

## Novartis Health, Safety and Environment (HSE) Data 2021

### The 9+3 Reporting Process

HSE data is collected and reviewed on a quarterly basis. Other than where indicated, the 2021 environmental and resource data published in the Novartis in Society Integrated Report are actual data for the period from January through September and best estimates for the period October through December, both of which were made available on December 16, 2021. This data table will be updated with actual data in H1 2022. Significant deviations will be reported on our website and restated in next year's Annual Report. The employees and Health/Safety data are actual from January through December 2021.

	Novartis Group <sup>1</sup>					
	2021	2020	2019	2018	2017	2016
HSE Personnel	271	315	336	393	422	428
Total Production [1000 t]	113.3	84.1	99.5	112.7	113.2	117.7
<b>Safety</b>						
Lost time injury and illness rate (per 200 000 hours worked) <sup>2</sup>	0.13	0.13	0.18	0.15	0.12	0.08
Total recordable case rate (per 200 000 hours worked) <sup>2, 3</sup>	0.25	0.23	0.35	0.33	0.30	0.24
Fatalities	0	1	0	1	0	0
<b>Energy</b>						
Energy use - on-site and purchased [million GJ]	9.77	10.85	12.75	13.03	13.39	13.57
• Energy, On-site generated [million GJ]	4.44	4.97	6.20	5.75	5.84	5.88
• Energy, Purchased [million GJ]	5.45	5.99	6.68	7.41	7.68	7.80
• Energy, Sold [million GJ]	0.12	0.11	0.13	0.12	0.13	0.12
Energy, Input from renewable sources [million GJ]	2.36	2.82	2.16	2.61	2.18	2.13
Energy, Intensity per area [GJ/100m <sup>2</sup> ]	251.5	283.1	314.8	315.0	332.6	337.7
<b>Water</b>						
Water withdrawal [million m <sup>3</sup> ]	47.9	54.7	66.8	69.5	72.6	75.9
• Water purchased from suppliers [million m <sup>3</sup> ]	5.7	5.9	9.4	10.4	10.1	10.9
• Water abstracted from the aquatic environment [million m <sup>3</sup> ]	42.2	48.7	57.3	59.0	62.4	64.8
• Water from other sources [million m <sup>3</sup> ]	0.0	0.0	0.0	0.1	0.1	0.1
Water discharged directly to aquatic environment (cooling water) [million m <sup>3</sup> ]	39.5	46.1	55.5	57.9	60.8	62.4
Water consumption [million m <sup>3</sup> ] <sup>4</sup>	7.8	8.4	11.2	11.9	12.2	13.0
• Water discharged via treatment [million m <sup>3</sup> ]	6.7	7.3	10.0	10.6	10.9	11.4
• Water lost [million m <sup>3</sup> ]	1.1	1.1	1.2	1.3	1.3	1.6
<b>Emissions<sup>5</sup></b>						
GHG emissions, Total Scope 1 & Scope 2 incl. forestry offsets [ktCO <sub>2</sub> e]	681.6	683.5	859.1	867.7	865.6	907.7
• GHG forestry offsets [ktCO <sub>2</sub> e]	-34.7	33.6	29.8	54.9	71.8	65.7
GHG emissions, Total Scope 1 & Scope 2 [ktCO <sub>2</sub> e]	647.0	717.1	888.9	922.6	937.4	973.4
• GHG Scope 1, Combustion & process [ktCO <sub>2</sub> e]	248.1	286.9	356.6	334.5	330.5	335.1
• GHG Scope 1, Vehicles [ktCO <sub>2</sub> e]	88.5	91.3	128.4	145.6	140.1	129.3
• GHG Scope 2, Purchased energy, market-based method [ktCO <sub>2</sub> e]	310.4	338.9	404.0	442.4	466.8	508.9
GHG Scope 2, Purchased energy, location-based method [ktCO <sub>2</sub> e]	365.7	396.9	456.9	530.0	532.6	610.0
GHG Scope 3, Business travel [ktCO <sub>2</sub> e] <sup>6</sup>	35.5	22.0	191.3	211.7	200.0	125.5
Halogenated VOCs [t]	4.5	11.6	26.6	79.0	75.6	43.6
Non-halogenated VOCs [t]	310.0	443.0	406.8	480.1	457.2	446.0
Sulphur dioxide, SO <sub>2</sub> [t]	2.6	4.3	4.6	13.6	15.4	15.0
Nitrogen oxide, NO <sub>x</sub> [t]	190.6	212.2	236.3	236.6	231.1	230.7
Particulates [t]	8.5	11.6	12.9	58.3	58.4	54.6
Ozone-depleting substances, emissions caused by losses [tCFC R11e]	0.0	0.0	0.0	0.1	0.0	0.1
<b>Effluents and Waste</b>						
Emissions into Water, TSS Load [t]	188.6	215.7	198.2	238.5	358.7	360.9
Emissions into Water, COD Load [t]	1,209.5	1,606.7	1,842.3	2,051.4	2,658.9	2,761.0
Emissions into Water, Nitrogen Load [t]	227.3	240.6	207.5	197.0	246.5	258.6
Emissions into Water, Phosphate Load [t]	25.5	41.2	34.7	40.0	41.4	47.9
Amount of significant HSE fines or penalties [kUSD]	0.0	5.3	13.7	67.4	9.4	4.0
Waste Disposal (waste not recycled) [1000 t]	29.4	42.0	54.1	59.9	60.8	67.5
Hazardous Waste to recycling [1000 t]	15.9	28.7	58.8	57.5	54.7	50.5
Hazardous Waste to treatment [1000 t]	1.1	1.6	4.0	4.5	4.9	4.4
Hazardous Waste to incineration [1000 t]	17.4	31.6	37.2	42.8	43.1	49.2
Hazardous Waste to landfill [1000 t]	0.7	0.0	0.0	0.0	0.0	0.0
Hazardous Waste recycled [%]	45.3 %	46.3 %	58.8 %	54.9 %	53.2 %	48.5 %
Non-Hazardous Waste to recycling [1000 t]	83.9	59.9	57.7	57.2	55.4	56.7
Non-Hazardous Waste to treatment [1000 t]	0.3	0.5	0.4	0.2	0.3	0.6
Non-Hazardous Waste to incineration [1000 t]	5.0	5.3	8.4	8.1	8.7	9.2
Non-Hazardous Waste to landfill [1000 t]	4.8	3.0	4.1	4.2	3.7	4.2
Non-hazardous Waste recycled [%]	89.2 %	87.2 %	81.7 %	82.0 %	81.3 %	80.2 %
Debris (non-operational waste), Hazardous [1000 t] <sup>7</sup>	0.6	0.5	0.4	6.4	4.4	18.1
Debris (non-operational waste), Non-Hazardous [1000 t] <sup>6</sup>	7.0	14.0	32.5	59.9	451.1	112.8

