2021 ESG Data Table

ERM Certification and Verification Services, Inc. (ERM CVS) assured the 2021 data for a number of indicators, including GHG emissions and select environmental and social indicators. See the ERM CVS Assurance Statement for full details of the assurance scope, assurance standards used, work undertaken and conclusions, and reference the ESG Data Table below (bolded 2021 data points have been assured).

	Units	2018	2019	2020	2021
GOVERNANCE					
About Biogen					
Revenue	Million USD	13,453	14,378	13,445	10,982
R&D Spend	Million USD	2,597	2,281	3,991	2,501
No. of Employees	#	7,800	7,400	9,340	9,832
No. of Permanent Employees	#	-	-	9,103	9,616
No. of FTEs	#	-	-	9,192	9,586
No. of R&D Employees	#	-	-	2,284	2,366
No. of Part-time Employees	#	-	-	-	137
Workforce Located in the U.S.	%	-	-	-	57
Board of Directors					
Total Number of Directors	#	N/A	N/A	13	13
Executive	#	N/A	N/A	1	1
Independent	#	N/A	N/A	12	12
ESG Ratings, Rankings and Assessments [1]					
S&P Global CSA (DJSI)	Score	83 (Industry Leader)	83 (Industry Leader)	85 (Industry Leader)	84 (Industry Leader)
MSCI	Rating	A	A	A	A
ISS ESG	Rating	C+ (Prime)	C+ (Prime)	C+ (Prime)	C+ (Prime)
Sustainalytics	Risk Score	N/A	22	23.5	21.3
Human Rights Campaign's Corporate Equality Index	%	100	100	100	100
Disability: IN's Disability Equality Index	%	100	100	100	100
CDP Climate Change	Rating	A-	A-	B+	B
CDP Water	Rating	B	B	B	B
Corporate Knights Global 100	Rank	-	-	-	97
100 Best Corporate Citizens	Rank	37	46	62	17
America's Most JUST Companies	Rank	19	30	150	36
Bloomberg Gender-Equality Index (GEI)	Signatory or Participant				X
United Nations Global Impact	Signatory or Participant			X	X
Workforce Disclosure Initiative (WDI)	Signatory or Participant				X
Pharmaceutical Supply Chain Initiative Member	Signatory or Participant			X	X
Compliance and Ethics					
Employees trained on Biogen's Anti-Bribery and Corruption Policy	%	100%	100%	100%	100%
Employees trained on Biogen's Code of Conduct	%	100%	100%	100%	100%
ENVIRONMENTAL [2,3]					
Climate					
Scope 1 (fossil fuels and refrigerants)[4]	MT CO_2e	68,448	67,031	57,553	**63,182**
Scope 2 - Market based (electricity and steam)[4]	MT CO_2e	61	131	280	**268**
Total Scope 1 & 2 (Market based)[4]	MT CO_2e	68,509	67,162	57,833	**63,450**
Scope 1 & 2 Intensity	MT CO_2e / MM USD revenue	5.1	4.7	4.3	5.8
Total Purchased Carbon Offsets[5]	MT CO_2e	76,642	76,667	29,637	**0**
Carbon Neutrality (Scope 1 & 2 – Offsets)	MT CO_2e	68,448	67,031	29,637	**0**
Scope 2 – Location based (electricity and steam)	MT CO_2e	37,347	37,712	36,953	**34,262**
Scope 3[6]	MT CO_2e	436,353	424,592	3348,911	**406,459**
Category 1 - Purchased goods and service	MT CO_2e	325,928	334,954	254,670	**321,610**
Category 2 - Capital goods	MT CO_2e	51,635	32,759	41,356	**34,506**
Category 3 - Fuel-and-energy-related activities	MT CO_2e	11,048	10,570	8,755	**11,791**
Category 4 - Upstream transportation and distribution	MT CO_2e	N/A	N/A	17,701	**17,148**
Category 5 - Waste generated in operations[7]	MT CO_2e	758	645	487	**290**
Category 6 - Business travel[8]	MT CO_2e	27,277	24,083	4,083	**2,232**
