

ESG ANALYST DOWNLOAD

The data in these tables provide summary information regarding Stepan's ESG performance. Additional context is provided in our [2023 Sustainability Report](#). For more details, please find our [Basis of Reporting Statement](#).

	2017	2018	2019	2020	2021	2022	2023
Economic							
Financial							
Net sales (in thousands)	1,925,007	1,993,857	1,858,745	1,869,750	2,345,966	2,773,270	2,325,768
Net sales segment results—surfactants (in thousands)	1,297,555	1,385,932	1,272,723	1,351,686	1,562,795	1,882,745	1,602,819
Net sales segment results—polymers (in thousands)	546,634	527,420	512,347	452,277	713,440	789,080	642,471
Net sales segment results—specialty products (in thousands)	80,818	80,505	73,675	65,787	69,731	101,445	80,478
Gross profit (in thousands)	346,167	339,349	339,714	383,613	395,810	427,069	277,598
Operating income (in thousands)	154,840	149,265	127,260	171,522	170,781	207,336	58,613
Net income attributable to Stepan Company (in thousands)	100,774	111,117	103,129	126,770	137,804	147,153	40,204
Total assets (in thousands)	1,502,892	1,514,614	1,579,367	1,752,336	2,065,612	2,433,172	2,363,354
Environmental							
Energy, GHG and Other Air Emissions							
Scope 1 GHG emissions (kilotons CO ₂ e)	139.58	143.46	145.28	141.09 ^[1]	175.58 ^{[1][3]}	185.91 ^[3]	184.05 ^[2]
Scope 2 GHG emissions, market based (kilotons CO ₂ e)	134.80	137.54	134.24	87.40	78.48 ^[3]	61.74 ^[3]	62.93 ^[3]
Scope 2 GHG emissions, location based (kilotons CO ₂ e)	134.80	137.54	134.24	117.22	121.10 ^[3]	110.23 ^[3]	113.24 ^[3]

[1] External reassurance of this data due to improved calculation of combustion emissions. Prior to 2021 combustion related emissions were calculated based on stack-test data assuming maximum activity levels. Improved methods account for actual activity levels and more accurately capture emissions. Other factors contribute to increased Scope 1 emissions since 2020, including our expanded manufacturing footprint.

[2] This data has been externally assured. We annually report our Scope 1 and 2 emissions to the ACC and to CDP, and this information, along with our energy consumption, is verified by an independent third party.

[3] This data has been externally assured.

	2017	2018	2019	2020	2021	2022	2023
Total Scope 1 and 2 GHG emissions—market based (kilotons CO ₂ e)	274.34	280.99	279.52	228.49	254.07	247.65 ^[3]	246.98 ^[4]
Emissions intensity—market based (metric tons CO ₂ e per metric ton of throughput volume)	0.124	0.120	0.124	0.098	0.108	0.110	0.126 ^[5]
Year-over-year reduction of GHG emissions ^[6]	1.5% decrease	2.4% increase	0.5% decrease	18.2% decrease	6.8% increase	1.5% increase	0.3% decrease
Total energy consumed (1000 terajoules)	2.68	2.63	2.79	2.89	3.75 ^[3]	3.8 ^[7]	3.9 ^[8]
Energy intensity (gigajoules/metric ton throughput volume) ^[7]	1.20	1.10	1.20	1.20	1.50	1.90	2.0
Total Scope 1 energy consumed (1,000 Terajoules) ^[9]							2.84
Total Scope 2 energy consumed (1,000 Terajoules) ^[10]							1.04
Renewable energy usage (Tjoules)							490
Emissions of ozone-depleting substances (ODS) (metric tons of CO ₂)					359.00	359.00	1,719.00
Air emissions of NO _x (excluding N ₂ O) (metric tons) ^[11]				52.00	63.23	68.36	187.00
Air emissions of SO _x (metric tons) ^[12]				39.00	52.15	39.02	42.00
Air emissions of VOCS (metric tons) ^[12]				259.00	272.78	235.83	256.00
Air emissions of HAPS (metric tons) ^[12]				194.00	127.69	107.22	92.00
Percentage of gross global Scope 1 emissions covered under emissions-limiting regulations				13.0%	10.0%	10.0%	0.0% ^[12]
Percentage of renewable energy ^[13]				3.5%	40.0%	47.0%	52.0%

