited revolving credit facility had tranches maturing in October 2025 ($100), January 2026 ($150), July 2026 ($150), and June 2027 ($100). In August 2024, Alcoa cancelled the undrawn portions of the revolving credit facility maturing in July 2026 ($15) and June 2027 ($100). In November 2024, pursuant to the terms of the Alumina Limited revolving credit facility, Alcoa voluntarily repaid all accrued and unpaid amounts outstanding under the revolving credit facility, totaling $385 and, as of the same date, cancelled the outstanding lender tranche commitments ($385). As a result of the repayment and cancellation of undrawn amounts, the Alumina Limited revolving credit facility agreement was effectively terminated. No early termination penalties or prepayment premiums were incurred by Alcoa in connection with the termination of the Alumina Limited revolving credit facility.

The Company may draw on the remaining facilities periodically to ensure working capital needs are met. See Part II Item 8 of this Form 10-K in Note M to the Consolidated Financial Statements for additional information related to these facilities.

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Guarantees of Third Parties. As of December 31, 2024 and 2023, the Company had no outstanding potential future payments for guarantees issued on behalf of a third party.

Bank Guarantees and Letters of Credit. Alcoa Corporation and its subsidiaries have outstanding bank guarantees and letters of credit related to, among others, energy contracts, environmental obligations, legal and tax matters, leasing obligations, workers compensation, and customs duties. The total amount committed under these instruments, which automatically renew or expire at various dates between 2025 and 2026, was $316 (includes $87 issued under a standby letter of credit agreement —see below) at December 31, 2024. Additionally, ParentCo has outstanding bank guarantees and letters of credit related to the Company of $12 at December 31, 2024. In the event ParentCo would be required to perform under any of these instruments, ParentCo would be indemnified by Alcoa Corporation in accordance with the Separation and Distribution Agreement. Likewise, the Company has outstanding bank guarantees and letters of credit related to ParentCo of $6 at December 31, 2024. In the event Alcoa Corporation would be required to perform under any of these instruments, the Company would be indemnified by ParentCo in accordance with the Separation and Distribution Agreement.

In December 2023, AofA committed to provide a bank guarantee in connection with the approval of the Company's five-year mine plans that were referred to the Western Australia Environmental Protection Agency (WA EPA), which demonstrates Alcoa's confidence that its operations will not impair drinking water supplies. On September 30, 2024 and October 1, 2024, AofA delivered bank guarantees totaling $62 (A$100). After March 27, 2025, Alcoa may, with the Western Australian government's consent, replace the bank guarantee with a parent company guarantee or a surety bond. The requirement to provide financial assurance will expire upon the completion of the WA EPA's assessment of the Company's five-year mine plans.

In August 2017, Alcoa Corporation entered into a standby letter of credit agreement with three financial institutions, which was most recently amended in May 2024 and expires on May 1, 2026. The agreement provides for a $200 facility used by the Company for matters in the ordinary course of business. Alcoa Corporation's obligations under this facility are secured in the same manner as obligations under the Company's revolving credit facility. Additionally, this facility contains similar representations and warranties and affirmative, negative, and financial covenants as the Company's Revolving Credit Facility. See Part II Item 8 of this Form 10-K in Note M to the Consolidated Financial Statements for additional information related to the Company's debt. As of December 31, 2024, letters of credit aggregating $87 were issued under this facility.

Surety Bonds. Alcoa Corporation has outstanding surety bonds primarily related to tax matters, contract performance, workers compensation, environmental-related matters, and customs duties. The total amount committed under these bonds, which automatically renew or expire at various dates between 2025 and 2029, was $245 at December 31, 2024. Additionally, ParentCo has outstanding surety bonds related to the Company of $7 at December 31, 2024. In the event ParentCo would be required to perform under any of these instruments, ParentCo would be indemnified by Alcoa Corporation in accordance with the Separation and Distribution Agreement. Likewise, the Company has outstanding surety bonds related to ParentCo of $7 at December 31, 2024. In the event Alcoa Corporation would be required to perform under any of these instruments, the Company would be indemnified by ParentCo in accordance with the Separation and Distribution Agreement.

Debt. As of December 31, 2024, Alcoa Corporation had four outstanding series of Notes maturing at varying times. A summary of the Notes and other long-term debt is shown below. See Part II Item 8 of this Form 10-K in Note M to the Consolidated Financial Statements for additional information related to the Company's debt.

December 31,	2024	2023
5.500% Notes, due 2027	$ 750	$ 750
6.125% Notes, due 2028	500	500
4.125% Notes, due 2029	500	500
7.125% Notes, due 2031	750	—
Other	76	82
Unamortized discounts and deferred financing costs	(31)	(21)
Total	2,545	1,811
Less: amount due within one year	75	79
Long-term debt, less amount due within one year	$ 2,470	$ 1,732

The Company entered into inventory repurchase agreements whereby the Company sold aluminum to a third party and agreed to subsequently repurchase substantially similar inventory. The Company did not record sales upon each shipment of inventory and the net cash received of $50 and $56 related to these agreements was recorded in Short-term borrowings within Other current liabilities on the Consolidated Balance Sheet as of December 31, 2024 and December 31, 2023, respectively.

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In 2024, the Company recorded borrowings of $88 and repurchased $94 of inventory related to these agreements. In 2023, the Company recorded borrowings of $117 and repurchased $61 of inventory related to these agreements. The cash received and subsequently paid under the inventory repurchase agreements is included in Cash provided from financing activities on the Statement of Consolidated Cash Flows.

Ratings. Alcoa Corporation's cost of borrowing and ability to access the capital markets are affected not only by market conditions but also by the short- and long-term debt ratings assigned to Alcoa Corporation's debt by the major credit rating agencies.

On March 6, 2024, Moody's Investor Service downgraded the rating of ANHBV's long-term debt from Baa3 to Ba1 and revised the outlook from negative to stable.

On March 4, 2024, Fitch Ratings downgraded the rating for Alcoa Corporation and ANHBV's long-term debt from BBB- to BB+ and revised the outlook from negative to stable.

On March 4, 2024, Standard and Poor's Global Ratings downgraded the rating of Alcoa Corporation's long-term debt from BB+ to BB and revised the outlook from positive to stable.

Ratings are not a recommendation to buy or hold any of Alcoa's securities and they may be revised or revoked at any time at the sole discretion of the rating organization.

Dividend. In 2024, the Board of Directors declared and paid quarterly cash dividends of $0.10 per share of the Company's common stock (including common stock underlying CDIs) and Series A convertible preferred stock, totaling $89 and $1, respectively, for the year.

The details of any future cash dividend declaration, including the amount of such dividend and the timing and establishment of the record and payment dates, will be determined by the Board of Directors. The decision of whether to pay future cash dividends and the amount of any such dividends will be based on the Company's financial position, results of operations, cash flows, capital requirements, business conditions, the requirements of applicable law, and any other factors the Board of Directors may deem relevant.

On February 20, 2025, the Board of Directors declared a quarterly cash dividend of $0.10 per share of the Company's common stock (including common stock underlying CDIs) and Series A convertible preferred stock, to be paid on March 20, 2025 to stockholders of record as of the close of business on March 4, 2025.

Common Stock Repurchase Program. In October 2021, Alcoa Corporation's Board of Directors approved a common stock repurchase program for the Company to purchase shares of its outstanding common stock up to an aggregate transactional value of $500, depending on cash availability, market conditions, and other factors.

On July 20, 2022, Alcoa Corporation announced that its Board of Directors approved an additional common stock repurchase program under which the Company may purchase shares of its outstanding common stock up to an aggregate transactional value of $500, depending on the Company's continuing analysis of market, financial, and other factors (the July 2022 authorization). Prior to this authorization, $150 remained available for common stock repurchases at the end of the second quarter of 2022 from the prior authorization in October 2021 of $500 which was fully exhausted in 2022 with the Company's repurchase activity (see below).

No shares were repurchased in 2024 or 2023.

In 2022, the Company repurchased 8,565,200 shares of its common stock for $500; the shares were immediately retired.

As of the date of this report, the Company is currently authorized to repurchase up to a total of $500, in the aggregate, of its outstanding shares of common stock under the July 2022 authorization. Repurchases under this program may be made using a variety of methods, which may include open market purchases, privately negotiated transactions, or pursuant to a Rule 10b5-1 plan. This program may be suspended or discontinued at any time and does not have a predetermined expiration date. Alcoa Corporation intends to retire repurchased shares of common stock.

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Investing Activities

Cash used for investing activities was $608 in 2024 compared with $585 in 2023.

In 2024, the use of cash was primarily attributable to $580 related to capital expenditures and $37 of cash contributions to the ELYSIS™ partnership.

In 2023, the use of cash was primarily attributable to $531 related to capital expenditures and $70 of cash contributions to the ELYSIS partnership.

In 2025, Alcoa expects capital expenditures of approximately $700 related to sustaining capital projects and return-seeking capital projects. The timing and amount of capital expenditures may fluctuate as a result of the Company's normal operations.

Material Cash Requirements

As discussed above, the Company relies primarily on operating cash flows to fund its cash commitments and management believes its cash on hand, projected cash flows, and liquidity options combined with its strategic actions, will be adequate to fund its short-term (at least 12 months) and long-term operating and investing needs.

The Company has committed cash outflows related to pension and postretirement benefit obligations, asset retirement obligations, environmental remediation, and operating lease agreements. See Part II Item 8 of this Form 10-K in Notes O, R, S, and T, respectively, to the Consolidated Financial Statements for additional information. As of December 31, 2024, a summary of Alcoa Corporation's outstanding material cash requirements are as follows:

	Total	2025	2026-2027	2028-2029	Thereafter
Operating activities:					
Energy-related purchase obligations	$ 12,438	$ 1,335	$ 2,410	$ 2,030	$ 6,663
Raw material purchase obligations	4,440	2,055	767	514	1,104
Other purchase obligations	1,603	1,091	192	114	206
Interest related to debt	675	150	292	153	80
Financing activities:					
Long-term debt and Short-term borrowings	2,626	125	751	1,000	750
Totals	$ 21,782	$ 4,756	$ 4,412	$ 3,811	$ 8,803

Purchase obligations—Energy-related purchase obligations consist primarily of electricity and natural gas contracts with expiration dates ranging from less than 1 year to 23 years. Raw material obligations consist mostly of bauxite (relates to Alcoa's bauxite mine interests in Guinea and Brazil), caustic soda, lime, alumina, aluminum fluoride, calcined petroleum coke, anodes, and cathode blocks with expiration dates ranging from less than 1 year to 10 years. Other purchase obligations consist principally of freight for bauxite and alumina with expiration dates ranging from less than 1 to 12 years. Many of these purchase obligations contain variable pricing components, and, as a result, actual cash payments may differ from the estimates provided in the preceding table. In accordance with the terms of several of these supply contracts, obligations may be reduced as a result of an interruption to operations, such as a plant curtailment or a force majeure event.

Interest related to total debt—Interest is based on interest rates in effect as of December 31, 2024 and is calculated on debt with maturities that extend to 2031.

Long-term debt and Short-term borrowings—Total debt amounts in the preceding table represent the principal amounts of all outstanding long-term debt and Short-term borrowings, which have maturities that extend to 2031.

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Critical Accounting Policies and Estimates

The preparation of the Company's Consolidated Financial Statements in accordance with GAAP requires management to make certain estimates based on judgments and assumptions regarding uncertainties that affect the amounts reported in the Consolidated Financial Statements and disclosed in the Notes to the Consolidated Financial Statements. Areas that require such estimates include the review of properties, plants, and equipment and goodwill for impairment, and accounting for each of the following: asset retirement and environmental obligations; litigation matters; pension plans and other postretirement benefits obligations; derivatives and hedging activities; and income taxes.

Management uses historical experience and all available information to make these estimates; actual results may differ from those used to prepare the Company's Consolidated Financial Statements at any given time. Despite these inherent limitations, management believes that the amounts recorded in the financial statements related to these items are based on its best estimates and judgments using all relevant information available at the time.

A summary of the Company's significant accounting policies is included in Part II Item 8 of this Form 10-K in Note B to the Consolidated Financial Statements.

Properties, Plants, and Equipment. Properties, plants, and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets (asset group) may not be recoverable, including in the period when assets have met the criteria to be classified as held for sale. The model used to determine recoverability of an asset or asset group would leverage the model that management uses for planning and strategic review of the entire business, including related inputs and assumptions. Management's impairment assessment process is described in Part II Item 8 of this Form 10-K in Note B to the Consolidated Financial Statements. See Part II Item 8 of this Form 10-K in Note K to the Consolidated Financial Statements for more information regarding properties, plants, and equipment.

Goodwill. Goodwill is reviewed for impairment annually (in the fourth quarter) or more frequently if indicators of impairment exist or if a decision is made to sell or exit a business. A significant amount of judgment is involved in determining if an indicator of impairment has occurred. Such indicators may include, among others, deterioration in general economic conditions, negative developments in equity and credit markets, adverse changes in the markets in which an entity operates, increases in input costs that have a negative effect on earnings and cash flows, or a trend of negative or declining cash flows over multiple periods. The fair value that could be realized in an actual transaction may differ from that used to evaluate goodwill for impairment.

Under the qualitative impairment test, management considers a number of factors in its assessment, such as: general economic conditions, equity and credit markets, industry and market conditions, and earnings and cash flow trends.

Under the quantitative impairment test, management uses a discounted cash flow (DCF) model to estimate the current fair value of its reporting units. A number of significant assumptions and estimates are involved in the application of the DCF model to forecast operating cash flows, including markets and market share, sales volumes and prices, production costs, production capability, tax rates, capital spending, discount rate, and working capital changes. The model used for the goodwill impairment test leverages the model, including related inputs and assumptions, that management uses for planning and strategic review of the entire business.

Management will test goodwill on a qualitative or quantitative basis. See Part II Item 8 of this Form 10-K in Note B to the Consolidated Financial Statements for more information regarding management's impairment assessment process.

Management performed a quantitative assessment for the Alumina reporting unit in the fourth quarter of 2024. As a result of the assessment, the estimated fair value of the Alumina reporting unit was substantially in excess of its carrying value, resulting in no impairment.

The impact on the estimated fair value of an increase in the discount rate of 1% would not result in a change in the conclusions reached for the impairment assessment performed in 2024, the estimated fair value would remain in excess of carrying value.

Further, in all years presented, there have been no triggering events that necessitated an impairment test for the Alumina reporting unit, except for the 2023 segment change which resulted in no impairment. See Part II Item 8 of this Form 10-K in Note L to the Consolidated Financial Statements for more information regarding goodwill.

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Asset Retirement and Environmental Obligations. Estimates are used to record environmental remediation and asset retirement obligation (ARO) reserves based on the best available information at the time of recognition. Several assumptions are used to estimate the costs required to demolish, environmentally remediate, reclaim, or restore the site, including:

- Engineering designs for construction or closure;
- Materials and services costs;
- Volume of regulated materials to be removed (asbestos, PCB fluids, spent potlining);
- Disposition of demolition materials;
- Extent of contamination based on available data;
- Scope of remediation to mitigate human health or environmental risks and/or to meet regulatory requirements;
- Timing to complete construction or closure; and,
- Commercial availability and pricing for off-site treatment or disposal applications.

As the site is demolished, remediated, reclaimed, or restored, the assumptions and estimates used to record the reserve may change to account for:

- Actual site conditions that require more or less remediation or reclamation;
- Legislation that becomes more or less stringent;
- Regulative authorities requiring updates to final design prior to completion;
- Alternative disposal methods for demolition waste;
- Technological changes which allow remediation to be more efficient;
- Market factors; and,
- Variances in work that is atypical from prior work experience.

Changes to the estimates may result in material changes to the reserve that may require an increase to or a reversal of a previously recorded reserve. See Part II Item 8 of this Form 10-K in Note R and Note S to the Consolidated Financial Statements for more information regarding current reserves.

Litigation Matters. For asserted claims and assessments, liabilities are recorded when an unfavorable outcome of a matter is deemed to be probable and the loss is reasonably estimable. Management determines the likelihood of an unfavorable outcome based on many factors such as, among others, the nature of the matter, available defenses and case strategy, progress of the matter, views and opinions of legal counsel and other advisors, applicability and success of appeals processes, and the outcome of similar historical matters. Once an unfavorable outcome is deemed probable, management weighs the probability of estimated losses, and the most reasonable loss estimate is recorded. If an unfavorable outcome of a matter is deemed to be reasonably possible, then the matter is disclosed, and no liability is recorded. With respect to unasserted claims or assessments, management must first determine that the probability that an assertion will be made is likely, then, a determination as to the likelihood of an unfavorable outcome and the ability to reasonably estimate the potential loss is made. Legal matters are reviewed on a continuous basis to determine if there has been a change in management's judgment regarding the likelihood of an unfavorable outcome or the estimate of a potential loss. See Part II Item 8 of this Form 10-K in Note B to the Consolidated Financial Statements for more information regarding management's litigation matters policy.

Pension and Other Postretirement Benefits. Liabilities and expenses for pension and other postretirement benefits are determined using actuarial methodologies and incorporate significant assumptions, including the interest rate used to discount the future estimated liability, the expected long-term rate of return on plan assets, and several assumptions relating to the employee workforce (salary increases, health care cost trend rates, retirement age, and mortality).

The yield curve model used to develop the discount rate is based on high-quality corporate bonds, parallels the plans' projected cash flows and has a weighted average duration of 10 years. If a deep market of high-quality corporate bonds does not exist in a country, then the yield on government bonds plus a corporate bond yield spread is used. The impact of a change in the weighted average discount rate of ¼ of 1% would be approximately $60 on combined pension and other postretirement liabilities and immaterial to pretax earnings in the following year.

The expected long-term rate of return on plan assets is generally applied to a five-year market-related value of plan assets (a four-year average or the fair value at the plan measurement date is used for certain non-U.S. plans). The process used by management to develop this assumption is one that relies on forward-looking investment returns by asset class. Management incorporates expected future investment returns on current and planned asset allocations using information from various external investment managers and consultants, as well as management's own judgment. A change in the assumption for the weighted average expected long-term rate of return on plan assets of ¼ of 1% would impact pretax earnings by approximately $5 for 2025.

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Mortality rate assumptions are based on mortality tables and future improvement scales published by third parties, such as the Society of Actuaries, and consider other available information including historical data as well as studies and publications from reputable sources.

See Part II Item 8 of this Form 10-K in Note O to the Consolidated Financial Statements for more information regarding pension and other postretirement benefits including accounting impacts of current year actions.

Derivatives and Hedging. To calculate the fair value of certain derivatives, management uses DCF and other simulation models that consider the following inputs and assumptions: quoted market prices (e.g., aluminum prices on the 10-year London Metal Exchange (LME) forward curve and energy prices), information concerning time premiums and volatilities for certain option type embedded derivatives and regional premiums for aluminum contracts, aluminum and energy prices beyond those quoted in the market, and the estimated credit spread between Alcoa and the counterparty. The quoted market prices used in the valuation models are dependent on market fundamentals, the relationship between supply and demand at any point in time, seasonal conditions, inventories, and interest rates. For periods beyond the term of quoted market prices, management estimates the price of aluminum by extrapolating the 10-year LME forward curve and estimates the Midwest premium based on recent transactions.

Changes in estimates can have a material impact on the derivative valuations. See Part II Item 8 of this Form 10-K in Note P to the Consolidated Financial Statements for more information regarding derivatives and hedging and related activity during the period.

Income Taxes. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not (greater than 50%) that a tax benefit will not be realized. In evaluating the need for a valuation allowance, management applies judgment in assessing all available positive and negative evidence and considers all potential sources of taxable income, including income available in carryback periods, future reversals of taxable temporary differences, projections of taxable income, and income from tax planning strategies. Positive evidence includes factors such as a history of profitable operations, projections of future profitability within the carryforward period, including from tax planning strategies, and Alcoa Corporation's experience with similar operations. Existing favorable contracts and the ability to sell products into established markets are additional positive evidence. Negative evidence includes items such as cumulative losses, projections of future losses, or carryforward periods that are not long enough to allow for the utilization of a deferred tax asset based on existing projections of income. In certain jurisdictions, deferred tax assets related to cumulative losses may exist without a valuation allowance where in management's judgment the weight of the positive evidence more than offsets the negative evidence of the cumulative losses. Upon changes in facts and circumstances, management may conclude that deferred tax assets for which no valuation allowance is currently recorded may not be realized, resulting in a future charge to establish a valuation allowance. Financial information utilized in this analysis leverages the same financial information, including related inputs and assumptions, that management uses for planning and strategic review of the entire business.

Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more likely than not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the statute of limitations has expired, or the appropriate taxing authority has completed their examination even though the statute of limitations remains open.

Changes in estimates can have a material impact on the deferred taxes and uncertain tax positions. See Part II Item 8 of this Form 10-K in Note Q to the Consolidated Financial Statements for more information regarding income taxes and deferred tax assets and related activity during the period.

Related Party Transactions

Alcoa Corporation buys products from and sells products to various related companies, consisting of entities in which Alcoa Corporation retains a 50% or less equity interest, at negotiated prices between the two parties. These transactions were not material to the financial position or results of operations of Alcoa Corporation for all periods presented.

Recently Adopted Accounting Guidance

See Part II Item 8 of this Form 10-K in Note B to the Consolidated Financial Statements under caption Recently Adopted Accounting Guidance.

Recently Issued Accounting Guidance

See Part II Item 8 of this Form 10-K in Note B to the Consolidated Financial Statements under caption Recently Issued Accounting Guidance.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

See Part II Item 8 of this Form 10-K in Note P to the Consolidated Financial Statements under caption Derivatives.

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Item 8. Financial Statements and Supplementary Data.

Management's Reports to Alcoa Corporation Stockholders

Management's Report on Financial Statements and Practices

The accompanying Consolidated Financial Statements of Alcoa Corporation and its subsidiaries (the Company) were prepared by management, which is responsible for their integrity and objectivity, in accordance with accounting principles generally accepted in the United States of America (GAAP) and include amounts that are based on management's best judgments and estimates. The other financial information included in the Company's Annual Report on Form 10-K for the year ended December 31, 2024 is consistent with that in the Consolidated Financial Statements.

Management recognizes its responsibility for conducting the Company's affairs according to the highest standards of personal and corporate conduct. This responsibility is characterized and reflected in key policy statements issued from time to time regarding, among other things, conduct of its business activities within the laws of the host countries in which the Company operates and potentially conflicting outside business interests of its employees. The Company maintains a systematic program to assess compliance with these policies.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) of the U.S. Securities Exchange Act of 1934 (as amended), for the Company. The Company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. The Company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company, (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company, and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management conducted an assessment to evaluate the effectiveness of the Company's internal control over financial reporting as of December 31, 2024 using the criteria in *Internal Control—Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management concluded that the Company maintained effective internal control over financial reporting as of December 31, 2024.

PricewaterhouseCoopers LLP, the independent registered public accounting firm that audited the Company's financial statements included in this Annual Report on Form 10-K for the year ended December 31, 2024, has audited the Company's internal control over financial reporting as of December 31, 2024 and has issued an attestation report, which is included herein.

/s/ William F. Oplinger
William F. Oplinger
President and Chief Executive Officer

/s/ Molly S. Beerman
Molly S. Beerman
Executive Vice President and Chief Financial Officer

February 20, 2025

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Alcoa Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Alcoa Corporation and its subsidiaries (the "Company") as of December 31, 2024 and 2023, and the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2024, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control—Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control—Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

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Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Asset Retirement Obligations – Mine Reclamation and Closure of Bauxite Residue Areas

As described in Notes B and R to the consolidated financial statements, the Company recognizes asset retirement obligations (AROs) related to legal obligations associated with the standard operation of bauxite mines, alumina refineries, and aluminum smelters. For the bauxite mines and alumina refineries, the AROs consist primarily of costs associated with mine reclamation and closure of bauxite residue areas, respectively. The fair values of the AROs are recorded on a discounted basis at the time the obligation is incurred and accreted over time for the change in present value; related accretion is recorded as a component of cost of goods sold. Additionally, the Company capitalizes asset retirement costs by increasing the carrying amount of the related long-lived assets and depreciating the assets over their remaining useful life. As disclosed by management, estimates are used to record AROs based on the best available information at the time of recognition. Several assumptions are used to estimate the cost required for reclamation and restoration of the site including: engineering designs for construction or closure, materials and services costs, regulatory requirements, and timing to complete construction or closure. As of December 31, 2024, the Company had $895 million in AROs, of which $321 million related to mine reclamation and $396 million related to the closure of bauxite residue areas. During 2024, the Company incurred liabilities related to mine reclamation and closure of bauxite residue areas, consisting of $87 million for new mining areas opened during the year and higher estimated mine reclamation costs, $24 million related to changes in closure estimates at the previously closed Suralco refinery, and $9 million related to water treatment due to the curtailment of the Kwinana refinery.

The principal considerations for our determination that performing procedures relating to the AROs for mine reclamation and closure of bauxite residue areas is a critical audit matter are (i) the significant judgment by management in developing the fair value estimate of the AROs; (ii) a high degree of auditor judgement, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to the engineering designs for construction or closure, materials and services costs, regulatory requirements, and timing to complete construction or closure; (collectively "management's assumptions"); and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's accounting for AROs, including controls over management's methodology, assumptions, and valuation of the AROs for mine reclamation and closure of bauxite residue areas. These procedures also included, among others, (i) testing management's process for developing the fair value estimate of the AROs for mine reclamation and closure of bauxite residue areas; (ii) evaluating the appropriateness of the methodologies used by management, (iii) testing the completeness and accuracy of underlying data used in the methodologies, and (iv) evaluating the reasonableness of management's assumptions described above. Evaluating management's assumptions involved (i) evaluating the cost of rehabilitation and restoration of a site, including comparing the cost assumptions used, on a sample basis, to comparable data from external parties and internal source data; (ii) evaluating the consistency of management's assumptions across mine and bauxite residue areas, as applicable; (iii) the identification of circumstances which may require a modification to a previous estimate; (iv) physically observing the progress of the mine reclamation; (vi) evaluating management's application of and compliance with regulatory requirements; and (vii) evaluating whether the assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in (i) evaluating the appropriateness of the methodology used by management for closure of bauxite residue areas; (ii) evaluating the reasonableness of the application of and compliance with regulatory requirements for closure of bauxite residue areas; and (iii) evaluating the reasonableness of management's estimate of AROs for closure of bauxite residue areas by developing an independent estimate of the costs included in AROs for a sample of bauxite residue areas, using independently determined assumptions, and comparing the independent estimate of the costs to management's estimate.

/s/ PricewaterhouseCoopers LLP

Pittsburgh, Pennsylvania
February 20, 2025

We have served as the Company's auditor since 2015.

Form 10-K Pricewaterhouse Coopers

Alcoa Corporation and Subsidiaries
Statement of Consolidated Operations
(in millions, except per-share amounts)

For the year ended December 31,	2024	2023	2022
Sales (E)	$ 11,895	$ 10,551	$ 12,451
Cost of goods sold (exclusive of expenses below)	10,044	9,813	10,212
Selling, general administrative, and other expenses	275	226	204
Research and development expenses	57	39	32
Provision for depreciation, depletion, and amortization	642	632	617
Restructuring and other charges, net (D)	341	184	696
Interest expense (U)	156	107	106
Other expenses (income), net (U)	91	134	(118)
Total costs and expenses	11,606	11,135	11,749
Income (loss) before income taxes	289	(584)	702
Provision for income taxes (Q)	265	189	664
Net income (loss)	24	(773)	38
Less: Net (loss) income attributable to noncontrolling interest	(36)	(122)	161
Net income (loss) attributable to Alcoa Corporation	60	(651)	(123)
Earnings per share attributable to Alcoa Corporation common shareholders (F):			
Basic	$ 0.26	$ (3.65)	$ (0.68)
Diluted	$ 0.26	$ (3.65)	$ (0.68)

The accompanying notes are an integral part of the consolidated financial statements.

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Alcoa Corporation and Subsidiaries
Statement of Consolidated Comprehensive Income
(in millions)

	Alcoa Corporation			Noncontrolling interest			Total		
For the year ended December 31,	**2024**	**2023**	**2022**	**2024**	**2023**	**2022**	**2024**	**2023**	**2022**
Net income (loss)	$ 60	$ (651)	$ (123)	$ (36)	$ (122)	$ 161	$ 24	$ (773)	$ 38
Other comprehensive (loss) income, net of tax (G):									
Change in unrecognized net actuarial gain/loss and prior service cost/benefit related to pension and other postretirement benefits	—	(62)	944	4	(10)	8	4	(72)	952
Foreign currency translation adjustments	(513)	92	(71)	(105)	57	(103)	(618)	149	(174)
Net change in unrecognized gains/losses on cash flow hedges	147	(136)	180	—	(1)	2	147	(137)	182
Total Other comprehensive (loss) income, net of tax	(366)	(106)	1,053	(101)	46	(93)	(467)	(60)	960
Comprehensive (loss) income	$ (306)	$ (757)	$ 930	$ (137)	$ (76)	$ 68	$ (443)	$ (833)	$ 998

The accompanying notes are an integral part of the consolidated financial statements.

