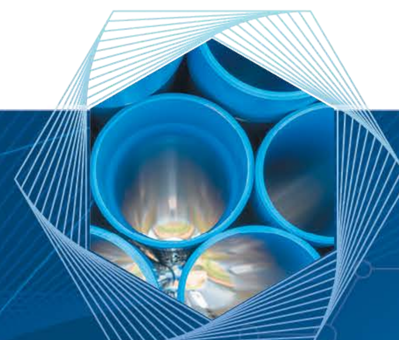
PQ Corporation

First Quarter 2020

May 5, 2020 – 11:00 AM ET






INVESTOR PRESENTATION

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Forward-Looking Statements

Some of the information contained in this presentation, the conference call during which this presentation is reviewed and any discussions that follow constitutes "forward-looking statements". Forward-looking statements can be identified by words such as "anticipates," "intends," "plans," "seeks," "believes," "estimates," "expects," "projects" and similar references to future periods. Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Examples of forward looking statements include, but are not limited to, statements regarding our future results of operations, financial condition, liquidity, prospects, growth, strategies, product and service offerings and end use demand trends, including the impact of the COVID-19 pandemic on such items and financial 2020 outlook. Our actual results may differ materially from those contemplated by the forward-looking statements. We caution you, therefore, against relying on any of these forward-looking statements. They are neither statements of historical fact nor guarantees or assurances of future performance. Important factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to, regional, national or global political, economic, business, competitive, market and regulatory conditions, including the ongoing COVID-19 pandemic, tariffs, and trade disputes, currency exchange rates and other factors, including those described in the sections titled "Risk Factors" and "Management Discussion & Analysis of Financial Condition and Results of Operations" in our filings with the SEC, which are available on the SEC's website at www.sec.gov. Any forward-looking statement made by us in this presentation, the conference call during which this presentation is reviewed and any discussions that follow speaks only as of the date on which it is made. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We undertake no obligation to update any forward-looking statement, whether as a result of new information, future developments or otherwise, except as may be required by applicable law.

Non-GAAP Financial Measures

This presentation includes certain non-GAAP financial measures, including adjusted EBITDA, adjusted EBITDA margin, constant currency sales and adjusted EBITDA, adjusted net income, adjusted diluted EPS, and adjusted free cash flow, which are provided to assist in an understanding of our business and its performance. These non-GAAP financial measures should be considered only as supplemental to, and not as superior to, financial measures prepared in accordance with GAAP. Non-GAAP financial measures should be read only in conjunction with consolidated financials prepared in accordance with GAAP. Reconciliations of non-GAAP measures to the relevant GAAP measures are provided in the appendix of this presentation.

In discussing our operating results, the term currency exchange rates refers to the currency exchange rates we use to convert the operating results for all countries where the functional currency is not the U.S. dollar. We calculate constant currency sales and constant currency adjusted EBITDA by translating current period results at the prior period's currency exchange rates. When we refer to constant currency sales and constant currency adjusted EBITDA, this means sales and adjusted EBITDA without the impact of the currency exchange rate fluctuations from period-to-period.

The Company is not able to provide a reconciliation of the Company's non-GAAP financial guidance to the corresponding GAAP measures without unreasonable effort because of the inherent difficulty in forecasting and quantifying certain amounts necessary for such a reconciliation such as certain non-cash, nonrecurring or other items that are included in net income and EBITDA as well as the related tax impacts of these items and asset dispositions / acquisitions and changes in foreign currency exchange rates that are included in cash flow, due to the uncertainty and variability of the nature and amount of these future charges and costs.

Zeolyst Joint Venture

Zeolyst International and Zeolyst C.V. (our 50% owned joint ventures that we refer to collectively as the "Zeolyst Joint Venture"), are accounted for as an equity method investment in accordance with GAAP. The presentation of the Zeolyst Joint Venture's sales in this presentation represents 50% of the sales of the Zeolyst Joint Venture. We do not record sales by the Zeolyst Joint Venture as revenue and such sales are not consolidated within our results of operations. However, our adjusted EBITDA reflects our share of the earnings of the Zeolyst Joint Venture that have been recorded as equity in net income from affiliated companies in our consolidated statements of income for such periods and includes Zeolyst Joint Venture adjustments on a proportionate basis based on our 50% ownership interest. Accordingly, our adjusted EBITDA margins are calculated including 50% of the sales of the Zeolyst Joint Venture for the relevant periods in the denominator.

