



ESG data center

Purple text references data related to 2030 Sustainability Commitments and other key ESG success metrics.

Environmental

Greenhouse gas emissions	2019	2020	2021	2022	2023
Scope 1 GHG emissions (metric tons CO ₂ e)					
Total Scope 1 GHG emissions	319,240	282,837	266,523	241,788	206,381
Emissions from refrigerant leaks in manufacturing processes and cooling equipment	198,536	171,467	148,345	116,155	87,265
Emissions from fuels used in service vehicles	62,154	58,167	60,651	64,636	69,833
Emissions from fuels used in manufacturing	55,242	50,574	54,854	58,278	46,809
Emissions from fugitive volatile organic compound (VOC) from manufacturing processes	3,308	2,629	2,674	2,718	2,474
Scope 2 GHG emissions (metric tons CO ₂ e)					
Total unadjusted market-based Scope 2 GHG emissions	153,611	140,005	138,549	134,664	127,351
Total adjusted market-based Scope 2 GHG emissions	123,500	80,051	66,685	55,535	40,963
Total location-based Scope 2 GHG emissions	160,592	144,543	144,277	127,894	125,851
Scope 1 and 2 GHG emissions (metric tons CO ₂ e)					
Total absolute Scope 1 and adjusted market-based Scope 2 GHG emissions	442,740	362,888	333,208	297,323	247,344
Percent reduction in absolute Scope 1 and adjusted market-based Scope 2 GHG emissions from 2019 baseline	-	18%	25%	33%	44%
Total Scope 1 and location-based Scope 2 GHG emissions	479,832	427,380	410,800	369,682	332,232
Scope 1 and 2 carbon intensity performance					
Carbon intensity for Scope 1 and adjusted market-based Scope 2 GHG emissions for the organization (mtCO ₂ e/million USD)	33.86	29.14	23.57	18.59	13.99
Reduction of GHG emissions intensity, including adjusted market-based Scope 2 GHG emissions, from a 2019 baseline (metric tons/USD)	-	4.72	10.29	15.27	19.87

Greenhouse gas emissions	2019	2020	2021	2022	2023
Reduced emission through energy from renewable sources					
Total reduced GHG emissions from renewable energy (metric tons CO₂e)	30,111	59,954	71,864	79,129	86,389
Reduced GHG emissions from VPPA renewable energy credits (metric tons CO ₂ e)	26,568	53,580	48,525	49,810	41,632
Reduced GHG emissions from purchased or supplier-provided RECs (metric tons CO ₂ e)	1,244	4,381	21,262	24,930	31,734
Reduced GHG emissions from electricity generated by on-site solar/ photovoltaic systems (metric tons CO ₂ e)	2,299	1,992	2,077	4,388	13,023
Reduction in Scope 2 GHG emissions by renewable energy since 2019	20%	43%	52%	59%	68%
Reduction in total Scope 1 and Scope 2 GHG emissions by renewable energy	6%	14%	18%	21%	26%
Scope 1 regional GHG emissions (metric tons CO₂e)					
North America	247,802	201,687	174,163	182,218	156,835
Latin America	22,064	21,112	46,110	21,280	18,148
Europe, the Middle East, Africa	32,353	45,683	36,154	30,638	25,090
Asia Pacific	17,020	14,355	10,096	7,653	6,309
Scope 2 regional GHG emissions (metric tons CO₂e)					
North America	77,167	47,302	28,770	21,214	11,204
Latin America	12,529	8,599	10,145	7,782	5,066
Europe, the Middle East, Africa	11,166	4,617	3,898	3,635	2,979
Asia Pacific	22,637	19,534	23,872	22,904	21,714
Scope 3 GHG emissions (metric tons CO₂e)					
Total Scope 3 GHG emissions	369 million	Note 1	Note 1	308 million	271 million
Product Use (assured)	365 million	331 million	366 million	303 million	266 million
Purchased goods and services	4 million	Note 1	Note 1	5 million	5 million
Upstream and downstream distribution and transportation (estimate)	135,628	136,434	98,245	90,444	128,388
Upstream leased assets (estimate)	67,000	65,613	63,141	50,474	53,774
Business Travel (assured)	30,340	3,788	1,895	6,313	9,958
Other air emissions (metric tons)					
NO _x	106.50	97.63	103.89	111.04	106.38
SO _x	6.98	5.77	6.11	7.42	6.51
Volatile Organic Compound (VOC) emissions	275.70	219.10	222.84	226.54	206.14
Biogenic emissions (metric tons CO₂e)					
Biogenic emissions	0	0	0	35.62	73.31

