



Performance Materials

MANAGEMENT'S DISCUSSION AND ANALYSIS

NEO PERFORMANCE MATERIALS INC.

FOR THE THREE-MONTH AND SIX-MONTH PERIODS ENDED JUNE 30, 2019

Management's Discussion and Analysis

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MANAGEMENT'S DISCUSSION AND ANALYSIS

Unless otherwise noted, all amounts in this discussion are expressed in United States dollars

The following Management's Discussion and Analysis ("**MD&A**") for Neo Performance Materials Inc. ("**Neo**") should be read in conjunction with the MD&A and the audited consolidated financial statements for the year ended December 31, 2018, dated March 10, 2019, available on Neo's website at www.neomaterials.com and on SEDAR at www.sedar.com. Unless otherwise stated, references in this section to "Neo", "our", "we" or "Group", refer to Neo Performance Materials Inc. and its consolidated subsidiaries.

The financial results presented in this MD&A are prepared in accordance with International Financial Reporting Standards ("**IFRS**") as issued by the International Accounting Standards Board ("**IASB**"). "Adjusted EBITDA", "Adjusted EBITDA Margin", "Adjusted Net Income or Loss", "Adjusted OIBDA", "Adjusted OIBDA Margin", "Adjusted Earnings per Share", "EBITDA", "Free Cash Flow", "Free Cash Flow Conversion" and "OIBDA" are not measures recognized under IFRS and do not have any standardized meaning prescribed by IFRS. These measures may differ from those used by, and are not necessarily comparable to similar measures presented by, other companies. There are no directly comparable IFRS measures to any of these measures. These measures are intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. See "*Management's Discussion and Analysis - Non-IFRS Financial Measures*" below.

This discussion contains forward-looking statements and information. The actual results, performance and achievements could differ materially from those implied by these forward-looking statements as a result of various factors, including those discussed in the MD&A dated March 10, 2019 under "*Risk Factors*". See "*Forward-Looking Information*".

The discussion and analysis in this MD&A are based upon information available to management as of August 9, 2019. This MD&A should not be considered all-inclusive, as it excludes changes that may occur in general economic, political and environmental conditions. Additionally, other events may or may not occur that could affect Neo in the future.

1. Forward-Looking Information

The following discussion and analysis contains "forward-looking information" within the meaning of applicable securities laws in Canada. Forward-looking information may relate to future events or future performance of Neo. All statements in this disclosure, other than statements of historical facts, with respect to Neo's objectives and goals, as well as statements with respect to its beliefs, plans, objectives, expectations, anticipations, estimates, and intentions are forward-looking information. Specific forward-looking statements in this discussion include, but are not limited to the following: expectations regarding certain of Neo's future results and information, including, among other things, revenue, expenses, revenue growth, capital expenditures, and operations; statements with respect to expected use of cash balances; continuation of prudent management of working capital; source of funds for ongoing business requirements and capital investments; expectations regarding sufficiency of the allowance for uncollectible accounts and inventory provisions; analysis regarding sensitivity of the business to changes in exchange rates; impact of recently adopted accounting pronouncements; risk factors relating to intellectual property protection and intellectual property litigation, and; expectations concerning any remediation efforts to Neo's design of its internal controls over financial reporting and disclosure controls and procedures. Often, but not always, forward-looking information can be identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "continues", "forecasts", "projects", "predicts", "intends", "anticipates" or "believes", or variations of, or the negatives of, such words and phrases, or can state that certain actions, events or results "may", "could", "would", "should", "might" or "will" be taken, occur or be achieved. This information involves known and unknown risks and uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking information. Neo believes the expectations reflected in such forward-looking information are reasonable, but no assurance can be given that these expectations will prove to be correct and such forward-looking information included in this discussion and analysis should not be unduly relied upon. For more information on Neo, investors should review Neo's continuous disclosure filings that are available under its profile at www.sedar.com.

The forward-looking information is only provided as of the date of this MD&A, August 9, 2019, and is subject to change as a result of new information, future events or other circumstances, as discussed above, in which case the forward-looking information will be updated by Neo as required by law.

2. Overview

Neo has established itself as a global leader in the innovation and manufacturing of rare earth- and rare metal-based functional materials, which are essential inputs to high technology, high-growth, future-facing industries. Neo has approximately 1,813 employees and has a global platform that includes 10 manufacturing facilities located in China, the United States ("U.S."), Germany, Canada, Estonia, Thailand and South Korea as well as two dedicated research and development ("R&D") centres in Singapore and the United Kingdom ("UK"). Neo is the only non-Chinese company with a license to separate rare earth elements ("REEs") in China, which provides unique competitive advantages and a degree of vertical integration. Since 1994, Neo has leveraged its rare earth separation expertise to innovate and grow into a leading manufacturer of functional engineered materials for specialty end markets. This includes establishing the #1 global market position for powders used in bonded and hot-deformed magnets, a top-three global market position in auto emission control catalysts, the #1 gallium trichloride (" GaCl_3 ") producer for light-emitting diodes ("LEDs"), and growth opportunities into new end markets such as waste-water treatment. Neo is organized along three business segments: Magnequench, Chemicals & Oxides ("C&O") and Rare Metals, as well as the Corporate segment.

Magnequench

The Magnequench segment, with over 30 years of manufacturing experience, is the world leader in the production of magnetic powders used in bonded and hot-deformed, fully dense neodymium-iron-boron (" NdFeB ") magnets. These powders are formed through Magnequench's market-leading technology related to the development, processing and manufacturing of magnetic powders. Magnequench uses a proprietary process to manufacture Magnequench powder using a blend of rare earth oxides ("REOs") as the primary input. These powders are used in the production of bonded permanent magnets that are components in automotive motors, micro motors, traction motors, sensors and other applications requiring high levels of magnetic strength, improved performance, and reduced size and weight.

C&O

The C&O segment manufactures and distributes a broad range of light and heavy rare earth functional materials that have become an indispensable part of modern life. Neo's world-class rare earth processing and materials manufacturing capabilities enable Neo to meet increasingly demanding specifications from manufacturers that need custom engineered materials. Applications from these products include auto catalysts, consumer electronics, petroleum refining, hybrid and electric vehicles and wastewater treatment.

Rare Metals

The Rare Metals segment sources, reclaims, produces, refines and markets high value metals and their compounds. These products include both high-temperature metals (tantalum, niobium, hafnium and rhenium) and electronic metals (gallium and indium). Applications from products made in this segment primarily include superalloys for jet engines, medical imaging, wireless technologies and LED lighting. Other applications include their use in flat panel displays, solar, steel additives, batteries and electronics applications.

Corporate

Neo's global head office is in Toronto, Ontario, Canada, with additional corporate offices in Greenwood Village, Colorado, U.S. and Beijing, China. The functions of this group include finance, administration, information technology, accounting and legal.

3. Selected Financial Highlights

(\$000s, except volume)

	Three Months Ended June 30,			Six Months Ended June 30,		
	2019	2018	2017	2019	2018	2017
Revenue						
Magnequench	\$ 41,473	\$ 56,229	\$ 42,277	\$ 89,028	\$ 111,963	\$ 89,721
C&O	38,534	36,698	41,366	82,107	81,854	84,432
Rare Metals	25,027	21,321	21,059	46,558	44,092	39,480
Corporate / Eliminations	(3,298)	(3,815)	(3,068)	(7,427)	(7,291)	(5,337)
Consolidated Revenue	\$ 101,736	\$ 110,433	\$ 101,634	\$ 210,266	\$ 230,618	\$ 208,296
Operating Income (Loss)						
Magnequench	\$ 6,164	\$ 11,432	\$ 8,498	\$ 15,645	\$ 24,773	\$ 19,770
C&O	3,696	3,808	4,538	10,322	5,925	9,198
Rare Metals	(371)	1,160	1,485	(214)	3,639	2,688
Corporate / Eliminations	(3,639)	(4,131)	(6,715)	(3,664)	(8,563)	(12,970)
Consolidated Operating Income	\$ 5,850	\$ 12,269	\$ 7,806	\$ 22,089	\$ 25,774	\$ 18,686
Adjusted EBITDA ⁽¹⁾						
Magnequench	\$ 8,255	\$ 13,408	\$ 11,150	\$ 19,184	\$ 28,883	\$ 24,595
C&O	4,924	5,180	6,413	11,912	8,700	14,679
Rare Metals	1,813	2,472	2,555	2,988	6,268	5,176
Corporate / Eliminations	(2,988)	(3,202)	(5,320)	(5,594)	(6,705)	(9,012)
Consolidated Adjusted EBITDA	\$ 12,004	\$ 17,858	\$ 14,798	\$ 28,490	\$ 37,146	\$ 35,438
Volume (in mt)						
Magnequench	1,367	1,554	1,426	2,812	3,081	3,085
C&O	2,053	1,776	2,178	4,188	3,783	4,468
Rare Metals	154	139	129	272	274	222
Corporate / Eliminations	(84)	(73)	(75)	(175)	(143)	(135)
Consolidated Volumes	3,490	3,396	3,658	7,097	6,995	7,640
Net Income	\$ 2,293	\$ 19,138	\$ 9,550	\$ 14,520	\$ 27,990	\$ 17,775
Attributable to:						
Equity holders of Neo	2,090	19,174	9,294	14,337	27,841	17,472
Non-controlling interest	203	(36)	256	183	149	303
Earnings per share attributable to equity holders of Neo						
Basic	\$ 0.05	\$ 0.48	\$ 0.23	\$ 0.36	\$ 0.70	\$ 0.44
Diluted	\$ 0.05	\$ 0.47	\$ 0.23	\$ 0.36	\$ 0.69	\$ 0.44
Adjusted Net Income ⁽²⁾	\$ 5,234	\$ 12,489	\$ 12,121	\$ 13,374	\$ 22,757	\$ 26,150
Attributable to:						
Equity holders of Neo	5,031	12,525	11,865	13,191	22,608	25,847
Non-controlling interest	203	(36)	256	183	149	303
Adjusted Earnings per Share attributable to equity holders of Neo ⁽²⁾ :						
Basic	\$ 0.13	\$ 0.31	\$ 0.30	\$ 0.33	\$ 0.57	\$ 0.65
Diluted	\$ 0.13	\$ 0.31	\$ 0.30	\$ 0.33	\$ 0.56	\$ 0.64
Capital expenditures	\$ 1,973	\$ 3,929	\$ 2,939	\$ 4,638	\$ 6,234	\$ 4,303
Cash taxes paid	\$ 4,258	\$ 3,089	\$ 3,929	\$ 6,159	\$ 5,985	\$ 6,993
Dividends paid to shareholders	\$ 2,891	\$ 2,945	\$ —	\$ 5,741	\$ 5,958	\$ —
Repurchase of common shares under Normal Course Issuer Bid	\$ 6,559	\$ 484	\$ —	\$ 7,493	\$ 708	\$ —
				June 30,	December 31,	
				2019	2018	2017
Cash and cash equivalents	\$ 69,584	\$ 71,015	\$ 96,805			
Debt	\$ 943	\$ 3,970	\$ 181			

Notes:

- (1) Neo uses references to Adjusted OIBDA and Adjusted EBITDA interchangeably as the use of adjustments in each measure provides the same calculated outcome of operating performance. See "Non-IFRS Financial Measures" and details of computation of Adjusted OIBDA.
- (2) See "Non-IFRS Financial Measures" for computations of Adjusted Net Income and Adjusted Earnings per Share.