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Alcoa Corporation and Subsidiaries
Consolidated Balance Sheet
(in millions)

December 31,	2024	2023
Assets		
Current assets:		
Cash and cash equivalents (P)	$ 1,138	$ 944
Receivables from customers (I)	1,096	656
Other receivables	143	152
Inventories (J)	1,998	2,158
Fair value of derivative instruments (P)	25	29
Prepaid expenses and other current assets	514	466
Total current assets	4,914	4,405
Properties, plants, and equipment, net (K)	6,389	6,785
Investments (H)	980	979
Deferred income taxes (Q)	284	333
Fair value of derivative instruments (P)	—	3
Other noncurrent assets (U)	1,497	1,650
Total Assets	$ 14,064	$ 14,155
Liabilities		
Current liabilities:		
Accounts payable, trade	$ 1,805	$ 1,714
Accrued compensation and retirement costs	362	357
Taxes, including income taxes	102	88
Fair value of derivative instruments (P)	263	214
Other current liabilities	788	578
Long-term debt due within one year (M & P)	75	79
Total current liabilities	3,395	3,030
Long-term debt, less amount due within one year (M & P)	2,470	1,732
Accrued pension benefits (O)	256	278
Accrued other postretirement benefits (O)	412	443
Asset retirement obligations (R)	691	772
Environmental remediation (S)	182	202
Fair value of derivative instruments (P)	836	1,092
Noncurrent income taxes (Q)	9	193
Other noncurrent liabilities and deferred credits (U)	656	568
Total liabilities	8,907	8,310
Contingencies and commitments (S)		
Equity		
Alcoa Corporation shareholders' equity:		
Preferred stock (N)	—	—
Common stock (N)	3	2
Additional capital	11,587	9,187
Accumulated deficit	(1,323)	(1,293)
Accumulated other comprehensive loss (G)	(5,110)	(3,645)
Total Alcoa Corporation shareholders' equity	5,157	4,251
Noncontrolling interest (A)	—	1,594
Total equity	5,157	5,845
Total Liabilities and Equity	$ 14,064	$ 14,155

The accompanying notes are an integral part of the consolidated financial statements.

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Alcoa Corporation and Subsidiaries
Statement of Consolidated Cash Flows
(in millions)

For the year ended December 31,	2024	2023	2022
Cash from Operations			
Net income (loss)	$ 24	$ (773)	$ 38
Adjustments to reconcile net income (loss) to cash from operations:			
Depreciation, depletion, and amortization	642	632	617
Deferred income taxes (Q)	23	(22)	219
Equity (income) loss, net of dividends (H)	(2)	201	4
Restructuring and other charges, net (D)	341	184	696
Net loss from investing activities—asset sales (U)	37	18	10
Net periodic pension benefit cost (O)	10	6	54
Stock-based compensation (N)	36	35	40
(Gain) loss on mark-to-market derivative financial contracts	(8)	26	(44)
Other	34	78	53
Changes in assets and liabilities, excluding effects of divestitures and foreign currency translation adjustments:			
(Increase) decrease in receivables	(493)	104	(59)
Decrease (increase) in inventories (J)	51	243	(547)
(Increase) decrease in prepaid expenses and other current assets	(68)	39	44
Increase (decrease) in accounts payable, trade	190	(74)	189
Decrease in accrued expenses	(108)	(133)	(173)
Increase (decrease) in taxes, including income taxes	95	(146)	(152)
Pension contributions (O)	(16)	(24)	(17)
Increase in noncurrent assets	(4)	(210)	(87)
Decrease in noncurrent liabilities	(162)	(93)	(63)
Cash provided from operations	622	91	822
Financing Activities			
Additions to debt (M)	1,032	127	4
Payments on debt (M)	(679)	(72)	(1)
Proceeds from the exercise of employee stock options (N)	—	1	22
Repurchase of common stock (N)	—	—	(500)
Dividends paid on Alcoa preferred stock (N)	(1)	—	—
Dividends paid on Alcoa common stock (N)	(89)	(72)	(72)
Payments related to tax withholding on stock-based compensation awards	(15)	(34)	(19)
Financial contributions for the divestiture of businesses (C)	(35)	(52)	(33)
Contributions from noncontrolling interest (A)	65	188	214
Distributions to noncontrolling interest (A)	(49)	(30)	(379)
Acquisition of noncontrolling interest (C)	(23)	—	—
Other	(5)	1	(4)
Cash provided from (used for) financing activities	201	57	(768)
Investing Activities			
Capital expenditures	(580)	(531)	(480)
Proceeds from the sale of assets and businesses (C)	3	4	5
Additions to investments (H)	(37)	(70)	(32)
Sale of investments (H)	—	—	10
Other	6	12	2
Cash used for investing activities	(608)	(585)	(495)
Effect of exchange rate changes on cash and cash equivalents and restricted cash	(28)	10	(9)
Net change in cash and cash equivalents and restricted cash	187	(427)	(450)
Cash and cash equivalents and restricted cash at beginning of year	1,047	1,474	1,924
Cash and cash equivalents and restricted cash at end of year	$ 1,234	$ 1,047	$ 1,474

The accompanying notes are an integral part of the consolidated financial statements.

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Alcoa Corporation and Subsidiaries
Statement of Changes in Consolidated Equity
(in millions)

	Alcoa Corporation shareholders						
	Preferred stock	Common stock	Additional capital	Accumulated deficit	Accumulated other comprehensive (loss) income	Noncontrolling interest	Total equity
Balance at December 31, 2021	$ —	$ 2	$ 9,577	$ (315)	$ (4,592)	$ 1,612	$ 6,284
Net (loss) income	—	—	—	(123)	—	161	38
Other comprehensive income (loss) (G)	—	—	—	—	1,053	(93)	960
Stock-based compensation (N)	—	—	40	—	—	—	40
Net effect of tax withholding for compensation plans and exercise of stock options (N)	—	—	3	—	—	—	3
Repurchase of common stock (N)	—	—	(440)	(60)	—	—	(500)
Dividends paid on Alcoa common stock ($0.10 per share) (N)	—	—	—	(72)	—	—	(72)
Contributions	—	—	—	—	—	214	214
Distributions	—	—	—	—	—	(379)	(379)
Other	—	—	3	—	—	(2)	1
Balance at December 31, 2022	—	2	9,183	(570)	(3,539)	1,513	6,589
Net loss	—	—	—	(651)	—	(122)	(773)
Other comprehensive (loss) income (G)	—	—	—	—	(106)	46	(60)
Stock-based compensation (N)	—	—	35	—	—	—	35
Net effect of tax withholding for compensation plans and exercise of stock options (N)	—	—	(33)	—	—	—	(33)
Dividends paid on Alcoa common stock ($0.10 per share) (N)	—	—	—	(72)	—	—	(72)
Contributions	—	—	—	—	—	188	188
Distributions	—	—	—	—	—	(30)	(30)
Other	—	—	2	—	—	(1)	1
Balance at December 31, 2023	—	2	9,187	(1,293)	(3,645)	1,594	5,845
Net income (loss)	—	—	—	60	—	(36)	24
Other comprehensive loss (G)	—	—	—	—	(366)	(101)	(467)
Stock-based compensation (N)	—	—	36	—	—	—	36
Net effect of tax withholding for compensation plans and exercise of stock options (N)	—	—	(15)	—	—	—	(15)
Dividends paid on Alcoa preferred stock ($0.10 per share) (N)	—	—	—	(1)	—	—	(1)
Dividends paid on Alcoa common stock ($0.10 per share) (N)	—	—	—	(89)	—	—	(89)
Contributions	—	—	—	—	—	65	65
Distributions	—	—	—	—	—	(49)	(49)
Acquisition of noncontrolling interest (C)	—	1	2,377	—	(1,099)	(1,472)	(193)
Other	—	—	2	—	—	(1)	1
Balance at December 31, 2024	$ —	$ 3	$ 11,587	$ (1,323)	$ (5,110)	$ —	$ 5,157

The accompanying notes are an integral part of the consolidated financial statements.

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A. Basis of Presentation

Alcoa Corporation (Alcoa or the Company) is a vertically integrated aluminum company comprised of bauxite mining, alumina refining, aluminum production (smelting and casting), and energy generation. Through direct and indirect ownership, the Company has 26 operating locations in nine countries around the world, situated primarily in Australia, Brazil, Canada, Iceland, Norway, Spain, and the United States.

Alcoa Corporation became an independent, publicly traded company on November 1, 2016, following its separation (the Separation Transaction) from its former parent company, Alcoa Inc. References herein to "ParentCo" refer to Alcoa Inc. and its consolidated subsidiaries through October 31, 2016, at which time it was renamed Arconic Inc. and since has been subsequently renamed Howmet Aerospace Inc.

Basis of Presentation. The Consolidated Financial Statements of Alcoa Corporation are prepared in conformity with accounting principles generally accepted in the United States of America (GAAP). In accordance with GAAP, certain situations require management to make estimates based on judgments and assumptions, which may affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements. They also may affect the reported amounts of revenues and expenses during the reporting periods. Management uses historical experience and all available information to make these estimates. Management regularly evaluates the judgments and assumptions used in its estimates, and results could differ from those estimates upon future events and their effects or new information.

Principles of Consolidation. The Consolidated Financial Statements of the Company include the accounts of Alcoa Corporation and companies in which Alcoa Corporation has a controlling interest. Intercompany transactions have been eliminated. The equity method of accounting is used for investments in affiliates and other joint ventures over which the Company has significant influence but does not have effective control. Investments in affiliates in which Alcoa Corporation cannot exercise significant influence are accounted at cost less any impairment, a measurement alternative in accordance with GAAP.

Prior to Alcoa's acquisition of Alumina Limited on August 1, 2024 (see Note C), Alcoa consolidated its 60% ownership in the entities comprising the Alcoa World Alumina & Chemicals (AWAC) joint venture and Alumina Limited's interest in the equity of such entities was reflected as Noncontrolling interest on the accompanying Consolidated Balance Sheet.

Management evaluates whether an Alcoa Corporation entity or interest is a variable interest entity and whether the Company is the primary beneficiary. Consolidation is required if both of these criteria are met. Alcoa Corporation does not have any variable interest entities requiring consolidation.

Related Party Transactions. Alcoa Corporation buys products from and sells products to various related companies, consisting of entities in which the Company retains a 50% or less equity interest, at negotiated prices between the two parties. These transactions were not material to the financial position or results of operations of Alcoa Corporation for all periods presented.

B. Summary of Significant Accounting Policies

Cash Equivalents. Cash equivalents are highly liquid investments purchased with an original maturity of three months or less.

Restricted Cash. Restricted cash is included with Cash and cash equivalents when reconciling the Cash and cash equivalents and restricted cash at beginning of year and Cash and cash equivalents and restricted cash at end of year on the accompanying Statement of Consolidated Cash Flows. Current restricted cash amounts are reported in Prepaid expenses and other current assets on the accompanying Consolidated Balance Sheet. Noncurrent restricted cash amounts are reported in Other noncurrent assets on the accompanying Consolidated Balance Sheet (see Note U for a reconciliation of Cash and cash equivalents and restricted cash).

Inventory Valuation. Inventories are carried at the lower of cost or net realizable value, with the cost of inventories principally determined under the average cost method.

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Properties, Plants, and Equipment. Properties, plants, and equipment are recorded at cost. Interest related to the construction of qualifying assets is capitalized as part of the construction costs. Depreciation is recorded principally on the straight-line method over the estimated useful lives of the assets. Depreciation is recorded on temporarily idled facilities until such time management approves a permanent closure. The following table details the weighted average useful lives of structures and machinery and equipment by type of operation (numbers in years):

	Structures	Machinery and equipment
Alumina	24	25
Aluminum smelting and casting	37	22
Energy generation	33	24

Repairs and maintenance are charged to expense as incurred while costs for significant improvements that add productive capacity or that extend the useful life are capitalized. Gains or losses from the sale of assets are generally recorded in Other expenses (income), net.

Properties, plants, and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets (asset group) may not be recoverable. Recoverability of assets is determined by comparing the estimated undiscounted net cash flows of the operations related to the assets (asset group) to their carrying amount. An impairment loss would be recognized when the carrying amount of the assets (asset group) exceeds the fair value. The amount of the impairment loss to be recorded is calculated as the excess of the carrying value of the assets (asset group) over their fair value, with fair value determined using the best information available, which generally is a discounted cash flow (DCF) model. The determination of what constitutes an asset group, the associated estimated undiscounted net cash flows, and the estimated useful lives of assets also require significant judgments.

Leases. The Company determines whether an arrangement is a lease at the inception of the arrangement based on the terms and conditions in the contract. A contract contains a lease if there is an identified asset which the Company has the right to control. Lease right-of-use (ROU) assets are included in Properties, plants, and equipment, net with the corresponding operating lease liabilities included within Other current liabilities and Other noncurrent liabilities and deferred credits on the accompanying Consolidated Balance Sheet.

Operating lease ROU assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. The Company uses its incremental borrowing rate at the commencement date in determining the present value of lease payments unless a rate is implicit in the lease. Lease terms include options to extend the lease when it is reasonably certain that those options will be exercised. Leases with an initial term of 12 months or less, including anticipated renewals, are not recorded on the Consolidated Balance Sheet.

The Company made a policy election not to record any non-lease components of a lease agreement in the lease liability. Variable lease payments are not presented as part of the ROU asset or liability recorded at the inception of a contract. Lease expense for operating lease payments is recognized on a straight-line basis over the lease term.

Equity Investments. Alcoa invests in a number of privately-held companies, primarily through joint ventures and consortia, which are accounted for using the equity method. The equity method is applied in situations where the Company has the ability to exercise significant influence, but not control, over the investee. Management reviews equity investments for impairment whenever certain indicators are present suggesting that the carrying value of an investment is not recoverable.

Deferred Mining Costs. Alcoa incurs deferred mining costs during the development stage of a mine life cycle. Such costs include the construction of access and haul roads, detailed drilling and geological analysis to further define the grade and quality of the known bauxite, and overburden removal costs. These costs relate to sections of the related mines where the Company is currently extracting bauxite or preparing for production in the near term. These sections are outlined and planned incrementally and generally are mined over periods ranging from one to five years, depending on specific mine plans. The amount of geological drilling and testing necessary to determine the economic viability of the bauxite deposit being mined is such that the reserves are considered to be proven. Deferred mining costs are amortized on a units-of-production basis and included in Other noncurrent assets on the accompanying Consolidated Balance Sheet.

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Goodwill and Other Intangible Assets. Goodwill is not amortized but is reviewed for impairment annually (in the fourth quarter) or more frequently if indicators of impairment exist or if a decision is made to sell or exit a business.

Goodwill is allocated among and evaluated for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment. Beginning in January 2023, the Company changed its operating segments by combining the Bauxite and Alumina segments, and reported its financial results in the following two segments: (i) Alumina and (ii) Aluminum (see Note E).

The Company has three reporting units, of which two are included in the Aluminum segment (smelting/casting and energy generation). The remaining reporting unit is the Alumina segment. Of these three reporting units, only Alumina contains goodwill (see Note L).

Goodwill is tested for impairment by assessing qualitative factors to determine whether it is more likely than not (greater than 50%) that the fair value of the reporting unit is less than its carrying amount or performing a quantitative assessment using a DCF model. If the qualitative assessment indicates a possible impairment, then a quantitative assessment is performed to determine the fair value of the reporting unit using a DCF model. Otherwise, no further analysis is required.

Under the quantitative assessment, the estimated fair value of the reporting unit is compared to its carrying value, including goodwill. In the event the estimated fair value of a reporting unit is less than the carrying value, an impairment loss equal to the excess of the reporting unit's carrying value over its fair value not to exceed the total amount of goodwill applicable to that reporting unit would be recognized.

Alcoa's policy for its annual review of goodwill is to perform the quantitative assessment for its reporting unit containing goodwill at least once during every three-year period.

Intangible assets with finite useful lives are amortized generally on a straight-line basis over the periods benefited. The following table details the weighted average useful lives of software and other intangible assets by type of operation (numbers in years):

	Software	Other intangible assets
Alumina	4	25
Aluminum smelting and casting	3	40
Energy generation	3	29

Asset Retirement Obligations. Alcoa recognizes asset retirement obligations (AROs) related to legal obligations associated with the standard operation of bauxite mines, alumina refineries, and aluminum smelters. These AROs consist primarily of costs associated with mine reclamation, closure of bauxite residue areas, spent pot lining and regulated waste materials disposal, and landfill closure. Additionally, costs are recorded as AROs upon management's decision to permanently close and demolish certain structures and for any significant lease restoration obligations. The fair values of these AROs are recorded on a discounted basis at the time the obligation is incurred and accreted over time for the change in present value; related accretion is recorded as a component of Cost of goods sold. Additionally, the Company capitalizes asset retirement costs by increasing the carrying amount of the related long-lived assets and depreciating these assets over their remaining useful life.

The fair values for AROs are determined using significant assumptions, including engineering designs for construction or closure, materials and services costs, regulatory requirements, volume of regulated material to be removed, disposition of demolition materials, and timing to complete construction or closure.

Subsequent adjustments to estimates of previously established AROs for current operations are capitalized by increasing the carrying amount of the related long-lived assets and depreciating these assets over their remaining useful life. Adjustments to estimates of AROs for closed locations are charged to Restructuring and other charges, net on the accompanying Statement of Consolidated Operations (see Note R).

Certain conditional asset retirement obligations related to alumina refineries, aluminum smelters, and energy generation facilities have not been recorded in the Consolidated Financial Statements due to uncertainties surrounding the ultimate settlement date. The fair value of these asset retirement obligations will be recorded when a reasonable estimate of the ultimate settlement date can be made.

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Environmental Matters. Environmental related expenditures for current operations are expensed as a component of Cost of goods sold or capitalized, as appropriate. Expenditures relating to existing conditions caused by past operations, generally for closed locations which will not contribute to future revenues, are charged to Restructuring and other charges, net. Liabilities are recorded when remediation costs are probable and can be reasonably estimated. In instances where the Company has ongoing monitoring and maintenance responsibilities, it is Alcoa's policy to maintain a reserve equal to five years of expected costs. The liability is continuously reviewed and adjusted to reflect current remediation progress, rate and pricing changes, actual volumes of material requiring management, changes to the original assumptions regarding how the site was to be remediated, and other factors that may be relevant, including changes in technology or regulations. The estimates may also include costs related to other potentially responsible parties to the extent that Alcoa has reason to believe such parties will not fully pay their proportionate share.

Litigation Matters. For asserted claims and assessments, liabilities are recorded when an unfavorable outcome of a matter is deemed to be probable and the loss is reasonably estimable. With respect to unasserted claims or assessments, liabilities are recorded when the probability that an assertion will be made is likely, an unfavorable outcome of the matter is deemed to be probable, and the loss is reasonably estimable. Legal matters are reviewed on a continuous basis to determine if there has been a change in management's judgment regarding the likelihood of an unfavorable outcome or the estimate of a potential loss. Legal costs, which are primarily for general litigation, environmental compliance, tax disputes, and general corporate matters, are expensed as incurred.

Revenue Recognition. The Company recognizes revenue when it satisfies a performance obligation(s) in accordance with the provisions of a customer order or contract. This is achieved when control of the product has been transferred to the customer, which is generally determined when title, ownership, and risk of loss pass to the customer, all of which occurs upon shipment or delivery of the product. The shipping terms vary across all businesses and depend on the product, the country of origin, and the type of transportation. Accordingly, the sale of Alcoa's products to its customers represent single performance obligations for which revenue is recognized at a point in time, except for the Company's Energy product division in which the customer simultaneously receives and consumes electricity (see Note E). Revenue is based on the consideration the Company expects to receive in exchange for its products. Returns and other adjustments have not been material. Based on the foregoing, no significant judgment is required to determine when control of a product has been transferred to a customer.

The Company considers shipping and handling activities as costs to fulfill the promise to transfer the related products. As a result, customer payments of shipping and handling costs are recorded as a component of revenue. Taxes collected (e.g., sales, use, value added, excise) from its customers related to the sale of its products are remitted to governmental authorities and excluded from Sales.

Cost of Goods Sold. The Company includes the following in Cost of goods sold: operating costs of its two segments, excluding depreciation, depletion, and amortization, but including all production related costs: raw materials consumed; purchases of metal for consumption; conversion costs, such as labor, materials, and utilities; equity earnings of certain investments integral to the Company's supply chain; and plant administrative expenses. Also included in Cost of goods sold are: costs related to the Transformation function, which focuses on the management of expenses and obligations of previously closed operations; purchases of bauxite from offtake or other supply agreements, alumina to satisfy customer commitments, and metal for trade; and other costs not included in the operating costs of the segments.

Selling, General Administrative, and Other Expenses. The Company includes the costs of corporate-wide functional support in Selling, general administrative, and other expenses. Such costs include: executive; sales; marketing; strategy; operations administration; finance; information technology; legal; human resources; and government affairs and communications.

Stock-Based Compensation. Compensation expense for employee equity grants is recognized using the non-substantive vesting period approach, in which the expense is recognized ratably over the requisite service period based on the grant date fair value. Forfeitures are accounted for as they occur. The fair value of performance stock units containing a market condition is valued using a Monte Carlo valuation model. Determining the fair value at the grant date requires judgment, including estimates for the average risk-free interest rate, and volatility. These assumptions may differ significantly between grant dates because of changes in the actual results of these inputs that occur over time. As of January 1, 2021, the Company no longer grants stock options.

See Note N for more information regarding stock-based compensation.

Pension and Other Postretirement Benefits. Alcoa sponsors several defined benefit pension plans and health care postretirement benefit plans. The Company recognizes on a plan-by-plan basis the net funded status of these pension and postretirement benefit plans as either an asset or a liability on its Consolidated Balance Sheet. The net funded status represents the difference between the fair value of each plan's assets and the benefit obligation of the respective plan. The benefit obligation represents the present value of the estimated future benefits the Company currently expects to pay to plan participants based on past service. Unrecognized gains and losses related to the plans are deferred in Accumulated other comprehensive loss on the Consolidated Balance Sheet until amortized into earnings.

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The plan assets and benefit obligations are measured at the end of each year or more frequently, upon the occurrence of certain events such as a significant plan amendment, settlement, or curtailment. For interim plan remeasurements, it is the Company's policy to record the related accounting impacts within the same quarter as the triggering event.

Liabilities and expenses for pension and other postretirement benefits are determined using actuarial methodologies and incorporate significant assumptions, including the interest rate used to discount the future estimated liability, the expected long-term rate of return on plan assets, and several assumptions relating to the employee workforce (salary increases, health care cost trend rates, retirement age, and mortality).

The yield curve model used to develop the discount rate is based on high-quality corporate bonds, parallels the plans' projected cash flows and has a weighted average duration of 10 years. If a deep market of high-quality corporate bonds does not exist in a country, then the yield on government bonds plus a corporate bond yield spread is used.

The expected long-term rate of return on plan assets is generally applied to a five-year market-related value of plan assets (a four-year average or the fair value at the plan measurement date is used for certain non-U.S. plans). The process used by management to develop this assumption is one that relies on forward-looking investment returns by asset class. Management incorporates expected future investment returns on current and planned asset allocations using information from various external investment managers and consultants, as well as management's own judgment.

Mortality rate assumptions are based on mortality tables and future improvement scales published by third parties, such as the Society of Actuaries, and consider other available information including historical data as well as studies and publications from reputable sources.

A change in one or a combination of these assumptions, or the effects of actual results differing from assumptions, could have a material impact on Alcoa's projected benefit obligation. These changes or differences are recorded in Accumulated other comprehensive loss and are amortized into earnings as a component of the net periodic benefit cost (income) over the average future working lifetime or average remaining life expectancy, as appropriate, of the plan's participants.

One-time accounting impacts, such as curtailment and settlement losses (gains), are recognized immediately and are reclassified from Accumulated other comprehensive loss to Restructuring and other charges, net on the accompanying Statement of Consolidated Operations.

See Note O for more information regarding pension and other postretirement benefits including accounting impacts of current year actions.

Derivatives and Hedging. Derivatives are held for purposes other than trading and are part of a formally documented risk management program.

Alcoa accounts for hedges of firm customer commitments for aluminum as fair value hedges. The fair values of the derivatives and changes in the fair values of the underlying hedged items are reported as assets and liabilities in the Consolidated Balance Sheet. Changes in the fair values of these derivatives and underlying hedged items generally offset and are recorded each period in Sales, consistent with the underlying hedged item.

The Company accounts for certain hedges of foreign currency exposures and certain forecasted transactions as cash flow hedges. The fair values of the derivatives are recorded as assets and liabilities in the Consolidated Balance Sheet. The changes in the fair values of these derivatives are recorded in Accumulated other comprehensive loss and are reclassified to Sales, Cost of goods sold, or Other expenses (income), net in the period in which earnings are impacted by the hedged items or in the period that the transaction no longer qualifies as a cash flow hedge. These contracts cover the same periods as known or expected exposures, generally not exceeding five years.

If no hedging relationship is designated, the derivative is marked to market through Other expenses (income), net.

Cash flows from derivatives are recognized in the Statement of Consolidated Cash Flows in a manner consistent with the underlying transactions.

Income Taxes. The provision for income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, the provision for income taxes represents income taxes paid or payable (or received or receivable) for the current year plus the change in deferred taxes during the year. Deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid, resulting from differences between the financial and tax bases of Alcoa's assets and liabilities, and are adjusted for changes in tax rates and tax laws when enacted.

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Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not (greater than 50%) that a tax benefit will not be realized. In evaluating the need for a valuation allowance, management applies judgment in assessing all available positive and negative evidence and considers all potential sources of taxable income. Deferred tax assets for which no valuation allowance is recorded may not be realized upon changes in facts and circumstances, resulting in a future charge to establish a valuation allowance. Existing valuation allowances are re-examined under the same standards of positive and negative evidence. If it is determined that it is more likely than not that a deferred tax asset will be realized, the appropriate amount of the valuation allowance, if any, is released. Deferred tax assets and liabilities are also re-measured to reflect changes in underlying tax rates due to law changes and the granting and lapse of tax holidays.

Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more likely than not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the statute of limitations has expired or the appropriate taxing authority has completed their examination even though the statute of limitations remains open. Interest and penalties related to uncertain tax positions are recognized as part of the provision for income taxes and are accrued in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized.

Foreign Currency. The local currency is the functional currency for Alcoa's significant operations outside the United States, except for certain operations in Canada and Iceland, a holding and trading company in the Netherlands, and a holding company in Australia, where the U.S. dollar is used as the functional currency. The determination of the functional currency for Alcoa's operations is made based on the appropriate economic and management indicators. Where local currency is the functional currency, assets and liabilities are translated into U.S. dollars using period end exchange rates and income and expenses are translated using the average exchange rates for the reporting period. Unrealized foreign currency translation gains and losses are deferred in Accumulated other comprehensive loss on the Consolidated Balance Sheet.

Recently Adopted Accounting Guidance. In November 2023, the Financial Accounting Standards Board (FASB) issued Accounting Standard Update (ASU) 2023-07 which requires disclosure of significant segment expenses regularly provided to the chief operating decision maker (CODM), other segment items (not included in significant segment expenses for each reportable segment), the title and position of the CODM, and an explanation of how the CODM uses the reported measure of segment profit or loss to assess segment performance and allocate resources. The Company adopted this guidance for the year ended December 31, 2024, which resulted in enhanced disclosures regarding reportable segments (see Note E) and did not have a material impact on the Company's financial position or results of operations.

Recently Issued Accounting Guidance. In November 2024, the FASB issued ASU No. 2024-03 which requires detailed disclosures about the types of expenses (including purchases of inventory, employee compensation, depreciation, amortization, and depletion) included within commonly presented expense captions (including cost of goods sold; selling, general administrative, and other expense; and research and development expenses). The guidance is effective for annual periods beginning after December 15, 2026, and interim periods within fiscal years beginning after December 15, 2027. Early adoption is permitted. The adoption of this guidance will not have a material impact on the Company's financial position or results of operations and will provide enhanced disclosures regarding expenses beginning in the Company's Annual Report on Form 10-K for the year ended December 31, 2027.

In December 2023, the FASB issued ASU No. 2023-09 which includes changes to income tax disclosures, including greater disaggregation of information in the rate reconciliation and disclosure of taxes paid by jurisdiction. The guidance is effective for annual periods beginning after December 15, 2024. Early adoption is permitted. The adoption of this guidance will not have a material impact on the Company's financial position or results of operations and will provide enhanced disclosures regarding income taxes beginning in the Company's Annual Report on Form 10-K for the year ended December 31, 2025.