Note 1: Values for baseline year and prior year calculated to reflect updated estimation approach for emissions from purchased goods and services. 2020 and 2021 values not provided.

Energy	2019	2020	2021	2022	2023
Absolute energy use (billion kJ)					
Total energy consumption	3,157	2,951	3,116	3,181	3,032
Indirect (electricity)	1,193	1,126	1,173	1,132	1,097
Direct (fuel use)	1,965	1,825	1,943	2,050	1,935
Natural gas	832	803	864	842	738
Gasoline	807	739	784	853	890
Diesel	231	205	206	255	214
Propane	62	48	54	60	58
Solar electricity generated and used	9	9	9	12	13
Fuel oil	6	14	13	13	6
Vegetable oil	0	0	0	1	1
Aviation fuel	18	7	12	15	15
Biopropane	0	0	0	0	1
Normalized energy use (billion kJ/million USD)	0.2415	0.2369	0.2205	0.1989	0.1715
Energy consumption and sales (billion kJ)					
Total electricity consumption	1,202	1,134	1,183	1,144	1,110
Total heating consumption	837	817	878	854	744
Total cooling consumption	0	0	0	0	0
Total steam consumption	0	0	0	0	0
Total electricity sold	1	1	1	2	2
Total heating sold	0	0	0	0	0
Total cooling sold	0	0	0	0	0
Total steam sold	0	0	0	0	0
Reduction in energy consumption achieved as a direct result of conservation and efficiency initiatives	2	25	23	20	37
Renewable energy data					
Renewable energy generated (billion kJ)	23	22	23	28	28
Renewable energy generated and sold to grid (billion kJ)	1	1	1	2	2
Renewable energy generated and used (billion kJ)	9	9	9	12	13
Renewable energy purchased (billion kJ)	235	451	574	641	760
Percentage grid electricity	80%	60%	51%	44%	32%
Percentage renewable electricity	20%	40%	49%	56%	68%
Number of RE100-compliant sites	0	14	20	19	26

Renewable energy projects	Location	Type	2021 production	2022 production	2023 production	REC treatment
Trenton Solar Project	Trenton, NJ, USA	On-Site Solar PV	1,994 MWh	2,149 MWh	2,172 MWh	Utility owns RECs ¹⁾
Columbia Solar Project	Columbia, SC, USA	On-Site Solar PV	1,575 MWh	1,462 MWh	1,470 MWh	Utility owns RECs ¹⁾
Galway Solar Project	Galway, Ireland	On-Site Solar Generation	-	-	1 MWh	N/A — No RECs: December 2023 kick off of on-site solar generation
Monterrey Solar Project and Purchased Zero Carbon Electricity	Monterrey, Mexico	On-Site Solar PV	-	-	110 MWh	N/A — No RECs: Portion of purchased electricity is 100% renewable
Taicang Solar Project	Taicang, China	On-Site Solar PV	2,622 MWh	3,599 MWh	6,557 MWh	N/A — No RECs: Company owns renewable energy attributes from 100% of generation
Zhongshan Solar Project and Purchased Zero Carbon Electricity	Zhongshan, China	On-Site Solar PV		968 MWh	1,318 MWh	N/A — No RECs: Company owns renewable energy attributes from 100% of generation
Seymour Hill Wind Farm VPPA	Northern Texas, USA	Wind VPPA	105,892 MWh	103,283 MWh	101,053 MWh	Company owns and retires RECs
Use of Zero Carbon Electricity	Bari, Italy; Galway and Shannon, Ireland; Essen, Germany	Direct supply of 100% renewable electricity by local power provider	5,086 MWh	17,062 MWh	24,836 MWh	N/A — no RECs: 100% renewable energy supplied by power provider
Vendor Provides RECs or GOs	Barcelona, Spain; Hastings, NE, USA; Prague and Kolin, Czech Republic; Lynn Haven, FL, Clarksville, TN, Tyler, TX, USA	Power company purchases and retires RECs/ Guarantees of Origin (GO) for a portion or 100% of Trane Technologies electricity	44,939 MWh	54,130 MWh	81,680 MWh	Power provider retires RECs/GOs on behalf of Trane Technologies

