CyrusOne

2021 **SUSTAINABILITY REPORT**

INTRODUCTION

Introduction

Letter from CyrusOne Senior Management

It would be a gross understatement to say the COVID-19 pandemic presented a host of unforeseen challenges to the world. Since 2020, as people and organizations, we have all endured supply chain issues, school and office closures, lifestyle changes, and concerns about the health of our colleagues, families, and communities.

On a practical business level, CyrusOne has also contended with an unprecedented demand put upon our data centers as much of the world migrated to remote working, remote learning, online commerce during lockdowns, and social distancing. However, this massive disruption allowed us to test and prove how our mission-critical IT infrastructure could operate successfully in real-time and under high-pressure, ever-changing scenarios. We had the responsibility and privilege of doing our part to ensure that the world operated as normally as possible during the most abnormal of times. Our data centers offered solutions to support keeping the online and real worlds connected. To provide these solutions, many of our team worked offsite while others adopted new measures to work onsite safely during the pandemic.

Importantly, we provided solutions while honoring our responsibilities and commitments to the environment, the community, and our stakeholders. This included operating efficiently to preserve precious resources (such as water and energy); using more creative data center designs; continually building a diverse, empowered workforce and supply chain; and operating in alignment with the highest standards of character and integrity.

As examples, we worked to ensure our Carrollton, Texas and Chandler, Arizona data centers became *net positive water* facilities. We began receiving delivery of 6.7 MW of solar power from SRP for our Chandler, Arizona data center campus, reducing its greenhouse gas emissions. Additionally, we operated (and continue to do so) on 100% renewable electricity in London and Amsterdam. We've done this, and more, as part of our pledge to reach *net zero carbon*.

Nevertheless, there is much work to be done. If we are to hit our goal to operate with *net zero carbon*, CyrusOne must be more aggressive in expanding renewable electricity resources that result in additional projects being built. We must also look ahead to the decarbonization challenges beyond electricity, such as alternative technologies for backup generation and low carbon construction.

In addition to reducing our impact on the environment, our progress as a good corporate citizen will also be measured and judged by our progress in social responsibility and corporate governance.

Our commitment to ESG begins with our management team setting a strong "Tone at the Top." We believe our success depends on the well-being of our teammates and the connections we make with each other. Through employee-led CAREEE (Community, Agility, Respect, Enjoyable Workplace, Ethics, Exceptional Service) initiatives, we strive to create a healthy and inclusive workplace culture, provide town hall forums for discussion, and offer a safe and open environment that promotes engagement, harmony, and satisfaction.

Our CAREEE core values set expectations with an emphasis on team success and focus on attracting the best and brightest in our industry. In 2020, CyrusOne began a Women's Employee Resource Group, provided annual Diversity, Equity and Inclusion (DEI) training, and continued our peer-nominated awards for Volunteer of the Year, "Glass Half Full," and "CORE" Awards that recognize outstanding dedication and vision to the success of CyrusOne. In addition, the CAREEE Group instituted monthly meetings that provide a platform for intelligent discussions on both domestic and international events that affect our teammates (employees), creating a foundation for a strong, unified workforce.

Similarly, the way CyrusOne manages environmental and social issues is an extension of the way we govern ourselves. We are committed to institutional integrity and ethics throughout our organization. We promote the highest standards of integrity and ethics through independent oversight; efforts to diversify our board of directors, leadership positions, and positions throughout the company; and annual compliance training that covers conflicts of interest, anti-bribery, corruption, fair dealing, political contributions and activities, antitrust, and more.

We don't just build data centers to meet today's energy, water, and sustainability challenges — we build them with the future in mind, with the flexibility to support our customers' goals over the long term. We offer this report as the next addition to our ongoing commitment to our stakeholders.

About This Report

Published in November 2021, this report covers the calendar year 2020 and represents the best available information at the time of publishing. This report has been prepared based on GRI (Global Reporting Initiative) standardized metrics, presented in Appendix 3: Standardized Metrics. It was formally reviewed and overseen by the Board of Directors and our Senior Management Team, in collaboration with our Sustainability Working Group. For more information on sustainability programs at CyrusOne, visit the CyrusOne sustainability website.

What We Do

CyrusOne is a premier global REIT (Real Estate Investment Trust) that specializes in the design, construction, and operation of more than 50 high-performance data centers worldwide. We provide mission-critical facilities that ensure the continued operation of IT infrastructure for approximately 1,000 customers, including approximately 200 Fortune 1000 companies.

A leader in hybrid-cloud and multi-cloud deployments, CyrusOne offers colocation, hyperscale, and build-to-suit environments that help customers enhance the strategic connection of their essential data infrastructure and support achievement of sustainability goals. CyrusOne data centers offer world-class flexibility, enabling clients to modernize, simplify, and rapidly respond to changing demand. Combining exceptional financial strength with a broad global footprint, CyrusOne provides customers with long-term stability and strategic advantage at scale.

Colocation vs. In-house Data Centers

CyrusOne is a colocation data center company. This means that we build data halls and support infrastructure (such as the ability to deliver electricity and cooling) so that customers can rent space and install their servers in our data halls. This has several important implications and distinctions from in-house data centers:

- **Flexibility:** Colocation data centers must be designed and built to handle a wide variety of customer loads, equipment types, and capacities. Except for our build-to-suit environments, which are designed to a customer's exact specifications, our data centers are designed for flexibility and rarely run close to their maximum design capacity (see Energy Performance).
- **Support:** Colocation data center operators do not control the specification or installation of servers. CyrusOne supports our customers in planning and move-in, but ultimately our customers make crucial decisions around server efficiency, cold aisle containment, rack cooling solutions, and end-of-life recycling.
- **Resilience:** Colocation data centers promise uptime to customers through redundant systems, comprehensive maintenance, and business continuity planning. While in-house data center operators might strategically allow some of their data halls to go offline during outages, that is not an option for us. For this reason, backup power generation is required. We continue to explore and evaluate alternative technologies to provide the same power resilience with fewer carbon emissions.

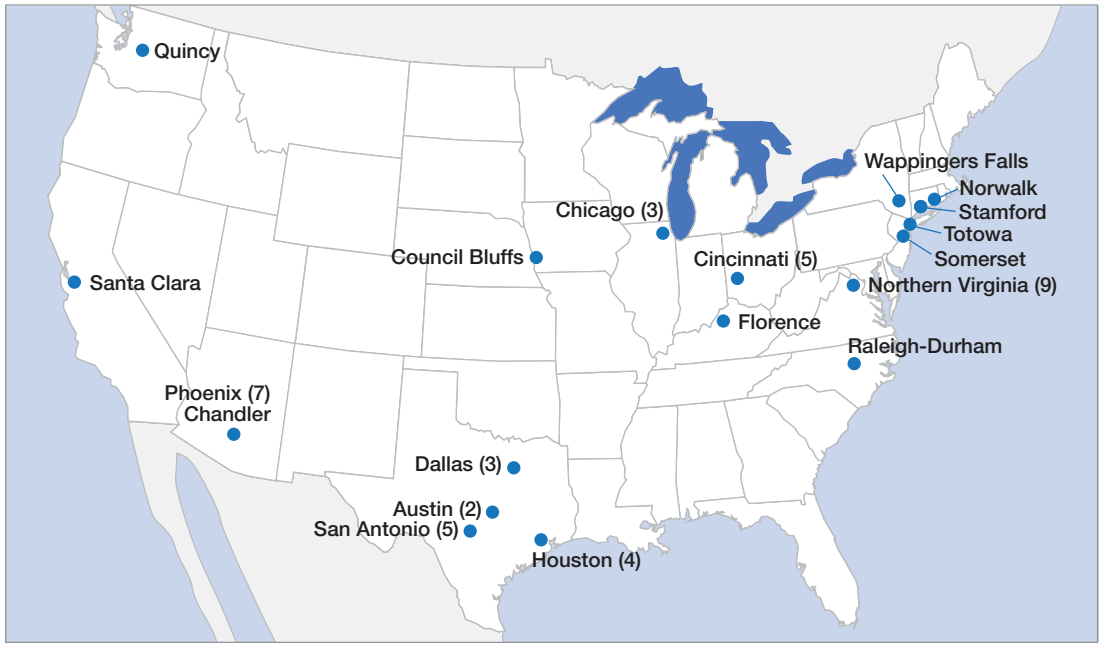
Colocation vs. Commercial Real Estate

CyrusOne is not just a real estate company but is, specifically, a data center real estate company. This means that CyrusOne's real estate portfolios are data centers, and the space is utilized primarily by computer servers. This differentiates us from commercial real estate companies which operate office buildings or commercial spaces in several ways:

- **Digital Occupancy:** Occupancy in our portfolio refers to the installation of servers in a data hall rather than people, so topics of occupant wellness or comfort are not of primary importance to our design and operations.
- **Energy Density:** Data centers use much more energy per square foot than most buildings. Within a data center, the data halls use the most energy per square foot. Depending on the type of electricity the facility is currently using, this can also equate to a high carbon density compared to other types of real estate.
- **Episodic Waste:** Data centers don't generate waste in the same way commercial real estate does. Our most frequent waste sources are break rooms and bathrooms, which contribute low amounts of waste from a small population of technical support, facility maintenance, and security staff. To support customer move-in, we also provide recycling for the cardboard boxes, crates, and pallets their equipment arrives in. This move-in waste may be generated over the span of a few months, followed by years of little waste until a customer does a major computer hardware upgrade or new customers move in.

Where We Operate

We provide mission-critical data center facilities that protect and ensure the continued operation of IT infrastructure for approximately 1,000 customers, including roughly 200 Fortune 1000 companies. CyrusOne offers a tailored, customer service-focused platform and is committed to full transparency in communication, management, and service delivery throughout its more than 50 data centers worldwide — located primarily in the U.S. and Europe — shown in the maps below (including projects in pre-development). Additional information about CyrusOne can be found at www.CyrusOne.com.



United States

Europe

CyrusOne partners with ODATA in Mexico and South America.

Meeting Third-Party Standards

This report has been designed to provide disclosure compatible with four third-party standards.

Task Force on Climate-related Financial Disclosures (TCFD) Recommendations

As part of our commitment to meeting the recommendations of the TCFD, we have structured this report around the four recommended topics: Governance, Strategy, Risk Management, and Targets and Metrics. Though not specifically addressed by the TCFD recommendations, we continue this four-subject pattern to additional topics of social responsibility, water conservation, biodiversity, and circular economy.

Taskforce on Climate Related Financial Disclosures (TCFD) Index	
Topic	**Section**
Governance	
Board oversight of climate-related risks and opportunities	Board Oversight
Management role in assessing and managing	Senior Management Direction, Cross-functional Integration and Coordination
Strategy	
Climate-related risks and opportunities	Climate Risk (Risks and Impacts, Opportunities and Impacts)
Impact of climate-related risks and opportunities	Climate Risk (Risks and Impacts, Opportunities and Impacts)
Resilience of organization's strategy	Climate Risk (Scenario Analysis and Resilience)
Risk Management	
Process for identifying and assessing climate-related risks	Climate Risk (Risk Identification)
Process for managing climate-related risks	Climate Risk (Managing Climate Risk)
Integration into overall risk management	Climate Risk (Managing Climate Risk)
Metrics & Targets	
Metrics used to assess climate-related risks and opportunities	Appendix 3: Standardized Metrics (TCFD) Climate Impact (Metrics and Targets)
Scope 1,2, and 3 GHG emissions	Climate Impact (Metrics and Targets)
Targets and performance against targets	Metrics and Targets Summary

Global Reporting Initiative (GRI) Standards

To provide transparency, we have prepared this report based on GRI standards:

- **Materiality** assessment was performed based on guidance from GRI 101 Foundation, using the dimensions of importance to stakeholders and impact to the environment. We began with environmental materiality for last year's report and added social and governance topics this year in Priorities and Materiality.
- **Management Approach Disclosures** for material issues are detailed on a company-wide basis in the ESG Strategy section. Then, in each of the topic-focused chapters (Social Responsibility and Environmental Impact), we discuss our management approach for specific topics (e.g., energy, water, biodiversity), as well as specific approaches for subtopics (e.g., energy-efficient building design, energy-efficient operations).
- **Topic-Specific Disclosures** for material issues are included, along with other standardized metrics from TCFD and Sustainability Accounting Standards Board (SASB), in Appendix 3: Standardized Metrics. They are labeled with the GRI disclosure numbering system for ease of reference.

Sustainability Accounting Standards Board (SASB) Guidance

To benefit from the SASB guidance, we have included all relevant recommended metrics from our assigned category, Real Estate (IF-RE). However, since this Real Estate standard is not specific to data centers, we also referenced relevant guidance and metrics for the Internet Media & Services standard (TC-IM). We hope that this combination of metrics will provide a more useful picture for our customers and investors. Our standardized SASB metrics, along with metrics from TCFD and GRI, are listed in Appendix 3: Standardized Metrics.

Sustainable Development Goals (SDG) Alignment

The following chart illustrates our alignment with the United Nations' Sustainable Development Goals. To make sure that our targets are directly related, rather than just thematically related, we specify the SDG Indicator that our target will quantitatively affect. There are other SDG Goals that we have thematic connections to, but their specific SDG Indicators are metrics that our activities do not directly affect, so they are not listed.

CyrusOne Sustainable Development Goals Alignment				
Sustainability Report Section	**CyrusOne Target**	**SDG Goal**	**SDG Target**	**SDG Indicator**
Water	*Net positive water* in high stress regions; 100% water-free cooling in new data centers		**Target 6.4:** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	**Indicator 6.4.1:** Change in water use-efficiency over time; **Indicator 6.4.2:** Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
Energy	All facilities with renewable power option		**Target 7.2:** By 2030, increase substantially the share of renewable energy in the global energy mix	**Indicator 7.2.1:** Renewable energy share in the total final energy consumption
Energy	Energy Efficiency Activities		**Target 7.3:** By 2030, double the global rate of improvement in energy efficiency	**Indicator 7.3.1:** Energy intensity measured in terms of primary energy and GDP
Climate Impact	*Net zero carbon*		**Target 9.4:** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	**Indicator 9.4.1:** CO_2 emission per unit of value added
Climate Impact	All facilities with renewable power option		**Target 9.4:** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	**Indicator 9.4.1:** CO_2 emission per unit of value added
Transparency	This report		**Target 12.6:** Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	**Indicator 12.6.1:** Number of companies publishing sustainability reports
Biodiversity	Improve habitats at each facility Protected Areas Assessment		**Target 15.5:** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	**Indicator 15.5.1:** Red List Index

Metrics and Targets

To measure progress toward our sustainability goals, we have created a set of primary metrics and targets. These are the critical metrics that we find most relevant to measuring our progress and against which we set targets. Throughout this report, the primary metrics and targets for each topic are detailed in the relevant sections. For a full list of metrics and their descriptions see Appendix 2: Primary Metrics.

Metrics and Targets Summary				
Primary Metrics	**UOM**	**2020 Level**	**Target Level**	**Section**
Carbon Usage Effectiveness (CUE)	kg CO_2 /server kWh	0.58	*Net zero carbon* by 2040	Climate Impact
Building Carbon Intensity	$MTCO_2e/ft^2$	0.294	*Net zero carbon* by 2040	Climate Impact
Revenue Carbon Intensity	$MTCO_2e$/$1M Revenue	986	*Net zero carbon* by 2040	Climate Impact
Carbon Emissions, Scope 1 + 2 (location-based)	$MTCO_2e$	1,034,461	*Net zero carbon* by 2040	Climate Impact
Carbon Emissions, Scope 1 + 2 (market-based)	$MTCO_2e$	1,019,116	*Net zero carbon* by 2040	Climate Impact
Carbon Emissions, Scope 3	$MTCO_2e$	310,747	*Net zero carbon* by 2040	Climate Impact
Facilities with Renewable Option	% of facilities with renewable option	100%	100%	Energy
Electricity Procured as Renewable	% of all electricity purchased	2.1%[1]	100%	Energy
Facilities in Europe Powered by Renewable Energy	% of facilities	67%	100% by 2030	Energy
***Net Positive Water* Facilities in High-Stress Regions**	# of facilities	2	10 (all currently in high-stress regions)	Water
New Data Centers with Water-Free Cooling	% of new facilities	67%	100%	Building for Sustainability
Facilities with Improved Habitat	% of facilities	2%	100%	Biodiversity
Diverse Supply Chain Spend	% of Tier I spend	7.2%	20% by 2024	Supplier Diversity Initiative
Employee Injury Rate (Total Recordable Incident Rate)	Incidents/200,000 hours worked	0.28	1.5	Employee Occupational Safety
Employee Injury Severity Rate (Days Away, Restricted, or Transferred Duty)	Days/200,000 hours worked	0	0.65	Employee Occupational Safety

[1] *This value represents an updated renewable electricity calculation following improvement in data quality. For more detail see Energy Procurement Metrics and Targets.*

Also during 2020, we worked on procuring additional renewable electricity. While these did not begin delivering power in 2020 we now have signed contracts for Arizona, Texas, and Frankfurt which will all begin delivering at least 475 GWh of renewable electricity in 2021.

Alignment with Reporting Standards

In addition to our primary metrics, we have aligned our sustainability reporting with several industry standards to provide maximum transparency and to give our customers and investors the ability to compare apples to apples. These metrics mainly appear in Appendix 3: Standardized Metrics.

Data Center Standards

Since we are a data center company, we follow industry-standard metrics developed by The Green Grid, such as Power Usage Effectiveness (PUE), Carbon Usage Effectiveness (CUE), and Water Usage Effectiveness (WUE). For more details about these metrics, please see the Energy, Climate Impact, and Water sections.

Sustainability Reporting Standards

In addition to the description in Meeting Third-Party Standards that covers TCFD, SASB, and GRI, we go beyond our primary metrics to report on additional standardized metrics and methods from GRESB (formerly known as Global Real Estate Sustainability Benchmark) and the World Resource Institute Greenhouse Gas Reporting Protocol (WRI GHGP). Specific primary metrics are included throughout the body of the report (and detailed in Appendix 2: Primary Metrics), and the full list of standardized metrics is detailed in Appendix 3: Standardized Metrics.

Bringing ESG Together: Carrollton

Carrollton — CyrusOne's largest data center — serves the Dallas, Texas region with a focus on sustainability and safety. Recent improvements at this site represent CyrusOne's holistic sustainability strategy, which is being implemented across our global network of data center facilities. Over the past year, CyrusOne invested in efficiency upgrades and partnerships at Carrollton that significantly reduced its impact on the regional watershed, energy grid, and carbon emissions.

While making strides to address the environmental impact from operations at this site, CyrusOne is also preparing the facility for the current and future effects of climate change, including both direct risks to the building and to the resources that it relies on. To better understand Carrollton's physical and business vulnerability to climatic stressors, CyrusOne conducted climate risk assessments, including evaluating future flood risk, water risk, and carbon pricing risk. This information supports CyrusOne's efforts to reduce our reliance on natural resources, invest in renewable energy, and prepare for facility risks with the goal of establishing sustainable and resilient data centers now and into the future.

CyrusOne's commitment to employee and contractor safety and the local community is intertwined with our sustainability mission. We are excited about our achievements in sustainability and safety at Carrollton and look forward to sharing our other initiatives throughout this report.

