

Sustainability data center

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

Please be advised that figures have been rounded, which may result in minor discrepancies in subtotals.

Environmental

Greenhouse gas emissions	Baseline (2019)	2022	2023	2024
Scope 1 GHG emissions (metric tons CO ₂ e)				
Total Scope 1 GHG emissions	319,240	241,683	205,645	204,962
Emissions from refrigerant leaks in manufacturing processes and cooling equipment	198,536	116,155	86,983	85,934
Emissions from fuels used in service vehicles	62,154	63,646	69,440	76,866
Emissions from fuels used in manufacturing	55,242	59,162	46,740	39,667
Emissions from fugitive volatile organic compound (VOC) from manufacturing processes	3,308	2,718	2,482	2,495
Scope 2 GHG emissions (metric tons CO ₂ e)				
Total unadjusted market-based Scope 2 GHG emissions	153,611	134,762	126,841	134,670
Total adjusted market-based Scope 2 GHG emissions	123,500	55,535	40,748	44,003
Total location-based Scope 2 GHG emissions	158,890	118,603	112,055	116,834
Scope 1 and 2 GHG emissions (metric tons CO ₂ e)				
Total absolute Scope 1 and market-based Scope 2 GHG emissions	442,740	297,218	246,393	248,965
Percent reduction in absolute Scope 1 and market-based Scope 2 GHG emissions from 2019 baseline	—	33%	44%	44%
Total Scope 1 and location-based Scope 2 GHG emissions	478,130	360,285	317,699	321,796
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	18.59	13.94	12.55
Reduction of GHG emissions intensity, including adjusted market-based Scope 2 GHG emissions, from a 2019 baseline (metric tons/USD)	—	15.27	19.92	21.31
Reduced emissions through energy from renewable sources				
Total reduced GHG emissions from renewable energy (metric tons CO₂e)	30,111	79,128	86,390	90,665
Reduced GHG emissions from VPPA renewable energy credits (metric tons CO ₂ e)	26,568	45,173	41,632	42,368
Reduced GHG emissions from purchased or supplier-provided RECs (metric tons CO ₂ e)	1,244	24,930	31,734	32,719

Greenhouse gas emissions	Baseline (2019)	2022	2023	2024
Reduced GHG emissions from electricity generated by on-site solar/ photovoltaic systems (metric tons CO ₂ e)	2,299	9,026	13,023	15,579
Reduction in Scope 2 GHG emissions by renewable energy since 2019	20%	59%	68%	67%
Reduction in total Scope 1 and Scope 2 GHG emissions by renewable energy	6%	22%	27%	28%
Scope 1 regional GHG emissions (metric tons CO ₂ e)				
North America	247,802	182,280	156,466	159,008
Latin America	22,064	21,111	18,026	15,970
Europe, the Middle East, Africa	32,353	30,639	25,089	22,987
Asia Pacific	17,020	7,653	6,064	6,997
Scope 2 regional GHG Emissions (metric tons CO ₂ e)				
North America	77,245	21,247	10,990	11,188
Latin America	12,451	7,749	5,066	5,704
Europe, the Middle East, Africa	11,166	3,635	2,979	3,191
Asia Pacific	22,637	22,904	21,714	23,921
Scope 3 GHG emissions (million metric tons CO ₂ e)				
Total Scope 3 GHG emissions	369	308	271	238
Product use (assured)	365	303	266	234
Purchased goods and services (assured)	4	5	5	4
Other air emissions (metric tons)				
NO _x	106	111	106	107
SO _x	7	7	6	6
Volatile organic compound (VOC) emissions	276	227	203	201
Biogenic emissions (metric tons CO ₂ e)				
Biogenic emissions	0	36	76	99