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C. Acquisitions and Divestitures

Alumina Limited Acquisition

On August 1, 2024, Alcoa completed the acquisition of all of the ordinary shares of Alumina Limited (Alumina Shares) through a wholly-owned subsidiary, AAC Investments Australia 2 Pty Ltd. At acquisition, Alumina Limited held a 40% ownership interest in the AWAC joint venture, consisting of several affiliated operating entities, which own, have an interest in, or operate the bauxite mines and alumina refineries within Alcoa Corporation's Alumina segment (except for the Poços de Caldas mine and refinery and portions of the São Luís refinery, all in Brazil) and a portion (55%) of the Portland smelter (Australia) within Alcoa Corporation's Aluminum segment. Upon completion of the Alumina Limited acquisition, Alumina Limited and, as a result, the operations held by the AWAC joint venture, became wholly-owned subsidiaries of Alcoa Corporation. The acquisition enhances Alcoa's position as a leading pure play, upstream aluminum company globally, while simplifying the Company's corporate structure and governance, resulting in greater flexibility and strategic optionality.

Under the Scheme Implementation Deed (the Agreement) entered into in March 2024, as amended in May 2024, holders of Alumina Shares received 0.02854 Alcoa CHESS Depositary Interests (CDIs) for each Alumina Share (the Agreed Ratio), except that i) holders of Alumina Shares represented by American Depositary Shares, each of which represented 4 Alumina Shares, received 0.02854 shares of Alcoa common stock and ii) a certain shareholder received, for certain of their Alumina Shares, 0.02854 shares of Alcoa non-voting convertible preferred stock. The Alcoa CDIs are quoted on the Australian Stock Exchange.

At closing, Alumina Shares outstanding of 2,760,056,014 and 141,625,403 were exchanged for 78,772,422 and 4,041,989 shares of Alcoa common stock and Alcoa preferred stock, respectively. Based on Alcoa's closing share price as of July 31, 2024, the Agreed Ratio implied a value of A$1.45 per Alumina Share and aggregate purchase consideration of approximately $2,700 for Alumina Limited.

The transaction consisted in substance of the acquisition of Alumina Limited's noncontrolling interest in AWAC ($1,472), the assumption of Alumina Limited's indebtedness ($385, see Note M), the recognition of deferred tax assets ($121, see Note Q), and the acquisition of cash ($9) and other current liabilities ($1). The transaction was accounted for as an equity transaction where net assets acquired ($1,216) and transaction costs ($32) were reflected as an increase to Additional capital. Amounts related to Accumulated other comprehensive loss previously attributable to and included within Noncontrolling interest ($1,099) were reclassified to Accumulated other comprehensive loss. In the fourth quarter of 2024, the Company recognized an additional deferred tax asset (and a corresponding increase to Additional capital) of $95 (see Note Q).

Net loss attributable to noncontrolling interest was recognized through July 31, 2024.

Saudi Arabia Joint Venture

On September 15, 2024, Alcoa entered into a share purchase and subscription agreement with Saudi Arabian Mining Company (Ma'aden), pursuant to which Alcoa agreed to sell its full ownership interest of 25.1% in the Saudi Arabia joint venture, comprised of the Ma'aden Bauxite and Alumina Company and the Ma'aden Aluminium Company, to Ma'aden in exchange for issuance by Ma'aden of 85,977,547 shares and $150 in cash. The implied value of the shares was $950 as of September 12, 2024, based on the volume-weighted average share price of Ma'aden for the previous 30 calendar days. The shares of Ma'aden will be subject to transfer and sale restrictions, including a restriction requiring Alcoa to hold its Ma'aden shares for a minimum of three years, with one-third of the shares becoming transferable after each of the third, fourth, and fifth anniversaries of closing of the transaction (the holding period). During the holding period, Alcoa would be permitted to hedge and borrow against its Ma'aden shares. Under certain circumstances, such minimum holding period would be reduced. The transaction is subject to regulatory approvals, approval by Ma'aden's shareholders, and other customary closing conditions and is expected to close in the first half of 2025. The carrying value of Alcoa's investment was $544 as of December 31, 2024.

Warrick Rolling Mill

In March 2021, Alcoa completed the sale of its rolling mill located at Warrick Operations (Warrick Rolling Mill), an integrated aluminum manufacturing site near Evansville, Indiana (Warrick Operations), to Kaiser Aluminum Corporation (Kaiser) and recorded estimated liabilities for site separation commitments.

In 2024, 2023, and 2022 the Company recorded charges of $32, $17, and $8, respectively, in Other expenses (income), net on the accompanying Statement of Consolidated Operations related to these commitments. During 2024, 2023, and 2022, the Company spent $35, $52, and $37, respectively, against the reserve.

The remaining balance of $8 at December 31, 2024 is expected to be spent in early 2025. The cash spent against the reserve is included in Cash provided from (used for) financing activities on the Statement of Consolidated Cash Flows.

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D. Restructuring and Other Charges, Net

Restructuring and other charges, net were comprised of the following:

	2024	2023	2022
Other costs	$ 264	$ 36	$ (7)
Severance and employee termination costs	44	11	1
Asset retirement obligations (R)	44	41	34
Environmental remediation (S)	5	27	21
Asset impairments	5	50	58
Settlements and/or curtailments related to retirement benefits (O)	(1)	21	632
Reversals of previously recorded charges	(20)	(2)	(122)
Loss on divestitures	—	—	79
Restructuring and other charges, net	$ 341	$ 184	$ 696

Severance and employee termination costs were recorded based on approved detailed action plans submitted by the operating sites that specified positions to be eliminated, benefits to be paid under existing severance plans, union contracts or statutory requirements, and the expected timetable for completion of the plans.

2024 Actions. In 2024, Alcoa Corporation recorded Restructuring and other charges, net, of $341 which were primarily comprised of the following components:

- Charges related to portfolio actions:
  - $287 for the curtailment of the Kwinana (Australia) refinery (see below);
- Other charges:
  - $40 to record additional asset retirement obligations (see Note R) and environmental remediation (see Note S) at previously closed sites;
  - $22 for take-or-pay contract costs at a previously closed site; and,
  - $12 for contract termination costs at the closed Intalco (Washington) smelter;
- Reversals:
  - $20 due to lower costs for environmental remediation (see Note S) and asset retirement obligations (see Note R) at the Intalco smelter and a previously closed site.

In June 2024, Alcoa completed the full curtailment of the Kwinana refinery, as planned, which was announced in January 2024. As of March 2024, the refinery had approximately 780 employees and this number was reduced to approximately 250 through the fourth quarter of 2024 to manage certain processes that are expected to continue until about the fourth quarter of 2025. At that time, the employee number will be further reduced to approximately 50. In addition to the employees separating as a result of the curtailment, approximately 290 employees have terminated through the productivity program announced in the third quarter of 2023 or redeployed to other Alcoa operations. The Company recorded net charges of $287 in Restructuring and other charges, net on the Statement of Consolidated Operations comprised of other costs of $232 for water management costs ($220) and take-or-pay contracts ($12), severance and employee termination costs of $41, asset retirement obligations of $9 (see Note R), and asset impairments of $5. Payments related to other costs and severance and employee termination costs were $136 in 2024 (which included existing employee related liabilities). Additional cash outlays of approximately $140 are expected through 2025.

2023 Actions. In 2023, Alcoa Corporation recorded Restructuring and other charges, net, of $184 which were primarily comprised of the following components:

- Non-cash settlement charges related to pension benefits (see Note O):
  - $21 related to the purchase of group annuity contracts to transfer approximately $235 of pension obligations and assets associated with defined benefit pension plans for approximately 530 Canadian retirees and beneficiaries;
- Charges related to portfolio actions:
  - $101 for the permanent closure of the previously curtailed Intalco smelter (see below);
  - $53 for the updated viability agreement for the San Ciprián (Spain) smelter; and,
  - $11 for employee termination and severance costs, primarily related to the Kwinana refinery productivity program (see below);

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- Other net charges:
  - $17 to record additional environmental remediation and asset retirement obligations at previously closed sites (see Note R and Note S);
  - $19 benefit for the sale of unused carbon credits at a previously closed site;
  - $1 to record additional asset retirement obligations at Warrick Operations (Indiana) (see Note R); and,
  - $1 for additional take-or-pay contract costs at a previously closed site and the Intalco smelter;
- Reversals:
  - $2 due to lower costs for demolition obligations at previously closed sites (see Note R).

In December 2023, Alcoa began the closure of a line at its Warrick Operations site that had not operated since 2016 to allow for future capital investments to improve casting capabilities. The Company recorded a charge of $1 in Restructuring and other charges, net on the Statement of Consolidated Operations to establish reserves related to demolition obligations. Additionally, Alcoa recorded $1 in Cost of goods sold on the Statement of Consolidated Operations to write-off the remaining net book value of related inventory.

In September 2023, the Company initiated productivity programs across its operations in Australia to mitigate the financial impacts of lower grade bauxite and to optimize operating levels. In connection with this program, the Company recorded Restructuring and other charges, net of $6 for employee termination and severance costs for approximately 90 employees at the Kwinana refinery. This program was completed in September 2024.

In March 2023, Alcoa Corporation announced the closure of the Intalco aluminum smelter, which had been fully curtailed since 2020. The Company recorded charges of $117 related to the closure, including a charge of $16 in Cost of goods sold on the Statement of Consolidated Operations to write-down remaining inventories to net realizable value and a charge of $101 in Restructuring and other charges, net on the Statement of Consolidated Operations. The restructuring charges were comprised of asset impairments of $50, environmental remediation and demolition obligations of $50, and severance and employee termination costs of $1 for the separation of approximately 12 employees.

In February 2023, the Company reached an updated viability agreement with the workers' representatives of the San Ciprián smelter to commence the restart process in phases beginning in January 2024. The smelter was curtailed in January 2022 as a result of an agreement reached with the workers' representatives in December 2021. Under the terms of the updated viability agreement, the Company is responsible for certain employee obligations during 2023 through 2025 and made commitments for capital improvements of $78. The Company recorded charges of $53 in Restructuring and other charges, net on the Statement of Consolidated Operations to establish the related reserve for employee obligations in 2023. Cash outlays related to these obligations were $7 in 2023, $34 in 2024 and the remainder is expected in 2025. At December 31 2024, the Company has restricted cash of $86 to be made available for remaining capital improvement commitments and smelter restart costs, under the terms of the December 2021 and February 2023 viability agreements. Restricted cash is included in Prepaid expenses and other current assets and Other noncurrent assets on the Consolidated Balance Sheet (see Note U). Cash payments in 2023 also included $31 related to certain employee obligations under the December 2021 agreement; cash payments related to these obligations were complete as of December 31, 2023.

2022 Actions. In 2022 Alcoa Corporation recorded Restructuring and other charges, net, of $696 which were primarily comprised of the following components:

- Non-cash settlement charges related to pension benefits (see Note O):
  - $635 related to the purchase of group annuity contracts to transfer approximately $1,000 of pension obligations and assets associated with defined benefit pension plans for approximately 4,400 United States retirees and beneficiaries, as well as lump sum settlements;
- Charges related to portfolio actions:
  - $79 for the agreement reached with the workers of the divested Avilés and La Coruña facilities to settle various legal disputes related to the 2019 divestiture (see Note S);
  - $58 for an asset impairment related to the sale of the Company's interest in MRN (see Note H); and,
  - $29 related to the closure of the previously curtailed magnesium smelter facility in Addy (Washington) (see below);
- Other charges and credits:
  - $26 to record additional environmental remediation and asset retirement obligations at previously closed sites (see Note R and Note S); and,
  - $7 net credit for revaluation of adjustments to take-or-pay contract reserves at a previously closed site and the Intalco smelter;
- Reversals:
  - $83 for the release of a valuation allowance on Brazil value added taxes (VAT) (see Note U); and,
  - $34 due to lower costs for demolition obligations and environmental remediation at previously closed sites (see Note S).

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In July 2022, Alcoa made the decision to permanently close the previously curtailed magnesium smelter in Addy. The facility had been fully curtailed since 2001. The Company recorded a charge of $29 to establish reserves for environmental remediation and demolition obligations in Restructuring and other charges, net on the Statement of Consolidated Operations in the third quarter of 2022.

Alcoa Corporation does not include Restructuring and other charges, net in the results of its reportable segments. The impact of allocating such charges to segment results would have been as follows:

	2024	2023	2022
Alumina	$ 287	$ 8	$ (27)
Aluminum	—	169	82
Segment total	287	177	55
Corporate	54	7	641
Total Restructuring and other charges, net	$ 341	$ 184	$ 696

Activity and reserve balances for restructuring charges were as follows:

	Severance and employee termination costs	Other costs	Total
Balances at December 31, 2021	$ 3	$ 90	$ 93
Restructuring charges, net	1	73	74
Cash payments	(2)	(37)	(39)
Reversals and other	(1)	(10)	(11)
Balances at December 31, 2022	1	116	117
Restructuring charges, net	11	55	66
Cash payments	(6)	(118)	(124)
Reversals and other	—	4	4
Balances at December 31, 2023	6	57	63
Restructuring charges, net	44	264	308
Cash payments	(38)	(145)	(183)
Reversals and other	1	(8)	(7)
Balances at December 31, 2024	$ 13	$ 168	$ 181

The activity and reserve balances include only Restructuring and other charges, net that impact the reserves for Severance and employee termination costs and Other costs. Restructuring and other charges, net that affected other accounts such as Investments (see Note H), Accrued pension benefits and Accrued other postretirement benefits (see Note O), Asset retirement obligations (see Note R), Environmental remediation (see Note S), and Other noncurrent assets (see Note U) are excluded from the above activity and balances. Reversals and other include reversals of previously recorded liabilities and foreign currency translation impacts.

The current portion of the reserve balance is reflected in Other current liabilities on the Consolidated Balance Sheet and the noncurrent portion of the reserve balance is reflected in Other noncurrent liabilities and deferred credits on the Consolidated Balance Sheet. The noncurrent portion of the reserve was $8 and $15 at December 31, 2024 and 2023, respectively.

E. Segment and Related Information

Segment Information

Alcoa Corporation is a producer of bauxite, alumina, and aluminum products. The Company has two operating and reportable segments: (i) Alumina and (ii) Aluminum. The primary measure of performance reported to Alcoa Corporation's President and Chief Executive Officer (identified as the Company's CODM) is Adjusted EBITDA (Earnings before interest, taxes, depreciation, and amortization) for each segment.

The Company calculates Segment Adjusted EBITDA as Total sales (third-party and intersegment) minus the following items: Cost of goods sold; Selling, general administrative, and other expenses; and Research and development expenses. Alcoa Corporation’s Segment Adjusted EBITDA may not be comparable to similarly titled measures of other companies. The CODM regularly reviews Segment Adjusted EBITDA to assess performance and allocate resources (including employees, property, and financial or capital resources) in the planning and strategic review process.

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Segment assets include, among others, customer receivables (third-party and intersegment), inventories, properties, plants, and equipment, and equity investments. The accounting policies of the segments are the same as those described in the Summary of Significant Accounting Policies (see Note B). Transactions between segments are established based on negotiation between the parties. Differences between segment totals and Alcoa Corporation's consolidated totals for line items not reconciled are in Corporate.

The following are detailed descriptions of Alcoa Corporation's reportable segments:

Alumina. This segment represents the Company's worldwide refining system, including the mining of bauxite, which is then refined into alumina.

A portion of this segment's bauxite production represents the offtake from equity method investments in Brazil (prior to the MRN sale in April 2022) and Guinea, as well as Alcoa's share of bauxite production related to an equity investment in Saudi Arabia. Bauxite mined is primarily used internally within the Alumina segment; a portion of the bauxite is sold to external customers. Bauxite sales to third-parties are conducted on a contract basis.

The alumina produced by this segment is sold primarily to internal and external aluminum smelter customers; a portion of the alumina is sold to external customers who process it into industrial chemical products. Approximately two-thirds of Alumina's production is sold under supply contracts to third parties worldwide, while the remainder is used internally by the Aluminum segment. Alumina produced by this segment and used internally is transferred to the Aluminum segment at prevailing market prices. A portion of this segment's third-party sales are completed through alumina traders.

Generally, this segment's sales are transacted in U.S. dollars while costs and expenses are transacted in the local currency of the respective operations, which are the Australian dollar, the Brazilian real, and the euro. Most of the operations that comprise the Alumina segment are part of AWAC, which is now wholly-owned by Alcoa (see Principles of Consolidation in Note A).

This segment also includes Alcoa's 25.1% ownership interest in a mining and refining joint venture company in Saudi Arabia (see Note H).

Aluminum. This segment consists of the Company's (i) worldwide smelting and casthouse system, which processes alumina into primary aluminum, and (ii) portfolio of energy assets in Brazil, Canada, and the United States.

Aluminum's combined smelting and casting operations produce primary aluminum products, nearly all of which are sold to external customers and traders. The smelting operations produce molten primary aluminum, which is then formed by the casting operations into either common alloy ingot (e.g., t-bar, sow, standard ingot) or into value-add ingot products (e.g., foundry, billet, rod, and slab). A variety of external customers purchase the primary aluminum products for use in fabrication operations, which produce products primarily for the transportation, building and construction, packaging, wire, and other industrial markets. Results from the sale of aluminum powder and scrap are also included in this segment, as well as the impacts of embedded aluminum derivatives (see Note P) related to energy supply contracts.

The energy assets supply power to external customers in Brazil and the United States, as well as internal customers in the Aluminum segment (Canadian smelters and Warrick (Indiana) smelter) and, to a lesser extent, the Alumina segment (Brazilian refineries).

Generally, this segment's aluminum sales are transacted in U.S. dollars while costs and expenses of this segment are transacted in the local currency of the respective operations, which are the U.S. dollar, the euro, the Norwegian krone, the Icelandic króna, the Canadian dollar, the Brazilian real, and the Australian dollar.

This segment also includes Alcoa Corporation's 25.1% ownership interest in a smelting joint venture company in Saudi Arabia (see Note H).

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The operating results, capital expenditures, and assets of Alcoa Corporation's reportable segments were as follows:

	Alumina	Aluminum	Total
2024			
Sales:			
Third-party sales	$ 4,662	$ 7,230	$ 11,892
Intersegment sales	2,263	16	2,279
Total sales	$ 6,925	$ 7,246	$ 14,171
Adjusted operating costs[1]	3,110	5,488	8,598
Other segment items[2]	2,407	1,101	3,508
Segment Adjusted EBITDA	$ 1,408	$ 657	$ 2,065
Supplemental information:			
Depreciation, depletion, and amortization	$ 348	$ 272	$ 620
Equity income (loss)	22	(5)	17
Capital expenditures	367	197	564
2023			
Sales:			
Third-party sales	$ 3,613	$ 6,925	$ 10,538
Intersegment sales	1,648	15	1,663
Total sales	$ 5,261	$ 6,940	$ 12,201
Adjusted operating costs[1]	3,487	5,281	8,768
Other segment items[2]	1,501	1,198	2,699
Segment Adjusted EBITDA	$ 273	$ 461	$ 734
Supplemental information:			
Depreciation, depletion, and amortization	$ 333	$ 277	$ 610
Equity loss	(48)	(106)	(154)
Capital expenditures	323	198	521
2022			
Sales:			
Third-party sales	$ 3,724	$ 8,735	$ 12,459
Intersegment sales	1,708	27	1,735
Total sales	$ 5,432	$ 8,762	$ 14,194
Adjusted operating costs[1]	3,745	5,603	9,348
Other segment items[2]	899	1,667	2,566
Segment Adjusted EBITDA	$ 788	$ 1,492	$ 2,280
Supplemental information:			
Depreciation, depletion, and amortization	$ 312	$ 283	$ 595
Equity (loss) income	(39)	48	9
Capital expenditures	320	153	473
2024			
Assets:			
Equity investments	$ 420	$ 546	$ 966
Total assets	6,138	6,129	12,267
2023			
Assets:			
Equity investments	$ 395	$ 569	$ 964
Total assets	6,153	5,854	12,007

(1) Adjusted operating costs include all production related costs for alumina or aluminum produced and shipped: raw materials consumed; conversion costs, such as labor, materials, and utilities; and plant administrative expenses.

(2) Other segment items include costs associated with trading activity, the Alumina segment's purchase of bauxite from offtake or other supply agreements, the Alumina segment's commercial shipping services, and the Aluminum segment's energy assets; other direct and non-production related charges; Selling, general administrative, and other expenses; and Research and development expenses.

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The following tables reconcile certain segment information to consolidated totals:

	2024	2023	2022
Sales:			
Total segment sales	$ 14,171	$ 12,201	$ 14,194
Elimination of intersegment sales	(2,279)	(1,663)	(1,735)
Other	3	13	(8)
Consolidated sales	$ 11,895	$ 10,551	$ 12,451

	2024	2023	2022
Net income (loss) attributable to Alcoa Corporation:			
Total Segment Adjusted EBITDA	$ 2,065	$ 734	$ 2,280
Unallocated amounts:			
Transformation[1]	(62)	(80)	(66)
Intersegment eliminations	(231)	7	138
Corporate expenses[2]	(160)	(133)	(128)
Provision for depreciation, depletion, and amortization	(642)	(632)	(617)
Restructuring and other charges, net (D)	(341)	(184)	(696)
Interest expense (U)	(156)	(107)	(106)
Other (expenses) income, net (U)	(91)	(134)	118
Other[3]	(93)	(55)	(221)
Consolidated income (loss) before income taxes	289	(584)	702
Provision for income taxes (Q)	(265)	(189)	(664)
Net loss (income) attributable to noncontrolling interest	36	122	(161)
Consolidated net income (loss) attributable to Alcoa Corporation	$ 60	$ (651)	$ (123)

[1] Transformation includes, among other items, the Adjusted EBITDA of previously closed operations.
[2] Corporate expenses are composed of general administrative and other expenses of operating the corporate headquarters and other global administrative facilities, as well as research and development expenses of the corporate technical center.
[3] Other includes certain items that are not included in the Adjusted EBITDA of the reportable segments.

December 31,	2024	2023
Assets:		
Total segment assets	$ 12,267	$ 12,007
Elimination of intersegment receivables	(364)	(159)
Unallocated amounts:		
Cash and cash equivalents	1,138	944
Corporate fixed assets, net	366	392
Corporate goodwill	139	142
Deferred income taxes	284	333
Pension assets	128	125
Other	106	371
Consolidated assets	$ 14,064	$ 14,155

Product Information

Alcoa Corporation has four product divisions as follows:

Bauxite—Bauxite is a reddish clay rock that is mined from the surface of the earth's terrain. This ore is the basic raw material used to produce alumina and is the primary source of aluminum.

Alumina—Alumina is an oxide that is extracted from bauxite and is the basic raw material used to produce primary aluminum. This product can also be consumed for non-metallurgical purposes, such as industrial chemical products.

Primary aluminum—Primary aluminum is metal in the form of a common alloy ingot or a value-add ingot (e.g., foundry, billet, rod, and slab). These products are sold primarily to customers that produce products for the transportation, building and construction, packaging, wire, and other industrial markets, and traders.

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Energy—Energy is the generation of electricity, which is sold in the wholesale market to traders, large industrial consumers, distribution companies, and other generation companies.

The following table represents the general commercial profile of the Company's Bauxite, Alumina, and Primary aluminum product divisions (see text below table for Energy):

Product division	Pricing components	Shipping terms[3]	Payment terms[4]
Bauxite	Negotiated	FOB/CIF	LC Sight
Alumina:			
Smelter grade	API[1]/spot/fixed	FOB/CIF	LC Sight/CAD/Net 30 days
Non-metallurgical	Negotiated	FOB/CIF	Net 30 days
Primary aluminum:			
Common alloy ingot	LME + Regional premium[2]	DAP/CIF/DDP	Net 30 to 45 days
Value add ingot	LME + Regional premium + Product premium[2]	DAP/CIF/DDP	Net 30 to 45 days

[1] API (Alumina Price Index) is a pricing mechanism that is calculated by the Company based on the weighted average of a prior month's daily spot prices published by the following three indices: CRU Metallurgical Grade Alumina Price, Platts Metals Daily Alumina PAX Price, and FastMarkets Metal Bulletin Non-Ferrous Metals Alumina Index.

[2] LME (London Metal Exchange) is a globally recognized exchange for commodity trading, including aluminum. The LME pricing component represents the underlying base metal component, based on quoted prices for aluminum on the exchange. The regional premium represents the incremental price over the base LME component that is associated with the physical delivery of metal to a particular region (e.g., the Midwest premium for metal sold in the United States). The product premium represents the incremental price for receiving physical metal in a particular shape or alloy.

[3] CIF (cost, insurance, and freight) means that the Company pays for these items until the product reaches the buyer's designated destination point related to transportation by vessel. DAP (delivered at place) means the same as CIF related to all methods of transportation. FOB (free on board) means that the Company pays for costs, insurance, and freight until the product reaches the seller's designated shipping point. DDP (delivered duty paid) means that the Company pays for all costs and risks, including export and import clearance, transport costs, and customs formalities, until the product reaches the buyer's designated destination point.

[4] The net number of days means that the customer is required to remit payment to the Company for the invoice amount within the designated number of days. LC Sight is a letter of credit that is payable immediately (usually within five to ten business days) after a seller meets the requirements of the letter of credit (i.e. shipping documents that evidence the seller performed its obligations as agreed to with a buyer). CAD (cash against documents) is a payment arrangement in which a seller instructs a bank to provide shipping and title documents to the buyer at the time the buyer pays in full the accompanying bill of exchange.

For the Company's Energy product division, sales of electricity are based on current market prices. Electricity is provided to customers on demand through a national or regional power grid; the customer simultaneously receives and consumes the electricity. Payment terms are generally within 10 days related to the previous 30 days of electricity consumption.

The following table details Alcoa Corporation's Sales by product division:

	2024	2023	2022
Sales:			
Aluminum	$ 7,359	$ 7,045	$ 8,887
Alumina	4,246	3,103	3,478
Bauxite	376	466	168
Energy	147	118	201
Other[1]	(233)	(181)	(283)
	$ 11,895	$ 10,551	$ 12,451

[1] Other includes realized gains and losses related to embedded derivative instruments designated as cash flow hedges of forward sales of aluminum (see Note P).

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Geographic Area Information

Geographic information for Third-party sales was as follows (based upon the country where the point of sale originated):

	2024	2023	2022
Sales:			
United States[1]	$ 5,365	$ 4,993	$ 5,462
Australia	3,128	2,240	2,742
Netherlands[2]	2,193	2,261	3,031
Brazil	878	735	527
Spain	293	289	618
Other	38	33	71
	$ 11,895	$ 10,551	$ 12,451

(1) Sales of a portion of the alumina from refineries in Australia and Brazil, most of the aluminum from smelters in Canada, and aluminum off-take related to an interest in the Saudi Arabia joint venture (see Note H), occurred in the United States.

(2) Sales of aluminum from smelters in Iceland and Norway occurred in the Netherlands.

Geographic information for long-lived assets was as follows (based upon the physical location of the assets):

December 31,	2024	2023
Long-lived assets:		
Australia	$ 1,947	$ 2,046
Brazil	1,354	1,550
Canada	903	896
Iceland	901	950
United States	749	780
Norway	288	310
Spain	244	250
Other	3	3
	$ 6,389	$ 6,785

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F. Earnings Per Share

Following the issuance of preferred stock on August 1, 2024 (see Note N), basic earnings per share (EPS) is calculated using the two-class method. Under the two-class method, earnings are allocated to Alcoa common stock and preferred stock based on the pro-rata share of each class outstanding. Diluted EPS assumes the issuance of common stock for all potentially dilutive share equivalents outstanding. Diluted EPS is calculated under both the two-class and if-converted methods, and the more dilutive amount is reported.

In 2024, dividends paid on preferred stock were $1 and undistributed earnings of $3 were allocated to preferred stock under the two-class method.

The share information used to compute basic and diluted EPS attributable to Alcoa Corporation common shareholders was as follows (shares in millions):

	2024	2023	2022
Average shares outstanding—basic	212	178	181
Effect of dilutive securities:			
Stock options	—	—	—
Stock units	2	—	—
Average shares outstanding—diluted	214	178	181

In 2023, basic average shares outstanding and diluted average shares outstanding were the same because the effect of potential shares of common stock was anti-dilutive. Had Alcoa generated net income in 2023, three million common share equivalents related to three million outstanding stock units and stock options combined would have been included in diluted average shares outstanding for the period.

In 2022, basic average shares outstanding and diluted average shares outstanding were the same because the effect of potential shares of common stock was anti-dilutive. Had Alcoa generated net income in 2022, three million common share equivalents related to five million outstanding stock units and stock options combined would have been included in diluted average shares outstanding for the period.