Highlights for the three and six months ended June 30, 2019

Consolidated Results

- For the three and six months ended June 30, 2019, revenues were 7.9% and 8.8% lower, respectively, than the corresponding periods of 2018. The Magnequench segment led the decline in revenues in these periods as volumes were adversely affected by slower economic activity in various regions globally, including in the automotive industry and by customer inventory adjustments. However, given that rare earth commodity prices in 2019 generally softened through May, and given that Magnequench passes these variable input costs through to most of its customers, a significant portion of the segment's lower year-over-year revenue in the quarter was attributable to this input cost pass-through mechanic.
- For the three and six months ended June 30, 2019, operating income was \$5.9 million and \$22.1 million, a decline of \$6.4 million and \$3.7 million, respectively, as compared to same periods last year. Neo also reported lower net income for the three and six months ended June 30, 2019 compared to the corresponding periods of 2018. The Magnequench segment was adversely affected in the first half of 2019 by lower volumes and the timing effect of the input cost pass-through mechanic. The Rare Metals segment was affected by lower tantalum selling prices with higher inventoried costs, a \$1.0 million impairment of assets and \$0.8 million of other expenses recorded from the closure of the production plant in Blanding, Utah, Neo Rare Metals (Utah), LLC ("**NRM Utah**"). Performance in the C&O segment was driven by increased three-way catalyst sales, spot sales and no premium freight costs in 2019. Net income for the three months ended June 30, 2018 was \$7.9 million higher due to the partial settlement of the insurance claims from the fire affecting Neo's Silmet facility in 2015, which Neo had recorded in other income.
- Adjusted EBITDA for the three and six months ended June 30, 2019 were \$12.0 million and \$28.5 million; a decrease of \$5.9 million and \$8.7 million from corresponding periods last year. This was driven largely by lower volumes and the timing effect of the input cost pass-through mechanic in the Magnequench segment, lower tantalum selling prices with higher inventoried costs in the Rare Metals segment, offset by increased spot sales and no premium freight in the C&O segment, as noted above.
- Neo continues to see longer term growth in demand for many of its key products driven by several global macro trends, including increased electrification of automobiles, which increases the need for Neo's functional materials on a per-vehicle basis; greater demand for precision and efficient motors across multiple sectors, which encourages higher utilization of Neo's magnetic materials; growth in hybrid and electric vehicles, more stringent government regulation with respect to air and water emissions; and trends toward greater utilization of lighter-weight materials in industries such as aerospace and consumer electronics. Neo's functional materials are integral to technologies in all these end markets.
- Neo continues to have a strong financial position. As at June 30, 2019, Neo had \$69.6 million in cash and \$0.9 million in debt.

Magnequench Segment

- For the three and six months ended June 30, 2019, volumes decreased by 12.0% and 8.7%, respectively, compared to the same periods in the prior year, adversely impacted by a general slowdown in economic activity in various sectors, including automotive, and anticipated customer inventory adjustments. Revenues were down \$14.8 million and \$22.9 million compared to the corresponding periods in 2018 due to lower volumes and lower rare earth commodity prices in the first half of 2019. Neo passes through these material input cost changes to most of its customers.
- Volumes in the Magnequench segment decreased, mostly in its legacy and longer running programs, due to the slowdown in auto sales, slower economic performance in certain sectors, and anticipated customer inventory adjustments. Magnequench continues to see growth related to newer products including traction motors for hybrid

and electric vehicles as well as programs that are still ramping up volumes to full production levels. Magnequench is benefiting from growth in the precision and efficient motors and the increased utilization of its magnetic materials on a per-vehicle basis, a continuing growth trend driven by a larger global macro trend toward increasing electrification of various vehicle systems.

- Adjusted EBITDA was \$8.3 million and \$19.2 million for the three and six months ended June 30, 2019, compared to \$13.4 million and \$28.9 million in the corresponding periods last year. Adjusted EBITDA was affected by lower volumes (both in margin and overhead absorption) as well as timing impacts from Neo's input cost pass-through mechanics. This pass-through mechanic, which updates selling prices on a lagged basis (generally monthly and quarterly) is a key feature of Neo's strategic focus on value-add margins. A rapid change in rare earth costs in the latter half of 2017 had a lagging pass-through effect which translated into higher selling prices (and higher margins) in the last quarter of 2017 and into the first six months of 2018. Rare earth input costs, and associated pass-through pricing, were relatively stable in the second half of 2018 and declined slightly in 2019 through May.

Chemicals and Oxide (C&O) Segment

- In the three and six months ended June 30, 2019, three-way auto catalysts saw incremental growth year-over-year, in spite of a general slowdown in automotive markets that has continued from the second half of 2018. However, this growth was offset by a decline in diesel catalyst products due to continuing market dynamics relative to diesel auto catalyst sales. The C&O segment did not incur premium freight cost in the quarter, as opposed to \$4.1 million of premium freight costs incurred in the first half of 2018.
- With respect to C&O's rare earth separation business, a general decline in rare earth commodity prices in the first half of 2019, prior to June, led to a lagging impact of higher cost inventory relative to current selling prices, and that had a negative impact on margins in the first half of 2019. Offsetting this, in the first quarter of 2019, the rare earth separation business benefited from the timing of high-value spot sales orders (which is common in the rare earth separation business), and this had a positive impact on operating income and EBITDA. There were few spot sales in the same period of 2018.

Rare Metals Segment

- For the three and six months ended June 30, 2019, Rare Metals increased revenues by 17.4% and 5.6%, respectively, driven primarily by increases in hafnium product sales as the business continues to generate additional demand from both new and existing customers. This was offset by the continued decline in pricing for tantalum-based products. The Rare Metals segment has considerable material in the production system, so when material prices change, there is a lead-lag impact into current period results as the operation is processing and selling material on hand purchased in a prior period. The Rare Metals segment continues to develop new products and focus on value-added margins to mitigate short-term variations in its earnings due to material price volatility.
- The segment recorded a \$1.0 million impairment of assets affecting operating income related to the closure of NRM Utah in the three and six months ended June 30, 2019. In addition to this impairment, the segment had also recognized a restructuring and other charge of \$0.8 million. Subsequent to the closure, a substantial portion of NRM Utah's business will be transferred to the segment's operation in Peterborough, Ontario, which already houses the balance of the gallium business, resulting in additional synergies and efficiencies. Neo expects to complete the transfer and closure activities in the first half of 2020 and expects to see immediate operating and financial benefits after the transfer is complete. The NRM Utah facility was a modest sized facility with \$3.2 million in annualized sales and nominal EBITDA.

Cash and Other Highlights for the six months ended June 30, 2019

- Neo continues to have a strong financial position. As at June 30, 2019, Neo had \$69.6 million in cash and \$0.9 million in debt.

- Cash provided by operating activities was \$20.2 million. Neo invested \$4.6 million in capital expenditures in property, plant and equipment and intangible assets, and paid \$6.2 million in cash taxes in the six months ended June 30, 2019.
- For the six months ended June 30, 2019, Neo paid dividends to its shareholders of \$5.7 million. As part of the Normal Course Issuer Bid (the "**Bid**") program, Neo purchased and canceled 809,157 shares with an aggregate disbursement of \$7.5 million.
- On March 10, 2019, Luxfer Holdings plc ("**Luxfer**"), 2671219 Ontario Inc. (the "**Purchaser**") and Neo mutually agreed to terminate the arrangement agreement to acquire the issued and outstanding common shares of Neo for a combination of cash and stock (the "**Luxfer Transaction**"). Under the termination agreement, Luxfer agreed to pay all reasonable expenses incurred by Neo in connection with the termination of the arrangement agreement up to a maximum of \$3.5 million. Neo received the payment on April 5, 2019.
- On July 15, 2019, it was announced that Neo's newly formed subsidiary, Magnequench Magnetics (Chu Zhou) Co., LTD., had entered into a definitive agreement to purchase the assets of Anhui Asia Magnets Co., Ltd., a privately-owned manufacturer in Chuzhou, China of compression molded NdFeB bonded magnets, for a purchase price of 68.5 million RMB (US\$9.9 million), plus working capital. The acquisition will further enhance the value that Neo provides to customers and is expected to leverage Neo's ability to produce high-performance magnetic powders and magnets. Neo expects the transaction to close later in the third quarter or early in the fourth quarter of 2019.

4. Consolidated Results of Operations

Comparison of the three and six months ended June 30, 2019 to the three and six months ended June 30, 2018

(\$000s)	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Revenue	101,736	110,433	210,266	230,618
Costs of sales				
Costs excluding depreciation and amortization	74,782	76,368	153,171	160,054
Depreciation and amortization	2,353	2,475	4,763	4,985
Gross profit	24,601	31,590	52,332	65,579
Expenses				
Selling, general and administrative	11,249	11,913	18,545	25,059
Share-based compensation	694	1,090	304	2,180
Depreciation and amortization	2,014	1,722	3,999	3,604
Research and development	3,780	4,596	6,381	8,962
Impairment of assets	1,014	—	1,014	—
	18,751	19,321	30,243	39,805
Operating income	5,850	12,269	22,089	25,774
Other (expense) income	(468)	8,112	(594)	8,078
Finance (costs) income, net	(309)	1,703	(1,691)	1,466
Foreign exchange (loss) gain	(401)	237	(308)	66
Income from operations before income taxes and equity income (loss) of associates	4,672	22,321	19,496	35,384
Income tax expense	(2,360)	(3,351)	(5,195)	(6,542)
Income from operations before equity income (loss) of associates	2,312	18,970	14,301	28,842
Equity (loss) income of associates (net of income tax)	(19)	168	219	(852)
Net income	\$ 2,293	\$ 19,138	\$ 14,520	\$ 27,990
Attributable to:				
Equity holders of Neo	2,090	\$ 19,174	14,337	\$ 27,841
Non-controlling interest	203	(36)	183	149
	\$ 2,293	\$ 19,138	\$ 14,520	\$ 27,990
Earnings per share data attributable to equity holders of Neo:				
Basic	\$ 0.05	\$ 0.48	\$ 0.36	\$ 0.70
Diluted	\$ 0.05	\$ 0.47	\$ 0.36	\$ 0.69

Revenue

Neo's consolidated revenue for the three months ended June 30, 2019 was \$101.7 million compared to \$110.4 million in the prior year, for a decrease of \$8.7 million or 7.9%. For the six months ended June 30, 2019, consolidated revenue was \$210.3 million compared to \$230.6 million for the same period in the prior year; a decrease of \$20.4 million or 8.8%.

The Magnequench segment revenue decreased to \$41.5 million in the three months ended June 30, 2019 compared to \$56.2 million in the same period of the prior year; a decrease of \$14.8 million or 26.2%. For the six months ended June 30, 2019, the Magnequench segment revenue was \$89.0 million compared to \$112.0 million for the same period in the prior year; a decrease of \$22.9 million or 20.5%. The Magnequench segment represented 42.3% of consolidated revenue in the six months ended June 30, 2019.

The C&O segment revenue increased to \$38.5 million in the three months ended June 30, 2019 compared to \$36.7 million in the same period of the prior year; an increase of \$1.8 million or 5.0%. For the six months ended June 30, 2019, the C&O segment revenue was \$82.1 million compared to \$81.9 million for the same period in the prior year; an increase of \$0.3 million or 0.3%. The C&O segment represented 39.0% of consolidated revenue in the six months ended June 30, 2019.

The Rare Metals segment revenue increased to \$25.0 million in the three months ended June 30, 2019 compared to \$21.3 million in the same period of the prior year; an increase of \$3.7 million or 17.4%. For the six months ended June 30, 2019, the Rare Metals segment revenue was \$46.6 million compared to \$44.1 million for the same period in the prior year; an increase of \$2.5 million or 5.6%. The Rare Metals segment represented 22.1% of consolidated revenue in the six months ended June 30, 2019.

