The Element of **Possibility**™

Alcoa Corporation

Investor Presentation

September 2019



Important information

Cautionary statement regarding forward-looking statements

This presentation 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 “anticipates,” “believes,” “could,” “estimates,” “expects,” “forecasts,” “goal,” “intends,” “may,” “outlook,” “plans,” “projects,” “seeks,” “sees,” “should,” “targets,” “will,” “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, 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; statements about strategies, outlook, and business and financial prospects; and statements about 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) material adverse changes in aluminum industry conditions, including global supply and demand conditions and fluctuations in London Metal Exchange-based prices and premiums, as applicable, for primary aluminum and other products, and fluctuations in indexed-based and spot prices for alumina; (b) deterioration in global economic and financial market conditions generally and which may also affect Alcoa Corporation’s ability to obtain credit or financing upon acceptable terms; (c) unfavorable changes in the markets served by Alcoa Corporation; (d) the impact of changes in foreign currency exchange and tax rates on costs and results; (e) increases in energy costs or uncertainty of energy supply; (f) declines in the discount rates used to measure pension liabilities or lower-than-expected investment returns on pension assets, or unfavorable changes in laws or regulations that govern pension plan funding; (g) the inability to achieve improvement in profitability and margins, cost savings, cash generation, revenue growth, fiscal discipline, or strengthening of competitiveness and operations anticipated from operational and productivity improvements, cash sustainability, technology advancements, and other initiatives; (h) the inability to realize expected benefits, in each case as planned and by targeted completion dates, from acquisitions, divestitures, facility closures, curtailments, restarts, expansions, or joint ventures; (i) political, economic, trade, legal, and regulatory risks in the countries in which Alcoa Corporation operates or sells products; (j) labor disputes and/or and work stoppages; (k) the outcome of contingencies, including legal proceedings, government or regulatory investigations, and environmental remediation; (l) the impact of cyberattacks and potential information technology or data security breaches; and (m) the other risk factors discussed in Item 1A of Alcoa Corporation’s Form 10-K for the fiscal year ended December 31, 2018 and other reports filed by Alcoa Corporation with the U.S. Securities and Exchange Commission (SEC). 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.

Any information contained in the following slides that has been previously publicly presented by Alcoa speaks as of the date that it was originally presented, as indicated. Alcoa is not updating or affirming any of such information as of today’s date. The provision of this information shall not imply that the information has not changed since it was originally presented.

Important information (continued)

Non-GAAP financial measures

Some of the information included in this presentation is derived from Alcoa's consolidated financial information but is not presented in Alcoa's financial statements prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). Certain of these data are considered "non-GAAP financial measures" under SEC rules. Alcoa Corporation believes that the presentation of non-GAAP financial measures is useful to investors because such measures provide both additional information about the operating performance of Alcoa Corporation and insight on the ability of Alcoa Corporation to meet its financial obligations by adjusting the most directly comparable GAAP financial measure for the impact of, among others, "special items" as defined by the Company, non-cash items in nature, and/or nonoperating expense or income items. The presentation of non-GAAP financial measures is not intended to be a substitute for, and should not be considered in isolation from, the financial measures reported in accordance with GAAP. Reconciliations to the most directly comparable GAAP financial measures and management's rationale for the use of the non-GAAP financial measures can be found in the appendix to this presentation.

Financial presentation information

As of January 1, 2019, the Company changed its accounting method for valuing certain inventories from last-in, first-out (LIFO) to average cost. The effects of the change in accounting principle have been retrospectively applied to all prior periods presented. See Exhibit 99.2 to the Company's Form 8-K filed with the Securities and Exchange Commission (SEC) on April 17, 2019, which illustrates the effects of the change in accounting principle to 2018 interim and full year financial information.

Glossary of terms

A glossary of abbreviations and defined terms used throughout this presentation can be found in the appendix.

Our values support our license to operate around the world

Global operations by business segment



OUR VALUES

Act with Integrity

Operate with Excellence

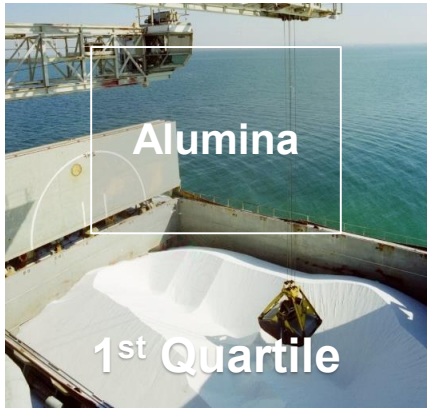
Care for People

Superior bauxite and alumina assets, solid smelter portfolio

2018 Cost curve and business position



- World's second largest bauxite miner, with a first quartile cost position
- Long-lived assets with low-cost growth opportunities



- Largest alumina refiner and largest long position, outside of China
- Low cost, global network of refineries with a first quartile cost position



- Top 10 global aluminum smelter
- Segment includes Warrick rolling mill and Brazilian energy assets

Source for 2018 cost curve and business position: CRU and Alcoa analysis.

Strengthening the operating segments in 2019

Improvement actions accomplished or underway in 2019

Bauxite	▪ Achieved monthly production record and completed major crusher overhaul at Willowdale mine ▪ Implemented real-time integrated production support and Connected Worker operations systems ▪ Automating generation of 3D geological and mine models using innovative technologies
Alumina	▪ Achieved record quarterly production by current refinery portfolio ▪ Installed new residue filtration system at Pinjarra ▪ Completing boiler upgrades and key maintenance activities ▪ Reviewing major debottlenecking projects for largest refineries in Western Australia and Brazil ▪ Continuing negotiations with the Australian Workers' Union (AWU)
Aluminum	▪ Divested entire 25.1% interest in Saudi rolling and auto sheet mill; retained 25.1% interests in mine, refinery and smelter ▪ Reached two new competitive labor agreements at Baie Comeau and Bécancour smelters, including pension redesign; Bécancour restart process began on July 26, 2019 ▪ Completed Avilés and La Coruña collective dismissal process and disposition ▪ Exited Liberty coal mine ▪ Implemented plans for Deschambault smelter production increase with government support ▪ Signed tentative agreement with the United Steelworkers Union (USW)

Announced redesign to optimize and enhance operations

New operating model announced September 9, 2019

Key changes (effective November 1, 2019)

- Elimination of business unit structure[1]
- Consolidation of sales, procurement and other commercial capabilities at an enterprise level
- Alcoa Executive Team streamlined from 12 to 7 direct reports to the Chief Executive Officer

Benefits of new model

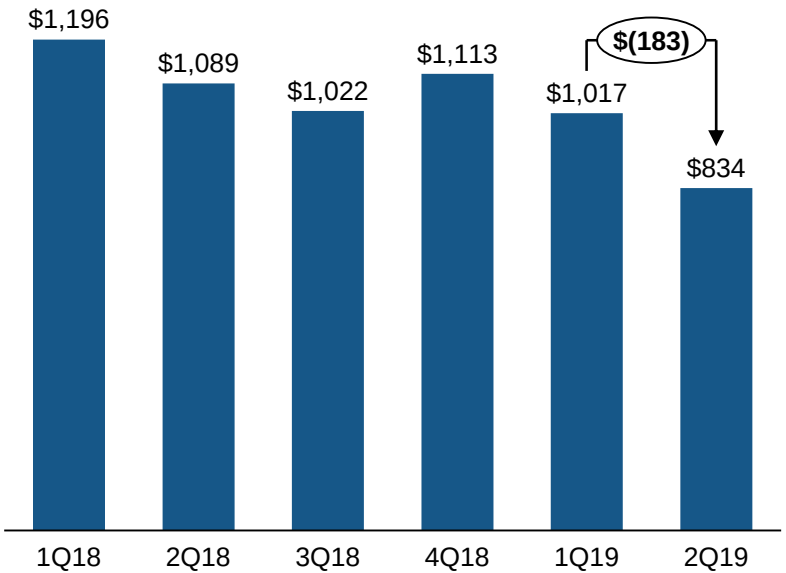
- Create a leaner, more integrated, operator-centric organization
- Increase connectivity between the Company's plants and leadership
- Promote operational and commercial excellence
- Ensure a continued focus on safety as our highest priority
- Reduce overhead and position Alcoa for sustainable profitability