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G. Accumulated Other Comprehensive Loss

The following table details the activity of the three components that comprise Accumulated other comprehensive loss for both Alcoa Corporation's shareholders and Noncontrolling interest:

	Alcoa Corporation			Noncontrolling interest		
	2024	2023	2022	2024	2023	2022
Pension and other postretirement benefits (O)						
Balance at beginning of period	$ —	$ 62	$ (882)	$ (15)	$ (5)	$ (13)
Other comprehensive (loss) income:						
Unrecognized net actuarial gain/loss and prior service cost/benefit	(17)	(112)	263	5	(13)	7
Tax (expense) benefit[2]	(4)	17	(42)	(2)	2	—
Total Other comprehensive (loss) income before reclassifications, net of tax	(21)	(95)	221	3	(11)	7
Amortization of net actuarial gain/loss and prior service cost/benefit[1]	21	39	723	1	1	1
Tax expense[2]	—	(6)	—	—	—	—
Total amount reclassified from Accumulated other comprehensive loss, net of tax[7]	21	33	723	1	1	1
Total Other comprehensive (loss) income	—	(62)	944	4	(10)	8
Acquisition of noncontrolling interest (C)	(11)	—	—	11	—	—
Balance at end of period	$ (11)	$ —	$ 62	$ —	$ (15)	$ (5)
Foreign currency translation						
Balance at beginning of period	$ (2,593)	$ (2,685)	$ (2,614)	$ (983)	$ (1,040)	$ (937)
Other comprehensive (loss) income	(513)	92	(71)	(105)	57	(103)
Acquisition of noncontrolling interest (C)	(1,088)	—	—	1,088	—	—
Balance at end of period	$ (4,194)	$ (2,593)	$ (2,685)	$ —	$ (983)	$ (1,040)
Cash flow hedges (P)						
Balance at beginning of period	$ (1,052)	$ (916)	$ (1,096)	$ —	$ 1	$ (1)
Other comprehensive (loss) income:						
Net change from periodic revaluations	(93)	(295)	(119)	—	—	2
Tax benefit[2]	7	70	43	—	—	—
Total Other comprehensive (loss) income before reclassifications, net of tax	(86)	(225)	(76)	—	—	2
Net amount reclassified to earnings:						
Aluminum contracts[3]	290	181	316	—	—	—
Financial contracts[4]	—	(20)	—	—	—	—
Interest rate contracts[5]	(1)	(5)	5	—	(1)	—
Foreign exchange contracts[6]	(1)	(26)	(5)	—	—	—
Sub-total	288	130	316	—	(1)	—
Tax expense[2]	(55)	(41)	(60)	—	—	—
Total amount reclassified from Accumulated other comprehensive loss, net of tax[7]	233	89	256	—	(1)	—
Total Other comprehensive income (loss)	147	(136)	180	—	(1)	2
Balance at end of period	$ (905)	$ (1,052)	$ (916)	$ —	$ —	$ 1
Total Accumulated other comprehensive loss	$ (5,110)	$ (3,645)	$ (3,539)	$ —	$ (998)	$ (1,044)

(1) These amounts were included in the computation of net periodic benefit cost for pension and other postretirement benefits. The amounts related to settlements and/or curtailments of certain pension and other postretirement benefits for Alcoa Corporation include ($1), $21, and $633 for the years ended December 31, 2024, 2023, and 2022, respectively (see Note O). The amounts related to settlements and/or curtailments of certain pension and other postretirement benefits for Noncontrolling interest were immaterial for the years ended December 31, 2024, 2023, and 2022.

(2) These amounts were reported in Provision for income taxes on the accompanying Statement of Consolidated Operations.

(3) These amounts were reported in Sales on the accompanying Statement of Consolidated Operations.

(4) These amounts were reported in Cost of goods sold on the accompanying Statement of Consolidated Operations.

(5) These amounts were included in Other expenses (income), net on the accompanying Statement of Consolidated Operations.

(6) In 2024, $1 was reported in Cost of goods sold and ($2) was reported in Sales on the accompanying Statement of Consolidated Operations. In 2023, $5 was reported in Cost of goods sold and ($31) was reported in Sales on the accompanying Statement of Consolidated Operations. In 2022, $5 was reported in Cost of goods sold and ($10) was reported in Sales on the accompanying Statement of Consolidated Operations.

(7) A positive amount indicates a corresponding charge to earnings and a negative amount indicates a corresponding benefit to earnings.

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H. Investments

December 31,	2024	2023
Equity investments	$ 970	$ 969
Other investments	10	10
	$ 980	$ 979

Equity Investments. The following table summarizes information of Alcoa Corporation's equity investments as of December 31, 2024 and 2023. In 2024, 2023, and 2022, Alcoa Corporation received $37, $51, and $127, respectively, in dividends from these equity investments. Each of the investees either owns the facility listed or has an ownership interest in an entity that owns the facility listed:

Investee	Country	Nature of investment	Income Statement Location of Equity Earnings	Ownership interest
Ma'aden Aluminium Company	Saudi Arabia	Aluminum smelter and casthouse	Other expenses (income), net	25.1%
Ma'aden Bauxite and Alumina Company	Saudi Arabia	Bauxite mine and alumina refinery	Other expenses (income), net	25.1%
Halco Mining, Inc.	Guinea	Bauxite mine	Cost of goods sold	45%
Energética Barra Grande S.A.	Brazil	Hydroelectric generation facility	Cost of goods sold	42.18%
Pechiney Reynolds Quebec, Inc.	Canada	Aluminum smelter	Cost of goods sold	50%
Serra do Facão Energia S/A	Brazil	Hydroelectric generation facility	Cost of goods sold	34.97%
Manicouagan Power Limited Partnership	Canada	Hydroelectric generation facility	Cost of goods sold	40%
Elysis™ Limited Partnership	Canada	Aluminum smelting technology	Other expenses (income), net	48.235%

Saudi Arabia Joint Venture—Alcoa Corporation and Ma'aden have a 30-year (from December 2009) joint venture shareholders agreement (automatic extension for an additional 20 years, unless the parties agree otherwise or unless earlier terminated) setting forth the terms for the development, construction, ownership, and operation of an integrated aluminum complex in Saudi Arabia. The joint venture complex includes a bauxite mine from the Al Ba'itha bauxite deposit in the northern part of Saudi Arabia, an alumina refinery, and a primary aluminum smelter.

The joint venture is owned 74.9% by Ma'aden and 25.1% by Alcoa Corporation and is currently comprised of two entities: the bauxite mine and alumina refinery (Ma'aden Bauxite and Alumina Company; MBAC) and the smelter (Ma'aden Aluminium Company; MAC).

On September 15, 2024, Alcoa entered into a share purchase and subscription agreement with Ma'aden, pursuant to which Alcoa agreed to sell its full ownership interest of 25.1% in MBAC and MAC to Ma'aden in exchange for issuance by Ma'aden of 85,977,547 shares and $150 in cash (see Note C).

The results for the Saudi Arabia joint venture for the year ended December 31, 2022 include a charge related to a dispute with an industrial utility for periods in 2021 and 2022. Alcoa's share of this charge was $21 which is included in Other expenses (income), net on the Statement of Consolidated Operations for the year ended December 31, 2022. The results for the Saudi Arabia joint venture for the year ended December 31, 2023 include an adjustment to the estimate for the settlement of this dispute. Alcoa's share of this adjustment is $41 which is included in Other expenses (income), net on the Statement of Consolidated Operations for the year ended December 31, 2023. As of December 31, 2024 and 2023, the carrying value of Alcoa's investment in this joint venture was $544 and $533, respectively.

ELYSIS Limited Partnership—In June 2018, Alcoa Corporation, Rio Tinto Alcan Inc. (Rio Tinto), and Investissement Québec, a company wholly-owned by the Government of Québec, Canada, launched the ELYSIS Limited Partnership (ELYSIS). The purpose of ELYSIS is to advance larger scale development and commercialization of its patent-protected technology that eliminates direct greenhouse gas emissions from the traditional aluminum smelting process and, instead, emits oxygen. Alcoa and Rio Tinto, as general partners, each own a 48.235% stake in ELYSIS, and Investissement Québec, as a limited partner, owns a 3.53% stake.

Through December 31, 2024, the Company has contributed $152 (C$202) toward its investment commitment in ELYSIS. The Company's basis in the investment has been reduced to zero for its share of losses incurred to date. In addition to cash contributions, Alcoa is contributing approximately $3 annually to cover overhead expenses incurred by Alcoa and charged to the joint venture. As a result, the Company has $67 in unrecognized losses as of December 31, 2024 that will be recognized upon additional contributions into the partnership.

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The following table summarizes the profit and loss data for the respective periods ended December 31, as it relates to Alcoa Corporation's equity investments. Information shown for the Saudi Arabia Joint Venture for all periods presented includes the combined balances for MAC and MBAC. The investments are grouped based on the nature of the investment. The Mining investments are part of the Alumina segment, while the Energy and Other investments are primarily part of the Aluminum segment.

	Saudi Arabia Joint Venture	Mining	Energy	Other
2024				
Sales	$ 3,328	$ 573	$ 240	$ 463
Cost of goods sold	2,681	432	107	419
Net income (loss)	134	26	112	(68)
Equity in net income (loss) of affiliated companies, before reconciling adjustments	34	12	44	(32)
Other	(21)	—	(6)	9
Alcoa Corporation's equity in net income (loss) of affiliated companies	13	12	38	(23)
2023				
Sales	$ 2,726	$ 670	$ 236	$ 464
Cost of goods sold	2,550	446	118	425
Net (loss) income	(457)	50	100	(97)
Equity in net (loss) income of affiliated companies, before reconciling adjustments	(115)	23	39	(46)
Other	(43)	—	1	(9)
Alcoa Corporation's equity in net (loss) income of affiliated companies	(158)	23	40	(55)
2022				
Sales	$ 3,317	$ 763	$ 252	$ 488
Cost of goods sold	2,696	488	120	445
Net income (loss)	42	110	109	(75)
Equity in net income (loss) of affiliated companies, before reconciling adjustments	11	39	41	(36)
Other	(7)	(2)	(3)	15
Alcoa Corporation's equity in net income (loss) of affiliated companies	4	37	38	(21)

The following table summarizes the balance sheet data for the respective periods ended December 31, as it relates to Alcoa Corporation's equity investments.

	Saudi Arabia Joint Venture	Mining	Energy	Other
2024				
Current assets	$ 1,456	$ 4	$ 99	$ 177
Noncurrent assets	7,035	454	240	777
Current liabilities	1,227	4	16	85
Noncurrent liabilities	4,534	35	35	120
2023				
Current assets	$ 1,433	$ 8	$ 103	$ 181
Noncurrent assets	6,958	419	310	764
Current liabilities	1,444	5	16	89
Noncurrent liabilities	4,272	24	34	117

On February 15, 2022, the Company signed an agreement to sell its share of its investment in MRN in Brazil for $10 to South32 Minerals S.A. Related to this transaction, the Company recorded an asset impairment of $58 in the first quarter of 2022 in Restructuring and other charges, net on the Statement of Consolidated Operations. On April 30, 2022, Alcoa completed the sale of its investment in MRN. An additional $30 in cash could be paid to the Company in the future if certain post-closing conditions related to future MRN mine development are satisfied.

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I. Receivables

In November 2024, a wholly-owned special purpose entity (SPE) of the Company amended an agreement with a financial institution to increase the amount of certain customer receivables that can be transferred without recourse on a revolving basis from $130 to $150 and to extend the maturity to November 14, 2025. The agreement was initially entered into in 2023. Company subsidiaries sell customer receivables to the SPE, which then transfers the receivables to the financial institution. The Company does not maintain effective control over the transferred receivables, and therefore accounts for the transfers as sales of receivables.

Alcoa Corporation guarantees the performance obligations of the Company subsidiaries, and unsold customer receivables are pledged as collateral to the financial institution to secure the sold receivables. The SPE held unsold customer receivables of $247 and $104 pledged as collateral against the sold receivables as of December 31, 2024 and 2023, respectively.

The Company continues to service the customer receivables that were transferred to the financial institution. As Alcoa collects customer payments, the SPE transfers additional receivables to the financial institution rather than remitting cash.

In 2024, the Company sold gross customer receivables of $1,186, and reinvested collections of $1,170 from previously sold receivables, resulting in net cash proceeds from the financial institution of $16.

In 2023, the Company sold gross customer receivables of $591, and reinvested collections of $477 from previously sold receivables, resulting in net cash proceeds from the financial institution of $114.

Cash collections from previously sold receivables yet to be reinvested of $50 and $99 were included in Accounts payable, trade on the accompanying Consolidated Balance Sheet as of December 31, 2024 and 2023, respectively. Cash received from sold receivables under the agreement are presented within operating activities in the Statement of Consolidated Cash Flows.

J. Inventories

December 31,	2024	2023
Finished goods	$ 406	$ 355
Work-in-process	251	287
Bauxite and alumina	551	586
Purchased raw materials	546	700
Operating supplies	244	230
	$ 1,998	$ 2,158

K. Properties, Plants, and Equipment, Net

December 31,	2024	2023
Land and land rights, including mines	$ 233	$ 257
Structures (by type of operation):		
Bauxite mining and alumina refining	3,736	4,085
Aluminum smelting and casting	3,214	3,274
Energy generation	334	380
Other	344	357
	7,628	8,096
Machinery and equipment (by type of operation):		
Bauxite mining and alumina refining	4,218	4,352
Aluminum smelting and casting	5,551	5,781
Energy generation	855	869
Other	453	457
	11,077	11,459
	18,938	19,812
Less: accumulated depreciation, depletion, and amortization	13,161	13,596
	5,777	6,216
Construction work-in-progress	612	569
	$ 6,389	$ 6,785

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L. Goodwill and Other Intangible Assets

Goodwill, which is included in Other noncurrent assets on the accompanying Consolidated Balance Sheet, was as follows:

December 31,	2024	2023
Alumina	$ 3	$ 4
Aluminum	—	—
Corporate[1]	139	142
	$ 142	$ 146

[1] The carrying value of Corporate's goodwill is net of accumulated impairment losses of $742 as of both December 31, 2024 and 2023. As of December 31, 2024, the $139 of goodwill reflected in Corporate is allocated to Alcoa Corporation's Alumina reportable segment for purposes of impairment testing (see Note B). This goodwill is reflected in Corporate for segment reporting purposes because it is not included in management's assessment of performance by the reportable segment. Changes in the carrying amount of goodwill were attributable to foreign currency translation as of December 31, 2024 and 2023.

Management performed a quantitative assessment for the Alumina reporting unit in the fourth quarter 2024. The estimated fair value of the Alumina reporting unit was substantially in excess of its carrying value, resulting in no impairment.

Other intangible assets, which are included in Other noncurrent assets on the accompanying Consolidated Balance Sheet, were as follows:

	2024			2023		
December 31,	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Computer software	$ 203	$ (190)	$ 13	$ 207	$ (194)	$ 13
Patents and licenses	25	(11)	14	25	(10)	15
Other intangibles	20	(11)	9	21	(12)	9
Total other intangible assets	$ 248	$ (212)	$ 36	$ 253	$ (216)	$ 37

Computer software consists primarily of software costs associated with the enterprise business solution within Alcoa to drive common systems among all businesses.

Amortization expense related to the intangible assets in the table above for the years ended December 31, 2024, 2023, and 2022 was $5, $5, and $7, respectively, and is expected to be approximately $5 annually from 2025 to 2029.

M. Debt

Short-term Borrowings.

December 31,	2024	2023
Short-term borrowings	$ 50	$ 56

Short-term borrowings are reported in Other current liabilities on the accompanying Consolidated Balance Sheet.

Inventory Repurchase Agreements

The Company entered into inventory repurchase agreements whereby the Company sold aluminum to a third party and agreed to subsequently repurchase substantially similar inventory. The Company did not record sales upon each shipment of inventory and the net cash received of $50 and $56 related to these agreements was recorded in Short-term borrowings within Other current liabilities on the Consolidated Balance Sheet as of December 31, 2024 and December 31, 2023, respectively. The associated inventory sold was reflected in Prepaid expenses and other current assets on the Consolidated Balance Sheet as of December 31, 2024 and December 31, 2023, respectively.

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For the year ended December 31, 2024, the Company recorded borrowings of $88 and repurchased $94 of inventory related to these agreements. For the year ended December 31, 2023, the Company recorded borrowings of $117 and repurchased $61 of inventory related to these agreements.

The cash received and subsequently paid under the inventory repurchase agreements is included in Cash provided from financing activities on the Statement of Consolidated Cash Flows for the year-ended December 31, 2024.

Long-term Debt.

December 31,	2024	2023
5.500% Notes, due 2027	$ 750	$ 750
6.125% Notes, due 2028	500	500
4.125% Notes, due 2029	500	500
7.125% Notes, due 2031	750	—
Other	76	82
Unamortized discounts and deferred financing costs	(31)	(21)
Total	2,545	1,811
Less: amount due within one year	75	79
Long-term debt, less amount due within one year	$ 2,470	$ 1,732

The principal amount of long-term debt maturing in each of the next five years is: $75 in 2025, $1 in 2026, $750 in 2027, $500 in 2028, and $500 in 2029. At December 31, 2024, Other includes $74 related to a term loan that matures in May 2025.

144A Debt.

2031 Notes. In March 2024, Alcoa Nederland Holding B.V. (ANHBV), a wholly-owned subsidiary of Alcoa Corporation, completed a Rule 144A (U.S. Securities Act of 1933, as amended) debt issuance for $750 aggregate principal amount of 7.125% Senior Notes due 2031 (the 2031 Notes), which carry a green bond designation, with the following terms:

- Net proceeds were approximately $737, reflecting a discount to the initial purchasers as well as issuance costs. The discount, as well as costs to complete the financing, were deferred and are being amortized to interest expense over the term;
- Interest is paid semi-annually in March and September, which commenced September 15, 2024;
- Indenture contains customary affirmative and negative covenants, see below;
- Option to redeem on at least 10 days, but not more than 60 days, prior notice to the holders under multiple scenarios, including, in whole or in part, at any time, or from time to time on and after March 15, 2027, at the redemption price up to 103.563% of the principal amount, plus any accrued and unpaid interest; and,
- Subject to repurchase upon the occurrence of a change in control repurchase event (as defined in the indenture) at a repurchase price in cash equal to 101% of the aggregate principal amount of the notes repurchased, plus any accrued and unpaid interest.

The Company is utilizing the net proceeds to finance and/or refinance, in whole or in part, new and/or existing qualifying projects on a two-year look back and three-year look forward that meet certain eligibility criteria within its Green Finance Framework. The net proceeds also support the Company's cash position and ongoing cash needs, including with respect to its previously announced portfolio actions.

2029 Notes. In March 2021, ANHBV, a wholly-owned subsidiary of Alcoa Corporation, completed a Rule 144A debt issuance for $500 aggregate principal amount of 4.125% Senior Notes due 2029 (the 2029 Notes) with the following terms:

- Net proceeds were approximately $493, reflecting a discount to the initial purchasers as well as issuance costs. The discount, as well as costs to complete the financing, were deferred and are being amortized to interest expense over the term;
- Interest is paid semi-annually in March and September, which commenced September 30, 2021;
- Indenture contains customary affirmative and negative covenants, see below;
- Option to redeem on at least 10 days, but not more than 60 days, prior notice to the holders under multiple scenarios, including, in whole or in part, at any time, or from time to time after March 31, 2024, at a redemption price up to 102.063% of the principal amount, plus any accrued and unpaid interest; and,
- Subject to repurchase upon the occurrence of a change in control repurchase event (as defined in the indenture) at a repurchase price in cash equal to 101% of the aggregate principal amount of the notes repurchased, plus any accrued and unpaid interest.

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The Company used the net proceeds of the 2029 Notes, together with cash on hand, to contribute $500 to its U.S. defined benefit pension plans applicable to salaried and hourly employees on April 1, 2021 (see Note O), to redeem in full $750 aggregate principal amount of the Company's outstanding 6.75% Senior Notes due 2024 on April 7, 2021, and to pay transaction-related fees and expenses.

2027 Notes. In July 2020, ANHBV completed a Rule 144A debt issuance for $750 aggregate principal amount of 5.500% Senior Notes due 2027 (the 2027 Notes) with the following terms:

- Net proceeds were approximately $736, reflecting a discount to the initial purchasers as well as issuance costs. The discount, as well as costs to complete the financing, were deferred and are being amortized to interest expense over the term;
- Interest is paid semi-annually in June and December, which commenced on December 15, 2020;
- Indenture contains customary affirmative and negative covenants, see below;
- Option to redeem on at least 15 days, but not more than 60 days, prior notice to the holders under multiple scenarios, including, in whole or in part, at any time, or from time to time after June 15, 2023, at a redemption price up to 102.750% of the principal amount, plus any accrued and unpaid interest; and,
- Subject to repurchase upon the occurrence of a change in control repurchase event (as defined in the indenture) at a repurchase price in cash equal to 101% of the aggregate principal amount of the notes repurchased, plus any accrued and unpaid interest.

The Company used the net proceeds of the 2027 Notes for general corporate purposes, including adding cash to its balance sheet.

2028 Notes. In May 2018, ANHBV completed a Rule 144A debt issuance for $500 aggregate principal amount of 6.125% Senior Notes due 2028 (the 2028 Notes) with the following terms:

- Net proceeds were approximately $492, reflecting a discount to the initial purchasers as well as issuance costs. The discount, as well as costs to complete the financing, were deferred and are being amortized to interest expense over the term;
- Interest is paid semi-annually in November and May, which commenced November 15, 2018;
- Indenture contains customary affirmative and negative covenants, see below;
- Option to redeem on at least 30 days, but not more than 60 days, prior notice to the holders under multiple scenarios, including, in whole or in part, at any time, or from time to time after May 2023, at a redemption price up to 103.063% of the principal amount, plus any accrued and unpaid interest; and,
- Subject to repurchase upon the occurrence of a change in control repurchase event (as defined in the indenture) at a repurchase price in cash equal to 101% of the aggregate principal amount of the notes repurchased, plus any accrued and unpaid interest.

The Company used the net proceeds of the 2028 Notes, together with cash on hand, to make discretionary contributions to certain U.S. defined benefit pension plans.

The indentures governing the 2027 Notes, the 2028 Notes, the 2029 Notes, and the 2031 Notes contain customary affirmative and negative covenants, such as limitations on liens, limitations on sale and leaseback transactions, and a prohibition on a reduction in the ownership of AWAC entities below an agreed level. The negative covenants in the indentures are less extensive than those in the Revolving Credit Facility (see below). For example, the indentures do not include a limitation on restricted payments, such as repurchases of common stock and dividends to stockholders.

The 2027 Notes, the 2028 Notes, the 2029 Notes, and the 2031 Notes are senior unsecured obligations of ANHBV and do not entitle the holders to any registration rights pursuant to a registration rights agreement. ANHBV does not intend to file a registration statement with respect to resales of or an exchange offer for the notes. The notes are guaranteed on a senior unsecured basis by Alcoa Corporation and its subsidiaries that are guarantors under the Revolving Credit Facility (the "subsidiary guarantors" and, together with Alcoa Corporation, the "guarantors"). Each of the subsidiary guarantors will be released from their guarantees upon the occurrence of certain events, including the release of such guarantor from its obligations as a guarantor under the Revolving Credit Facility.

The 2027 Notes, the 2028 Notes, the 2029 Notes, and the 2031 Notes rank equally in right of payment with each other and with all of ANHBV'S existing and future senior unsecured indebtedness; rank senior in right of payment to any future subordinated obligations of ANHBV; and are effectively subordinated to ANHBV's existing and future secured indebtedness, including under the Revolving Credit Facility, to the extent of the value of property and assets securing such indebtedness. The guarantees of the notes rank equally in right of payment with each other and with all the guarantors' existing and future senior unsecured indebtedness; rank senior in right of payment to any future subordinated obligations of the guarantors; and are effectively subordinated to the guarantors' existing and future secured indebtedness, including under the Revolving Credit Facility, to the extent of the value of property and assets securing such indebtedness.

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Credit Facilities.

Revolving Credit Facility

The Company and ANHBV, a wholly-owned subsidiary of Alcoa Corporation and the borrower, have a $1,250 revolving credit and letter of credit facility in place for working capital and/or other general corporate purposes (the Revolving Credit Facility). The Revolving Credit Facility, established in September 2016, most recently amended and restated in June 2022 and amended in January 2024, is scheduled to mature in June 2027. Subject to the terms and conditions under the Revolving Credit Facility, the Company or ANHBV may borrow funds or issue letters of credit. Further, the Revolving Credit Facility contains financial covenants and customary affirmative and negative covenants (applicable to Alcoa Corporation and certain subsidiaries described as restricted), that, subject to certain exceptions, include limitations on (among other things): indebtedness, liens, investments, sales of assets, restricted payments, entering into restrictive agreements, a covenant prohibiting reductions in the ownership of AWAC entities, and certain other specified restricted subsidiaries of Alcoa Corporation, below an agreed level. The Revolving Credit Facility also contains customary events of default, including failure to make payments under the Revolving Credit Facility, cross-default and cross-judgment default, and certain bankruptcy and insolvency events.

On January 17, 2024, Alcoa Corporation, ANHBV, and certain subsidiaries of the Company entered into Amendment No. 1 (Amendment No. 1) to the Revolving Credit Facility (Amended Revolving Credit Facility). The Amended Revolving Credit Facility provides additional flexibility to the Company and the Borrower by temporarily (i) reducing the minimum interest coverage ratio required thereunder from 4.00 to 1.00 to 3.00 to 1.00 and (ii) providing for a maximum addback for cash restructuring charges in Consolidated EBITDA (as defined in the Revolving Credit Facility) of $450, in each case for the 2024 fiscal year. As of January 1, 2025, the minimum interest coverage ratio requirement reverted to 4.00 to 1.00 and the maximum addback for cash restructuring charges in Consolidated EBITDA reverted to 15% of Consolidated EBITDA. The requirement that the Company maintain a debt to capitalization ratio not to exceed .60 to 1.00 was not changed by Amendment No. 1.

In connection with Amendment No. 1, the Company also agreed to provide collateral for its obligations under the Amended Revolving Credit Facility, which requires it to execute all security documents to re-secure collateral under the Amended Revolving Credit Facility by, subject to certain exceptions, a first priority security interest in substantially all assets of the Company, the Borrower, the material domestic wholly-owned subsidiaries of the Company, and the material foreign wholly-owned subsidiaries of the Company located in Australia, Brazil, Canada, Luxembourg, the Netherlands, Norway, and Switzerland including equity interests of certain subsidiaries that directly hold equity interests in AWAC entities.

After January 1, 2025, the Company may obtain a release of the collateral if the Company or the Borrower (as applicable) (i) has at least two of the following three designated ratings: (x) Baa3 from Moody's Investor Service (Moody's), (y) BBB- from Standard and Poor's (S&P) Global Ratings and (z) BBB- from Fitch Ratings and (ii) does not have any designated rating lower than: (x) Ba1 from Moody's, (y) BB+ from S&P Global Ratings and (z) BB+ from Fitch Ratings.

The Amended Revolving Credit Facility contains customary affirmative covenants, negative covenants, and events of default substantially comparable to the Revolving Credit Facility (other than those that are described above and other minor changes). The representations, warranties and covenants contained in the Amended Revolving Credit Facility were made only for purposes of Amendment No. 1 and as of specific dates and were solely for the benefit of the parties to the Amended Revolving Credit Facility.

As of December 31, 2024, the Company was in compliance with all financial covenants. The Company may access the entire amount of commitments under the Revolving Credit Facility. There were no borrowings outstanding at December 31, 2024 and 2023, and no amounts were borrowed during 2024 and 2023 under the Revolving Credit Facility.

Japanese Yen Revolving Credit Facility

In April 2023, the Company entered into a one-year unsecured revolving credit facility for $250 (available to be drawn in Japanese yen) (the Japanese Yen Revolving Credit Facility). Subject to the terms and conditions under the facility, the Company or ANHBV may borrow funds. The facility included covenants that are substantially the same as those included in the Revolving Credit Facility.

On January 17, 2024, Alcoa Corporation and ANHBV, entered into Amendment No. 1 to the Japanese Yen Revolving Credit Facility (Amended Japanese Yen Revolving Credit Facility) which contains changes that are substantially the same as those included in the Amended Revolving Credit Facility (as described above). Also in connection with this amendment, the Company agreed to provide collateral for its obligations with the same conditions as the Amended Revolving Credit Facility. On April 26, 2024, the Company entered into an amendment extending the maturity of the Japanese Revolving Credit Facility to April 2025.

As of December 31, 2024, the Company was in compliance with all financial covenants. The Company may access the entire amount of commitments under the facility. There were no borrowings outstanding at December 31, 2024 and 2023. During 2024, $201 (29,686 JPY) was borrowed and $196 (29,686 JPY) was repaid. During 2023, $10 (1,495 JPY) was borrowed and repaid.

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Alumina Limited Revolving Credit Facility

In connection with the acquisition of Alumina Limited (see Note C), the Company assumed $385 of indebtedness as of August 1, 2024, representing the amount drawn on Alumina Limited's revolving credit facility.