¹⁾ The RECs from this project are owned by the utilities. We purchase replacement RECs, equal to the amount of solar generated by the PV system, from other renewable energy facilities in the U.S.

Waste	2019	2020	2021	2022	2023
Waste generated (metric tons)					
Total waste generated	34,968	33,045	34,635	35,457	34,531
Total hazardous waste generated	1,088	943	1,083	1,086	971
Total non-hazardous waste generated	33,880	32,101	33,553	34,370	33,559
Total solid waste generated	10,662	8,886	6,926	6,280	4,654
Reduction in solid waste generated from a 2019 baseline	-	17%	35%	41%	56%
Normalized hazardous waste (metric tons/million USD)	0.08	0.08	0.08	0.07	0.05
Normalized non-hazardous waste (metric tons/million USD)	2.59	2.58	2.37	2.15	1.90
Number of sites that achieved zero waste to landfill at 90% diversion by year end	27	29	32	36	39
Waste disposal (metric tons)					
Non-hazardous waste to landfill	5,564	6,103	4,230	1,806	1,874
Non-hazardous waste recycled	24,306	24,159	27,710	29,177	29,992
Normalized non-hazardous waste to landfill (metric tons/million USD)	0.43	0.49	0.30	0.11	0.11
Normalized non-hazardous waste recycled (metric tons/million USD)	1.86	1.94	1.96	1.82	1.70
Packaging data					
Emissions avoided from returnable packaging projects (metric tons CO ₂ e)	140	227	416	276	746
Solid waste avoided from returnable packaging projects (metric tons)	877	1,006	720	504	1,616
Water					
2019 2020 2021 2022 2023					
Water use (million cubic meters)	2.95	2.79	2.91	2.47	1.97
Normalized water use (cubic meters/million USD)	226	224	206	154	111
Percent of total water use at sites in areas of high to extremely high water stress	11%	9%	9%	10%	12%
Water used in water stressed locations (cubic meters)	310,836	239,109	254,763	246,056	228,613
Reduction in water use in water-stressed regions from 2019 baseline	-	23%	18%	21%	26%
Trane Technologies sites in areas of high to extremely high water-stress	17	17	17	17	17
Wastewater permit exceedances	2	1	3	1	0

Social

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Global workforce						
Location (2023)	Employee type	Women		Men		Grand total
Asia Pacific	Hourly	7.3%	74	92.7%	946	1,020
	Salaried	25.4%	1,379	74.6%	4,059	5,438
EMEA	Hourly	6.3%	170	93.7%	2,539	2,709
	Salaried	30.5%	789	69.5%	1,795	2,584
Americas	Hourly	25.1%	3,945	74.9%	11,763	15,708
	Salaried	31.6%	4,115	68.4%	8,898	13,013
Total	Hourly	21.6%	4,189	78.4%	15,248	19,437
	Salaried	29.9%	6,283	70.1%	14,752	21,035

New employee hires	2019	2020	2021	2022	2023
Total new hires	-	3,837	7,321	7,432	8,474
Women (global)	-	31.1%	29.2%	30.2%	30.9%
Salaried	-	34.5%	35.0%	37.6%	36.0%
Hourly	-	29.6%	25.6%	26.9%	28.3%
Management	-	31.5%	32.6%	33.3%	31.5%
Leadership	-	26.3%	52.0%	45.5%	37.5%
Racially & ethnically diverse overall (U.S.) ¹	-	47.9%	44.2%	50.5%	53.0%
Salaried	-	23.5%	25.5%	28.5%	28.5%
Hourly	-	57.8%	54.1%	59.1%	62.7%

¹ Classified into five minimum categories by the US Census: White, Black or African American, American Indian or Alaska Native, Asian and Native Hawaiian or Other Pacific Islander.

