

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): **February 20, 2020**

PQ Group Holdings Inc.

Commission File Number: 001-38221

Delaware
(State or other jurisdiction of
incorporation)

81-3406833
(I.R.S. Employer
Identification No.)

300 Lindenwood Drive
Malvern, Pennsylvania
(Address of principal executive offices)

19355
(Zip Code)

(610) 651-4400
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Title of each class	Trading symbol	Name of each exchange on which registered
Common stock, par value \$0.01 per share	PQG	New York Stock Exchange

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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.

Item 2.02 Results of Operations and Financial Condition.

On February 20, 2020, PQ Group Holdings Inc. issued a press release announcing the reporting of its financial results for the quarter and year ended December 31, 2019. A copy of the press release is furnished with this Current Report on Form 8-K as Exhibit 99.1 and is incorporated herein by reference.

The information in this Current Report on Form 8-K (including the exhibit attached hereto) shall not be deemed “filed” for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liabilities of that Section. The information in this Current Report on Form 8-K (including the exhibit attached hereto) shall not be deemed incorporated by reference into any filing or other document under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing or document.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press release issued by PQ Group Holdings Inc. announcing financial results for the quarter and year ended December 31, 2019
104	The cover page from this Current Report on Form 8-K of PQ Group Holdings Inc., formatted in Inline XBRL and included as Exhibit 101

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

PQ GROUP HOLDINGS INC.

(Registrant)

Date: February 20, 2020

By: /s/ MICHAEL CREWS

Michael Crews

Executive Vice President and Chief Financial Officer

**PQ Group Reports Fourth Quarter and Full Year 2019 Results;
\$268 million Cash from Operations leads to \$215 million debt repayment**

- Sales of \$352.4 million for the fourth quarter and \$1,567.1 million for the year;
- Net income of \$19.1 million with diluted EPS of \$0.14 and Adjusted net income of \$18.0 million with Adjusted diluted EPS of \$0.13 for the quarter; Net income of \$79.5 million with diluted EPS of \$0.59 and Adjusted net income of \$125.2 million with Adjusted diluted EPS of \$0.92 for the year;
- Adjusted EBITDA of \$103.1 million for the quarter and \$474.3 million for the year; Adjusted EBITDA margin of 27.3% for the year expanded 100 basis points;
- Net cash provided by operating activities of \$267.7 million and Adjusted free cash flow of \$166.2 million for the year;
- Repaid debt of \$215 million and reduced leverage ratio to 3.9x at year-end;
- Launched transformation of the Performance Chemicals business focusing on future efficiency and growth

The financial results and outlook include non-GAAP financial measures. These non-GAAP measures are more fully described and are reconciled from the respective measures determined under GAAP in "Presentation of Non-GAAP Financial Measures" and the attached appendix tables.

MALVERN, PA, February 20, 2020 -- PQ Group Holdings Inc. (NYSE:PQG) ("PQ" or the "Company") reported results for the fourth quarter and year ended December 31, 2019. For the fourth quarter, sales of \$352.4 million declined 7.3% from the fourth quarter of 2018. Net income was \$19.1 million with \$0.14 diluted EPS and Adjusted net income was \$18.0 million with \$0.13 Adjusted diluted EPS. Adjusted EBITDA was \$103.1 million. For the year, sales were \$1,567.1 million, a decrease of 2.6% over 2018. Net income was \$79.5 million with \$0.59 diluted EPS. Adjusted net income was \$125.2 million with \$0.92 Adjusted diluted EPS. Adjusted EBITDA was \$474.3 million.

"We had a better than expected finish to 2019 driven by the excellent performance of our Catalysts business in the fourth quarter," commented Belgacem Chariag, PQ Chairman, President and Chief Executive Officer. "For the year, our Catalysts and Performance Materials business segments delivered outstanding results leading to a solid financial outcome. Strong commercial execution and improved capital efficiency coupled with asset monetizations drove a record \$166 million of Adjusted free cash flow, ahead of our guidance. This enabled us to repay \$215 million of debt and reduce our leverage ratio by more than one-half turn, in line with our commitment."

Review of Segment Results

Refining Services

For the quarter ended December 31, 2019, sales of \$105.7 million decreased 11.5% versus the same period in 2018 largely on the pass-through of \$7 million of lower sulfur pricing coupled with lower volumes from unplanned customer outages and weaker demand for virgin sulfuric acid. Adjusted EBITDA of \$41.9 million declined 16.4% on lower volumes. The prior year period included a gain of \$4.0 million related to an insurance recovery.

For the year ended December 31, 2019, sales of \$447.1 million decreased 1.9% versus the same period in 2018 due to lower volumes from unplanned customer outages, softer demand for virgin sulfuric acid and pass-through of lower sulfur pricing, offset by higher average pricing from the roll-off of a below-market contract. Adjusted EBITDA of \$175.6 million was in line with prior year, as favorable pricing offset lower volumes.

