

Appendix 4 – Environmental performance

| Indicator | Unit | 2017 | 2018 | 2019 | 2019 vs. 2018 | | Definition | Comments |
|--------------------------|---------------------------------------|---------------|---------------|---------------|---------------|-------------|--|--|
| | | | | | Δ | % | | |
| Air Emissions | | | | | | | | |
| Key Air emissions | thousand tonnes | 137.11 | 128.24 | 127.69 | -0.55 | -0.4 | | |
| SO _x | thousand tonne | 58.18 | 51.30 | 45.38 | -5.92 | -11.5 | Sulfur dioxide (SO ₂) | |
| NO _x | thousand tonnes | 29.17 | 29.69 | 28.86 | -0.83 | -2.8 | Sum of Nitric oxides (NO _x) as nitrogen dioxide (NO ₂) | |
| Dust | thousand tonnes | 48.61 | 45.98 | 52.15 | 6.17 | 13.4 | Sum of PM10 and PM25 | |
| VOC | thousand tonnes | 1.15 | 1.26 | 1.30 | 0.04 | 3.2 | Volatile organic compounds | |
| CO | thousand tonnes | 311.09 | 285.94 | 272.91 | -13.03 | -4.6 | Carbon Monoxide (CO) | |
| Other | thousand tonnes | 3.29 | 3.32 | 3.24 | -0.08 | -2.4 | excl. CH₄, see “Greenhouse Gases “ | |
| Greenhouse Gases | | | | | | | | |
| GHG Scope 1 | million tonnes CO₂e | 36.68 | 34.56 | 39.06 | 4.50 | 13.0 | Direct GHG emissions; sum of CO₂ equivalent of CO₂, CH₄, N₂O, PFC, HFC, SF₆ and NF₃ | Direct GHG emissions are emissions from sources that are owned or controlled by EVRAZ |
| CO ₂ | million tonnes CO ₂ e | 28.35 | 26.86 | 27.96 | 1.10 | 4.1 | Carbon dioxide (CO ₂) | Direct CO ₂ emissions from operations were calculated using the carbon balance method for carbon flows within production facilities, including fuel use. Emissions of other GHGs were calculated based on measured volumes, inventory changes or IPCC2006 factors and models (including for post-mining coal methane emissions) where direct measurement data were not available. |
| CH ₄ | million tonnes CO ₂ e | 8.26 | 7.64 | 11.04 | 3.40 | 44.5 | CO ₂ equivalent of methane (CH ₄) emission | |
| N ₂ O | million tonnes CO ₂ e | 0.06 | 0.06 | 0.06 | 0.0 | 0.0 | CO ₂ equivalent of nitrous oxide (N ₂ O) emission | |
| PFC and HFC | million tonnes CO ₂ e | 0.00003 | 0.00009 | 0.00002 | -0.00007 | -77.8 | CO ₂ equivalent of hydrofluorocarbons & perfluorocarbons emissions | |
| SF ₆ | million tonnes CO ₂ e | - | - | - | - | - | CO ₂ equivalent of sulphur hexafluoride (SF ₆) emissions | |
| NF ₃ | million tonnes CO ₂ e | - | - | - | - | - | CO ₂ equivalent of nitrogen trifluoride (NF ₃) emissions | |
| GHG Scope 2 | million tonnes CO₂e | 4.97 | 4.23 | 4.28 | 0.05 | 1.2 | Indirect GHG emissions from consumption of purchased electricity, heat or steam | Scope 2 emissions are emissions associated with the generation of electricity, heating/cooling, or steam purchased by EVRAZ assets for own consumption. Scope 2 emissions were estimated using emission factors specifically developed for the country or region, if available, or otherwise factors provided by UK Defra or given in National Inventory Reports. |