Inter-segment revenue in the three and six months ended June 30, 2019 was \$3.3 million and \$7.4 million, respectively, compared to \$3.8 million and \$7.3 million in the three and six months ended June 30, 2018, respectively. These have been eliminated on consolidation from the C&O segment revenue as C&O sold product to Magnequench in the respective periods. The products sold to Magnequench are potential marketable third-party sales and are generally sold at fair market value.

Further commentary on the revenue changes in each segment are included in the discussion under the heading "*Discussion and Analysis of Reportable Segments*" below.

Costs of sales

Consolidated costs of sales, excluding depreciation and amortization was \$74.8 million and \$153.2 million in the three and six months ended June 30, 2019, respectively, compared to \$76.4 million and \$160.1 million in the three and six months ended June 30, 2018, respectively; a decrease of \$1.6 million or 2.1% quarter-over-quarter, and a decrease of \$6.9 million or 4.3% year-over-year. Costs of sales, excluding depreciation and amortization decreased as a result of lower revenue in the three and six months ended June 30, 2019, in addition to the impacts of product cost, product mix, and operational changes in the business segments. In the three and six months ended June 30, 2018, the C&O segment was adversely impacted by \$1.1 million and \$4.1 million, respectively, of premium freight costs related to a previous production change that did not repeat in 2019.

Consolidated depreciation and amortization in costs of sales were \$2.4 million and \$4.8 million for the three and six months ended June 30, 2019, respectively, compared to \$2.5 million and \$5.0 million in the three and six months ended June 30, 2018, respectively.

Further commentary on the costs of sales changes in each segment are included in the discussion under the heading "*Discussion and Analysis of Reportable Segments*" below.

Selling, general and administrative ("SG&A") expense

Neo's SG&A expense consists primarily of personnel and related costs, including legal, accounting and other professional fees and information technology costs. For the three and six months ended June 30, 2019, SG&A expense was \$11.2 million and \$18.5 million, respectively, compared to \$11.9 million and \$25.1 million in the corresponding periods last year. The lower SG&A costs on a year-to-date basis relate primarily to a recovery of \$1.9 million for expenses Neo incurred related to the termination of the Luxfer Transaction (\$3.5 million receivable from Luxfer, less costs incurred in the first quarter), a recovery of value bonus expenses (cumulative expense adjustment based on the termination of the arrangement agreement), as well as lower legal costs associated with outstanding intellectual property disputes.

Share-based compensation

For the three and six months ended June 30, 2019, share-based compensation expense was \$0.7 million and \$0.3 million, respectively, compared to \$1.1 million and \$2.2 million for the corresponding three and six months ended June 30, 2018. On June 24, 2019, Neo granted 32,783 Deferred Share Units ("DSUs") to its directors and recorded a share-based compensation expense of \$0.3 million accordingly. The lower share-based compensation expense compared to the corresponding periods in 2018 was primarily due to a revision of the vesting period from the previous estimate for Share Options and Restricted Share Units ("RSUs") pursuant to the termination of the Luxfer Transaction. Neo subsequently revised and adjusted the recognized share-based compensation expense cost on a cumulative basis, resulting in a share-based compensation recovery in the first three months of 2019.

Depreciation and amortization

Depreciation and amortization unrelated to production for the three and six months ended June 30, 2019 of \$2.0 million and \$4.0 million, respectively, were slightly higher compared to the \$1.7 million and \$3.6 million in the corresponding three and six months ended June 30, 2018, primarily due to amortization of the right-of-use assets capitalized under IFRS 16 - Leases, effective January 1, 2019.

R&D

For the three months ended June 30, 2019, R&D expense was \$3.8 million, compared to \$4.6 million in the same period of the prior year; a decrease of \$0.8 million. For the six months ended June 30, 2019, R&D expense was \$6.4 million, compared to \$9.0 million in the corresponding period in 2018; a decrease of \$2.6 million. Neo continues to prioritize making strategic and appropriate investments in R&D to develop new applications for its products and to strategically position Neo to meet customers' needs for technical solutions. Certain R&D costs are project-based and may be higher or lower in any given period.

Impairment

For the three months ended June 30, 2019, Neo reported impairment charges of \$1.0 million in the Rare Metals division related to the closure of NRM Utah, which consists of impairment of property, plant and equipment of \$1.0 million and a nominal amount of write-off of prepaid expenses that will not be utilized as a result of the closure.

Other expense

For the three and six months ended June 30, 2019, Neo reported consolidated other expense of \$0.5 million and \$0.6 million, respectively, compared to other income of \$8.1 million and \$8.1 million for the corresponding three and six months ended June 30, 2018. In the three and six months ended June 30, 2019, Neo recorded \$0.8 million of restructuring costs related the closure of NRM Utah. In the three months ended June 30, 2018, Neo recorded \$7.9 million of insurance proceeds on claims associated with the 2015 fire at the Silmet facility.

Finance costs, net

Finance cost, net, for the three and six months ended June 30, 2019 was \$0.3 million and \$1.7 million, respectively, compared to finance income of \$1.7 million and \$1.5 million in the corresponding periods in 2018. Neo's finance cost (income) in both years were related to the re-measurement of Neo's derivative liability, which is comprised of a put option issued to the non-controlling interest of a consolidated subsidiary Buss & Buss. This liability is re-measured at each reporting period with the change in fair value recorded to finance costs. Neo has nominal amounts of debt outstanding.

Income tax expense

For the three and six months ended June 30, 2019, Neo had an income tax expense of \$2.4 million and \$5.2 million, respectively, on income from operations before taxes of \$4.7 million and \$19.5 million. For the three and six months ended June 30, 2018, Neo had an income tax expense of \$3.4 million and \$6.5 million, respectively, on income from operations before taxes of \$22.3 million and \$35.4 million.

Neo's effective tax rate was 50.5% and 26.6% for the three and six months ended June 30, 2019, respectively, and 15.0% and 18.5% for the three and six months ended June 30, 2018.

The difference in effective tax rates is due primarily to changes in the mix and volume of earnings in different tax jurisdictions. In addition, during the three months ended June 30, 2019, Neo incurred \$1.8 million of costs from the restructuring and impairment of assets related to the closure of NRM Utah. The tax benefit related to these costs has not been recognized. During the three months ended June 30, 2018, Neo recorded other income of \$7.9 million related to insurance claims affecting its subsidiary in Estonia. As these proceeds are not currently taxable and will not be distributed in the foreseeable future, a tax liability has not been recognized.

Other Expenditures and Legal Contingencies

Capital Expenditures

Neo capitalized expenditures of \$2.0 million and \$4.6 million for the three and six months ended June 30, 2019, respectively, and \$3.9 million and \$6.2 million for the three and six months ended June 30, 2018. The majority of these capital expenditures related to capital projects performed at the Zibo, Tianjin, and Silmet facilities. These capital projects included a combination of maintenance capital (to assist with the continuing development and operations of Neo), growth capital (to assist in adding new capacity or new products) and strategic capital (tied to longer-term strategic planning initiatives).

Legal contingencies

Neo operates in a high technology and advanced engineering product environment in which many patents have been issued over time. The subsidiaries of Neo are currently, and may in the future become, involved in legal proceedings alleging patent infringement. At present, Neo is defending against patent infringement legal proceedings filed in Germany, the UK and the People's Republic of China. Additionally, Neo has initiated proceedings to invalidate certain patents of Neo's competitors issued in these same jurisdictions.

There are many factors that make it difficult to estimate the impact of a particular lawsuit on Neo, including, among others, being in the early stage of a proceeding when the claimant is not required to specifically identify the manner in which the patent has allegedly been infringed; damages sought that are unspecified, unsupported, unexplained or uncertain; discovery not having been started or still incomplete; the complexity of the facts that are in dispute (e.g., the analysis of the patent and a comparison to the activities of Neo is a labor-intensive and highly technical process); the difficulty of assessing novel claims or legal arguments, and; the parties not having engaged in any meaningful settlement discussions. Management is required to apply judgment with respect to estimating the potential impact of the ongoing patent litigation on Neo. Potential impacts to Neo include, but are not limited to, the possibility of an injunction prohibiting Neo from manufacturing, distributing, marketing or selling products that are found to infringe on an

unexpired patent; potential damages, attorney's fees and costs that Neo could be ordered to pay if it is found to have infringed on a patent, and; damage to Neo's reputation with key customers, or prospective customers, from a finding of patent infringement.

Of the various lawsuits initiated and underway, in March 2016, the German Courts have ruled that certain of Neo Chemicals & Oxides (Europe) Ltd's ("**Neo C&O (Europe)**") products infringed three expired patents of Rhodia Chimie ("**Rhodia**"): European patent #0735984 B1 ("**984**"), European patent #0863846 B1 ("**846**"), and European patent #0605274 ("**274**"). Neo C&O (Europe) was ordered to provide information related to the calculation of damages, but as yet there has been no determination of damages in any of the German infringement lawsuits. Neo C&O (Europe) filed an appeal in each of the three infringement actions and those appeals are still pending.

Neo C&O (Europe) challenged the validity of patents 984, 846 and 274 before the German Federal Patent Court, which upheld patents 984 and 846, but invalidated patent 274. Both Neo C&O (Europe) and Rhodia appealed the rulings of the German Federal Patent Court to the German Supreme Court. The German Supreme Court has upheld the validity of patents 984 and 274 but narrowed the scope of both patents. The appeal from the German Federal Patent Court's ruling upholding patent 846 is still pending.

In December 2017, the Regional Court of Mannheim (Germany) determined that certain of Neo C&O (Europe)'s products infringed a German patent (European & UK patents #1435338 B1 ("**338**")), and an injunction prohibiting the sale of affected products into Germany was granted. Neo C&O (Europe) has appealed the decision. In January 2019, the Federal Patent Court in Munich revoked the German designation of patent 338. The Higher Regional Court of Karlsruhe granted Neo C&O (Europe)'s request for a stay of the injunction, subject to the requirement that Neo provide financial security. Rhodia has appealed the invalidation of patent 338 by the German Federal Patent Court, and the appeal is pending.

In April 2018, the UK Court determined that certain of Neo C&O (Europe)'s products infringed the equivalent UK patent 338. Neo C&O (Europe) was granted permission to appeal this ruling, and that appeal is still pending.

In January 2018, Neo C&O (Europe) reached a settlement with Magnesium Elektron Limited with respect to UK patent #1444036 whereby Neo is able to continue to sell its products into the UK on a royalty-free basis and without restriction. The terms of the settlement are subject to a confidentiality agreement.

On April 18, 2018, the Patent Reexamination Board of the State Intellectual Property Office of China ("**PRB**") ruled in favor of Zibo Jiahua Advanced Materials Resources Co., Ltd ("**ZAMR**"), a Chinese subsidiary of Neo, by invalidating all claims associated with Chinese patent ZL 03817110.4, held by Rhodia Operations S.A.S., an affiliate of Brussels-based Solvay ("**Rhodia Operations**"). On May 23, 2018, the Intermediate People's Court of Zibo, China, dismissed the pending lawsuit by Rhodia Operations alleging infringement of Chinese patent ZL 03817110.4. Rhodia Operations has appealed the decisions of the PRB and the Intermediate People's Court of Zibo concerning Patent ZL 03817110.4.

On September 26, 2018, the PRB again ruled in favor of ZAMR by invalidating all product claims associated with patent ZL 200710146613.6, held by Daiichi Kigenso Kagaku Kogyo Co. ("**DKKK**"). On October 24, 2018, the Intermediate People's Court of Zibo, China, dismissed the pending lawsuit by DKKK and Rhodia Operations alleging infringement of patent ZL 200710146613.6. DKKK and Rhodia Operations have appealed these decisions.