Catalysts

For the quarter ended December 31, 2019, Silica Catalysts sales of \$23.3 million increased 5.9% versus the same period in 2018, largely driven by accelerated methyl methacrylate sales. Zeolyst JV sales rose 29.6% on continued robust demand for hydrocracking catalysts. Adjusted EBITDA of \$28.5 million increased 50.8% on higher sales volumes and favorable mix in both Silica Catalysts and the Zeolyst JV.

For the year ended December 31, 2019, Silica Catalysts sales of \$85.7 million increased 18.9% versus the same period in 2018, driven by higher sales across the portfolio. Zeolyst JV sales rose 8.7% as higher demand for hydrocracking catalysts and specialty catalysts more than offset lower sales in emission control catalysts. Adjusted EBITDA of \$107.8 million increased 32.9% on higher sales volumes and lower costs.

Performance Materials

For the quarter ended December 31, 2019, sales of \$67.9 million decreased 7.9%, or 6.4% on a constant currency basis, as strong pricing was more than offset by lower volumes of engineered glass materials (EGM) for industrial applications. Adjusted EBITDA of \$11.2 million increased 6.7%, or 8.6% on a constant currency basis versus the same period in 2018, benefiting from favorable pricing and lower variable costs.

For the year ended December 31, 2019, sales of \$363.0 million decreased 4.0%, or 1.5% on a constant currency basis, driven by lower sales volumes of EGM for industrial applications. Adjusted EBITDA of \$76.7 million increased 5.8%, or 7.6% on a constant currency basis versus the same period in 2018, largely on favorable pricing.

In February 2020, we entered into a long-term agreement with a leading global thermoplastic producer to supply glass beads, and to meet that supply, exchanged our ThermoDrop® product line for their glass bead production facilities in the U.S.

Performance Chemicals

For the quarter ended December 31, 2019, sales of \$158.9 million decreased 5.9%, or 5.1% on a constant currency basis versus the same period in 2018, from continued weaker demand for sodium silicate in the Americas. Adjusted EBITDA of \$33.6 million decreased 14.3%, or 13.3% on a constant currency basis, on lower sales volumes.

For the year ended December 31, 2019, sales of \$685.1 million decreased 4.5%, or 1.9% on a constant currency basis versus the same period in 2018, primarily due to weaker demand for sodium silicate. Adjusted EBITDA of \$154.3 million decreased 9.7%, or 6.8% on a constant currency basis, on lower sales volumes coupled with higher maintenance costs.

In January 2020, we launched a transformation plan for Performance Chemicals to improve efficiency and growth in four key areas - manufacturing excellence, network optimization, commercial discipline and integrated business management.

Cash Flows and Balance Sheet

For the year ended December 31, 2019, cash flows from operating activities increased \$19.1 million to \$267.7 million, compared to \$248.6 million for the same period in 2018. This increase was primarily driven by an increase in net income and favorable changes in working capital.

At December 31, 2019, the Company had cash and cash equivalents of \$72.3 million and total debt outstanding of \$1,932.1 million. During the year ended December 31, 2019, the Company repaid \$215 million of long term debt and the net debt to Adjusted EBITDA ratio was 3.9x as of December 31, 2019.

2020 Financial Outlook

The outlook for 2020 is impacted by the limited recovery in demand for Performance Chemicals products in the first part of the year. While three of our business units are set for healthy growth, the Catalysts business is projected to decline following an excellent year in 2019.

Commenting on the 2020 outlook, Chariag said, “During 2020, we will build on our 2019 performance and portfolio optimization actions by executing the transformation plan for Performance Chemicals. The combination of these efforts with our improving financial flexibility positions us to accelerate our future growth prospects.”

The Company provides 2020 guidance as below.

- Sales of \$1,595 million to \$1,625 million, reflecting lower sulfur prices and continued weak demand for Performance Chemicals through the first half of 2020
- Adjusted EBITDA of \$470 million to \$480 million range
- Adjusted diluted EPS of approximately \$0.85 to \$1.02
- Adjusted free cash flow in the range of \$155 million to \$175 million

Conference Call and Webcast Details

On Thursday, February 20, 2020, PQ management will release its fourth quarter and full year 2019 results during a conference call and audio-only webcast scheduled for 11:00 a.m. Eastern Time.

Conference Call: Investors may listen to the conference call live via telephone by dialing 1 (877) 883-0383 (domestic) or 1 (412) 902-6506 (international) and use the participant code 2786673.

Webcast: An audio-only webcast of the conference call and presentation materials can be accessed at <http://investor.pqcorp.com>.

A replay of the conference call/webcast will be made available at <http://investor.pqcorp.com/events-presentations>.

Investor Contact:

Nahla A. Azmy

(610) 651-4561

Nahla.Azmy@pqcorp.com

About PQ Group Holdings Inc.

PQ Group Holdings Inc. and subsidiaries is a leading integrated and innovative global provider of specialty catalysts, materials, chemicals and services. We support customers globally through our strategically located network of manufacturing facilities. We believe that our products, which are predominantly inorganic, and services contribute to improving the sustainability of the environment.