1. Alcoa will continue to report financial results for each of its segments (Bauxite, Alumina, Aluminum)

Cash reflects one-timers; disciplined capital allocation

Cash position and capital allocation framework

Quarter ending cash balance, $M



Capital allocation framework

Maintain liquidity throughout the cycle

Sustain and improve operations

Reduce adjusted net debt[1] to $2.0B-$2.5B over 3-5 years

Return excess cash to stockholders

Invest in value creating growth projects

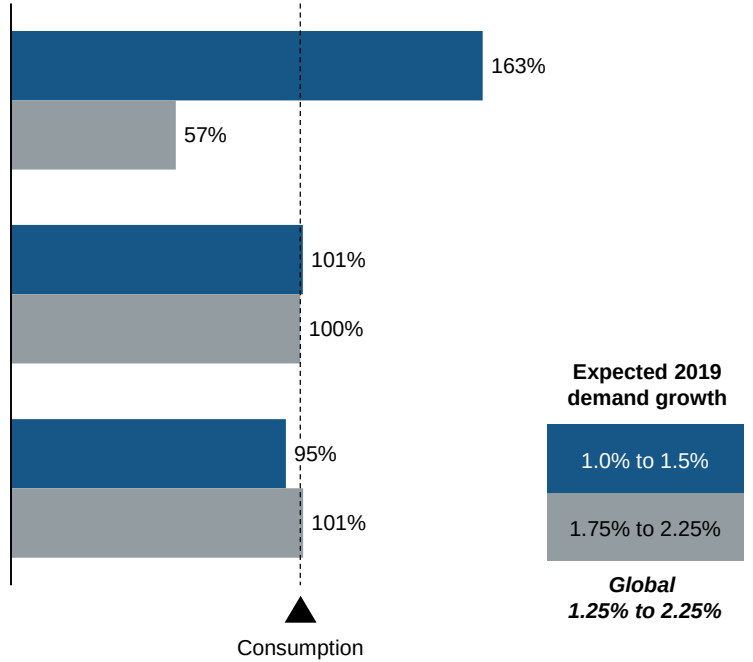
1. Adjusted net debt defined as the Alcoa proportional share of net debt plus net pension and OPEB liability.

Aluminum projected to be in deficit in 2019

Projected 2019 market balances, Mmt

	Global	Regional	
Third-party **Bauxite**	13 to 17 Surplus	98 to 100	World ex-China
		(85) to (83)	China
Smelter Grade **Alumina**	0.5 to 1.3 Surplus	0.4 to 0.8	World ex-China
		0.1 to 0.5	China
Primary **Aluminum**	(1.4) to (1.0) Deficit	(1.5) to (1.3)	World ex-China
		0.1 to 0.3	China

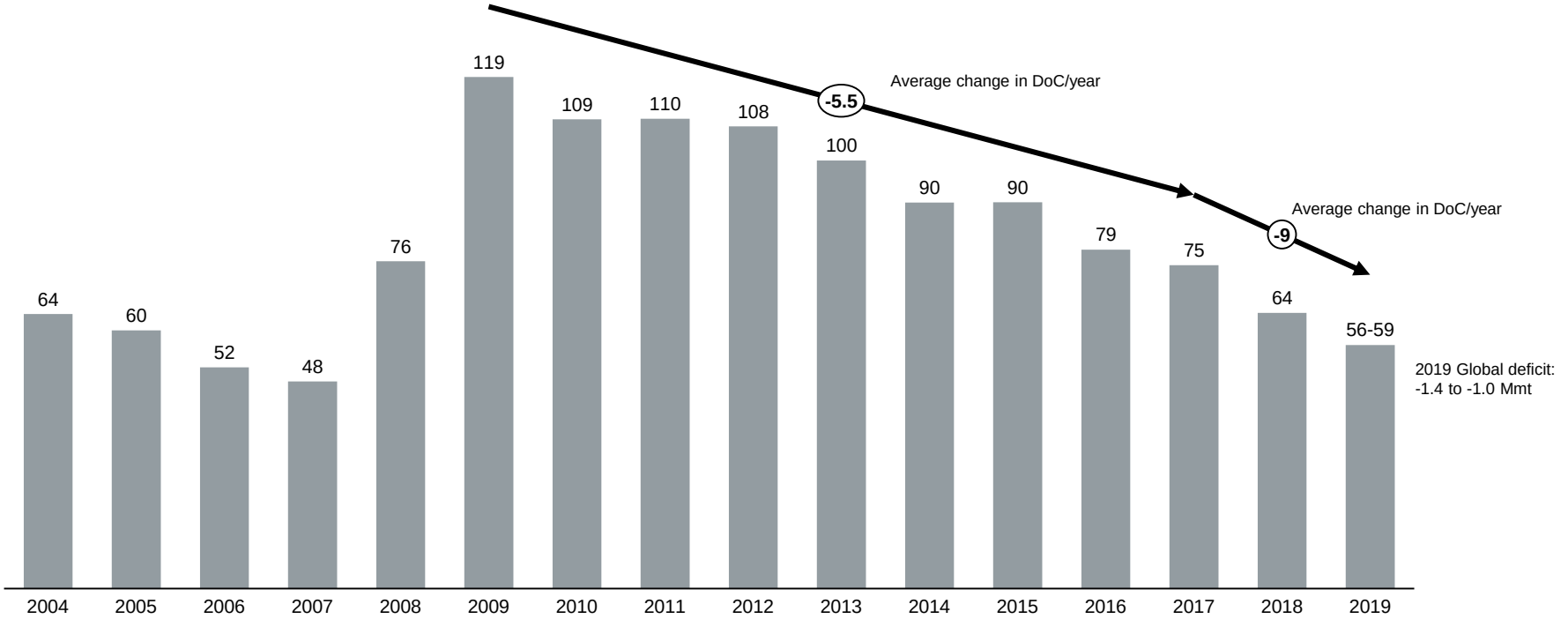
Global production as a percentage of consumption



Sources: Alcoa analysis, CRU, Wood Mackenzie, CM Group, IAI, CNIA, NBS, Aladdiny, Bloomberg.