- [4] This data has been externally assured. While our manufacturing footprint has expanded over the past years, we have reduced our combined Scope 1 and Scope 2 emissions. In 2023 we recognized a 12% reduction over our 2016 baseline, achieving our goal of a 10% reduction. Since initial reporting began, Stepan has improved emissions accounting and our 2016 baseline is adjusted to 281.24 kilotons Scope 1 and 2 GHG emissions. The upward adjustment is due to added combustion and steam emissions that were not originally included. Stepan calculates GHG emissions following the GHG Protocol. Our emissions calculations include CO₂, CH₄, N₂O and refrigerants. Other gases represent de-minimis levels and are not separately accounted for.
- [5] Increase in intensity-based emissions resulting from significant decrease in production volumes for 2023.
- [6] Data presented shows year over year change in Market-Based Scope 1 and 2 emissions. 12% absolute reduction over a 2016 baseline for Scope 1 and 2 emissions across global operations. 1% intensity based increase in emissions (emissions/throughput volume) over 2016 baseline year due to lower production activity in 2023.
- [7] Adjusted due to accounting or conversion errors.
- [8] This data has been externally assured. Energy consumption includes energy from biogenic sources in the amount of 7 TJ.
- [9] Intensity based Scope 1 energy consumed (Gigajoules/mt throughput volume)= 1.45. Stepan includes measures or estimates of natural gas, diesel, biodiesel, propane, petrol (gasoline) and number two fuel oil in our Scope 1 energy use calculation. Small quantities of other fuels (e.g., acetylene) are also included in the calculation. Stepan includes energy usage within the organizational boundaries for this metric.
- [10] Intensity based Scope 2 energy consumed (Gigajoules/mt throughput volume)= 0.53. Stepan includes measures or estimates of electricity and purchased steam for our Scope 2 energy use calculation. Small quantities of other fuels (e.g., acetylene) are also included in the calculation. Stepan includes energy usage within the organizational boundaries for this metric.
- [11] Global manufacturing sites. U.S. EPA emission factors and standard methods are used to determine emissions from combustion-related activities across our U.S. sites. Process and fugitive emissions are included where data collection systems are in place.
- [12] Updated in 2023 report to reflect sites covered only under regulations. Prior to 2023, reporting included sites paying national carbon taxes.
- [13] Covered by Renewable Energy Certificates, Green Origin Certificates, Power Purchase Agreements and on-site solar power generation.

	2017	2018	2019	2020	2021	2022	2023
Percentage of energy from grid electricity ^[14]				30.0%	30.0%	28.0%	26.0%
CDP climate disclosure score	D	D	B-	B-	C	B	B
Water							
Percentage of operations in regions of high risk according to WRI Aqueduct Tool ^[15]	N/A	N/A	18.0%	18.0%	18.0%	18.0%	18.0%
Total water consumed in Stepan products (1000 megaliters) ^[16]	0.24	0.27	0.27	0.29	0.27	0.27	0.25
Total freshwater withdrawn at manufacturing facilities (1000 megaliters) ^[17]	4.46	3.99	4.40	3.89	3.97	5.02	4.79
Freshwater use per unit production (megaliters per metric ton production)	0.0021	0.0017	0.0019	0.0017	0.0017	0.0022	0.0024
Total water discharged at manufacturing facilities (1000 megaliters)	4.22	3.74	4.15	3.63	2.78	2.83	2.20
Number of incidents resulting in non-compliance associated with water quality permits, standards, and regulations				12	19	14	6
Waste							
Hazardous waste generated (metric tons) ^[18]			13,471	10,629	22,117	16,729	17,055
Non-hazardous waste generated (metric tons) ^[19]			9,777	8,952	10,070	18,848	14,089
Percentage of hazardous waste recycled ^[20]			6.0%	7.4%	30.0%	27.0%	18.0%
Percentage of non-hazardous waste recycled ^[21]							19.0%
Hazardous waste incineration with energy recovery (metric tons) ^[21]							2,801
Non-hazardous waste incinerated with energy recovery (metric tons) ^[21]							4,971

[14] Percent of energy from grid electricity restated for 2020 to align with GRI reporting guidance.

