

## Novartis Health, Safety and Environment (HSE) Data 2019

May 30, 2020

### The Reporting Process

HSE data is collected and reviewed on a quarterly basis. The 2019 environmental and resource data published in the Annual Report and in the Novartis in Society Report are actual data for the period from January through September and best estimates for the period October through December. This data has now been updated with actual data in the first quarter of 2020, following the criterias set out by the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard.

	2019	2018	2017	2016	2015
HSE personnel	336	393	422	428	424
Total production [1000 t]	99.5	112.7	113.2	117.7	114.8
<b>Safety</b>					
Lost time injury and illness rate (per 200 000 hours worked) <sup>2</sup>	0.18	0.16	0.12	0.08	0.11
Total recordable case rate (per 200 000 hours worked) <sup>2,3</sup>	0.36	0.39	0.37	0.31	0.40
<b>Energy</b>					
Energy use [million GJ] on-site and purchased	<b>12.75</b>	<b>13.08</b>	<b>13.35</b>	<b>13.56</b>	<b>13.44</b>
• Energy, On-site generated [million GJ]	6.19	5.75	5.84	5.88	5.88
• Energy, Purchased [million GJ]	6.69	7.45	7.64	7.80	7.68
• Energy, Sold [million GJ]	0.13	0.12	0.13	0.12	0.12
Energy, Input from renewable sources [million GJ]	2.25	2.62	2.18	2.13	2.71
Energy, Intensity per employees [GJ/CA]	125.4	122.6	129.7	132.8	133.3
Energy, Intensity per area [GJ/100m2]	314.9	315.8	331.4	337.7	345.5
<b>Water</b>					
Total water use [million m3]	<b>66.7</b>	<b>69.2</b>	<b>72.3</b>	<b>75.4</b>	<b>75.4</b>
• Contact water use, excl. cooling water [million m3]	11.2	10.8	11.2	11.5	11.4
• Cooling water use [million m3]	55.5	58.4	61.1	63.9	64.0
Water purchased from suppliers [million m3]	9.3	10.4	10.1	10.9	10.9
Water abstracted from the aquatic environment [million m3]	57.3	59.0	62.4	64.8	64.6
Water recycled and reused [million m3]	14.7	16.4	21.0	19.8	21.7
Water consumption [million m3] discharged via treatment & lost	<b>11.1</b>	<b>11.9</b>	<b>12.2</b>	<b>13.0</b>	<b>12.8</b>
• Water discharged via treatment [million m3]	9.9	10.6	10.9	11.4	11.2
• Water lost [million m3]	1.2	1.3	1.3	1.6	1.5
<b>Emissions</b>					
GHG emissions, total Scope 1 & Scope 2 [1000 t]	<b>897.0</b>	<b>933.2</b>	<b>934.7</b>	<b>973.2</b>	<b>969.2</b>
• GHG Scope 1, Combustion & process [1000 t]	356.2	334.5	330.5	335.1	333.0
• GHG Scope 1, Vehicles [1000 t]	128.4	146.3	140.8	129.3	131.7
• GHG Scope 2, Purchased energy [1000 t] market-based method	412.5	452.4	463.4	508.7	504.5
GHG emissions, total Scope 1 & Scope 2 minus offsets [1000 t]	<b>867.2</b>	<b>878.3</b>	<b>862.9</b>	<b>907.5</b>	<b>900.9</b>
• GHG forestry offsets [1000 t]	29.8	54.9	71.8	65.7	68.3
GHG (total scope 1 and scope 2) per sales (tCO2e per mio USD)	18.9	20.9	22.1	22.8	22.3
GHG (total scope 1 and scope 2) per associate (tCO2e per FTE)	8.8	8.8	9.1	9.5	9.6
GHG Scope 2, Purchased energy [1000 t] location-based method	565.5	631.3	635.3	726.0	698.5
GHG Scope 3, business travel [1000 t]	191.3	211.7	200.0	125.5	190.3
Halogenated VOCs [t]	26.59	78.98	75.58	43.59	66.40
Non-halogenated VOCs [t]	406.82	503.27	457.22	445.97	483.92
Sulfur dioxide, SO2 [t]	4.56	13.62	15.40	15.04	19.50
Nitrogen oxide NOx [t]	236.32	236.59	231.14	230.67	233.81
Particulates [t]	12.91	58.26	58.42	54.55	61.64
Ozone-depleting substances, emissions caused by losses [tCFC R11e]	0.01	0.06	0.05	0.06	0.16
<b>Effluents and Waste</b>					
Emissions into Water, TSS Load [t]	198.2	238.5	358.7	360.9	370.0
Emissions into Water, COD Load [t]	1,842.3	2,051.4	2,658.9	2,761.0	2,695.8
Emissions into Water, Nitrogen Load [t]	207.5	197.0	246.5	258.6	247.9
Emissions into Water, Phosphate Load [t]	34.7	40.0	41.4	47.9	53.2
Amount of significant HSE fines or penalties [kUSD]	11.3	61.5	0.0	0.0	21.0
Hazardous Waste to recycling [1000 t]	58.8	57.5	54.7	50.5	55.6
Hazardous Waste to treatment [1000 t]	4.0	4.5	4.9	4.4	3.8
Hazardous Waste to incineration [1000 t]	37.2	42.8	43.1	49.2	45.2
Hazardous Waste to landfill [1000 t]	0.0	0.0	0.0	0.0	0.0
Hazardous waste recycled [%]	<b>58.8%</b>	<b>54.9%</b>	<b>53.2%</b>	<b>48.5%</b>	<b>53.2%</b>
Non-Hazardous Waste to recycling [1000 t]	57.7	57.2	55.4	56.7	53.5
Non-Hazardous Waste to treatment [1000 t]	0.4	0.2	0.3	0.6	0.8
Non-Hazardous Waste to incineration [1000 t]	8.4	8.1	8.7	9.2	9.7
Non-Hazardous Waste to landfill [1000 t]	4.1	4.2	3.7	4.1	3.9
Non-hazardous waste recycled [%]	<b>81.7%</b>	<b>82.0%</b>	<b>81.3%</b>	<b>80.4%</b>	<b>78.7%</b>
Debris (non-operational waste), Hazardous [1000 t] <sup>4</sup>	0.4	6.4	4.4	18.1	29.7
Debris (non-operational waste), Non-Hazardous [1000 t] <sup>4</sup>	32.5	59.9	451.1	112.8	104.6

<sup>1</sup> HSE data for Novartis Group reflects continuing operations (excluding

<sup>2</sup> Includes Novartis associates and third party personnel managed by Novartis associates

<sup>3</sup> Includes all work-related injury and illness, whether leading to lost time or not

<sup>4</sup> Debris are non-operational waste from demolition or construction of new buildings and any other constructive or landscape changes