Days of consumption approaching 2006 – 2007 lows

Global inventory days of primary aluminum consumption

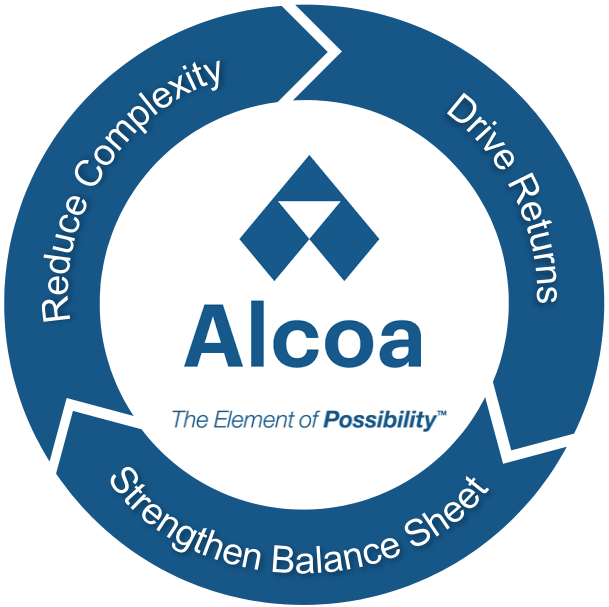


Source: Alcoa analysis, CRU, Wood Mackenzie, Baiinfo, Aladdiny and SMM.
Note: Inventory estimates at year end.

Alcoa is an aluminum industry leader

Company overview

Strategic priorities



Keys to Alcoa success

Our values are the foundation of our business and our license to operate around the world

Global network of aluminum industry assets; low cost position in bauxite and alumina

Actions being taken to capture benefits in improving markets or withstand challenging conditions

Questions?

Alcoa Corporation

Appendix:
2Q19 Financial Results and Other Information as presented on July 17, 2019



Revenue flat as volume, energy sales offset price slip

Quarterly income statement

M, Except realized prices and per share amounts	2Q18	1Q19	2Q19	Prior Year Change	Sequential Change
Realized primary aluminum price ($/mt)	$2,623	$2,219	**$2,167**	$(456)	$(52)
Realized alumina price ($/mt)	$467	$385	**$376**	$(91)	$(9)
Revenue	$3,579	$2,719	**$2,711**	$(868)	$(8)
Cost of goods sold	2,753	2,180	**2,189**	(564)	9
SG&A and R&D expenses	73	91	**75**	2	(16)
Adjusted EBITDA	753	448	**447**	(306)	(1)
Depreciation, depletion and amortization	192	172	**174**	(18)	2
Other expenses, net	9	41	**50**	41	9
Interest expense	32	30	**30**	(2)	-
Restructuring and other charges	231	113	**370**	139	257
Tax provision	158	150	**116**	(42)	(34)
Net income (loss)	131	(58)	**(293)**	(424)	(235)
Less: Net income attributable to noncontrolling interest	121	141	**109**	(12)	(32)
Net income (loss) attributable to Alcoa Corporation	$10	$(199)	**$(402)**	$(412)	$(203)
Diluted earnings (loss) per share	$0.05	$(1.07)	**$(2.17)**	$(2.22)	$(1.10)
Diluted shares outstanding[1]	188.7	185.3	**185.5**	(3.2)	0.2

1. For 1Q19 and 2Q19, share equivalents related to employee stock-based compensation were excluded from Diluted shares outstanding as impact was anti-dilutive given a net loss.

Special items total $400M, primarily MRC rolling divestiture

Breakdown of special items by income statement classification – gross basis

M, Except per share amounts	2Q18	1Q19	2Q19	Description of significant 2Q19 special items
Net income (loss) attributable to Alcoa Corporation	$10	$(199)	**$(402)**	
Diluted earnings (loss) per share	$0.05	$(1.07)	**$(2.17)**	
Special items	$211	$156	**$400**	
Cost of goods sold	*30*	*17*	***8***	*USW master agreement negotiation and Becancour lockout related costs*
SG&A	*-*	*2*	***-***	
Restructuring and other charges	*231*	*113*	***370***	*MRC divestiture and Baie Comeau pension redesign*
Interest expense	*3*	*-*	***-***	
Other expenses (income), net	*6*	*(9)*	***-***	
Tax provision	*(46)*	*33*	***22***	*Taxes on special items and other tax adjustments*
Noncontrolling interest	*(13)*	*-*	***-***	*Partner share of special items*
Adjusted net income (loss) attributable to Alcoa Corporation	$221	$(43)	**$(2)**	
Adjusted diluted earnings (loss) per share	$1.17	$(0.23)	**$(0.01)**	

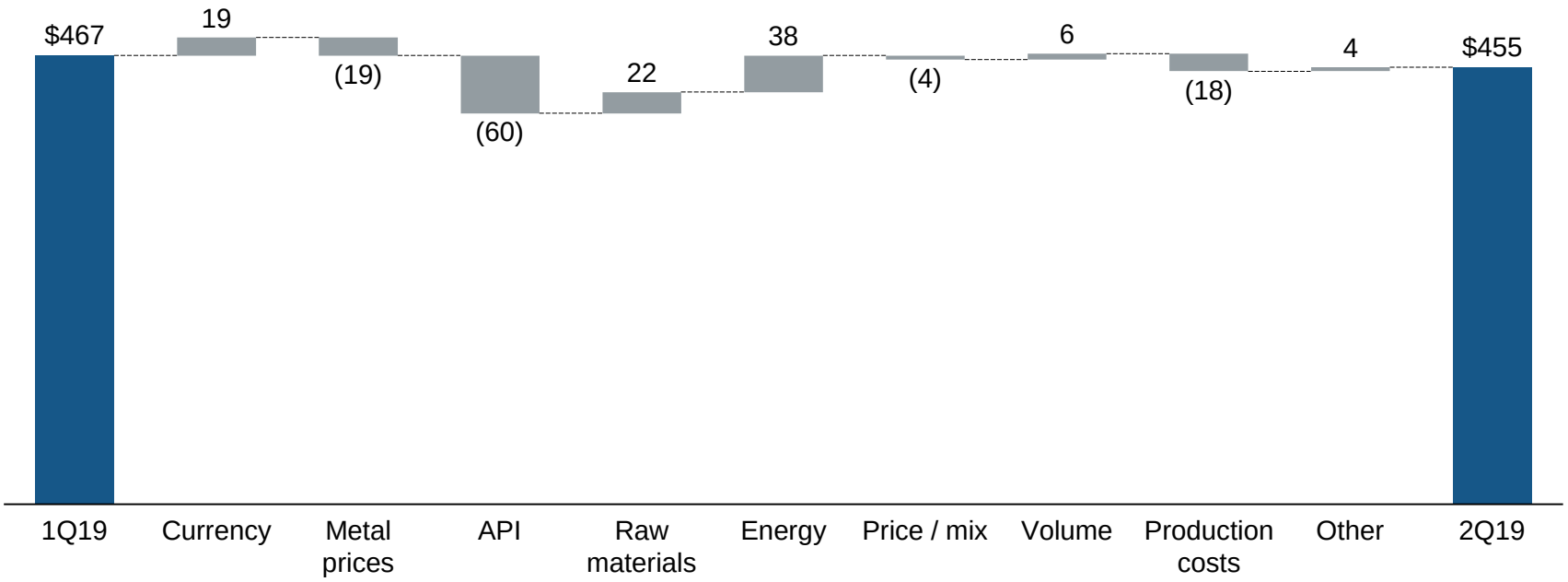
Adjusted net loss $2 million, adjusted EPS $(0.01)