Climate Risk
Conducted water risk, carbon pricing, and future flood risk assessments to understand this site and prepare for potential future conditions.
See Climate Risk

Energy Optimization
Installed high-efficiency chillers that pump refrigerant through an economizer using 1/7th of the power of compressors. Upgraded 590 fixtures to LED lighting, saving a total of 144,715 kWh of energy per year.
See Energy

Renewable Energy Procurement
Initiated a renewable energy contract to supply about 70% of power to our North Texas facilities from a renewable energy project that contributes additional power to the Texas grid.
See Energy Procurement

Climate Impact
Making strides toward our *net zero carbon* goal with renewable energy procurement and efficiency upgrades.
See Climate Impact

Water-Free Cooling
Reduced water use by 65 % by switching to 100% air-cooled chillers.
See Water and Building for Sustainability

Net Positive Water
In 2020, we restored 20% more water than we used to regional watersheds through the Water Restoration Credits.
See Water and Biodiversity

Recycling
Provided onsite cardboard recycling to support our customers as they move into our facility, scrap metal is recycled by our vendors, and our spent UPS batteries (replaced every 5 years) are recycled by our battery servicing company.
See Circular Economy

Biodiversity
Replaced the landscaping with Texas native plant species to provide wildlife habitat.
See Biodiversity

Safety
In 2020, this facility had no OSHA recordable Injuries.
See Employee Occupational Safety

Employment
This site supports 60 full-time employee and contractor positions, such as installation support, facility maintenance, and security teams.
See Responsibility to Our Employees

Community
We engaged with our neighbors for all issues brought to us.
See Responsibility to Communities

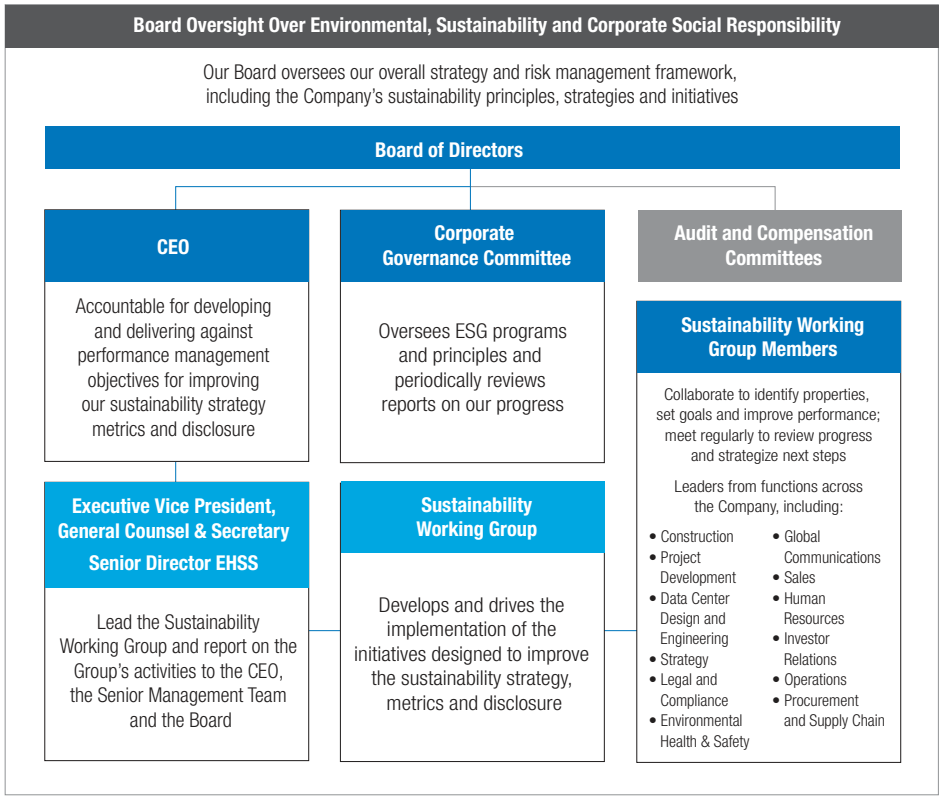
CORPORATE GOVERNANCE

Corporate Governance

CyrusOne is committed to institutional integrity and ethics throughout our organization. We ensure the highest standards of business conduct through a variety of proven methods.

ESG Governance

The management and execution of environmental, social, and governance initiatives occur at several levels in our company, as summarized by the graphic below and detailed in the following sections.



Board Oversight

CyrusOne is committed to institutional integrity and ethics throughout our organization. One of the key functions of our Board of Directors (the "Board") is the independent and informed oversight of our strategy and enterprise risk management, which includes environmental, social, and governance topics. The Board administers this oversight function directly with support from other standing committees of the Board, each of which oversees strategy and risks specific to its respective area of responsibility:

- **Nominating and Corporate Governance Committee:** monitors the effectiveness and compliance of our corporate governance policies, including our Code of Business Conduct & Ethics; periodically reviews the Board's structure, composition, and diversity; develops a process for evaluating the performance of the Board; recommends Director candidates to the Board; reviews Board Education; evaluates Board composition, diversity, and refreshment; and oversees the Company's ESG strategy, practices, and policies.
- **Audit Committee:** oversees our major financial and regulatory risks, including cybersecurity and ESG, and the steps our management has taken to identify, assess, monitor, and mitigate these exposures. This includes the process by which risk assessment and management are undertaken. The Audit Committee also oversees and monitors management's compliance with the Company's Code of Business Conduct and Ethics and the Company's Ethics and Compliance Helpline.
- **Compensation Committee:** oversees management performance, succession planning, and compensation; sets goals; and evaluates performance under our annual and long-term compensation plans. The Compensation Committee also oversees the Company's workforce diversity, equity, and inclusion practices and policies.

For the committee charters, see our investor website.

Senior Management Direction

Our Senior Management Team sets the strategic direction that affects the whole company. For environmental topics related to operations within the company, the operations management team has a lead role in most decisions regarding energy, water efficiency, and sourcing.

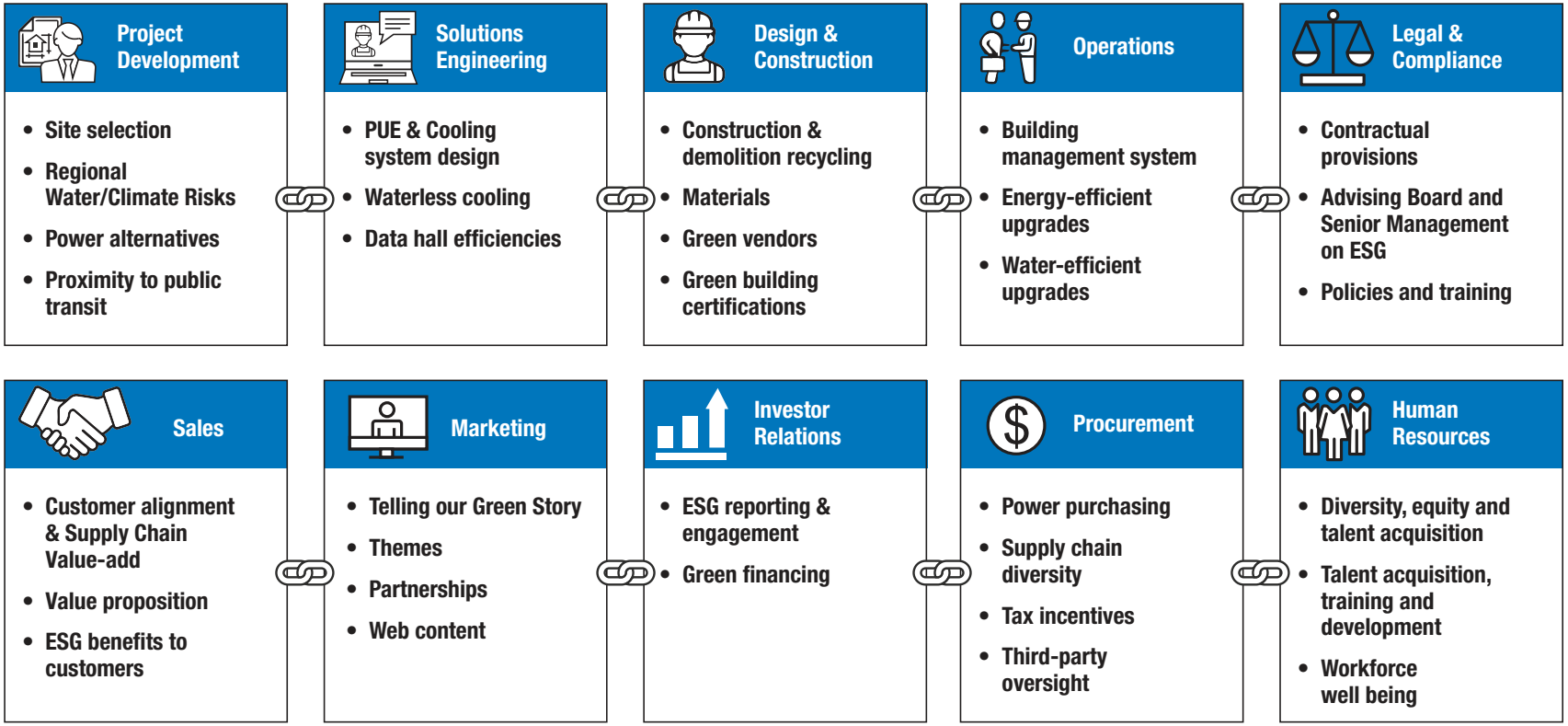
Cross-functional Integration and Coordination

Our Sustainability Working Group ("SWG") was established in 2019 to integrate sustainability and ESG strategy and planning into each function at the company, to coordinate cross-functionality, and to develop metrics and measure progress. The SWG is co-chaired by our EVP, General Counsel, and our Senior Director of Environmental, Health, Safety, & Sustainability, and its membership consists of the leaders of functions across the company, including those depicted below. Updates on the SWG's activities are provided to the Board of Directors quarterly and the Senior Management Team monthly.

Sustainability Working Group

We take an integrated approach to embedding sustainability in foundational decision-making by working across departments and sharing best practices. This allows us to manage risks and create opportunities across the company rather than restricting sustainability functions to a single department.

Sustainability Working Group



ESG Strategy

Across Environmental, Social, and Governance topics, we have conducted a materiality analysis and established priorities. We have identified environmental topics as having the greatest impact on our industry based on guidance from the Sustainability Accounting Standards Board (SASB) and our own assessments. Accordingly, we have done the most development on our programs that reduce our environmental impact while continuing to address social and governance topics. Please see our environmental vision statement along with our priorities and materiality for all three ESG topics below.

Environmental Vision Statement

At CyrusOne, we recognize that building and operating large data centers leads to a geographic concentration of environmental impacts, even if the total impact is reduced compared to inefficiencies of smaller data rooms. Being a leader in this industry means embracing our responsibility for reducing those impacts.

We approach our sustainability mission in three ways:

1. **Sustainable Future:** We build data centers that are compatible with a sustainable future. We cannot just build a data center to meet today's challenges; we need to build it with the future in mind.
2. **Energy and Water Conservation:** We are committed to conserving both energy and water through the effective design, maintenance, and operation of our facilities. We cannot just trade water for energy and ignore its impact.
3. **Strategic Partners:** We collaborate strategically with our customers to move their sustainability goals forward. Our customers have some of the most ambitious sustainability goals of any industry, so the best thing we can do for the environment is to help them succeed.

Priorities and Materiality

Priorities for strategy and materiality for sustainability reporting are two sides of the same coin. We use a unified process to identify where we have the biggest sustainability impacts and where we should therefore focus our improvements. ESG covers many different topics, so it was necessary to identify which topics are the most important for us to report and, equally as important, which issues to set aside. To make this distinction, we conducted a materiality assessment.

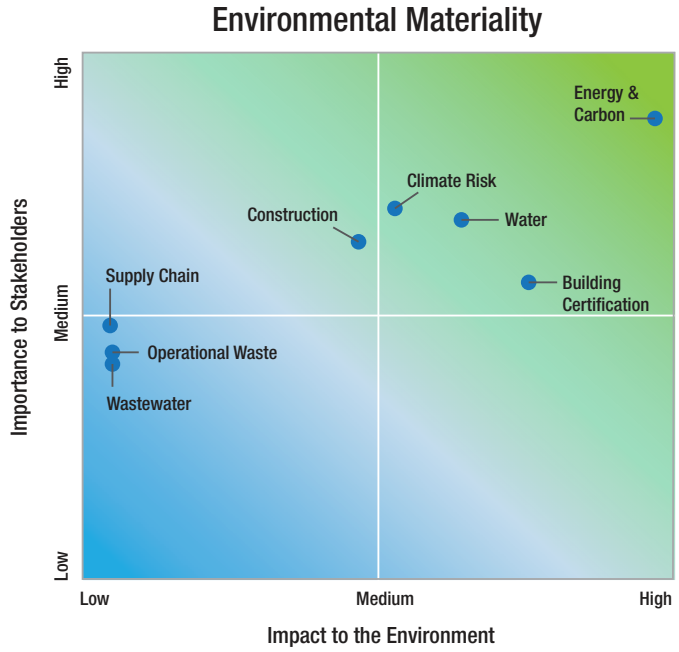
Our Environmental Materiality Assessment was conducted in preparation for last year's report. Details of the methodology for that assessment can be found in Appendix 1: Methodology. This year, we conducted a materiality assessment on Social and Governance topics.

Process

To conduct our Social and Governance Materiality Assessment, we surveyed nine stakeholders: two external ESG industry experts and seven internal leaders in the HR, Legal, Procurement, Investor Relations, and Sales departments. These individuals were asked to rate Social and Governance topics on two scales: *Impact* on society or governance and *Importance* to stakeholders.

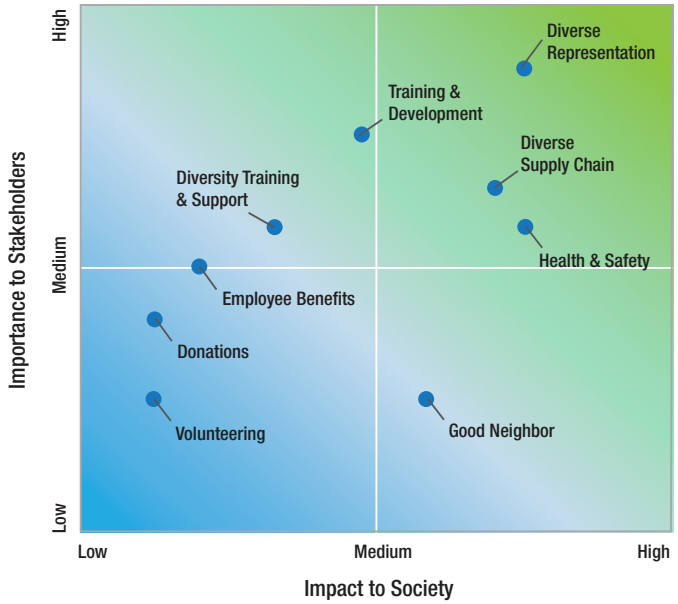
Results

Combining Impact and Importance gives us the following heat maps of Environmental, Social, and Governance topics, with topics in the top right (green) requiring the most attention and topics in the bottom left (blue) needing the least. The guidance for our sector from SASB (Real Estate) suggests a focus on environmental topics as a primary concern, but we also display social and governance topics on their own scales as well. Discussion of reasoning for each topic is listed below in the sections What's In and Why and What's Out and Why.



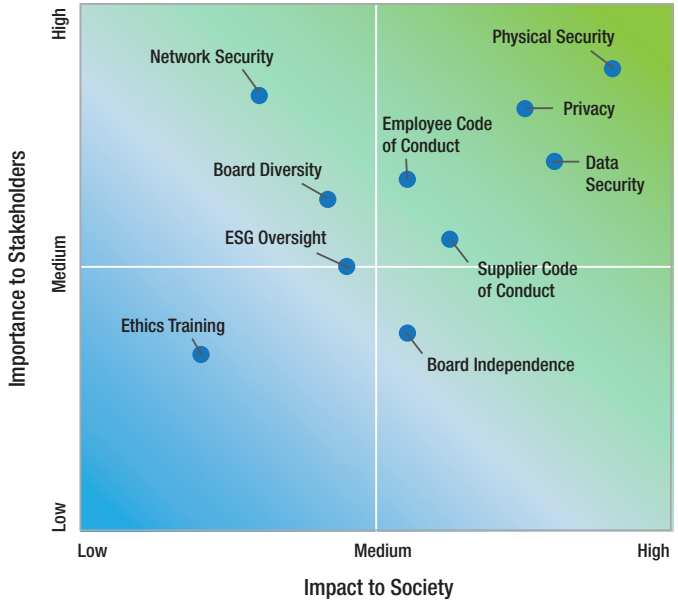
This remains unchanged from last year, with *Energy & Carbon, Climate Risk, Water, and Building Certification* in the high priority quadrant, followed closely by *Construction*.

Social Materiality



As you can see from the heat map, topics relating to *Diversity & Inclusion* and *Health & Safety* were deemed the highest priority for Social materiality, both regarding impact on society and stakeholder priority. *Volunteering* and *Donations* were judged to be the lowest priority for reporting. *Employee Training & Education* and *Diversity Training & Support* is perceived to have higher importance to stakeholders than impact on society (due to our small population of teammates), while *Good Neighbor* practices are judged to have more social impact but have not been communicated as a priority by stakeholders.

Governance Materiality



As you can see from the heat map, topics relating to *Cybersecurity* and *Codes of Conduct* were deemed the highest priority for Governance materiality, both regarding impact on governance and stakeholder priority. *Ethics Training* was judged to be the lowest priority for reporting. *Board Diversity* and *Network Security* are perceived to have higher importance to stakeholders than impact on society (due to lack of logical access to customer data), while *Board Independence* is judged to have more social impact but has not been communicated as a priority by stakeholders.

What's In and Why

Below, we give some additional context for what we have identified as material for our reporting.

Materiality Assessment	
What's In	***Why?***
Environmental	
Energy Consumption and Carbon Emissions	Our single largest impact is energy consumption and the carbon emissions associated with many forms of energy.
Water Consumption and Risk	Increased water stress is an expected consequence of climate change over the next decade in many regions where we operate.
Building Certifications	In addition to constructing and operating efficient buildings, some stakeholders also value 3rd party certification of these building features (LEED, BREEAM, Energy Star, Green Globes, etc.).
Construction and Site Selection	We have a responsibility to select sites for new facilities where environmental impacts can be minimized and to proactively manage impacts during construction, including recycling and circular economy strategies.
Climate Risk Planning	As a company that prizes resilience and uptime, it is important for us to anticipate and mitigate potential risks to our business from climate change.
Social	
Diversity & Inclusion	
Diverse Representation	Improving the diversity of our company (teammates, managers, executives, and Board) is our highest priority internal social issue.
Diverse Supply Chain	Since we are a relatively small company with only about 450 teammates, increasing the diversity of our supply chain offers a great opportunity for social impact.
Diversity Training and Support	Appropriate training and support can help achieve our goals of including a diverse set of perspectives and backgrounds into our decision-making.
Health & Wellness	
Health and Safety	The health and safety of our teammates and contractors are of high concern, especially with the risks inherent in the construction aspect of our business.
Training, Education, and Benefits	These factors contribute to our teammates' contributions to our work, as well as their overall well-being and quality of life.
Community	
Good Neighbor	We must behave responsibly toward the communities where we operate due to the potentially significant local environmental impacts of data centers.

Governance	
Cybersecurity	
Physical Security, Data Security and Privacy	It is critical that CyrusOne maintains secure facilities and protects our customers' infrastructure and data about our customers.
Network Security	We generally do not have logical access to – and our systems do not connect with – our colocation customers' IT equipment.* Rather, our colocation customers control and operate their servers. For this reason, network security is primarily a concern for our headquarters and support functions, not our customers' server data.
Ethics	
Business Code of Conduct	Our business code and ethics require ethical and equitable operations, which is very important to our stakeholders.
Supplier Code of Conduct	Our supplier code of conduct allows us to have a greater social impact by requiring ethical business practices in our supply chain.
Oversight	
Board Diversity	Our board is committed to reflecting a diverse representation of skills, perspectives, and backgrounds (including with respect to race, ethnicity, national origin, gender, and sexual orientation). We have two female directors, including the Chair of the Board, and our lead independent director is Black.
Board Independence	The structures and practices of our board and its committees are set up to maintain independent oversight of our company to represent long-term shareholder interests.
ESG Oversight	Our board and its committees have direct oversight of Environmental, Social, and Governance risk, strategy, practices, and policies through the mechanisms described under ESG Governance.

** The exception to this rule is our small managed service business in a few data centers, which represents less than 2% of our gross revenue.*

What's Out and Why

It is equally important to identify what we will not focus on in our reporting and to give context for why these topics play a minor role for CyrusOne's business.

Materiality Assessment	
What's Out	***Why?***
Environmental	
Procurement and Supply Chain	Since we do not process a steady stream of raw materials the way a manufacturer would, we will not focus on supply-chain environmental impacts (other than electricity, which is represented above under Energy Consumption and Carbon Emissions). Supply-chain Social Responsibility issues are represented by the *External Diversity and Health & Safety* topics.
Solid Waste Generation	Our facilities do not generate significant waste during operation other than lead-acid batteries, which we will continue to manage responsibly and evaluate for alternatives. Construction waste will be reported under *Construction and Site Selection*.
Wastewater Generation	With our strategy of utilizing water-consumption-free cooling designs, most of our facilities do not generate industrial wastewater in the same way that facilities with evaporative cooling do.
Social	
Donations	While we will continue our corporate giving programs, particularly during crises like the pandemic, our structure as a REIT places limitations on our ability to donate in significant amounts, so our ability to make an impact is limited.
Volunteering	While we will continue to support our teammate volunteering programs, our relatively small headcount for a company of our revenue means that the total impact we can have through volunteering is limited.
Governance	
Ethics Training	While we train on ethics annually and we see ethics training as a first step, we recognize that it is only part of an overall system of guidelines, resources, checks, and balances to support ethical behavior in our organization.