Category 7 - Employee commuting[8]	MT CO_2e	8,133	9,516	2,661	**2,227**
Category 7 - Empoyee work from home[8]	MT CO_2e	N/A	N/A	9,531	**9,652**
Category 8 - Upstream leased assets	MT CO_2e	0	0	0	**0**
Category 12 - End-of-life treatment of sold products	MT CO_2e	11,574	12,065	9,141	**7,003**
Scope 3 Intensity[9]	MT CO_2e / MM USD revenue	32	30	26	37
Scope 3 (percent of Scope 1, 2 & 3)	%	86	86	86	86
Total Value Chain (Scope 1, 2 & 3)[4]	MT CO_2e	504,862	491,545	406,139	469,909
Targets and Performance					
Scope 1 & 2 Absolute Reduction Since 2019 (Target: 55% by 2032)[4]	%	N/A	N/A	-14	-6
Suppliers that set or pledged to set a climate goal via the Science Based Targets iniative (Target: 80% of suppliers by spend by 2025)	%	N/A	N/A	N/A	18
Suppliers that have committed to 100% renewable energy by 2040 (Target: 50% of suppliers by spend by 2030; 90% of suppliers by 2040)	%	N/A	N/A	N/A	26
Air Quality					
CO emissions	MT	7.7	8.2	6.9	4.5
NOx emissions	MT	21.9	17	19.8	13.3
SOx emissions	MT	3.5	1	2.9	1.9
VOC emissions	MT	0.8	0.5	0.9	1.0
EV100 – Battery Electric Vehicle Program					
Total Leased Vehicles	#	1,447	1,469	1,929	1,978
Plug-in hybrid electric vehicles (PHEV)	#	17	12	41	26
Battery electric vehicles (BEV)	#	9	9	12	81
Office EV charging points	#	22	33	49	49
Sites with EV charging points	#	4	6	10	10
Fleet carbon efficiency[10]	g CO_2e / mile	295	292	228	**282**
Energy					
Total Energy Use	MWh	491,194	499,827	444,147	**471,895**
Renewable Electricity	MWh	132,751	144,972	139,958	**143,470**
PPA / Direct Contract	MWh	3,181	3,240	4,498	44,627
Renewable Energy Certificates[11]	MWh	129,570	141,732	135,460	**98,843**
On-site Generation	MWh	0	0	0	0
Non-Renewable Energy	MWh	358,443	354,855	304,189	**328,452**
Fossil Fuels (gas, oil, diesel, gasoline)	MWh	358,198	354,454	303,576	**327,337**
Municipal Steam	MWh	236	316	490	**980**
Electricity	MWh	10	85	124	**108**
Data Coverage	%	100%	100%	100%	100%
Energy Intensity	MWh / MM USD revenue	37	35	33	43
RE100 Target – Global Renewable Electricity [12]	%	100	100	100	**100**
Fossil Fuel Free – Renewable Energy Allocation	% Total energy	27	29	32	**30**
Water					
Major Facilities with Fair Share of Water Withdrawal (Target: Maintain 100%)[13]	%	40	100	100	100
Water Use (ex. non-contact cooling water)	Million Cubic Meters (m^3)	1.31	1.272	1.035	**1.076**
Water Use Intensity	m^3 / MM USD revenue	97	88	77	83
Water Reused/Recycled [14]	%	6	5	7	**4**
Water Withdrawal	Million m^3	1.629	1.511	1.265	**1.368**
Municipal Supply (potable & grey water)	Million m^3	0.895	0.758	0.590	**0.581**
Fresh Surface Water (non-contact cooling)	Million m^3	0.411	0.303	0.303	**0.333**
Groundwater	Million m^3	0.322	0.447	0.370	**0.453**
Rainwater	Million m^3	0.001	0.001	0.001	**0.001**
Water Discharges	Million m^3	1.214	0.99	0.806	**0.825**
Fresh Surface Water	Million m^3	0.4	0.303	0.303	**0.333**
Wastewater	Million m^3	0.815	0.687	0.503	**0.492**
Waste[15]					
Non-hazardous Waste [16]	MT	8,161	7,561	2,841	**3,510**
Reused	MT	11	6	39	**76**
Recycled	MT	932.4	1,732	527	**497.8**
Composted	MT	3,334	2,997	909	**200**
Energy Recovery via Anaerobic Digestion	MT	70	43	0	**0**