In January 2019, the PRB ruled in favor of ZAMR by invalidating all patent claims associated with patent ZL 97195463.1. On February 28, 2019, the Intermediate People's Court of Zibo, China, dismissed the pending lawsuit by Rhodia Operations and DKKK alleging infringement of patent ZL 97195463.1. Rhodia Operations and DKKK have appealed these decisions.

On March 4, 2019, the PRB ruled in favor of ZAMR by invalidating all patent claims associated with patent ZL 02822106.0, which is equivalent to European Patent 338. Rhodia Operations has appealed this decision.

The following infringement proceedings are ongoing. These proceedings are at various stages of court proceeding including being at pre-trial stage, within infringement proceedings, as well as invalidity proceedings.

Patent Reference	Jurisdiction of Claim	Specified Damages by Claimant
Chinese patent ZL 03817110.4	China	\$3.0 million
Chinese patent ZL 200710146613.6	China	\$2.3 million
European patent 0863846 B1	Germany	\$8.4 million
European patent 0735984 B1	Germany	\$6.1 million
Chinese patent ZL 94194552.9	China	\$0.8 million
Chinese patent ZL 96196505.3	China	\$6.8 million
Chinese patent ZL 97195463.1	China	\$0.8 million
European & UK patents 1435338 B1	UK	Not specified
European & UK patents 1435338 B1	Germany	Not specified
European patent 0605274 B1	Germany	Not specified
European patent 0955267	Germany	Not specified
European patent 1527018	Germany	Not specified
European patent 2007682	Germany	Not specified

Management has made an assessment, based on its interpretation of the claims as to the quantum of the appropriate provision for certain claims. Such a provision is based on management's best estimate, as damages are uncertain and are subject to judicial determination. Management's assessment, based on its interpretation of the claims, the limited facts available at this time and independent legal advice, is that for all other claims it is not probable that an outflow of resources will be required in settling these claims and no provision has been made. Future developments in these cases could cause management to change its assessment.

Management does not have sufficient information to comment on the quantum or methodology of the damages sought by the claimants including with respect to potential duplicity of the parts affected. Management's view on specified damages could be materially different than those proposed by the claimant in each case.

Neo intends to defend itself vigorously in all cases. In light of the inherent uncertainties in litigation there can be no assurance that the ultimate resolution of these matters will not significantly exceed the reserves currently accrued for those cases for which an estimate can be made. Losses in connection with any litigation for which management is not presently able to reasonably estimate any potential loss, or range of loss, could be material to Neo's results of operations and financial condition.

5. Non-IFRS Financial Measures

This MD&A makes reference to certain non-IFRS financial measures. These measures are not recognized measures under IFRS, do not have a standardized meaning prescribed by IFRS, and may not be comparable to similar measures presented by other companies. Rather, these measures are provided as additional information to complement IFRS financial measures by providing further understanding of Neo's results of operations from management's perspective. Neo's definitions of non-IFRS measures used in this MD&A may not be the same as the definitions for such measures used by other companies in their reporting. Non-IFRS measures have limitations as analytical tools and should not be considered in isolation nor as a substitute for analysis of Neo's financial information reported under IFRS. Neo uses non-IFRS financial measures, including "Adjusted EBITDA", "Adjusted EBITDA Margin", "Adjusted Net Income or Loss", "Adjusted OIBDA", "Adjusted OIBDA Margin", "EBITDA", "Adjusted Earnings per Share", "Free Cash Flow", "Free Cash Flow Conversion" and "OIBDA" to provide investors with supplemental measures of its base-line operating performance and to eliminate items that have less bearing on operating performance or operating conditions, thus highlighting trends in its core business that may not otherwise be apparent when relying solely on IFRS financial measures. Neo believes that securities analysts, investors and other interested parties frequently use non-IFRS financial measures in the evaluation of issuers. Neo's management also uses non-IFRS financial measures in order to facilitate operating performance comparisons from period to period. Neo defines such financial measures as follows:

"**Adjusted EBITDA**" is defined as EBITDA before equity income (loss) in associates, other income (expense), foreign exchange loss (gain), share and value-based compensation, impairment of goodwill and other long-lived assets, and non-recurring transaction costs;

"**Adjusted EBITDA Margin**" is defined as Adjusted EBITDA divided by revenue;

"**Adjusted Net Income or Loss**" is defined as net income or loss before foreign exchange loss (gain), share and value-based compensation, impairment of goodwill and other long-lived assets, and non-recurring transaction costs, net of the related tax effects and adjustment to deferred tax assets;

"**Adjusted OIBDA**" is defined as OIBDA before share and value-based compensation, impairment of goodwill and other long-lived assets, and non-recurring transaction costs;

"**Adjusted OIBDA Margin**" is defined as Adjusted OIBDA divided by revenue;

"**EBITDA**" is defined as net income (loss) before finance costs, net, income tax expense, depreciation and amortization included in cost of sales, and depreciation and amortization included in operating expenses;

"**Adjusted Earnings per Share**" is defined as Adjusted Net Income or Loss attributable to equity holders of Neo divided by the weighted average number of common shares outstanding;

"**Free Cash Flow**" is defined as Adjusted EBITDA less capital expenditures;

"**Free Cash Flow Conversion**" is defined as Free Cash Flow divided by Adjusted EBITDA; and

"**OIBDA**" is defined as operating income before depreciation and amortization.

Neo uses references to Adjusted OIBDA and Adjusted EBITDA interchangeably as the adjustments in each measure provides the same calculated outcome of operating performance. Management believes that the use of these adjustments (as defined in Adjusted EBITDA and Adjusted OIBDA) provides a more consistent measure of underlying operating performance, with comparability among periods that investors may find useful. The exclusion of certain adjustments does not imply that they are non-recurring.

The following tables illustrate the comparison of the Adjusted OIBDA for the three and six months ended June 30, 2019 and 2018:

(\$000s, except volume)	Three Months Ended June 30,		Change	%	Six Months Ended June 30,		Change	%
	2019	2018			2019	2018		
Operating income	\$ 5,850	\$ 12,269	\$ (6,419)	(52.3)%	\$ 22,089	\$ 25,774	\$ (3,685)	(14.3)%
Add back:								
Depreciation and amortization included in Costs of Sales	2,353	2,475	(122)		4,763	4,985	(222)	
Depreciation and amortization	2,014	1,722	292		3,999	3,604	395	
OIBDA	10,217	16,466	(6,249)	(38.0)%	30,851	34,363	(3,512)	(10.2)%
Impairment of assets ⁽¹⁾	1,014	—	1,014		1,014	—	1,014	
Share and valued-based compensation ⁽²⁾	773	1,392	(619)		(1,426)	2,783	(4,209)	
Transaction cost ⁽³⁾	—	—	—		(1,949)	—	(1,949)	
Adjusted OIBDA	\$ 12,004	\$ 17,858	\$ (5,854)	(32.8)%	\$ 28,490	\$ 37,146	\$ (8,656)	(23.3)%
Adjusted OIBDA margin	11.8%	16.2%			13.5%	16.1%		
Revenue	\$101,736	\$110,433	\$ (8,697)	(7.9)%	\$210,266	\$230,618	\$ (20,352)	(8.8)%
Sales volume (tonnes)	3,490	3,396	94	2.8 %	7,097	6,995	102	1.5 %

Notes:

- (1) The \$1.0 million impairment in the Rare Metals division represents impairment of property, plant and equipment and other assets related to the closure of NRM Utah that will not be utilized as a result of the closure.
- (2) Represents share and value-based compensation expense in respect of the Legacy Plan, the LTIP and the long-term value bonus plan, which has similar vesting criteria to the share-based plan and is settled in cash for non-executives and non-North Americans where implementation of a share settlement plan would have been prohibitively expensive in terms of administration and compliance. Value-based compensation expense/(recovery) of \$79 and \$(1,730) are included in selling, general, and administration expenses for the three and six months ended June 30, 2019, respectively, and expense of \$302 and \$603 are included for the three and six months ended June 30, 2018, respectively. Neo has removed both the share and value-based compensation expense from OIBDA to provide comparability with historic periods and to treat it consistently with the share-based awards that they are intended to replace.
- (3) These represents legal, professional advisory fees and other transaction costs incurred netted with the amounts recoverable from Luxfer for the termination of the Luxfer Transaction. These net recoveries were included in selling, general, and administration expense.

Adjusted OIBDA was \$12.0 million or 11.8% of revenue for the three months ended June 30, 2019 compared to \$17.9 million or 16.2% of revenue for the corresponding period in 2018; a decrease of \$5.9 million or 32.8%. For the six months ended June 30, 2019, Adjusted OIBDA was \$28.5 million or 13.5% of revenue, compared to \$37.1 million or 16.1% of revenue for the six months ended June 30, 2018; a decrease of \$8.7 million or 23.3%.

Further commentary on the operating performance changes in each segment are included in the discussion under the heading "Discussion and Analysis of Reportable Segments" below.

Reconciliation of Net Income to EBITDA, Adjusted EBITDA and Free Cash Flow:

(\$000s)	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net income	\$ 2,293	\$ 19,138	\$ 14,520	\$ 27,990
Add back (deduct):				
Finance costs (income), net	309	(1,703)	1,691	(1,466)
Income tax expense	2,360	3,351	5,195	6,542
Depreciation and amortization included in Costs of Sales	2,353	2,475	4,763	4,985
Depreciation and amortization	2,014	1,722	3,999	3,604
EBITDA	9,329	24,983	30,168	41,655
Adjustments to EBITDA:				
Equity loss (income) in associates	19	(168)	(219)	852
Other expense (income) ⁽¹⁾	468	(8,112)	594	(8,078)
Foreign exchange loss (gain) ⁽²⁾	401	(237)	308	(66)
Impairment of assets ⁽³⁾	1,014	—	1,014	—
Share and value-based compensation expense (recovery) ⁽⁴⁾	773	1,392	(1,426)	2,783
Transaction cost ⁽⁵⁾	—	—	(1,949)	—
Adjusted EBITDA	\$ 12,004	\$ 17,858	\$ 28,490	\$ 37,146
<i>Adjusted EBITDA Margins</i>	<i>11.8%</i>	<i>16.2%</i>	<i>13.5%</i>	<i>16.1%</i>
Less:				
Capital expenditures	1,973	3,929	4,638	6,234
Free Cash Flow	\$ 10,031	\$ 13,929	\$ 23,852	\$ 30,912
<i>Free Cash Flow Conversion</i> ⁽⁶⁾	<i>83.6%</i>	<i>78.0%</i>	<i>83.7%</i>	<i>83.2%</i>

Notes:

- (1) Represents other expenses resulting from non-operational related activities. Other income primarily relating to cost and insurance recoveries as a result of the fire at the Silmet facility. These costs and recoveries are not indicative of Neo's ongoing activities.
- (2) Represents unrealized and realized foreign exchange losses (gains) that include non-cash adjustments in translating foreign denominated monetary assets and liabilities.
- (3) The \$1.0 million impairment in the Rare Metals division represents impairment of property, plant and equipment and other assets related to the closure of NRM Utah that will not be utilized as a result of the closure.
- (4) Represents share and value-based compensation expense in respect of the Legacy Plan, the LTIP and the long-term value bonus plan, which has similar vesting criteria to the share-based plan and is settled in cash for non-executives and non-North Americans where implementation of a share settlement plan would have been prohibitively expensive in terms of administration and compliance. Value-based compensation expense/(recovery) of \$79 and \$(1,730) are included in selling, general, and administration expenses for the three and six months ended June 30, 2019, respectively, and expense of \$302 and \$603 are included for the three and six months ended June 30, 2018, respectively. Neo has removed both the share and value-based compensation expense from EBITDA to provide comparability with historic periods and to treat it consistently with the share-based awards that they are intended to replace.
- (5) These represents legal, professional advisory fees and other transaction costs incurred netted with the amounts recoverable from Luxfer for the termination of the Luxfer Transaction. These net recoveries were included in selling, general, and administration expense.
- (6) Calculated as Free Cash Flow divided by Adjusted EBITDA.