We have four uniquely positioned specialty businesses: *Refining Services* provides sulfuric acid recycling to the North American refining industry; *Catalysts* serves the packaging and engineering plastics and the global refining, petrochemical and emissions control industries; *Performance Materials* produces transportation reflective safety markings for roads and airports; and *Performance Chemicals* supplies diverse product end uses, including personal and industrial cleaning products, fuel-efficient tires, surface coatings, and food and beverage products.

We serve over 4,000 customers globally across many end uses and operate over 70 manufacturing facilities which are strategically located across six continents. For more information, see our website at <https://www.pqcorp.com>.

Presentation of Non-GAAP Financial Measures

In addition to the results provided in accordance with U.S. generally accepted accounting principles (“GAAP”) throughout this press release, the Company has provided non-GAAP financial measures—Adjusted EBITDA, Adjusted EBITDA margin, Adjusted free cash flow, Adjusted net income, Adjusted EPS, Adjusted diluted EPS, constant currency sales and constant currency Adjusted EBITDA—which present results on a basis adjusted for certain items. The Company uses these non-GAAP financial measures for business planning purposes and in measuring its performance relative to that of its competitors. The Company believes that these non-GAAP financial measures are useful financial metrics to assess its operating performance from period-to-period by excluding certain items that the Company believes are not representative of its core business. These non-GAAP financial measures are not intended to replace, and should not be considered superior to, the presentation of the Company’s financial results in accordance with GAAP. The use of the terms Adjusted EBITDA, Adjusted EBITDA margin, Adjusted free cash flow, Adjusted net income, Adjusted EPS, Adjusted diluted EPS, constant currency sales and constant currency Adjusted EBITDA may differ from similar measures reported by other companies and may not be comparable to other similarly titled measures. Adjusted EBITDA, Adjusted free cash flow, Adjusted net income, Adjusted EPS, Adjusted diluted EPS, constant currency sales and constant currency Adjusted EBITDA are reconciled from the respective measures under GAAP in the appendix below.

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

The Company's zeolite catalysts product group operates through its Zeolyst Joint Venture, which is accounted for as an equity method investment in accordance with GAAP. The presentation of the Zeolyst Joint Venture's sales represents 50% of the sales of the Zeolyst Joint Venture. The Company does not record sales by the Zeolyst Joint Venture as revenue and such sales are not consolidated within the Company's results of operations. However, the Company's Adjusted EBITDA reflects the share of earnings of the Zeolyst Joint Venture that have been recorded as equity in net income from affiliated companies in the Company's consolidated statements of income for such periods and includes Zeolyst Joint Venture adjustments on a proportionate basis based on the Company's 50% ownership interest. Accordingly, the Company's Adjusted EBITDA margins are calculated including 50% of the sales of the Zeolyst Joint Venture for the relevant periods in the denominator.

Note on Forward-Looking Statements

Some of the information contained in this press release 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 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 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. These forward-looking statements speak only as of the date of this release. 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.

PQ GROUP HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME

	Three months ended December 31,			Years ended December 31,		
	2019	2018	% Change	2019	2018	% Change
	(in millions, except percentages, share and per share amounts)					
Sales	\$ 352.4	\$ 380.1	(7.3)%	\$ 1,567.1	\$ 1,608.2	(2.6)%
Cost of goods sold	271.2	292.4	(7.2)%	1,176.6	1,226.5	(4.1)%
Gross profit	81.2	87.7	(7.4)%	390.5	381.7	2.3 %
Selling, general and administrative expenses	43.3	42.3	2.4 %	166.9	168.6	(1.0)%
Other operating expense, net	7.4	(12.2)	(161.0)%	35.8	29.5	21.4 %
Operating income	30.5	57.6	(47.0)%	187.8	183.6	2.3 %
Equity in net income from affiliated companies	(14.3)	(6.5)	120.6 %	(46.0)	(37.6)	22.3 %
Interest expense, net	26.6	29.1	(8.4)%	111.5	113.7	(1.9)%
Debt extinguishment costs	1.6	1.1	45.5 %	3.4	7.8	(56.4)%
Other (income) expense, net	(4.0)	(2.0)	97.8 %	(2.1)	11.1	(118.9)%
Income before income taxes and noncontrolling interest	20.6	35.9	(42.6)%	121.0	88.6	36.6 %
Provision for income taxes ⁽¹⁾	1.2	7.4	(83.2)%	40.7	29.0	40.3 %
Effective tax rate	6.0%	20.6 %		33.6%	32.7 %	
Net income	19.4	28.5	(31.9)%	80.3	59.6	34.7 %
Less: Net income attributable to the noncontrolling interest	0.3	0.3	(11.7)%	0.8	1.3	(38.5)%
Net income attributable to PQ Group Holdings Inc.	\$ 19.1	\$ 28.2	(32.1)%	\$ 79.5	\$ 58.3	36.4 %
Net income per share:						
Basic income per share:	\$ 0.14	\$ 0.21		\$ 0.59	\$ 0.44	
Diluted income per share:	\$ 0.14	\$ 0.21		\$ 0.59	\$ 0.43	
Weighted average shares outstanding:						
Basic	134,912,212	133,765,294		134,389,667	133,380,567	
Diluted	136,151,739	134,987,604		135,548,694	134,684,931	