FIRST QUARTER 2020 OVERVIEW

- **Safety**
  - Adapted all operations to new health requirements and practices
  - Recordable Injury rate improved 65% and 60% respectively versus first quarter and full year 2019
- **Solid Q1 earnings performance driven by portfolio diversity**
  - Minimal impact from COVID-19
  - Sales up ~2% and adjusted EBITDA up ~3% on a constant currency basis led by volume growth in three of our four businesses: Catalysts, Performance Materials and Refining Services; double-digit sequential quarterly improvement in Performance Chemicals
- **COVID-19 response**
  - Ensured health and safety of our employees
  - Maintained operations with minor disruptions
  - Adapted to customer demand
  - Refinanced debt at lower costs with extended maturities
  - Targeting 2020 Adjusted EBITDA margin mid 20%
  - Focused on adjusted free cash flow generation and financial flexibility – targeting $130 to $150 million for 2020

COVID-19 OPERATIONS UPDATE

Safety and Containment	o Implemented practices in compliance with global health authorities o Restricted business travel and work from home for all who can work remotely o Supplied necessary protective equipment and clear guidelines for hygiene best practices and social distancing
Business Continuity and Supply Chain	o Our businesses, along with many of our suppliers and customers, have continued operations as essential businesses under government regulations o Managing logistics for timely availability of raw materials and finished products o Contingency planning for alternative sources of raw materials and supply channels
Manufacturing Operations	o No significant facility shutdowns o Maintained adequate staffing levels using alternating shift operations o Matching production to customer demand requirements

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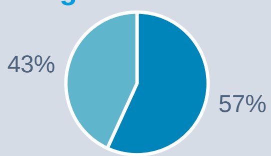
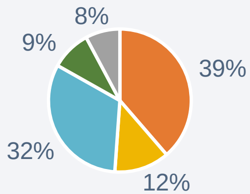
COVID-19 IMPACTS:
Anticipated Near Term Trends for Business End Uses

Refining Services[1]



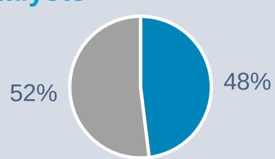
- Sulfuric acid regeneration materially impacted due to lower refinery rates on high gasoline inventories driven by significant decline in gasoline demand due to government "stay home" mandates
- Virgin sulfuric acid business moderately lower on reduced demand for nylon and mining

Performance Chemicals



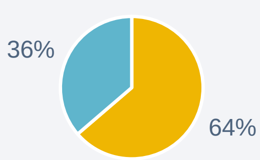
- Sodium silicates are expected to decline driven by industrial, chemicals and automotive applications; detergent sales improving
- Specialty silicas mixed on decline in consumer discretionary spending driving demand shifts for consumer goods, including beer gels and surface coatings, partially offsetting favorable trends in personal care

Catalysts[2]



- Polyolefin demand remains stable as demand for medical and consumer products offsets lower consumer discretionary and construction material demand
- Catalyst change-out timing may adjust as refineries run at lower rates; emission control catalysts lower on reduced heavy duty diesel demand

Performance Materials[3]



- North America highway safety remains strong as 47 states continue road marking activity; only 3 states have suspended construction and are not material
- Engineered Glass Materials demand is weakening due to industrial activity, partially offset by higher demand to medical industry

Note: Pie charts above based on full year 2019 sales

Consumer Products
Fuels & Emission Controls
Highway Safety & Construction
Industrial & Process Chemicals
Natural Resources
Packaging & Engineered Plastics

(1) Refining Services reflects its two largest end uses with an aggregation of smaller end uses of natural resources and packaging & engineered plastics into industrial & process chemicals. Major product lines, regeneration services and virgin sulfuric acid, are aligned to these summarized end uses
(2) Catalysts sales includes proportionate 50% share of sales from Zeolyst JV, which serves packaging & engineered plastics and fuels & emission controls end uses
(3) Performance Materials reflects its two largest end uses with an aggregation of smaller end uses of natural resources and packaging & engineered plastics into industrial & process chemicals. Major product lines, highway safety and engineered glass materials, are aligned to these summarized end uses