Future Evaluation

We will update our environmental materiality for next year's report and continue to update materiality for all topics every two to three years.

Ownership and Oversight

Board Performance

Our Board of Directors consists of seven directors, all of whom are independent (other than Mr. Ferdman who was appointed interim CEO effective July 29, 2021). Furthermore, the independent directors have no direct ties to one another, management, or the company, aside from their role on the Board and their stock ownership per our stock ownership guidelines, which promotes alignment with our stockholders. The positions of CEO and Board Chair are separate and our Board Chair is an independent director, which further promotes the Board's independent oversight of management.

Just like the rest of CyrusOne, the Board is also focused on diversity – 43% of our directors are women or ethnically diverse, including the Board Chair and the Lead Independent Director. In addition, each of the Board's standing committees has diverse representation. The Board is committed to actively seeking out additional highly qualified women and ethnically diverse candidates. We also invest in ongoing director education and annual Board and committee self-evaluations.

Executive Compensation

The Compensation Committee is responsible for CyrusOne's executive compensation philosophy and policies, as well as the annual and long-term executive compensation program that flows from them. Our long-term success depends on our ability to attract, motivate, focus, and retain highly talented individuals who are committed to our vision and strategy. A key objective of our executive compensation program is to create an ownership culture that aligns pay with performance and overall stockholder value creation.

Our compensation philosophy is to incentivize thoughtful capital allocation and value creation for our stockholders by using competitive pay packages to attract and retain talented executives. These pay packages are intended to (1) cultivate an ownership culture; (2) align the compensation for our executive officers with sustainable, consistent, balanced growth; and (3) achieve specific short- and long-term goals set by the Compensation Committee. We use a combination of compensation programs to incentivize our executive officers to achieve growth and value creation over the short and long term. One metric used in our compensation program is a sustainability metric. This metric is intended to supplement and drive progress towards our sustainability initiatives and projects—an important area of interest for our stockholders.

Financial Audit

Management is responsible for the preparation of CyrusOne's financial statements and the financial reporting process. This process includes implementing, maintaining, assessing, and reporting on effective internal control over financial reporting.

The Audit Committee – pursuant to its Charter – oversees the Company's financial reporting process on behalf of the Board of Directors. All members of the Audit Committee are independent under applicable US Securities and Exchange Commission (SEC) rules and Nasdaq listing standards related to service on audit committees. All three members of the Audit Committee are "audit committee financial experts" as defined by SEC rules.

The Audit Committee is responsible for the appointment, compensation, and oversight of our independent auditor. In fulfilling its oversight responsibilities, the Audit Committee, management, and the auditor reviewed the audited financial statements for the year ended December 31, 2020, contained in CyrusOne's Annual Report on Form 10-K for the year ended December 31, 2020. They also discussed the quality, not just the acceptability, of the accounting principles, the reasonableness of significant judgments, and the clarity of disclosures in the financial statements.

In reliance on the reviews and discussions referred to above, prior to the filing of the Company's Annual Report on Form 10-K for the year ended December 31, 2020, with the SEC, the Audit Committee recommended to the Board of Directors (and the Board approved) that the audited financial statements be included in such Annual Report for filing with the SEC.

Ownership

CyrusOne believes that Directors should be stockholders and have a financial stake in the Company. Each non-employee Director is required to own shares of the Company's common stock worth at least 5x the cash portion of the annual base retainer. The Chief Executive Officer is required to own shares of the Company's common stock worth at least 6x his or her base salary. Each of the Company's other Named Executive Officers (as defined in the Company's proxy statement from year to year) is required to own shares of the Company's common stock worth at least 1.5x his or her base salary. All such individuals who are elected or appointed will have five years from the time they are elected or appointed to meet the minimum ownership requirements.

As of December 31, 2020, each of our non-employee directors and named executive officers has met the minimum requirements for stock ownership (taking into account any grace period as applicable). Directors and officers are also covered by our written policy that prohibits hedging and pledging of Company securities.

Compensation paid to our non-employee directors and our Named Executive Officers is disclosed in our proxy statements, which are available at https://investor.cyrusone.com/sec-filings.

Ethics

Our governance practices to promote ethical business conduct are focused on four different programs:

1. Board Structure
2. Employee Ethics
3. Anti-Corruption
4. Antitrust

These programs, together, seek to avoid improper behavior or the appearance of improper behavior across our company.

Board Structure

The structure of our Board of Directors is designed to support the interest of shareholders and other stakeholders, including ethical business conduct:

- The Board of Directors is not classified; instead, each of our directors is subject to nomination and election annually.
- All seven of our current directors (other than Mr. Ferdman who is serving as our interim CEO) are "independent" according to the meaning of the Nasdaq listing standards.
- The Board has separated the positions of Chair and CEO with an independent director serving as Chair (as well as a Lead Independent Director).
- Our independent directors meet regularly in executive sessions without the presence of management.
- The three standing committees of the Board consist entirely of independent directors, and each of the members of the Audit Committee and the Compensation Committee meets the applicable heightened independence standards of the federal securities laws and Nasdaq listing standards for service on those committees.

Code of Business Conduct & Ethics

We are committed to the highest ethical standards in the conduct of our business; therefore, the integrity of each employee, officer, and director is of paramount importance. All employees, officers, and directors are accountable for their actions and must conduct themselves with the utmost integrity. As part of conducting business ethically, employees, officers, and directors must conduct business in strict observance of all applicable federal, state, and local laws and regulations as set forth by those bodies that regulate the company's business and those that regulate public companies, such as the Securities and Exchange Commission. Persons who act unethically or violate the company's Code of Business Conduct & Ethics and supplementing written policies may be subject to disciplinary action, up to and including termination or removal, and, if applicable, referral to the appropriate authorities for prosecution. CyrusOne hosts annual training for our employees regarding our Code of Business Conduct & Ethics and provides resources to support compliance.

We are committed to establishing and maintaining an effective process for employees, officers, and directors to report – and for the company to respond to and correct – any type of misconduct or unethical behavior. Each employee, officer, and director has a duty to report any known or suspected violation of the Code of Business Conduct & Ethics, including any violation of the laws, rules, regulations, or policies that apply to the Company. We make it easy for our employees to report any suspected violations, including raising the concern with their manager or with any member of the Human Resources department, the legal department, or the executive leadership team. We maintain additional methods for reporting concerns or seeking guidance about known or suspected violations of the Code of Business Conduct & Ethics or any applicable law or Company policy, including an Ethics & Compliance Helpline. The Helpline allows for confidential and anonymous reporting of concerns in the United States and elsewhere as permitted under local law. All reports of known or suspected violations are handled sensitively and with discretion. We also prohibit retaliation against an employee who, in good faith, seeks help or reports known or suspected violations.

Anti-Corruption Policy and Program

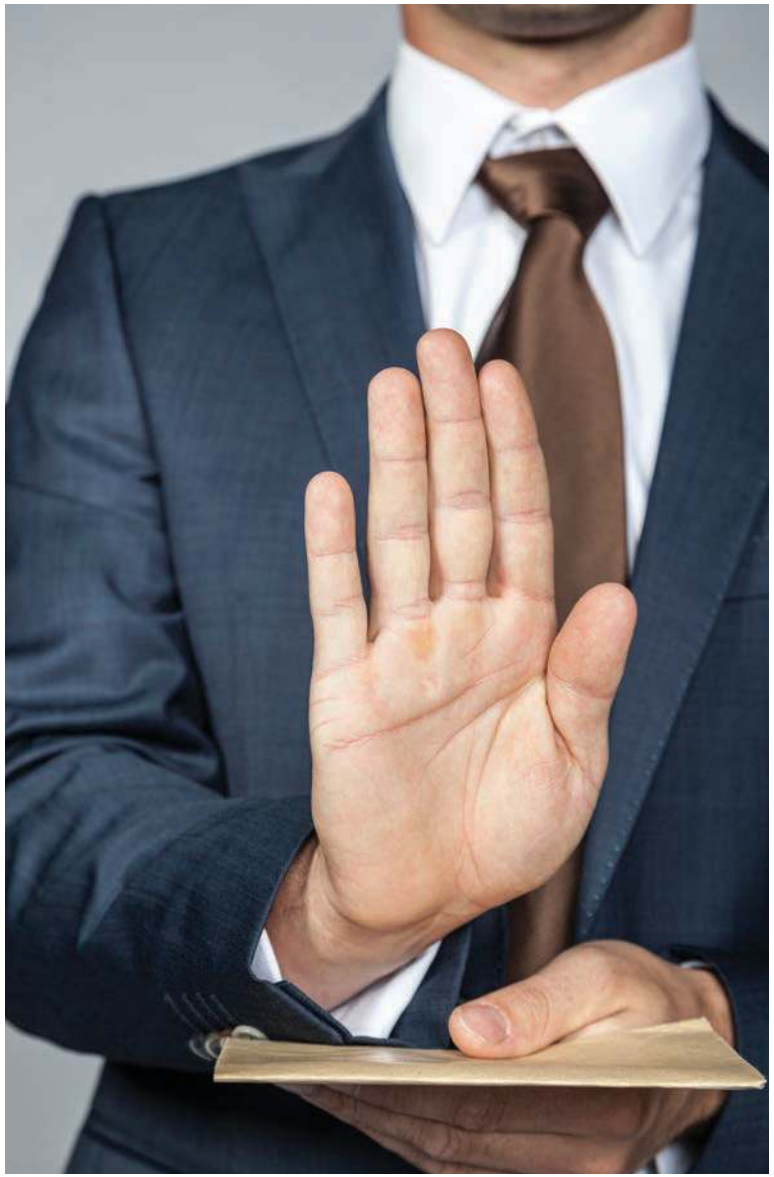
Our anti-corruption and anti-bribery prohibition is simple – no teammate may:

1. Give or offer any payment, gift, hospitality, or other benefit in the expectation that a business advantage will be received in return or to reward any business received;
2. Accept any offer from a third party that they know or suspect is made with the expectation that we will provide a business advantage for the third party or anyone else;
3. Give or offer any payment (sometimes called a facilitation payment) to a government official in any country to facilitate or speed up a routine or necessary procedure; or
4. Threaten or retaliate against another person who has refused to offer or accept a bribe or who has raised concerns about possible bribery or corruption.

We maintain an Anti-Corruption and Anti-Bribery Policy, which details the prohibitions and requirements for dealing with government officials, including employees of government agencies and state-owned entities. Due diligence must be conducted when hiring and doing business abroad with third-party agents, and any expenditures involving government officials must be pre-approved per the Anti-Corruption and Anti-Bribery Policy. Employees who observe any "red flags" that indicate potential corruption must report them to the General Counsel or the Ethics & Compliance Helpline. CyrusOne is committed to complying with anticorruption and anti-bribery laws wherever it does business.

Antitrust Incident Prevention

Antitrust laws (also known as competition laws or fair trade laws) of the US, the EU, and other countries are designed to protect consumers and competitors against unfair business practices and to promote and preserve competition. Our policy is to compete vigorously and ethically while complying with all antitrust, monopoly, competition, and cartel laws in all countries, states, and localities in which the Company conducts business. Our employees are advised to exercise caution in meetings with competitors since any meeting with a competitor may give rise to competition law concerns. Thus, we require that our employees obtain prior approval from the General Counsel if they need to meet with a competitor for any reason. The contents of the meeting should be fully documented. Whenever any doubt exists as to the legality of a particular action or arrangement, employees are encouraged to contact the General Counsel. As of December 31, 2020, CyrusOne was not under investigation for any antitrust actions.



Transparency

ESG Reporting

This is our second annual sustainability report, which is our primary method of reporting ESG topics. We treat transparency as our guiding principle in an attempt to honestly analyze our sustainability programs and report the areas that need improvement along with our successes. For instance, we promote the water-saving cooling we use at many facilities, hoping to inspire others in our industry to think seriously about water consumption. However, we also disclose the number of facilities in our portfolio that still consume large amounts of water.

We are methodical about both the content and structure of our report, which is designed to provide disclosure that is compatible with several third-party standards, as discussed in the Introduction. Our transparency efforts extend to several new sections on our website:

- The Environmental Sustainability page presents an in-depth discussion of our corporate strategies regarding sustainable design, conservation of water and energy, and strategic sustainability partnerships.
- Our Social Responsibility and Corporate Governance pages outline our commitment to diversity, inclusion, ethics, and integrity within CyrusOne and the surrounding communities.
- To facilitate clear disclosure, we created an Investor ESG page where we post documentation to improve our transparency.

To assist our customers with their environmental disclosure process, we also added sustainability profiles to the webpage for each of our US-based facilities. These profiles include:

- Analysis of regional water stress and the facility's water use
- Regional grid greenhouse gas emissions factors and renewable percentages
- Any applicable certifications for the facility (Energy Star, LEED, etc.)
- Other sustainability highlights particular to the facility

After the publication of our 2020 Sustainability Report and website updates, we saw significant improvement in our scores on investor ratings that rely on publicly available information (ISS Quality, MSCI, Sustainalytics, etc.), providing concrete evidence of the quality of disclosure. Additionally, this year, we completed the following investor surveys: GRESB, DJSI (Dow Jones Sustainability Indices), CDP Climate, & CDP Water.

We will continue this commitment to transparency in the coming years as we work toward our sustainability goals.

Political Advocacy

CyrusOne does not engage in lobbying to directly influence policy. We do participate in industry trade associations that may engage in policy influence. We review the policy positions of these trade associations for consistency with our policy aims through high-level participation in working committees related to social and environmental topics. If we discover an inconsistency, we attempt to influence the organization to align its position with ours.

CyrusOne is a member of the National Association of Real Estate Investment Trusts (Nareit), the Data Center Coalition (DCC), and the European Data Centre Association (EUDCA). Nareit supports its members by publishing a framework for reporting climate change risks. They support mitigation and transparency on climate change risks, consistent with CyrusOne's position. The DCC represents and advances the interests of the data center community and advocates for a strong business climate, policies, and investments that support the growth and success of this important business sector. CyrusOne serves on the board of directors of the DCC. EUDCA developed the Climate Neutral Data Centre Pact (CNDCP), which creates binding terms for members to adopt a target to become climate neutral by 2030 with required annual reporting of progress. CyrusOne serves on the board of EUDCA and is a founding member of the Pact.

Enterprise Risk Management

Role of the Board in Risk Oversight

One of the key functions of the Board of Directors is oversight of our enterprise risk management process with support from other standing committees of the Board, each of which addresses risks specific to its respective areas of oversight. The Audit Committee, particularly, has the responsibility to consider and discuss our major financial and regulatory risk exposures (including cybersecurity and ESG) and the steps our management has taken to identify, assess, monitor, and mitigate these exposures, including the process by which risk assessment and management is undertaken. The Audit Committee also reviews and evaluates the performance of our internal audit function, the system of internal controls, and the results of internal audits, as well as oversees and monitors compliance with the Company's policy on related party transactions, our executives' compliance with the company's Code of Business Conduct and Ethics, and the Company's Ethics and Compliance Reporting Helpline. The Compensation Committee oversees succession planning for our executive officers and assesses and monitors whether any of our compensation policies or programs have the potential to encourage excessive risk-taking. The Nominating and Corporate Governance Committee monitors the effectiveness of our corporate governance guidelines, the company's compliance with applicable corporate governance requirements, and the company's corporate social responsibility policies and practices.

HIGHLIGHT STORY: SUSTAINED EXCELLENCE THROUGHOUT THE COVID-19 PANDEMIC

CyrusOne provides mission-critical data facilities that protect and ensure the continued operations of IT infrastructure for enterprise and cloud customers. This infrastructure supports critical services that drive commerce and communication within our serviced communities. As the major impacts of COVID-19 quickly developed in March of 2020, our teams immediately jumped into action not only to continue uninterrupted business for our customers but also, equally important, to focus on the safety of our teams. The prepared pandemic response plan was immediately implemented by our crisis management team (CMT), a cross-functional global group within the company that includes members of the Operations, Service Delivery, Implementations, Environmental Health & Safety, Information Technology, Human Resources, Sales, Legal, and Security departments.

The team quickly procured personal protective equipment for each facility and instituted screening questions and temperature checks, following the guidance of the CDC and WHO. The core CMT initially met daily to complete status updates and maintain adherence to our plan. We ensured each of our essential teammates, our pandemic heroes, was supplied with all necessary documentation to commute to work and safely complete tasks. We implemented health and safety procedures in our facilities, requiring contact tracing and self-isolation or quarantine per CDC guidance for teammates, contractors, or vendors who may have been exposed to or infected with COVID-19, along with deep cleaning and disinfection of areas that may be contaminated. Our HR team initiated “check-in” calls while management established a cadence of site update calls to facilitate prompt communication of issues. Throughout 2020, our pandemic heroes were provided with appreciation bonuses, jackets, and meals in recognition for their truly outstanding dedication and service. We experienced very minimal attrition of our essential workers, and no employee contracted a face-to-face viral infection as a result of exposure within our facilities. The training provided to our workforce ensured that comprehensive steps were taken to mitigate any virus exposure or infection within our facilities.

With shared offices suddenly no longer viable, our non-essential teammates began working remotely from their homes as we began our pandemic pivot away from our standard office setting. Our IT team was able to make sure we did not miss a beat. We transitioned about 200 teammates to remote work within 48 hours. Non-essential teammates were provided any necessary equipment needed to make them fully productive from home. Microsoft Teams became a primary method of internal communication, allowing us real-time engagement. Throughout this process, we have learned that flexibility and remote work is not only productive but can also be a differentiator for future talent attraction. During 2020, we welcomed 77 new teammates to the organization and effectively onboarded each new member remotely. We implemented no pay cuts or furloughs. We could not be prouder of the nimbleness and resilience of our teams during this unprecedented time.

Data Security

Information Security and confidentiality are fundamental to the business of CyrusOne. Information Security is defined as the protection of information and its critical elements, including the systems and hardware that store, process, and transmit that information. Our strategy focuses on protecting our Company assets and our customers' privacy. We recognize that our employees, customers, and partners are key to a robust Cybersecurity strategy. The CyrusOne Data Security model is based on accepted federal guidelines and consists of technical controls, education and awareness, policies and procedures, and identity management.

Cybersecurity

Cybersecurity is an important component of data security and guides our strategy. We have a Cybersecurity Program with a dedicated internal team coupled with specialized 24/7 security services partners. The team actively monitors and responds to potential threats. Our control framework is based on the NIST Cybersecurity Framework and enables us to manage cybersecurity-related risks. These controls have been designed to collectively ensure data confidentiality, integrity, and availability at CyrusOne. We also perform annual third-party audits including Penetration Testing and Vulnerability Analysis to benchmark our maturity, and our senior management team provides quarterly updates to the Audit Committee and Board of Directors on cybersecurity.

Data Protection

The main objective of data protection is to protect CyrusOne's information assets from potential threats. CyrusOne recognizes the importance of privacy, security, and data protection to our employees, customers, and partners worldwide. All employees and contractors undergo annual mandatory Information Security Awareness Training on how to identify and avoid potential security risks by keeping data, devices, and networks secure. In addition, we conduct continuous simulated phishing campaigns, as well as communication for awareness of social engineering tactics. We aim to provide protections across all our operations while continuing to build confidence with our customers, employees, and partners.

CyrusOne seeks to proactively reduce the risks to electronic information resources through the implementation of controls designed to detect and prevent errors before they occur. Detrimental access to the CyrusOne network is defined as any intervention, from either an internal or external entity, that creates any situation whereby authentication and access control mechanisms are bypassed that may compromise the confidentiality or integrity of information resources or render them unavailable. CyrusOne proactively reviews physical and logical risks to information assets and takes action to mitigate these identified risks.

CyrusOne recognizes the importance of privacy, security, and data protection to our teammates, customers, and partners worldwide. This commitment is a critical pillar of brand trust and, increasingly, a source of competitive advantage in an era of accelerated innovation, global data proliferation, and fast-changing regulatory frameworks. We aim to provide protections across all of our operations that go beyond legal minimums and to continue to build confidence with our customers, teammates, and partners at all levels.