Quarterly income statement excluding special items

M, Except realized prices and per share amounts	2Q18	1Q19	2Q19	Prior Year Change	Sequential Change
Realized primary aluminum price ($/mt)	$2,623	$2,219	**$2,167**	$(456)	$(52)
Realized alumina price ($/mt)	$467	$385	**$376**	$(91)	$(9)
Revenue	$3,579	$2,719	**$2,711**	$(868)	$(8)
Cost of goods sold	2,723	2,163	**2,181**	(542)	18
COGS % of Revenue	76.1%	79.6%	**80.5%**	4.4% pts.	0.9% pts.
SG&A and R&D expenses	73	89	**75**	2	(14)
SG&A and R&D % of Revenue	2.0%	3.3%	**2.8%**	0.8% pts.	(0.5)% pts.
Adjusted EBITDA	783	467	**455**	(328)	(12)
Depreciation, depletion and amortization	192	172	**174**	(18)	2
Other expenses, net	3	50	**50**	47	-
Interest expense	29	30	**30**	1	-
Tax provision	204	117	**94**	(110)	(23)
Operational tax rate	36.4%	54.5%	**46.5%**	10.1% pts.	(8.0)% pts.
Adjusted net income	355	98	**107**	(248)	9
Less: Net income attributable to noncontrolling interest	134	141	**109**	(25)	(32)
Adjusted net income (loss) attributable to Alcoa Corporation	$221	$(43)	**$(2)**	$(223)	$41
Adjusted diluted earnings (loss) per share	$1.17	$(0.23)	**$(0.01)**	$(1.18)	$0.22
Diluted shares outstanding	188.7	185.3	**185.5**	(3.2)	0.2

Favorable energy, raw materials offset alumina price drop

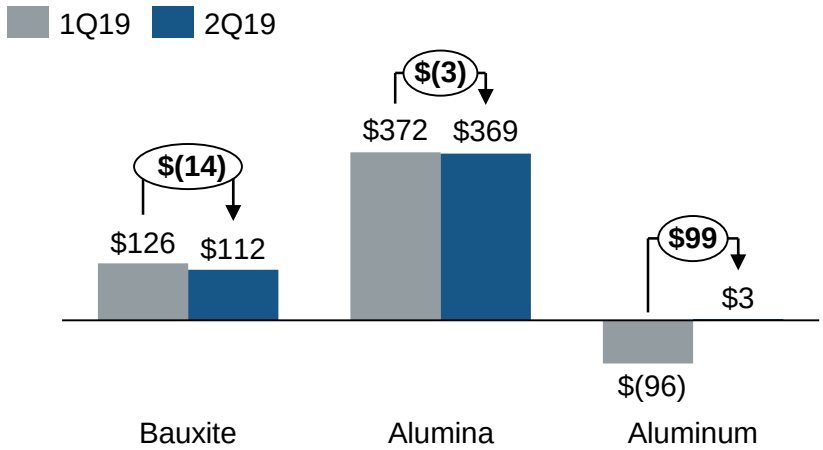
Adjusted EBITDA excluding special items sequential changes, $M



Aluminum recovering; Alumina steady; Bauxite off slightly

Adjusted EBITDA excluding special items breakdown

Segment information, $M



	Bauxite	Alumina	Aluminum
2Q19 Segment Adj. EBITDA Margin %	35.8%	28.2%	0.2%
Change vs. 1Q19, Margin %	-6.1% pts.	-0.1% pts.	+5.7% pts.

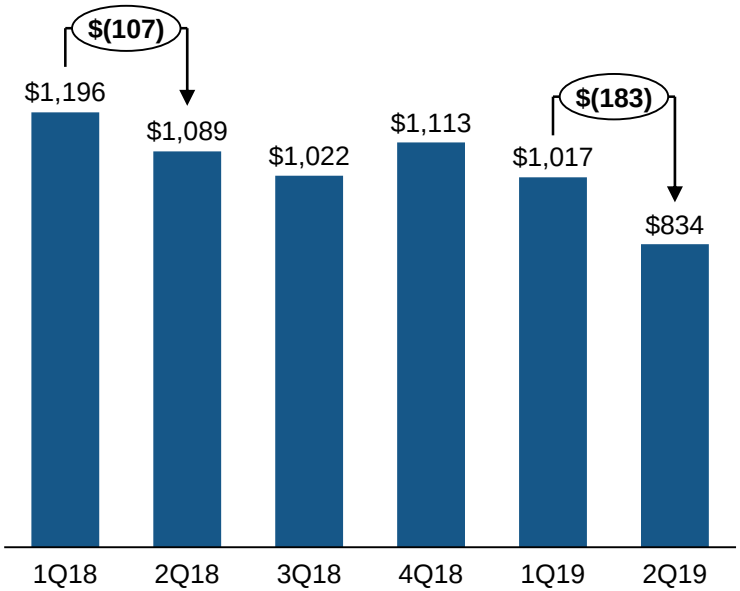
Total Adjusted EBITDA information, $M

	1Q19	2Q19	Change
Segment total	$402	**$484**	$82
Transformation	2	**3**	1
Intersegment eliminations	86	**(1)**	(87)
Other corporate	(23)	**(31)**	(8)
Total Adjusted EBITDA	$467	**$455**	$(12)

One time payments cause cash balance decline

Balance sheet and cash review

Quarter ending cash balance, $M



Key metrics as of June 30, 2019

2Q19 Days working capital	1H19 Annualized return on capital
31 Days	**5.0%**
1H19 Sustaining capital expenditures	**1H19 Return-seeking capital expenditures**
$112M	**$46M**
Alcoa proportional adjusted net debt	**1H19 Free cash flow less net NCI distributions**
$3.4B	**$(173)M**

2019 Outlook

FY19 Key metrics

Income statement excl. special items impacts

	1H19 Actual	FY19 Outlook
Bauxite shipments (Mdmt)	23.2	47.0 – 48.0
Alumina shipments (Mmt)	6.7	13.6 – 13.7
Aluminum shipments (Mmt)	1.4	2.8 – 2.9
Transformation (adj. EBITDA impacts)	$5M	$(5) – $0M
Intersegment elims. (adj. EBITDA impacts)	$85M	Varies
Other corporate (adj. EBITDA impacts)	$(54)M	~ $(120)M
Depreciation, depletion and amortization	$346M	~ $700M
Non-operating pension/OPEB expense	$59M	~ $115M
Interest expense	$60M	~ $120M
Operational tax rate[1]	50.6%	~ 55% – 65%[1]
Net income of noncontrolling interest	$250M	40% of AWAC NI

Cash flow impacts

	1H19 Actual	FY19 Outlook
Minimum required pension/all OPEB funding	$108M	~ $300M
Additional pension funding	-	Will vary based on market conditions and cash availability
Discretionary debt repayment	-	
Stock repurchases	-	
Return-seeking capital expenditures[2]	$46M	~ $120M
Sustaining capital expenditures[2]	$112M	~ $290M
Payment of prior year income taxes	$372M	~ $360M[3]
Current period cash taxes	$183M	Varies[1]
Environmental and ARO payments[4]	$53M	$110 – $120M
Impact of restructuring and other charges	$142M	TBD

Note: Additional market sensitivities and business information included in appendix.

1. Estimate will vary with market conditions and jurisdictional profitability.
2. AWAC portion of FY19 Outlook: ~45% of return-seeking capital expenditures, and ~55% of sustaining capital expenditures.
3. Net of pending tax refunds.
4. As of June 30, 2019, the environmental remediation reserve balance was $271M and the ARO liability was $634M.