At acquisition, the Alumina Limited revolving credit facility had tranches maturing in October 2025 ($100), January 2026 ($150), July 2026 ($150), and June 2027 ($100). In August 2024, Alcoa cancelled the undrawn portions of the revolving credit facility maturing in July 2026 ($15) and June 2027 ($100). In November 2024, pursuant to the terms of the Alumina Limited revolving credit facility, Alcoa voluntarily repaid all accrued and unpaid amounts outstanding under the revolving credit facility, totaling $385 and, as of the same date, cancelled the outstanding lender tranche commitments ($385). As a result of the repayment and cancellation of undrawn amounts, the Alumina Limited revolving credit facility agreement was effectively terminated. No early termination penalties or prepayment premiums were incurred by Alcoa in connection with the termination of the Alumina Limited revolving credit facility.

N. Preferred and Common Stock

Preferred Stock. Alcoa Corporation is authorized to issue 100,000,000 shares of preferred stock at a par value of $0.01 per share. In connection with the acquisition of Alumina Limited (see Note C), on July 31, 2024, the Company's Board of Directors created and authorized 10,000,000 shares of non-voting preferred stock designated as "Series A convertible preferred stock" with a par value of $0.01 per share. At the transaction closing, Alumina Shares outstanding were exchanged for 4,041,989 shares of Alcoa Series A convertible preferred stock. As of December 31, 2024, the Company had 4,041,989 issued and outstanding shares of Series A convertible preferred stock. At December 31, 2023, the Company had no issued preferred stock.

Common Stock. Alcoa Corporation is authorized to issue 750,000,000 shares of common stock at a par value of $0.01 per share. In connection with the acquisition of Alumina Limited (see Note C), Alumina Shares outstanding were exchanged for 78,772,422 shares of Alcoa common stock. As of December 31, 2024 and 2023, Alcoa Corporation had 258,360,908 and 178,472,464, respectively, issued and outstanding shares of common stock.

Under its employee stock-based compensation plan, the Company issued shares of 1,116,022 in 2024, 1,503,373 in 2023, and 1,434,543 in 2022. The Company issues new shares to satisfy the exercise of stock options and the conversion of stock units. As of December 31, 2024, 19,409,409 shares of common stock were available for issuance.

Common Stock Repurchase Program

In October 2021, Alcoa Corporation's Board of Directors approved a common stock repurchase program for the Company to purchase shares of its outstanding common stock up to an aggregate transactional value of $500, depending on cash availability, market conditions, and other factors.

In July 2022, Alcoa Corporation's Board of Directors approved an additional common stock repurchase program under which the Company may purchase shares of its outstanding common stock up to an aggregate transactional value of $500, depending on the Company's continuing analysis of market, financial, and other factors (the July 2022 authorization). Prior to this authorization, $150 remained available for common stock repurchases at the end of the second quarter of 2022 from the prior authorization in October 2021 of $500 which was fully exhausted in 2022 with the Company's repurchase activity (see below).

No shares were repurchased in 2024 or 2023.

In 2022, the Company repurchased 8,565,200 shares of its common stock for $500; the shares were immediately retired.

As of the date of this report, the Company is currently authorized to repurchase up to a total of $500, in the aggregate, of its outstanding shares of common stock under the July 2022 authorization. Repurchases under this program may be made using a variety of methods, which may include open market purchases, privately negotiated transactions, or pursuant to a Rule 10b5-1 plan. This program may be suspended or discontinued at any time and does not have a predetermined expiration date. Alcoa Corporation intends to retire repurchased shares of common stock.

Dividend

Dividends on common and preferred stock are subject to authorization by Alcoa Corporation's Board of Directors.

Quarterly dividends paid on common stock were $0.10 per share in 2024, 2023, and 2022, totaling $89, $72, and $72, respectively. After the acquisition of Alumina Limited (see Note C), quarterly dividends of $0.10 per share were paid on Series A convertible preferred stock, totaling $1 in 2024.

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The details of any future cash dividend declaration, including the amount of such dividend and the timing and establishment of the record and payment dates, will be determined by the Board of Directors. The decision of whether to pay future cash dividends and the amount of any such dividends will be based on the Company's financial position, results of operations, cash flows, capital requirements, business conditions, the requirements of applicable law, and any other factors the Board of Directors may deem relevant.

Stock-based Compensation

Restricted stock units are generally granted in January and/or February of each calendar year to eligible employees. The Company's Board of Directors also receive certain stock units; however, these amounts are not material. Time-based restricted stock units (RSUs) either cliff vest on the third anniversary of the award grant date or vest incrementally over a three-year period (one third each year) on each anniversary of the award grant date. The Company also grants performance restricted stock units (PRSUs), which are subject to performance conditions and earned after the end of the three-year measurement period. As of January 1, 2021, the Company no longer grants stock options.

The final number of PRSUs earned is dependent on Alcoa Corporation's achievement of certain targets over a three-year measurement period for grants. For PRSUs granted in 2022, the award will be earned after the end of the measurement period of January 1, 2022 through December 31, 2024 based on performance against three measures: (1) the Company's total shareholder return measured against the ranked total shareholder return of the S&P Metals and Mining Select Industry Index components; (2) a pre-established average return-on-equity target; and (3) a reduction in carbon intensity in both refining (through reduced carbon dioxide emissions) and smelting (through increased production from renewable energy) operations. For PRSUs granted in 2023, the award will be earned after the end of the measurement period of January 1, 2023 through December 31, 2025 based on performance against three measures: (1) the Company's total shareholder return measured against the ranked total shareholder return of the S&P Metals and Mining Select Industry Index components; (2) a pre-established average return-on-equity target; and (3) a reduction in carbon intensity in both refining (through reduced carbon dioxide emissions) and smelting (through increased production from renewable energy) operations. For PRSUs granted in 2024, the award will be earned after the end of the measurement period of January 1, 2024 through December 31, 2026 based on performance against three measures: (1) the Company's total shareholder return measured against the ranked total shareholder return of the S&P Metals and Mining Select Industry Index components; (2) a pre-established average return-on-equity target; and (3) a reduction in carbon intensity in both refining (through reduced carbon dioxide emissions) and smelting (through increased production from renewable energy) operations.

In 2024, 2023, and 2022, Alcoa Corporation recognized stock-based compensation expense of $36, $35, and $40, respectively, of which approximately 100% was related to stock units in each period. There was no stock-based compensation expense capitalized in 2024, 2023, and 2022.

Stock-based compensation expense is based on the grant date fair value of the applicable equity grant. For both RSUs and PRSUs, the fair value was equivalent to the closing market price per share of Alcoa Corporation's common stock on the date of grant in the respective periods. For stock units with a market condition, the fair value was estimated on the date of grant using a Monte Carlo simulation model, which generated a result of $40.27, $71.12, and $126.86 per unit in 2024, 2023, and 2022, respectively. The Monte Carlo simulation model uses certain assumptions to estimate the fair value of a market-based stock unit, including volatility and a risk-free interest rate, to estimate the probability of satisfying market conditions. Volatility (59.40%, 64.88%, and 65.25% in 2024, 2023, and 2022, respectively) was estimated using the historical volatility of the Company calculated from daily stock price returns. The risk-free interest rate (4.35%, 4.26%, and 1.71% in 2024, 2023, and 2022, respectively) was based on the U.S. Treasury yield curve at the time of the grant based on the remaining performance period.

The activity for stock units and stock options during 2024 was as follows:

	Stock units		Stock options	
	Number of units	Weighted average FMV per unit	Number of options	Weighted average exercise price
Outstanding, January 1, 2024	2,995,445	$ 35.54	148,608	$ 26.73
Granted	1,598,055	31.43	—	—
Exercised	—	—	(15,162)	18.56
Converted	(1,573,718)	23.23	—	—
Expired or forfeited	(79,161)	39.64	—	—
Performance share adjustment	(28,400)	149.49	—	—
Outstanding, December 31, 2024	2,912,221	$ 38.71	133,446	$ 27.66

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The number of Converted units includes 472,858 shares withheld to meet the Company's statutory tax withholding requirements related to the income earned by the employees as a result of vesting in the units.

As of December 31, 2024, the 133,446 outstanding stock options were fully vested and exercisable, had a weighted average remaining contractual life of 3.07 years, a total intrinsic value of $2 and a weighted average exercise price of $27.66. Cash received from stock option exercises was immaterial in 2024 and 2023 and was $22 in 2022. The total intrinsic value of stock options exercised was immaterial during 2024 and 2023 and was $22 in 2022. The total fair value of stock units converted during 2024, 2023, and 2022 was $37, $35 and $32, respectively.

At December 31, 2024, there was $33 of combined unrecognized compensation expense (pretax) related to non-vested grants of stock units. This expense is expected to be recognized over a weighted average period of 1.53 years.

O. Pension and Other Postretirement Benefits

Defined Benefit Plans

Alcoa sponsors several defined benefit pension plans covering certain employees in the U.S. and foreign locations. Pension benefits generally depend on length of service, job grade, and remuneration. Substantially all benefits are paid through pension trusts that are sufficiently funded to ensure that all plans can pay benefits to retirees as they become due. Most salaried and non-bargaining hourly U.S. employees hired after March 1, 2006 and most bargaining hourly U.S. employees hired after January 1, 2020 participate in a defined contribution plan instead of a defined benefit plan.

The Company also maintains health care postretirement benefit plans covering certain eligible U.S. retired employees and certain retirees from foreign locations. Generally, the medical plans are unfunded and pay a percentage of medical expenses, reduced by deductibles and other coverage. The Company retains the right, subject to existing agreements, to change or eliminate these benefits. All salaried and certain non-bargaining hourly U.S. employees hired after January 1, 2002 and certain bargaining hourly U.S. employees hired after July 1, 2010 are not eligible for postretirement health care benefits.

As of January 1, 2024, the pension benefit plans and the other postretirement benefit plans covered an aggregate of approximately 16,000 and approximately 19,000 participants, respectively.

2024 Actions. In 2024, the following actions impacted certain pension plans:

Action #1 – In the first quarter of 2024, Alcoa announced the full curtailment of the Kwinana refinery. As a result, curtailment accounting was triggered within Alcoa's Australian pension plan. The Company recorded a $1 decrease to Other noncurrent assets and recognized a curtailment loss of $1 ($0 after-tax) in Restructuring and other charges, net on the accompanying Statement of Consolidated Operations.

Action #2 – In the second quarter of 2024, settlement accounting and a related plan remeasurement was triggered within Alcoa's Australian pension plan as a result of participants electing lump sum settlements. Alcoa recorded a $19 increase to Other noncurrent assets and recognized a non-cash settlement gain of $1 ($0 after-tax) in Restructuring and other charges, net on the Statement of Consolidated Operations.

Action #3 – In the fourth quarter of 2024, settlement accounting was triggered within Alcoa's Australian pension plan as a result of participants electing lump sum settlements. Alcoa recognized a non-cash settlement gain of $1 ($1 after-tax) in Restructuring and other charges, net on the Statement of Consolidated Operations.

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The following table presents certain information and the financial impacts of these actions on the accompanying Consolidated Financial Statements:

Action #	Number of affected plan participants	Weighted average discount rate as of prior plan remeasurement date	Plan remeasurement date	Weighted average discount rate as of plan remeasurement date	(Decrease) increase to other noncurrent assets[1]	Curtailment loss[2]	Settlement gain[3]
1	~110	N/A	N/A	N/A	$ (1)	$ 1	$ —
2	~10	4.81%	June 30, 2024	5.23%	19	—	(1)
3	~140	N/A	December 31, 2024	N/A	—	—	(1)
					$ 18	$ 1	$ (2)

(1) Actions 1-2 caused interim plan remeasurements, including an update to the discount rates used to determine the benefit obligations of the affected plans. These amounts include impacts due to interim plan remeasurements.
(2) This amount represents the net actuarial loss arising from the curtailment and was recognized immediately in Restructuring and other charges, net (see Note D) on the accompanying Statement of Consolidated Operations.
(3) These amounts represent the net actuarial gain and were reclassified from Accumulated other comprehensive loss to Restructuring and other charges, net (see Note D) on the accompanying Statement of Consolidated Operations.

2023 Actions. In 2023, the following actions impacted certain pension and other postretirement benefit plans:

Action #1 – In the second quarter of 2023, plan amendment accounting and related plan remeasurements were triggered within the Surinamese pension and other postretirement plans as a result of participants electing to prospectively convert their Surinamese dollar pension and Company-provided retiree medical to a United States dollar pension with no Company-provided retiree medical. As a result, Alcoa recorded a $15 increase to Accrued pension benefits and a $9 decrease to Accrued other postretirement benefits.

Action #2 – In the second quarter of 2023, settlement accounting and related plan remeasurements were triggered within certain Canadian pension plans as a result of the Company's purchase of group annuity contracts to transfer the obligation to pay the remaining retirement benefits of approximately 530 retirees and beneficiaries from its Canadian defined benefit pension plans. The transfer of approximately $235 in both plan obligations and plan assets was completed in April 2023. As a result, Alcoa recorded a $22 increase to Accrued pension benefits and a $5 decrease to Other noncurrent assets and recognized a non-cash settlement loss of $21 ($16 after-tax) in Restructuring and other charges, net on the accompanying Statement of Consolidated Operations.

Action #3 – In the third quarter of 2023, settlement accounting and a related plan remeasurement was triggered within Alcoa's Australian pension plan as a result of participants electing lump sum payments. As a result, Alcoa recorded a $2 decrease to Other noncurrent assets.

The following table presents certain information and the financial impacts of these actions on the accompanying Consolidated Financial Statements:

Action #	Number of affected plan participants	Weighted average discount rate as of prior plan remeasurement date	Plan remeasurement date	Weighted average discount rate as of plan remeasurement date	Increase to accrued pension benefits liability	Decrease to other noncurrent assets	Decrease to accrued other postretirement benefits liability	Settlement loss[1]
1	~370	5.58%	March 31, 2023	5.20%	$ 15	$ —	$ (9)	$ —
2	~530	5.20%	April 30, 2023	4.80%	22	(5)	—	21
3	~50	5.08%	September 30, 2023	5.03%	—	(2)	—	—
					$ 37	$ (7)	$ (9)	$ 21

(1) This amount represents the net actuarial loss and was reclassified from Accumulated other comprehensive loss to Restructuring and other charges, net (see Note D) on the accompanying Statement of Consolidated Operations.

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2022 Actions. In 2022, the following actions impacted certain pension and other postretirement benefit plans:

Action #1 – In the third quarter of 2022, settlement accounting and related plan remeasurements were triggered within Alcoa's U.S. pension plans as a result of the Company's purchase of group annuity contracts to transfer the obligation to pay the remaining retirement benefits of approximately 4,400 retirees and beneficiaries from its U.S. defined benefit pension plans. The transfer of approximately $1,000 in both plan obligations and plan assets was completed in August 2022. As a result, Alcoa recorded a $5 increase to Accrued pension benefits and a $27 increase to Other noncurrent assets and recognized a non-cash settlement loss of $617 (pre- and after-tax) in Restructuring and other charges, net on the Statement of Consolidated Operations.

Action #2 – In the third quarter of 2022, settlement accounting and related plan remeasurements were triggered within Alcoa's U.S. pension plans as a result of participants electing lump sum payments. Alcoa recognized a non-cash settlement loss of $11 (pre- and after-tax) in Restructuring and other charges, net on the Statement of Consolidated Operations.

Action #3 – In the third quarter of 2022, settlement accounting and a related plan remeasurement was triggered within Alcoa's U.S. salaried pension plan as a result of participants electing lump sum payments. Alcoa recorded a $23 increase to Accrued pension benefits and a $12 decrease to Other noncurrent assets and recognized a non-cash settlement loss of $1 (pre- and after-tax) in Restructuring and other charges, net on the Statement of Consolidated Operations.

Action #4 – In the third quarter of 2022, settlement accounting and a related plan remeasurement was triggered within Alcoa's Australian pension plan as a result of participants electing lump sum payments. Alcoa recorded a $21 increase to Other noncurrent assets and recognized a non-cash settlement gain of $3 (pre- and after-tax) in Restructuring and other charges, net on the Statement of Consolidated Operations.

Action #5 – In the fourth quarter of 2022, settlement accounting was triggered within Alcoa's U.S. pension plans as a result of participants electing lump sum payments. Alcoa recorded a $3 increase to Accrued pension benefits and recognized a non-cash settlement loss of $6 (pre- and after-tax) in Restructuring and other charges, net on the Statement of Consolidated Operations.

The following table presents certain information and the financial impacts of these actions on the accompanying Consolidated Financial Statements:

Action #	Number of affected plan participants	Weighted average discount rate as of prior plan remeasurement date	Plan remeasurement date	Weighted average discount rate as of plan remeasurement date	Increase to accrued pension benefits liability[1]	Increase (decrease) to other noncurrent assets[1]	Settlement loss (gain)[2]
1	~4,400	2.90%	July 31, 2022	4.63%	$ 5	$ 27	$ 617
2	~45	2.90%	July 31, 2022	4.63%	—	—	11
3	~5	4.57%	September 30, 2022	5.71%	23	(12)	1
4	~25	2.46%	September 30, 2022	4.99%	—	21	(3)
5	~20	N/A	December 31, 2022	N/A	3	—	6
					$ 31	$ 36	$ 632

(1) Actions 1-4 caused interim plan remeasurements, including an update to the discount rates used to determine the benefit obligations of the affected plans. These amounts include impacts due to interim plan remeasurements.

(2) These amounts represent the net actuarial loss (gain) and were reclassified from Accumulated other comprehensive loss to Restructuring and other charges, net (see Note D) on the accompanying Statement of Consolidated Operations.

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Obligations and Funded Status

December 31,	Pension benefits 2024	Pension benefits 2023	Other postretirement benefits 2024	Other postretirement benefits 2023
Change in benefit obligation				
Benefit obligation at beginning of year	$ 2,393	$ 2,518	$ 494	$ 536
Service cost	9	11	3	3
Interest cost	113	119	24	26
Amendments	—	2	—	—
Actuarial (gains) losses	(78)	117	(8)	(7)
Settlements	(81)	(280)	—	—
Benefits paid, net of participants' contributions	(122)	(133)	(51)	(52)
Suriname resident election transfer	—	12	—	(12)
Foreign currency translation impact	(89)	27	—	—
Benefit obligation at end of year	$ 2,145	$ 2,393	$ 462	$ 494
Change in plan assets				
Fair value of plan assets at beginning of year	$ 2,219	$ 2,434	$ —	$ —
Actual return on plan assets	49	141	—	—
Employer contributions	17	24	—	—
Participant contributions	3	3	—	—
Benefits paid	(115)	(125)	—	—
Administrative expenses	(7)	(9)	—	—
Settlements	(81)	(280)	—	—
Annuity purchase premium refund	—	7	—	—
Foreign currency translation impact	(85)	24	—	—
Fair value of plan assets at end of year	$ 2,000	$ 2,219	$ —	$ —
Funded status	$ (145)	$ (174)	$ (462)	$ (494)
Less: Amounts attributed to joint venture partners	(7)	(11)	—	—
Net funded status	$ (138)	$ (163)	$ (462)	$ (494)
Amounts recognized in the Consolidated Balance Sheet consist of:				
Noncurrent assets	$ 128	$ 125	$ —	$ —
Current liabilities	(10)	(10)	(50)	(51)
Noncurrent liabilities	(256)	(278)	(412)	(443)
Net amount recognized	$ (138)	$ (163)	$ (462)	$ (494)
Amounts recognized in Accumulated Other Comprehensive Loss consist of:				
Net actuarial loss	$ 1,076	$ 1,098	$ 75	$ 88
Prior service cost (benefit)	4	4	(83)	(97)
Total, before tax effect	1,080	1,102	(8)	(9)
Less: Amounts attributed to joint venture partners	29	33	—	—
Net amount recognized, before tax effect	$ 1,051	$ 1,069	$ (8)	$ (9)
Other Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive (Loss) Income consist of:				
Net actuarial loss (gain)	$ 9	$ 131	$ (8)	$ (2)
Amortization of accumulated net actuarial loss	(31)	(49)	(5)	(5)
Prior service cost	—	2	—	—
Amortization of prior service benefit	—	—	14	14
Total, before tax effect	(22)	84	1	7
Less: Amounts attributed to joint venture partners	(4)	6	—	—
Net amount recognized, before tax effect	$ (18)	$ 78	$ 1	$ 7

At December 31, 2024, the benefit obligation, fair value of plan assets, and funded status for U.S. pension plans were $1,056, $988, and ($68), respectively. At December 31, 2023, the benefit obligation, fair value of plan assets, and funded status for U.S. pension plans were $1,119, $1,054, and ($65), respectively.

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Pension Plan Benefit Obligations

	Pension benefits	
	2024	2023
The aggregate projected benefit obligation and accumulated benefit obligation for all defined benefit pension plans was as follows:		
Projected benefit obligation	$ 2,145	$ 2,393
Accumulated benefit obligation	2,078	2,285
The aggregate projected benefit obligation and fair value of plan assets for pension plans with projected benefit obligations in excess of plan assets was as follows:		
Projected benefit obligation	1,627	1,636
Fair value of plan assets	1,351	1,336
The aggregate accumulated benefit obligation and fair value of plan assets for pension plans with accumulated benefit obligations in excess of plan assets was as follows:		
Accumulated benefit obligation	1,432	1,425
Fair value of plan assets	1,197	1,169

Components of Net Periodic Benefit Cost

	Pension benefits[1]			Other postretirement benefits		
	2024	2023	2022	2024	2023	2022
Service cost	$ 9	$ 10	$ 13	$ 3	$ 3	$ 4
Interest cost[2]	108	114	104	24	26	15
Expected return on plan assets[2]	(139)	(146)	(151)	—	—	—
Amortization of accumulated net actuarial loss[2]	32	28	88	5	5	18
Amortization of prior service benefit[2]	—	—	—	(14)	(14)	(14)
Settlements[3]	(2)	21	632	—	—	—
Curtailments[4]	1	—	—	—	—	—
Net periodic benefit cost[5]	$ 9	$ 27	$ 686	$ 18	$ 20	$ 23

(1) In 2024, 2023, and 2022, net periodic benefit cost for U.S pension plans was $7, $6, and $698, respectively.
(2) These amounts were reported in Other expenses (income), net on the accompanying Statement of Consolidated Operations.
(3) These amounts were reported in Restructuring and other charges, net on the accompanying Statement of Consolidated Operations (see Note D). In 2024, 2023 and 2022, settlements were due to plan actions (see Actions above).
(4) These amounts were reported in Restructuring and other charges, net on the accompanying Statement of Consolidated Operations (see Note D). In 2024, curtailments were due to plan actions (see Actions above).
(5) Amounts attributed to joint venture partners are not included.

Assumptions. Liabilities and expenses for pension and other postretirement benefits are determined using actuarial methodologies and incorporate significant assumptions, including the interest rate used to discount the future estimated liability, the expected long-term rate of return on plan assets, and several assumptions relating to the employee workforce (salary increases, health care cost trend rates, retirement age, and mortality).

Weighted average assumptions used to determine benefit obligations for pension and other postretirement benefit plans were as follows:

December 31,	2024	2023
Discount rate—pension plans	5.30%	5.03%
Discount rate—other postretirement benefit plans	5.53	5.19
Rate of compensation increase—pension plans	3.20	3.77

The yield curve model used to develop the discount rate is based on high-quality corporate bonds, parallels the plans' projected cash flows and has a weighted average duration of 10 years. If a deep market of high-quality corporate bonds does not exist in a country, then the yield on government bonds plus a corporate bond yield spread is used.

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Weighted average assumptions used to determine net periodic benefit cost for pension and other postretirement benefit plans were as follows:

	2024	2023	2022
Discount rate—pension plans	5.02%	5.34%	2.66%
Discount rate—other postretirement benefit plans	5.17	5.45	2.46
Expected long-term rate of return on plan assets—pension plans	6.13	6.21	4.94
Rate of compensation increase—pension plans	3.77	3.21	3.11

For 2024, 2023, and 2022, the expected long-term rate of return used by management was based on the prevailing and planned strategic asset allocations, as well as estimates of future returns by asset class. For 2025, management anticipates that 5.78% will be the weighted average expected long-term rate of return.

Assumed health care cost trend rates for U.S. other postretirement benefit plans were as follows (non-U.S. plans are not material):

	2024	2023	2022
Health care cost trend rate assumed for next year	7.0%	6.5%	7.0%
Rate to which the cost trend rate gradually declines	5.0%	5.0%	5.0%
Year that the rate reaches the rate at which it is assumed to remain	2034	2032	2028

The assumed health care cost trend rate is used to measure the expected cost of gross eligible charges covered by the Company's other postretirement benefit plans. For 2025, a 7.0% trend rate will be used, reflecting management's best estimate of the change in future health care costs covered by the plans.

Plan Assets. Alcoa's pension plan weighted average target and actual asset allocations at December 31, 2024 and 2023, by asset class, were as follows:

	Target asset allocation		Plan assets at December 31,	
Asset class	**2024**	**2023**	**2024**	**2023**
Equities	20%	20%	21%	17%
Fixed income	65	65	69	70
Other investments	15	15	10	13
Total	100%	100%	100%	100%

The principal objectives underlying the investment of the pension plan assets are to ensure that the Company can properly fund benefit obligations as they become due under a broad range of potential economic and financial scenarios, maximize the long-term investment return with an acceptable level of risk based on such obligations, and broadly diversify investments across and within various asset classes to protect asset values against adverse movements. Investment risk is controlled by rebalancing to target allocations on a periodic basis and ongoing monitoring of investment manager performance.

The portfolio includes an allocation to investments in long-duration corporate credit and government debt, public and private market equities, intermediate duration corporate credit and government debt, global-listed infrastructure, high-yield bonds and bank loans, real estate, and securitized credit.

Investment practices comply with the requirements of applicable laws and regulations in the respective jurisdictions, including the Employee Retirement Income Security Act of 1974 (ERISA) in the United States.

The following section describes the valuation methodologies used by the trustees to measure the fair value of pension plan assets. For plan assets measured at net asset value, this refers to the net asset value of the investment on a per share basis (or its equivalent) as a practical expedient. Otherwise, an indication of the level in the fair value hierarchy in which each type of asset is generally classified is provided (see Note P for the definition of fair value and a description of the fair value hierarchy).

Equities—These securities consist of: (i) direct investments in the stock of publicly traded U.S. and non-U.S. companies and are valued based on the closing price reported in an active market on which the individual securities are traded (generally classified in Level 1); (ii) the plans' share of commingled funds that are invested in the stock of publicly traded companies and are valued at net asset value; and (iii) direct investments in long/short equity hedge funds and private equity (limited partnerships and venture capital partnerships) and are valued at net asset value.

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Fixed income—These securities consist of: (i) U.S. government debt and are generally valued using quoted prices (included in Level 1); (ii) cash and cash equivalents invested in publicly-traded funds and are valued based on the closing price reported in an active market on which the individual securities are traded (generally classified in Level 1); (iii) publicly traded U.S. and non-U.S. fixed interest obligations (principally corporate bonds and debentures) and are valued through consultation and evaluation with brokers in the institutional market using quoted prices and other observable market data (included in Level 2); and (iv) cash and cash equivalents invested in institutional funds and are valued at net asset value.

Other investments—These investments include, among others: (i) real estate investment trusts valued based on the closing price reported in an active market on which the investments are traded (included in Level 1); (ii) the plans' share of commingled funds that are invested in real estate partnerships and are valued at net asset value; (iii) direct investments in private real estate (includes limited partnerships) and are valued at net asset value; (iv) absolute return strategy funds and are valued at net asset value; and (v) indirect investments of discretionary and systematic macro hedge funds and are valued at net asset value.

The fair value methods described above may not be indicative of net realizable value or reflective of future fair values. Additionally, while Alcoa believes the valuation methods used by the plans' trustees are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The following table presents the fair value of pension plan assets classified under either the appropriate level of the fair value hierarchy or net asset value:

December 31, 2024	Level 1	Level 2	Level 3	Net Asset Value	Total
Equities:					
Equity securities	$ 77	$ —	$ —	$ 227	$ 304
Private equity	—	—	—	109	109
	$ 77	$ —	$ —	$ 336	$ 413
Fixed income:					
Intermediate and long-duration government/credit	$ 374	$ 470	$ —	$ 471	$ 1,315
Cash and cash equivalent funds	42	—	—	14	56
	$ 416	$ 470	$ —	$ 485	$ 1,371
Other investments:					
Real estate	$ 17	$ —	$ —	$ 163	$ 180
Discretionary and systematic macro hedge funds	—	—	—	11	11
Other	—	—	—	18	18
	$ 17	$ —	$ —	$ 192	$ 209
Total[1]	$ 510	$ 470	$ —	$ 1,013	$ 1,993

December 31, 2023	Level 1	Level 2	Level 3	Net Asset Value	Total
Equities:					
Equity securities	$ 108	$ —	$ —	$ 134	$ 242
Private equity	—	—	—	127	127
	$ 108	$ —	$ —	$ 261	$ 369
Fixed income:					
Intermediate and long-duration government/credit	$ 403	$ 517	$ —	$ 496	$ 1,416
Cash and cash equivalent funds	14	—	—	114	128
	$ 417	$ 517	$ —	$ 610	$ 1,544
Other investments:					
Real estate	$ 21	$ —	$ —	$ 253	$ 274
Other	—	—	—	19	19
	$ 21	$ —	$ —	$ 272	$ 293
Total[2]	$ 546	$ 517	$ —	$ 1,143	$ 2,206

(1) As of December 31, 2024, the total fair value of pension plan assets excludes a net receivable of $7, which primarily represents securities not yet settled plus interest and dividends earned on various investments.