As mentioned in Priorities and Materiality, we do not have logical access to customers' data that is housed in our data centers, save for our small managed service business in a few data centers, which represents less than 2% of our gross revenue. Our focus is on maintaining the physical security of our facilities and maintaining the network security of our internal company data.

For more information about security practices, see our web pages on Physical Security and our security Certifications and Audits.

Climate Risk

It is becoming more evident every year that companies must understand climate risk in order to achieve long-term success. No longer a far-off threat, the impacts of climate change are being felt worldwide in the form of increased storm intensity, devastating wildfires, and massive flooding. We cannot just continue as usual and expect to prosper — instead, we must learn to predict and prepare for future conditions.

At CyrusOne, we consider climate change in two ways. First, we evaluate how our activities impact the climate and contribute to climate change. We discuss these impacts and our ongoing efforts to reduce them in the Climate Impact section. Secondly, we think about how the changing climate might impact our business — in other words, our climate risk. We understand that even if we mitigate our climate impact by reducing carbon emissions to zero, we will still need to prepare for the effects of climate change.

CyrusOne's approach to understanding and addressing climate risk is multi-faceted. Below are the most salient risks we have identified and how we are working to mitigate them.

Risk Identification

CyrusOne takes several approaches for identifying climate-related risks:

- **Enterprise Risk Management:** Climate issues raised in the enterprise risk management process are delegated to senior management for action, such as further investigation using our Climate Risk Management Tools.
- **Stakeholder Engagement:** Issues raised by our stakeholders, particularly customers and investors, highlight emerging risks and opportunities that inform our overall climate risk management and reporting capabilities.
- **Climate Risk Investigations:** We contract experts to perform initial climate risk investigations on our behalf. These investigations give us an idea of the scope of the issue as it applies to our operations. If the investigation finds significant risk, we commission a full Climate Risk Assessment, such as the ones detailed in Climate Risk Management Tools.
- **Industry Engagement:** We engage with our peers through industry associations like Nareit and the European Data Center Association (EUDCA) to identify climate-related risks that are specific to our industry.

Risks and Impacts

Barriers to Operate

Laws, regulations, or public perception may limit our ability to develop new facilities in a particular region or restrict areas in which we wish to operate.

We address the risk of new barriers to operation by limiting the local impacts of our facilities by design. Reducing our facilities' water demand and improving wildlife habitat in the areas where we operate will allow us to demonstrate benefits to local communities. Our *Environmental Impact Assessments* and *Protected Areas Assessments* help us to avoid barriers by identifying sensitive lands that affect the local community and slow project development. Our *Water Risk Assessment* helps us to understand the regional water risk of an area during site selection so that we can minimize our impact on local water supplies. For more information, see the Water and Biodiversity sections.

Cost to Operate

Global climate change and the adaptations required to mitigate it will increase operating expenses in various ways. We performed a detailed *Carbon Pricing Assessment* to evaluate the impact of potential carbon price increases, such as national carbon taxes and customer internal carbon prices. Unsurprisingly, we learned that our highest risk from carbon price increases comes in the form of increased costs for carbon-intensive electricity. This analysis helps to inform our drive to improve efficiency and acquire renewable energy for all facilities, and it gives us a way to prioritize regions where the carbon emissions from grid electricity are highest.

Customer Preference

It is important to consider not only how climate risk affects our business but also how it impacts our customers. As the business environment changes along with the climate, our customers' incentives are also adjusting, which can impact the competitiveness of our product offering. For example, our *Carbon Pricing Assessment* gave us increased insight into how our customers' internal carbon prices and carbon reduction goals might affect their purchasing decisions. As companies prioritize climate change mitigation strategies, they will be looking for business partners who can help them achieve these goals. Through a dedication to transparency, we help our customers understand how our services support their sustainability targets. There has been increased focus on water conservation among our customers in the past year, so our *Water Risk Assessment* and ongoing commitment to water-consumption-free cooling align us well with this interest.

Water Stress

Drought is one of the commonly predicted consequences of climate change. Increased water stress in areas where we operate may reduce our access to water for operations or increase friction with local communities. Facilities dependent on water for cooling may face operational interruptions or require costly retrofits to less water-intensive types of cooling.

To understand our exposure to water risk, we conduct an annual *Water Risk Assessment,* which is described in the Water section. We address the risk of increased water stress through our commitment to building new data centers that are not dependent on water for cooling. Furthermore, we have a target for our facilities in high water stress regions to become net-positive contributors of water to the local watersheds; this serves to reduce our exposure to water stress and improve the regions' water supply. We believe that our aggressive stance on prioritizing water conservation will insulate us from significant risk of business disruption as water scarcity increases.

Flooding

Climate change is predicted to increase the likelihood of flooding due to excessive rainfall events and sea-level rise. Shifts in weather patterns have demonstrated that flood risk maps based solely on historical data do not accurately predict future flood risk. Sea-level rise from climate change will cause flooding in regions near coasts and increase the range of impacts from severe coastal weather events like hurricanes.

To understand this risk, we have conducted a *Future Flood Risk Assessment* using a variety of tools to consider the effects of different climate change projections on the flood risk at our facilities. This allows us to anticipate any additional risk in the future to existing facilities and develop mitigation strategies when needed. This is also an opportunity to use more complete information about future risks to select sites for new facilities.

Opportunities and Impacts

Given the almost unthinkable scale of the challenges and loss related to climate change, it seems callous to refer to it as an opportunity. Instead, we strive to manage risk and seek ways to grow our business ethically in the face of climate change and other environmental challenges by providing solutions to the problems and helping to shape our industry for the better.
Increased digitization of information and work is one path toward decreasing our collective environmental and climate impacts. As virtual meetings replace air travel and cloud document storage replaces file cabinets, there are true benefits for the environment. Data centers like ours assist in this transformation. Our goal is to reduce our own environmental and climate impacts so that we can contribute to the solution.

Our strategy for this transformation includes:

- **A transition to renewable electricity:** Like our competitors, we recognize that our high electricity consumption is our primary climate impact and that the solution is to phase out the use of carbon-intensive electricity in favor of high-quality renewable options that are both additional and regional.
- **A focus on water conservation:** Unlike others in our industry, we strive to build data centers that do not rely on evaporating large amounts of water for cooling. Since climate change is likely to increase water scarcity in many places, this strategy will prevent us from contributing to water shortages in the communities and landscapes where we operate.
- **Innovation in backup generation:** To meet our *net-zero carbon* target, we will have to replace our diesel-fueled backup generators. We are investigating various innovative strategies to maintain uptime during electricity outages without burning carbon-emitting fuels.

We believe that, by building our business in a way that provides solutions to global problems, we will appeal to our customers by helping them to meet their own sustainability goals. In doing so, we will ethically grow our business in the face of this collective global challenge.

Scenario Analysis and Resilience

Our tools use different climate scenarios to ensure that our strategy is resilient and adaptable to changing conditions. Overall, our targets are set to contribute to staying below 1.5°C warming and striving for the SSP1-1.9 scenario. When weighing climate risks, the specific scenarios considered in our tools include two climate scenarios (RCP4.5 and RCP8.5) and two socioeconomic scenarios (SSP2 and SSP3), based on CMIP6 models.

Managing Climate Risk

The management of climate risk requires Cross-functional Integration and Coordination organized by the Sustainability Working Group, which meets monthly to report on progress, assign responsibility for required actions, and request support from other groups. Group members discuss identified climate risks, related tools, and progress toward climate goals. The Sustainability Working Group reports to senior management who update the Board on climate risk management progress, which is then integrated into the Enterprise Risk Management process. Climate risks are represented both as primary risks (such as impacts from natural disasters) and as secondary contributions to other primary risks (such as competitive risks). For more detail, see the ESG Governance section.

Climate Risk Management Tools

This section summarizes our inventory of climate risk management tools used to evaluate the risks identified above:

- **Carbon Pricing Assessment:** See below
- **Environmental Impact Assessments:** See Biodiversity
- **Future Flood Risk Assessment:** See below
- **Protected Areas Assessments:** See Biodiversity
- **Water Risk Assessment:** See Water

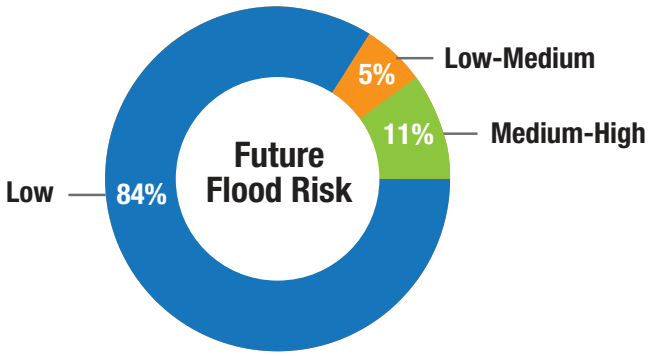
We believe that there are additional strategies we can employ to further understand our exposure to climate risk, which we see as an important aspect of managing business risk. We will continue to expand our efforts to reduce exposure to climate risk in the future, investigating topics such as extreme heat and wildfire risk.

Carbon Pricing Assessment

We conducted a detailed *Carbon Pricing Assessment*, in which we compared multiple pricing scenarios and evaluated impacts to each of our facilities, taking into account the effects of different customer contract types, variations in the carbon intensity of electricity, and consumption of carbon-emitting fuels (diesel and natural gas). We also evaluated the potential impact of carbon price increases on new facility construction. We use this information to understand how carbon prices might impact our business situation, as well as how it may affect our customer's priorities and requirements. For more detail about this assessment see Appendix 1: Methodology.

Future Flood Risk Assessment

According to government flood maps that rely on historical data (such as U.S. FEMA or UK Environment Agency), we only have one facility with any exposure to flood risk. However, we understand that traditionally "flood-safe" areas may face increased flood risk due to climate change. We evaluated projections of future flood risk using a variety of tools, including the Flood Factor and UK Long Term Flood Risk tools, as well as other government-issued reports.



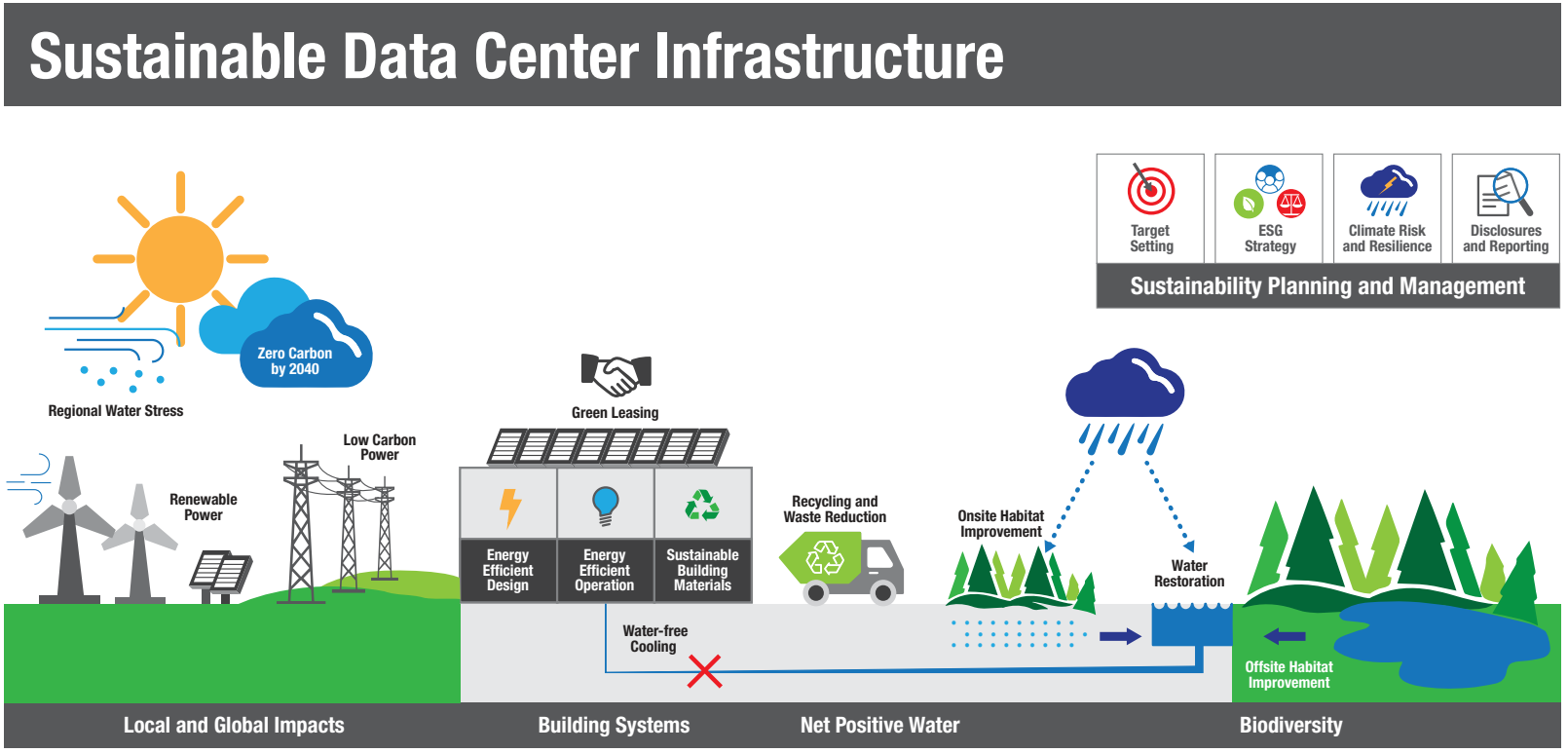
ENVIRONMENTAL IMPACT

Environmental Impact

In the past, sustainability programs in the data center industry have been highly focused on energy and carbon emissions. This is understandable, as climate change is the most pressing global challenge of our era. By their nature, data centers require a large amount of energy. They must remain fully operational 24/7 and run IT equipment that draws large amounts of power. Furthermore, these systems generate heat, which requires energy to keep them cool. To save electricity and thus reduce carbon emissions, traditional data centers evaporate millions of gallons of water per month, all of which are removed from the local watershed, increasing local water scarcity.

We believe this approach is short-sighted, as increased water stress is a major risk of climate change in many of the regions in which we operate. As water stress in these regions increases, data centers that depend on water for operation will become vulnerable to water shortages, potentially leading to conflicts with local communities, loss of reputation, and business disruption. In addition, water that is evaporated for cooling is removed from the local watershed, contributing to negative impacts for the plants and animals that depend on that water as part of their habitat.

This is why CyrusOne takes a more holistic view of environmental impact. We are committed to reducing our carbon footprint and providing industry-competitive energy efficiency without sacrificing water or imposing negative impacts on wildlife habitats where we operate. Instead, we strive to make our impact on the environment a positive one through restoring water to watersheds in high-stress regions and improving habitats on or near our data center campuses in an attempt to not only do “less harm” but also to do “more good.”



Building for Sustainability

Large data centers like ours have great potential to achieve energy and greenhouse gas reductions by combining the computing power of many smaller data rooms into fewer larger data centers. The concentration of this computing power allows for more efficiencies, but it also concentrates the environmental impacts into a single region. For issues like greenhouse gas emissions, this concentration is of small consequence since the emissions go into the same atmosphere and climate change is a global phenomenon. However, for local issues like water stress and habitat loss, concentrating resource demands into a single region can have big impacts on local communities and landscapes. Our strategy is to avoid as many of the negative consequences of our data centers as possible so that we can enable the efficiencies that come with scale.

In this section, we will discuss our sustainability strategies for the first three stages of development: Site Selection, Design, and Construction. The Operating and Partnership stages will be covered in the Energy, Water, and Climate Impact sections.

Stages of Data Center Development

Strategy

At CyrusOne, we have long had a strategic focus on efficiency. We are known for building data centers quickly and effectively due to detailed planning and a standardized design. These same strengths lend themselves well to reducing environmental impacts. From site selection to cooling design to construction, efficiency is key to saving both time and resources.

Site Selection

Risk Management

When selecting sites for new data center construction, we use our climate risk assessment techniques to evaluate factors such as future flood risk and water stress (current and future). This provides insight into the chance of climate and weather-related impacts for each potential site and allows us to make more informed siting decisions. See the Climate Risk Assessment section for more information about our tools.

When looking for new data center locations, we prioritize sites in areas already designated for data centers or similar uses via zoning, or in existing planned developments like technology or business parks. This selection process, along with environmental impact assessments and protected areas assessments, gives us confidence that our facilities will not create negative impacts on prime wildlife habitats. By understanding sensitive habitats that are on or adjacent to our sites, we can anticipate and mitigate impacts during site selection. See the Biodiversity section for more information about our Environmental Impact Assessments and Protected Areas Assessments.

We also take into account the carbon emissions rate of the local electricity grid and the local availability of renewable energy purchasing opportunities, prioritizing sites that support our *net zero carbon* goal. For more information about how we prioritize renewable energy opportunities, see Energy Procurement.

Design

During facility design, several tradeoffs and decisions need to be made. To help illustrate these important decisions, we highlight two significant distinctions in this section: 1) the tradeoffs that are made between energy and water consumption and 2) the relationship between onsite water consumption and water consumption in the energy supply chain. Navigating these tradeoffs allows CyrusOne to take a multi-factor approach to reduce negative environmental impacts.

Energy/Water Tradeoffs

New CyrusOne data centers are generally designed to avoid dependence on water. Traditionally, data centers have utilized cooling systems that evaporate water, removing millions of gallons of water from the watershed and discharging wastewater with highly-concentrated contaminants to the local treatment system.

Our strategy is to design our facilities without reliance on water consumption-based cooling, in order to take advantage of the increased reliability and provide regional environmental benefits. This results in a somewhat higher design PUE (Power Usage Effectiveness, a common metric used to measure data center efficiency) than could be achieved by "burning" water instead of electricity, but it allows us to prepare for the future and mitigate the impacts data centers have on regional water supplies, especially in regions identified by our Water Risk Assessment as high water stress, like Phoenix or Dallas. To make this distinction visible, we always report our PUE separately for *wet* facilities and *dry* facilities.

While using non-potable water (such as reclaimed water or rainwater) for evaporative cooling can provide some energy-saving benefits to the local treatment works (compared to cleaning the water to potable standards), it does little to help the total water balance in the watershed. Since our goal is to reduce regional water stress through our design and operations, we favor approaches that eliminate water consumption, rather than consuming an alternative water source.

Our innovative design instead uses an air-cooled chiller with an integrated compressor and condenser to cool a closed loop of water. This chilled water is used to remove the heat from the data hall, but none is evaporated in the process. The water loop is filled once during construction and remains filled throughout the life of the facility. This closed-loop technology avoids new water usage in operations and the release of concentrated pollutants into the wastewater system. Our water-efficient building design not only minimizes water use and, thus, water risk in our operations, but is also significantly faster to build than water-consuming cooling systems used in other data centers. This reduces the need for costly water and industrial sewage infrastructure in buildings as well.

This strategy is not perfect. Climate change is a serious threat to the world, and at some facilities, we are likely emitting more carbon today than we would if we used evaporative cooling. Some may argue that it is better at this moment to consume water than electricity. This is a worthwhile discussion, but we don't design facilities only for current conditions; rather, when we build a new data center, we design it to operate for decades to come. Global water stress is predicted to increase dramatically in that timeframe, and we want our facilities to be resilient. We do not ignore our carbon footprint — on the contrary, we are aggressively pursuing low-carbon electricity. Our facilities are designed for a future where they will neither consume large amounts of water nor emit large amounts of carbon.

Onsite Water vs Energy Supply Chain Water

We understand that, no matter how much we reduce our onsite water consumption, as long as we are reliant on grid electricity, we are indirectly responsible for the consumption of large amounts of water through traditional thermoelectric electrical generation. We have begun efforts to quantify this energy supply chain water consumption in order to understand both our full impact on water resources and the risk of electrical supply disruption due to increased water stress. The water consumed in electricity production, sometimes referred to as the "embodied water of electricity" or "virtual water," is often used to justify employing less expensive evaporative cooling in order to save electricity. The rationale is that water expended onsite is simply replacing water that would have been used in electrical generation and that it all evens out in the end. There is some truth in this analysis, especially when the electricity consumed comes from thermoelectric sources (like fossil fuel or nuclear generation). However, we know that solar and wind generation consume a negligible amount of water. As both electrical grids and individual consumers like CyrusOne replace thermoelectric sources with wind and solar generation, the water embodied in the electricity we consume decreases dramatically. When we reach our *net zero carbon* target through the use of renewable energy, we will consume effectively no water for cooling at the vast majority of our facilities, whether directly through water-consuming cooling or indirectly through our electricity use.