Waste to Energy[17]	MT	1,309	1,206	879	**1,361**
Incineration[18]	MT	2,472	1,544	455	**1,367**
Landfill	MT	33	32	32	**6**
Non-hazardous Waste Intensity	MT / MM USD Revenue	0.61	0.53	0.21	0.32
Waste to Landfill Diversion (Target: Maintain 100%)	%	100	100	99	**100**
Recovery & Recycling Rate (Non-hazardous Waste)	%	53	63	52	**22**
Hazardous and Biohazardous Waste	MT	233	219	208	**269**
Recycled	MT	16	16	14	<1
Waste to Energy	MT	145	138	117	211
Incineration[19]	MT	72	65	77	56
Landfill	MT	1	0	0	2
SOCIAL[20]					
Community Engagement and Giving					
Total Foundation Grants [21,22]	Million USD	4.9	4.7	16.4	6.1
Employee Matching Gifts Program[23]	Million USD	1.4	1.7	2.5	2.1
Corporate Grants and Sponsorships[24]	Million USD	N/A	N/A	72.4	71.0
Volunteer Hours [25]	Hours	16,500	16,650	16,560	14,493
Biogen Foundation STAR Initiative Investment (Target: Cumulative $10M by 2022)[26]	Million USD	2.0	2.7	2.8	2.7
Responsible Supply Chain					
Supplier Diversity Spend	Million USD	160	161	173	**230**
Supplier Diversity Spend of Total U.S. Spend[27]	%	7.4	7.8	8.1	**11.8**
Workforce Diversity, Equity and Inclusion					
Women in					
Workforce	%	50.6	52.5	53.5	**53.9**
Management [28]	%	48.4	49.8	51.7	**53.1**
Director Level and Above	%	N/A	46	49	47.6
Management in Revenue-generating functions [29]	%	51.1	50.5	52.3	53.4
STEM-related Positions	%	N/A	N/A	44.6	48.8
Junior Management	%	N/A	51.6	53.7	55.3
Top Management (VP+)	%	N/A	39.2	42.9	44.6
Executive Team	%	30	25	29	**25**
Board of Directors	%	27	23	17	23
Demographics in Workforce (U.S. Only):					
Asian American	%	N/A	N/A	16.9	17.4
Black or African American	%	N/A	N/A	12.2	11.6
Hispanic or Latino	%	N/A	N/A	5.1	4.8
White	%	N/A	N/A	63.4	63.6
Indigenous or Native American	%	N/A	N/A	0.3	0.4
Native Hawaiian or Other Pacific Islander	%	N/A	N/A	0.1	0.1
Two or More Races	%	N/A	N/A	1.1	1.5
No Response	%	N/A	N/A	0.5	0.6
Demographics in Management (U.S. Only): [30]					
Asian American	%	N/A	N/A	18.5	19.5
Black or African American	%	N/A	N/A	5.3	6.6
Hispanic or Latino	%	N/A	N/A	4.9	4.7
White	%	N/A	N/A	69.4	67.1
Indigenous or Native American	%	N/A	N/A	0.1	0.2
Other Underrepresented Groups					
People with Disability in Workforce	%	N/A	N/A	3.3	3.7
LGBTQ+ in Workforce	%	N/A	N/A	1.6	1.3
Workforce Age 29 or Younger	%	N/A	N/A	9.8	8.5
Workforce Age 30 to 50	%	N/A	N/A	67.8	67.8
Workforce Age 51 or Older	%	N/A	N/A	22.5	23.7
Demographics in Board of Directors[31]					
Black or African American	#	N/A	N/A	N/A	1
Hispanic or Latino	#	N/A	N/A	N/A	2
White	#	N/A	N/A	N/A	9
Did Not Disclose Demographic Background	#	N/A	N/A	N/A	1
Director-level and Above Positions Held by Racial Minorities (U.S. Only)	%	N/A	26	28	**26**
Talent Attraction, Retention & Turnover					
Employee Satisfaction [32]	%	77	76	86	73
Engagement Survey Response Rate	%	N/A	74	74	71
No. of New Employees	#	1,661	1,696	2,679	1,990
Open Positions Filled by Internal Candidates	%	N/A	26.4	19.5	23.4
Training and Development	Avg Hours/Employee	N/A	N/A	38	30.1
Total Turnover Rate[33]	%	13.7	13	9	14
Voluntary Turnover	%	9.5	10.3	7.2	11
Involuntary Turnover	%	N/A	N/A	1.8	3
Gender Pay Assessment[34]					
Executives	%	N/A	N/A	N/A	1.02