<sup>1</sup> HSE data for Novartis Group reflects continuing operations according to the criteria set out by the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard.

<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> Our Group internal definition of "Water Consumption" is the sum of all water discharged via treatment and of all water lost, and as such is different from CDP/GRI definitions, which would correspond to water lost in the above table. This change was made to ensure that we focus on reducing the water we use, which requires treatment before being returned to the environment.

<sup>5</sup> Full Scope 3 data will be published in H2 2022 in our [HSE data supplement](#) and in our [CDP report](#).

<sup>6</sup> 2021 data includes indirect emissions from air travel, train travel, car rentals and hotel stays. The methodology changed in 2021, with previous years' data covering emissions from air travel only. This is part of a calculation effort to expand the Scope 3 category 6 emission activities reported and part of a wider Scope 3 calculation review that aims to increase the coverage to more than 90% of the overall Scope 3. New to 2021, air travel emissions now also cover radiative forcing, which multiplies the indirect emissions by 1.9. The published metric represents actual data from January 1, 2021 through December 31, 2021, which was made available on January 5, 2022. This data may be updated after the reporting date as emissions are calculated based on bookings, which may be adjusted after the reporting period.

<sup>7</sup> Debris is non-operational waste from demolition or construction of new buildings and any other constructive or landscape changes.