2Q19 Financial summary

Three months ending June 30, 2019, excluding special items

$M	Bauxite	Alumina	Aluminum[3,4]	Transformation	Intersegment eliminations	Other corporate	Alcoa Corporation
Total revenue	$313	$1,309	$1,761	$24	$(696)	-	$2,711
Third-party revenue	$67	$864	$1,757	$23	-	-	$2,711
Adjusted EBITDA[1]	$112	$369	$3	$3	$(1)	$(31)	$455
Adjusted EBITDA margin %	*35.8%*	*28.2%*	*0.2%*				*16.8%*
Depreciation, depletion and amortization	$27	$55	$85	$1	-	$6	$174
Other expenses / (income), net[2]	-	$(3)	$17	-	-	$36	$50
Interest expense							$30
Provision for income taxes							$94
Adjusted net income							$107
Net income attributable to noncontrolling interest							$109
Adjusted net income (loss) attributable to Alcoa Corp.							$(2)

1. Includes the Company's proportionate share of earnings from equity investments in certain bauxite mines, hydroelectric generation facilities, and an aluminum smelter located in Brazil, Canada, and/or Guinea.
2. Amounts for Alumina and Aluminum represent the Company's proportionate share of earnings from its equity investment in the Saudi Arabian joint venture.
3. Flat-rolled aluminum shipments, revenue and adjusted EBITDA were 0.09 Mmt, $332M and $15M, respectively.
4. Third-party energy sales volume, revenue and adjusted EBITDA in Brazil were 1,070 GWh, $60M and $35M, respectively.

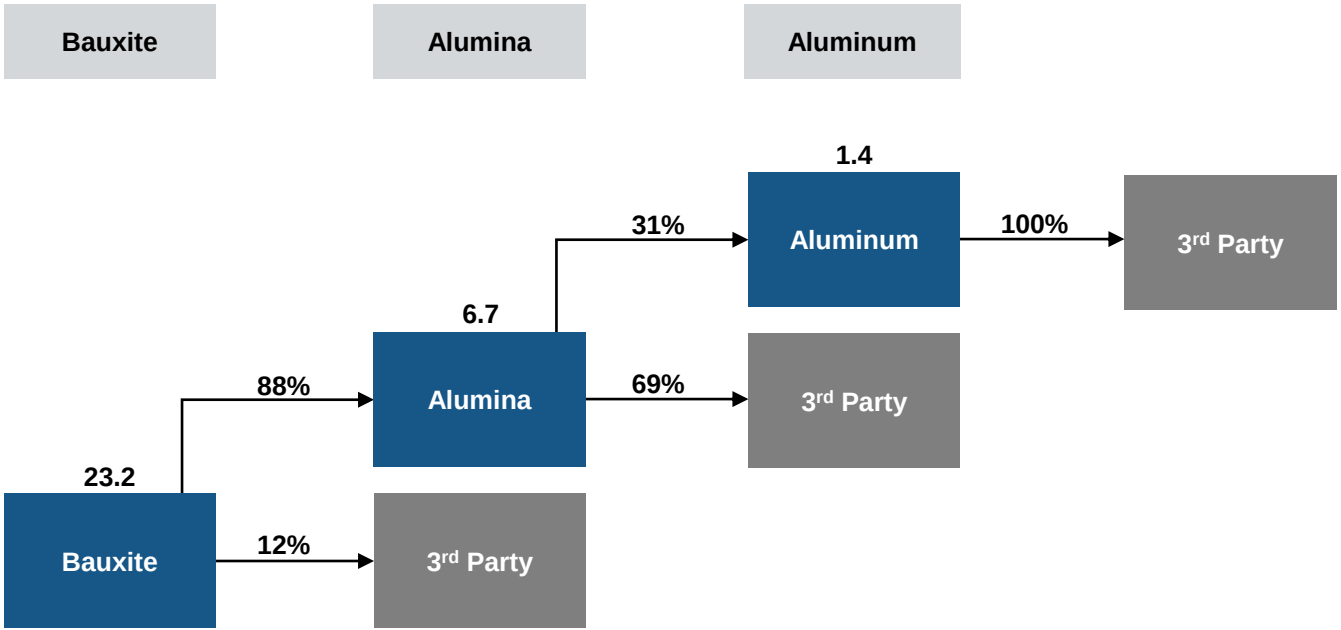
2Q19 Adjusted EBITDA drivers by segment

Adjusted EBITDA excl. special items sequential changes by segment, $M

Segment	Adj. EBITDA 1Q19	Currency	Metal prices	API	Raw materials	Energy	Price/mix	Volume	Production costs	Other	Adj. EBITDA 2Q19
Bauxite	$126	2	-	-	-	-	2	(1)	(8)	(9)	$112
Alumina	$372	12	-	(33)	17	2	(2)	8	(14)	7	$369
Aluminum	$(96)	5	(19)	25	5	36	(4)	(1)	4	48	$3
Segment Total	**$402**	**19**	**(19)**	**(8)**	**22**	**38**	**(4)**	**6**	**(18)**	**46**	**$484**

Aluminum value chain

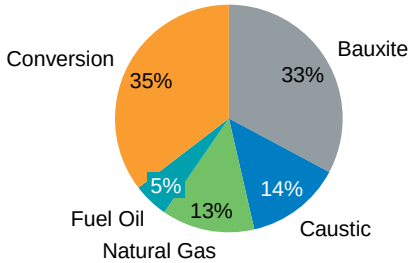
1H19 Alcoa product shipments by segment, Mmt



Composition of alumina and aluminum production costs

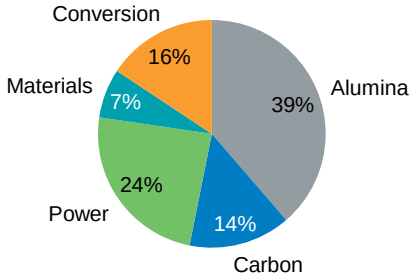
Alcoa 2Q19 production cash costs

Alumina refining



Input Cost	Inventory Flow	Pricing Convention	FY19 Annual Cost Sensitivity
Caustic Soda	5 - 6 Months	Quarterly	$10M per $10/dmt
Natural Gas[1]	N/A	N/A	N/A
Fuel Oil	1 - 2 Months	Prior Month	$3M per $1/barrel

Aluminum smelting



Input Cost	Inventory Flow	Pricing Convention	FY19 Annual Cost Sensitivity
Alumina	~2 Months	API	$39M per $10/mt
Petroleum Coke	1 - 2 Months	Spot, Quarterly & Semi-annual	$7M per $10/mt
Coal Tar Pitch	1 - 2 Months	Spot, Quarterly & Semi-annual	$1.8M per $10/mt

1. Australia is priced on a 16 quarter rolling average.

2019 Business information

Estimated annual Adjusted EBITDA sensitivities

$M Segment	LME + $100/mt	API + $10/mt	Midwest + $100/mt	Europe + $100/mt	Japan + $100/mt	AUD + 0.01 USD/AUD	BRL + 0.10 BRL/USD	CAD + 0.01 CAD/USD	EUR + 0.01 USD/EUR	ISK + 10 ISK/USD	NOK + 0.10 NOK/USD
Bauxite						(4)	3				
Alumina		120				(19)	9		(1)		
Aluminum	193	(36)	118	90	24	(1)		2	(3)	7	3
Total	193	84	118	90	24	(24)	12	2	(4)	7	3

Pricing conventions

Segment	3rd-Party Revenue
Bauxite	• Negotiated prices
Alumina	• ~95% of third-party smelter grade alumina priced on API/spot • API based on prior month average of spot prices
Aluminum	• LME + Regional Premium + Product Premium • Primary aluminum 15-day lag; flat rolled aluminum 30-day lag • Brazilian hydroelectric sales at market prices

