

## 6. Impairment of Assets

A summary of impairment losses recognition and reversals is presented below.

### Year ended 31 December 2018

<i>US\$ million</i>	<b>Goodwill and intangible assets</b>	<b>Property, plant and equipment</b>	<b>Taxes receivable</b>	<b>Total</b>
EVRAZ Stratcor Inc.	\$ -	\$ (12)	\$ -	\$ (12)
Yuzhkuzbassugol	-	(6)	-	(6)
Evrazruda	-	(4)	-	(4)
Others, net	-	(8)	-	(8)
	\$ -	\$ (30)	\$ -	\$ (30)
Recognised in profit or loss	-	(30)	-	(30)

### Year ended 31 December 2017

<i>US\$ million</i>	<b>Goodwill and intangible assets</b>	<b>Property, plant and equipment</b>	<b>Taxes receivable</b>	<b>Total</b>
EVRAZ Inc. NA	\$ (13)	\$ 6	\$ -	\$ (7)
EVRAZ Inc. NA Canada	-	(12)	-	(12)
Raspidskaya	-	9	-	9
EVRAZ Palini e Bertoli	-	20	-	20
Yuzhkuzbassugol	-	(9)	-	(9)
Evrazruda	-	8	-	8
Others, net	-	(2)	5	3
	\$ (13)	\$ 20	\$ 5	\$ 12
Recognised in profit or loss	(13)	20	5	12

### Year ended 31 December 2016

<i>US\$ million</i>	<b>Goodwill and intangible assets</b>	<b>Property, plant and equipment</b>	<b>Taxes receivable</b>	<b>Total</b>
EVRAZ Inc. NA	\$ (299)	\$ (88)	\$ -	\$ (387)
EVRAZ Inc. NA Canada	(17)	(26)	-	(43)
Raspidskaya	-	(17)	-	(17)
EVRAZ Stratcor Inc.	-	(16)	-	(16)
EVRAZ Palini e Bertoli	-	19	-	19
Yuzhny Stan	-	(5)	-	(5)
Evrazruda	-	(10)	-	(10)
Others, net	-	(8)	2	(6)
	\$ (316)	\$ (151)	\$ 2	\$ (465)
Recognised in profit or loss	(316)	(151)	2	(465)

## 6. Impairment of Assets (continued)

The Group made a write-off of certain functionally obsolete items of property, plant and equipment and recorded an impairment relating to VAT with a long-term recovery. In addition, in 2016 and 2017, the Group recognised impairment losses as a result of the impairment testing at the level of cash-generating units.

For the purpose of the impairment testing the Group assessed the recoverable amount of each cash-generating unit to which goodwill was allocated or where indicators of impairment were identified. In 2016-2018, the impairment tests were performed as of 30 September, the conclusions were reassessed at 31 December and no further impairment triggers were identified.

The recoverable amounts have been determined based on the calculation of value-in-use. This valuation technique uses cash flow projections based on the actual operating results and business plans approved by management and appropriate discount rates reflecting the time value of money and risks associated with respective cash-generating units. For the periods not covered by management business plans, cash flow projections have been estimated by extrapolating the results of the respective business plans using a zero real growth rate.

The key assumptions used by management in the value-in-use calculations with respect to the cash-generating units to which the goodwill was allocated or units containing intangible assets with indefinite useful lives are presented in the table below.

	Commodity	Period of forecast, years		Pre-tax discount rate, %		Average price of commodity per tonne in the next reporting year		Recoverable amount of CGU, US\$ million		Carrying amount of CGU before impairment, US\$ million		
		2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	
Steel North America												
	<i>Large diameter pipes</i>	steel products	5	5	9.37	11.23	\$1,129	\$913	903	1,074	900	938
	<i>Oil Country Tubular Goods</i>	steel products	5	5	9.96	10.85	\$1,245	\$1,121	441	547	365	383
	<i>Long products</i>	steel products	5	5	9.26	11.02	\$745	\$647	582	591	501	520
		vanadium products	5	5	12.74	13.03	\$46,494	\$23,403	1,140	986	57	61
EVRAZ Vanady-Tula		ferrovanadium products	5	5	10.45	11.00	\$48,991	\$26,576	40	47	36	34
EVRAZ Nikom, a.s.		products	5	5								

In addition, the Group determined that there were indicators of impairment in other cash generating units, which do not contain goodwill or intangible assets with indefinite useful lives, and tested them for impairment using the following assumptions.