Reconciliation of Net Income to Adjusted Net Income:

(\$000s)	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net income	\$ 2,293	\$ 19,138	\$ 14,520	\$ 27,990
Adjustments to net income:				
Foreign exchange (gain) loss ⁽¹⁾	401	(237)	308	(66)
Impairment of assets ⁽²⁾	1,014	—	1,014	—
Share and value-based compensation expense (recovery) ⁽³⁾	773	1,392	(1,426)	2,783
Transaction cost ⁽⁴⁾	—	—	(1,949)	—
Non-recurring items included in other expense (income) ⁽⁵⁾	756	(7,865)	756	(7,865)
Tax impact of the above items	(3)	61	151	(85)
Adjusted net income	\$ 5,234	\$ 12,489	\$ 13,374	\$ 22,757
Attributable to:				
Equity holders of Neo	\$ 5,031	\$ 12,525	\$ 13,191	\$ 22,608
Non-controlling interest	\$ 203	\$ (36)	\$ 183	\$ 149
Weighted average number of common shares outstanding:				
Basic	39,200,803	39,903,277	39,420,123	39,911,662
Diluted	39,346,274	40,458,090	39,653,011	40,451,774
Adjusted earnings per share attributable to equity holders of Neo:				
Basic	\$ 0.13	\$ 0.31	\$ 0.33	\$ 0.57
Diluted	\$ 0.13	\$ 0.31	\$ 0.33	\$ 0.56

Notes:

- (1) Represents unrealized and realized foreign exchange losses (gains) that include non-cash adjustments in translating foreign denominated monetary assets and liabilities.
- (2) The \$1.0 million impairment in the Rare Metals division represents impairment of property, plant and equipment and other assets related to the closure of NRM Utah that will not be utilized as a result of the closure.
- (3) Represents share and value-based compensation expense in respect of the Legacy Plan, the LTIP and the long-term value bonus plan, which has similar vesting criteria to the share-based plan and is settled in cash for non-executives and non-North Americans where implementation of a share settlement plan would have been prohibitively expensive in terms of administration and compliance. Value-based compensation expense/(recovery) of \$79 and \$(1,730) are included in selling, general, and administration expenses for the three and six months ended June 30, 2019, respectively, and expense of \$302 and \$603 are included for the three and six months ended June 30, 2018, respectively. Neo has removed both the share and value-based compensation expense from net income to provide comparability with historic periods and to treat it consistently with the share-based awards that they are intended to replace.
- (4) These represents legal, professional advisory fees and other transaction costs incurred netted with the amounts recoverable from Luxfer for the termination of the Luxfer Transaction. These net recoveries were included in selling, general, and administration expense.
- (5) Represents partial settlement of the insurance claims from the fire affecting Silmet in 2015 and restructuring costs related to the closure of the NRM Utah. Neo has removed this from net income to provide comparability with historic periods.

6. Discussion and Analysis of Reportable Segments

The analysis of Neo's reportable segments, which follows the discussion of its consolidated results, presents operating results on a gross basis (i.e., before intercompany eliminations).

6.1 Magnequench

(\$000s, except volume)	Three Months Ended June 30,				Six Months Ended June 30,			
	2019	2018	Change	%	2019	2018	Change	%
Operating income	\$ 6,164	\$ 11,432	\$ (5,268)	(46.1)%	\$ 15,645	\$ 24,773	\$ (9,128)	(36.8)%
Add back:								
Depreciation and amortization included in costs of sales	557	599	(42)		1,126	1,204	(78)	
Depreciation and amortization	1,400	1,230	170		2,773	2,612	161	
OIBDA	8,121	13,261	(5,140)	(38.8)%	19,544	28,589	(9,045)	(31.6)%
Share and value-based compensation ⁽¹⁾	134	147	(13)		(360)	294	(654)	
Adjusted OIBDA	\$ 8,255	\$ 13,408	\$ (5,153)	(38.4)%	\$ 19,184	\$ 28,883	\$ (9,699)	(33.6)%
Adjusted OIBDA margin	19.9%	23.8%			21.5%	25.8%		
Revenue	\$ 41,473	\$ 56,229	\$ (14,756)	(26.2)%	\$ 89,028	\$ 111,963	\$ (22,935)	(20.5)%
Sales volume (tonnes)	1,367	1,554	(187)	(12.0)%	2,812	3,081	(269)	(8.7)%

Notes:

- (1) Represents share and value-based compensation expense in respect of the Legacy Plan, the LTIP and the long-term value bonus plan, which has similar vesting criteria to the share-based plan and is settled in cash for non-executives and non-North Americans where implementation of a share settlement plan would have been prohibitively expensive in terms of administration and compliance. Value-based compensation expense/(recovery) of \$25 and \$(554) are included in selling, general, and administration expenses for the three and six months ended June 30, 2019, respectively, and expense of \$93 and \$186 are included for the three and six months ended June 30, 2018, respectively. Neo has removed both the share and value-based compensation expense from OIBDA to provide comparability with historic periods and to treat it consistently with the share-based awards that they are intended to replace.

For the three months ended June 30, 2019, revenue in the Magnequench segment was \$41.5 million, compared to \$56.2 million in the three months ended June 30, 2018; a decrease of \$14.8 million or 26.2%. For the six months ended June 30, 2019, revenue in the Magnequench segment was \$89.0 million, compared to \$112.0 million in the six months ended June 30, 2018; a decrease of \$22.9 million or 20.5%. Volume decreased to 1,367 tonnes compared to 1,554 tonnes in the three months ended June 30, 2018; a decrease of 187 tonnes or 12.0%. For the six months ended June 30, 2019, volume decreased to 2,812 tonnes, compared to 3,081 tonnes in the same period in 2018; a decrease of 269 tonnes or 8.7%. Generally, the differing rates of change for revenue and volumes are primarily attributed to changes in commodity rare earth prices. Magnequench has material pass-through agreements with the vast majority of its customers, which enables Magnequench to pass through changes in rare earth costs into selling price on a lagged basis.

Operating income for the three and six months ended June 30, 2019 was \$6.2 million and \$15.6 million, respectively, a decrease of \$5.3 million, and \$9.1 million when compared to the operating income for the three and six months ended June 30, 2018.

For the three and six months ended June 30, 2019, volumes in the Magnequench segment decreased, mostly in its legacy and longer running programs, due to the slowdown in auto sales, slower economic performance in certain sectors, and anticipated customer inventory adjustments. Magnequench continues to see growth related to newer products including traction motors for hybrid and electric vehicles as well as programs that are still ramping up volumes to full production levels. Magnequench is benefiting from growth in the precision and efficient motors and the increased utilization of its magnetic materials on a per-vehicle basis, a continuing growth trend driven by a larger global macro trend toward increasing electrification of various vehicle systems.

For the three months ended June 30, 2019, Adjusted OIBDA was \$8.3 million, a decrease of \$5.2 million compared to the same period of the prior year. For the six months ended June 30, 2019, Adjusted OIBDA in the Magnequench segment was \$19.2 million compared to \$28.9 million in the corresponding period in 2018; a decrease of \$9.7 million. Aside from volume (and its impact on margins and overhead absorption), the decrease in Adjusted OIBDA in the three and six months ended June 30, 2019 is primarily attributable to the impact of the timing of pricing pass-through mechanics on rare earth inputs. This pass-through mechanic, which updates selling prices on a lagged basis (generally monthly and quarterly), is a key feature of Neo's strategic focus on value-add margins. A rapid change in rare earth costs in the latter half of 2017 had a lagging pass-through effect which translated into higher selling prices (and higher margins) in the last quarter of 2017 and into the first six months of 2018. Rare earth input costs, and associated pass-through pricing were relatively stable in the second half of 2018 and declined slightly in 2019 through May.

6.2 Chemicals & Oxides

(\$000s, except volume)	Three Months Ended June 30,				Six Months Ended June 30,			
	2019	2018	Change	%	2019	2018	Change	%
Operating income	\$ 3,696	\$ 3,808	\$ (112)	(2.9)%	\$ 10,322	\$ 5,925	\$ 4,397	74.2%
Add back:								
Depreciation and amortization included in costs of sales	786	784	2		1,564	1,593	(29)	
Depreciation and amortization	388	345	43		774	696	78	
OIBDA	4,870	4,937	(67)	(1.4)%	12,660	8,214	4,446	54.1%
Share and value-based compensation ⁽¹⁾	54	243	(189)		(748)	486	(1,234)	
Adjusted OIBDA	\$ 4,924	\$ 5,180	\$ (256)	(4.9)%	\$ 11,912	\$ 8,700	\$ 3,212	36.9%
Adjusted OIBDA margin	12.8%	14.1%			14.5%	10.6%		
Revenue	\$ 38,534	\$ 36,698	\$ 1,836	5.0 %	\$ 82,107	\$ 81,854	\$ 253	0.3%
Sales volume (tonnes)	2,053	1,776	277	15.6 %	4,188	3,783	405	10.7%

Notes:

- (1) Represents share and value-based compensation expense in respect of the Legacy Plan, the LTIP and the long-term value bonus plan, which has similar vesting criteria to the share-based plan and is settled in cash for non-executives and non-North Americans where implementation of a share settlement plan would have been prohibitively expensive in terms of administration and compliance. Value-based compensation expense/(recovery) of \$34 and \$(740) are included in selling, general, and administration expenses for the three and six months ended June 30, 2019, respectively, and expense of \$135 and \$271 are included for the three and six months ended June 30, 2018, respectively. Neo has removed both the share and value-based compensation expense from OIBDA to provide comparability with historic periods and to treat it consistently with the share-based awards that they are intended to replace.

For the three months ended June 30, 2019, revenue in the C&O segment was \$38.5 million compared to \$36.7 million for the corresponding period in 2018; an increase of \$1.8 million or 5.0%. For the six months ended June 30, 2019, revenue in the C&O segment was \$82.1 million compared to \$81.9 million for the corresponding period in 2018; an increase of \$0.3 million or 0.3%.

Operating income for the three months ended June 30, 2019 was \$3.7 million compared to \$3.8 million in the same period in 2018; a decrease of \$0.1 million or 2.9%. Operating income for the six months ended June 30, 2019 increased to \$10.3 million from \$5.9 million in the corresponding period in 2018; an increase of \$4.4 million or 74.2%.

In the three and six months ended June 30, 2019, three-way auto catalysts saw incremental growth year-over-year, in spite of a general slowdown in automotive markets that has continued from the second half of 2018. However, this

growth was offset by a decline in diesel catalyst products due to continuing market dynamics relative to diesel auto catalyst sales. The C&O segment did not incur premium freight cost in the quarter, as opposed to \$4.1 million of premium freight costs incurred in the first half of 2018.

With respect to C&O's rare earth separation business, a general decline in rare earth commodity prices in the first half of 2019, prior to June, led to a lagging impact of higher cost inventory relative to current selling prices, and that had a negative impact on margins in the first half of 2019. Offsetting this, in the first quarter of 2019, the rare earth separation business benefited from the timing of high-value spot sales orders (which is common in the rare earth separation business), and this had a positive impact on operating income and Adjusted OIBDA. There were few spot sales in the same period of 2018.

For the three months ended June 30, 2019, Adjusted OIBDA in the C&O segment was \$4.9 million compared to \$5.2 million in the three months ended June 30, 2018; a decrease of \$0.3 million or 4.9%. For the six months ended June 30, 2019, Adjusted OIBDA in the C&O segment was \$11.9 million compared to \$8.7 million in the prior year period; an increase of \$3.2 million or 36.9%.