Regional premium breakdown

Regional premiums	% of 2019 Primary aluminum shipments
Midwest	~50%
Rotterdam Duty Paid	~40%
CIF Japan	~10%

Additional business considerations

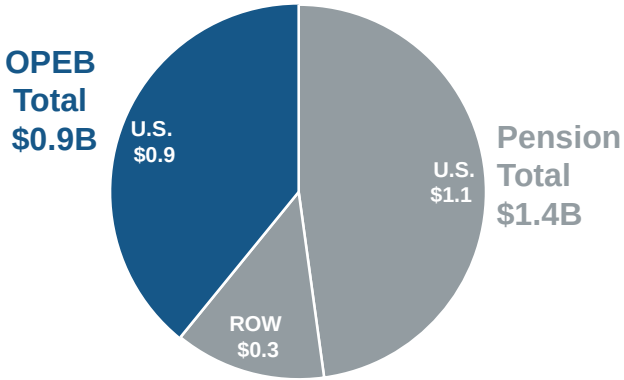
Items expected to impact adjusted EBITDA for 3Q19

- In the Bauxite segment, we expect Adjusted EBITDA sequential improvement of $5 million to $10 million, on higher volumes and lower major maintenance costs compared to 2Q19
- In the Alumina segment, higher volume, lower maintenance costs and lower caustic costs are expected to provide $30 million to $35 million sequential benefit
- In the Aluminum segment
  - Lower alumina prices flowing into the Aluminum segment in 3Q19 estimated to produce sequential benefit of $35 million to $40 million in the third quarter
  - Expected lower Brazil hydro prices will be partially offset by better rolling results, netting approximately $10 million lower adjusted EBITDA
  - Removal of Section 232 tariffs on Canadian origin U.S. sales, lower raw materials costs, and other performance improvements are expected to provide a sequential benefit of approximately $15 million
- Estimate intercompany profit elimination for every $10/mt decrease in API prices to be a $8 to $10 million favorable impact based on comparison of the average prices of the last two months of each quarter. Consider intersegment eliminations as component of minority interest calculation.

Pension and OPEB summary

Net pension and OPEB liability and financial impacts

Net liability as of June 30, 2019[1]



Pension funding status as of December 31, 2018

- U.S. ERISA **~80%**
- GAAP Worldwide **~77%**

U.S. pension contributions currently not tax deductible

Estimated financial impacts, $M

Expense impact	**2019**
Segment pension	$45
Segment OPEB	5
Corporate pension & OPEB	5
Total adj. EBITDA impact	**55**
Non-operating	115
Special items[2] (curtailment/settlement)	38
Total expense impact	**$208**

Cash flow impact	**2019**
Minimum required pension funding	$190
OPEB payments	110
Total cash impact	**$300**

1. The impact on the combined pension and OPEB liability of a 25 basis point change in the weighted average discount rate is approximately $160M.
2. Canadian hourly pension plan remeasured as of May 31, 2019 due to retirement benefit changes under new collective bargaining agreement.

Investments summary

Investments listing and income statement location

Investee	Country	Nature of Investment[4]	Ownership Interest	Carrying Value as of June 30, 2019	Income Statement Location of Equity Earnings
Elysis Limited Partnership	Canada	Aluminum smelting technology	48.235%		
Ma'aden Aluminum Company[1]	Saudi Arabia	Aluminum smelter	25.1%		
Ma'aden Bauxite and Alumina Company[1]	Saudi Arabia	Bauxite mine and Alumina refinery	25.1%[5]		
Subtotal Ma'aden and Elysis				***$638M***	***Other expenses / (income), net***
Consorcio Serra do Facão	Brazil	Hydroelectric generation facility	34.97%		
Energetica Barra Grande S.A.	Brazil	Hydroelectric generation facility	42.18%		
Halco Mining, Inc.[2]	Guinea	Bauxite mine	45%[5]		
Manicouagan Power Limited Partnership	Canada	Hydroelectric generation facility	40%		
Mineração Rio do Norte S.A. (MRN)	Brazil	Bauxite mine	18.2%[5]		
Pechiney Reynolds Quebec, Inc.[3]	Canada	Aluminum smelter	50%		
Subtotal other				***$503M***	***COGS***
Total investments				**$1,141M**	

1. Alcoa Corporation has an investment in a joint venture related to the ownership and operation of an integrated aluminum complex (bauxite mine, alumina refinery, and aluminum smelter) in Saudi Arabia. The joint venture is owned 74.9% by the Saudi Arabian Mining Company (known as "Ma'aden") and 25.1% by Alcoa Corporation.
2. Halco Mining, Inc. owns 100% of Boké Investment Company, which owns 51% of Compagnie des Bauxites de Guinée (CBG).
3. Pechiney Reynolds Quebec, Inc. owns a 50.1% interest in the Bécancour smelter in Quebec, Canada thereby entitling Alcoa Corporation to a 25.05% interest in the smelter. Through two wholly-owned Canadian subsidiaries, Alcoa Corporation also owns 49.9% of the Bécancour smelter.
4. Each of the investees either owns the facility listed or has an ownership interest in an entity that owns the facility listed.
5. A portion or all of each of these ownership interests are held by majority-owned subsidiaries that are part of AWAC.

Rigorous standard in place to manage tailings and residue

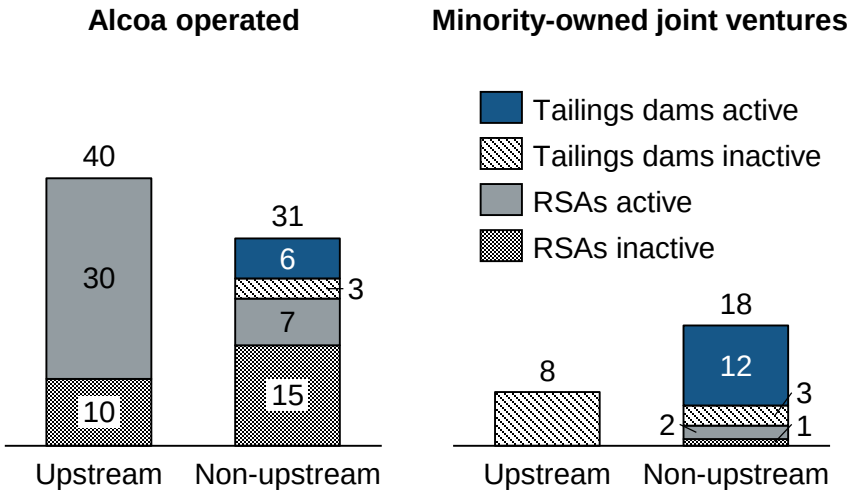
Industry leading standard established over 25 years ago; continuously improved and updated

Robust management process

- Governance structure with global oversight and clearly defined location responsibilities
- Annual independent, third party inspections of Alcoa operated and non-operated impoundments
- Facilities master planned, designed, engineered and constructed to high industry standards
- Operating practices meet or exceed Alcoa standards and local regulations
- Failure analysis and emergency response plans
- 2018 independent global review of impoundment management practices against external benchmarks
- Led industry improvements including dry stacking and filtration technologies
- Focused on progressively closing and rehabilitating inactive areas

Inventory of tailings dams & residue storage

- No Alcoa operated upstream bauxite tailings dams
- 40 Alcoa operated upstream residue storage areas (RSAs)



Note: Inventory does not include 89 Alcoa operated and 17 minority joint venture other impoundments such as hydroelectric dams, fresh water reservoirs, stormwater management, process water, process materials outside of bauxite residue and tailings, closed and remediated legacy location RSAs, and ash ponds. Inventory totals have changed slightly from those included in recent Alcoa presentations, following an internal review to standardize definitions and ensure reporting consistency.