⁽¹⁾ Net of a \$4.6 million benefit and \$9.2 million provision for Global Intangible Low-Taxed Income (“GILTI”) for the three months and year ended December 31, 2019, respectively. Net of a \$5.8 million and \$15.6 million provision for GILTI for the three months and year ended December 31, 2018, respectively, and a \$4.5 million and \$6.0 million provisional benefit adjustment for the impact of the U.S. Tax Cuts and Job Act of 2017 and the Dutch Tax Plan 2019 for the three months and year ended December 31, 2018, respectively.

PQ GROUP HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in millions, except share and per share amounts)

	December 31, 2019	December 31, 2018
ASSETS		
Cash and cash equivalents	\$ 72.3	\$ 57.9
Accounts receivables, net	179.6	196.8
Inventories, net	280.9	264.7
Prepaid and other current assets	35.8	39.2
Total current assets	568.6	558.6
Investments in affiliated companies	472.9	468.2
Property, plant and equipment, net	1,186.8	1,209.0
Goodwill	1,259.8	1,254.9
Other intangible assets, net	676.4	728.4
Right-of-use lease assets	57.3	—
Other long-term assets	99.1	108.3
Total assets	\$ 4,320.9	\$ 4,327.4
LIABILITIES		
Notes payable and current maturities of long-term debt	\$ 7.8	\$ 7.2
Accounts payable	144.4	148.4
Operating lease liabilities—current	15.2	—
Accrued liabilities	102.2	100.0
Total current liabilities	269.6	255.6
Long-term debt, excluding current portion	1,899.2	2,106.7
Deferred income taxes	218.0	196.1
Operating lease liabilities—noncurrent	40.2	—
Other long-term liabilities	108.6	104.8
Total liabilities	2,535.6	2,663.2
Commitments and contingencies		
EQUITY		
Common stock (\$0.01 par); authorized shares 450,000,000; issued shares 136,861,382 and 135,758,269 on December 31, 2019 and 2018, respectively; outstanding shares 136,464,961 and 135,592,045 on December 31, 2019 and 2018, respectively	1.4	1.4
Preferred stock (\$0.01 par); authorized shares 50,000,000; no shares issued or outstanding on December 31, 2019 and 2018, respectively	—	—
Additional paid-in capital	1,696.9	1,674.7
Retained earnings	103.0	25.5
Treasury stock, at cost; shares 396,421 and 166,224 on December 31, 2019 and 2018, respectively	(6.5)	(2.9)
Accumulated other comprehensive loss	(15.4)	(39.1)
Total PQ Group Holdings Inc. equity	1,779.4	1,659.6
Noncontrolling interest	5.9	4.6
Total equity	1,785.3	1,664.2
Total liabilities and equity	\$ 4,320.9	\$ 4,327.4

**PQ GROUP HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Years ended December 31,	
	2019	2018
Cash flows from operating activities:		
Net income	\$ 80.3	\$ 59.6
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	131.6	132.6
Amortization	50.4	52.6
Amortization of inventory step-up	—	1.6
Intangible asset impairment charge	1.6	—
Amortization of deferred financing costs and original issue discount	5.8	6.1
Debt extinguishment costs	3.4	5.6
Foreign currency exchange loss	2.8	13.8
Pension and postretirement healthcare benefit expense	3.7	1.1
Pension and postretirement healthcare benefit funding	(9.7)	(7.6)
Deferred income tax provision	18.3	3.4
Net (gain) loss on asset disposals	(13.1)	6.6
Stock compensation	18.2	19.5
Equity in net income from affiliated companies	(46.0)	(37.6)
Dividends received from affiliated companies	40.1	40.2
Net interest income on swaps designated as net investment hedges	(8.5)	(4.9)
Gain on contract termination	—	(20.6)
Other, net	(6.3)	(1.5)
Working capital changes that provided (used) cash, excluding the effect of acquisitions and dispositions:		
Receivables	14.5	(10.5)
Inventories	(18.9)	(9.0)
Prepays and other current assets	1.3	(6.3)
Accounts payable	(2.3)	(0.1)
Accrued liabilities	0.5	4.0
Net cash provided by operating activities	<u>267.7</u>	<u>248.6</u>
Cash flows from investing activities:		
Purchases of property, plant and equipment	(127.6)	(131.7)
Investment in affiliated companies	—	(5.0)
Business combinations, net of cash acquired	—	(1.0)
Proceeds from sale of assets	17.6	12.4
Proceeds from sale of product line	27.7	—
Proceeds from settlement of swaps designated as net investment hedges	38.1	—
Net interest proceeds on swaps designated as net investment hedges	8.5	4.9
Other, net	0.4	1.1
Net cash used in investing activities	<u>(35.3)</u>	<u>(119.3)</u>
Cash flows from financing activities:		
Draw down of revolving credit facilities	203.5	141.8
Repayments of revolving credit facilities	(202.8)	(166.8)
Issuance of long-term debt	—	1,267.0
Debt issuance costs	—	(6.4)
Repayments of long-term debt	(216.7)	(1,369.7)
Repurchases of common shares	(3.6)	(2.8)
Proceeds from stock options exercised	4.0	0.1
Other, net	(0.5)	(0.4)
Net cash used in financing activities	<u>(216.1)</u>	<u>(137.2)</u>
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(2.1)	0.4
Net change in cash, cash equivalents and restricted cash	14.2	(7.5)
Cash, cash equivalents and restricted cash at beginning of period	59.7	67.2
Cash, cash equivalents and restricted cash at end of period	<u>\$ 73.9</u>	<u>\$ 59.7</u>