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Energy	Baseline (2019)	2022	2023	2024
Absolute energy use (MWh)				
Total energy consumption	876,706	883,148	839,891	848,418
Indirect (electricity)	329,645	312,243	300,764	312,482
Direct (fuel use)	547,061	570,904	539,127	535,936
Natural gas	231,021	233,840	204,727	172,943
Gasoline	224,273	236,873	246,116	279,244
Diesel	64,248	70,813	59,265	52,368
Propane	16,663	15,999	15,555	14,393
Solar electricity generated and used	4,344	5,491	7,015	10,083
Fuel oil	1,594	3,501	1,656	2,506
Vegetable oil	0	128	236	282
Aviation fuel	4,919	4,260	4,152	3,270
Biopropane	0	0	210	214
Biodiesel	0	0	39	82
Propylene	0	0	156	551
Normalized energy use (MWh/million USD)	67.05	55.23	47.51	42.77
Energy consumption and sales (MWh)				
Total electricity consumption	333,989	317,734	307,779	322,565
Total heating consumption	232,615	237,341	206,384	175,449
Total cooling consumption	0	0	0	0
Total steam consumption	0	0	0	0
Total electricity sold	262	670	436	664
Total heating sold	0	0	0	0
Total cooling sold	0	0	0	0
Total steam sold	0	0	0	0
Reduction in energy consumption achieved as a direct result of conservation and efficiency initiatives	692	5,583	10,339	10,444
Renewable energy data				
Renewable energy generated (MWh)	6,404	7,678	8,922	12,300
Renewable energy generated and sold to grid (MWh)	262	670	436	664
Renewable energy generated and used (MWh)	4,344	5,491	7,015	10,083
Renewable energy purchased (MWh)	65,275	178,086	211,222	219,545
Percentage grid electricity	80%	44%	31%	32%
Percentage renewable electricity (purchased vs total; excludes solar used)	20%	56%	69%	68%
Number of RE100-compliant sites	0	20	25	27

Trane Technologies renewable energy sources						
Sites using green electricity obtained directly/indirectly from renewable energy generation systems			Produced or purchased renewable electricity (MWh)			REC treatment
Location	Type	2022 production	2023 production	2024 production		
Bangplee Solar PV System	Bangkok, Thailand	On-site solar PV	0	0	468	N/A — No RECs: Company owns renewable energy attributes from 100% of generation
Columbia Solar PV System	Columbia, SC, USA	On-site solar PV	1,462	1,470	1,549	Utility owns RECs ¹
Galway Solar PV System	Galway, Ireland	On-site solar generation	0	1	711	N/A — No RECs: Company owns renewable energy attributes from 100% of generation
Monterrey Solar PV System	Monterrey, México	On-site solar PV	0	110	440	N/A — No RECs: Company owns renewable energy attributes from 100% of generation
Pueblo Solar PV System	Pueblo, CO, USA	On-site solar PV	0	1,189	2,386	RECs held in reserve per State Environmental Agency requirements through 2025
Prague Engineering & Technology Center Solar PV System	Prague, Czech Republic	On-site solar PV	0	0	89	N/A — No RECs: Company owns renewable energy attributes from 100% of generation
Southampton Solar PV System	Southampton, United Kingdom	On-site solar PV	0	0	180	N/A — No RECs: Company owns renewable energy attributes from 100% of generation
Taicang Solar PV System	Taicang, China	On-site solar PV	2,599	2,757	2,749	N/A — No RECs: Company owns renewable energy attributes from 100% of generation
Trenton Solar PV System	Trenton, NJ, USA	On-site solar PV	2,149	2,172	2,343	Utility owns RECs ^{1]}
Zhongshan Solar PV System	Zhongshan, China	On-site solar PV	798	786	718	N/A — No RECs: Company owns renewable energy attributes from 100% of generation

MWh = megawatt hours; PV = photovoltaic; RECs = Renewable Energy Credits

¹ The RECs from these on-site systems 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.

Trane Technologies renewable energy sources						
Sites using green electricity obtained directly/indirectly from renewable energy generation systems	Location	Type	Produced or purchased renewable electricity (MWh)			REC treatment
			2022 production	2023 production	2024 production	
Sourced zero carbon electricity for 100% of power used	Bari, Italy; Galway and Shannon, Ireland; Essen, Germany; La Crosse, Wisconsin, USA	All electricity used by the location is 100% derived from renewable generation processes	5,750	5,454	4,873	No RECs: Power supplier certifies electricity provided is 100% derived from renewable generation processes
Sourced zero carbon electricity for a portion of power used	Monterrey, México; Taicang, China (two factories & Technology Center); Zhongshan, China	A portion of the electricity used by the location is sourced from renewable generation processes	11,312	19,382	24,066	No RECs: Power supplier certifies electricity provided is 100% derived from renewable generation processes
Seymour Hill Wind Farm VPPA	Northern Texas, USA	Wind VPPA	103,283	101,053	100,374	Company owns and retires RECs
Electricity supplier provided or Trane Technologies purchased RECs or GOs	Barcelona, Spain; Clarksville, Tennessee, USA; Columbia, SC, USA; Conserve, Italy; Hastings, Nebraska, USA; Prague and Kolin, Czech Republic; Lynn Haven, Florida, USA; Trenton, NJ, USA; Tribano, Italy; Tyler, Texas, USA	Power company or Trane Technologies purchases and retires RECs/GOs for a portion or 100% of Trane Technologies' electricity	57,740	85,333	90,231	Power provider retires RECs/GOs on behalf of Trane Technologies