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2020 FINANCIAL RESULTS

($ in millions)	First Quarter 2020	First Quarter 2019	$ Change	% Change	% Constant Currency
Sales	361.6	359.2	2.4	0.7%	2.3%
Adjusted EBITDA	103.1	101.0	2.1	2.1%	3.3%
Adjusted EBITDA Margin[1]	*26.2%*	*26.0%*		*20 bps*	

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(1) Adjusted EBITDA margin calculation includes proportionate 50% share of sales from Zeolyst Joint Venture

REFINING SERVICES

($ in millions)	First Quarter 2020	First Quarter 2019	$ Change	% Change	% Constant Currency
Sales	100.7	105.8	(5.1)	(4.8%)	(4.8%)
Adjusted EBITDA	37.2	39.7	(2.5)	(6.3%)	(6.3%)
Adjusted EBITDA Margin	*36.9%*	*37.5%*		*(60 bps)*	

- Sales decreased on the pass-through of lower sulfur pricing (~$9 million) offsetting higher demand for virgin acid
- Adjusted EBITDA declined on higher raw material usage and production costs

Q1 Change Factors	
Sales:	%
Volume	2.0
Price/Mix	(6.8)
Currency	-
Sales Change	**(4.8)**

CATALYSTS

($ in millions)	First Quarter 2020	First Quarter 2019	$ Change	% Change	% Constant Currency
Sales					
Silica Catalysts	24.9	15.9	9.0	56.6%	57.9%
Zeolyst JV	32.3	29.5	2.8	9.6%	9.6%
Adjusted EBITDA	22.7	18.1	4.6	25.4%	26.0%
Adjusted EBITDA Margin[1]	*39.7%*	*40.0%*		*(30 bps)*	

- Silica Catalysts sales increased largely on increased demand for polyolefin catalysts and accelerated MMA sales
- Zeolyst JV sales reflect normalized demand for emission control catalyst
- Adjusted EBITDA increased on higher volumes and margins were in-line with prior year

Q1 Change Factors	
Sales:	%
Volume	56.6
Price/Mix	1.3
Currency	(1.3)
Sales Change	**56.6**

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(1) Adjusted EBITDA margin calculation includes proportionate 50% share of sales from Zeolyst Joint Venture

PERFORMANCE MATERIALS

($ in millions)	First Quarter 2020	First Quarter 2019	$ Change	% Change	% Constant Currency
Sales	65.5	61.1	4.4	7.2%	9.5%
Adjusted EBITDA	13.5	10.5	3.0	28.6%	29.5%
Adjusted EBITDA Margin	*20.6%*	*17.2%*		*340 bps*	

- Sales increased on higher demand for North American highway safety products
- Adjusted EBITDA and margins benefited from higher volumes and favorable mix

Q1 Change Factors	
Sales:	%
Volume	7.9
Price/Mix	1.6
Currency	(2.3)
Sales Change	**7.2**

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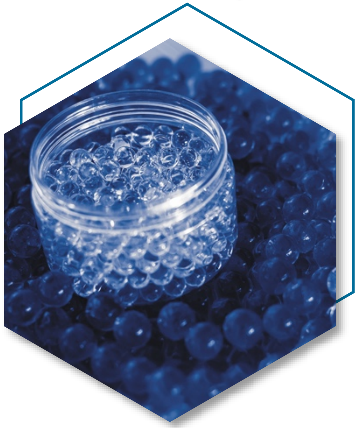
PERFORMANCE CHEMICALS

($ in millions)	First Quarter 2020	First Quarter 2019	$ Change	% Change	% Constant Currency
Sales	174.3	180.5	(6.2)	(3.4%)	(1.1%)
Adjusted EBITDA	40.5	42.7	(2.2)	(5.2%)	(2.8%)
Adjusted EBITDA Margin	*23.2%*	*23.7%*		*(50 bps)*	