6.3 Rare Metals

(\$000s, except volume)	Three Months Ended June 30,				Six Months Ended June 30,			
	2019	2018	Change		2019	2018	Change	
Operating (loss) income . . .	\$ (371)	\$ 1,160	\$ (1,531)	(132.0)%	\$ (214)	\$ 3,639	\$ (3,853)	(105.9)%
Add back:								
Depreciation and amortization included in costs of sales	1,010	1,092	(82)		2,073	2,188	(115)	
Depreciation and amortization	141	132	9		283	266	17	
OIBDA	780	2,384	(1,604)	(67.3)%	2,142	6,093	(3,951)	(64.8)%
Impairment of assets ⁽¹⁾	1,014	—	1,014		1,014	—	1,014	
Share and value-based compensation ⁽²⁾	19	88	(69)		(168)	175	(343)	
Adjusted OIBDA	\$ 1,813	\$ 2,472	\$ (659)	(26.7)%	\$ 2,988	\$ 6,268	\$ (3,280)	(52.3)%
Adjusted OIBDA margin	7.2%	11.6%			6.4%	14.2%		
Revenue	\$ 25,027	\$ 21,321	\$ 3,706	17.4 %	\$ 46,558	\$ 44,092	\$ 2,466	5.6 %
Sales volume (tonnes)	154	139	15	10.8 %	272	274	(2)	(0.7)%

Notes:

- (1) The \$1.0 million impairment in the Rare Metals division represents impairment of property, plant and equipment and other assets related to the closure of NRM Utah that will not be utilized as a result of the closure.
- (2) Represents share and value-based compensation expense in respect of the Legacy Plan, the LTIP and the long-term value bonus plan, which has similar vesting criteria to the share-based plan and is settled in cash for non-executives and non-North Americans where implementation of a share settlement plan would have been prohibitively expensive in terms of administration and compliance. Value-based compensation expense/(recovery) of \$8 and \$(164) are included in selling, general, and administration expenses for the three and six months ended June 30, 2019, respectively, and expense of \$28 and \$55 are included for the three and six months ended June 30, 2018, respectively. Neo has removed both the share and value-based compensation expense from OIBDA to provide comparability with historic periods and to treat it consistently with the share-based awards that they are intended to replace.

For the three months ended June 30, 2019, revenue in the Rare Metals segment was \$25.0 million, compared to \$21.3 million in the prior year period; an increase of \$3.7 million or 17.4%. For the six months ended June 30, 2019, revenue

in the Rare Metals segment was \$46.6 million compared to \$44.1 million in the prior year period; an increase of \$2.5 million or 5.6%.

Operating loss for the three and six months ended June 30, 2019 was \$0.4 million and \$0.2 million, respectively, a decrease of \$1.5 million or 132.0% and \$3.9 million or 105.9% when compared to the operating income for the three and six months ended June 30, 2018, respectively. The operating loss in the three and six months ended June 30, 2019 was driven by the impairment of assets recorded from the closure of NRM Utah.

For the three and six months ended June 30, 2019, Rare Metals increased revenues by 17.4% and 5.6%, respectively, driven primarily by increases in hafnium product sales as the business continues to generate additional demand from both new and existing customers. This was offset by the continued decline in pricing for tantalum-based products. The Rare Metals segment has considerable material in the production system, so when material prices change, there is a lead-lag impact into current period results as the operation is processing and selling material on hand purchased in a prior period. The Rare Metals segment continues to develop new products and focus on value-added margins to mitigate short-term variations in its earnings due to material price volatility.

The segment recorded a \$1.0 million impairment of assets affecting operating income related to the closure of NRM Utah in the three and six months ended June 30, 2019. In addition to this impairment, the segment had also recognized a restructuring and other costs of \$0.8 million. Subsequent to the closure, a substantial portion of NRM Utah's business will be transferred to the segment's operation in Peterborough, Ontario, which already houses the balance of the gallium business, resulting in additional synergies and efficiencies. Neo expects to complete the transfer and closure activities in the first half of 2020 and expects to see immediate operating and financial benefits after the transfer is complete. The NRM Utah facility was a modest sized facility with \$3.2 million in annualized sales and nominal OIBDA.

For the three months ended June 30, 2019, Adjusted OIBDA in the Rare Metals segment was \$1.8 million, compared to \$2.5 million in the same period in 2018; a decrease of \$0.7 million or 26.7%. For the six months ended June 30, 2019, Adjusted OIBDA in the Rare Metals segment was \$3.0 million, compared to \$6.3 million in the same period in 2018; a decrease of \$3.3 million or 52.3%.

7. Summary of Consolidated Quarterly Results

(\$000s, except for earnings per share information)	2019		2018				2017	
	Q2	Q1	Q4	Q3	Q2	Q1	Q4	Q3
Revenue	\$101,736	\$108,530	\$109,361	\$114,216	\$110,433	\$120,185	\$109,452	\$116,421
Net income (loss) attributable to equity holders of Neo	2,090	12,247	4,285	8,669	19,174	8,667	(1,903)	9,051
Basic EPS	0.05	0.31	0.11	0.22	0.48	0.22	(0.05)	0.23
Diluted EPS	0.05	0.31	0.11	0.21	0.47	0.21	(0.05)	0.22
Operating income	5,850	16,239	6,224	10,890	12,269	13,505	4,716	11,423
Add back:								
Depreciation and amortization included in costs of sales	2,353	2,410	2,352	2,404	2,475	2,510	2,491	2,678
Depreciation and amortization	2,014	1,985	1,716	1,658	1,722	1,882	1,587	2,435
OIBDA	10,217	20,634	10,292	14,952	16,466	17,897	8,794	16,536
Add back:								
Acquired inventory fair value release ⁽¹⁾	—	—	—	—	—	—	—	(531)
Share and value-based compensation ⁽²⁾	773	(2,199)	782	1,780	1,392	1,391	802	860
Impairment of assets ⁽³⁾	1,014	—	—	—	—	—	—	—
Transaction costs ⁽⁴⁾	—	(1,949)	2,161	—	—	—	5,997	—
Adjusted OIBDA	\$ 12,004	\$ 16,486	\$ 13,235	\$ 16,732	\$ 17,858	\$ 19,288	\$ 15,593	\$ 16,865
Adjusted OIBDA margin	11.8%	15.2%	12.1%	14.6%	16.2%	16.0%	14.2%	14.5%

Notes:

- (1) In accordance with IFRS 3 Business Combinations and on completion of the reorganization (please refer to the MD&A dated March 9, 2018), Neo recorded the acquisition of its inventory at fair value, which included a mark-up for profit of \$27,062, a portion of this inventory was sold in 2017. Neo has removed this from OIBDA to provide a measure of operating performance without the non-cash, non-operational accounting change to the inventory and to provide comparability with various periods.
- (2) Represents share and value-based compensation expense in respect of the Legacy Plan, the LTIP and the long-term value bonus plan, which has similar vesting criteria to the share-based plan and is settled in cash for non-executives and non-North Americans where implementation of a share settlement plan would have been prohibitively expensive in terms of administration and compliance. Neo has removed both the share and value-based compensation expense from OIBDA to provide comparability with historic periods and to treat it consistently with the share-based awards that they are intended to replace.
- (3) The \$1.0 million impairment in the Rare Metals division represents impairment of property, plant and equipment and other assets related to the closure of NRM Utah that will not be utilized as a result of the closure.
- (4) These represents legal, professional advisory fees and other transaction costs incurred with respect to non-operating capital structure related transactions. Neo has removed these charges from OIBDA to provide comparability with historic periods.

8. Liquidity and Capital Resources

Six Months Ended June 30, 2019 compared to Six Months Ended June 30, 2018:

(\$000s)	Six Months Ended June 30,	
	2019	2018
<i>Cash flow:</i>		
Cash provided (used in) by operating activities	\$ 20,236	\$ (7,869)
Cash used in investing activities	(4,461)	(6,234)
Cash used in financing activities	(17,471)	(7,653)
<i>Financial position - as at</i>		
	June 30, 2019	December 31, 2018
Cash and cash equivalents	\$ 69,584	\$ 71,015
Property, plant and equipment	89,041	86,963
Total assets	538,600	543,023
Bank advances and other short-term debt	943	3,970

As of June 30, 2019, Neo had cash and cash equivalents of \$69.6 million, compared to \$71.0 million as at December 31, 2018. Neo paid \$5.7 million in dividends to its shareholders and purchased \$7.5 million of its shares under the Bid program in the six months ended June 30, 2019. In addition, Neo has approximately \$6.3 million available under its credit facilities with \$0.9 million drawn. Neo's financial position and ability to generate cash from its operations in the short and long-term remain sound.

The primary cash inflows and outflows contributing to the change from December 31, 2018 were the following:

Inflows

- \$32.0 million cash from operations before net change in working capital

Outflows

- \$5.7 million of dividends paid;
- \$3.0 million repayment of bank advances;
- \$5.6 million net change in working capital;
- \$4.6 million of capital spending;
- \$7.5 million on the repurchase of Neo's common shares; and
- \$6.2 million of income taxes paid.

Cash Provided by (Used in) Operating Activities

Net cash provided by operating activities was \$20.2 million during the six months ended June 30, 2019, compared to net cash used in operating activities of \$7.9 million for the six months ended June 30, 2018. Higher cash inflow from operating activities mainly resulted from lower cash used to support working capital in the six months ended June 30, 2019 compared to the corresponding period in 2018.

The \$5.6 million net change in working capital for the six months ended June 30, 2019, was primarily attributable to the increase in accounts receivable, the decrease in accounts payable and accrued charges, offset by the decrease in inventories. The increase in accounts receivable was mainly from the higher value spot sales. Net changes in accounts payable and accrued charges relate primarily to the disbursement of bonuses, professional fees related to the Luxfer Transaction and IP related legal costs.

Cash Used in Investing Activities

For the six months ended June 30, 2019, net cash used in investing activities was \$4.5 million, compared to \$6.2 million in the six months ended June 30, 2018. The major cash used in investing activities was primarily related to capital projects performed at the Zibo, Tianjin and Silmet facilities. These capital projects included a combination of maintenance capital (to assist with the continuing development and operations of Neo), growth capital (to assist in adding new capacity or new products) and strategic capital (tied to longer-term strategic planning initiatives).

Cash Used in Financing Activities

Net cash used in financing activities during the six months ended June 30, 2019 was \$17.5 million, compared to \$7.7 million in the corresponding period in 2018. Neo spent \$7.5 million on the repurchase of common shares, distributed \$5.7 million in dividends to its shareholders and \$0.7 million to non-controlling interest partners, repaid \$3.0 million of bank advances in Germany and spent \$0.5 million in lease payments. In the six months ended June 30, 2018, Neo distributed \$6.0 million in dividends to its shareholders and \$0.8 million to non-controlling interest partners, spent \$0.7 million on its repurchase of common shares and repaid \$0.2 million to its German bank credit line.

(\$000s)

<i>Cash and cash equivalents by Country as at</i>	June 30, 2019	December 31, 2018
China (including Hong Kong)	\$ 34,852	\$ 36,871
Estonia	5,942	9,999
United States	2,385	1,743
Canada	7,671	5,886
Japan	1,603	1,645
United Kingdom	1,149	2,761
Germany	531	1,202
Singapore	10,456	3,007
Barbados	102	3,976
Thailand	3,361	2,527
Cayman Islands	—	67
Other	1,532	1,331
Total cash and cash equivalents	\$ 69,584	\$ 71,015

Approximately \$6.5 million of cash on hand held by Neo's foreign operating subsidiaries relate to earnings that are considered indefinitely reinvested in these foreign subsidiaries. Although substantially all of Neo's cash and cash equivalents can be repatriated, a portion may be subject to withholding taxes under current tax laws. While some of Neo's subsidiaries are subject to local governmental restrictions on the flow of capital into and out of their jurisdictions (including in the form of cash dividends, loans or advances), these restrictions have not had a material impact on Neo's ability to meet its cash obligations. Therefore, Neo does not consider this to be a significant risk on its ability to meet ongoing commitments and fund operations.