Appendix Table A-1: Reconciliation of Net Income to Segment Adjusted EBITDA

	Three months ended December 31,		Years ended December 31,	
	2019	2018	2019	2018
	(in millions)			
Reconciliation of net income attributable to PQ Group Holdings Inc. to Segment Adjusted EBITDA				
Net income attributable to PQ Group Holdings Inc.	\$ 19.1	\$ 28.2	\$ 79.5	\$ 58.3
Provision for income taxes	1.2	7.4	40.7	29.0
Interest expense, net	26.7	29.1	111.5	113.7
Depreciation and amortization	46.9	45.9	182.1	185.2
EBITDA	93.9	110.6	413.8	386.2
Joint venture depreciation, amortization and interest ^(a)	3.5	3.4	14.7	12.6
Amortization of investment in affiliate step-up ^(b)	1.7	1.6	7.5	6.6
Amortization of inventory step-up ^(c)	—	—	—	1.6
Impairment of fixed assets, intangibles, and goodwill	1.6	—	1.6	—
Debt extinguishment costs	1.6	1.1	3.4	7.8
Net (gain) loss on asset disposals ^(d)	(5.3)	(4.5)	(13.1)	6.6
Foreign currency exchange (gain) loss ^(e)	(2.6)	(1.5)	2.8	13.8
LIFO expense ^(f)	0.3	2.5	11.1	8.4
Transaction and other related costs ^(g)	1.8	—	3.6	0.9
Equity-based compensation	4.6	7.6	18.2	19.5
Restructuring, integration and business optimization expenses ^(h)	2.7	8.3	4.1	14.0
Defined benefit plan pension cost ⁽ⁱ⁾	0.7	(1.1)	3.1	(0.8)
Gain on contract termination ^(j)	—	(20.6)	—	(20.6)
Other ^(k)	(1.4)	1.7	3.5	7.4
Adjusted EBITDA	103.1	109.1	474.3	464.0
Unallocated corporate expenses	12.1	9.7	40.1	37.0
Segment Adjusted EBITDA	\$ 115.2	\$ 118.8	\$ 514.4	\$ 501.0

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 (“Eco”) 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 fixed assets and intangible assets, including customer relationships and technical know-how.
- (c) As a result of the Sovitec acquisition, there was a step-up in the fair value of inventory, which is amortized through cost of goods sold in the statement of income.
- (d) 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. During the year ended December 31, 2019, the net gain on asset disposals includes the gains related to the sale of a non-core product line and sale of property.
- (e) 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 and, for the year ended December 31, 2018, the Euro-denominated term loan (which was settled as part of the February 2018 term loan refinancing).
- (f) 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.
- (g) Represents the costs related to several transactions that are completed, pending or abandoned and that we believe are not representative of our ongoing business operations.
- (h) Includes the impact of restructuring, integration and business optimization expenses which are incremental costs that are not representative of our ongoing business operations.
- (i) Represents adjustments for defined benefit pension plan costs in our statement 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 expenses as core to our ongoing business operations.
- (j) Represents a non-cash gain on the write-off of the remaining liability under a contractual supply arrangement. As part of the acquisition by Eco of substantially all of the assets of Solvay USA Inc’s sulfuric acid refining services business unit on December 1, 2014, we recognized a liability as part of business combination accounting related to our obligation to serve a customer under a pre-existing unfavorable supply agreement. In December 2018, the customer who was party to the agreement closed its facility, and as a result, we were relieved from our obligation to continue to supply the customer on the below market contract. Because the fair value of the unfavorable contract liability was recognized as part of the application of business combination accounting, and since the write-off of the remaining liability was non-cash in nature, we believe this gain is a special item that is not representative of our ongoing business operations.
- (k) 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).