Management	%	N/A	N/A	N/A	0.95
All Other Professionals	%	N/A	N/A	N/A	0.99
Occupational Health and Safety					
Total Recordable Injury Rate (TRIR) [35]	Cases / 200,000 working hours	0.23	0.28	0.17	**0.12**
Days Away Case Rate (DACR)[35]	Cases / 200,000 working hours	0.11	0.11	0.06	**0.07**
Lost-Time Injuries Frequency Rate[35]	#	N/A	N/A	N/A	**0.34**
3-Year Average DACR Industry Rank [36] (Target: Top 3)	Rank	4	2	2	2
Contractor DACR [37]	Cases / 200,000 working hours	0.20	0.87	0	**0**
Number of Fatalities for Employees	#	0	0	0	**0**
Number of Fatalities for Contractors	#	0	0	0	**0**
Collisions per Million Miles (U.S. Fleet) [38]	Collisions / million miles	5	3.7	6.9	4.5

Footnotes for 2021 Data Table

N/A = Data were not collected in reporting year.

All prior environmental data were adjusted with the most recent emission factors available, as applicable.

1. Year of the result is based on the ranking publication year, which may use data from other time periods per the publication's methodology.

2. The direct and indirect effects of the COVID-19 pandemic had a material impact on our environmental data in 2020, and, therefore, direct comparison to 2021 may not be applicable. Additional context related to the impact is provided in the Environmental Section of the Year in Review.

3. Environmental indicators include impacts from 100% of Biogen operations including owned and leased facilities.

4. Scope 1 values have been restated for calendar year 2019, while market based Scope 2 values have been restated for calendar year 2019 and 2020 in this 2021 publication based on methodology updates.

5. VCS-certified carbon offsets from New Bedford Landfill Gas to Energy project in Massachusetts. These offsets are considered abatement with avoided emissions, thus applicable to Carbon Neutral approach but not Net Zero. 2020 was the last year Biogen purchased carbon offsets as part of our abatement strategy.

6. Scope 3 categories 9, 10, 11, 13, 14 and 15 were determined to be not applicable or negligible.

7. Waste generation at affiliate offices, excluding Weston, Massachusetts, is considered de minimis and excluded. However, waste generation is estimated for the purposes of calculating Scope 3, Category 5 emissions. During 2021, waste generated in operations continued to decline because of operational impacts due to the COVID-19 pandemic.

8. Due to a decline in business travel and employee commute due to the COVID-19 pandemic, emissions from Scope 3, Categories 6 and 7 are minimal compared to normal operating conditions. In 2020, we added impacts from employees working from home to more accurately estimate these impacts.

9.The Scope 3 intensity increased from 2020 to 2021 because overall revenue declined.

10. Fleet carbon efficiency for 2020 is reduced compared to normal operating conditions due to a decline in business travel during the COVID-19 pandemic; the carbon impact associated with the fleet from 2019 to 2021 decreased by 4%.

11. Renewable energy certificates retired include bundled and unbundled Green-e certified Renewable Energy Certifications, Guarantees of Origin, J-Credits, Australian RECs I-RECs to match Biogen's electricity usage in the U.S./Canada, Europe, Japan, Australia and South America/China/Mexico/United Arab Emirates, respectively.

12. RE100 member Biogen achieved 100% renewable electricity (as defined by RE100) across 30 of the markets in which it operates.