[15] Adjusted to include only those sites ranked as extremely high or high risk according to WRI. Stepan has previously reported medium and high risk sites. Based on our water risk assessment work, we have four sites in high risk regions.

[16] Water consumed in Stepan products (1,000 megaliters), a. 254,600 cubic meters of water in Stepan Products, 2,584 megaliters of total water consumed (in products, evaporation, other removals or losses). b. 159 megaliters for total water consumption from all areas with water stress. Water consumed in Stepan products for prior years was updated due to system tracking changes. *NOTE: water consumed in Stepan products for prior years was updated due to system tracking changes. External risks for Stepan's facilities were assessed from 2020 to 2022 using the World Resources Institute's (WRI) Aqueduct™ Water Risk Atlas1, an open-source online tool that provides global information about water-related risks. The Aqueduct (version 3.0) water risk framework2, 3 creates indexed (categorical) scores for 13 water risk indicators, which are grouped and weighted to produce composite scores for three different water risk categories: water quantity, water quality, and reputational risk. The three groups are then combined into one score for Overall Water Risk. The approach enables users to conduct a portfolio-level comparison of water risks over a wide geographical range. Local addresses provided by Stepan for each of its facilities were converted to latitude and longitude coordinates and imported into the "Analyze" feature of the Water Risk Atlas online platform. The sites were analyzed using both the "Baseline" and "Future" Risk scenarios. The output from the Aqueduct Water Risk Atlas was evaluated to identify the highest potential risks for Stepan's facilities and to rank the facilities based on their scores for Overall Water Risk.

[17] a. 4,787.54 megaliters total water withdrawn across all categories, 4,787,538 cubic meters water withdrawn across all categories, Surface water: 1,380.5 megaliters, Groundwater: 2689.8 megaliters, Third Party water: 694.2 megaliters. b. 347 megaliters and 346,935 cubic meters of total water withdrawn from high or extremely high water stressed areas, based on WRI Aqueduct and independent water risk analysis, Surface water: 0 megaliters, Groundwater: 213 megaliters, Third Party water: 134 megaliters. Stepan's water usage increased in 2022 as a result of acquisitions that became operational. Absolute freshwater usage decreased by 40% for a set of sites in operation from 2016 to 2023. Water use includes water obtained from surface, ground, municipal and third-party sources for the purposes of cooling, cleaning, processing, and product manufacturing.

[18] Increase in waste from prior years due to added remediation products, demolition and construction projects, expanded boundary to include chemical recycling, and scheduled clean-outs.

[19] Increase in waste from prior years due to capital projects and increased material disposal from obsolete waste and production equipment changes.

[20] Waste data is collected and tracked for our global facilities using the STEMS data management system. Site personnel share data based on information from our waste management partners and other site measurements and is reviewed by a team based at Company headquarters.

[21] Reporting category added in 2023.

	2017	2018	2019	2020	2021	2022	2023
Hazardous waste incineration without energy recovery (metric tons) ^[21]							7,639
Non-hazardous waste incinerated without energy recovery (metric tons) ^[21]							1,699
Total waste diverted from disposal (metric tons)			11,427	9,203	14,493	13,664	9,478
Total waste directed to landfill (metric tons)			5,639	5,633	7,032	8,798	7,674
Safety and Environmental Stewardship of Chemicals							
Percentage of products that contain GHS of classification and labeling of chemicals Category 1 and 2 Health and Environmental Hazardous Substances ^[22]			5.4%	5.4%	5.4%	5.4%	N/A
Percentage of such products that have undergone hazard assessment ^[23]			100%	100%	100%	100%	N/A
Social							
Workforce Demographics							
Global headcount ^[24]	2,096	2,250	2,284	2,293	2,439	2,459	2,393
Percentage of women in global workforce					24.0%	24.0%	24.0%
Total number of employees permanent full-time equivalent employees—men					1,848	1,861	1,797
Total number of employees permanent full-time equivalent employees—women					591	592	571
Total number of non-binary employees ^[25]						6	4
Percentage of employee covered by collective bargaining agreements			38.0%	38.0%	37.0%	39.0%	38.0%
Number of new hires				228	395	336	277
Voluntary turnover				126	137	270	309
Training & Education							
Percentage of employees receiving regular performance reviews				86.0%	82.0%	65.0%	66.0%

[22] Percentage of Stepan chemicals that are classified as 'high-priority' chemicals according to GHS and other national and international standards. Stepan is undertaking a full review of our portfolio for this topic and will resume reporting in our 2024 report.