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| Total GHG | million tonnes CO₂e | 41.65 | 38.79 | 43.35 | 4.56 | 11.8 | Calculation perimeter includes the following subsidiaries: | |
| GHG Steel Segment | million tonnes CO ₂ e | 30.44 | 28.15 | 29.32 | 1.17 | 4.2 | EVRAZ NTMK, EVRAZ KGOK, EVRAZ ZSMK, | |
| Scope 1 | million tonnes CO ₂ e | 27.02 | 25.47 | 26.58 | 1.11 | 4.4 | Evrazruda, EVRAZ DMZ, EVRAZ, Vanady Tula, EVRAZ | |
| Scope 2 | million tonnes CO ₂ e | 3.42 | 2.68 | 2.74 | 0.06 | 2.2 | Caspian Steel, EVRAZ Palini e Bertoli, EVRAZ Nikom | |
| GHG Steel NA Segment | million tonnes CO ₂ e | 1.45 | 1.39 | 1.41 | 0.02 | 1.4 | EVRAZ Stratcor, EVRAZ Calgary, EVRAZ Camrose, | |
| Scope 1 | million tonnes CO ₂ e | 0.83 | 0.75 | 0.76 | 0.01 | 1.3 | EVRAZ Portland, EVRAZ Pueblo, EVRAZ Red Deer, | |
| Scope 2 | million tonnes CO ₂ e | 0.62 | 0.64 | 0.65 | 0.01 | 1.6 | EVRAZ Regina, | |
| GHG Coal Segment | million tonnes CO ₂ e | 9.76 | 9.25 | 12.61 | 3.36 | 36.3 | Raspadskaya Coal Company, Mezhegyugol | |
| Scope 1 | million tonnes CO ₂ e | 8.82 | 8.34 | 11.73 | 3.39 | 40.6 | | |
| Scope 2 | million tonnes CO ₂ e | 0.94 | 0.91 | 0.89 | -0.02 | -2.2 | | |
| GHG per t of steel cast | tCO₂e per tonne of steel cast | 2.02 | 2.01 | 1.97 | -0.04 | -2.0 | | |
| GHG per net revenue | kg CO₂e / US\$ | 3.80 | 3.00 | 3.64 | 0.64 | 21.3 | | |
| GHG Steel Segment | kg CO ₂ e / US\$ | 3.90 | 3.20 | 3.60 | 0.40 | 12.5 | | |
| GHG Steel NA Segment | kg CO ₂ e / US\$ | 0.80 | 0.50 | 0.56 | 0.06 | 12.0 | | |
| GHG Coal Segment | kg CO ₂ e / US\$ | 4.40 | 4.00 | 6.24 | 2.24 | 56.0 | | |
| Water Management | | | | | | | | |
| Total fresh water intake for production needs | million m³ | 319.43 | 226.49 | 205.32 | -21.17 | -9.3 | | |
| surface water sources | million m ³ | 288.55 | 196.74 | 175.03 | -21.71 | -11.0 | | |
| ground water | million m ³ | 9.09 | 8.64 | 9.20 | 0.56 | 6.5 | | |
| seawater | million m ³ | - | - | - | - | - | | |
| public network | million m ³ | 17.30 | 15.34 | 16.19 | 0.85 | 5.5 | | |
| other sources | million m ³ | 4.49 | 5.77 | 4.90 | -0.87 | -15.1 | | |
| Mine and quarry water usage for production needs | million m³ | 21.15 | 17.36 | 21.22 | 3.86 | 22.2 | | |
| mine water | million m ³ | 11.78 | 11.01 | 13.70 | 2.69 | 24.4 | | |
| quarry water | million m ³ | 9.37 | 6.35 | 7.52 | 1.17 | 18.5 | | |

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| Steel segment: fresh water intake for production needs | million m³ | 274.08 | 183.18 | 164.66 | -18.52 | -10.1 | EVRAZ NTMK, EVRAZ ZSMK, EVRAZ DMZ (included in the figures for both 2017 and 2018, however, was sold in 2018), EVRAZ Vanady Tula, EVRAZ Caspian Steel, EVRAZ Palini e Bertoli, EVRAZ Nikom, EVRAZ Stratcor, EVRAZ Inc. NA (including EVRAZ Portland, EVRAZ Pueblo), EVRAZ Inc. NA Canada (including EVRAZ Camrose, EVRAZ Red Deer, EVRAZ Calgary, EVRAZ Regina) | |
| surface water sources | million m ³ | 255.88 | 166.67 | 148.05 | -18.62 | -11.2 | | |
| ground water | million m ³ | 4.88 | 4.69 | 4.74 | 0.05 | 1.1 | | |
| seawater | million m ³ | - | - | - | - | - | | |