13. Percent of major sites assessed for water withdrawal using a context-based methodology. Fair, just and proportionate share of locally available renewable supplies is defined as a ratio of less than 1.0 using the Center for Sustainable Organization's Corporate Water Gauge tool, a context-based water metric.

14. Data reflect percentage of reclaimed water on-site, harvested rainwater and municipal grey water compared to total water use.

15. All applicable waste disposal methods are included; no waste is disposed of by other or unknown methods.

16. Data include non-hazardous waste generated by Biogen operations (e.g., non-hazardous solid waste and trucked off wastewater). Waste derived from construction and demolition debris, incinerator ash and other contractor activities is not included.

17. All non-hazardous waste with energy recovery is generated by incineration.

18. For 2021, 1,361 metric tons of waste are incinerated for energy recovery, and 6 metric tons are incinerated without energy recovery.

19. During 2021, no hazardous waste was destroyed via incineration.

20. Social indicators cover 100% of permanent employees unless otherwise noted.

21. Includes all grants awarded by the Biogen Foundation exclusive of the Biogen Foundation's Employee Matching Gifts Program. In 2021, Biogen continued funding grants related to the committed $10 million to support global response efforts and communities around the world impacted by the COVID-19 pandemic.

22. Total in foundation grants is inclusive of STAR initiative investment.

23. Through our matching gifts program, employees donated more than $2 million to organizations around the world, giving particularly generously to address crisis situations, including the situation in Afghanistan and the COVID-19 spike in India.

24. Corporate Grants and Sponsorships includes Global Medical Grants and Patient Education Grants, General Grants, Infrastructure Grants, Fellowships and Sponsorships.

25. 10,312 hours were performed during paid working hours, assuming 8 hours per employee for each of the 1,289 employee respondents. Total monetary value of contributions associated with Biogen Grants, Sponsorships, in-kind and Community Labs, as well as the Biogen Foundation: $80 million cash contributions.

26. The STAR Initiative is a coordinated funding strategy designed to help catalyze the development of local science, technology, engineering and mathematics (STEM) ecosystems in Cambridge, Massachusetts, and Somerville, Massachusetts. STAR stands for Science, Teacher support, Access and Readiness and is intended to strengthen and support the educational landscapes in these cities by helping increase access to STEM resources and opportunities for students most underrepresented in STEM college or career pathways.

27. In 2021, minority owned suppliers accounted for 19% of the diversity spend (2% of all Biogen supplier spending).

28. Women in management percentage is inclusive of all management levels, consisting of manager+ level employees.

29. Revenue generating functions include Pharmaceutical Operations & Technology, Commercial and Research & Development.

30. Demographics are inclusive of all management levels, consisting of manager+ level employees.

31. Racial and ethnic demographics that do not apply are excluded.

32. For 2017, our employee satisfaction metric was based on the question "Are you proud to work for Biogen" in our annual people survey. For 2018-2019, the employee satisfaction question was changed to "How happy are you working at Biogen?" Using total engagement score from June 2020 survey: "I would recommend Biogen as a great place to work" and "How happy are you working at Biogen?" The 'strongly agree' and 'agree' responses are included in the reported activity engaged percentile.

33. In August 2019 Biogen completed the sale of all outstanding shares of its subsidiary that owned its biologics manufacturing operations in Hillerød, Denmark to FUJIFILM Corporation. The 2019 total turnover data do not include the 800 employees who continued employment under Fujifilm ownership.

34. The gender pay assessment includes data covering all permanent global employees adjusted for the number of females and males at each level within the organization for base compensation only. The ratio is calculated by averaging the mean base pay for women in the stated role in comparison to the mean base pay of men in a similar role. We also assess our gender pay gap for employees in the U.K. Our latest report can be found here.

35. Includes permanent and contracted employees, excludes contractors (e.g., construction, janitorial, food services).

36. Industry composed of 15 leading pharmaceutical company peers.

37. Contractor DACR: Includes construction-related contractors only.

38. Fleet insurance provided was changed in 2020 resulting in change in definition of collision.

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