- Sales and adjusted EBITDA declined on slower global demand for detergents and personal care products
- Sales and adjusted EBITDA improved vs Q4 2019

Q1 Change Factors	
Sales:	%
Volume	(2.4)
Price/Mix	1.3
Currency	(2.3)
Sales Change	**(3.4)**



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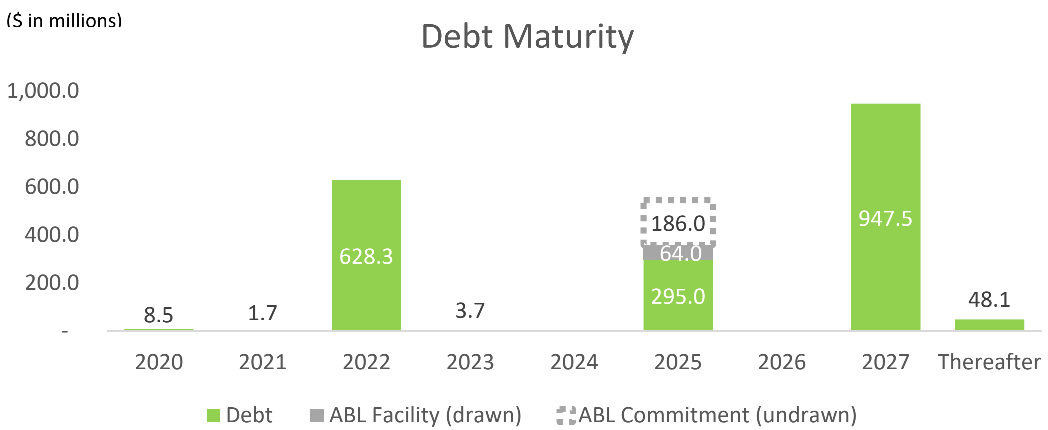
ADJUSTED FREE CASH FLOW & DEBT MATURITY

($ in millions)	First Quarter 2020	First Quarter 2019
Cash Flow from Operations before interest and tax	**34.8**	**54.9**
Less: Cash paid for taxes	10.3	4.4
Less: Cash paid for interest[1]	20.0	23.7
Cash Flow from Operations	**4.5**	**26.8**
Less: Purchases of property, plant & equipment[2]	28.1	33.6
Free Cash Flow	**(23.6)**	**(6.8)**
Plus: Proceeds from sale of assets	2.4	-
Plus: Net interest proceeds on currency swaps	1.8	3.9
Adjusted Free Cash Flow	**(19.4)**	**(2.9)**



- Cash on hand of $108 million with $236 million available liquidity at quarter end
  - ABL Revolver draw of ~$60 million at the end of March to provide cash cushion
- Recent repricing and extensions:
  - Term Loan – 25 bps reduction and 2027 maturity
  - ABL – 25 bps reduction, $50 million upsize and 2025 maturity
- No material financial covenants required to maintain a leverage ratio below a particular level

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(1) Excludes net interest proceeds on swaps designated as net investment hedges
(2) Excludes the Company's proportionate 50% share of capital expenditures from the Zeolyst Joint Venture

2020 OUTLOOK

Segment	Risk	Key Drivers
Refining Services		Gasoline inventories, miles driven & oil prices
Catalysts		Polyethylene demand, refills & top-off timing
Performance Materials		Highway safety demand outside of North America
Performance Chemicals		Limited near term recovery in construction, automotive, and industrial applications

Q2

- Sales $360 to $375 million
- Adjusted EBITDA $95 to $105 million

Cash Flow Actions

- Target capital expenditure reduction ~$15 million in the first half of 2020
- ~$15 million lower annual cash interest from reduced rates and recent refinancings
- CARES Act tax deferrals
- Operating and SG&A cost reductions

2020

- Adjusted EBITDA margin mid 20%
- Full year adjusted free cash flow target $130 – $150 million

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ONGOING PORTFOLIO OPTIMIZATION STRATEGY

Simpler +
STRONGER

2018 – 2019

- Completed non-core asset sale for $13 million
- Delayered and separated into four distinct businesses structure
- Sale of Performance Chemicals product line for $28 million
- Agreement with INEOS to expand Silica Catalyst product line sales into Ziegler Natta technology
- Completed non-core asset sale for $19 million