		Period of forecast, years	Pre-tax discount rate, %	Commodity	Average price of commodity per tonne in the next reporting year
Steel North America					
	<i>Flat rolled products</i>	5	9.30	steel products	\$855
	<i>Seamless pipes</i>	5	10.04	steel products	\$1,396

The impairment test models take into account the tariffs imposed by the US and Canada against each other on import of steel and steel products, whose effect is expected to last until 2022 (Note 30). The models include the assumption that the tariffs will be removed starting from 2023 and are assumed not to re-occur going forward. This assumption is particularly sensitive for the recoverable amount of Large diameter pipes.

As a result of impairment testing, the Group did not recognise any impairment loss or reversal of previous charges. However, in 2018, the Group recognised a \$12 million impairment loss with respect to EVRAZ Stratcor Inc. due to its potential bankruptcy. In 2017, the value in use of this cash-generating unit was \$18 million.

## 6. Impairment of Assets (continued)

The estimations of value in use are most sensitive to the following assumptions:

### Discount Rates

Discount rates reflect the current market assessment of the risks specific to each cash-generating unit. The discount rates have been determined using the Capital Asset Pricing Model and analysis of industry peers. Reasonably possible changes in discount rates could lead to impairment EVRAZ Nikom, Large diameter pipes, Flat rolled products and Long products. If discount rates were 10% higher, this would lead to an impairment of \$184 million.

### Sales Prices

The price assumptions for the products sold by the Group were estimated based on industry research using analysts' views published by Citi, CRU, Goldman Sachs, Morgan Stanley, Renaissance Capital, UBS, VTB Capital, WSD during the period from August to December 2018. The Group expects that the nominal prices will fluctuate with a compound annual growth rate of (14.3)%-4.0% in 2019 – 2023, 2.5% in 2024 and thereafter. Reasonably possible changes in sales prices could lead to impairment at EVRAZ Nikom and Large diameter pipes. If the prices assumed for 2019 and 2020 in the impairment test were 10% lower, this would lead to an impairment of \$46 million.

### Sales Volumes

Management assumed that the sales volumes of steel products in 2019 will increase by 7-13% and future dynamics will be driven by a gradual market recovery and changes in assets' capacities. Reasonably possible changes in sales volumes could lead to impairment at EVRAZ Nikom and Large diameter pipes. If the sales volumes were 10% lower than those assumed for 2019 and 2020 in the impairment test, this would lead to an impairment of \$19 million.

### Cost Control Measures

The recoverable amounts of cash-generating units are based on the business plans approved by management. A reasonably possible deviation in cost from these plans could lead to impairment at EVRAZ Nikom, Large diameter pipes, Long products and Flat rolled products. If the actual costs were 10% higher than those assumed for 2019 and 2020 in the impairment test, this would lead to an impairment of \$228 million.

### Terminal Growth Rate

The recoverable amounts of cash-generating units are based on the terminal growth rate of 2.5% representing a forecast of long-term US CPI rate. A reasonably possible deviation in this rate could lead to impairment at Large diameter pipes. If the terminal growth rate was 10% lower than the rate assumed for 2024 and thereafter in the impairment test, this would lead to an impairment of \$46 million.

### Sensitivity Analysis

For the cash-generating units, which were not impaired in the reporting period and for which the reasonably possible changes could lead to impairment, the recoverable amounts would become equal to their carrying amounts if the assumptions used to measure the recoverable amounts changed by the following percentages:

	Discount rates	Sales prices	Sales volumes	Cost control measures	Terminal growth rate
EVRAZ Nikom	5.9%	(4.9)%	(6.0)%	1.3%	-
EVRAZ Inc NA - Large diameter pipes	0.2%	(0.7)%	(1.6)%	0.2%	(0.6)%
EVRAZ Inc NA - Long products	8.7%	-	-	8.6%	-
EVRAZ Inc NA - Flat rolled products	9.0%	-	-	4.9%	-