Production and capacity information

Alcoa Corporation annual consolidated amounts as of June 30, 2019

Bauxite production, Mdmt

Mine	Country	2018 Production
Darling Range	Australia	33.5
Juruti	Brazil	5.7
Poços de Caldas	Brazil	0.4
Trombetas (MRN)	Brazil	2.3
Boké (CBG)	Guinea	2.7
Al Ba'itha[1]	Saudi Arabia	1.1
Total		**45.8**

Alumina refining, kmt

Facility	Country	Capacity	Curtailed
Kwinana	Australia	2,190	-
Pinjarra	Australia	4,234	-
Wagerup	Australia	2,555	-
Poços de Caldas	Brazil	390	214
São Luís (Alumar)	Brazil	1,890	-
San Ciprián	Spain	1,500	-
Point Comfort	U.S.	2,305	2,305
Total		**15,064**	**2,519**
Ras Al Khair[1]	*Saudi Arabia*	*452*	-

Aluminum smelting, kmt

Facility	Country	Capacity	Curtailed
Portland	Australia	197	30
São Luís (Alumar)	Brazil	268	268
Baie Comeau	Canada	280	-
Bécancour[2]	Canada	310	259
Deschambault	Canada	260	-
Fjarðaál	Iceland	344	-
Lista	Norway	94	-
Mosjøen	Norway	188	-
Avilés	Spain[3]	93	93
La Coruña	Spain[3]	87	87
San Ciprián	Spain	228	-
Intalco	U.S.	279	49
Massena West	U.S.	130	-
Warrick	U.S.	269	108
Wenatchee	U.S.	146	146
Total		**3,173**	**1,040**
Ras Al Khair[1]	*Saudi Arabia*	*186*	-

1. The Company's proportionate share of earnings from its equity investment in the Saudi Arabian joint venture does not impact adjusted EBITDA.
2. On July 2, 2019, Alcoa announced that the Bécancour smelter plans to begin restart efforts for curtailed smelting capacity on July 26, after members of the United Steelworkers union in Québec, Canada approved a six-year labor agreement.
3. On July 5, 2019, Alcoa reached a conditional agreement with PARTER Capital Group AG to acquire the Alcoa Avilés and La Coruña aluminum plants in Spain; the casthouses at each plant and the paste plant at La Coruña remain in operation, while the smelter lines at both facilities were fully curtailed during 1Q19.

Valuation framework

Valuation framework key considerations

				LTM ending 6/30/2019 Adj. EBITDA excl. special items
Business Operations	+	Bauxite	Economic value using market multiple of: i. AWAC joint venture, minus small portions of AWAC JV in Aluminum and Transformation ii. Ownership in certain mines and refineries outside the JV	$454M
	+	Alumina		$2,084M
	+	Aluminum	Economic value using market multiple of: i. Smelters, casthouses, rolling mill, and energy assets ii. Smelters and casthouses restart optionality	-$59M
	-	Non-segment expenses	Economic value using market multiple of: i. Net corporate expenses and Transformation	$57M
	=	Enterprise value		
Financial Considerations	-	Noncontrolling interest	Implied value of noncontrolling interest in AWAC JV, based on Alumina Limited's observed enterprise value	
	-	Debt & debt-like items[1]	Book value of debt of $1.8B ($1.8B, >95% Alcoa), pension & OPEB net liabilities of $2.3B ($2.3B, >95% Alcoa; U.S. contributions not tax deductible), environmental & ARO liabilities of $0.7B ($0.9B, ~80% Alcoa)	
	+	Cash & equity investments[1]	Cash position of $0.6B ($0.8B, ~75% Alcoa) plus carrying value of investments in the Ma´aden joint venture and Elysis of $0.5B ($0.6B, ~80% Alcoa)	
	=	Equity value		

1. Dollar amounts reflect Alcoa Corporation's consolidated balance sheet values as of June 30, 2019. The "Alcoa" percentages exclude amounts attributable to Alcoa Corporation's partner in the AWAC JV.

Adjusted EBITDA reconciliation

$M	1Q18	2Q18	3Q18	4Q18	FY18	1Q19	2Q19	LTM
Net income (loss) attributable to Alcoa Corporation	**$195**	**$10**	**$(6)**	**$51**	**$250**	**$(199)**	**$(402)**	**$(556)**
Add:								
Net income attributable to noncontrolling interest	145	121	201	176	643	141	109	627
Provision for income taxes	151	158	260	163	732	150	116	689
Other expenses, net	21	9	2	32	64	41	50	125
Interest expense	26	32	33	31	122	30	30	124
Restructuring and other charges	(19)	231	177	138	527	113	370	798
Depreciation, depletion and amortization	194	192	173	174	733	172	174	693
Adjusted EBITDA	**713**	**753**	**840**	**765**	**3,071**	**448**	**447**	**2,500**
Special items before tax and noncontrolling interest	19	30	4	5	58	19	8	36
Adjusted EBITDA excl. special items	**$732**	**$783**	**$844**	**$770**	**$3,129**	**$467**	**$455**	**$2,536**

Alcoa Corporation's definition of Adjusted EBITDA is net margin plus an add-back for depreciation, depletion, and amortization. Net margin is equivalent to Sales minus the following items: Cost of goods sold; Selling, general administrative, and other expenses; Research and development expenses; and Provision for depreciation, depletion, and amortization. Adjusted EBITDA is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because Adjusted EBITDA provides additional information with respect to Alcoa Corporation's operating performance and the Company's ability to meet its financial obligations. The Adjusted EBITDA presented may not be comparable to similarly titled measures of other companies.

Special items detail, net of tax and noncontrolling interest

$M	2Q18	1Q19	2Q19	Income statement classification
Special items	$211	$156	$400	
USW master agreement negotiation	-	-	5	Cost of goods sold
Bécancour lockout related costs	2	2	2	Cost of goods sold
Spain collective dismissal costs	-	15	1	Cost of goods sold
Contractor arbitration loss	26	-	-	Cost of goods sold
Warrick smelter restart costs	2	-	-	Cost of goods sold
Spain collective dismissal costs	-	2	-	SG&A and R&D expenses
Mark-to-market energy contracts	6	-	-	Other expenses / (income), net
Gain on asset sales	-	(9)	-	Other expenses / (income), net
MRC divestiture	-	-	319	Restructuring and other charges
Pension related actions	166	-	38	Restructuring and other charges
Liberty coal mine exit	-	7	1	Restructuring and other charges
Spain collective dismissal costs	-	103	-	Restructuring and other charges
Wenatchee power penalty and related charges	73	-	-	Restructuring and other charges
Other restructuring related items	(8)	2	12	Restructuring and other charges
Contractor arbitration loss	3	-	-	Interest
Income tax items	(46)	34	22	Tax provision
Non-controlling interest	(13)	-	-	

Free Cash Flow reconciliation

$M	4Q17	1Q18	2Q18[1]	3Q18	4Q18	1Q19	2Q19
Cash from operations	$455	$55	$(430)	$288	$535	$168	$82
Capital expenditures	(150)	(74)	(95)	(82)	(148)	(69)	(89)
Free cash flow	**305**	**(19)**	**(525)**	**206**	**387**	**99**	**(7)**
Contributions from noncontrolling interest	24	53	56	-	40	20	1
Distributions to noncontrolling interest	(98)	(267)	(118)	(181)	(261)	(214)	(72)
Free cash flow less net distributions to noncontrolling interest	**$231**	**$(233)**	**$(587)**	**$25**	**$166**	**$(95)**	**$(78)**

Free Cash Flow and Free Cash Flow less net distributions to noncontrolling interest are non-GAAP financial measures. Management believes that these measures are meaningful to investors because management reviews cash flows generated from operations after taking into consideration capital expenditures and net distributions to noncontrolling interest. Capital expenditures are necessary to maintain and expand Alcoa Corporation's asset base and are expected to generate future cash flows from operations, while net distributions to noncontrolling interest are necessary to fulfill our obligations to our joint venture partners. It is important to note that Free Cash Flow and Free Cash Flow less net distributions to noncontrolling interest do not represent the residual cash flows available for discretionary expenditures since other non-discretionary expenditures, such as mandatory debt service requirements, are not deducted from the measure.