2020

Assessing opportunities to optimize overall portfolio

Monetizing non-core assets within each business at value

- Performance Materials asset swap
- Refining Services non-core asset sale
- Sale of Performance Chemicals JV interest
- Additional monetization of non-core assets in progress

Advance Performance Chemicals Transformation Plan

Enhancing commercial effectiveness, productivity and capital efficiency

- Expected annualized benefit of $10 to $15 million to adjusted EBITDA
- Drive cash improvements from reduced working capital and capital expenditures
- Anticipate annualized run-rate of these benefits in late 2021/early 2022

FORWARD PRIORITIES

- Maintain safety and well being of employees
- Optimize operations to flex with customer demand
- Supplement current liquidity through reductions of capital and discretionary spend
- Execute portfolio optimization activities

APPENDIX

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QUARTERLY SEGMENT SALES, ADJUSTED EBITDA AND MARGINS

First Quarter 2020 and Year 2019

($ in millions except %, unaudited)	Three Months Ended March 31, 2020	Three Months Ended March 31, 2019	Three Months Ended June 30, 2019	Three Months Ended September 30, 2019	Three Months Ended December 31, 2019	Year Ended December 31, 2019
Sales:						
Refining Services	100.7	105.8	117.3	118.3	105.7	447.1
Silica Catalysts	24.9	15.9	20.9	25.6	23.3	85.7
Performance Materials	65.5	61.1	118.9	115.1	67.9	363.0
Performance Chemicals	174.3	180.5	177.8	167.9	158.9	685.1
Eliminations	(3.8)	(4.1)	(3.2)	(3.1)	(3.4)	(13.8)
Total sales	361.6	359.2	431.7	423.8	352.4	1,567.1
Zeolyst joint venture sales	32.3	29.5	39.1	54.4	47.3	170.3
Adjusted EBITDA:						
Refining Services	37.2	39.7	42.8	51.2	41.9	175.6
Catalysts	22.7	18.1	29.6	31.6	28.5	107.8
Performance Materials	13.5	10.5	29.2	25.8	11.2	76.7
Performance Chemicals	40.5	42.7	41.2	36.8	33.6	154.3
Total Segment Adjusted EBITDA	113.8	111.0	142.8	145.4	115.2	514.4
Corporate	(10.7)	(10.0)	(10.3)	(7.7)	(12.1)	(40.1)
Total Adjusted EBITDA	103.1	101.0	132.5	137.7	103.1	474.3
Adjusted EBITDA Margin:						
Refining Services	36.9%	37.5%	36.5%	43.3%	39.6%	39.3%
Catalysts[1]	39.7%	40.0%	49.4%	39.5%	40.4%	42.1%
Performance Materials	20.6%	17.2%	24.6%	22.4%	16.5%	21.1%
Performance Chemicals	23.2%	23.7%	23.1%	21.9%	21.1%	22.5%
Total Adjusted EBITDA Margin[1]	26.2%	26.0%	28.1%	28.8%	25.8%	27.3%

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(1) Adjusted EBITDA margin calculation includes proportionate 50% share of net sales from Zeolyst Joint Venture

* Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

SALES AND ADJUSTED EBITDA MAJOR CHANGE FACTORS

First Quarter 2020

SALES

Sales (in $ millions and %)	Three Months Ended March 31, 2020									
	PQ Group Holdings Inc.		Refining Services		Catalysts		Performance Materials		Performance Chemicals	
Sales:	**$**	**%**	**$**	**%**	**$**	**%**	**$**	**%**	**$**	**%**
Volume	11.8	3.3	2.1	2.0	9.0	56.6	4.8	7.9	(4.3)	(2.4)
Price/Mix	(3.7)	(1.0)	(7.2)	(6.8)	0.2	1.3	1.0	1.6	2.3	1.3
Currency	(5.7)	(1.6)	—	—	(0.2)	(1.3)	(1.4)	(2.3)	(4.2)	(2.3)
Sales Change	**2.4**	**0.7**	**(5.1)**	**(4.8)**	**9.0**	**56.6**	**4.4**	**7.2**	**(6.2)**	**(3.4)**