| public network | million m ³ | 12.40 | 11.18 | 10.78 | -0.40 | -3.6 | | |
| other sources | million m ³ | 0.92 | 0.64 | 1.09 | 0.45 | 71.0 | | |
| Iron Ore: fresh water intake for production needs | million m³ | 37.90 | 34.21 | 32.13 | -2.08 | -6.1 | EVRAZ KGOK, Evrazruda, EVRAZ Sukha Balka (included only in the figure for 2017 due to asset disposition in 2017), Evraz Vametco (included only in the figure for 2017 due to asset disposition in 2017) | |
| surface water sources | million m ³ | 32.51 | 30.03 | 26.86 | -3.17 | -10.6 | | |
| ground water | million m ³ | 0.61 | 0.58 | 0.54 | -0.04 | -7.0 | | |
| seawater | million m ³ | - | - | - | - | - | | |
| public network | million m ³ | 4.35 | 3.39 | 4.72 | 1.33 | 39.1 | | |
| other sources | million m ³ | 0.43 | 0.21 | 0.01 | -0.20 | -94.1 | | |
| Mine and quarry water usage for production needs | | 11.56 | 7.66 | 8.84 | 1.17 | 15.3 | | |
| mine water | million m ³ | 2.19 | 1.88 | 1.88 | 0.00 | 0.0 | | |
| quarry water | million m ³ | 9.37 | 5.78 | 6.95 | 1.17 | 20.3 | | |
| Coal segment: fresh water intake for production needs | million m³ | 7.45 | 9.10 | 8.52 | -0.58 | -6.3 | Raspadskaya Coal Company, Mezheguyugol | |
| surface water sources | million m ³ | 0.17 | 0.04 | 0.13 | 0.9 | 189.5 | | |
| ground water | million m ³ | 3.60 | 3.36 | 3.91 | 0.55 | 16.4 | | |
| seawater | million m ³ | - | - | - | - | - | | |
| public network | million m ³ | 0.55 | 0.76 | 0.69 | -0.08 | -10.3 | | |
| other sources | million m ³ | 3.13 | 4.93 | 3.79 | -1.14 | -23.0 | | |
| Mine and quarry water usage for production needs | | 9.60 | 9.70 | 12.39 | 2.69 | 27.7 | | |

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| mine water | million m ³ | 9.60 | 9.13 | 11.82 | 2.69 | 29.4 | | |
| quarry water | million m ³ | 0.00 | 0.57 | 0.57 | 0.00 | 0.0 | | |
| Fresh water withdrawal intensity | m³/tonne of steel cast | 19.53 | 14.07 | 11.92 | -2.15 | -15.3 | | |
| Water discharge intensity | m³/tonne of steel cast | 9.46 | 5.78 | 4.99 | -0.79 | -13.7 | | |
| Fresh water withdrawal intensity | m³/tonne of iron ore | 2.61 | 2.54 | 2.34 | -0.2 | -7.9 | | |
| Water discharge intensity | m³/tonne of iron ore | 0.97 | 0.89 | 0.93 | 0.04 | 4.5 | | |
| Fresh water withdrawal intensity | m³/tonne of raw coking coal | 0.33 | 0.38 | 0.33 | -0.05 | -13.2 | | |
| Water discharge intensity | m³/tonne of raw coking coal | 1.73 | 1.85 | 1.72 | -0.13 | -7.0 | | |
| Fresh water withdrawal intensity | m³/US\$ revenue | 29.50 | 17.64 | 17.25 | -0.39 | -2.2 | | |
| Water recycled for use in own operations | % | 90.4 | 92.8 | 93.3 | 0.50 | 0.5 | | |
| Total water discharge into water bodies | million m³ | 185.68 | 131.85 | 125.91 | -5.93 | -4.5 | | |
| Steel segment | million m ³ | 132.75 | 75.27 | 68.90 | -6.37 | -8.5 | EVRAZ NTMK, EVRAZ ZSMK, EVRAZ DMZ (included in the figures for both 2017 and 2018, however, was sold in 2018), EVRAZ Vanady Tula, EVRAZ Caspian Steel, EVRAZ Palini e Bertoli, EVRAZ Nikom, EVRAZ Stratcor, EVRAZ Inc. NA (including EVRAZ Portland, EVRAZ Pueblo), EVRAZ Inc. NA Canada (including EVRAZ Camrose, EVRAZ Red Deer, EVRAZ Calgary, EVRAZ Regina) | |