(2) As of December 31, 2023, the total fair value of pension plan assets excludes a net receivable of $13, which primarily represents securities not yet settled plus interest and dividends earned on various investments.

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Funding and Cash Flows. It is Alcoa's policy to fund amounts for defined benefit pension plans sufficient to meet the minimum requirements set forth in applicable country benefits laws and tax laws, including ERISA for U.S. plans. From time to time, the Company contributes additional amounts as deemed appropriate.

In 2024, 2023, and 2022, cash contributions to Alcoa's defined benefit pension plans were $16, $24, and $17.

Alcoa's minimum required contribution to defined benefit pension plans in 2025 is estimated to be $60, of which approximately $40 is for U.S. plans. Under ERISA regulations, a plan sponsor that establishes a pre-funding balance by making discretionary contributions to a U.S. defined benefit pension plan may elect to apply all or a portion of this balance toward its minimum required contribution obligations to the related plan in future years. In 2025, management intends to make such election related to the Company's U.S. plans.

Benefit payments expected to be paid to pension and other postretirement benefit plan participants are as follows:

Year ending December 31,	Pension benefits	Other postretirement benefits
2025	$ 170	$ 50
2026	165	50
2027	165	45
2028	165	45
2029	160	45
2030 through 2034	780	205
	$ 1,605	$ 440

Defined Contribution Plans

The Company sponsors savings and investment plans in several countries. In the United States, employees may contribute a portion of their compensation to the plans, and Alcoa matches a specified percentage of these contributions in equivalent form of the investments elected by the employee. Also, the Company makes contributions to a retirement savings account based on a percentage of eligible compensation for certain U.S. employees that are not able to participate in Alcoa's defined benefit pension plans. The Company's expenses related to all defined contribution plans were $86 in 2024, $80 in 2023, and $71 in 2022.

Member-funded Pension Plans

The Company contributes to member-funded pension plans for the employees of Aluminerie de Bécancour Inc. and Aluminerie de Deschambault in Canada. Alcoa makes contributions to the plans based on a percentage of the employees' eligible compensation. The Company's expenses related to the member-funded pension plans were $16 in 2024, $16 in 2023, and $17 in 2022.

Target Benefit Plan

The Company contributes to a target benefit plan for the employees of Baie-Comeau in Canada. Alcoa makes contributions to the plan based on a percentage of the employees' eligible compensation. The Company's expenses related to the target benefit plan were $8 in 2024, $8 in 2023, and $9 in 2022.

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P. Derivatives and Other Financial Instruments

Fair Value. The Company follows a fair value hierarchy to measure its assets and liabilities. As of December 31, 2024 and 2023, respectively, the assets and liabilities measured at fair value on a recurring basis were primarily derivative instruments. In addition, the Company measures its pension plan assets at fair value (see Note O). Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy distinguishes between (i) market participant assumptions developed based on market data obtained from independent sources (observable inputs) and (ii) an entity's own assumptions about market participant assumptions developed based on the best information available in the circumstances (unobservable inputs). The fair value hierarchy consists of three broad levels, which gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described below:

- Level 1—Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;
- Level 2—Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, including quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability (e.g., interest rates); and inputs that are derived principally from or corroborated by observable market data by correlation or other means; and,
- Level 3—Inputs that are both significant to the fair value measurement and unobservable.

Derivatives. Alcoa Corporation is exposed to certain risks relating to its ongoing business operations, including the risks of changing commodity prices, foreign currency exchange rates, and interest rates. Alcoa Corporation's commodity and derivative activities include aluminum, energy, foreign exchange, and interest rate contracts, which are held for purposes other than trading. They are used to mitigate uncertainty and volatility, and to cover underlying exposures. While Alcoa does not generally enter into derivative contracts to mitigate the risk associated with changes in aluminum price, the Company may do so in isolated cases to address discrete commercial or operational conditions. Alcoa is not involved in trading activities for energy, weather derivatives, or other nonexchange commodities.

Alcoa Corporation's commodity and derivative activities are subject to the management, direction, and control of the Strategic Risk Management Committee (SRMC), which consists of at least three members, including the chief executive officer, the chief financial officer, and the chief commercial officer. The remaining member(s) are other officers and/or employees of the Company as the chief executive officer may designate from time to time. The SRMC meets on a periodic basis to review derivative positions and strategy and reports to the Audit Committee of Alcoa Corporation's Board of Directors on the scope of its activities.

Alcoa Corporation's aluminum and foreign exchange contracts are classified as Level 1 under the fair value hierarchy. All of the Level 1 contracts are designated as either fair value or cash flow hedging instruments. Alcoa Corporation also has several derivative instruments classified as Level 3 under the fair value hierarchy, which are either designated as cash flow hedges or undesignated. Alcoa included the changes in its equity method investee's Level 2 derivatives in Accumulated other comprehensive loss through June 30, 2024, when the underlying contracts expired.

The following tables present the detail for Level 1 and 3 derivatives (see additional Level 3 information in further tables below):

	2024		2023	
Balance at December 31,	**Assets**	**Liabilities**	**Assets**	**Liabilities**
Level 1 derivative instruments	$ 1	$ 20	$ 16	$ 9
Level 3 derivative instruments	24	1,079	16	1,297
Total	$ 25	$ 1,099	$ 32	$ 1,306
Less: Current	25	263	29	214
Noncurrent	$ —	$ 836	$ 3	$ 1,092

	2024		2023	
Year ended December 31,	**Unrealized loss recognized in Other comprehensive loss**	**Realized gain (loss) reclassified from Other comprehensive loss to earnings**	**Unrealized gain (loss) recognized in Other comprehensive loss**	**Realized gain (loss) reclassified from Other comprehensive loss to earnings**
Level 1 derivative instruments	$ (23)	$ 1	$ 31	$ 86
Level 3 derivative instruments	(70)	(290)	(326)	(221)
Noncontrolling and equity interest (Level 2)	—	1	—	5
Total	$ (93)	$ (288)	$ (295)	$ (130)

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The 2024 realized gain of $1 on Level 1 cash flow hedges was comprised of a $2 gain recognized in Sales and a $1 loss recognized in Cost of goods sold. The 2023 realized gain of $86 on Level 1 cash flow hedges was comprised of a $91 gain recognized in Sales and a $5 loss recognized in Cost of goods sold.

The following table presents the outstanding quantities of derivative instruments classified as Level 1:

	Classification	December 31, 2024	December 31, 2023
Aluminum (in kmt)	Commodity buy forwards	145	78
Aluminum (in kmt)	Commodity sell forwards	108	46
Foreign currency (in millions of euro)	Foreign exchange buy forwards	152	48
Foreign currency (in millions of euro)	Foreign exchange sell forwards	13	9
Foreign currency (in millions of Norwegian krone)	Foreign exchange buy forwards	54	138
Foreign currency (in millions of Brazilian real)	Foreign exchange buy forwards	280	467
Foreign currency (in millions of Australian dollars)	Foreign exchange buy forwards	43	—
Foreign currency (in millions of Canadian dollar)	Foreign exchange buy forwards	5	31

Alcoa routinely uses Level 1 aluminum derivative instruments to manage exposures to changes in the fair value of firm commitments for the purchases or sales of aluminum. Additionally, Alcoa used Level 1 aluminum derivative instruments to manage LME exposures related to profitability improvement actions (expired December 2024), and the Alumar (Brazil) restart (expired December 2023). As a result of delays with the Alumar restart during 2023, it became probable that certain of the original forecasted transactions would not occur by the end of the originally specified time period and Alcoa dedesignated certain aluminum sell forwards. The Company reclassified the related unrealized gain of $11 included in Accumulated other comprehensive loss to Sales during the year ended 2023. In conjunction with the dedesignations, the Company entered into aluminum buy forwards for the same volume and periods which were also not designated. The unrealized and realized gains and losses on the aluminum buy and sell forwards that are not designated offset resulting in no impact to Alcoa's earnings.

Alcoa Corporation uses Level 1 foreign exchange forward contracts to mitigate the risk of foreign exchange exposure related to euro power purchases in Norway (expires December 2027), U.S. dollar aluminum sales in Norway (expires June 2025), U.S. dollar alumina sales in Brazil (expires October 2026), U.S. dollar aluminum sales in Brazil (expired December 2023), U.S. dollar alumina sales in Australia (expires December 2026) and Canadian dollar expenses in Canada (expires March 2025).

Derivative instruments classified as Level 3 in the fair value hierarchy represent those in which management has used at least one significant unobservable input in the valuation model. Alcoa Corporation uses a discounted cash flow model to fair value all Level 3 derivative instruments. Inputs in the valuation models for Level 3 derivative instruments are composed of the following: (i) quoted market prices (e.g., aluminum prices on the 10-year LME forward curve and energy prices), (ii) significant other observable inputs (e.g., information concerning time premiums and volatilities for certain option type embedded derivatives and regional premiums for aluminum contracts), and (iii) unobservable inputs (e.g., aluminum and energy prices beyond those quoted in the market, and estimated credit spread between Alcoa and the counterparty). For periods beyond the term of quoted market prices for aluminum, Alcoa Corporation estimates the price of aluminum by extrapolating the 10-year LME forward curve. For periods beyond the term of quoted market prices for the Midwest premium, management estimates the Midwest premium based on recent transactions. Where appropriate, valuations are adjusted for various factors such as liquidity, bid/offer spreads, and credit considerations. Such adjustments are generally based on available market evidence (Level 2). In the absence of such evidence, management's best estimate is used (Level 3). If a significant input that is unobservable in one period becomes observable in a subsequent period, the related asset or liability would be transferred to the appropriate classification (Level 1 or 2) in the period of such change (there were no such transfers in the periods presented). There were no sales or settlements of Level 3 derivative instruments in the periods presented.

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Level 3 derivative instruments outstanding as of December 31, 2024 are described in the table below:

Description	Designation	Contract Termination	Unobservable Inputs Impacting Valuation	Sensitivity to Inputs
Power contracts				
Embedded derivative that indexes the price of power to the LME price of aluminum plus the Midwest premium	Cash flow hedge of forward sales of aluminum	March 2026 December 2029 February 2036	LME price, Midwest premium and MWh per year	Increase in LME price and/or the Midwest premium results in a higher cost of power and an increase to the derivative liability
Embedded derivative that indexes the price of power to the LME price of aluminum	Cash flow hedge of forward sales of aluminum	September 2027	LME price and MWh per year	Increase in LME price results in a higher cost of power and an increase to the derivative liability
Embedded derivative that indexes the price of power to the credit spread between the Company and the counterparty	Not designated	October 2028	Estimated credit spread	Wider credit spread results in a higher cost of power and increase in the derivative liability
Financial contracts				
Hedge power prices	Not designated	June 2035	LME price and power price	Lower prices in the power market or higher LME prices result in an increase in the derivative liability

In December 2022, Alcoa entered into a financial contract with a counterparty to hedge power price exposure through March 31, 2023. The Financial contract was designated as a cash flow hedge of future sales of power. Unrealized gains and losses were recognized in Accumulated other comprehensive loss on the accompanying Consolidated Balance Sheet, and realized gains and losses were recognized in Cost of goods sold on the accompanying Statement of Consolidated Operations.

In August 2023 and September 2024, the Company entered into nine-year financial contracts (undesignated) that hedge the anticipated power requirements at one of its smelters effective July 1, 2026 when the current contracts (undesignated) end.

At December 31, 2024, the outstanding Level 3 instruments are associated with seven smelters. At December 31, 2024 and 2023, the power contracts with embedded derivatives designated as cash flow hedges hedge forecasted aluminum sales of 1,230 kmt and 1,456 kmt, respectively.

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The following table presents quantitative information related to the significant unobservable inputs described above for Level 3 derivative instruments (megawatt hours in MWh):

	December 31, 2024	Unobservable Input	Unobservable Input Range	
Asset Derivatives				
Financial contract (undesignated)	$ 24	Interrelationship of forward energy price, LME forward price and the Consumer Price Index	Electricity (per MWh)	2025: $38.47 2025: $70.70
			LME (per mt)	2025: $2,536 2025: $2,558
Total Asset Derivatives	$ 24			
Liability Derivatives				
Power contract	$ 148	MWh of energy needed to produce the forecasted mt of aluminum	LME (per mt)	2025: $2,536 2027: $2,609
			Electricity	Rate of 4 million MWh per year
Power contracts	927	MWh of energy needed to produce the forecasted mt of aluminum	LME (per mt)	2025: $2,536 2029: $2,638 2036: $2,846
			Midwest premium (per pound)	2025: $0.2335 2029: $0.2300 2036: $0.2300
			Electricity	Rate of 18 million MWh per year
Power contract	2	MWh of energy needed to produce the forecasted mt of aluminum	LME (per mt)	2025: $2,536 2025: $2,555
			Midwest premium (per pound)	2025: $0.2335 2025: $0.2645
			Electricity	Rate of 2 million MWh per year
Power contract (undesignated)	2	Estimated spread between the 30-year debt yield of Alcoa and the counterparty	Credit spread	0.96%: 30-year debt yield spread 6.49%: Alcoa (estimated) 5.53%: counterparty
Total Liability Derivatives	$ 1,079			

The fair values of Level 3 derivative instruments recorded in the accompanying Consolidated Balance Sheet were as follows:

Asset Derivatives	**December 31, 2024**	**December 31, 2023**
Derivatives not designated as hedging instruments:		
Current—financial contract	$ 24	$ 16
Total derivatives not designated as hedging instruments	$ 24	$ 16
Total Asset Derivatives	$ 24	$ 16
Liability Derivatives		
Derivatives designated as hedging instruments:		
Current—power contracts	$ 251	$ 210
Noncurrent—power contracts	826	1,087
Total derivatives designated as hedging instruments	$ 1,077	$ 1,297
Derivatives not designated as hedging instruments:		
Current—embedded credit derivative	$ 1	$ —
Noncurrent—embedded credit derivative	1	—
Total derivatives not designated as hedging instruments	$ 2	$ —
Total Liability Derivatives	$ 1,079	$ 1,297

The following table shows the net fair values of the Level 3 derivative instruments at December 31, 2024 and the effect on these amounts of a hypothetical change (increase or decrease of 10%) in the market prices or rates that existed as of December 31, 2024:

	Fair value asset (liability)	Index change of + / -10%
Power contracts	$ (1,077)	$ 253
Embedded credit derivative	(2)	1
Financial contracts	24	9

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The following tables present a reconciliation of activity for Level 3 derivative instruments:

	Assets
2024	**Financial contracts**
January 1, 2024	$ 16
Total gains or losses included in:	
Other income, net (unrealized/realized)	61
Settlements and other	(53)
December 31, 2024	$ 24
Change in unrealized gains or losses included in earnings for derivative instruments held at December 31, 2024:	
Other income, net	$ 61

	Liabilities	
2024	**Power contracts**	**Embedded credit derivative**
January 1, 2024	$ 1,297	$ —
Total gains or losses included in:		
Sales (realized)	(290)	—
Other expenses, net (unrealized/realized)	—	3
Other comprehensive income (unrealized)	70	—
Settlements and other	—	(1)
December 31, 2024	$ 1,077	$ 2
Change in unrealized gains or losses included in earnings for derivative instruments held at December 31, 2024:		
Other expenses, net	$ —	$ 3

	Assets	
2023	**Power contracts**	**Financial contracts**
January 1, 2023	$ —	$ 52
Total gains or losses included in:		
Sales (realized)	(4)	—
Cost of goods sold (realized)	—	(20)
Other expenses, net (unrealized/realized)	—	(5)
Other comprehensive income (unrealized)	4	—
Settlements and other	—	(11)
December 31, 2023	$ —	$ 16
Change in unrealized gains or losses included in earnings for derivative instruments held at December 31, 2023:		
Other expenses, net	$ —	$ (5)

	Liabilities
2023	**Power contracts**
January 1, 2023	$ 1,212
Total gains or losses included in:	
Sales (realized)	(245)
Other comprehensive income (unrealized)	330
December 31, 2023	$ 1,297

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Derivatives Designated As Hedging Instruments—Cash Flow Hedges

Assuming market rates remain constant with the rates at December 31, 2024, a realized loss of $251 related to power contracts is expected to be recognized in Sales over the next 12 months.

Material Limitations

The disclosures with respect to commodity prices and foreign currency exchange risk do not consider the underlying commitments or anticipated transactions. If the underlying items were included in the analysis, the gains or losses on the futures contracts may be offset. Actual results will be determined by several factors that are not under Alcoa Corporation's control and could vary significantly from those factors disclosed.

Alcoa Corporation is exposed to credit loss in the event of nonperformance by counterparties on the above instruments, as well as credit or performance risk with respect to its hedged customers' commitments. Alcoa Corporation does not anticipate nonperformance by any of these parties. Contracts are with creditworthy counterparties and are further supported by cash, treasury bills, or irrevocable letters of credit issued by carefully chosen banks. In addition, various master netting arrangements are in place with counterparties to facilitate settlement of gains and losses on these contracts.

Other Financial Instruments. The carrying values and fair values of Alcoa Corporation's other financial instruments were as follows:

	2024		2023	
December 31,	Carrying value	Fair value	Carrying value	Fair value
Cash and cash equivalents	$ 1,138	$ 1,138	$ 944	$ 944
Restricted cash	96	96	103	103
Short-term borrowings	50	50	56	56
Long-term debt due within one year	75	75	79	79
Long-term debt, less amount due within one year	2,470	2,499	1,732	1,702

Cash and cash equivalents and Restricted cash. The carrying amounts approximate fair value because of the short maturity of the instruments. The fair value amounts for Cash and cash equivalents and Restricted cash were classified in Level 1 of the fair value hierarchy.

Short-term borrowings and Long-term debt, including amounts due within one year. The fair value of Long-term debt, less amount due within one year was based on quoted market prices for public debt and on interest rates that are currently available to Alcoa Corporation for issuance of debt with similar terms and maturities for non-public debt. The fair value amounts for all Short-term borrowings and Long-term debt were classified in Level 2 of the fair value hierarchy.

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Q. Income Taxes

Provision for income taxes. The components of Income (loss) before income taxes were as follows:

	2024	2023	2022
Domestic	$ (351)	$ (277)	$ (652)
Foreign	640	(307)	1,354
Total	$ 289	$ (584)	$ 702

Provision for income taxes consisted of the following:

	2024	2023	2022
Current:			
Federal	$ —	$ —	$ —
Foreign	242	211	445
State and local	—	—	—
	$ 242	$ 211	$ 445
Deferred:			
Federal	—	—	(3)
Foreign	23	(22)	222
State and local	—	—	—
	$ 23	$ (22)	$ 219
Total	$ 265	$ 189	$ 664

Federal includes U.S. income taxes related to foreign income.

A reconciliation of the U.S. federal statutory rate to Alcoa's effective tax rate was as follows:

	2024	2023	2022
U.S. federal statutory rate	21.0%	21.0%	21.0%
Taxes on foreign operations—rate differential	29.8	7.1	9.9
Impacts of the U.S. Tax Cuts and Jobs Act of 2017	27.8	—	—
Changes in valuation allowances	15.5	(50.8)	76.7
Tax rate differential	5.1	—	—
Other foreign tax effects	4.5	(6.8)	1.7
Interest income/expense	2.8	(0.2)	(0.1)
Noncontrolling interest	1.3	0.2	0.8
Internal legal entity reorganizations	0.1	0.2	(9.0)
Uncertain tax positions	(0.2)	(0.1)	0.4
Equity loss	(0.2)	(5.3)	(2.0)
Adjustment of prior year income taxes	(1.5)	0.3	—
Tax credits	(7.7)	1.4	(0.2)
Tax holidays	(9.6)	0.1	(5.2)
Other	3.0	0.5	0.6
Effective tax rate	91.7%	(32.4%)	94.6%

During 2020, the U.S. Treasury Department finalized regulations implementing GILTI ("Global Intangible Low-Tax Income") provisions of the U.S. Tax Cuts and Jobs Act of 2017. Included in these regulations is an annual election for an exclusion from GILTI for income subject to a high rate of foreign tax (the "high tax exception"). Although affiliates may be located in jurisdictions with a high rate of foreign tax, due to differences between local tax rules used to determine the tax liability and the U.S. tax principles used to determine GILTI, affiliates may not meet the high tax exception each year and, as such, may not qualify for this exclusion. The Company plans to make the high tax exception election for the 2024 tax year in jurisdictions where the rules are met. The jurisdictions where the Company does not meet the high tax exception exclusion for the 2024 tax year resulted in a GILTI inclusion for the year ended December 31, 2024. The GILTI inclusion was fully offset by current losses and net operating losses subject to a full valuation allowance.

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Certain income earned by Alcoa World Alumina Brasil Ltda. (AWAB) is eligible for a tax holiday, which decreases the tax rate on this income from 34% to 15.25%, which will result in future cash tax savings. The holiday related to production at the Alumar refinery was originally expected to end on December 31, 2027. During 2023, it was extended to December 31, 2032. The holiday related to the operation of the Juruti (Brazil) bauxite mine will end on December 31, 2026.

In 2021, it was determined that the deferred taxes associated with income subject to the tax holiday would be fully exhausted within the holiday period and the amounts were therefore maintained on the balance sheet at the holiday tax rate. In 2022, the Company's projection of the reversal of deferred tax assets during the holiday tax period was lowered, and as a result, the remainder was revalued at the statutory rate of 34%, resulting in a discrete income tax benefit of $33, which is included in Tax holidays above. In 2023, the Company determined that it was no longer more likely than not that the deferred tax asset at AWAB would be realized and recorded a full valuation allowance against the deferred tax asset (see below). As a result, the amount reflected in Tax holidays above is zero with respect to AWAB as of December 31, 2023. In 2024, management's position on the realizability of these deferred tax assets remains the same as 2023, and the amount reflected in Tax holidays above is zero with respect to AWAB.

In October 2022, Alcoa completed the liquidation of a wholly-owned subsidiary, Alcoa Saudi Rolling Inversiones S.L. This liquidation resulted in a deductible loss in the Netherlands and a tax benefit of $94 was recognized in 2022, however, this tax benefit was substantially offset by a valuation allowance.

In December 2022, Alcoa commenced an internal reorganization to reduce its number of legal entities in Norway from four to one to simplify accounting and treasury functions and reduce external costs. As a result of the simplification, the Company recorded a deferred tax expense of $30 in 2022.

Deferred income taxes. The components of deferred tax assets and liabilities based on the underlying attributes without regard to jurisdiction were as follows:

	2024		2023	
December 31,	**Deferred tax assets**	**Deferred tax liabilities**	**Deferred tax assets**	**Deferred tax liabilities**
Tax loss carryforwards	$ 2,218	$ —	$ 2,042	$ —
Employee benefits	312	—	312	—
Derivatives and hedging activities	248	5	312	10
Loss provisions	166	—	161	—
Interest	142	5	142	6
Depreciation	83	202	94	318
Lease assets and liabilities	74	73	34	33
Investment basis differences	73	—	78	—
Tax credit carryforwards	23	—	24	—
Deferred income/expense	15	119	16	131
Other	69	1	25	—
	$ 3,423	$ 405	$ 3,240	$ 498
Valuation allowance	(2,734)	—	(2,595)	—
Total	$ 689	$ 405	$ 645	$ 498

The following table details the expiration periods of the deferred tax assets presented above:

December 31, 2024	**Expires within 10 years**	**Expires within 11-20 years**	**No expiration**	**Other**	**Total**
Tax loss carryforwards	$ 164	$ 369	$ 1,685	$ —	$ 2,218
Tax credit carryforwards	23	—	—	—	23
Other	—	—	136	1,046	1,182
Valuation allowance	(187)	(330)	(1,760)	(457)	(2,734)
Total	$ —	$ 39	$ 61	$ 589	$ 689

Deferred tax assets with no expiration may still have annual limitations on utilization. Other represents deferred tax assets whose expiration is dependent upon the reversal of the underlying temporary difference.

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The total deferred tax asset (net of valuation allowance) is supported by projections of future taxable income exclusive of reversing temporary differences and taxable temporary differences that reverse within the carryforward period. The composition of Alcoa's net deferred tax asset by jurisdiction as of December 31, 2024 was as follows:

	Domestic	Foreign	Total
Deferred tax assets	$ 1,090	$ 2,333	$ 3,423
Valuation allowance	(1,022)	(1,712)	(2,734)
Deferred tax liabilities	(68)	(337)	(405)
Total	$ —	$ 284	$ 284

Alcoa Australia Holdings Pty Ltd (AAH), a wholly-owned indirect subsidiary of Alcoa, made an election prior to July 31, 2024 that resulted in Alcoa's other wholly-owned Australian subsidiaries joining AAH's tax consolidated group (the AAH Tax Consolidated Group). As a result of the acquisition of Alumina Limited, Alumina Limited and all of its Australian subsidiaries, as well as Alcoa of Australia Limited (AofA) and all of its subsidiaries, joined the AAH Tax Consolidated Group on August 1, 2024. Upon acquisition, Alcoa recognized a deferred tax asset (and a corresponding increase to Additional capital) of $121 primarily related to the portion of Alumina Limited's Australian net operating loss carryforwards that the Company has determined are more likely than not to be realized as a result of the consolidated return election. In the fourth quarter of 2024, the Company recognized an additional deferred tax asset (and a corresponding increase to Additional capital) of $95 primarily due to the tax allocation of the fixed asset valuation to individual assets. Additionally, the Company recorded a deferred tax asset of $265 related to capital loss carryforwards, which was fully offset with a valuation allowance due to uncertain recoverability.

The Company has several income tax filers in various foreign countries. Of the $284 net deferred tax asset included under the Foreign column in the table above, approximately 100% relates to five of Alcoa's income tax filers (the Foreign Filers) as follows: a $113 net deferred tax asset for Alcoa Canada Company in Canada; a $83 net deferred tax asset for Alcoa-Lauralco Management Company in Canada; a $33 net deferred tax asset for Alcoa Wolinbec Company in Canada; a $19 net deferred tax asset for Alcoa Islandi and a $27 net deferred tax asset for Fjarðaál, both in Iceland; and a $9 net deferred tax asset for AofA in Australia.

The future realization of the net deferred tax asset for each of the Foreign Filers was based on projections of the respective future taxable income (defined as the sum of pretax income, other comprehensive income, and permanent tax differences), exclusive of reversing temporary differences and carryforwards. The realization of the net deferred tax assets of the Foreign Filers is not dependent on any future tax planning strategies.

Accordingly, management concluded that the net deferred tax assets of the Foreign Filers referenced above will more likely than not be realized in future periods, resulting in no need for a partial or full valuation allowance as of December 31, 2024.

In December 2023, Alcoa recorded a valuation allowance of $154 against the net deferred tax assets of AWAB, of which $106 related to the balance as of December 31, 2022. The 2023 full valuation allowance for AWAB was a result of AWAB's three-year cumulative loss position for the period ended December 31, 2023. The majority of AWAB's net deferred tax assets relate to prior net operating losses; the loss carryforwards are not subject to an expiration period. If AWAB continues to demonstrate sustained profitability, management may conclude that AWAB's deferred tax assets may be realized, resulting in a future reversal of the valuation allowance, generating a non-cash benefit in the period recorded. AWAB's net deferred tax assets, excluding the valuation allowance, were $116 as of December 31, 2024.

The Company's subsidiaries in Iceland had a full valuation allowance recorded against deferred tax assets, which was established in 2015 and 2017, as the Company believed it was more likely than not that these tax benefits would not be realized. During 2023, after considering all positive and negative evidence, including the expectation that the jurisdiction will remain in a three-year cumulative income position, the Company determined that it is more likely than not that the net deferred tax assets will be realized. Based on this conclusion, the Company reversed the valuation allowance totaling $58 during 2023, generating a non-cash benefit from income taxes.