ADJUSTED EBITDA

Adj EBITDA (in $ millions and %)	Three Months Ended March 31, 2020									
	PQ Group Holdings Inc		Refining Services		Catalysts		Performance Materials		Performance Chemicals	
Adj EBITDA:	**$**	**%**	**$**	**%**	**$**	**%**	**$**	**%**	**$**	**%**
Volume/Mix	14.0	13.9	0.7	1.8	13.9	76.8	1.9	18.1	(2.5)	(5.9)
Price	(3.6)	(3.6)	(7.3)	(18.4)	0.4	2.2	1.0	9.5	2.3	5.4
Variable Cost	2.7	2.7	5.4	13.6	(2.8)	(15.5)	1.2	11.4	(1.1)	(2.6)
Currency	(1.2)	(1.2)	—	—	(0.1)	(0.6)	(0.1)	(1.0)	(1.0)	(2.3)
Other	(9.8)	(9.7)	(1.3)	(3.3)	(6.8)	(37.5)	(1.0)	(9.4)	0.1	0.2
Adj EBITDA Change	**2.1**	**2.1**	**(2.5)**	**(6.3)**	**4.6**	**25.4**	**3.0**	**28.6**	**(2.2)**	**(5.2)**

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RECONCILIATION OF NET INCOME TO SEGMENT ADJUSTED EBITDA

First Quarter 2020 and Year 2019

($ in millions)	Three Months Ended	Three Months Ended				Year Ended
	March 31, 2020	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019	December 31, 2019
Reconciliation of net income attributable to PQ Group Holdings Inc. to Segment Adjusted EBITDA						
Net income attributable to PQ Group Holdings Inc.	0.2	3.2	30.6	26.7	19.1	79.5
Provision for income taxes	1.4	2.4	20.3	16.7	1.2	40.7
Interest expense, net	24.5	28.6	28.5	27.7	26.7	111.5
Depreciation and amortization	45.7	45.9	45.1	44.2	46.9	182.1
EBITDA	**71.8**	**80.1**	**124.5**	**115.3**	**93.9**	**413.8**
Joint venture depreciation, amortization and interest [a]	3.8	3.8	3.7	3.7	3.5	14.7
Amortization of investment in affiliate step-up [b]	1.7	2.6	1.7	1.7	1.7	7.5
Impairment of fixed assets, intangibles, and goodwill	—	—	—	—	1.6	1.6
Debt extinguishment costs	2.5	—	—	1.8	1.6	3.4
Net loss (gain) on asset disposals [c]	9.4	0.8	(9.7)	1.1	(5.3)	(13.1)
Foreign currency exchange loss (gain) [d]	3.3	(2.7)	3.6	4.5	(2.6)	2.8
LIFO (benefit) expense [e]	(0.3)	10.2	0.1	0.5	0.3	11.1
Transaction and other related costs [f]	2.1	0.1	1.0	0.7	1.8	3.6
Equity-based and other non-cash compensation	5.9	3.4	5.4	4.8	4.6	18.2
Restructuring, integration and business optimization expenses [g]	2.0	0.7	—	0.7	2.7	4.1
Defined benefit pension plan (benefit) cost [h]	(0.2)	1.0	0.6	0.8	0.7	3.1
Other [i]	1.1	1.0	1.6	2.1	(1.4)	3.5
Adjusted EBITDA	**103.1**	**101.0**	**132.5**	**137.7**	**103.1**	**474.3**
Unallocated corporate costs	10.7	10.0	10.3	7.7	12.1	40.1
Total Segment Adjusted EBITDA[1]	**113.8**	**111.0**	**142.8**	**145.4**	**115.2**	**514.4**
EBITDA Adjustments by Line Item						
EBITDA	**71.8**	**80.1**	**124.5**	**115.3**	**93.9**	**413.8**
Cost of goods sold	0.4	10.8	0.4	0.9	0.9	13.0
Selling, general and administrative expenses	6.5	4.4	5.9	5.7	5.6	21.6
Other operating expense (income), net	13.4	1.8	(7.3)	6.5	(1.0)	—
Equity in net (income) from affiliated companies	1.7	2.6	1.7	1.7	1.7	7.7
Other expense (income), net [2]	5.5	(2.5)	3.6	3.9	(1.5)	3.5
Joint venture depreciation, amortization and interest [a]	3.8	3.8	3.7	3.7	3.5	14.7
Adjusted EBITDA	**103.1**	**101.0**	**132.5**	**137.7**	**103.1**	**474.3**