Gender diversity data	2019		2020		2021		2022		2023	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Governance body (Executive Leadership Team)	33.3%	66.7%	12.5%	87.5%	13.3%	86.7%	18.8%	81.2%	20.0%	80.0%
Leadership positions (director level, vice president and above)	23.1%	76.9%	21.7%	78.3%	24.6%	75.4%	26.2%	73.8%	26.5%	73.5%
All management positions (all levels of management)	-	-	21.8%	78.2%	23.1%	76.9%	24.2%	75.8%	25.2%	74.8%
Workforce	24.3%	75.7%	25.3%	74.7%	25.5%	74.5%	25.7%	74.3%	25.9%	74.1%
Members of our Board of Directors ¹	-	-	5	7	5	6	5	7	6	6

¹ Members of our Board of Directors as of December 31 of the reported year.

Racial & ethnic diversity data	2019	2020	2021	2022	2023
Racially & ethnically diverse¹ (U.S.) overall	-	35.5%	36.4%	37.4%	37.2%
Salaried	-	17.5%	18.4%	19.6%	20.6%
Hourly	-	50.5%	51.6%	52.6%	51.9%
Promotion rates (overall)	-	4.4%	6.5%	6.3%	6.1%
Women	-	5.8%	7.7%	7.9%	7.5%
Men	-	3.9%	6.1%	5.8%	5.6%
Racially & ethnically diverse (U.S.)	-	5.7%	7.0%	7.1%	7.1%
White	-	4.8%	7.5%	7.5%	6.8%

¹ Classified into five minimum categories by the US Census: White, Black or African American, American Indian or Alaska Native, Asian and Native Hawaiian or Other Pacific Islander.

Age groups (2023)	Under 30 years old	30-50 years old	50+ years old
Percentage of individuals within the organization's leadership positions	0.0%	45.3%	54.7%
Percentage of individuals within the organization's management positions	2.5%	56.3%	41.2%
Percentage of employees	16.6%	54.6%	28.8%

Global workforce data	2019	2020	2021	2022	2023
Full-time employees	36,630	34,646	36,434	37,669	40,472
Contractors	3,164	3,108	3,123	4,711	2,368
Key talent retention rate	96.1%	97.2%	94.6%	93.1%	96.4%

Company culture	2019	2020	2021	2022	2023
Employee engagement survey results					
Diversity & Inclusion Index	-	76	76	77	78
Sustainability Index	-	79	79	80	80
Average employee engagement survey score	-	80	79	80	80
Participation rate	-	90%	89%	88%	87%

U.S. parental leave data	2019		2020		2021		2022		2023	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Employees who were eligible for parental leave	4,709	13,725	4,624	11,934	4,978	12,841	5,251	13,500	5,863	14,813
Employees who took parental leave	130	312	106	253	119	263	100	260	121	304
Employees who returned to work ⁽¹⁾	124	306	102	247	112	258	97	255	94	248
Return to work rate	95.0%	98.0%	96.2%	97.6%	94.1%	98.1%	97.0%	98.1%	96.7%	99.0%
Employees who returned to work and were still employed after 12 months ⁽²⁾	85.0%	90.5%	86.9%	89.9%	78.3%	84.2%	78.2%	85.6%	87.6%	85.4%

1 Completed benefits in 2021 and were still employed 30 days after completing benefits.
 2 Completed benefits in 2020 and were still employed 12 months after completing benefits.