In December 2022, Alcoa recorded a valuation allowance of $217 against the net deferred tax assets of Alcoa Alumínio (Alumínio), of which $150 related to the balance as of December 31, 2021. The 2022 full valuation allowance for Alumínio was a result of Alumínio's three-year cumulative loss position for the period ended December 31, 2022. Although the Company entered into aluminum contracts to manage exposures associated with the Alumar smelter restart, these contracts were held by another legal entity, and the associated realized gains are not available to Alumínio to offset the restart losses. While management believes Alumínio will return to profitability in the future with the restart of the Alumar smelter, Alumínio's recent history, including operational instability during the restart and the impact of the recent increased alumina input costs, does not provide a reliable basis for concluding that it is more likely than not that Alumínio's net deferred tax assets, which consist primarily of tax loss carryforwards with indefinite life, will be realized. Alumar smelter profitability in future periods could prompt the Company to evaluate the realizability of the deferred tax assets and assess the possibility of a reversal of the valuation allowance, which could generate a non-cash benefit in the period the valuation allowance is reversed.

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The following table details the changes in the valuation allowance:

December 31,	2024	2023	2022
Balance at beginning of year	$ (2,595)	$ (2,333)	$ (2,062)
Establishment of new allowances[1]	(266)	(106)	(150)
Net change to existing allowances[2]	(21)	(113)	(151)
Foreign currency translation	148	(43)	30
Balance at end of year	$ (2,734)	$ (2,595)	$ (2,333)

[1] Reflects valuation allowances initially established as a result of a change in management's judgment regarding the realizability of deferred tax assets.

[2] Reflects movements in previously established valuation allowances, which increase or decrease as the related deferred tax assets increase or decrease. Such movements occur as a result of a change in management's judgment regarding previously established valuation allowances, remeasurement due to a tax rate change and changes in the underlying attributes of the deferred tax assets, including expiration of the attribute and reversal of the temporary difference that gave rise to the deferred tax asset.

Undistributed net earnings. Certain earnings of Alcoa's foreign subsidiaries are deemed to be permanently reinvested outside the United States. The cumulative amount of Alcoa's foreign undistributed net earnings deemed to be permanently reinvested was approximately $2,857 as of December 31, 2024. Alcoa Corporation has several commitments and obligations related to the Company's operations in various foreign jurisdictions; therefore, management has no plans to distribute such earnings in the foreseeable future. Alcoa Corporation continuously evaluates its local and global cash needs for future business operations and anticipated debt facilities, which may influence future repatriation decisions. If these earnings were distributed in the form of dividends or otherwise, Alcoa could be subject to foreign income or withholding taxes and state income taxes. Due to the uncertainty of the manner in which the undistributed earnings would be brought back to the United States and the tax laws in effect at that time, it is not practicable to estimate the tax liability that might be incurred if such earnings were remitted to the U.S.

Unrecognized tax benefits. Alcoa and its subsidiaries file income tax returns in the U.S. federal jurisdiction and various foreign and U.S. state jurisdictions. With few exceptions, the Company is not subject to income tax examinations by tax authorities for years prior to 2014. The U.S. federal income tax filings of the Company's U.S. consolidated tax group have been examined through the 2018 tax year, and an examination of the 2021 tax year is ongoing. Foreign jurisdiction tax authorities are in the process of examining income tax returns of several of Alcoa's subsidiaries for various tax years. Excluding the Australia tax matter discussed in Note S, the period under foreign examination includes the income tax years from 2014 through 2022. For U.S. state income tax purposes, the Company and its subsidiaries remain subject to income tax examinations for the 2017 tax year and forward.

In the third quarter of 2020, AofA paid approximately $74 (A$107) to the ATO related to the tax dispute described in Note S. Upon payment, AofA recorded a noncurrent prepaid tax asset, as the Company continues to believe it is more likely than not that AofA's tax position will be sustained and therefore is not recognizing any tax expense in relation to this matter. In accordance with Australian tax laws, the initial interest assessment and additional interest are deductible against AofA's taxable income. AofA applied this deduction beginning in the third quarter of 2020, reducing cash tax payments. Interest compounded in future years is also deductible against AofA's income in future periods. If AofA is ultimately successful, the interest deduction would become taxable as income in the year the dispute is resolved. In addition, should the ATO decide in the interim to reduce any interest already assessed, the reduction would be taxable as income at that point in time. During 2023, AofA continued to record its tax provision and tax liability without effect of the ATO assessment, since it expects to prevail. The tax payable related to deductions of interest on the assessment will remain on AofA's balance sheet as a noncurrent liability, increased by the tax effect of subsequent periods' interest deductions, until dispute resolution. At December 31, 2024 and December 31, 2023, the noncurrent liability resulting from the cumulative interest deductions was approximately $206 (A$332) and $199 (A$293), respectively.

The reserve balance for unrecognized tax benefits is included in Noncurrent income taxes on the Consolidated Balance Sheet. A reconciliation of the beginning and ending amount of unrecognized tax benefits (excluding interest and penalties) was as follows:

December 31,	2024	2023	2022
Balance at beginning of year	$ 5	$ 5	$ 4
Additions for tax positions of prior years	—	—	2
Reductions for tax positions of prior years	(1)	—	—
Expiration of the statute of limitations	—	—	(1)
Balance at end of year	$ 4	$ 5	$ 5

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For all periods presented, a portion of the balance at end of year pertains to state tax liabilities, which are presented before any offset for federal tax benefits. The effect of unrecognized tax benefits, if recorded, that would impact the annual effective tax rate for 2024, 2023, and 2022 would be 2%, 1%, and 1%, respectively, of Income (loss) before income taxes. Alcoa does not anticipate that changes in its unrecognized tax benefits will have a material impact on the Statement of Consolidated Operations during 2025.

It is the Company's policy to recognize interest and penalties related to income taxes as a component of the Provision for income taxes on the accompanying Statement of Consolidated Operations. In 2024, 2023, and 2022 Alcoa recognized $0, $1, and $1, in interest and penalties, respectively. Due to the expiration of the statute of limitations, settlements with tax authorities, and refunded overpayments, the Company also recognized interest income of $1, $1, and $1 in 2024, 2023, and 2022, respectively. As of December 31, 2024 and 2023, the amount accrued for the payment of interest and penalties was $3 and $4, respectively.

Other Matters. On August 16, 2022, the U.S. enacted the Inflation Reduction Act of 2022 (IRA), which includes a 15% minimum tax on book income of certain large corporations, a 1% excise tax on net stock repurchases after December 31, 2022, and several tax incentives to promote clean energy. As a result of the provisions of the IRA, the Company will incur an excise tax of 1% for certain common stock repurchases made subsequent to December 31, 2022, which will be reflected in the cost of purchasing the underlying shares. The minimum corporate tax did not have an impact on the Company for 2024, 2023, or 2022 and will not have an impact on the Company for 2025.

The IRA contains a number of tax credits and other incentives for investments in renewable energy production, carbon capture, and other climate-related actions, as well as the production of critical minerals. In December 2023, the U.S. Treasury issued guidance on Section 45X of the Advanced Manufacturing Tax Credit. The Notice of Proposed Rulemaking (the Proposed Regulations) clarified that commercial grade aluminum is included in the definition of aluminum eligible for the credit, which was designed to incentivize domestic production of critical materials important for the transition to clean energy. On October 24, 2024, the U.S. Treasury finalized the Proposed Regulations under Section 45X with important modifications including the ability to include the cost of certain direct and indirect materials in the cost base of the credit. The Proposed Regulation on the definition of aluminum was not finalized; however, management believes that commercial grade aluminum continues to qualify for the Section 45X credit. In the Preamble to the Final Regulations, the U.S. Treasury indicated it will finalize the definition at a later date.

In 2024 and 2023, the Company recorded benefits of $71 and $36 in Cost of goods sold, respectively, related to its Massena West smelter (New York) and its Warrick smelter (Indiana). As of December 31, 2024, benefits of $36 were included in Other receivables and $71 were included in Other noncurrent assets on the Consolidated Balance Sheet. As of December 31, 2023, benefits of $36 were included in Other receivables on the Consolidated Balance Sheet.

R. Asset Retirement Obligations

The following table details the carrying value of recorded AROs by major category, of which $204 and $217 was classified as a current liability as of December 31, 2024 and 2023, respectively:

December 31,	2024	2023
Closure of bauxite residue areas	$ 396	$ 437
Mine reclamation	321	328
Spent pot lining disposal	103	124
Demolition	50	76
Landfill closure	25	24
Balance at end of year	$ 895	$ 989

The following table details the changes in the total carrying value of recorded AROs:

December 31,	2024	2023
Balance at beginning of year	$ 989	$ 828
Accretion expense	38	33
Liabilities incurred	160	254
Payments	(196)	(148)
Reversals of previously recorded liabilities	(10)	(8)
Foreign currency translation and other	(86)	30
Balance at end of year	$ 895	$ 989

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Liabilities incurred in 2024 include:

- $87 for new mining areas opened during the year and higher estimated mine reclamation costs;
- $24 for changes in closure estimates at the previously closed Suralco (Suriname) refinery;
- $22 related to spent pot lining transportation, treatment, and disposal;
- $11 related to changes in closure estimates for mine reclamation, landfill closure, and demolition at previously closed sites;
- $9 related to water treatment due to the curtailment of the Kwinana refinery; and,
- $6 related to the changes in estimates for residue area closure, landfill closure, and mine reclamation at various operating sites.

The liabilities incurred were recorded with corresponding capitalized asset retirement costs, except for $6 related to non-operating bauxite residue areas and spent pot lining transportation and disposal, which was recorded to Cost of goods sold; and a net charge of $35 related to changes in closure estimates at previously closed sites and the curtailment of the Kwinana refinery which were recorded to Restructuring and other charges, net (see Note D) on the accompanying Statement of Consolidated Operations.

In 2024, reversals of previously recorded liabilities primarily related to the completion of spent pot lining transportation and disposal at the previously closed Intalco smelter.

Liabilities incurred in 2023 include:

- $97 for changes in closure estimates of operating bauxite residue areas;
- $87 for new mining areas opened during the year and higher estimated mine reclamation costs;
- $36 related to the closure of the previously curtailed Intalco smelter;
- $23 related to spent pot lining transportation, treatment, and disposal;
- $10 for changes in closure estimates of non-operating bauxite residue areas; and,
- $1 related to an accrual for demolition for the closure of a potline at Warrick Operations.

The additional accruals were recorded with corresponding capitalized asset retirement costs except for $15 related to non-operating bauxite residue areas at the Alumar refinery, spent pot lining and treatment, and mine reclamation which was recorded to Cost of goods sold; and $41 related to the closure of the Intalco smelter, updated estimates for spent pot lining treatment and disposal at a previously closed site, and demolition accruals for the closure of a potline at Warrick Operations, which was recorded to Restructuring and other charges, net (see Note D) on the accompanying Statement of Consolidated Operations.

In 2023, reversals of previously recorded liabilities primarily related to changes in estimates at various sites and to the completion of a site demolition project, of which $2 was recorded to Restructuring and other charges, net (see Note D) on the accompanying Statement of Consolidated Operations.

The estimated timing of cash outflows for recorded AROs at December 31, 2024 was as follows:

2025	$	204
2026 – 2029		522
Thereafter		169
Total	$	895

Changes to the estimates may result in material changes to the recorded AROs that may require an increase to or a reversal of previously recorded liabilities, as well as changes in the timing of cash outflows.

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S. Contingencies and Commitments

Contingencies

Environmental Matters

Alcoa Corporation participates in environmental assessments and cleanups at several locations. These include currently or previously owned or operated facilities and adjoining properties, and waste sites, including Superfund (Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)) sites.

Alcoa Corporation's environmental remediation reserve balance reflects the most probable costs to remediate identified environmental conditions for which costs can be reasonably estimated. The following table details the changes in the carrying value of recorded environmental remediation reserves:

Balance at December 31, 2021	$	309
Liabilities incurred		32
Cash payments		(26)
Reversals of previously recorded liabilities		(30)
Foreign currency translation and other		(1)
Balance at December 31, 2022		284
Liabilities incurred		39
Cash payments		(55)
Reversals of previously recorded liabilities		(1)
Foreign currency translation and other		1
Balance at December 31, 2023		268
Liabilities incurred		25
Cash payments		(49)
Reversals of previously recorded liabilities		(12)
Foreign currency translation and other		(12)
Balance at December 31, 2024	$	220

At December 31, 2024 and 2023, the current portion of the remediation reserve balance was $38 and $66, respectively.

In 2024, the Company incurred liabilities of $25 and recorded a reversal of $12. The impacts to the Statement of Consolidated Operations were primarily:

- $20 for an increase in estimated scope and costs associated with ongoing remediation work at several sites and for certain other environmental compliance matters which were recorded in Cost of goods sold;
- $5 for an increase in estimated costs associated with ongoing remediation work at previously closed sites which were recorded to Restructuring and other charges, net (see Note D); and,
- $12 reversal for site remediation that is no longer required at a previously closed site which was recorded in Restructuring and other charges, net (see Note D).

In 2023, the Company incurred liabilities of $39 and recorded a reversal of $1. The impacts to the Statement of Consolidated Operations were primarily:

- $14 for the closure of the previously curtailed Intalco smelter and $13 for an increase in estimated costs associated with ongoing remediation work at the previously closed Longview (Washington) site which were recorded in Restructuring and other charges, net (see Note D);
- $12 for an increase in estimated costs associated with ongoing remediation work at various other sites which was recorded in Cost of goods sold; and,
- $1 reversal due to the determination that certain remaining site remediation was no longer required which was recorded in Restructuring and other charges, net (see Note D).

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In 2022, the Company incurred liabilities of $32 and recorded reversals of $30. The impacts to the Statement of Consolidated Operations were primarily:

- $14 for the closure of the previously curtailed magnesium smelter in Addy and $6 for estimates for environmental remediation at the Point Henry site which were recorded in Restructuring and other charges, net (see Note D);
- $4 for a new phase of work at the former East St. Louis site and $9 for environmental activities at various sites recorded in Cost of goods sold; and,
- $30 reversals during 2022, primarily related to changes in estimates for site remediation at Massena East of $18 and Suralco of $5 and completion of remediation at a previously closed site in Brazil of $6, which were recorded in Restructuring and other charges, net (see Note D).

Cash payments include mandated expenditures as well as those not required by any regulatory authority or third party. The estimated timing of cash outflows from the environmental remediation reserve at December 31, 2024 was as follows:

2025	$	38
2026 – 2029		77
Thereafter		105
Total	$	220

Reserve balances at December 31, 2024 and 2023, associated with significant sites with active remediation underway or for future remediation were $154 and $211, respectively. In management's judgment, the Company's reserves are sufficient to satisfy the provisions of the respective action plans. Upon changes in facts or circumstances, a change to the reserve may be required. The Company's significant sites include:

Suriname—The reserve associated with the 2017 closure of the Suralco refinery and bauxite mine is for treatment and disposal of refinery waste and soil remediation. The work began in 2017 and is expected to be completed at the end of 2027.

Hurricane Creek, Arkansas—The reserve associated with the 1990 closure of two mining areas and refineries near Hurricane Creek, Arkansas is for ongoing monitoring and maintenance for water quality surrounding the mine areas and residue disposal areas.

Massena, New York—The reserve associated with the 2015 closure of the Massena East smelter by the Company's subsidiary, Reynolds Metals Company, is for subsurface soil remediation to be performed after demolition of the structures. Remediation work commenced in 2021 and will take up to eight years to complete.

Point Comfort, Texas—The reserve associated with the 2019 closure of the Point Comfort alumina refinery is for disposal of industrial wastes contained at the site, subsurface remediation, and post-closure monitoring and maintenance. The final remediation plan is currently being developed, which may result in a change to the existing reserve.

Addy, Washington—The reserve associated with the 2022 closure of the Addy magnesium smelter facility is for site-wide remediation and investigation and post-closure monitoring and maintenance. Remediation work is not expected to begin until 2027 and will take three to five years to complete. The final remediation plan is currently being developed, which may result in a change to the existing reserve.

Ferndale, Washington—The reserve associated with the 2023 closure of the Intalco aluminum smelter in Ferndale, Washington is for below grade site remediation and five years of post-closure maintenance and monitoring. The final remediation plan is under review.

In May 2022, the Company received a Notice of Violation (NOV) from the U.S. Environmental Protection Agency (the EPA). The NOV alleged violations under the Clean Air Act at the Intalco smelter from when the smelter was operational. The EPA referred the matter to the U.S. Department of Justice, Environment and Natural Resources Division (the DOJ) in May 2022. The DOJ and the Company agreed to a stipulated settlement, which was filed with the United States District Court for the Western District of Washington at Seattle on July 18, 2024, requiring the Company to pay a civil fine of $5. On October 15, 2024, the Court approved the stipulated settlement of $5, and payment was remitted by the Company.

Other Sites—The Company is in the process of decommissioning various other plants and remediating sites in several countries for potential redevelopment or to return the land to a natural state. In aggregate, there are remediation projects at 31 other sites that are planned or underway. These activities will be completed at various times in the future over the next two to four years, after which ongoing monitoring and other activities may be required. At December 31, 2024 and 2023, the reserve balance associated with these activities was $66 and $57, respectively.

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Tax

Brazil (AWAB)— Under Brazilian law, taxpayers who generate non-cumulative federal value added tax credits related to exempt exports may either request a refund in cash (monetization) or offset them against other federal taxes owed. In 2012, AWAB requested monetization of $136 (R$273) from the Brazilian Federal Revenue Office (RFB) and received $68 (R$136) that year. In March 2013, AWAB was notified by the RFB that approximately $110 (R$220) of value added tax credits previously claimed were being disallowed and a penalty of 50% was assessed. $41 (R$82) of the cash received in 2012 related to the disallowed amount. The value added tax credits were claimed by AWAB for both fixed assets and export sales related to the Juruti bauxite mine and Alumar refinery expansion for tax years 2009 through 2011. The RFB has disallowed credits they allege belong to the consortium in which AWAB owns an interest and should not have been claimed by AWAB. Credits have also been disallowed as a result of challenges to apportionment methods used, questions about the use of the credits, and an alleged lack of documented proof. AWAB presented defense of its claim to the RFB on April 8, 2013.

In February 2022, the RFB notified AWAB that it had inspected the value added tax credits claimed for 2012 and disallowed $4 (R$19). In its decision, the RFB allowed credits of $14 (R$65) that were similar to those previously disallowed for 2009 through 2011. In July 2022, the RFB notified AWAB that it had inspected the value added tax credits claimed for 2013 and disallowed $13 (R$66). In its decision, the RFB allowed credits of $10 (R$53) that were similar to those previously disallowed for 2009 through 2011. In September 2024, the RFB notified AWAB that it had further inspected the value added tax credits claimed for 2013 and issued a first administrative decision allowing additional credits of $1 (R$5) that were similar to those previously disallowed for 2009 through 2011. AWAB received the 2012 allowed credits with interest of $9 (R$44) in March 2022, the 2013 allowed credits with interest of $6 (R$31) in August 2022, and the additional 2013 allowed credits with interest of $1 (R$6) in December 2024. The decisions on the 2012 and 2013 credits provide positive evidence to support management's opinion that there is no basis for these credits to be disallowed. AWAB will continue to dispute the credits that were disallowed for 2012 and 2013. If AWAB is successful in this administrative process, the RFB would have no further recourse. If unsuccessful in this process, AWAB has the option to litigate at a judicial level. Separately from AWAB's administrative appeal, in June 2015, a new tax law was enacted repealing the provisions in the tax code that were the basis for the RFB assessing a 50% penalty in this matter. As such, the estimated range of reasonably possible loss for these matters is $0 to $48 (R$300). It is management's opinion that the allegations have no basis; however, at this time, the Company is unable to reasonably predict an outcome for this matter.

Australia (AofA)— In December 2019, AofA received a statement of audit position (SOAP) from the Australian Taxation Office (ATO) related to the pricing of certain historic third-party alumina sales. The SOAP proposed adjustments that would result in additional income tax payable by AofA. During 2020, the SOAP was the subject of an independent review process within the ATO. At the conclusion of this process, the ATO determined to continue with the proposed adjustments and issued Notices of Assessment (the Notices) that were received by AofA on July 7, 2020. The Notices asserted claims for income tax payable by AofA of approximately $132 (A$214). The Notices also included claims for compounded interest on the tax amount totaling approximately $438 (A$707).

On September 17, 2020, the ATO issued a position paper with its preliminary view on the imposition of administrative penalties related to the tax assessment issued to AofA. This paper proposed penalties of approximately $79 (A$128).

AofA disagreed with the Notices and with the ATO's proposed position on penalties. During 2020, AofA lodged formal objections to the Notices, provided a submission on the ATO's imposition of interest and submitted a response to the ATO's position paper on penalties. After the ATO completes its review of AofA's response to the penalties position paper, the ATO could issue a penalty assessment.

To date, AofA has not received a response to its submission on the ATO's imposition of interest or its response to the ATO's position paper on penalties.

Through February 1, 2022, AofA did not receive a response from the ATO on AofA's formal objections to the Notices and, on that date, AofA submitted statutory notices to the ATO requiring the ATO to make decisions on AofA's objections within a 60-day period. On April 1, 2022, the ATO issued its decision disallowing the Company's objections related to the income tax assessment, while the position on penalties and interest remains outstanding.

On April 29, 2022, AofA filed proceedings in the Australian Administrative Appeals Tribunal (AAT) against the ATO to contest the Notices. The AAT held the first directions hearing on July 25, 2022 ordering AofA to file its evidence and related materials by November 4, 2022, ATO to file its materials by April 14, 2023 and AofA to file reply materials by May 26, 2023. AofA filed its evidence and related materials on November 4, 2022. The ATO did not file its materials by April 14, 2023. At a directions hearing on May 17, 2023, the ATO was granted an extension to file its materials by August 18, 2023. At a directions hearing on September 26, 2023, the ATO was granted an additional extension to file its materials by November 3, 2023. The ATO filed its materials on November 13, 2023. At a directions hearing on November 22, 2023, AofA was ordered to file any reply materials by March 15, 2024. AofA filed its reply materials on March 15, 2024. The substantive hearing was completed in June 2024, and AofA is awaiting the AAT's decision.

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The Company maintains that the sales subject to the ATO's review, which were ultimately sold to Aluminium Bahrain B.S.C., were the result of arm's length transactions by AofA over two decades and were made at arm's length prices consistent with the prices paid by other third-party alumina customers.

In accordance with the ATO's dispute resolution practices, AofA paid 50% of the assessed income tax amount exclusive of interest and any penalties, or approximately $74 (A$107), during the third quarter 2020, and the ATO is not expected to seek further payment prior to final resolution of the matter. If AofA is ultimately successful, any amounts paid to the ATO as part of the 50% payment would be refunded. AofA funded the payment with cash on hand and recorded the payment within Other noncurrent assets as a noncurrent prepaid tax asset; at December 31, 2024 the related balance was $66 (A$107).

Interest on the unpaid tax continues to accrue during the dispute, which, along with the initial interest assessment, is deductible against taxable income by AofA. Beginning in the third quarter of 2020, AofA applied this deduction and total reductions in cash tax payments of $206 (A$332) and $199 (A$293) are reflected within Other noncurrent liabilities and deferred credits as a noncurrent accrued tax liability at December 31, 2024 and December 31, 2023, respectively. If AofA is ultimately successful, the interest would be taxable as income in the year the dispute is resolved, and accrued cash taxes would be paid to the ATO ($206 (A$332) accrued as of December 31, 2024).

The Company continues to believe it is more likely than not that AofA's tax position will be sustained and therefore is not recognizing any tax expense in relation to this matter. However, because the ultimate resolution of this matter is uncertain at this time, the Company cannot predict the potential loss or range of loss associated with the outcome, which may materially affect its results of operations and financial condition. References to any assessed U.S. dollar amounts presented in connection with this matter have been converted into U.S. dollars from Australian dollars based on the exchange rate in the respective period.

Other

Spain— In July 2019, the Company completed the divestiture of the Avilés and La Coruña (Spain) aluminum facilities to PARTER Capital Group AG (PARTER) in a sale process endorsed by the Spanish government and supported by the workers' representatives following a collective dismissal process. In connection with the divestiture, Alcoa committed to make financial contributions to the divested entities of up to $95; a total of $78 was paid through December 31, 2021.

In early 2020, PARTER sold a majority stake in the facilities to an unrelated party. Alcoa had no knowledge of the subsequent transaction prior to its announcement and on August 28, 2020, Alcoa filed a lawsuit with the Court of First Instance in Madrid, Spain asserting that the sale was in breach of the sale agreement between Alcoa and PARTER. In June 2023, the Court of First Instance in Madrid issued a declaratory judgment in Alcoa's favor ruling that the transaction between PARTER and the unrelated party was a breach of the sale agreement. There was no financial compensation to the Company as a result of this ruling.

Related to this subsequent sale transaction, certain proceedings and investigations were initiated by or at the request of the employees of the facilities against their current employers, the new owners of the current employers, and Alcoa, alleging that certain agreements from the 2019 collective dismissal process remain in force and that, under such agreements, Alcoa remains liable for certain related employment benefits.

During 2022, Alcoa reached a Global Settlement Agreement (GSA) with the workers of the divested Avilés and La Coruña facilities to settle various legal disputes related to the 2019 divestiture, and Alcoa recorded a charge of $79 in Restructuring and other charges, net to reflect its estimated liability for the GSA. In July 2023, the Supreme Court of Spain ratified the GSA. Upon completion of the remaining administrative and judicial approvals, the Company made cash payments of $76 to the former employees of the facilities in 2023 in accordance with the GSA. The remaining payments were made in 2024.

St. Croix Proceedings—Prior to 2012, Alcoa Inc., the Company's former parent company, was served with two multi-plaintiff actions alleging personal injury or property damage from Hurricane Georges or winds blowing material from the Company's former St. Croix alumina facility. These actions were subsequently consolidated into the Red Dust Claims docket in 2017.

In March 2022, the Superior Court of the Virgin Islands issued an amended case management order dividing complaints filed in the Red Dust docket into groups of 50 complaints, designated Groups A through I. The parties selected 10 complaints from Group A to proceed to trial as the Group A lead cases. In May 2024, the Court issued an amended case management order with regard to the Group A lead cases scheduling trials to begin in November 2024. The Court further ordered the parties to participate in mediation on or before August 31, 2024. After completing its case analysis in the second quarter of 2024, the Company recorded a reserve for its estimate of probable loss and a related receivable for insurance proceeds with no material impact to the results of operations. Alcoa participated in the court-ordered mediation in August 2024 and reached a settlement agreement to resolve the matter in its entirety, which resulted in no further impact to Alcoa's results of operations. The settlement was finalized and funds were released in January 2025 upon receiving signed release agreements or final dismissals from every plaintiff. This matter is now closed.

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General

In addition to the matters discussed above, various other lawsuits, claims, and proceedings have been or may be instituted or asserted against Alcoa Corporation, including those pertaining to environmental, safety and health, commercial, tax, product liability, intellectual property infringement, governance, employment, and employee and retiree benefit matters, and other actions and claims arising out of the normal course of business. While the amounts claimed in these other matters may be substantial, the ultimate liability is not readily determinable because of the considerable uncertainties that exist. Accordingly, it is possible that the Company's liquidity or results of operations in a particular period could be materially affected by one or more of these other matters. However, based on facts currently available, management believes that the disposition of these other matters that are pending or asserted will not have a material adverse effect, individually or in the aggregate, on the financial position of the Company.

Commitments

Purchase Obligations. Alcoa Corporation is party to unconditional purchase obligations for energy that expire between 2040 and 2041. Commitments related to these contracts total $50 in 2025, $53 in 2026, $55 in 2027, $57 in 2028, $59 in 2029, and $740 thereafter. Expenditures under these contracts totaled $50 in 2024, $53 in 2023, and $58 in 2022. Additionally, the Company has entered into other purchase commitments for energy, raw materials, and other goods and services, which total $4,431 in 2025, $1,764 in 2026, $1,497 in 2027, $1,275 in 2028, $1,267 in 2029, and $7,233 thereafter.

AofA has a gas supply agreement to power its three alumina refineries in Western Australia which began in July 2020 for a 12-year period. The terms of this agreement required AofA to make a prepayment of $500 prior to 2017. At December 31, 2024, prepayments of $35 and $225 were included in Prepaid expenses and other current assets and Other noncurrent assets (see Note U), respectively, on the accompanying Consolidated Balance Sheet. At December 31, 2023, prepayments of $37 and $283 were included in Prepaid expenses and other current assets and Other noncurrent assets (see Note U), respectively, on the accompanying Consolidated Balance Sheet.

Guarantees of Third Parties. As of December 31, 2024 and 2023, the Company had no outstanding potential future payments for guarantees issued on behalf of a third party.