HIGHLIGHT STORY: THE PATH TO ZERO WATER

Carrollton Onsite and Supply Chain Water Consumption			
Water Consumption (gal)	**2019**	**2020**	**2021 (Projected)**
Cooling Technology	Hybrid	Water-free	Water-free
Onsite Water	13,261,000	4,611,000	4,500,000
Energy Supply Chain Water	84,015,000	87,806,000	26,520,000
Total Water	97,276,000	92,417,000	31,020,000
Water Restored	0	5,533,000	5,400,000
Regional Water Impact	97,276,000	86,884,000	25,620,000

Water emission factors from WRI's Guidance for Calculating Water Use Embedded in Purchased Electricity

Over the last three years, we've had an opportunity to conduct a case study in grappling with the embodied water of electricity and the tradeoffs with onsite water consumption for cooling. In 2019, our largest data center in Carrollton, Texas consumed 13.3 million gallons of water onsite through its hybrid air- and water-cooled system. In 2020, informed by the results of our Water Risk Assessment, which indicated that Central Texas is a high water-stress region, we upgraded the facility to a 100% water-free cooling design. This had the impact of slightly raising the average Power Usage Effectiveness (PUE) from 1.37 to 1.39 while reducing the onsite water use by 65% to 4.6 million gallons used for landscape irrigation, fire system maintenance, and domestic water for Carrollton's 60,000 ft^2 of office space. Only a portion of this 4.6 million gallons is actually consumed (the irrigation), and the rest is discharged to the water treatment works, but for our case study we counted it all as water consumption to be conservative.

This 65% decrease looks great in theory, but we wondered if the supply chain water for the extra electricity would mean that the total water consumed by the facility stayed the same or even increased due to the upgrade. Using the World Resource Institute's emissions factors for water consumption in the local electrical grid, we estimated the total water consumed (onsite and for electricity generation) by Carrollton in 2019 and 2020. While we discovered that supply chain water greatly outstripped the water used onsite, Carrollton's overall water use still decreased by more than 5 million gallons between 2019 and 2020 due to its switch to a water-free cooling design. This result challenges the conventional wisdom that consuming water for cooling saves total water, at least in today's supply chain.

Moreover, a new renewable electricity source that we invested in during 2020 will cover an estimated 70% of Carrollton's power needs with renewable solar electricity beginning in 2021. Based on the WRI's tool, solar electricity has a water consumption factor of zero, thus reducing our energy supply chain water consumption by 70%. As you can see in the adjacent table, the total water consumed at Carrollton in 2021 will be less than a third of the consumption in 2019, demonstrating the promise of our onsite water-free cooling enabling a truly water-free cooling future for this facility.

Also in 2020, we purchased Water Restoration Credits to offset our onsite water use at Carrollton, restoring 20% more water than we consumed in order to achieve our *net positive water* designation. From here, it's easy to imagine a future when the facility uses 100% renewable electricity for the full promise of *net zero carbon* with *net positive water*.

Energy Efficiency

Strategy

We have mentioned the large amount of energy used by data centers, and our goal to replace traditional sources with high-quality, additional renewable energy. However, the first step is to decrease our environmental impact by increasing energy efficiency. Our standardized design incorporates efficiency at every level. The three primary design strategies we employ are:

1. Minimize data hall heat
2. Right cooling, right place, right time
3. Supplier partnerships

Minimize Data Hall Heat

As a colocation data center company, much of our energy use comes from our customers' equipment and is therefore out of our direct scope of control (i.e. we cannot specify how efficient the servers are). Our role is to ensure that our support equipment be as efficient as possible. Inefficient equipment not only wastes electricity but also produces excess waste heat which must then be cooled, thus consuming more electricity. There are several areas we focus on to minimize data hall heat:

1) **High-efficiency uninterruptible power supplies (UPS):** The UPSs we source generate little waste heat and operate efficiently even while operating at 50% of maximum capacity, so the data center doesn't have to run at full capacity for peak efficiency.

2) **Ultrasonic humidification:** Instead of using heat or pressurized water to produce water vapor for humidification, our ultrasonic humidification systems maintain the necessary humidity using only 7% of the energy of more traditional electric steam humidifiers, all without adding heat to the data hall.

3) **LED lighting:** Older lighting technology converts more of its electricity into heat than into light, but modern LED lighting gives us the double dividend of less data hall heat and less wasted electricity. Coupled with occupancy sensors, our LEDs deliver lighting only where and when it's needed.

Right Cooling, Right Place, Right Time

Because colocation data halls host a variety of customers running a variety of servers, they must be built to be flexible and remain efficient at a wide range of capacities. This is especially noticeable when a facility is first starting up and customers have yet to finish their server installations. Older cooling technologies had to be run at full capacity regardless of the actual need for cooling, resulting in overproduction and waste. Our modern data centers use a variety of technologies to deliver the right cooling to the right place at the right time, regardless of capacity. Those technologies include:

1) **Building management systems:** Using intelligent systems and sensor networks, the data center predicts the need for cooling and adjusts chiller output, air handling, and other factors to meet customer needs with minimal electricity use.

2) **Economizers:** Also called "free cooling" systems, economizers use low outdoor ambient air temperatures to generate chilling when the weather is right, using roughly 1/7 of the electricity required by standard chillers. Economizers are installed in facilities where the local climate provides efficient free cooling.

3) **High-efficiency chillers:** The air-cooled chillers that we source are selected for efficiency, flexibility, and reliability. We generally design for water-free cooling from the ground up, which maximizes the efficiency of our systems and avoids dependence on water. In our standard design, water is used only in a closed-loop system to remove heat from the data hall, but no water is consumed in the process.

4) **Throttling:** Our systems use controllable variable frequency drives (VFDs) to power air handlers and pumps, meaning they don't have to be "all on" or "all off." The cooling distribution equipment is operated at precisely the right level needed for optimal cooling without wasting energy.

5) **Partnering with customers:** We work with customers to provide optimal cooling to their servers and achieve good hot aisle/cold aisle separation and containment. We also optimize airflow directed to customer equipment to best match its power draw and select efficient temperature setpoints to meet equipment needs.

6) **Liquid-to-chip cooling ready:** This system allows even higher efficiency for customers who want to use various liquid cooling methods (in-row cooling, liquid-to-cabinet, liquid-to-chip, and immersion cooling).

Supplier Partnerships

Finally, we partner with our equipment suppliers to identify new high-efficiency technologies and to alter equipment specs to support our particular design needs, rather than just using off-the-shelf equipment when it's an imperfect fit.

Metrics and Targets

Here are the primary metrics we use to measure our progress in designing efficient data centers. For more information about these metrics, see Appendix 2: Primary Metrics.

Target: Industry-Competitive PUE Without Consuming Water

Our target is for all newly built facilities to offer competitive energy efficiency without consuming water for cooling. Some facilities may be designed with optional evaporative cooling equipment but, ideally, must also be able to operate without it.

For more information about water-free cooling, see the Water section. For more information about how we operate efficiently and track PUE, see the Energy section.

Metric: Design PUE

Power Usage Effectiveness (PUE) is the ratio of a data centers' total electricity usage to the electricity delivered to servers. For more information about PUE, see Appendix 2: Primary Metrics. We make a distinction between a facility's Design PUE (the idealized PUE of a facility running at full capacity, based on its design and assumptions about customer servers) and its Operating PUE (the measured PUE of a facility in a given year based on actual conditions). Operating PUE will always be higher (worse) than Design PUE because, to maintain redundancy and flexible capacity, colocation data centers are generally never run at full capacity. For more information about improvements in our Operating PUE, see Energy.

Though a standardized design, Design PUE varies by facility due to the influence of the local climate; the warmer it is outside, the more energy it takes to maintain data hall temperatures. Therefore, we report the range of Design PUE across our facility locations. Since PUE varies by season, we report the annual average PUE ("annualized"). In 2020 we updated our standard design to incorporate higher-efficiency air-cooled chillers that take advantage of external air temperatures to enhance cooling efficiency (also called "economizers" or "free cooling"). While these systems provide increased efficiency everywhere, they give particular benefit to facilities in cooler climates, leading to a wider Design PUE range for our new design than for previous iterations.

Annualized Design PUE					
Metric	**Climate**	**2018**	**2019**	**2020**	**Reduction in Support Energy**
Low PUE	Cooler Climates	1.32	1.32	1.18	44%
High PUE	Warmer Climates	1.36	1.36	1.28	22%
Scope: highest and lowest design PUE (kWh total/kWh servers) for locations where CyrusOne operates					

Since PUE has a theoretical minimum of 1.0 (meaning no support energy used), this new design reflects a 44% reduction in support energy in our cooler climates and a 22% reduction in warmer climates.

Target: 100% Water-Free Cooling in New Data Centers

We have a target to build all new facilities with the ability to operate with zero water-consumption cooling. By committing to this strategy, these facilities can be efficient facilities cooled without the consumption of water both now and into the future.

Metric: Percent of New Data Centers with Water-Free Cooling

In 2020 we finished construction on six new data centers, four of which operate with water-free cooling. This leaves us at 67% of our 100% goal for 2020. The two new data centers that use evaporative cooling were part of the Zenium acquisition in 2018 and do not follow our standard water-free design.

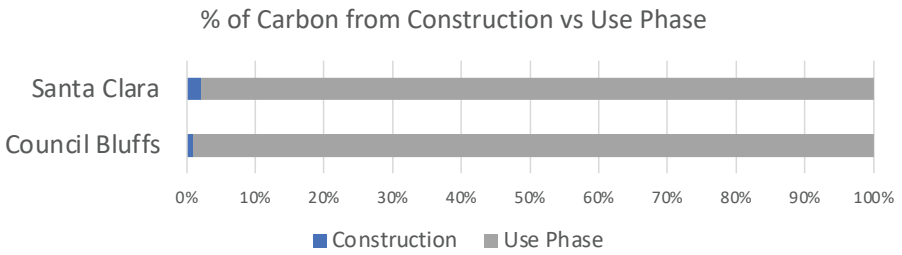
Construction

Lifecycle Assessment

In order to better understand the climate impact of data center construction as a portion of the facility's entire emissions, we performed a simple lifecycle assessment of our recently completed Council Bluffs, Iowa data center. We first estimated the carbon emissions due to construction materials and facility equipment. Next, we calculated the expected emissions from facility electricity and fuel use over the span of 30 years, given the current grid emissions factor and assuming a stable rate of "grid greening."

We verified that the carbon emissions from a data center's construction are currently a very small percentage of the facility's total lifetime emissions. In the case of Council Bluffs, construction carbon amounted to 0.9% of the estimated 30-year emissions. Compared to the United Nations Environmental Program (UNEP) finding that building construction accounted for 28% of global emissions from the building sector versus 72% from building operation, construction of our data centers accounts for a much smaller percentage of total emissions than the average building.

Given that Council Bluffs is in a relatively carbon-intensive grid region, we repeated the calculations for our upcoming Santa Clara, California facility. California's electricity grid has a higher percentage of renewable energy, meaning that the estimated lifetime emissions were significantly lower. However, construction carbon still accounted for only 2.2% of the facility's projected total lifetime emissions.



This analysis supports our focus on improving efficiency and transitioning to renewable sources of electricity as quickly as possible because electricity accounts for such a large portion of our facilities' carbon footprints. We recognize, however, that as the electricity we use becomes greener, the percentage of our impact that comes from construction will only increase, so we must also consider more sustainable construction materials and methods. For more details about this strategy, see Circular Economy.

Green Building and Operations Certifications

Until recently, we have pursued green building certifications on a case-by-case basis. We are evaluating a new green building standard and whether we will pursue certification for all new facilities and will provide updates in our next report. The table below shows green building certifications that cover some or all of each building as of the end of 2020.

Green Building and Operations Certifications (2020)

Facility	Certification	Level
London II	BREEAM	Very Good
Phoenix – Chandler I	Energy Star	Certified
Phoenix – Chandler II	Energy Star	Certified
Phoenix – Chandler III	Energy Star	Certified
Somerset	LEED	Gold
Houston – West I	LEED	Silver
Aurora I	Green Globes	Three Globes
Aurora II	Green Globes	Three Globes
Frankfurt I	ISO 14001	Certified

HIGHLIGHT STORY: THREE GREEN GLOBES FOR AURORA

THREE GREEN GLOBES® CERTIFIED

In 2020, we pursued our first multi-factor certification of existing facilities for our two Aurora, Illinois data centers through the Green Building Initiative's Green Globes program. The certification focused on operational improvements and policies and resulted in many benefits. The process of certification sharpened our attention on green practices, many of which were easy improvements with tangible benefits. This gave us a moment to rethink how we operate our data centers and how we can adapt these lessons to other locations.

The topics we examined and actions we took for the certification process include:

- **Energy:** We set targets for continual improvement in energy efficiency year-over-year, evaluated lighting options, and reevaluated our equipment supply chain to make energy-efficient equipment the standard.
- **Water:** We set targets for year-over-year water efficiency improvement through practices such as monitoring our irrigation system for leaks, more efficient water application, and upgrading to more efficient water fixtures (sinks, toilets, etc.).
- **Facility Maintenance & Renovation:** We developed a practice of conducting renovations with the same initial design intent for environmentally preferable products as with our new construction, resulting in lower impact from products like paint, adhesives, flooring products, etc.
- **Green Cleaning:** We inventoried our cleaning products and evaluated environmentally preferable alternatives, then worked with our custodial vendor to transition to the alternatives.
- **Pest Control:** We worked with our pest control vendor to transition to sustainable Integrated Pest Management and pesticide application options.
- **Environmentally Preferable Purchasing:** We established a list of more sustainable product choices for categories such as lightbulbs, paper, air filters, etc.
- **Waste:** We audited our waste profile and made adjustments to our recycling program to improve collection rates.
- **Site Management:** We evaluated our landscaping, outdoor maintenance, snow melt/ runoff patterns, and de-icing practices (both product and practice changes) to reduce the environmental impact of managing our outdoor spaces.

Energy

By nature, data centers require a large amount of energy. They must remain fully operational 24/7, and run IT equipment that draws large amounts of power. Furthermore, these systems generate a large amount of heat, requiring energy to keep them cool. This is why energy issues are typically seen as the primary environmental concern for data centers. Our main source of energy is electricity, though we also use diesel for backup generation, and some facilities use small amounts of natural gas for comfort heating. For the most part, we focus on electricity because it provides the vast majority of our energy. This section focuses on the Performance and Procurement of our Energy. For more information about how new facilities are designed to be energy efficient see Building for Sustainability. For more information about the carbon emitted due to energy use, see Climate Impact.

Strategy

Our approach to reducing our environmental impact through energy falls under three main strategies: (1) Our standard design for new data centers incorporates many energy efficiency measures. We review best practices in the industry, partner with suppliers, and take innovative approaches in design and construction to achieve cost-effective efficiency. (2) For existing facilities, we strive to reduce energy and carbon emissions through smart operational practices and facility upgrades. (3) Through strategic site selection and energy procurement, we can increase renewable and low-carbon power sources for our operations.

A key part of our strategy is to integrate water and energy metrics to give a more complete picture of our efficiency. As described in Building for Sustainability, water use is usually "invisible" to energy calculations like PUE, frequently leading to the tradeoff of decreased energy use for increased water consumption. However, we know that water consumption can have huge regional environmental impacts. By reporting energy metrics that reference water use, we are charting a new course in our industry for increased transparency and hope that others follow suit.

Energy Performance

Along with facility design and construction, we also strive to reduce energy consumption after the commissioning of new facilities and within operations of our existing facilities.

Strategy

We focus on operating all facilities efficiently through the use of building management systems, airflow modeling, and carefully balancing cooling delivery with server needs. We work with customers to offer rack blanking panels, advise cold aisle containment, and properly size airflow floor tiles to get the most utility from the chilled air that we supply to data halls. We also partner with our suppliers to identify new high-efficiency technologies and customize equipment specs to meet our particular needs.

To get the most efficiency gains for our efforts, we first look for ways to retrofit and upgrade equipment at our least efficient facilities. To inform our decisions about where to invest in upgrades, we also consider the carbon intensity of the local grid, to achieve the biggest carbon reduction for our investment. We also favor opportunities to achieve both energy efficiency and reliability improvements with the same project.

Within our strategy, there are two key distinctions we make in our portfolio, 1) whether the facility is a *legacy* build or a *modern* design, and 2) whether the facility consumes water for cooling ("*wet*") or not ("*dry*"). For an explanation of facility designations (*legacy, modern, wet, dry*) see Appendix 2: Primary Metrics.

Data Center Portfolio Composition

This table summarizes the composition of our data center portfolio. The percentage is based on the total available colocation square footage (whether built-out or not) at directly managed facilities. "*Built-out*" means that a customer has not only rented the space but has also installed their servers and begun to draw power.

Data Center Portfolio	
Reporting Category	**% of Portfolio CSF**
Legacy Dry Facilities	8%
Legacy Wet Facilities	17%
Modern Dry Facilities	57%
Modern Wet Facilities	5%
Pre-built-out or Under Development (Dry)	8%
Water Data Unavailable	6%

Scope: Total colocation floor area at directly managed facilities, excluding 2 customer-managed facilities

Computational Fluid Dynamics (CFD) Optimization

We use Computational Fluid Dynamics (CFD) modeling to simulate the flow of chilled air throughout a facility. CFD Models are advanced mathematical simulations that require expert configuration and hours on high-performance computers to complete but give key insights into how air and heat move through our facilities.

Chilled air enters the data halls through ventilated tiles into cold aisles created by barriers that surround the servers. The ventilated tiles have different sizes of openings which allow us to control the amount of air that enters each cold aisle, and the barriers keep the chilled air contained to the space where cooling is needed (near the air intakes for the servers). These barriers can include blanks installed in empty racks, end-of-row doors, and roof panels (rack top baffles). Together these features help optimize the amount and location of cooling while reducing the overall power demand of the system. When this arrangement is not working properly, chilled air is directed into equipment that does not require as much cooling while missing other areas that need cooler air. The air handler fans then need to work harder to meet the supply air setpoint, wasting electricity. We adjust our cooling through CFD modeling to best support our customers' evolving needs.

Optimizing the speed of air handler fans can yield surprising results. Fans consume more electricity to turn faster, but electricity consumption doesn't increase linearly. For example, we might expect a fan running at 100% speed to use four times as much power as one that is running at 25% speed. In fact, it uses 30 times more power since air resistance against the fan blade increases geometrically with increased speed. So, three fans moving at 33% speed will move the same air as one fan running at 100% speed, but they will use 86% less power. This is key to understanding how CFD modeling can achieve significant energy savings by fine-tuning our cooling performance.

This is one way we address the unique challenges of a colocation data center environment. Unlike in-house data centers, colocation data centers have a split responsibility between the servers (controlled by the customers) and the cooling systems (controlled by CyrusOne). Coordinating these two efforts for energy efficiency is not a simple matter. By using CFD modeling we can recommend optimal settings for our cooling equipment and customer server arrangements to ensure that both operate efficiently. CFD Modeling provides opportunities to customize the cooling of each data hall between construction and operation, during customer build-out, and for ongoing optimization.

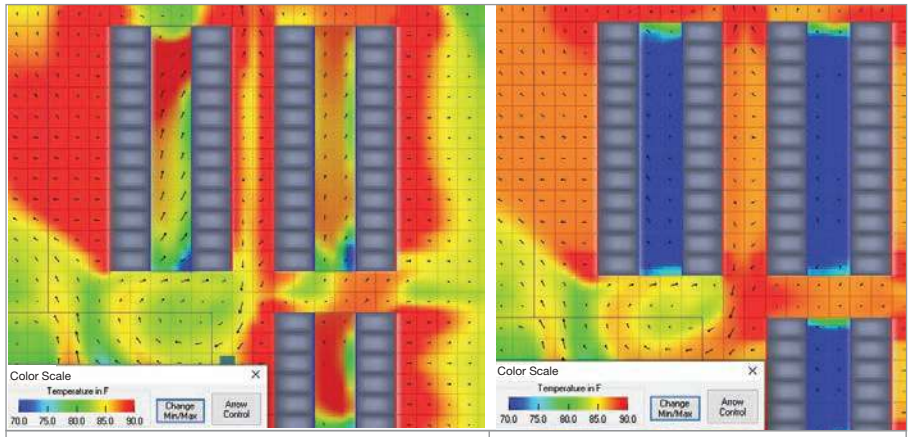
Between Construction & Operation

During commissioning, data centers are tested to ensure that the cooling system can remove the heat that will be generated by servers. The data centers must remain running after being tested so that they are fully operational when customers move in. Unlike in-house data centers, colocation data centers face the uncertainty of not knowing exactly when customers will install their equipment, so there is often a period when the data center support systems are running without any servers occupying the space. Using CFD modeling, we have optimized cooling during that fallow period by reducing fan speeds and strategically allocating ventilated floor tiles, thereby lowering total energy demand.