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(1) For additional information with respect to each adjustment, see “Reconciliation of Non-GAAP Financial Measures”
(2) Other expense (income), net includes debt extinguishment costs

* Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

RECONCILIATION OF QUARTERLY NET INCOME TO ADJUSTED NET INCOME AND ADJUSTED DILUTED EARNINGS PER SHARE

First Quarter 2020 and Year 2019

	Three Months Ended	Three Months Ended				Year Ended
($ in millions except share and per share data)	March 31, 2020	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019	December 31, 2019
Net Income	**0.5**	**3.5**	**30.7**	**26.8**	**19.4**	**80.3**
Less: Net income attributable to the non-controlling interest	0.3	0.3	0.1	0.1	0.3	0.8
Net Income attributable to PQ Group Holdings, Inc. [1]	**0.2**	**3.2**	**30.6**	**26.7**	**19.1**	**79.5**
Diluted net income per share:	—	0.02	0.23	0.20	0.14	0.59
Net Income attributable to PQ Group Holdings, Inc. [1]	**0.2**	**3.2**	**30.6**	**26.7**	**19.1**	**79.5**
Amortization of investment in affiliate step-up [b]	1.1	1.6	1.0	1.1	1.2	5.0
Impairment of long-lived assets	—	—	—	—	1.1	1.1
Debt extinguishment costs	1.6	—	—	1.2	1.1	2.3
Net loss (gain) on asset disposals [c]	7.1	0.5	(7.4)	0.8	(3.5)	(9.7)
Foreign currency exchange loss (gain) [d]	1.0	(2.0)	4.1	3.9	(1.7)	4.3
LIFO (benefit) expense [e]	(0.2)	6.5	0.2	0.4	0.4	7.4
Transaction and other related costs [f]	1.3	0.1	0.6	0.4	1.3	2.4
Equity-based and other non-cash compensation	3.8	2.2	3.5	3.2	3.3	12.1
Restructuring, integration and business optimization expenses [g]	1.3	0.5	—	0.5	1.8	2.7
Defined benefit pension plan (benefit) cost [h]	(0.1)	0.6	0.4	0.5	0.5	2.1
Other [i]	0.7	0.6	1.0	1.4	(1.0)	2.2
Adjusted net income, including tax reform and non-cash GILTI tax	**17.8**	**13.8**	**34.0**	**40.1**	**23.6**	**111.4**
Impact of non-cash GILTI tax [2]	3.9	3.7	7.5	8.2	(5.6)	13.8
Adjusted net income	**21.7**	**17.5**	**41.5**	**48.3**	**18.0**	**125.2**
Adjusted diluted net income per share:	0.16	0.13	0.31	0.36	0.13	0.92
Diluted Weighted Average shares outstanding	136.1	134.9	135.3	135.6	136.2	135.5

1) For additional information with respect to each adjustment, see "Reconciliations of Non-GAAP Financial Measures" within this appendix
2) Amount represents the impact to tax expense in net income before non-controlling interest and the related adjustments to net income associated with GILTI provisions of the Tax Cuts and Jobs Act of 2017 ("TCJA"). Beginning January 1, 2018, GILTI results in taxation of "excess of foreign earnings," which is defined as amounts greater than a 10% rate of return on applicable foreign tangible asset basis. The Company is required to record incremental tax provision impact with respect to GILTI as a result of having historical U.S. net operating loss ("NOL") amounts to offset the GILTI taxable income inclusion. This NOL utilization precludes us from recognizing foreign tax credits ("FTCs") which would otherwise help offset the tax impacts of GILTI. No FTCs will be recognized with respect to GILTI until our cumulative NOL balance has been exhausted. Because the GILTI provision does not impact our cash taxes (given available U.S. NOLs), and given that we expect to recognize FTCs to offset GILTI impacts once the NOLs are exhausted, we do not view this item as a component of core operations.