Corporate citizenship	2019	2020	2021	2022	2023
Employee & community engagement data					
Percent of employees globally who volunteered in community or sustainability initiatives	36%	49%	31%	35%	26%
Volunteer participants	17,044	15,811	10,748	13,571	10,402
Hours volunteered	31,682	20,559	30,041	62,274	92,517
Global contributions					
Total philanthropic giving	\$9,653,427	\$10,933,910	\$11,472,236	\$15,892,064	\$18,888,100
Value of employee volunteering time during paid working hours	\$805,673	\$548,284	\$784,371	\$1,680,782	\$2,508,135
Charitable fundraising	\$1,007,855	\$3,170,136	\$1,692,459	\$1,544,622	\$1,325,627
Charitable contributions	\$1,818,910	\$1,048,499	\$2,235,053	\$2,944,494	\$4,283,458
In-kind giving	\$415,502	\$969,319	\$1,442,378	\$3,767,773	\$4,781,849
Administrative overheads	\$150,407	\$88,893	\$103,709	\$182,924	\$178,946
Trane Technologies Foundation donations to community partners	\$5,455,080	\$5,108,779	\$5,214,266	\$5,771,469	\$5,810,085
Percent increase year over year in philanthropic giving	-	13%	5%	39%	19%

Learning & development	2019	2020	2021	2022	2023
Average number of learning & development hours					
All employees	80	140	110	102	115
Salaried employees	90	-	179	181	150
Hourly employees	70	-	3.5	3.4	8.0

Occupational health & safety data	2019	2020	2021	2022	2023
Total recordable incident rate (per 200,000 hours worked)⁽¹⁾	0.83	0.77	0.94	0.81	0.83
Lost time incident rate (per 200,000 hours worked)⁽²⁾	0.10	0.08	0.11	0.14	0.10
Number of lost time incidents per million hours worked	0.50	0.40	0.56	0.69	0.52
Employee lost time frequency rate (per million hours worked)	0.49	0.41	0.52	0.65	0.55
Contractor lost time frequency rate (per million hours worked)	0.58	0.24	1.17	1.18	0.17
Employee occupational illness frequency rate (per million hours worked)	0	0	0	0	0
Work-related fatalities	0	0	0	0	0
Total hours worked (among employees and supervised employee contractors)	78,533,516	73,055,721	76,628,585	81,632,243	84,267,679

1 (recordable injuries x 200,000) / total hours worked by employees
 2 (recordable injuries resulting in lost work time x 200,000) / total hours worked by employees

Human rights data	2019	2020	2021	2022	2023
Salaried employees trained on anti-harassment (U.S.)	100%	100%	100%	100%	100%
Employees able to access anti-harassment policy	100%	100%	100%	100%	100%
Required salaried employees trained on anti-corruption	100%	100%	100%	100%	100%

Supplier diversity data	2019	2020	2021	2022	2023
Number of diverse suppliers added during the year	-	103	71	113	91
Diverse-owned business spend	\$532.0 million	\$380.4 million	\$435.1 million	\$534.8⁽¹⁾ million	\$525.1 million
Percent of spend with diverse-owned businesses	-	6.0%	6.8%	6.6% ⁽¹⁾	6.3%
Percent increase in diverse-owned business spend	-	11.1%	14.3%	22.9% ⁽¹⁾	-1.8%
Diverse-owned business spend since inception of program in 2013	>\$2.6 billion	>\$3 billion	>\$3.4 billion	>\$3.9 billion ⁽¹⁾	\$4.4 billion
Percent of spend with women-owned businesses	-	3.8%	4.1%	4.2% ⁽¹⁾	3.9%
Percent increase in women-owned business spend	-	18.8%	15.4%	18.2% ⁽¹⁾	-5.8%

1 Data has been updated to reflect refinements in data collection process.

Governance

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Lobbying expenditures	2019	2020	2021	2022	2023
Total monetary value of Trane Technologies' financial and in-kind lobbying contributions made directly and indirectly by the organization.	\$680,370	\$632,680	\$804,508	\$920,975	\$988,445
Employee contributions to Trane Technologies' political action committee (U.S. Only)	\$27,658	\$22,056	\$15,284	\$12,391	\$13,003

Products & innovation

Circularity: Product life cycle & materials	2019	2020	2021	2022	2023
Product life cycle data					
New product development projects generated or improved by the Product Development Process	-	194	181	212	230
Avoided emissions from refrigerant reclamation program (metric tons CO ₂ e)	-	177,350	197,054	206,164	213,918
Materials data					
Percentage of recycled input materials used to manufacture the organization's primary products and services	-	-	44%	47%	45%
Revenue from remanufactured products and remanufacturing services	-	-	\$100 million	\$99 million	\$104 million

See packaging data in [Waste](#) section.