[23] Percentage of Stepan's 'high-priority' chemicals that have Product Stewardship summaries prepared and publicly available on the company website. Stepan is undertaking a full review of our portfolio for this topic and will resume reporting in our 2024 report. Stepan makes Product Stewardship summaries available on our website and is verifying completion during this year.

[24] See page 32 of the [Sustainability Report](#) for a breakdown of employees by gender, region, and contract type.

[25] This information was self-declared through an internal survey and represents voluntary disclosure of individuals who identify as non-binary.

	2017	2018	2019	2020	2021	2022	2023
Safety							
Lost time incident rate (LTIR)—Stepan employees and temporary workers ^[26]	0.33	0.20	0.47	0.16	0.19	0.32	0.39
Lost time incident rate (LTIR)—Chemical manufacturing (NAICS 325) ^[27]	0.60	0.60	0.60	0.70	0.80	0.60	N/A
Total recordable incident rate (TRIR)—Stepan employees and temporary workers ^{[26][28]}	0.69	0.51	0.74	0.64	0.54	0.42	0.53
Total recordable incident rate (TRIR)—Chemical manufacturing (NAICS 325) ^[27]	2.0	1.9	1.9	1.8	2.0	1.9	N/A
Days away, restrictions, and transfers (DART) rate—Stepan employees and temporary workers ^[26]	0.45	0.28	0.80	0.52	0.42	0.39	0.46
Days away, restrictions, and transfers (DART) rate—Chemical manufacturing (NAICS 325) ^[27]	1.2	1.2	1.2	1.2	1.4	1.3	N/A
Fatalities—Employees ^[26]	0	0	0	0	0	0	0
Fatalities—Contractors	0	0	0	0	0	0	0
Number of employee and contractor injuries/working hours ^[26]				18 total incidents	17 total incidents	18 total incidents	19 total incidents
Process Safety Incidents Count (PSIC) ^[29]			9	6	4	5	4
Process Safety Total Incident Rate (PSTIR) ^[29]			0.35	0.24	0.17	0.20	0.17
Process Safety Incident Severity Rate (PSISR) ^[29]			1.91	1.45	0.25	1.13	0.38
Number of transport incidents ^[30]				5	1	0	N/A
Supplier Management and Diversity							
Supplier Management Policy (Y/N)	N	Y	Y	Y	Y	Y	Y
Percent of new suppliers screened using social and environmental criteria (2019 baseline year) ^[31]	N/A	N/A	100%	100%	100%	100%	100%

[26] Employee means Stepan employees, temporary workers, and supervised contractors.

[27] Source: Bureau of Labor Statistics, U.S. Department of Labor, Survey of Occupational Injuries and Illnesses, in cooperation with participating state agencies. Industry values above are for NAICS Code 325 – Chemical Manufacturing.

[28] Number of work-related injuries or illnesses per 200,000 worked hours during a one year period.

[29] This includes only Tier 1 Process Safety events. The methodology is based on ANSI/API Recommended Practice 754 3rd Edition: Process Safety Performance Indicators for the Refining and Petrochemical Industries.

[30] For U.S. only. Includes U.S. DOT 5800 events related to hazardous material shipment. Reported with a one year time lag according to American Chemistry Council standard.

[31] Prior to December 2019, suppliers completed a self-assessment on safety, quality management, environmental management, OSHA, and other regulatory compliance, however data is not available.