1. Cash from operations for the quarter ended June 30, 2018 includes a $500 million cash outflow for discretionary contributions made to three of Alcoa Corporation's U.S. defined benefit pension plans. The $500 million was funded with the gross proceeds of 6.125% Senior notes due 2028 issued in May 2018.

Net Debt reconciliation

	4Q18			1Q19			2Q19		
$M	**Cons.**	**NCI**	**Alcoa Prop.**	**Cons.**	**NCI**	**Alcoa Prop.**	**Cons.**	**NCI**	**Alcoa Prop.**
Short-term borrowings	$-	$-	$-	$-	$-	$-	$-	$-	$-
Long-term debt due within one year	1	-	1	1	-	1	1	-	1
Long-term debt, less amount due within one year	1,801	34	1,767	1,802	34	1,768	1,804	34	1,770
Total debt	1,802	34	1,768	1,803	34	1,769	1,805	34	1,771
Less: Cash and cash equivalents	1,113	296	817	1,017	238	779	834	184	650
Net debt	**689**	**(262)**	**951**	**786**	**(204)**	**990**	**971**	**(150)**	**1,121**
Plus: Net pension / OPEB liability	2,327	26	2,301	2,290	26	2,264	2,291	28	2,263
Adjusted net debt	**$3,016**	**$(236)**	**$3,252**	**$3,076**	**$(178)**	**$3,254**	**$3,262**	**$(122)**	**$3,384**

Net debt is a non-GAAP financial measure. Management believes that this measure is meaningful to investors because management assesses Alcoa Corporation's leverage position after considering available cash that could be used to repay outstanding debt. Adjusted net debt is also a non-GAAP financial measure. Management believes that this additional measure is meaningful to investors because it provides further insight into Alcoa Corporation's leverage position by including the Company's net pension/OPEB liability.

Days Working Capital

$M	2Q17	3Q17	4Q17	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19
Receivables from customers	$789	$840	$811	$814	$1,025	$1,017	$830	$758	$684
Add: Inventories	1,447	1,494	1,599	1,855	1,772	1,819	1,819	1,799	1,767
Less: Accounts payable, trade	1,508	1,618	1,898	1,813	1,752	1,711	1,663	1,503	1,523
DWC working capital	$728	$716	$512	$856	$1,045	$1,125	$986	$1,054	$928
Sales	$2,859	$2,964	$3,174	$3,090	$3,579	$3,390	$3,344	$2,719	$2,711
Number of days in the quarter	91	92	92	90	91	92	92	90	91
Days Working Capital[1]	**23**	**22**	**15**	**25**	**27**	**31**	**27**	**35**	**31**

1. Days Working Capital = DWC working capital divided by (Sales / number of days in the quarter).

Annualized Return on Capital (ROC)

Reconciliation and calculation information

$M	1H18	1H19
Numerator:		
Net income attributable to Alcoa Corporation	$205	$(601)
Add: Net income attributable to noncontrolling interest	266	250
Add: Provision for income taxes	309	266
Profit before taxes (PBT)	**780**	**(85)**
Add: Interest expense	58	60
Less: Interest income	7	10
Add: Special items[1]	250	501
ROC earnings before taxes	**$1,081**	**$466**
ROC earnings before taxes multiplied by two	**$2,162**	**$932**
ROC earnings after fixed tax rate of 35%	**$1,405**	**$606**
Denominator[2]:		
Total assets	$16,994	$15,653
Less: Cash, cash equivalents, restricted cash and short-term investments	1,150	930
Less: Current liabilities	2,995	2,667
Add: Long-term debt due within one year and short-term borrowings	14	1
Average capital base[2]	**$12,863**	**$12,057**
ROC	**10.9%**	**5.0%**

$$\text{ROC \%} = \frac{\text{(PBT + net interest}^{3}\text{ + special items}^{1}\text{) x 2 x (1 – fixed tax rate}^{4}\text{)}}{\text{(Total assets – cash}^{5}\text{ – current liabilities + short-term debt)}} \times 100$$

$$\text{1H18 ROC \%} = \frac{\text{(\$780 + \$51 + \$250) x 2) x (1 – 0.35)}}{\text{(\$16,994 – \$1,150 – \$2,995 + \$14)}} \times 100 = 10.9\%$$

$$\text{1H19 ROC \%} = \frac{\text{(-\$85 + \$50 + \$501) x 2) x (1 – 0.35)}}{\text{(\$15,653 – \$930 – \$2,667 + \$1)}} \times 100 = 5.0\%$$

1. Special items exclude interest expense, income taxes, and noncontrolling interest.
2. Denominator calculated using quarter ending balances.
3. Interest expense less interest income.
4. Fixed tax rate of 35%.
5. Defined as cash, cash equivalents, restricted cash and short-term investments.

Glossary of terms

Abbreviations listed in alphanumeric order

Abbreviation	Description
% pts	Percentage points
1H##	Six months ending June 30
1Q##	Three months ending March 31
2H##	Six months ending December 31
2Q##	Three months ending June 30
3Q##	Three months ending September 30
4Q##	Three months ending December 31
Adj.	Adjusted
API	Alumina Price Index
ARO	Asset retirement obligations
AUD	Australian dollar
AWAC	Alcoa World Alumina and Chemicals
B	Billion
BRL	Brazilian real
CAD	Canadian dollar
CIF	Cost, insurance and freight
COGS	Cost of goods sold
dmt	Dry metric ton
Cons.	Consolidated
DoC	Days of consumption
DWC	Days working capital
EBITDA	Earnings before interest, taxes, depreciation and amortization
Elims.	Eliminations
EPS	Earnings per share
ERISA	Employee Retirement Income Security Act of 1974
EUR	Euro
Est.	Estimated
excl. or ex.	Excluding
FY##	Twelve months ending December 31

Abbreviation	Description
GAAP	Accounting principles generally accepted in the United States of America
GWh	Gigawatt hour
ISK	Icelandic krona
JV	Joint venture
kmt	Thousand metric tons
LME	London Metal Exchange
LTM	Last twelve months
M	Million
Mdmt	Million dry metric tons
Mmt	Million metric tons
Mt	Metric ton
N/A	Not applicable
NCI	Noncontrolling interest
NI	Net income
NOK	Norwegian krone
OPEB	Other postretirement employee benefits
PBT	Profit before taxes
Prop.	Proportional
R&D	Research and development
ROC	Return on capital
ROW	Rest of world
SEC	Securities and Exchange Commission
SG&A	Selling, general administrative and other
TBD	To be determined
U.S.	United States of America
USD	United States dollar
VAT	Value Added Tax
vs.	Versus