Appendix Table A-2: Reconciliation of Net Income to Adjusted Net Income⁽¹⁾

	Three months ended December 31,					
	2019			2018		
	Pre-tax	Tax expense (benefit)	After-tax	Pre-tax	Tax expense (benefit)	After-tax
	(in millions)					
Net income before non-controlling interest	\$ 20.6	\$ 1.2	\$ 19.4	\$ 35.9	\$ 7.4	\$ 28.5
Less: Net income attributable to non-controlling interest	0.3	—	0.3	0.3	—	0.3
Net income attributable to PQ Group Holdings Inc.	20.3	1.2	19.1	35.6	7.4	28.2
Earnings per share:						
Basic earnings per share			\$ 0.14			\$ 0.21
Diluted earnings per share			\$ 0.14			\$ 0.21
Net income attributable to PQ Group Holdings Inc.	20.3	1.2	19.1	35.6	7.4	28.2
Amortization of investment in affiliate step-up(b)	1.7	0.5	1.2	1.6	0.6	1.0
Impairment of intangible assets	1.6	0.5	1.1	—	—	—
Debt extinguishment costs	1.6	0.5	1.1	1.1	0.5	0.6
Net (gain) loss on asset disposals(d)	(5.3)	(1.8)	(3.5)	(4.5)	(1.8)	(2.7)
Foreign currency exchange gain(e)	(2.6)	(0.9)	(1.7)	(1.5)	2.3	(3.8)
LIFO expense(f)	0.3	(0.1)	0.4	2.5	0.8	1.7
Transaction and other related costs(h)	1.8	0.5	1.3	—	—	—
Equity-based and other non-cash compensation	4.6	1.3	3.3	7.6	—	7.6
Restructuring, integration and business optimization expenses(i)	2.7	0.9	1.8	8.3	3.0	5.3
Defined benefit pension plan cost(j)	0.7	0.2	0.5	(1.1)	(0.4)	(0.7)
Gain on contract termination	—	—	—	(20.6)	(7.6)	(13.0)
Other(k)	(1.4)	(0.4)	(1.0)	1.7	0.4	1.3
Adjusted Net Income, includes non-cash GILTI tax	26.0	2.4	23.6	30.6	5.2	25.5
Impact of non-cash GILTI tax ⁽²⁾	—	5.6	(5.6)	—	(2.2)	2.2
Impact of tax reform ⁽³⁾	—	—	—	—	4.5	(4.5)
Adjusted Net Income ⁽¹⁾	<u>\$ 26.0</u>	<u>\$ 8.0</u>	<u>\$ 18.0</u>	<u>\$ 30.6</u>	<u>\$ 7.5</u>	<u>\$ 23.2</u>
Adjusted Net Income per share:						
Basic income per share			\$ 0.13			\$ 0.17
Diluted income per share			\$ 0.13			\$ 0.17
Weighted average shares outstanding:						
Basic			134,912,212			133,765,294
Diluted			136,151,739			134,987,604

See Appendix Table A-1 for Descriptions to PQ Non-GAAP Reconciliations in the table above.

	Years ended December 31,					
	2019			2018		
	Pre-tax	Tax expense (benefit)	After-tax	Pre-tax	Tax expense (benefit)	After-tax
	(in millions)					
Net income before non-controlling interest	\$ 121.0	\$ 40.7	\$ 80.3	\$ 88.6	\$ 29.0	\$ 59.6
Less: Net income attributable to non-controlling interest	0.8	—	0.8	1.3	—	1.3
Net income attributable to PQ Group Holdings Inc.	120.2	40.7	79.5	87.3	29.0	58.3
Earnings per share:						
Basic earnings per share			\$ 0.59			\$ 0.44
Diluted earnings per share			\$ 0.59			\$ 0.43
Net income attributable to PQ Group Holdings Inc.	120.2	40.7	79.5	87.3	29.0	58.3
Amortization of investment in affiliate step-up ^(b)	7.5	2.5	5.0	6.6	2.5	4.1
Amortization of inventory step-up ^(c)	—	—	—	1.6	0.6	1.0
Impairment of intangible assets	1.6	0.5	1.1	—	—	—
Debt extinguishment costs	3.4	1.1	2.3	7.8	2.9	4.9
Net (gain) loss on asset disposals ^(d)	(13.1)	(3.4)	(9.7)	6.6	2.4	4.2
Foreign currency exchange loss ^(c)	2.8	(1.5)	4.3	13.8	5.6	8.2
LIFO expense ^(e)	11.1	3.7	7.4	8.4	3.1	5.3
Transaction and other related costs ^(b)	3.6	1.2	2.4	0.9	0.3	0.6
Equity-based and other non-cash compensation	18.2	6.1	12.1	19.5	4.6	14.9
Restructuring, integration and business optimization expenses ⁽ⁱ⁾	4.1	1.4	2.7	14.0	5.2	8.8
Defined benefit plan pension cost ^(f)	3.1	1.0	2.1	(0.8)	(0.3)	(0.5)
Gain on contract termination ^(k)	—	—	—	(20.6)	(7.6)	(13.0)
Other ^(l)	3.5	1.3	2.2	7.4	2.8	4.6
Adjusted Net Income, includes non-cash GILTI tax	166.0	54.6	111.4	152.5	51.1	101.4
Impact of non-cash GILTI tax ⁽²⁾	—	(13.8)	13.8	—	(21.2)	21.2
Impact of tax reform ⁽³⁾	—	—	—	—	6.0	(6.0)
Adjusted Net Income ⁽¹⁾	\$ 166.0	\$ 40.8	\$ 125.2	\$ 152.5	\$ 35.9	\$ 116.6
Adjusted Net Income per share:						
Basic income per share			\$ 0.93			\$ 0.87
Diluted income per share			\$ 0.92			\$ 0.87
Weighted average shares outstanding:						
Basic			134,389,667			133,380,567
Diluted			135,548,694			134,684,931