MWh = megawatt hours; RECs = Renewable Energy Credits; VPPA = Virtual Power Purchase Agreement; GOs = Guarantee of Origins

Waste	Baseline (2019)	2022	2023	2024
Waste generated (metric tons)				
Total waste generated	34,971	35,180	34,381	36,454
Total hazardous waste generated	1,088	1,086	963	1,134
Total non-hazardous waste generated	33,883	34,093	33,418	35,319
Total solid waste generated	10,669	4,719	3,646	5,391
Reduction in solid waste generated from a 2019 baseline	—	56%	66%	49%
Normalized hazardous waste (metric tons/million USD)	0.08	0.07	0.05	0.06
Normalized non-hazardous waste (metric tons/million USD)	2.59	2.13	1.89	1.78
Number of sites that achieved zero waste to landfill at 90% diversion by year end	27	35	39	36
Waste disposal (metric tons)				
Non-hazardous waste to landfill	5,572	1,806	1,874	3,431
Non-hazardous waste recycled	24,306	30,469	30,734	31,063
Normalized non-hazardous waste to landfill (metric tons/million USD)	0.43	0.11	0.11	0.17
Normalized non-hazardous waste recycled (metric tons/million USD)	1.86	1.91	1.74	1.57
Packaging data				
Emissions avoided from returnable packaging projects (metric tons CO ₂ e)	140	276	746	48
Solid waste avoided from returnable packaging projects (metric tons)	877	504	1,616	133

Water	Baseline (2019)	2022	2023	2024
Water use (thousand cubic meters)				
Water use (thousand cubic meters)	2,951	2,470	1,966	1,514
Normalized water use (cubic meters/million USD)	226	154	111	76
Percent of total water use at sites in areas of high to extremely high water stress	11%	10%	12%	15%
Wastewater used in water stressed locations (thousand cubic meters)				
Wastewater used in water stressed locations (thousand cubic meters)	311	246	229	226
Reduction in water use in water-stressed regions from 2019 baseline	—	21%	26%	27%
Trane Technologies sites in areas of high to extremely high water-stress¹	17	17	17	17
Wastewater permit exceedances				
Wastewater permit exceedances	2	1	1	2

¹ Our calendar year 2025 report will include additional sites defined using the World Resource Institute's 2023 Aqueduct Water Risk Atlas data.

Social

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Global workforce						
Location (2024)	Employee Type	Women		Men		Grand Total
Asia Pacific	Hourly	6.7%	68	93.3%	941	1,009
	Salaried	26.1%	1,518	73.9%	4,291	5,809
Europe, Middle East, Africa	Hourly	6.2%	193	93.8%	2,899	3,092
	Salaried	30.5%	889	69.5%	2,023	2,912
Americas	Hourly	24.2%	4,094	75.8%	12,834	16,928
	Salaried	32.3%	4,624	67.7%	9,670	14,294
Total	Hourly	20.7%	4,355	79.3%	16,674	21,029
	Salaried	30.5%	7,031	69.5%	15,984	23,015

Gender diversity data	Baseline (2020)		2022		2023		2024	
	Women	Men	Women	Men	Women	Men	Women	Men
Governance body (Executive Leadership Team)	13%	87%	19%	81%	20%	80%	23%	77%
Leadership positions (director level, vice president and above)	22%	78%	26%	74%	27%	73%	28%	72%
All management positions (all levels of management)	22%	78%	24%	76%	25%	75%	26%	74%
Workforce	25%	75%	26%	74%	26%	74%	26%	74%
Members of Board of Directors ¹	5	7	5	7	6	6	6	6

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

Racial & ethnic diversity data	Baseline (2020)	2022	2023	2024
Racially & ethnically diverse ² (US) Overall	36%	37%	37%	37%
Salaried	18%	20%	21%	21%
Hourly	51%	53%	52%	52%

² 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 (2024)	Under 30 years old	30-50 years old	50+ years old
Percentage of individuals within the organization's leadership positions	0.0%	47.0%	53.0%
Percentage of individuals within the organization's management positions	2.8%	56.2%	41.0%
Percentage of employees	17.3%	54.5%	28.2%

Global workforce data	Baseline (2020)	2022	2023	2024
Full-time employees	34,646	37,669	40,472	44,044
Contractors	3,108	4,711	2,368	2,327
Key talent retention rate	97%	93%	96%	98%
Total new hires	3,837	7,432	8,474	8,727