Bank Guarantees and Letters of Credit. Alcoa Corporation and its subsidiaries have outstanding bank guarantees and letters of credit related to, among others, energy contracts, environmental obligations, legal and tax matters, leasing obligations, workers compensation, and customs duties. The total amount committed under these instruments, which automatically renew or expire at various dates between 2025 and 2026, was $316 (includes $87 issued under a standby letter of credit agreement —see below) at December 31, 2024. Additionally, ParentCo has outstanding bank guarantees and letters of credit related to the Company of $12 at December 31, 2024. In the event ParentCo would be required to perform under any of these instruments, ParentCo would be indemnified by Alcoa Corporation in accordance with the Separation and Distribution Agreement. Likewise, the Company has outstanding bank guarantees and letters of credit related to ParentCo of $6 at December 31, 2024. In the event Alcoa Corporation would be required to perform under any of these instruments, the Company would be indemnified by ParentCo in accordance with the Separation and Distribution Agreement.

In December 2023, AofA committed to provide a bank guarantee in connection with the approval of the Company's five-year mine plans that were referred to the Western Australia Environmental Protection Agency (WA EPA), which demonstrates Alcoa's confidence that its operations will not impair drinking water supplies. On September 30, 2024 and October 1, 2024, AofA delivered bank guarantees totaling $62 (A$100). After March 27, 2025, Alcoa may, with the Western Australian government's consent, replace the bank guarantee with a parent company guarantee or a surety bond. The requirement to provide financial assurance will expire upon the completion of the WA EPA's assessment of the Company's five-year mine plans.

In August 2017, Alcoa Corporation entered into a standby letter of credit agreement with three financial institutions, which was most recently amended in May 2024 and expires on May 1, 2026. The agreement provides for a $200 facility used by the Company for matters in the ordinary course of business. Alcoa Corporation's obligations under this facility are secured in the same manner as obligations under the Company's revolving credit facility. Additionally, this facility contains similar representations and warranties and affirmative, negative, and financial covenants as the Company's Revolving Credit Facility (see Note M). As of December 31, 2024, letters of credit aggregating $87 were issued under this facility.

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Surety Bonds. Alcoa Corporation has outstanding surety bonds primarily related to tax matters, contract performance, workers compensation, environmental-related matters, and customs duties. The total amount committed under these bonds, which automatically renew or expire at various dates between 2025 and 2029, was $245 at December 31, 2024. Additionally, ParentCo has outstanding surety bonds related to the Company of $7 at December 31, 2024. In the event ParentCo would be required to perform under any of these instruments, ParentCo would be indemnified by Alcoa Corporation in accordance with the Separation and Distribution Agreement. Likewise, the Company has outstanding surety bonds related to ParentCo of $7 at December 31, 2024. In the event Alcoa Corporation would be required to perform under any of these instruments, the Company would be indemnified by ParentCo in accordance with the Separation and Distribution Agreement.

T. Leasing

The Company records a right-of-use asset and lease liability for several types of operating leases, including land and buildings, plant equipment, vehicles, maritime vessels, and computer equipment. These amounts are equivalent to the aggregate future lease payments on a discounted basis. The leases have remaining terms of less than one to 58 years. The discount rate applied in determining the present value of lease payments is the Company's incremental borrowing rate at the lease commencement date, unless there is a rate implicit in the lease agreement. The Company does not have material financing leases.

Lease expense and operating cash flows include:

	2024	2023
Costs from operating leases	$ 54	$ 53
Variable lease payments	$ 42	$ 25
Short-term rental expense	$ 7	$ 11

The weighted average lease term and weighted average discount rate were as follows:

December 31,	2024	2023
Weighted average lease term for operating leases (years)	10.7	12.9
Weighted average discount rate for operating leases	6.8%	6.7%

The following represents the aggregate right-of-use assets and related lease obligations recognized in the Consolidated Balance Sheet:

December 31,	2024	2023
Properties, plants, and equipment, net	$ 259	$ 135
Other current liabilities	$ 38	$ 31
Other noncurrent liabilities and deferred credits	223	104
Total operating lease liabilities	$ 261	$ 135

New leases of $163 and $76 were added during the years ended December 31, 2024 and 2023, respectively.

The future cash flows related to the operating lease obligations as of December 31, 2024 were as follows:

Year Ending December 31,	
2025	$ 55
2026	48
2027	42
2028	37
2029	32
Thereafter	170
Total lease payments (undiscounted)	384
Less: discount to net present value	(123)
Total	$ 261

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U. Other Financial Information

Interest Cost Components

	2024	2023	2022
Amount charged to expense	$ 156	$ 107	$ 106
Amount capitalized	8	4	3
	$ 164	$ 111	$ 109

Other Expenses (Income), Net

	2024	2023	2022
Equity loss	$ 24	$ 228	$ 27
Foreign currency losses (gains), net	126	(64)	9
Net loss from asset sales	37	14	10
Net (gain) loss on mark-to-market derivative instruments (P)	(58)	5	(174)
Non-service costs – pension and other postretirement benefits (O)	16	13	60
Other, net	(54)	(62)	(50)
	$ 91	$ 134	$ (118)

In 2024 and 2023, Other, net of $54 and $62, respectively, was primarily related to interest income on interest bearing accounts.

In 2022, Other, net of $50 was primarily related to interest income for the Brazil value added tax credits (see Note S).

Other Noncurrent Assets

December 31,	2024	2023
Prepaid gas transmission contract	$ 278	$ 297
Gas supply prepayment (S)	225	283
Value added tax credits	213	336
Deferred mining costs, net	184	187
Goodwill (L)	142	146
Prepaid pension benefit (O)	128	125
IRA Section 45X credit (Q)	71	—
Noncurrent prepaid tax asset (S)	66	73
Noncurrent restricted cash (see below)	53	71
Intangibles, net (L)	36	37
Other	101	95
	$ 1,497	$ 1,650

Prepaid gas transmission contract—As part of a previous sale transaction of an equity investment, Alcoa maintained access to approximately 30% of the Dampier to Bunbury Natural Gas Pipeline transmission capacity in Western Australia for gas supply to three alumina refineries. At December 31, 2024 and 2023, AofA had an asset of $278 and $297, respectively, representing prepayments made under the agreement for future gas transmission services.

Value added tax credits—The Value added tax (VAT) credits (federal and state) relate to two of the Company's subsidiaries in Brazil, AWAB, and Alumínio, concerning the Alumar smelter and refinery and the Juruti mine. The mine, refinery and smelter pay VAT on the purchase of goods and services used in the mining, alumina, and production process. The credits generally can be utilized to offset the VAT charged on domestic sales of bauxite, alumina, and aluminum.

In the fourth quarter of 2018, after an assessment of the future realizability of Brazil state VAT credits recorded, the Company established an allowance on the accumulated state VAT credit balances and stopped recording any future credit benefits. With the restart of the Alumar smelter and its first metal sales in June 2022, the Company had the ability to monetize these credits. In June 2022, the Company reversed the allowance with a credit of $83 to Restructuring and other charges, net and reversed the subsequent additions to the valuation allowance with a credit to Cost of goods sold of $46 (same accounts as when incurred).

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Other Noncurrent Liabilities and Deferred Credits

December 31,	2024	2023
Operating lease obligations (T)	$ 223	$ 104
Noncurrent accrued tax liability (S)	206	199
Accrued compensation and retirement costs	95	94
Deferred energy credits	36	42
Value added tax credits payable to Arconic Corporation	26	58
Deferred alumina sales revenue	12	20
Noncurrent restructuring reserve (D)	8	15
Other	50	36
	$ 656	$ 568

Deferred energy credits—Deferred energy credits relate to cash received for 2022 and 2021 carbon dioxide emissions related to the San Ciprián smelter and refinery during the years ended December 31, 2024 and 2023, respectively, from a governmental agency in Spain. The terms of the credits require the Company to comply with certain conditions for a period of three years. These deferred credits will be recognized as a reduction to Cost of goods sold once it is determined to be probable the Company will satisfy all conditions. Should the Company not meet all conditions during the three-year period, the credits will be repaid to the governmental agency.

Cash and Cash Equivalents and Restricted Cash

December 31,	2024	2023
Cash and cash equivalents	$ 1,138	$ 944
Current restricted cash	43	32
Noncurrent restricted cash	53	71
	$ 1,234	$ 1,047

Restricted cash primarily relates to commitments made for the December 2021 and February 2023 viability agreements for the San Ciprián restart (see Note D).

The Company incurred $9 of capital investment expenditures and $5 of smelter restart expenditures against the commitments during 2024, of which $5 was released from restricted cash. At December 31, 2024, the Company had restricted cash of $86, of which $10 was released in February 2025 for 2024 expenditures, and the remaining $76 is available for capital improvements at the site and smelter restart costs.

Cash Flow Information

Cash paid for interest and income taxes was as follows:

	2024	2023	2022
Interest, net of amount capitalized	$ 132	$ 100	$ 100
Income taxes, net of amount refunded	157	319	504

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V. Supplier Finance Programs

The Company has various supplier finance programs with third-party financial institutions that are made available to suppliers to facilitate payment term negotiations. Under the terms of these agreements, participating suppliers receive payment in advance of the payment date from third-party financial institutions for qualifying invoices. Alcoa's obligations to its suppliers, including amounts due and payment terms, are not impacted by its suppliers' participation in these programs. The Company does not pledge any assets as security or provide any guarantees beyond payment of outstanding invoices at maturity under these arrangements. The Company does not pay fees to the financial institutions under these arrangements. At December 31, 2024 and December 31, 2023, qualifying supplier invoices outstanding under these programs were $94 and $104, respectively, and have payment terms ranging from 50 to 110 days. These obligations are included in Accounts payable, trade on the accompanying Consolidated Balance Sheet.

The rollforward of Alcoa's outstanding obligations confirmed as valid under its supplier finance program for the years ended December 31, 2024 is as follows:

December 31,		2024
Confirmed obligations outstanding at the beginning of the year	$	104
Invoices confirmed during the year		446
Confirmed invoices paid during the year		(452)
Foreign currency translation and other		(4)
Confirmed obligations outstanding at the end of the year	$	94

W. Subsequent Events

On February 20, 2025, the Board of Directors declared a quarterly cash dividend of $0.10 per share of the Company's common stock (including common stock underlying CDIs) and Series A convertible preferred stock, to be paid on March 20, 2025 to stockholders of record as of the close of business on March 4, 2025. Dividends on Alcoa's common and preferred stock are paid in U.S. dollars. Dividends on common stock underlying CDIs paid in a currency other than the U.S. dollar will be determined using foreign currency exchange rates as of March 14, 2025.

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Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

(a) Evaluation of Disclosure Controls and Procedures

Alcoa Corporation's Chief Executive Officer and Chief Financial Officer have evaluated the Company's disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the U.S. Securities Exchange Act of 1934, as amended, as of the end of the period covered by this report, and they have concluded that these controls and procedures were effective as of December 31, 2024.

(b) Management's Annual Report on Internal Control over Financial Reporting

Management's Report on Internal Control over Financial Reporting is included in Part II Item 8 of this Form 10-K.

(c) Attestation Report of the Registered Public Accounting Firm

The effectiveness of Alcoa Corporation's internal control over financial reporting as of December 31, 2024 has been audited by PricewaterhouseCoopers LLP (PCAOB ID No. 238), an independent registered public accounting firm, as stated in their report, which is included in Part II Item 8 of this Form 10-K.

(d) Changes in Internal Control over Financial Reporting

There have been no changes in internal control over financial reporting during the fourth quarter of 2024 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information.

None of the Company's directors or "officers," as defined in Rule 16a-1(f) of the Exchange Act of 1934, as amended, adopted, modified, or terminated a "Rule 10b5-1 trading arrangement" or a "non-Rule 10b5-1 trading arrangement," as each term is defined in Item 408 of Regulation S-K, during the Company's fiscal quarter ended December 31, 2024.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by Item 401 of Regulation S-K regarding executive officers is set forth in Part I Item 1 of this Form 10-K under the caption "Information about our Executive Officers." The information required by Item 401 of Regulation S-K regarding directors is contained under the caption "Board and Governance Matters—Board of Directors—Director Nominees" of Alcoa Corporation's Definitive Proxy Statement for the 2025 Annual Meeting of Stockholders (Proxy Statement), which will be filed with the SEC within 120 days of the end of Alcoa Corporation's fiscal year ended December 31, 2024 (Proxy Statement) and is incorporated herein by reference.

The Company's Code of Conduct and Ethics (Code of Conduct), which incorporates a code of ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, is publicly available on the Company's website at www.alcoa.com under the section "Investors—Governance—Governance Documents—Code of Conduct." Alcoa Corporation will post any amendments to, or waivers of, its Code of Conduct that apply to its principal executive officer, principal financial officer, principal accounting officer or controller on its website at https://www.alcoa.com.

With respect to Item 408(b) of Regulation S-K, the Company has adopted an insider trading policy and procedures that govern the purchase, sale, and other dispositions of the Company's securities by directors, officers, and employees, as well as by the Company itself. The Company believes that its insider trading policy and procedures are reasonably designed to promote compliance with insider trading laws, rules and regulations, and applicable listing standards. A copy of the Company's insider trading policy is filed as Exhibit 19.1 to this Form 10-K.

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The information required by Items 407(c)(3), if applicable, (d)(4) and (d)(5) of Regulation S-K is included under the captions "Information Relating to the 2026 Annual Meeting" and "Board and Governance Matters—Corporate Governance—Board Structure and Operations—Committees of the Board" of the Proxy Statement and is incorporated herein by reference.

Item 11. Executive Compensation.

The information required by Item 402 and Item 407(e)(4) and (e)(5) of Regulation S-K is contained under the captions "Non-Employee Director Compensation Program," "Executive Compensation" (other than the information contained under the heading "Pay Versus Performance"), "Board and Governance Matters—Corporate Governance— Board Structure and Operations—Committees of the Board," "Board and Governance Matters—Corporate Governance—Board Oversight Responsibilities—Risk Oversight" and "Board and Governance Matters—Corporate Governance—Board Structure and Operations—Compensation Committee Interlocks and Insider Participation" of the Proxy Statement. Such information (other than the Compensation Committee Report, which shall not be deemed to be filed) is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by Item 201(d) of Regulation S-K is contained under the caption "Beneficial Ownership—Equity Compensation Plan Information" of the Proxy Statement and is incorporated herein by reference.

The information required by Item 403 of Regulation S-K is contained under the caption "Beneficial Ownership" of the Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by Item 404 of Regulation S-K is contained under the caption "Board and Governance Matters—Corporate Governance—Other Governance Policies and Practices—Related Person Transactions" of the Proxy Statement and is incorporated herein by reference.

The information required by Item 407(a) of Regulation S-K is contained under the caption "Board and Governance Matters—Board of Directors—Process for Identification and Evaluation of Director Candidates—Director Independence" of the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services.

The information required by Item 9(e) of Schedule 14A is contained under the caption "Proposal 2 Ratification of the Appointment of PricewaterhouseCoopers LLP as the Company's Independent Auditor for 2025" and "Audit Matters—Audit Committee Pre-Approval Policy" and "Audit Matters—Auditor Fees" of the Proxy Statement and is incorporated herein by reference.

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PART IV

Item 15. Exhibits and Financial Statement Schedules.

(a) The consolidated financial statements and exhibits listed below are filed as part of this report.

(1) The Company's consolidated financial statements, the notes thereto and the report of the Independent Registered Public Accounting Firm are included in Part II Item 8 of this report.

(2) Financial statement schedules have been omitted because they are not applicable, not required, or the required information is included in the consolidated financial statements or notes thereto.

(3) Exhibits.

Exhibit No.	Description of Exhibit
2.1	Deed of Amendment and Restatement of the Scheme Implementation Deed, dated May 20, 2024, by and among Alcoa Corporation, AAC Investments Australia 2 Pty Ltd, and Alumina Limited (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed May 20, 2024 (File No. 1-37816))
3.1	Amended and Restated Certificate of Incorporation of Alcoa Corporation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed November 3, 2016 (File No. 1-37816))
3.2	Certificate of Designation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed August 1, 2024 (File No. 1-37816))
3.3	Amended and Restated Bylaws of Alcoa Corporation, as adopted on July 31, 2024 (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed August 1, 2024 (File No. 1-37816))
4.1	Indenture, dated May 17, 2018, among Alcoa Nederland Holding B.V., Alcoa Corporation, certain subsidiaries of Alcoa Corporation, and the Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed May 17, 2018 (File No. 1-37816))
4.2	Supplemental Indenture, dated as of December 9, 2019, among Alcoa Corporation, Alcoa Treasury S.à r.l, Alcoa Nederland Holding B.V., and The Bank of New York Mellon Trust Company, N.A. under the Indenture dated May 17, 2018 (incorporated by reference to Exhibit 4.5 to the Company's Annual Report on Form 10-K for the year ended December 31, 2019, filed February 21, 2020 (File No. 1-137816))
4.3	Indenture, dated July 13, 2020, among Alcoa Nederland Holding B.V., Alcoa Corporation, certain subsidiaries of Alcoa Corporation, and The Bank of New York Mellon Trust Company, National Association, as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed July 13, 2020 (File No. 1-37816))
4.4	Indenture, dated as of March 24, 2021, among Alcoa Nederland Holding B.V., Alcoa Corporation, certain subsidiaries of Alcoa Corporation, and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed March 24, 2021 (File No. 1-37816))
4.5	Indenture, dated as of March 21, 2024, among Alcoa Nederland Holding B.V., Alcoa Corporation, the subsidiary guarantors party thereto and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed March 21, 2024 (File No. 1-37816))
4.6	Description of Securities (filed herewith)
10.1	Separation and Distribution Agreement, dated as of October 31, 2016, by and between Arconic Inc. and Alcoa Corporation (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed November 4, 2016 (File No. 1-37816))
10.2	Tax Matters Agreement, dated as of October 31, 2016, by and between Arconic Inc. and Alcoa Corporation (incorporated by reference to Exhibit 2.3 to the Company's Current Report on Form 8-K filed November 4, 2016 (File No. 1-37816))

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Exhibit No.	Description of Exhibit
10.3	Amendment No. 1, dated as of January 17, 2024, which includes, as Exhibit A thereto, the Revolving Credit Agreement, dated as of September 16, 2016, as amended as of October 26, 2016, as amended and restated as of November 14, 2017, as amended and restated as of November 21, 2018, as amended as of August 16, 2019, as amended as of April 21, 2020, as amended as of June 24, 2020, as amended as of March 4, 2021, as amended and restated as of June 27, 2022 and as amended as of January 17, 2024, among Alcoa Corporation, Alcoa Nederland Holding B.V., the lenders and issuers from time to time party thereto, and JPMorgan Chase Bank N.A., as administrative agent for the lenders and issuers (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed January 18, 2024 (File No. 1-37816))
10.4	Kwinana State Agreement of 1961 (incorporated by reference to Exhibit 10.7 to Amendment No. 2 to the Company's Registration Statement on Form 10 filed September 1, 2016 (File No. 1-37816))
10.5	Pinjarra State Agreement of 1969 (incorporated by reference to Exhibit 10.8 to Amendment No. 2 to the Company's Registration Statement on Form 10 filed September 1, 2016 (File No. 1-37816))
10.6	Wagerup State Agreement of 1978 (incorporated by reference to Exhibit 10.9 to Amendment No. 2 to the Company's Registration Statement on Form 10 filed September 1, 2016 (File No. 1-37816))
10.7	Alumina Refinery Agreement of 1987 (incorporated by reference to Exhibit 10.10 to Amendment No. 2 to the Company's Registration Statement on Form 10 filed September 1, 2016 (File No. 1-37816))
10.8	Alcoa Corporation 2016 Stock Incentive Plan (as Amended and Restated as of May 9, 2018), (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed May 15, 2018 (File No. 1-37816))*
10.9	Alcoa USA Corp. Deferred Compensation Plan, effective August 1, 2016, as amended November 15, 2021 (incorporated by reference to Exhibit 10.24 to the Company's Annual Report on Form 10-K for the year ended December 31, 2021, filed February 24, 2022 (File No. 1-137816))*
10.10	Alcoa USA Corp. Nonqualified Supplemental Retirement Plan C (incorporated by reference to Exhibit 10.3 to Amendment No. 1 to the Company's Registration Statement on Form 10 filed August 12, 2016 (File No. 1-37816))*
10.11	Amendment 1 to Alcoa USA Corp. Nonqualified Supplemental Retirement Plan C, effective January 1, 2021 (incorporated by reference to Exhibit 10.9 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017, filed February 23, 2018 (File No. 1-37816))*
10.12	Form of Amended and Restated Indemnification Agreement by and between Alcoa Corporation and individual directors or officers, effective August 1, 2017 (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed August 3, 2017 (File No. 1-37816))*
10.13	Alcoa Corporation Annual Cash Incentive Compensation Plan (as Amended and Restated), effective February 21, 2018 (incorporated by referenced to Exhibit 10 to the Company's Quarterly Report on Form 10-Q filed May 9, 2018 (File No. 1-37816))*
10.14	Alcoa Corporation Amended and Restated Change in Control Severance Plan, dated July 30, 2019 (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed October 31, 2019 (File No. 1-37816))*
10.15	Amendment No. 1, dated as of January 8, 2023 to the Alcoa Corporation Amended and Restated Change in Control Severance Plan, dated July 30, 2019 (incorporated by reference to Exhibit 10.27 to the Company's Annual Report on Form 10-K for the year ended December 31, 2022, filed February 23, 2023 (File No. 1-137816))*
10.16	Amended and Restated Form of Alcoa Corporation Chief Executive Officer and Chief Financial Officer Executive Severance Agreement, effective as of July 30, 2019 (incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed October 31, 2019 (File No. 1-37816))*
10.17	Amendment No. 1 to Amended and Restated Executive Severance Agreement, between William F. Oplinger and Alcoa Corporation, effective February 1, 2023 (incorporated by reference to Exhibit 10.29 to the Company's Annual Report on Form 10-K for the year ended December 31, 2022, filed February 23, 2023 (File No. 1-137816))*

Exhibit No.	Description of Exhibit
10.18	Amended and Restated Form of Alcoa Corporation Corporate Officer Executive Severance Agreement, effective as of July 30, 2019 (incorporated by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q filed October 31, 2019 (File No. 1-37816))*
10.19	Amended and Restated Form of Alcoa Corporation Corporate Officer Executive Severance Agreement (Canada), effective as of April 1, 2020 (incorporated by reference to Exhibit 10.26 to the Company's Annual Report on Form 10-K for the year ended December 31, 2023, filed February 21, 2024 (File No. 1-37816))*
10.20	Amended and Restated Form of Alcoa Corporation Corporate Officer Executive Severance Agreement (Australia), effective as of July 30, 2019 (filed herewith)*
10.21	Letter Agreement, dated July 22, 2023, between Andrew Hastings and Alcoa Corporation (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed May 2, 2024 (File No. 1-37816))*
10.22	Terms and Conditions for Employee Stock Option Awards (incorporated by reference to Exhibit 10.30 to the Company's Registration Statement on Form S-1 filed January 18, 2017 (File No. 333-215606))*
10.23	Terms and Conditions for Employee Stock Option Awards, dated January 24, 2018 (incorporated by reference to Exhibit 10.30 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017, filed February 23, 2018 (File No. 1-37816))*
10.24	Terms and Conditions for Employee Stock Option Awards, effective October 1, 2019 (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed October 31, 2019 (File No. 1-37816))*
10.25	Terms and Conditions for Employee Restricted Share Units, effective December 8, 2021 (incorporated by reference to Exhibit 10.37 to the Company's Annual Report on Form 10-K for the year ended December 31, 2021, filed February 24, 2022 (File No. 1-137816))*
10.26	Terms and Conditions for Employee Special Retention Awards, effective December 8, 2021 (incorporated by reference to Exhibit 10.38 to the Company's Annual Report on Form 10-K for the year ended December 31, 2021, filed February 24, 2022 (File No. 1-137816))*
10.27	Terms and Conditions for Employee Restricted Share Units, effective January 24, 2024 (incorporated by reference to Exhibit 10.34 to the Company's Annual Report on Form 10-K for the year ended December 31, 2023, filed February 21, 2024 (File No. 1-37816))*
10.28	Terms and Conditions for Employee Special Retention Awards, effective January 24, 2024 (incorporated by reference to Exhibit 10.35 to the Company's Annual Report on Form 10-K for the year ended December 31, 2023, filed February 21, 2024 (File No. 1-37816))*
10.29	Alcoa Corporation Non-Employee Director Compensation Policy, effective August 1, 2024 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed August 2, 2024 (File No. 1-37816))*
10.30	Terms and Conditions for Deferred Fee Restricted Share Units Director Awards, effective December 1, 2016 (incorporated by reference to Exhibit 10.34 to the Company's Registration Statement on Form S-1 filed January 18, 2017 (File No. 333-215606))*
10.31	Terms and Conditions for Deferred Fee Restricted Share Units Director Awards, effective May 4, 2022 (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed July 25, 2022 (File No. 1-37816))*
10.32	Terms and Conditions for Deferred Fee Restricted Share Units Director Awards, effective August 1, 2024 (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed August 2, 2024 (File No. 1-37816))*
10.33	Terms and Conditions for Restricted Share Units Annual Director Awards, effective December 1, 2016 (incorporated by reference to Exhibit 10.35 to the Company's Registration Statement on Form S-1 filed January 18, 2017 (File No. 333-215606))*
10.34	Terms and Conditions for Restricted Share Units Annual Director Awards, effective May 9, 2017 (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report Form 10-Q filed August 3, 2017 (File No. 1-37816))*

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Exhibit No.	Description of Exhibit
10.35	Terms and Conditions for Restricted Share Units Annual Director Awards, effective May 4, 2022 (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed July 25, 2022 (File No. 1-37816))*
10.36	Terms and Conditions for Restricted Share Units Annual Director Awards, effective August 1, 2024 (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed August 2, 2024 (File No. 1-37816))*
10.37	Alcoa Corporation 2016 Deferred Fee Plan for Directors (effective November 1, 2016, as amended and restated on December 5, 2018), effective August 1, 2024 (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed August 2, 2024 (File No. 1-37816))*
19.1	Insider Trading Policy (filed herewith)
21.1	List of Subsidiaries (filed herewith)
23.1	Consent of PricewaterhouseCoopers LLP (filed herewith)
23.2	Consent of SLR International Corporation (filed herewith)
31.1	Certification of Principal Executive Officer required by Securities and Exchange Commission Rule 13a-14(a) or 15d-14(a) (filed herewith)
31.2	Certification of Principal Financial Officer required by Securities and Exchange Commission Rule 13a-14(a) or 15d-14(a) (filed herewith)
32.1	Certification of Principal Executive Officer, required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (furnished herewith)
32.2	Certification of Principal Financial Officer, required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (furnished herewith)
96.1	Technical Report Summary for Darling Range, Western Australia (filed herewith)
96.2	Technical Report Summary for Juruti, Brazil (incorporated by reference to Exhibit 96.2 to the Company's Annual Report on Form 10-K for the year ended December 31, 2021, filed February 24, 2022 (File No. 1-137816))
97	Alcoa Corporation Clawback Policy, effective October 15, 2023 (incorporated by reference to Exhibit 97 to the Company's Annual Report on Form 10-K for the year ended December 31, 2023, filed February 21, 2024 (File No. 1-37816))*
99.1	Amended and Restated Grantor Trust Agreement by and between Alcoa Corporation and Wells Fargo Bank, National Association, effective October 24, 2017 (incorporated by reference to Exhibit 99.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017, filed February 23, 2018 (File No. 137816))
101.INS	Inline XBRL Instance Document
101.SCH	Inline XBRL Taxonomy Extension Schema with Embedded Linkbases Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Denotes management contracts or compensatory plans or arrangements required to be filed as Exhibits to this Form 10-K.

Certain schedules exhibits, and appendices have been omitted in accordance with to Item 601(a)(5) of Regulation S-K. The Company hereby undertakes to furnish copies of any omitted schedule, exhibit, or appendix to the Commission upon request.

Item 16. Form 10-K Summary.

Not applicable.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ALCOA CORPORATION

By: /s/ Renee R. Henry
Renee R. Henry
Senior Vice President and Controller

February 20, 2025

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated and on February 20, 2025.

/s/ William F. Oplinger
William F. Oplinger
President, Chief Executive Officer and Director
(Principal Executive Officer and Director)

/s/ Molly S. Beerman
Molly S. Beerman
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

/s/ Renee R. Henry
Renee R. Henry
Senior Vice President and Controller
(Principal Accounting Officer)

/s/ Steven W. Williams
Steven W. Williams
Director, Chairman of the Board of Directors

/s/ John A. Bevan
John A. Bevan
Director

/s/ Mary Anne Citrino
Mary Anne Citrino
Director

/s/ Alistair Field
Alistair Field
Director

/s/ Pasquale Fiore
Pasquale Fiore
Director

/s/ Thomas J. Gorman
Thomas J. Gorman
Director

/s/ James A. Hughes
James A. Hughes
Director

/s/ Roberto O. Marques
Roberto O. Marques
Director

/s/ Carol L. Roberts
Carol L. Roberts
Director

/s/ Jackson P. Roberts
Jackson P. Roberts
Director

/s/ Ernesto Zedillo
Ernesto Zedillo
Director

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