(1) We define adjusted net income as net income attributable to PQ Group Holdings adjusted for non-operating income or expense and the impact of certain non-cash or other items that are included in net income that we do not consider indicative of our ongoing operating performance. Adjusted net income is presented as a key performance indicator as we believe it will enhance a prospective investor's understanding of our results of operations and financial condition. Adjusted net income may not be comparable with net income or adjusted net income as defined by other companies.

(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.

(3) Represents the provisional adjustment for the impact of the TCJA and the Dutch Tax Plan 2019 recorded in net income.

Appendix Table A-3: Business Segment Sales and Adjusted EBITDA

	Three months ended December 31,			Years ended December 31,		
	2019	2018	% Change	2019	2018	% Change
Sales:						
Refining Services	\$ 105.7	\$ 119.4	(11.5)%	\$ 447.1	\$ 455.6	(1.9)%
Silica Catalysts	23.3	22.0	5.9 %	85.7	72.1	18.9 %
Performance Materials	67.9	73.7	(7.9)%	363.0	378.3	(4.0)%
Performance Chemicals	158.9	168.8	(5.9)%	685.1	717.3	(4.5)%
Eliminations	(3.4)	(3.8)		(13.8)	(15.1)	
Total sales	<u>\$ 352.4</u>	<u>\$ 380.1</u>	<u>(7.3)%</u>	<u>\$ 1,567.1</u>	<u>\$ 1,608.2</u>	<u>(2.6)%</u>
Zeolyst joint venture sales	\$ 47.3	\$ 36.5	29.6 %	\$ 170.3	\$ 156.7	8.7 %
Adjusted EBITDA:						
Refining Services	\$ 41.9	\$ 50.1	(16.4)%	\$ 175.6	\$ 176.5	(0.5)%
Catalysts	28.5	18.9	50.8 %	107.8	81.1	32.9 %
Performance Materials	11.2	10.5	6.7 %	76.7	72.5	5.8 %
Performance Chemicals	33.6	39.2	(14.3)%	154.3	170.9	(9.7)%
Total Segment Adjusted EBITDA	<u>\$ 115.2</u>	<u>\$ 118.7</u>	<u>(2.9)%</u>	<u>\$ 514.4</u>	<u>\$ 501.0</u>	<u>2.7 %</u>
Corporate	(12.1)	(9.6)	26.0 %	(40.1)	(37.0)	8.4 %
Total Adjusted EBITDA	<u>\$ 103.1</u>	<u>\$ 109.1</u>	<u>(5.5)%</u>	<u>\$ 474.3</u>	<u>\$ 464.0</u>	<u>2.2 %</u>
Adjusted EBITDA Margin:						
Refining Services	39.6%	42.0%		39.3%	38.7%	
Catalysts ⁽¹⁾	40.4%	32.3%		42.1%	35.4%	
Performance Materials	16.5%	14.2%		21.1%	19.2%	
Performance Chemicals	21.1%	23.2%		22.5%	23.8%	
Total Adjusted EBITDA Margin⁽¹⁾	<u>25.8%</u>	<u>26.2%</u>		<u>27.3%</u>	<u>26.3%</u>	

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

Appendix Table A-4: Constant Currency Sales and Adjusted EBITDA

The tables below reflect the calculation of constant currency sales and constant currency Adjusted EBITDA by segment for the three months and year ended December 31, 2019.

	Three months ended December 31, 2019			Three Months Ended December 31, 2018	% Change
	As Reported	FX	Constant Currency	As Reported	
(in millions, except percentages)					
Sales:					
Refining Services	\$ 105.7	\$ —	\$ 105.7	\$ 119.4	(11.5)%
Silica Catalysts	23.3	—	23.3	22.0	5.9 %
Performance Materials	67.9	1.1	69.0	73.7	(6.4)%
Performance Chemicals	158.9	1.4	160.3	168.8	(5.1)%
Eliminations	(3.4)	(0.1)	(3.5)	(3.8)	(7.9)%
Total sales	<u>\$ 352.4</u>	<u>\$ 2.4</u>	<u>\$ 354.8</u>	<u>\$ 380.1</u>	(6.6)%
Zeolyst joint venture sales	\$ 47.3	\$ —	\$ 47.3	\$ 36.5	29.6 %
Adjusted EBITDA:					
Refining Services	\$ 41.9	\$ —	\$ 41.9	\$ 50.1	(16.4)%
Catalysts	28.5	—	28.5	18.9	50.8 %
Performance Materials	11.2	0.2	11.4	10.5	8.6 %
Performance Chemicals	33.6	0.4	34.0	39.2	(13.3)%
Total Segment Adjusted EBITDA	<u>\$ 115.2</u>	<u>\$ 0.6</u>	<u>\$ 115.8</u>	<u>\$ 118.7</u>	(2.4)%
Corporate	(12.1)	—	(12.1)	(9.6)	26.0 %
Total Adjusted EBITDA	<u>\$ 103.1</u>	<u>\$ 0.6</u>	<u>\$ 103.7</u>	<u>\$ 109.1</u>	(4.9)%