Company culture				
Employee engagement survey results	Baseline (2020)	2022	2023	2024
Inclusion Index	76	77	78	80
Sustainability Index	79	80	80	82
Average employee engagement survey score	80	80	80	82
Participation rate	90%	88%	87%	90%

U.S. parental leave data	Baseline (2020)		2022		2023		2024	
	Women	Men	Women	Men	Women	Men	Women	Men
Employees who were eligible for parental leave	4,624	11,935	5,251	13,501	5,863	14,814	7,128	17,725
Employees who took parental leave	106	254	100	261	121	305	114	293
Employees who returned to work ³	102	248	97	255	94	249	87	252
Return to work rate	96%	98%	97%	98%	97%	99%	97%	100%
Employees who returned to work and were still employed after 12 months ⁴	87%	90%	78%	86%	88%	85%	92%	90%

³ Completed benefits in current year and were still employed 30 days after completing benefits.

⁴ Completed benefits in prior year and were still employed 12 months after completing benefits.

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Corporate citizenship	Baseline (2019)	2022	2023	2024
Employee & community engagement data				
Percent of employees globally who volunteered in community or sustainability initiatives	36%	35%	26%	22%
Volunteer participants	17,044	13,571	10,402	9,559
Hours volunteered	31,682	62,274	92,517	92,148
Global contributions, thousands USD				
Total philanthropic giving	9,653	15,892	18,888	20,096
Value of employee volunteering time during paid working hours	806	1,681	2,508	2,866
Charitable fundraising	1,008	1,545	1,326	1,581
Charitable contributions	1,819	2,944	4,283	2,748
In-kind giving	416	3,768	4,782	5,777
Administrative overheads	150	183	179	314
Trane Technologies Foundation donations to community partners	5,455	5,771	5,810	6,811
Percent increase year over year in philanthropic giving	—	39%	19%	6%

Learning & development	Baseline (2020)	2022	2023	2024
Average number of learning & development hours				
All employees	14.0	10.2	11.5	16.3
Salaried employees	—	18.1	15.0	18.6
Hourly employees	—	3.4	8.0	13.8

Occupational health & safety data	Baseline (2019)	2022	2023	2024
Total recordable incident rate (per 200,000 hours worked)¹	0.88	0.82	0.82	0.70
Lost-time incident rate (per 200,000 hours worked)²	0.11	0.14	0.12	0.09
Number of lost-time incidents per million hours worked	0.53	0.70	0.59	0.47
Employee lost-time frequency rate (per million hours worked)	0.52	0.65	0.62	0.45
Contractor lost-time frequency rate (per million hours worked)	0.58	1.35	0.17	0.84
Employee occupational illness frequency rate (per million hours worked)	0	0	0	0
Work-related fatalities	0	0	0	0
Total hours worked (among employees and supervised employee contractors)	77,964,860	81,119,193	84,646,351	87,895,102

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	Baseline (2019)	2022	2023	2024
Salaried employees trained on anti-harassment (U.S.)	100%	100%	100%	100%
Employees able to access anti-harassment policy	100%	100%	100%	100%
Required salaried employees trained on anti-corruption	100%	100%	100%	100%

Governance

Lobbying expenditures	Baseline	2022	2023	2024
Total monetary value of Trane Technologies' financial and in-kind lobbying contributions made directly and indirectly by the organization, thousands USD	680	921	988	1,182
Employee contributions to Trane Technologies' political action committee (U.S. Only), thousands USD	28	12	13	20

Supply chain transparency & performance	Baseline	2022	2023	2024
Supplier data				
Number of Trane Technologies suppliers across the globe	—	27,539	27,781	28,257
Percentage of Tier-1 spend with significant suppliers	—	—	—	53%
Percentage of significant suppliers enrolled in sustainability reporting platform	0%	100%	100%	100%
Number of significant suppliers enrolled in sustainability reporting platform / capacity building programs	—	—	—	179
Diverse-owned business spend, million USD	532	535	525	427
Percent of spend with diverse-owned businesses	—	7%	6%	5%
Supplier risk assessment data				
Total number of suppliers audited for sustainability and business risks through On-Site Assessment (OSA) audits	0	968	675 ¹	717
Percentage of direct material spend subject to On-Site Assessments	86%	95%	73% ¹	61%
Percentage of direct material spend assessed on a quarterly basis for risk	100%	100%	100%	100%
Percentage of new suppliers that were screened using environmental and social criteria	0%	100%	100%	100%
Number of suppliers assessed for environmental and social impacts	501	299	225	225
Number of suppliers identified as having significant actual and potential negative environmental or social impacts	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	0%	16%	87%	87%
Emissions avoided through Dedicated Carrier Program (metric tons CO ₂ e)	0	1,895	2,553	2,858