Supporting Customer Build-out Process

Our colocation data centers are designed to flexibly use cooling system configuration and cold aisle containment to match the varying need for cooling based on different data hall capacities and occupancy rates.

Modeling Cold Aisle Containment



Poor cold aisle containment lets precious chilled air spread around the data hall, rather than efficiently cooling the servers	Good cold aisle containment delivers chilled air to the servers where it is needed, saving energy

Images created by CyrusOne using TileFlow by Innovative Research Inc.

When customers move in and begin installing servers in our data halls, we bring the expertise of our CFD modeling to make recommendations on server arrangement, cold aisle containment, and chilled air flow rates to maximize the efficiency of both our equipment and theirs. This is the beginning of our partnership for efficiency with our customers.

Ongoing Optimization

After customers have moved in, we continue to look for opportunities to improve efficiency. Data halls evolve over time: servers get upgraded, their loads change, and their temperature tolerances change. If we don't evolve our cooling strategies with them, then our cooling systems gradually become less efficient. We run the CFD modeling periodically to inform updates to our cooling system arrangement (such as optimizing airflow tiles and cold aisle containment) so that we can maintain efficiency without affecting customer server placement.

Containment Solutions

Rack Top Baffles
Utilized to contain air without impeding sprinkler infiltration

End of Row Doors
Utilized to prevent Hot Air from Infiltrating a Cold Aisle

Full Cold Aisle Containment
Utilized to contain air; panels shrink and fall under high heat

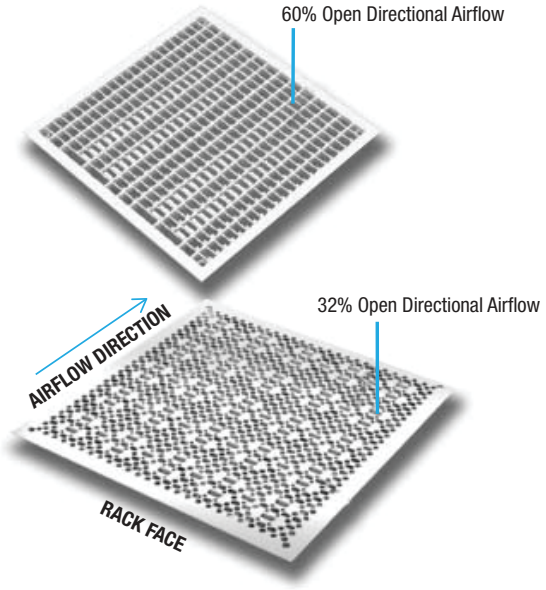
Source: Product images from Upsite Technologies, Inc. and Polargy, Inc.

Computer Room Air Handler or "CRAH"

Air Supplied Under raised floor to escape through Ventilated Tiles

Source: Product image by STULZ Air Technology Systems, Inc.

Ventilated Tile Styles



Source: product images by Tate Access Floors, Inc.

Risk Management

Energy efficiency reduces our environmental impact and also provides resilience against some types of risk. By reducing our reliance on energy, we also reduce the strain we place on the grid and the resulting risk of grid power interruptions, as well as our exposure to price volatility. Additionally, having efficient operations allows us to minimize regulatory risk, such as preempting costly adaptation measures with energy-efficient programs in place to meet more stringent regulations in the future.

Metrics and Targets

Here are the primary metrics we use to measure our progress on energy-efficient operations. For more information about these metrics, see Appendix 2: Primary Metrics.

Metric: Absolute Energy Consumption

Our operational energy use calculations include four sources: (1) CyrusOne electricity for server support and common areas, (2) Customer electricity for their servers in our data halls, (3) Natural gas for comfort heating (only used at some facilities), and (4) Diesel for emergency backup generation at all facilities.

These data are combined into a common unit for aggregation (kWh). We use standard conversion factors for natural gas and diesel (from the European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector). For more detail about the scope and methods, see Energy Inventory in Appendix 1: Methodology.

In 2018 and 2019, we assigned electricity delivered to customer IT equipment as a "Scope 3" carbon emission. For 2020 and going forward, we are assigning it as a "Scope 2" carbon emission and combining all three sources of electricity into our energy metrics. We have restated 2018 and 2019 in this report to provide accurate year-over-year comparisons. For more information about the impact of this change on carbon emissions, see Climate Impact.

Total Energy Consumption (MWh)			
Energy Type	**2018**	**2019**	**2020**
Non-renewable fuels purchased and consumed	15,947	33,192	29,586
Non-renewable electricity purchased	1,910,220	2,352,451	2,714,112
Steam/heating/cooling and other energy (non-renewable) purchased	0	0	0
Total renewable energy purchased or generated	10,316	29,894	59,197
Total non-renewable energy sold	0	0	0

Scope: (1) CyrusOne electricity for server support and common areas, (2) Customer electricity for their servers in our data halls, (3) Natural gas for comfort heating (only used at some facilities), and (4) Diesel for emergency backup generation at all facilities.

Energy Intensity

We measure energy intensity from several different perspectives:

- **Power Usage Effectiveness (PUE):** The ratio of total electricity to the electricity delivered to servers. Measured both as Design PUE and Operating PUE.
- **Building Energy Intensity:** The energy per built-out colocation area in our facilities measured in megawatt-hours per square foot (MWh/ft^2). This includes energy from diesel and natural gas as well.

Each of these metrics gives us a different perspective on how we're doing to reduce the energy intensity of our operations. They are detailed below.

Metric: Power Usage Effectiveness (PUE)

Power Usage Effectiveness (PUE) is the ratio of a data center's total electricity usage to the electricity delivered to servers. This extra, non-server power is used to operate the cooling, lighting, and other mechanical systems necessary for server operation. Since CyrusOne doesn't make any decisions about the efficiency of the servers themselves, we focus on how efficiently we can support their cooling and power needs. For more information about PUE see Appendix 2: Primary Metrics.

We make a distinction between a facility's Design PUE (the idealized PUE of a facility running at full capacity, based on its design and assumptions about customer servers) and its Operating PUE (the measured PUE of a facility in a given year based on actual conditions). Operating PUE will always be higher than Design PUE because, to maintain redundancy and flexible capacity, colocation data centers are never run at full capacity. For more information about improvements in our Design PUE, see Building for Sustainability.

Metric: Operating Power Usage Effectiveness (PUE)

Below are our Operating PUE metrics for 2018-2020 for the different facility categories we track. These averages only include built-out data centers that have finished their commissioning, start-up, and initial customer installations. Pre-built-out facilities, those under development, and those for which data is unavailable are not included in the PUE averages. PUE has a minimum ideal score of 1.00 (meaning that no power is used to cool or light the facility), and a lower score indicates greater efficiency.

Average Operating PUE				
Reporting Category	**% by ft²**	**2018**	**2019**	**2020**
Legacy Dry Facilities	9%	1.63	1.62	1.64
Legacy Wet Facilities	19%	1.65	1.67	1.66
Modern Dry Facilities	65%	1.46	1.43	1.46
Modern Wet Facilities	5%	1.48	1.39	1.49
All Facilities	100%	1.54	1.50	1.51
Scope: Includes facilities that are built-out and directly managed by CyrusOne.				

While we expect some year-to-year variability due to weather and occupancy, the table shows that PUE is most efficient in our modern dry facilities, even though they do not use water for cooling. Modern dry and wet facilities have shown an increase in PUE between 2019 and 2020 due to new facilities coming online with low levels of occupancy or utilization, which makes them less efficient. We expect this to improve as customers build-out and make more use of the facility. Please note that values for 2018 and 2019 have been restated as our data quality improves.

Metric: Building Energy Intensity

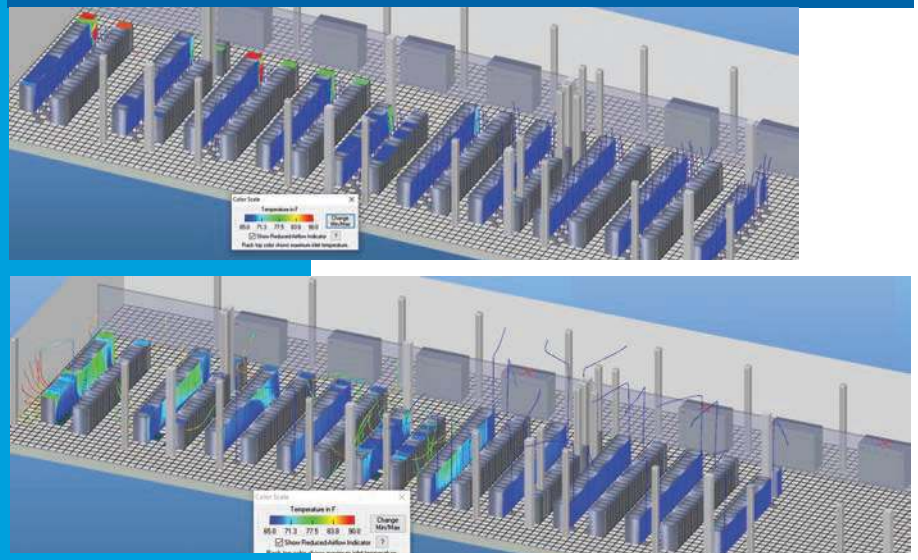
Energy intensity describes the energy use per built-out colocation building area in our facilities. Energy intensity is measured in megawatt-hours per square foot (MWh/ft²). This includes energy from diesel and natural gas as well.

Energy intensity only includes in-scope energy and building area from data hall space that is built-out and directly managed. It is calculated as a ratio of total energy use (including fuels and electricity supplied to customer servers) to built-out colocation area. A lower energy intensity indicates greater efficiency. For more information about Energy Intensity see Appendix 2: Primary Metrics.

Building Energy Intensity (MWh/ft²)				
Reporting Category	**% by ft²**	**2018**	**2019**	**2020**
Legacy Dry Facilities	9%	1.06	1.06	1.11
Legacy Wet Facilities	19%	0.63	0.68	0.69
Modern Dry Facilities	65%	0.69	0.78	0.79
Modern Wet Facilities	5%	0.96	1.12	1.24
All Facilities	100%	0.72	0.79	0.81
Scope: Includes facilities that are built-out and directly managed by CyrusOne.				

Energy Intensity increased from 2018 to 2020 in legacy and modern facilities. In our legacy dry facilities this was driven by a decrease in built-out colocation area from sold facilities and customer consolidation, while in our legacy wet facilities, this was driven by increased customer installs at our more energy-intensive facilities. In modern facilities this increase is due to the growth of high-performance computing at newer facilities that have not finished customer build-outs, increasing the energy density of actual server use.

HIGHLIGHT STORY: MODEL BUILDING IN AURORA



Images created by CyrusOne using TileFlow by Innovative Research Inc.

Data hall specifications change over time due to advancements in customer server equipment and varying occupancy rates. We use CFD modeling, along with prescriptive tile maintenance and cold aisle containment, to ensure that we are matching our support equipment with the evolving conditions in our facilities to avoid wasting energy. When a data hall in Aurora I was initially built out, the cooling demand required 10 Computer Room Air Handlers (CRAHs) with fans running at 68%. A recent optimization in this data hall allowed us to reduce this system to 6 CRAHs running at 28%. Due to the nonlinear relationship between fan speed and energy demand, this reduction resulted in an energy savings of 1.2 million kWh per year, a 95% reduction! This process of rebalancing data halls is uncommon in the industry, but demonstrably impactful at sites like Aurora I.

The improvements to this Aurora data hall show the reduction of hotspots (top) to an even distribution of cooling (bottom) while reducing fan speeds and saving energy.

HIGHLIGHT STORY: HOUSTON WEST I UPS BATTERY OPTIMIZATION

CyrusOne's Houston West I site has improved the efficiency of its UPS systems by consolidating loads and reducing the overall number of units. The site's old design included several lightly loaded UPS systems running at low efficiency. This design suffered from a loss of electrical current that resulted from travel between numerous battery units. The low loads also constrained the operating efficiency of each unit. The new design relies on fewer units with higher loads which allows them to avoid electrical current travel losses and operate with higher efficiency. This upgrade resulted in an approximately 9% reduction to the facility PUE and an energy savings of 800 MWh per month.

Energy Procurement

The sources from which we procure energy have a big impact on our energy and carbon goals. This section describes our efforts toward "green" energy procurement.

Strategy

Our renewable energy strategy primarily serves to meet our *net zero carbon* target, though it also provides additional benefits. First, it allows us to help our customers meet their supply chain carbon reduction goals. Next, by "locking in" renewable contracts instead of relying on unbundled RECs we reduce our exposure to renewable energy price volatility and maintain our ability to offer competitive rates.

Renewable energy procurement is the biggest part of meeting our *net zero carbon* goal because the target includes the emissions from electricity supplied to customer equipment. Lowering our energy demand with efficiency measures only affects our support equipment, and even there efficiency alone won't get us to *net zero carbon*. To help us consider the effect of renewables on carbon emissions, we also account for the relative carbon intensity of different grids where we operate to understand the carbon reduction per MWh from switching to renewables. Finally, our transition to renewable energy is a key strategy in managing risks in our energy supply chain and climate risks, like water risk and carbon pricing risk. These are discussed below in Risk Management.

In articulating our Energy Procurement Strategy, we think about it on two different levels:

1. **Procurement Hierarchy:** The types of power in order of preference
2. **Transition Roadmap:** How we plan to transition to a renewable energy future

Procurement Hierarchy

In addition to considerations of cost and reliability, we follow a renewable energy procurement hierarchy to guide our energy planning and purchases (see table below). We screen all of our renewable energy purchases for generation sources that do no significant harm. Beyond that aspect, we strive to support renewable energy generation projects that are additional (the project would not have happened otherwise), regional (contributing to the same grid where the energy is used), and bundled (where delivery of power remains "bundled" to renewable energy certificates). Therefore, direct power with additionality via a physical power purchase agreement (PPA) is the most desirable procurement option. Where PPA's are not available, we consider virtual power purchase agreements (VPPA) and Green Tariffs with a preference for contracts on the same grid as our demand. Lastly, we may utilize Renewable Energy Credits (RECs) and Guarantees of Origin (GoO) as a short-term bridge to long-term renewable electricity contracts via PPAs or VPPAs. For example, we have considered using RECs between signing and delivery of energy in long-term contracts. We have also considered using RECs to achieve 100% renewable electricity when a PPA or VPPA provides most, but not all, of a facility's energy use. We have also acquired RECs when requested by customers. We do not intend to achieve carbon neutrality with RECs; instead, we consider them to be a temporary incremental mechanism. Unfortunately, because of the density of power demand for our facilities, onsite renewable generation cannot meet the needs of our facilities in any meaningful way.

Renewable energy procurement hierarchy from most to least desirable. CyrusOne prioritizes energy purchases in this order because of the combination of features that we strive to attain.

Renewable Energy Procurement Hierarchy

	Procurement Type/ Instrument	Additionality	Regionality	Bundled	No Significant Harm
Most Desirable	PPA/Retail Block	√	√	√	√
	VPPA (same region)	√	√		√
	VPPA (different region)	√			√
	RECs (grid specific)		√		√
	RECs (national)				√

Transition Roadmap

In the development of new facilities, we evaluate and source renewable electricity with the goal of beginning operation with renewable electricity on Day One. Many of our long-term power contracts at existing facilities were signed before the emergence of our *net zero carbon* ambitions, and we must wait for existing contracts to expire before evaluating new options. Our priority roadmap for renewable energy procurement across our existing facilities is:

1. Europe
2. Deregulated U.S. power markets, prioritizing larger loads first
3. Regulated U.S. markets with green power options
4. Regulated U.S. markets without ready green power options

By prioritizing our transition to renewable energy in this way, we aim to make the most progress in the least time. Hopefully, the U.S. markets currently without ready green power options will develop them as we finish the first three phases; otherwise, we will likely work with out-of-region VPPAs.

Risk Management

Switching to renewable power can reduce both financial and physical risks. By lowering the carbon footprint of our power supply, we reduce our exposure to a potential carbon tax. (For information about the potential impact of Carbon Pricing Risk on electricity prices, see Climate Risk). Signing long-term energy purchase agreements allows us to avoid renewable energy price volatility (such as we saw in the unbundled REC market over the last two years) and maintain our rates during severe weather events that influence market prices. Renewable energy generation is also less water-intensive and therefore results in a reduction of energy supply chain water consumption. We operate in regions of high water stress where reductions in water use across our operations, including power generation, are necessary (for more information on our Water Risk Assessment see Water).

Metrics and Targets

Most of our energy procurement metric performance is represented in the *net zero carbon* target and the metrics we use to evaluate it (see Climate Impact). By switching to less carbon-intensive electricity providers, energy procurement contributes to overall carbon reductions. There are a few metrics specific to renewable energy that we track for insight into our current performance for customers and investors. For more information about these metrics, see Appendix 2: Primary Metrics.

Metric: Percent of Electricity Procured as Renewable

We measure the amount of energy that we procure as 100% renewable, as a percentage of all the electricity that we purchase (including electricity delivered to customers). As of 2020, our London I and II and Amsterdam data centers all operated on a 100% renewable energy tariff, comprising 2.1% of total CyrusOne electricity procured in 2020. This was an improvement over the 0.5% renewable electricity across our portfolio in 2018.

Metric: Percent of Electricity Offset as Renewable

We also measure the amount of energy that we pair with unbundled Renewable Energy Certificates (RECs) or other offset mechanisms. We do not currently employ any offset measures but plan to clearly communicate if we begin using them. As mentioned under Procurement Hierarchy, we do not expect to consider unbundled RECs as a long-term part of our strategy to meet our *net zero carbon* target.

Metric: Percent of Grid-Embedded Renewable Electricity

As we consider the carbon intensity of grids in our siting decisions, we also pay attention to how much renewable electricity is supplied by the grids from which we source power. While we don't take credit for the efforts of power providers to expand their renewable portfolio, it is helpful to track their progress to see the effects of renewable energy development and advocacy in the region. We also make this information available to customers for each location via the facility-specific sustainability profiles on the CyrusOne website. This measurement is grid-embedded renewable electricity as a percentage of our total electricity procurement.

Renewable Electricity Metrics			
Year	**2018**	**2019**	**2020**
Procured Renewables	0.5%	1.2%	2.1%
Offset Renewables	0%	0%	0%
Grid-Embedded Renewables*	13.8%	14.5%	15.2%
** Calculated from U.S. EPA EGrid 2018 - 2019, EU Environment Agency 2018-2020 .*			

This table represents a restatement for 2019 following improvement in data quality. In last year's report we comingled data from a customer-operated space and CyrusOne-operated spaces within the same building. This year, we only include renewable electricity from spaces where we exercise operational control.

Also during 2020, we worked on procuring additional renewable electricity. While these did not begin delivering power in 2020 we now have signed contracts for Arizona, Texas, and Frankfurt which will all begin delivering around 475 GWh of renewable electricity in 2021.

Metric: Percent of Facilities with Renewable Option

Currently, 100% of our facilities can offer customers some form of renewable electricity through our power provider as an upgrade.

Climate Impact

Data centers require a large amount of energy to remain fully operational 24/7 and run IT equipment that draws large amounts of power. The systems supporting 24/7 operation also generate a large amount of heat and require energy to keep them cool. If the energy supplying our data centers is based on fossil fuels (directly or indirectly), it results in carbon emissions which contribute to climate change. As a responsible corporate citizen, CyrusOne recognizes the importance of reducing our carbon footprint to contribute to global efforts to mitigate climate change and its associated risks. Consequently, we have taken several actions to address our climate impact from energy use and its associated carbon emissions.