In addition to cash on hand, the primary sources of liquidity for Neo's domestic and foreign subsidiaries are cash provided by operations and, in the case of the activities in China and Germany, borrowing under certain bank loans. From time to time, the sources of liquidity for Neo's operating subsidiaries may be supplemented by intercompany loans in the form of unsecured promissory notes. Neo's operating subsidiaries' liquidity generally is used to fund their working capital requirements, investments, capital expenditures and third-party debt service requirements.

9. Contractual Obligations

In the normal course of business, Neo is obligated to make future payments. These obligations represent contracts and other commitments that are known and non-cancellable.

(\$000s)	Payments Due by Period				
	1 year	2 - 3 years	4 - 5 years	Thereafter	Total
Accounts payable and other accrued charges.....	51,154	—	—	—	51,154
Derivative liability ⁽¹⁾	—	—	—	11,176	11,176
Provisions ⁽²⁾	—	4,717	—	—	4,717
Lease obligations ⁽³⁾	1,673	1,972	893	113	4,651
Other liabilities.....	63	2,212	—	—	2,275
Total	\$ 52,890	\$ 8,901	\$ 893	\$ 11,289	\$ 73,973

Notes:

- (1) Represents the fair value of the put option on shares of the remaining shareholder of Buss & Buss.
- (2) Represents management's best estimate of the costs to be incurred by Neo for the disposal of the hazardous NORM currently being stored at the Silmet facility.
- (3) Represents the present value of Neo's lease obligations for office space, land and office equipment.

As at June 30, 2019, Neo had \$69.6 million of cash and cash equivalents and approximately \$1.6 million of restricted cash held as collateral against Letters of Credit. Neo believes that the remainder of its cash, in addition to cash from operating activities, is available (or sufficient) to meet Neo's non-cancelable contractual obligations and other commercial commitments and the capital program for the next twelve months. Neo considers cash to be "available" to the extent it can be utilized in operating activities, for capital expenditures, for intercompany loans or for repatriation. Neo also maintains access to credit facilities and short-term borrowings for its working capital needs, capital expenditures, and general corporate purposes.

10. Normal Course Issuer Bid

On March 19, 2019, Neo announced that the TSX has accepted a notice filed by Neo of its intention to make a Normal Course Issuer Bid (the "**Bid**") for up to 1,982,517 of its issued and outstanding common shares. In connection with the Bid, Neo has entered into an automatic share purchase plan with its designated broker to allow for purchases of its shares (the "**Share Purchase Plan**"). The Share Purchase Plan is considered an "automatic plan" for purposes of applicable Canadian securities laws. Under the Share Purchase Plan, Neo's broker may purchase shares on any trading day during the Bid, including during self-imposed trading blackout periods. The price that Neo will pay for any shares purchased under the Bid will be the prevailing market price at the time of purchase. Any shares purchased by Neo will be canceled.

For the three and six months ended June 30, 2019, Neo repurchased and canceled 709,534 and 809,157 shares for a total consideration of \$6.6 million and \$7.5 million, respectively. For the three and six months ended June 30, 2018, Neo repurchased and canceled 38,046 and 54,646 shares under a previously announced normal course issuer bid for a total consideration of \$0.5 million and \$0.7 million, respectively.

11. Subsequent Events

11.1 Normal Course Issuer Bid

Between July 1 and August 8, 2019, Neo repurchased, for cancellation, 309,053 shares for a total consideration of \$2.8 million.

11.2 Dividends payable to equity holders of Neo

On August 8, 2019, the Board of Directors declared a quarterly dividend of Cdn \$0.10 per common share payable in cash on September 27, 2019, to common shareholders of record at the close of business on September 19, 2019.

11.3 Business combination

On July 15, 2019, it was announced that Neo's newly formed subsidiary, Magnequench Magnetics (Chu Zhou) Co., LTD., had entered into a definitive agreement to purchase the assets of Anhui Asia Magnets Co., Ltd., a privately-owned manufacturer in Chuzhou, China of compression molded NdFeB bonded magnets, for a purchase price of 68.5 million RMB (US\$9.9 million), plus working capital. The acquisition will further enhance the value that Neo provides to customers and is expected to leverage Neo's ability to produce high-performance magnetic powders and magnets. Neo expects the transaction to close later in the third quarter or early in the fourth quarter of 2019.

12. Off-Balance Sheet Arrangements

As of June 30, 2019, Neo's only off-balance sheet arrangements are purchase obligations.

13. Significant Management Judgment in Applying Accounting Policies

The preparation of financial statements requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, revenue and expenses. Actual results could differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. They are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected. On adoption of IFRS 16, Neo has applied judgment to determine the lease term for some lease contracts in which it is a lessee that include renewal options.

For a discussion about the significant estimates used in determining the carrying value of inventory, deferred tax assets, useful lives of depreciable assets, provisions, impairment of tangible and intangible assets, defined benefit pension liability, fair value of financial instruments, share-based compensation and expected credit losses, please refer to the MD&A dated March 10, 2019. Neo cautions readers that the actual results could differ materially from those estimates and assumptions.

14. Related Party Transactions and Balances

Neo's related parties are its joint ventures, associates, directors and executive officers.

Unless otherwise stated, none of the transactions incorporate special terms and conditions and no guarantees were given or received. Outstanding balances are usually settled in cash.

Transactions with associates

Neo holds a 33% investment in Toda Magnequench Magnetic Materials Co. Ltd. ("**TMT**"), which produces rare earth magnetic compounds with Magnequench Powders supplied by Magnequench's Tianjin facility in its normal course of business. Magnequench's Tianjin facility will then purchase these compounds back from TMT.

Neo holds a 25% ownership interest in Ganzhou Keli Rare Earth New Material Co., Ltd. ("**Keli**"), a company which converts rare earth oxides into metals for use in Magnequench Powders.

Neo also holds a 20% ownership interest in GQD Special Materials (Thailand) Co., Ltd. ("**GQD**"), a company which converts rare earth oxides into metals for use in Magnequench Powders.

On occasion, MQTJ will supply Magnequench Powders to TMT to produce rare earth magnetic compounds. MQTJ will then purchase these compounds back from TMT in its normal course of business. Keli and GQD processes rare earth oxides into metals for inclusion in Magnequench Powders.

For the three and six months ended June 30, 2019, Neo purchased \$0.4 million and \$0.8 million worth of compounds from TMT, purchased metals and received services from Keli amounting to \$9.2 million and \$19.1 million, and received services from GQD amounting to \$0.2 million and \$0.5 million, respectively.

For the three and six months ended June 30, 2019, Neo sold Magnequench Powders and performed services, respectively, amounting to \$0.9 million and \$2.1 million to TMT, and sold oxides to Keli amounting to \$1.2 million.

For the three and six months ended June 30, 2018, Neo purchased \$0.4 million and \$0.8 million worth of compounds from TMT, purchased metals and received services from Keli amounting to \$15.0 million and \$34.2 million, and received services from GQD amounting to \$0.2 million and \$0.5 million, respectively.

For the three and six months ended June 30, 2018, Neo sold Magnequench Powders and performed services amounting to \$0.5 million and \$1.2 million to TMT.

Transactions with joint venturers

Neo, through its sales company in Japan, Neo Japan Inc., has occasionally purchased Gallium from Beijing Jiya Semiconductor Material Co., Ltd. ("**Beijing Jiya**") for resale to third party customers. No purchases were made in the three and six months ended June 30, 2019. For the three and six months ended June 30, 2018, these purchases were nil and \$0.7 million, respectively.

Neo also has occasionally purchased and sold products from and to Ganzhou Qian Dong Rare Earth Group Co. Ltd. ("**Qian Dong**") and Toda Kogyo Corp. ("**Toda**"). For the three and six months ended June 30, 2019, purchases from Qian Dong were nominal and \$0.3 million, respectively. Sales to Toda for the three and six months ended June 30, 2019, were \$0.2 million and \$0.3 million, respectively.

For the three and six months ended June 30, 2018, purchases from Qian Dong were \$0.2 million and \$0.3 million, respectively. Sales to Toda for the three and six months ended June 30, 2018, were \$0.4 million and \$0.5 million, respectively.

Transactions between Neo and its related parties are summarized in the table below:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Sale of goods and services to related parties	\$ 2,324	\$ 1,101	\$ 3,584	\$ 2,065
Purchase of goods and services from related parties . . .	9,906	15,882	20,670	36,443

<i>(\$000s)</i>	June 30, 2019	December 31, 2018
Trade balances:		
from related parties	\$ 340	\$ 327
due to related parties	(5,087)	(5,102)
Total	\$ (4,747)	\$ (4,775)

Directors and Key Management Compensation

Key management personnel consist of those persons having authority and responsibility for planning, directing and controlling the activities of Neo, directly or indirectly. Key management personnel include Neo's executive officers, vice-presidents and members of its board of directors. Neo's key management compensation expenses include short-term benefits and share-based compensation expenses.

Neo's short-term employee benefits are as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Directors	\$ 70	\$ 70	\$ 141	\$ 141
Key Executive Management	973	998	1,871	2,033
Total	\$ 1,043	\$ 1,068	\$ 2,012	\$ 2,174

Neo's share-based compensation expenses are as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Directors	\$ 353	\$ 76	\$ 277	\$ 152
Key Executive Management	330	905	30	1,811
Total	\$ 683	\$ 981	\$ 307	\$ 1,963

On June 24, 2019, Neo granted 32,783 DSUs to its directors.

In the first quarter of 2019, there was a revision of the vesting period from the previous estimate for Options and RSUs pursuant to the termination of the Luxfer Transaction. Neo subsequently revised and adjusted the recognized share-based compensation expense cost on a cumulative basis, which resulted in a recovery of share-based compensation expense being recorded in the unaudited interim condensed consolidated statements of profit or loss.

15. Financial Instruments and Risk Management

The following table presents financial assets and liabilities measured at fair value in the consolidated statements of financial position in accordance with the fair value hierarchy. It does not include financial assets and liabilities not measured at fair value if the carrying amount is a reasonable approximation of fair value. This hierarchy groups financial assets and liabilities into three levels based on the significance of inputs used in measuring the fair value of the financial assets and liabilities. The fair value hierarchy has the following levels:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices); and
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The level in which the financial asset or liability is classified is determined based on the lowest level of significant input to the fair value measurement. The financial assets and liabilities measured at fair value in the consolidated statements of financial position as at June 30, 2019, are grouped into the fair value hierarchy as follows:

<i>(\$000s)</i>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
Financial Liabilities:			
Put option issued to non-controlling interest of Buss & Buss	\$ —	\$ —	\$ 11,176

Neo's derivative liability classified in Level 3 uses the discounted cash flow method to determine the fair value based on significant inputs that are not based on observable market data.

Changing inputs to the Level 3 valuations to reasonably possible alternative assumptions would not significantly change amounts recognized in net income, total assets, total liabilities or total equity.

There have been no transfers between levels for the period ended June 30, 2019.

Neo is exposed to a number of risks in the normal course of business that have the potential to affect its performance. These risk factors include commodity price risk, foreign currency risk, credit risk and liquidity risk.

Commodity price risk

A portion of Neo's current business is conducted in the spot market; therefore, prices can vary with the transaction and individual bids received. Neo's products are primarily marketed to manufacturers as component materials. Prices will vary based on the demand for the end products being produced with the raw materials Neo processes.