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

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Technology & innovation

Innovation & sustainable solutions	Baseline	2022	2023	2024
Percentage of eligible products, by revenue, that meet Energy Star® criteria	35%	32%	17%	16%
Sustainable revenue ¹	0%	0%	0%	46%
Projects meeting or exceeding quality, design, and cost goals	—	80%	78%	83%
Average revenue from innovation	19%	21%	27%	32%
Research and development spend, millions USD	236	211	252	310
Business development spend, millions USD	—	300	900	197
Percent of business development spend focused on sustainability-related objectives	—	Over 90%	Over 90%	Over 90%
New products and services launched	—	69	98	190
New patent filings	—	145+	125+	135+

¹ Based on the definition and calculations provided by Corporate Knights Sustainable Economy Taxonomy for Green Products, <https://www.corporateknights.com/resources/corporate-knights-sustainable-taxonomy/>

Circularity: product life cycle & materials	Baseline	2022	2023	2024
Product life cycle data				
New product development projects generated or improved by the Product Development Process	—	212	230	262
Avoided emissions from refrigerant reclamation program (metric tons CO ₂ e)	—	206,164	213,918	323,770
Materials data				
Percentage of recycled input materials used to manufacture the organization's primary products and services	—	47%	45%	46%
Revenue from remanufactured products and remanufacturing services, millions USD	—	99	104	215

About our data

GRI 2-4, 2-5

Throughout this report, we define our organizational boundary using the financial control approach and report on Scope 1 and 2 greenhouse gas (GHG) emissions using the GHG Protocol. We believe this reporting approach most accurately reflects the direct impact of our operational footprint. We report Scope 2 GHG emissions using an adjusted, market-based approach, which considers specific emission factors associated with the energy sources chosen and incorporates the renewable electricity that we proactively procure or generate. Our company's Scope 3 product-related GHG emissions are those emissions associated with the product-use phase and cover the majority of revenue associated with our diverse product portfolio. For data associated with our company's 2030 Gigaton Challenge commitment, heating and cooling output is normalized for growth to capture product performance improvements.

We report data from newly opened and acquired facilities as soon as valid data is available. For recently closed or sold facilities, the data is included for the time period a site was part of our company to ensure year-over-year comparisons remain consistent. As such events occur, baselines are adjusted to account for these operating footprint changes. As our data collection system continues to mature and improve, the operational data we report improves in accuracy and expands in breadth. Additionally, the formula to calculate our Gigaton Challenge contribution is reviewed on an annual basis and refined as needed to include items that were not able to be measured previously.

We present data in absolute terms and normalize it by our revenue (intensity). Our safety data is normalized by the number of hours worked. Data presented represents the reporting period from January 1, 2024 to December 31, 2024, unless otherwise noted, and aligns with our financial reporting period.

We receive limited assurance from an independent third party on an annual basis for select environmental, health and safety (EHS) and GHG emissions data, including purchased goods and services emissions data and product use emissions data. View the results in our [2024 Limited Assurance Report](#).

FORWARD-LOOKING STATEMENTS

This report contains certain forward-looking statements, which are statements that are not historical facts, including statements regarding our 2030 Sustainability Commitments; our pathway to net-zero by 2050; our sustainability targets, goals, commitments and programs; our product and service innovations; and other business plans, initiatives and objectives. These forward-looking statements are based on our current expectations and are subject to risks and uncertainties, which may cause actual results to differ materially from our current expectations. These forward-looking statements generally are identified by the words "aim," "believe," "project," "dedicate," "expect," "commit," "estimate," "propose," "forecast," "intend," "strategy," "invest," "plan," "may," "could," "should," "will," "would," "will be," "will continue," "will likely result" or the negative thereof or variations thereon, or similar terminology generally intended to identify forward-looking statements.

All such statements are intended to enjoy the protection of the safe harbor for forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended. Our actual future results, including the achievement of our targets, goals or commitments, could differ materially from our projected results as a result of changes in circumstances, assumptions not being realized or other risks, uncertainties and factors. Such risks, uncertainties and factors include the risk factors discussed in Item 1A of our most recent Annual Report on Form 10-K and subsequent quarterly reports on Form 10-Q filed with the SEC. We urge you to consider all the risks, uncertainties and factors identified above or discussed in such reports carefully in evaluating the forward-looking statements in this report. New risks and uncertainties arise from time to time, and it is impossible for us to predict these events and how they may affect our company. We assume no obligation to update these forward-looking statements.

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