Energy-efficient & low-emission solutions	2019	2020	2021	2022	2023
Clean revenue percentage⁽¹⁾	25%	30%	35%	38%	41%
Percentage of eligible products, by revenue, that meet ENERGY STAR® criteria	35% of shipment	53% of residential revenue	41% of revenue from Residential Furnaces and Residential & Light Commercial Central Air-conditioners and Heat Pumps	32% of revenue is from products that can meet the efficiency metrics specified by ENERGY STAR® for Residential Furnaces and Residential & Light Commercial Central Air-conditioners and Heat Pumps.	17% of revenue is from products that can meet the efficiency metrics specified by ENERGY STAR® for Residential Furnaces and Residential & Light Commercial Central Air-conditioners and Heat Pumps.

¹ This is an estimation of the percentage of revenue Trane Technologies defines as clean revenue.

Energy-efficient & low-emission solutions	2019	2020	2021	2022	2023
Revenue from renewable energy-related and energy efficiency-related products	Approximately 25% of products and revenue contribute to clean energy transition	Approximately 30% of products and revenue contribute to clean energy transition	Approximately 35% revenue from products and services that contribute to the clean energy transition	Approximately 38% revenue from products and services that contribute to the clean energy transition	Approximately 41% revenue from products and services that contribute to the clean energy transition
Projects meeting or exceeding quality, design and cost goals	-	85%	>85%	>80%	78%

Technology & innovation	2019	2020	2021	2022	2023
Average revenue from innovation	18.6%	20.5%	20.5%	21.2%	26.9%
Research and development expense⁽¹⁾	\$236 million	\$165 million	\$193 million	\$211 million	\$252 million
Business development spend	-	-	>\$300 million	>\$300 million	>\$900 million
Percent of business development spend focused on sustainability-related objectives	-	-	>90%	>90%	>90%
New products and services launched	-	54	62	69	98
New patent filings	-	-	>145	>145	>125

¹ As reported in accordance with U.S. generally accepted accounting principles (GAAP), excludes capitalized research and development costs.