| Iron Ore | million m ³ | 14.01 | 12.03 | 12.86 | 0.83 | 6.9 | EVRAZ KGOK, Evrazruda, EVRAZ Sukha Balka (included only in the figure for 2017 due to asset disposition in 2017), Evraz Vametco (included only in the figure for 2017 due to asset disposition in 2017) | |
| Coal segment | million m ³ | 38.92 | 44.55 | 44.15 | -0.40 | -0.9 | Raspadskaya Coal Company, Mezhegeyugol, EVRAZ NMTP (was sold in 2017) | |
| Waste & By-product Management | | | | | | | | |
| Non-mining waste & by-product generation | kt | 9,233.5 | 7,947.8 | 8,445.4 | 497.6 | 6.3 | | |

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| Metallurgical by-product generation | kt | 7,629.5 | 6,401.7 | 6,829.6 | 427.9 | 6.7 | |
| General waste | kt | 1,603.9 | 1,546.1 | 1,615.7 | 69.6 | 4.5 | |
| non-hazardous waste generation | kt | 1,533.5 | 1,471.9 | 1,547.4 | 75.5 | 5.1 | |
| hazardous waste generation | kt | 70.5 | 74.2 | 68.3 | -5.9 | -7.9 | |
| Non-mining waste & by-product recycled | kt | 9,666.7 | 8,846.8 | 8,881.2 | 34.4 | 0.4 | |
| Non-mining waste & by-product non-recycled | kt | 538.7 | 591.2 | 661.6 | 70.4 | 11.9 | |
| Non-mining waste recycling or re-use rate | % | 104.7 | 111.3 | 105.2 | -6.1 | -5.5 | |
| Mining waste | kt | 169,569.5 | 232,004.5 | 198,827.7 | -33,176.8 | -14.3 | |
| Mining waste used | kt | 50,353.5 | 62,049.0 | 75,467.9 | 13,418.9 | 21.6 | |
| Mining waste recycling or re-use rate | % | 29.7 | 26.7 | 38.0 | 11.3 | 42.3 | |
| Environmental Management | | | | | | | |
| Environmental commitments | US\$ million | 102 | 121 | 198.6 | 77.60 | 64.1 | a documented and approved by regulator liability to perform corrective actions to be in compliance with environmental requirements applicable to a specific facility Exchange rate as of 31 December report year |
| Environmental Liabilities (Site Restoration Provisions) | US\$ million | 289 | 244 | 342 | 98.00 | 40.2 | Site Restoration Provision – is a legal obligation associated with the retirement of a tangible long-lived asset (i.e. remediation work such as, land rehabilitation, removing underground fuel storage tanks, cleanup, etc.). The amount of Environmental Liabilities is calculated using discounted amounts of future cash flows and disclosed in the Financial Statements as Site restoration provision. Exchange rate as of 31 December report year |
| Environmental levies and fines for non-compliance | US\$ million | 2.6 | 2.2 | 5.0 | 2.80 | 127.3 | |
| Cost of environmental compliance | US\$ million | 30.7 | 30.1 | 30.3 | 0.20 | 0.7 | |
| Investments to improve environmental performance | US\$ million | 28 | 29.8 | 28.8 | -1.00 | -3.4 | |
| Material environmental incidents | cases | 0 | 0 | 0 | 0.00 | - | |
| Public complaints | cases | 29 | 36 | 31 | -5.00 | -13.9 | |
| Compliance with REACH requirements | cases of non-compliance | 0 | 0 | 0 | 0.00 | - | |