To understand our climate impacts we prepared a greenhouse gas inventory using the standards set by the World Resource Institute Greenhouse Gas Protocol (WRI GHGP). For details about the scope of our inventory, please see Appendix 1: Methodology.

Strategy

Our climate impact strategy is guided by two goals: (1) reduce our carbon footprint, and (2) provide useful business insight to our operations, customers, and investors.

To reduce our carbon footprint, we first focus on reducing energy consumption (see Building for Sustainability and Energy Performance). Second, we look for lower-carbon energy options such as directly procured renewables. Finally, we consider offset mechanisms like Renewable Energy Certificates (RECs) and carbon offsets (see Energy Procurement).

Our purpose in preparing our greenhouse gas inventory is to meet customer and investor information needs while informing internal decisions. We do this by Meeting Third-Party Standards set forth by WRI, GRI, SASB, TCFD, and CDP Climate. By providing transparency about our impacts, we support our customers' goals and investors' decision making.

The high-quality carbon emissions data from our greenhouse gas inventory also informs internal strategic decisions across the company, helping us to avoid emissions by design. These assessments are detailed in the Risk Management section below.

We provide clear carbon emissions data to current and prospective customers to help them make informed decisions about reducing their emissions through our facility-specific Sustainability Profiles in the Location section of our website.

Risk Management

We assess our direct and indirect carbon emissions to manage risk and inform our carbon reduction strategy. This involves tracking regional and national grid emissions factors to understand how carbon intensity varies across our facilities based on the fuel composition of each energy grid. Energy consumption makes up nearly all of our carbon footprint.

We manage climate impact separately from climate risk. To find out more about our strategies toward managing the effect climate change has on our business, please see the Climate Risk section.

Currently, our greenhouse gas data covers 99.6% of our colocation capacity. The missing 0.4% is due to a lack of data from two small, leased legacy facilities. Moving forward, all new facilities will be included to give us an accurate understanding of our entire carbon footprint. Furthermore, 99% of our Scope 1 and 2 carbon emission are due to electricity generation, which already has a low-carbon option available in many markets. The remaining 1% is largely diesel for backup generation, which does not currently have ready low-carbon substitutions. We are monitoring the industry for advancements like biodiesel for diesel generators, biogas for natural gas generators, green hydrogen for fuel cell generators, and large-capacity batteries.

By conducting a grid carbon intensity assessment, we can predict the future carbon emissions of our energy sources. To manage the risk of carbon emissions resulting from these sources into the future, we are working towards procuring direct renewables that provide long-term and reliable energy supply. For more details see the Energy Procurement section.

Metrics and Targets

Scope Change: Customer Server Electricity as Scope 2

To support our transition to renewable energy and support customer targets, we have changed the scope of our electricity carbon metrics from last year. Electricity in our facilities goes toward three broad purposes:

1. Customer IT Equipment (servers)
2. Data Hall Support Functions (cooling, humidification, lighting, etc.)
3. Common Areas (offices, lobbies, outdoor lighting, etc.)

Last year we assigned electricity delivered to customer IT equipment as a Scope 3 carbon emission, while the other two categories were Scope 2. This year, and going forward, we are designating all three categories as Scope 2 carbon emission for all of our carbon metrics. We have restated all previous years in this report to provide accurate year-over-year comparisons. For more information about the impact of this change on energy metrics, see the Energy Performance section.

Metric: Absolute Greenhouse Gas Totals

Our carbon emissions reporting is separated into Scope 1 and 2. Scope 1 includes emissions from diesel and natural gas, while Scope 2 includes both emissions from customer server electricity and electricity used to service common areas and data halls, including cooling. Scope 2 emissions are reported using both Market-based and Location-based methods.

For our internal (Scope 1 and Scope 2) emissions, there was an increase in GHG emissions from 811,439 metric tons of CO_2-equivalent ($MTCO_2e$) in 2018 to 1,019,116 MT CO_2e in 2020. This increase was driven by growing business activity as occupancy expanded at new facilities. In 2020, our internal (Scope 1 and Scope 2) emissions were 77% of our total inventory. The remaining 23% were from Scope 3 emissions (see Scope 3 below).

In 2020 we began operations at six new facilities: Amsterdam, Council Bluffs, Frankfurt III, London III, Sterling IX, and San Antonio V. Data from these facilities is included in our absolute totals, but because they are pre-built-out it is not included in averages for 2020.

In 2020, over 99% of our Scope 1 and Scope 2 emissions came from purchased electricity (Scope 2), as is typical for the data center industry. Less than 1% of our annual carbon emissions were generated from diesel and natural gas use in our operations (Scope 1). Since diesel is used for emergency backup generation, year-to-year use is highly variable based on the number of power disruptions that occurred. The quantities are summarized below.

Absolute Greenhouse Gas Totals				
SCOPE 1 & 2 $MTCO_2e$	**2018**	**2019**	**2020**	**Comments**
Scope 1	3,782	7,989	7,085	
Scope 2 Location-based	797,167	896,407	1,027,377	Includes customer equipment
Scope 2 Market-based	807,657	888,517	1,012,031	Includes customer equipment
Total (Location-based)	**800,950**	**904,396**	**1,034,461**	
Total (Market-based)	**811,439**	**896,506**	**1,019,116**	

Scope: Facilities that are built-out and directly managed

For more information about these metrics, see Appendix 2: Primary Metrics.

Target: Net Zero Carbon

Our main target for Climate Impact is our *Net Zero Carbon* by 2040 commitment. We will continue to refine the particulars of how we will draw down our carbon emissions while we grow as a company, but we have committed to operating *net zero carbon* by 2040. In this commitment, we include both the carbon emissions from our support infrastructure (cooling, lighting, power handling, etc.) and those of our customers' IT equipment (servers). Overall, our targets are set to contribute to staying below 1.5°C warming, striving for the SSP1-1.9 scenario (a world of sustainability-focused growth and equality).

In pursuit of this target, we track several metrics to understand the carbon emissions efficiency of our services: Carbon Usage Effectiveness (CUE), Building Carbon Intensity (per square foot), and Revenue Carbon Intensity (per $USD Revenue). While CUE (see below) is the most common measurement of carbon efficiency in the data center industry, there are some limitations to this metric, so we also track carbon intensity based on building area and revenue. Taken together, these metrics provide a fuller picture of carbon efficiency in our portfolio.

Target: Climate Neutral European Facilities by 2030

CyrusOne is a founding member of the Climate Neutral Data Center Pact — an agreement amongst data center operators, cloud service providers, and industry bodies in Europe to reach carbon neutrality by 2030. By participating in this pact, CyrusOne is supporting the EU carbon neutral by 2050 goal. In addition to being a founding member, our own EVP and Managing Director of Europe, Matt Pullen, is on the CNDC Pact Board representing the view of the members to the European Commission. As of the end of 2020, we had achieved 100% renewable electricity for our facilities in London, Dublin, and Amsterdam, leaving only our Frankfurt facilities operating on non-renewable electricity.

Carbon Intensity

We measure carbon intensity from several different perspectives:

- **Carbon Usage Effectiveness (CUE):** The ratio of total carbon to the electricity delivered to servers ($kgCO_2e$/server kWh)
- **Grid Carbon Intensity:** The carbon use per megawatt-hour (MWh) delivered to our facilities from the grid, measured in metric tons of carbon dioxide equivalent per MWh of electricity ($MTCO_2e$/MWh).
- **Building Carbon Intensity:** The carbon use per built-out colocation area in our facilities measured in metric tons of carbon dioxide equivalent per square foot ($MTCO_2e/ft^2$).
- **Revenue Carbon Intensity:** The carbon use associated with revenue income across CyrusOne's portfolio measured in metric tons of carbon dioxide equivalent per one-million-dollar revenue ($MTCO_2e$/$1M Revenue).

Each of these metrics gives us a different perspective on how we're doing to reduce the carbon intensity of our operations. They are detailed below.

Metric: Carbon Usage Effectiveness (CUE)

Since 99% of our Scope 1 and Scope 2 carbon emissions are due to electricity consumption, CUE and PUE are closely related within a facility but can vary between facilities based on the source of electricity. For more information about PUE see the Energy Performance section.

Shown below is the CUE for stabilized legacy and modern facilities that are managed directly. CUE has a minimum of zero and a lower value indicates greater efficiency. For an explanation of facility designations (legacy, modern, wet, dry) see Appendix 2: Primary Metrics.

Carbon Usage Effectiveness (kg CO_2/server kWh)				
Reporting Category	**% by ft²**	**2018**	**2019**	**2020**
Legacy Dry Facilities	9%	0.68	0.64	0.65
Legacy Wet Facilities	19%	0.71	0.71	0.69
Modern Dry Facilities	65%	0.66	0.56	0.55
Modern Wet Facilities	5%	0.61	0.48	0.49
All Facilities	100%	0.68	0.60	0.58
Scope: Includes facilities that are built-out and directly managed by CyrusOne.				

Modern facilities form the bulk of our operating capacity and have shown steady improvement in CUE. CUE at legacy facilities have shown less improvement, but are better on average since 2018, largely as a result of reductions in grid carbon intensity. Together the continuing efficiency was able to reduce the company-wide average to 0.58 kg CO_2/kWh server energy use in 2020. It is of interest that in both of the above metrics our modern dry facilities outperform our legacy wet facilities, despite using no water for cooling.

Metric: Grid Carbon Intensity

To understand the impact that our electricity sourcing has on carbon emissions, we conducted a carbon intensity assessment. In this assessment, we found dramatic differences in carbon intensities between different non-renewable electricity supplies (i.e., regional or national grid electricity): the highest carbon intensity (0.568 $MTCO_2e$/MWh) is about five times higher than the lowest (0.106 $MTCO_2e$/MWh). Having a facility-by-facility understanding of carbon intensity informs our decisions about facility upgrades, renewable energy procurement, and site selection. To find our grid carbon intensities, see our location profiles for each facility on the CyrusOne website.

Metric: Building Carbon Intensity

To find our building carbon intensity, we divide our carbon emissions by built-out colocation square feet at directly managed facilities. A lower carbon intensity indicates greater efficiency. "Built-out" means that a customer has not only rented the space but has also installed their servers and begun to draw power. For an explanation of facility designations (legacy, modern, wet, dry) see Appendix 2: Primary Metrics.

Building Carbon Intensity ($MTCO_2e/ft^2$)				
Reporting Category	**% by ft²**	**2018**	**2019**	**2020**
Legacy Dry Facilities	9%	0.441	0.406	0.428
Legacy Wet Facilities	19%	0.271	0.282	0.280
Modern Dry Facilities	65%	0.277	0.274	0.279
Modern Wet Facilities	5%	0.310	0.376	0.390
All Facilities	100%	0.293	0.289	0.294
Scope: Includes facilities that are built-out and directly managed by CyrusOne.				

These carbon intensity results reflect the energy intensity increases from 2018 to 2020 in legacy facilities and our modern facilities. In our legacy wet facilities this was driven by a decrease in built-out colocation area, while in modern facilities, this is likely due to the growth of high-performance computing at newer facilities increasing the energy density of actual server use.

Metric: Revenue Carbon Intensity

To find our revenue carbon intensity, we divide our carbon emissions by our revenue (per one-million-dollar revenue) across all directly-managed facilities. A lower carbon intensity indicates greater efficiency.

Revenue Carbon Intensity			
	2018	2019	2020
Total Market Based GHG ($MTCO_2e$)	811,439	896,506	1,019,116
Revenue (M $USD)	$821.4	$981.3	$1,033.5
Revenue Carbon Intensity	988	914	986
Scope: $MTCO_2e$ from facilities that are built-out and directly managed.			

The unusually low results in 2019 are due to eight facilities that had finished construction and had high rates of leasing (and thus revenue), but not high rates of build-out (installation of servers and thus carbon emissions from energy). In 2020, those leased facilities were built-out (customers installed servers and began drawing power), thus returning to similar levels seen in 2018.

Metric: Scope 3 Estimates

Our Scope 3 emissions are not directly emitted by CyrusOne. These emissions are from sources indirectly associated with CyrusOne, such as construction materials (capital goods), fuel and energy-related activities, business travel, employee commuting, and customer-operated facilities (downstream leased assets). Note that customer servers inside facilities that we operate are counted as Scope 2 emissions (see Scope Change above)

See how we calculated the emissions from these sources in Appendix 1: Methodology.

Scope 3 Emissions ($MTCO_2e$)			
	2018	2019	2020
Capital Goods (Construction Materials)	70,803	10,929	40,160
Fuel-and-energy-related Activities	205,180	227,004	258,638
Business Travel	567	551	133
Employee Commuting	1,217	1,183	475
Downstream Leased Assets (Customer-operated Facilities)	6,028	7,925	11,342
Grand Total	**283,795**	**247,593**	**310,747**
Scope: Major scope 3 components.			

These results show the variability of our Scope 3 emissions. The Capital Goods (construction materials) category is highly variable due to the fluctuating number of facilities built in a given year. Most of our Scope 3 emissions come from the Fuel-and-energy-related Activities category (upstream emissions from the extraction, refining, and transport of fuels), which are directly proportional to the electricity, diesel, and natural gas we consume on-site at our facilities.
On the other hand, our smallest Scope 3 emissions come from the Business Travel and Employee Commuting categories and are so small that they are considered insignificant in our greenhouse gas accounting. We have one customer-operated facility that shares its energy data with us and allow us to track our scope 3 emissions. This represents 2.34% of our colocation building area.

Water

In most data centers, water is commonly used for cooling purposes, replacing electricity or other energy sources. However, we recognize that water is a limited resource in high demand, meaning that issues with water supply could reduce our access to water for operations or increase friction with local communities. Facilities dependent on water for cooling may face operational interruptions or require costly retrofits to less water-intensive types of cooling. To minimize risk, we strive to make our operations as water-efficient as possible, with the goal of reaching *net positive water* in regions with high water stress (see below). Most of our facilities use water-free cooling, and we have begun to acquire Water Restoration Certificates® (WRCs) to restore water to local ecosystems, making our presence a net benefit to the watersheds where we operate. We believe that water has been the "invisible resource" for too long in the data center industry and it is time to develop reporting standards to integrate water into energy and carbon reporting to tell the full picture of a data center's impact on resources and the local region.

Strategy

Our water conservation strategy has three main goals to plan for a sustainable future: 1) remove barriers to data center efficiencies, 2) design to avoid dependence on water for cooling, and 3) restore water in high-risk regions.

Data Center Optimization

Data centers like ours have great potential to achieve energy and greenhouse gas improvements by combining the computing power of many smaller data rooms into fewer larger data centers. The concentration of this computing power allows for more efficiencies, but it also concentrates the environmental impacts into a single region. For issues like greenhouse gas emissions, this concentration is of small consequence since the emissions go into the same atmosphere and climate change is a global issue (though pollutants from fossil fuel power plants can have local air quality impacts). But for purely local issues like water stress, concentrating the water demand into a single watershed can have big impacts on local communities and ecosystems. Our strategy is to remove the negative consequences of water demand so that we can enable the efficiencies that come with large data centers.

Plan for Sustainable Future

We aim to build and maintain facilities that can function sustainably both now and into the future. With a high likelihood of strained water resources in the regions where we operate, we strive to avoid dependence on water for cooling in both our new and existing facilities. Most of our facilities already use cooling systems that do not consume water (water-free cooling), and we continue to update our cooling systems at existing facilities. We also use future regional water stress projections to inform site selection and design for new facilities. This strategy allows us to make improvements to facility reliability and resilience while becoming future-proof against increased local water stress.

In the past, because the electrical grid relied on thermoelectric generation (consuming water to make steam and then electricity, usually with fossil fuels), it was generally thought that onsite water consumption for cooling to reduce electrical use was a substitute for water that wasn't consumed at the power plant. However, we understand that current and future electrical generation will rely more and more on renewable sources. These energy sources (solar, wind, etc.) are dramatically less water-intensive than yesterday's thermoelectric fossil-fuel generation. When we achieve our *net zero carbon* target with renewable electricity, we will consume effectively no water in our electricity supply chain. Since the majority of our sites consume no water for cooling, our total water consumption at these sites is negligible.

To learn more about the embodied water of electricity and onsite cooling tradeoffs, see our highlight story: The Path to Zero Water in the Building for Sustainability section.

Our strategy leaves us largely insulated from future water risk, as opposed to many other data centers that are designed around water consumption. This underscores the importance of considering PUE (Power Usage Effectiveness) and WUE (Water Usage Effectiveness, see below) in tandem, rather than treating them as isolated metrics.

For more information about PUE, see the Energy Performance section.

Risk-based Water Management

Water as a resource is chronically undervalued. Water expenses only accounted for 0.9% of our total operating expenses in 2020. We manage water as a risk, rather than a cost, as we understand the risks that water stress can bring to our business continuity and to the communities in which we operate.

Water stress is highly regional. Some areas have abundant water, but many areas are facing water stress from increasing demand and a decreasing supply of fresh water. Because of this, no single approach will work for every situation. To take a risk-based approach, we analyzed every watershed in which we operate to determine its local water stress, both now and projected into 2030 and 2040. In areas where water is scarce, we prioritize conservation. But we also want to do more. In these regions, we have begun to partner with environmental nonprofits to support projects that restore the water flows to overdrawn watersheds. This provides benefits to both human water supplies and ecosystem restoration, making our presence in that region net positive for water. See our Carrollton *Net Positive Water* feature for more information.

Risk Management

There are two main ways we manage our risk of water supply disruptions and the operational disruptions that they bring. The first step is to understand the current and future regional water stress and risk to our facilities where we operate through a Water Risk Assessment (see below). The second is to use less water in our operations, which insulates us from whatever water risk is present at our locations. In areas with potential water shortages in the future, decreasing our dependence on water can help us avoid issues with competing water interests, increased water prices, and loss of supply. CyrusOne's water-free cooling provides significant insulation from the risk of water-supply-based business disruption in regions where water is scarce. As shown in the portfolio summary in the Energy Performance section, 72.6% of our total colocation floor area is cooled by water-free cooling, which significantly insulates our portfolio from the regional water stress described in our Water Risk Assessment. We firmly believe that our aggressive stance on prioritizing water conservation will become an opportunity for success even as water scarcity increases.

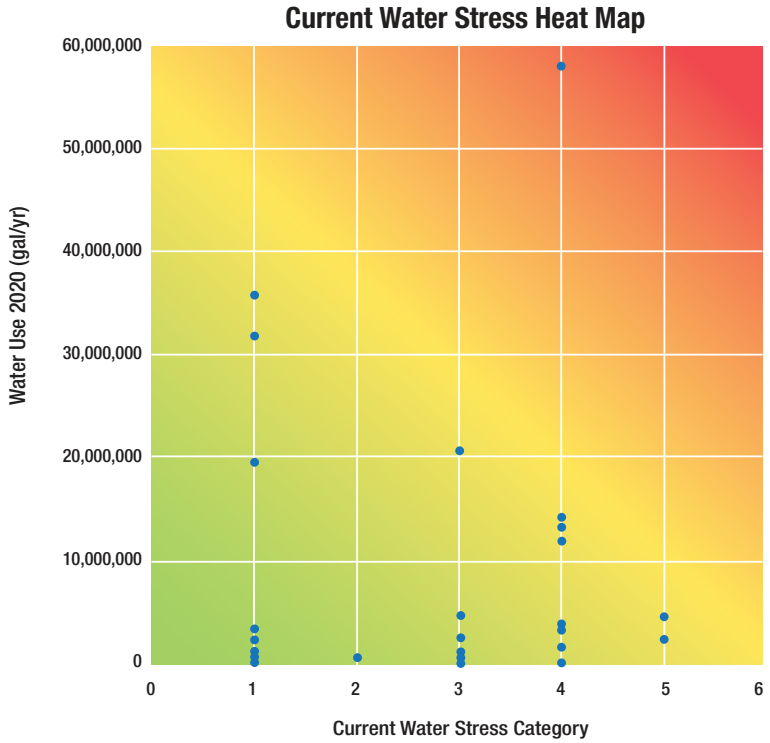
Water Risk Assessment

To understand the risk of water supply disruption for all of our data centers, we conducted an assessment of current and future water stress in the regions where we operate. This helps us to monitor the water availability both now and projected into the future, to prioritize facilities for our water conservation efforts, and to reduce risk by avoiding dependence on water. This is part of our overall climate risk strategy detailed in the Climate Risk section.