	2017	2018	2019	2020	2021	2022	2023
Human Rights							
Percentage of operations that have been subject to human rights reviews or impact assessments				100%	100%	100%	100%
Percent of Palm Derived Material Certified under RSPO ^[32]	4.0%	11.5%	16.0%	19.0%	29.0%	23.0%	14.0%
Human Rights Statement (Y/N)	N	N	Y	Y	Y	Y	Y
Equal Employment Opportunity Policy (Y/N)	Y	Y	Y	Y	Y	Y	Y
Child Labor Policy (Y/N)	Y	Y	Y	Y	Y	Y	Y
Conflict Mineral Policy (Y/N)	Y	Y	Y	Y	Y	Y	Y
Modern Slavery Policy (Y/N)	Y	Y	Y	Y	Y	Y	Y
Ethics							
Anti-Bribery and Anti-Corruption Policy (Y/N) ^[33]	Y	Y	Y	Y	Y	Y	Y
Code of Business Conduct and Ethics (Y/N)	Y	Y	Y	Y	Y	Y	Y
Whistleblowing and Non-Retaliation Policy (Y/N)	Y	Y	Y	Y	Y	Y	Y
Percent of operations assessed for risks related to corruption		100%	100%	100%	100%	100%	100%
Percent of employees that have completed training on Ethics and Compliance policies, procedures, and issues		91.0%	95.0%	100%	100%	100%	100%
Product Health, Safety, Labeling, Marketing							
Incidents of non-compliance concerning product and service information and labeling ^[34]				0	0	0	0
Incidents of non-compliance concerning marketing and communications ^[35]				0	0	0	0
Data/Information Privacy and Security							
Substantiated complaints concerning breaches of customer privacy and losses of customer data ^[36]				0	0	0	0

[32] Stepan is establishing new processes for tracking materials based on raw material components. This system was used in 2023 and captured a larger percentage of non-RSPO certified material than previously reported. Our total volume of purchased RSPO certified material remained near the same as in prior years.

[33] Stepan's Ethics and Compliance team manages training and actions aimed at prevention of corruption and bribery, among many other ethics related practices. Incidents will be managed according to the defined process outlined in [Stepan's Code of Conduct](#). Additional context is provided in [Stepan's Form 10-K](#).

[34] No incidents resulting in a fine, penalty or warning concerning product and service information and labeling to Stepan's direct customers.

[35] No non-compliance with warnings, fines, or penalties, based on sharing of misinformation on our products or through our marketing communications.

[36] Stepan did not have any substantiated complaints concerning breaches of customer privacy.

	2017	2018	2019	2020	2021	2022	2023
Governance							
Board Composition and Independence							
Number of directors	8	8	7	7	8	8	7
Board average age	63	64	63	64	64	63	62
Mandatory retirement age (Y/N)	Y	Y	Y	Y	Y	Y	Y
Average director tenure (years)	14	15	11	12	12	12	12
Number of independent directors	6	6	6	6	7	6	5
Percentage of directors who are independent	75.0%	75.0%	86.0%	86.0%	75.0%	75.0%	71.0%
Independence of committees (other than executive committee)	Y	Y	Y	Y	Y	Y	Y
Independence of chairman (Y/N)	N	N	N	N	N	N	N
Independent lead director (Y/N)	Y	Y	Y	Y	Y	Y	Y
Board Diversity							
Number of women on the board	1	1	1	1	2	2	3
Percent of directors who are women	13.0%	13.0%	14.0%	14.0%	25.0%	25.0%	37.5%
Board and Committee Meetings							
Number of board and committee meetings during the calendar year	16	23	20	21	24	19	21
Number of directors attending less than 75% of meetings during calendar year	1	0	0	0	0	0	0
Executive Compensation							
CEO stock ownership guidelines (Y/N)				Y	Y	Y	Y
CEO stock ownership multiple of base salary				5 x Base Salary	5 x Base Salary	5 x Base Salary	5 x Base Salary
Executive officer stock ownership guidelines (Y/N)				Y	Y	Y	Y
Executive officer stock ownership multiple of base salary				2 x Base Salary	2 x Base Salary	2.5 x Base Salary	2.5 x Base Salary
Director stock ownership guidelines (Y/N)				Y	Y	Y	Y
Director stock ownership multiple of annual deferred stock award				5 x Annual Cash Retainer	5 x Annual Cash Retainer	5 x Annual Cash Retainer	5 x Annual Cash Retainer
Shareholder Rights							
Single voting class (Y/N)	Y	Y	Y	Y	Y	Y	Y
Proxy access (Y/N)	N	N	N	N	N	N	N