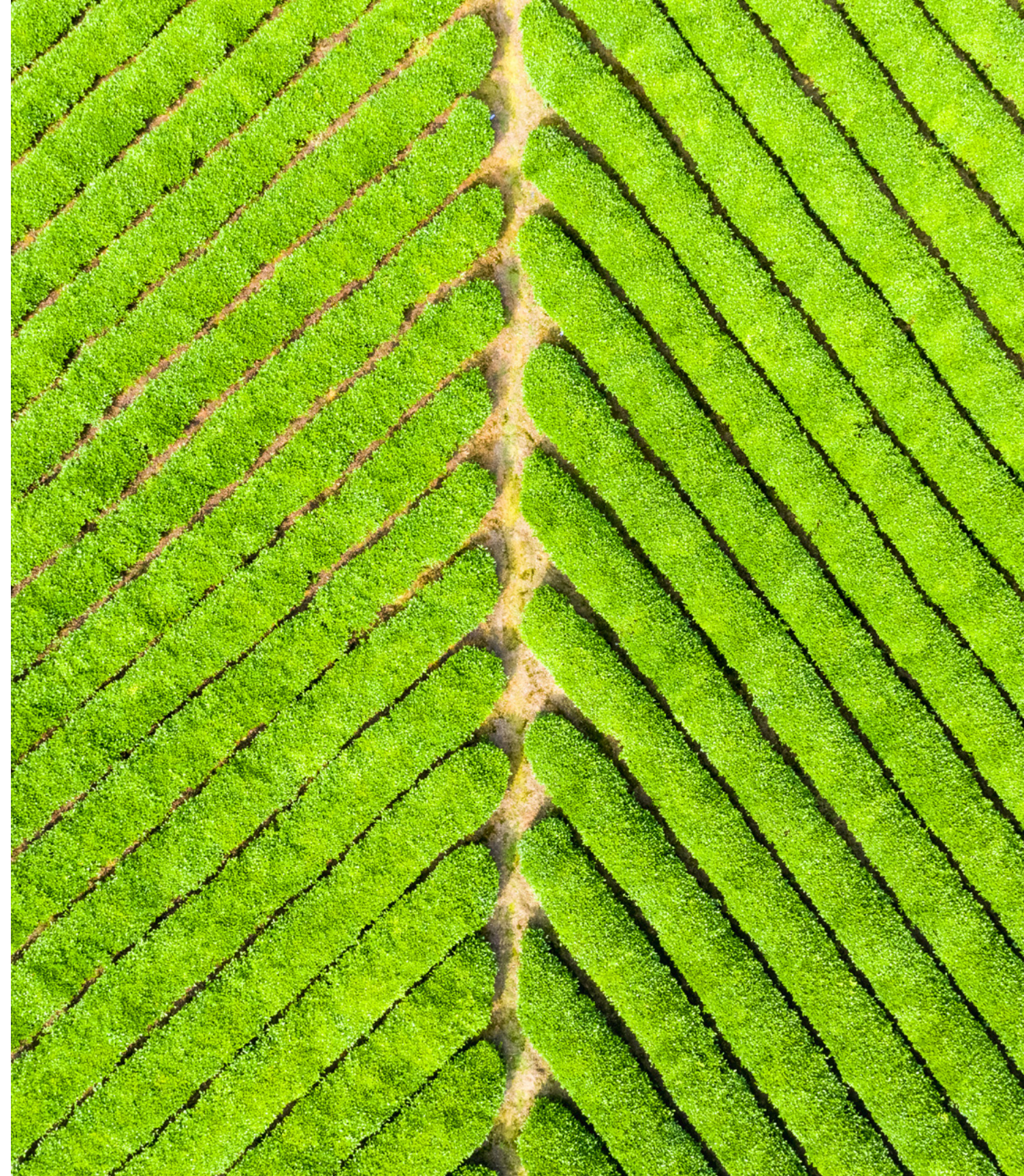
Supply chain transparency & performance	2019	2020	2021	2022	2023
Supplier data					
Number of Trane Technologies suppliers across the globe	-	15,467	25,000	27,539	27,781
Combined annual spend for direct and indirect commodities	\$10.2 billion	\$8.3 billion	\$8.6 billion	\$10.0 billion	\$9.4 billion
Direct spend with preferred suppliers	42%	35%	35%	29%	17%
Preferred suppliers enrolled in ESG reporting platform	-	-	100%	100%	100%
Supplier risk assessment data					
Total number of suppliers audited for sustainability and business risks through On-Site Assessment (OSA) audits	-	1,500	1,600	968	675 ⁽¹⁾
Direct material spend subject to On-Site Assessments	86%	69% ⁽²⁾	93%	95%	73% ⁽¹⁾
Direct material spend assessed on a quarterly basis for risk	100%	100%	100%	100%	100%

¹ The reduction in On-Site Assessments reflects the transition to a 5-year versus a 3-year renewal standard.

² Due to COVID, we were unable to go on-site to conduct many of the planned OSAs.

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Supply chain transparency & performance	2019	2020	2021	2022	2023
Percentage of new suppliers that were screened using environmental and social criteria	-	-	100%	100%	100%
Number of suppliers assessed for environmental and social impacts	501	321	209	299	225
Number of suppliers identified as having significant actual and potential negative environmental or social impacts	0	0	0	0	0
Significant actual and potential negative environmental or social impacts identified in the supply chain	-	0	0	0	0
Percentage of suppliers identified as having significant actual and potential negative environmental or social impacts with which improvements were agreed upon as a result of assessment	-	0%	0%	0%	0%
Percentage of suppliers identified as having significant actual and potential negative environmental or social impacts with which relationships were terminated as a result of assessment	-	0%	0%	0%	0%
Logistics data					
Reduction in empty truck miles driven through Dedicated Carrier Program	-	-	-	16%	87%
Emissions avoided through Dedicated Carrier Program (metric tons CO ₂ e)	-	-	-	1,895	2,553



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