Neo's sales and profitability are determined principally by the pricing of the rare earth and rare metals products it produces, and, to a lesser extent, by the price of natural gas and other supplies used in its production process. The prices of the rare earth products are influenced by the price and demand of the end products that Neo's products support, including automotive, electronics and clean energy technologies. A significant decrease in the global demand for these products may have a material adverse effect on Neo's business. Neo does not have hedging contracts for revenue and costs in place.

Neo's costs and capital investments are subject to market movements in other commodities such as natural gas and chemicals. Neo may enter into derivative contracts for a portion of the expected usage of these products, but it does

not currently have any derivative contracts on these commodities and it does not currently anticipate entering into derivative agreements on commodities.

Foreign currency risk

Neo is exposed to fluctuations of the U.S. dollar against the functional currencies of its foreign subsidiaries, including the Euro, the Canadian dollar, the Renminbi, the Thai baht and the Japanese Yen, when Neo translates its foreign subsidiaries' financial statements into U.S. dollars for inclusion in its consolidated financial statements. Cumulative translation adjustments are recorded in accumulated other comprehensive income (loss) and a separate component of equity. Any increase (decrease) in the value of the U.S. dollar against those foreign currencies results in unrealized foreign currency translation losses (gains) with respect to assets acquired in, liabilities assumed from, intercompany balances with and results of operations from the foreign subsidiaries. Therefore, Neo may experience a negative impact on its comprehensive income (loss) and stockholders' equity with respect to its holdings in those subsidiaries as a result of foreign currency translation. Neo generally does not hedge against the risk that it may incur non-cash losses upon the translation of the financial statements of its foreign subsidiaries into U.S. dollars.

Credit risk

Credit risk refers to the possibility that a customer or counterparty will fail to fulfill its obligations under a contract and as a result, create a financial loss for Neo. Neo has a credit policy that defines standard credit practice. This policy dictates that all new customer accounts are reviewed prior to approval and establishes the maximum amount of credit exposure per customer. Credit worthiness and financial well-being of the customer is monitored on an ongoing basis.

Under IFRS 9 - Financial Instruments ("**IFRS 9**"), Neo establishes a loss allowance using the expected credit losses ("**ECL**") impairment model; therefore, the carrying amount of accounts receivable generally represents the maximum credit exposure. As at June 30, 2019, Neo recorded a loss allowance of \$0.1 million. The estimated credit losses, if any, is included in selling, general and administrative expenses in the consolidated statements of profit or loss and is net of any recoveries that were provided for in prior periods.

Counterparties to financial instruments may expose Neo to credit losses in the event of non-performance. Counterparties for derivative and cash transactions are limited to high credit quality financial institutions, which are monitored on an ongoing basis. Counterparty credit assessments are based on the financial health of the institutions and their credit ratings from external agencies. As at June 30, 2019, Neo does not anticipate non-performance that would materially impact Neo's financial statements.

Liquidity risk

Neo is exposed to the possibility that it may not be able to meet its financial obligations as they fall due. Neo manages liquidity risk by continuously monitoring actual and projected cash flows, taking into account its sales and receipts and matching the maturity profile of financial assets and liabilities. Neo continues to maintain sufficient cash and certain credit facilities which can be drawn upon to meet its operating and capital expenditure obligations as needed. The Board reviews and approves the annual operating and capital budgets, as well as any material transactions out of the ordinary course of business, including proposals on acquisition and other major investments.

As at June 30, 2019, Neo is able to meet its financial obligations as they fall due.

16. Changes in Accounting Policies

Neo adopted the following accounting standards and amendments to accounting standards, effective January 1, 2019:

16.1 IFRS 16 - Leases

16.1.1 Adjustments recognized on adoption of IFRS 16

On January 13, 2016, the IASB issued IFRS 16 - Leases ("IFRS 16"). IFRS 16 supersedes IAS 17 - Leases ("IAS 17"), IFRIC 4 - Determining whether an Arrangement contains a Lease ("IFRIC 4"), SIC-15 - Operating Leases – Incentives, and SIC-27 - Evaluating the Substance of Transactions Involving the Legal Form of a Lease. IFRS 16 contains a single lessee accounting model, which eliminates the distinction between operating and finance leases from the perspective of the lessee. All contracts that meet the definition of a lease, other than short term leases and leases of low value items for which a lessee has the option not to apply the measurement and presentation requirements of IFRS 16, are recorded in the statement of financial position with a right-of-use asset and a corresponding liability. The asset is subsequently accounted for as property, plant and equipment or investment property and the liability is unwound using the rate implicit in the lease or, if that rate cannot be readily determined, the lessee's incremental borrowing rate. The accounting requirements from the perspective of the lessor remains largely in line with previous IAS 17 requirements.

Previously, Neo determined at contract inception whether an arrangement is or contains a lease under IFRIC 4. Under IFRS 16, Neo assesses whether a contract is or contains a lease based on the definition of a lease, as explained in subsection 16.1.2 below. On transition to IFRS 16, Neo elected to apply the practical expedient to grandfather the assessment of which transactions are leases. It applied IFRS 16 only to contracts that were previously identified as leases. Contracts that were not identified as leases under IAS 17 and IFRIC 4 were not reassessed for whether there is a lease. Therefore, the definition of a lease under IFRS 16 was applied only to contracts entered into or changed on or after January 1, 2019.

Neo has adopted IFRS 16 using the modified retrospective approach under which the right-of-use asset is equal to the lease liability as at January 1, 2019. As a result, comparative information has not been restated and continues to be reported under IAS 17, IFRIC 4, SIC-15, and SIC-27.

On adoption of IFRS 16, Neo recognized lease liabilities in relation to leases which had previously been classified as "operating leases" under the principles of IAS 17. These liabilities were measured at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate as of January 1, 2019. The weighted average lessee's incremental borrowing rate applied to the leases liabilities on January 1, 2019 was 6.15%.

Right-of-use assets were measured at the amount equal to the lease liabilities, adjusted by the amount of any prepaid or accrued lease payments relating to that lease recognized in the balance sheet as at December 31, 2018.

The change in accounting policy affected the following items in the consolidated statements of financial position on January 1, 2019:

	January 1, 2019
Increase in right-of-use assets	5,066
Decrease in other current assets	(34)
Increase in lease liabilities	(5,032)
Net impact to the consolidated statements of financial position	\$ —

Adjusted OIBDA, segment assets and liabilities for the period ended June 30, 2019 all increased as a result of the change in accounting policy. Earnings per share decreased by \$0.001 and \$0.002 per share for the three and six months ended June 30, 2019, respectively, as a result of the adoption of IFRS 16.

The following practical expedients were applied upon transition to IFRS 16:

- the use of a single discount rate to a portfolio of leases with reasonably similar characteristics;
 - the accounting for operating leases with a remaining lease term of leases than 12 months at January 1, 2019 as short-term leases;
 - the exclusion of initial direct costs for the measurement of the right-of-use asset at the date of initial application;
- and

- the use of past experience in determining the lease term where the contract contains options to extend or terminate the lease

16.1.2 Revised accounting policy

At the inception of a contract, Neo assesses whether a contract is, or contains a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, Neo assesses whether:

- The contract involves the use of an identified asset - this may be specified explicitly or implicitly, and should be physically distinct or represent substantially all of the capacity of a physically distinct asset. If the supplier has a substantive substitution right, then the asset is not identified;
- Neo has the right to obtain substantially all of the economic benefits from use of the asset throughout the period of use; and
- Neo has the right to direct the use of the asset. Neo has this right when it has the decision-making rights that are most relevant to changing how and for what purpose the asset is used. In rare cases where the decision about how and for what purpose the asset is used is predetermined, Neo has the right to direct the use of the asset if either:
 - Neo has the right to operate the asset; or
 - Neo designed the asset in a way that predetermines how and for what purpose it will be used.

Neo recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, and subsequently at cost less any accumulated depreciation and impairment losses, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, Neo's incremental borrowing rate. Generally, Neo uses its incremental borrowing rate as the discount rate.

The lease liability is subsequently increased by the interest cost on the lease liability and decreased by lease payments made. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, a change in the estimate of the amount expected to be payable under a residual value guarantee, or as appropriate, changes in the assessment of whether a purchase or extension option is reasonably certain to be exercised or a termination option is reasonably certain not to be exercised.

Neo has applied judgment to determine the lease term for some lease contracts in which it is a lessee that include renewal options. The assessment of whether Neo is reasonably certain to exercise such options impacts the lease term, which significantly affects the amount of lease liabilities and right-of-use assets recognized.

16.2 IFRIC 23 - Uncertainty over income tax treatments

On June 7, 2017, the IASB issued IFRIC Interpretation 23 - Uncertainty over income tax treatments ("**IFRIC 23**"). IFRIC 23 clarifies how to apply the recognition and measurement requirements in IAS 12 - Income taxes ("**IAS 12**") when there is uncertainty over income tax treatments. The interpretation is effective for annual periods beginning on or after January 1, 2019, with earlier adoption permitted. Neo has adopted IFRIC 23 on January 1, 2019 and there was no impact on these unaudited interim condensed consolidated financial statements resulting from the adoption of this interpretation for the three and six months ended June 30, 2019.

17. Recent Accounting Pronouncements

There are no recent accounting pronouncements issued by the IASB that are expected to have a material impact on the financial statements of Neo.

18. Internal Control Over Financial Reporting and Disclosure Controls and Procedures

Disclosure controls and procedures

Neo's Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO") are responsible for establishing and maintaining disclosure controls and procedures for Neo. Neo maintains a set of disclosure controls and procedures designed to provide reasonable assurance that information required to be publicly disclosed is recorded, processed, summarized and reported on a timely basis. The CEO and CFO have evaluated the design and operating effectiveness of Neo's disclosure controls and procedures ("DC&P") at the end of the quarter and based on the evaluation, the CEO and CFO have concluded that the DC&P were effective.

Internal controls over financial reporting

Neo's internal controls over financial reporting ("ICFR") are designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. Neo's management is responsible for establishing and maintaining adequate ICFR for Neo. National Instrument 52-109 of the Canadian Securities Administrators requires the CEO and CFO to certify that they are responsible for establishing and maintaining ICFR for Neo and that those internal controls have been designed and are effective in providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with IFRS. The CEO and CFO are also responsible for disclosing any changes to Neo's internal controls during the most recent period that have materially affected, or are reasonably likely to materially affect, its internal control over financial reporting. There have been no material changes during the quarter ended June 30, 2019. Neo's management under the supervision of the CEO and CFO has evaluated the design and operating effectiveness of Neo's ICFR based on the Internal Control - Integrated Framework issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission. As at June 30, 2019, management assessed that Neo's ICFR were effective.

In designing such controls, management, including the CEO and CFO, recognized that due to inherent limitations, any controls, no matter how well designed and operating effectively, can provide only reasonable assurance of achieving the desired control objectives and may not prevent or detect all errors and fraud with respect to the financial statement preparation and presentation. Additionally, management is required to use judgment in evaluating controls and procedures.

19. Business Risks and Uncertainties

Neo's risk factors are substantially unchanged from and should be read in conjunction with Neo's MD&A and Neo's 2018 Annual Information Form ("AIF"), both dated March 10, 2019.

20. Outstanding Shares Data

Class of Equity Security	Numbers Outstanding
Common Shares	38,841,183
Stock Options*	1,158,712
Restricted Share Units & Performance Stock Units	1,105,378

*Each stock option can be exercised to purchase one common share.

The number of common shares outstanding as at August 9, 2019 is 38,532,130.

21. Additional Information

Additional information is included in Neo's AIF available on Neo's website at www.neomaterials.com and on SEDAR at www.sedar.com.