	Year ended December 31, 2019			Year ended December 31, 2018		% Change
	As Reported	FX	Constant Currency	As Reported		
(in millions, except percentages)						
Sales:						
Refining Services	\$ 447.1	\$ —	\$ 447.1	\$ 455.6		(1.9)%
Silica Catalysts	85.7	1.3	87.0	72.1		20.7 %
Performance Materials	363.0	9.6	372.6	378.3		(1.5)%
Performance Chemicals	685.1	18.7	703.8	717.3		(1.9)%
Eliminations	(13.8)	(0.4)	(14.2)	(15.1)		(6.0)%
Total sales	<u>\$ 1,567.1</u>	<u>\$ 29.2</u>	<u>\$ 1,596.3</u>	<u>\$ 1,608.2</u>		(0.7)%
Zeolyst joint venture sales	\$ 170.3	\$ —	\$ 170.3	\$ 156.7		8.7 %
Adjusted EBITDA:						
Refining Services	\$ 175.6	\$ —	\$ 175.6	\$ 176.5		(0.5)%
Catalysts	107.8	0.9	108.7	81.1		34.0 %
Performance Materials	76.7	1.3	78.0	72.5		7.6 %
Performance Chemicals	154.3	4.9	159.2	170.9		(6.8)%
Total Segment Adjusted EBITDA	<u>\$ 514.4</u>	<u>\$ 7.1</u>	<u>\$ 521.5</u>	<u>\$ 501.0</u>		4.1 %
Corporate	(40.1)	(0.1)	(40.2)	(37.0)		8.6 %
Total Adjusted EBITDA	<u>\$ 474.3</u>	<u>\$ 7.0</u>	<u>\$ 481.3</u>	<u>\$ 464.0</u>		3.7 %

Appendix Table A-5: Adjusted Free Cash Flow

	Three months ended December 31,		Years ended December 31,	
	2019	2018	2019	2018
	(in millions)			
Net cash provided by operating activities	\$ 85.8	\$ 82.6	\$ 267.7	\$ 248.6
Less:				
Purchases of property, plant and equipment ⁽¹⁾	(35.9)	(36.4)	(127.6)	(131.7)
Free cash flow	<u>49.9</u>	<u>46.2</u>	<u>140.1</u>	<u>116.9</u>
Adjustments to free cash flow:				
Proceeds from sale of assets	17.6	12.4	17.6	12.4
Net interest proceeds on currency swaps	0.1	0.6	8.5	4.9
Adjusted free cash flow ⁽²⁾	<u>\$ 67.6</u>	<u>\$ 59.2</u>	<u>\$ 166.2</u>	<u>\$ 134.2</u>
Net cash provided by (used in) investing activities ⁽³⁾	\$ 19.4	\$ (23.5)	\$ (35.3)	\$ (119.3)
Net cash used in financing activities	\$ (112.9)	\$ (59.4)	\$ (216.1)	\$ (137.2)

⁽¹⁾ Excludes the Company's proportionate 50% share of capital expenditures from the Zeolyst joint venture.

⁽²⁾ We define adjusted free cash flow as net cash provided by operating activities less purchases of property, plant and equipment, adjusted for proceeds from sale of assets and net interest proceeds on swaps designated as net investment hedges. Adjusted free cash flow is a non-GAAP financial measure that we believe will enhance a prospective investor's understanding of our ability to generate additional cash from operations, including the reduction in cash paid for interest related to our cross-currency interest rate swaps, and is an important financial measure for use in evaluating our financial performance. Our presentation of adjusted free cash flow is not intended to replace, and should not be considered superior to, the presentation of our net cash provided by operating activities determined in accordance with GAAP. Additionally, our definition of adjusted free cash flow is limited, in that it does not represent residual cash flows available for discretionary expenditures, due to the fact that the measure does not deduct the payments required for debt service and other contractual obligations or payments made for business acquisitions. Therefore, we believe it is important to view adjusted free cash flow as a measure that provides supplemental information to our consolidated statements of cash flows.

⁽³⁾ Net cash used in investing activities includes purchases of property, plant and equipment, proceeds from sale of assets, and net interest proceeds on swaps designated as net investment hedges, which are also included in our computation of adjusted free cash flow.