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* Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

Descriptions to PQ Non-GAAP Reconciliations

a) We use Adjusted EBITDA as a performance measure to evaluate our financial results. Because our Catalysts segment includes our 50% interest in the Zeolyst Joint Venture, we include an adjustment for our 50% proportionate share of depreciation, amortization and interest expense of the Zeolyst Joint Venture.

b) Represents the amortization of the fair value adjustments associated with the equity affiliate investment in the Zeolyst Joint Venture as a result of the combination of the businesses of PQ Holdings Inc. and Eco Services Operations LLC in May 2016 (the “Business Combination”). We determined the fair value of the equity affiliate investment and the fair value step-up was then attributed to the underlying assets of the Zeolyst Joint Venture. Amortization is primarily related to the fair value adjustments associated with inventory, fixed assets and intangible assets, including customer relationships and technical know-how.

c) When asset disposals occur, we remove the impact of net (gain) loss of the disposed asset because such impact primarily reflects the non-cash write-off of long-lived assets no longer in use.

d) Reflects the exclusion of the foreign currency transaction gains and losses in the statements of income primarily related to the non-permanent intercompany debt denominated in local currency translated to U.S. dollars.

e) Represents non-cash adjustments to the Company’s LIFO reserves for certain inventories in the U.S. that are valued using the LIFO method, which we believe provides a means of comparison to other companies that may not use the same basis of accounting for inventories.

f) Relates to certain transaction costs, including debt financing, due diligence and other costs related to transactions that are completed, pending or abandoned, that we believe are not representative of our ongoing business operations.

g) Includes the impact of restructuring, integration and business optimization expenses which are incremental costs that are not representative of our ongoing business operations.

h) Represents adjustments for defined benefit pension plan (benefit) costs in our statements of income. More than two-thirds of our defined benefit pension plan obligations are under defined benefit pension plans that are frozen, and the remaining obligations primarily relate to plans operated in certain of our non-U.S. locations that, pursuant to jurisdictional requirements, cannot be frozen. As such, we do not view such (income) expenses as core to our ongoing business operations.

i) Other costs consist of certain expenses that are not core to our ongoing business operations, including environmental remediation-related costs associated with the legacy operations of our business prior to the Business Combination, capital and franchise taxes, non-cash asset retirement obligation accretion and the initial implementation of procedures to comply with Section 404 of the Sarbanes-Oxley Act. Included in this line-item are rounding discrepancies that may arise from rounding from dollars (in thousands) to dollars (in millions).

CONSTANT CURRENCY SALES AND ADJUSTED EBITDA

First Quarter 2020 Versus 2019

($ in millions except %, unaudited)	Three Months Ended March 31, 2020			Three Months Ended March 31, 2019	
	As Reported	FX Impact	Constant Currency	As Reported	Constant Currency % Change
Sales:	**$**	**$**	**$**	**$**	**%**
Refining Services	100.7	—	100.7	105.8	(4.8)
Silica Catalysts	24.9	0.2	25.1	15.9	57.9
Performance Materials	65.5	1.4	66.9	61.1	9.5
Performance Chemicals	174.3	4.2	178.5	180.5	(1.1)
Eliminations	(3.8)	(0.1)	(3.9)	(4.1)	(4.9)
Total sales	**361.6**	**5.7**	**367.3**	**359.2**	**2.3**
Zeolyst joint venture sales	32.3	—	32.3	29.5	9.6
Adjusted EBITDA:	**$**	**$**	**$**	**$**	**%**
Refining Services	37.2	—	37.2	39.7	(6.3)
Catalysts	22.7	0.1	22.8	18.1	26.0
Performance Materials	13.5	0.1	13.6	10.5	29.5
Performance Chemicals	40.5	1.0	41.5	42.7	(2.8)
Total Segment Adjusted EBITDA	**113.8**	**1.2**	**115.0**	**111.0**	**3.6**
Corporate	(10.7)	—	(10.7)	(10.0)	7.0
Total Adjusted EBITDA	**103.1**	**1.2**	**104.3**	**101.0**	**3.3**

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