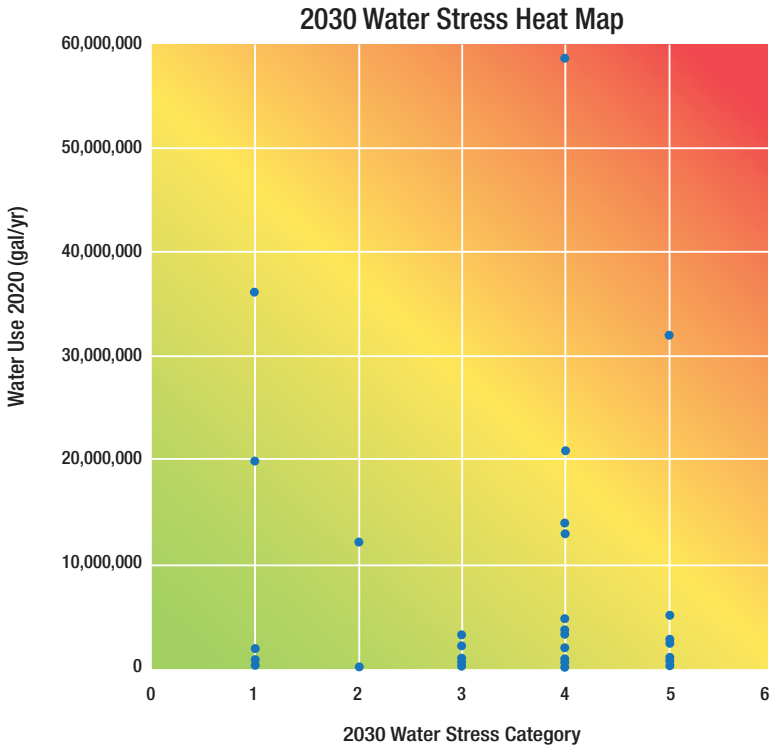
At CyrusOne, we recognize the risk of business interruption at some sites due to water shortages or price increases in just the next decade. With the information from this assessment, we can understand the level of water stress in each region and can take steps to address the water risk for our facilities.

Results

For each of our facilities with water use data, we compared the water usage to current and future water stress, using the World Resources Institute Aqueduct Water Risk Atlas (WRI Aqueduct). This illustrates the facilities' overall water risk by comparing water use to local water stress. The results are shown below. This chart illustrates the success of CyrusOne's water-free cooling strategy — most of the facilities are already using relatively little water. Additionally, there is currently only one facility that falls into the high-risk exposure orange or red areas which indicate high use sites in regions with high water stress.



Below is a chart comparing the water use of each of our facilities with the location's projected water stress in 2030.



The most important difference is that the region of our third highest-consumption facility is projected to change from low stress to very high stress in the next decade. This illustrates the value of the Water Risk Assessment, providing us the foresight to plan for efficiencies and alternatives now, rather than be surprised by water scarcity in the future. From this chart, we also see that 31 of our 53 facilities are projected to face increased water stress in 2030 (compared to 2020) and 86% of our sites are projected to be rated medium-to-high stress or higher by 2030. Fortunately, the vast majority of these sites are already low water users, underscoring the benefit of water-free cooling.

Updates

We update our Water Risk Assessment annually to monitor this important issue and provide our business processes with the latest data for making decisions. As new facilities are added to our portfolio, they will be added to the next assessment. We use the results of the Water Risk Assessment to inform decisions inside the company, including site selection, operations, and new facility design.

Metrics and Targets

Here are the primary metrics and targets we use to measure our progress on water conservation issues. For more information about these metrics, see Appendix 2: Primary Metrics.

Target: Net Positive Water in High-Stress Regions

Our target for water conservation is not to simply do "less bad" but to do "more good" and leave regions better than if we were never there. With this in mind, we have set a target to make all of our facilities that are in high water stress regions into *net positive water* facilities. We accomplish this in three steps. First, we identify which regions are considered high or extremely high water stress using our Water Risk Assessment. Then, we attempt to reduce water usage on the site through operational efficiency measures and upgrades. Finally, we partner with environmental nonprofits through Bonneville Environmental Foundation (BEF) by acquiring WRCs, which fund restoration of water flows in these regions in excess of the water that we use. If we can restore at least 20% more water than we use, we consider this to be a *net positive water* facility. We achieved our first *net positive water* facility at our Chandler, Arizona campus in 2019 and our second at our Carrollton, Texas campus (our largest data center) in 2020 (see below). We are now developing a multi-year plan to convert all of our facilities that are currently in high-stress regions to *net positive water*. After we accomplish our *net positive water* goals, we continue to purchase WRCs annually to maintain our *net positive water* status and monitor our Water Risk Assessment for new regions that become high water stress. When they do, we will make a plan for converting facilities in those regions to *net positive water* facilities.

Metric: Absolute Water Withdrawal, Consumption, Discharge, and Restoration

We estimate the total water withdrawn, consumed, and discharged by our facilities, regardless of whether the water goes toward cooling, facility maintenance, or domestic water uses. Due to a lack of submetering, we assume that all withdrawn water is consumed at facilities that use water for cooling (wet facilities), while all withdrawn water is discharged at facilities that do not use water for cooling (dry facilities). At our *net positive water* facilities, we have purchased WRCs which restore 120% of the amount of water we withdraw for these facilities to the regional watershed. See more about our *net positive water* facilities above. This water restored allows us to estimate our total net water withdrawal, with the restored water offsetting some of our water withdrawal.

Net withdrawn water is the total water taken in by our facilities, regardless of how it is used, minus the amount of water restored by WRCs. All sources of withdrawn water are municipal supply except for our geothermal system, described below. Since some of our facilities rely on water for cooling, so withdrawal indicates how vulnerable our facilities are to regional water shortages.

Once water enters our facilities, it is either discharged to water treatment works (such as industrial or domestic wastewater treatment) and returned to the watershed, or consumed through evaporative cooling or irrigation. Since our consumption of water removes it from the watershed, this serves as an indication of our impact on regional water health and availability.

At our Hamilton, Ohio facility, we use a geothermal cooling system that pumps groundwater through the facility, using its low ambient temperature for cooling. After cooling our facility, the water is then discharged to surface waters. This geothermal water is not evaporated (consumed) or contaminated, so its net impact on the watershed is minimal.

Water Withdrawal, Consumption, Discharge, and Restoration (gal)			
	2018	2019	2020
Water Withdrawal	174,483,499	226,848,911	252,728,189
Water Consumption	142,708,725	190,231,880	221,722,160
Water Discharge	31,774,774	36,617,031	31,006,029
Water Restoration	0	-5,001,000	-8,506,200
Net Water Withdrawal	174,483,499	221,847,911	244,221,989
Hamilton Geothermal Water Withdrawal and Discharge	**788,399,628**	**788,399,628**	**790,559,627**
Scope: Facilities that are built-out and directly managed.			

Our overall withdrawal of water has increased over time, representing the growth in the number of facilities we operate and, therefore, our overall demand for water inputs. Our water use also varies based on weather conditions at our facilities that use water for cooling — the hotter it is at a facility, the more water it needs to use for cooling and irrigation (consumption). However, our decreasing amount of discharge shows that our water-free cooling facilities are becoming more water-efficient in terms of facility maintenance and domestic water use.

Metric: Water Withdrawal, Consumption, and Discharge in High-Stress Regions

To focus our attention on areas where water is scarce, we track the total water withdrawal, consumption, and discharge from regions listed as currently in high or extremely high stress, according to the Aqueduct Water Risk Atlas.

Water Withdrawal, Consumption, Discharge, and Restoration in High-Stress Regions (gal)			
	2018	2019	2020
Water Withdrawal	62,451,267	86,729,704	112,774,115
Water Consumption	44,682,067	67,206,204	102,312,215
Water Discharge	17,769,200	19,523,500	10,461,900
Water Restoration	0	-5,001,000	-8,506,200
Net Water Withdrawal	62,451,267	81,728,704	104,267,915
Scope: Facilities that are built-out, directly managed, and in high water stress regions.			

This metric includes all 10 of our facilities in high or extremely high water stress regions with water data. It does not include the 2 smaller facilities in high or extremely high water stress regions without water data (which represent only 2.7% of our total building area).

The increase in water consumption between 2018 and 2020 is due to two newer facilities that were designed with water-consuming cooling equipment coming online (these facilities were designed before our water-free target was set). We are investigating potential efficiency upgrades to save water at these sites.

Metric: Water Usage Effectiveness (WUE)

The standard metric for measuring water efficiency in data centers is Water Usage Effectiveness (WUE). This metric was created by The Green Grid specifically for data centers to understand and compare their water impact on an intensity basis. WUE is a ratio of annual water use to server energy use and is measured in liters per kilowatt-hour (L/kWh). Unlike PUE, it has a theoretical minimum value of zero (no water withdrawn for the site). Because our WUE measurements include all water onsite (including water used for domestic use, facility maintenance, and landscape irrigation), even our zero water-cooling facilities have a WUE above zero. For an explanation of facility designations (legacy, modern, wet, dry) see Appendix 2: Primary Metrics.

Water Usage Effectiveness (L/kWh)				
Reporting Category	**% by ft²**	**2018**	**2019**	**2020**
Legacy Dry Facilities	9%	0.06	0.10	0.09
Legacy Wet Facilities	19%	1.55	1.89	1.86
Modern Dry Facilities	65%	0.15	0.09	0.05
Modern Wet Facilities	5%	3.12	1.59	1.95
All Facilities	100%	0.54	0.50	0.51
Scope: Includes facilities that are built-out and directly managed by CyrusOne				

While water use at our dry facilities has remained low for both legacy and modern facilities, our legacy wet facilities' water use has remained higher. Our modern dry facilities have improved efficiency over time due to some updated operational strategies. Because these facilities generally only use water for facility maintenance and domestic water, the variability in water demand is largely driven by year-to-year changes in irrigation requirements based on local weather conditions. The growth of water use in our modern wet facilities is discussed above in Metric: Water Withdrawal, Consumption, and Discharge in High-Stress Regions.

HIGHLIGHT STORY: *NET POSITIVE WATER* CARROLLTON

CyrusOne's Chandler, Arizona campus became our first *net positive water* facility in 2019, and we have continued to maintain our commitment there. After the success of the *net positive water* pilot in that location, we have expanded this effort to our largest facility in a high-water stress region, Carrollton, Texas. In 2020, Carrollton became our second *net positive water* campus.

Our *net positive water* approach involves both onsite and offsite interventions. First, we looked for onsite opportunities at Carrollton to reduce our water usage. While the facility was already partly using air-cooled chillers, its hybrid cooling system also used supplemental water-consuming cooling. This cooling method was converted to 100% water-free cooling at the end of 2019, reducing the annual water use from 13.2 million gallons in 2019 to 4.6 million gallons in 2020. Then, to further reduce our impact and benefit the local habitat, we partnered with Bonneville Environmental Foundation and Trout Unlimited to support water flow management and restore water flows to the Conejos and upper Rio Grande Rivers via the purchase of Water Restoration Certificates® (WRCs). The particular certificates we supported are generated by helping local farmers, agencies, and water managers strategically manage, store, and deliver water to the river throughout the year to keep the steams from going dry. For more details, see our *net positive water* press release.

Biodiversity

Our data center campuses are relatively compact, but the small amount of land that we own offers an additional opportunity for sustainability efforts. While most of each data center campus is occupied by buildings, we seek opportunities for the surrounding land to support a diversity of biological networks, as well as our digital ones.

Strategy

As governments and companies throughout the world turn their attention to the biodiversity crisis, standardized metrics and frameworks for assessing habitat impact are under development. In the meantime, we approach our biodiversity strategy through the same hierarchy of control that we use to approach other aspects of our environmental portfolio (energy, water, and carbon). First, we have immediate control over reducing our biodiversity impact within the physical footprint of our facilities. Prioritizing site selection in zones designated for industrial development ensures that we avoid areas of high habitat quality. Next, once our data centers are built, we can use the available green space to give back to what should naturally be there by landscaping with locally appropriate native species with a landscape design that encourages benefits to wildlife. Finally, we seek offsite opportunities to improve habitats near our facilities by working with local nonprofits that have conservation expertise.

Alongside our important larger commitments to sustainability, CyrusOne works to ensure that we are making progress at a local level and looking after the environment and habitats surrounding our facilities. We made a formal pledge to biodiversity in our 2020 Sustainability Report, making it an additional pillar of our promise to the environment, alongside water, carbon, and energy.

Furthermore, we are closely following the development of reporting frameworks like the Taskforce for Nature-related Financial Disclosures (TNFD) and Science-Based Targets for Nature (SBTN). The initial draft guidance from those frameworks is focused on spheres of influence, such as onsite work and offsite work within our supply chain.

For onsite strategies, the draft guidance from TNFD and SBTN suggests a similar hierarchy of control to ours, indicating that we're on the right track. We will continue to monitor the development of these frameworks and use them to inform our onsite activities.

For offsite strategies, we will incorporate guidance as it is developed, but early indications suggest that creative interpretation will be necessary for our industry. Our supply chain provides a less direct link to habitat mitigation efforts than those that include agricultural products or materials harvested from forests. The primary aspect of our supply chain that impacts habitat is electricity generation. These and other impacts come largely in the form of water use, so the work we have done so far with our watershed restoration efforts is connected to one of the primary biodiversity impacts from our supply chain.

Risk Management

Our approach to managing risks related to habitat largely revolves around minimizing the harm from our sites. To evaluate this, we use two forms of risk assessments: (1) *Environmental Impact Assessments* and (2) *Protected Areas Assessments*. For more details about our methodologies for these assessments, see Appendix 1: Methods.

Environmental Impact Assessments

Habitat impacts are a significant aspect of the *Environmental Impact Assessments* required by law in many markets before the construction of a new facility. By considering sensitive habitats when selecting project sites, we avoid harm and minimize the need for remedial activities and project delays.

Protected Areas Assessment

To monitor our ongoing risk related to habitat, we conduct periodic *Protected Areas Assessments* to verify that our facilities are not adjacent to any protected areas or that adjacent areas have not become protected since construction. This allows us to continue to monitor critical habitat issues after a site is in operation.

Onsite Habitat Improvement

Strategy

We aim to achieve several objectives through landscaping at our buildings. By cultivating locally adapted native plants, we can minimize the water and other resources needed for maintenance while benefiting nature. Although most of our facilities have minimal landscaping, small areas can have a big impact if we create wildlife habitat through careful plant selection and placement. At sites with improved habitat, we've integrated plants, features, and practices that attract local pollinators and migratory birds. Our landscape designs include attention to the diversity of forage options throughout the seasons as well as creating shelter and nesting locations. Though we are in the early stages of implementing habitat landscape improvement across our portfolio, we have learned from the projects that we've pursued thus far and are prepared to apply our methods to new sites and existing facility upgrades going forward.

Metrics and Targets

Target: Habitat Networks

As our facilities are strategically located to primarily improve data networks, we recognize that the same strategic placement can help provide habitat networks as well. Our target is to improve habitat at each of our facilities, focusing on pollinator- and bird-friendly gardens to support local biodiversity.

For us, this means landscaping that uses native and climate-adapted species to provide food, water, shelter, and nesting for wildlife. In addition, we prefer landscape management practices that conserve water, avoid unnecessary disturbance and chemical use, and strive for a natural aesthetic.

We understand that third-party verification is crucial to ensure our efforts are impactful. At a minimum, we will certify our landscapes using the National Wildlife Federation's (NWF) Certified Wildlife Habitat® program in North America and the DC's for Bees Pollinator Plan in Europe.

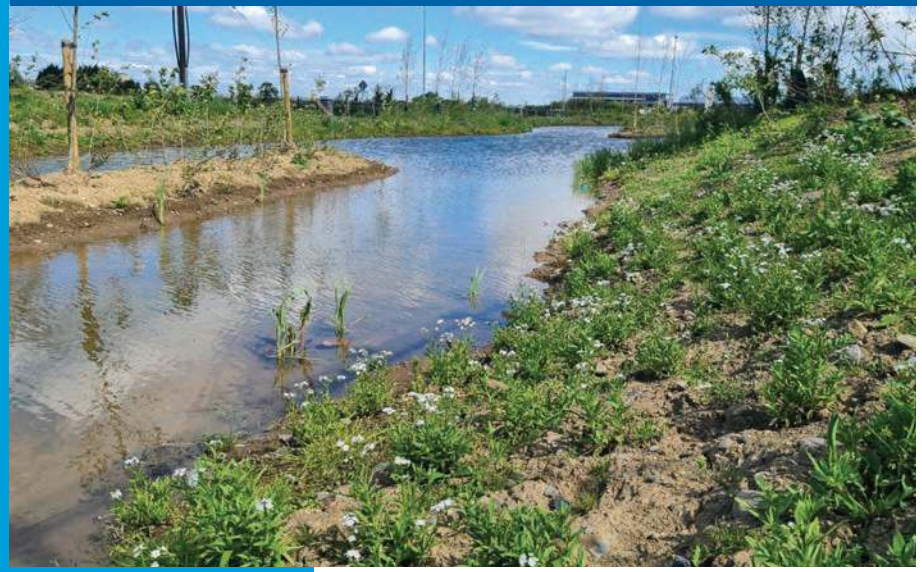
Metric: Facilities with Improved Habitat

To measure progress toward our target, we will track and report how many of our facilities have some improved habitat onsite that supports biodiversity in the area. For more information about this metric, see Appendix 2: Primary Metrics.

Habitat Networks Target			
	2018	2019	2020
Facilities with Improved Habitat	0%	2%	2%

In 2020, we designed the first habitat improvement project for a U.S. facility at our Allen, Texas site. The lessons learned from designing the Allen habitat were immediately put to use 20 miles away at Carrollton. In 2021, Winter Storm Uri in Texas damaged the landscaping at our Carrollton site beyond repair, so rather than replacing the landscape with the previous plant selection, we used our plant list from Allen to meet our habitat goals in Carrollton, too. Advanced planning and integration of habitat improvement competency allow our Operations team to take advantage of these windows of opportunity for improvement projects. The work on both of these improved habitat sites started in 2021, so they will be reflected in next year's metrics.

HIGHLIGHT STORY: WETLANDS, MEADOWS, AND HEDGEROWS IN DUBLIN



In 2020, we launched our company-wide onsite habitat improvement efforts with the install of native habitat landscaping at our new facility in the Dublin, Ireland area. Our goal at that location is to complement the surrounding environment and support local biodiversity. A comprehensive ecological assessment, which was performed during development planning, guided our native plant selection and landscape design. Various purposeful features surround the Dublin building, with some highlights including a wetland that serves as breeding habitat for frogs and newts, a wildflower meadow for pollinators, and a woodland corridor with a diversity of trees and shrubs for birds and pollinators alike. Additionally, berms were created using material that was excavated during construction to reduce waste. These berms will act as a sound barrier once the plants have grown in and will provide habitat, including a nesting location for solitary bees. We plan to begin monitoring the site for pollinators this year to ensure that our landscape goals are achieved. For more information, view our video about this landscape habitat project.

HIGHLIGHT STORY: FOR THE BEES

At our Amsterdam I site, we are implementing Host In Ireland's DCs for Bee's Pollinator Plan. DCs for Bees is a data center industry initiative that was developed to address Ireland's declining bee population. We have undertaken many of the pollinator-friendly actions outlined by this program, including protecting and strengthening native hedgerows around the site where possible; planting pollinator-friendly plants, such as low-maintenance perennials and shrubs on the southern side of our site; and, in the future, we will create earth banks with dike-shaped elements that will be partly adapted to create habitat for mining bees. We will continue to provide vital habitat for bee species and pollinators across the Netherlands, including a swarm of bees that were rescued from the Amsterdam site with the help of CyrusOne staff last year.

Offsite Habitat Improvement

Where our portfolio doesn't offer an opportunity for planting and habitat creation, we strive to work with local non-profit organizations and communities to enhance biodiversity in local areas.

Strategy

Given our industry and the size of our company, we are working to find a way to meaningfully contribute to improving biodiversity. We recognize that this is not a problem we can tackle on our own — it will require partnership, creativity, and collaboration. A good example in our industry is Host In Ireland's DCs for Bees program, which provides a toolkit for pollinator plantings at data centers and has supported native plantings at properties managed by the Irish Native Woodland Trust.

We know that biodiversity is intertwined with other environmental targets that we have set. For example, the electricity we consume impacts biodiversity through fossil fuel extraction and water consumed during electrical generation. These impacts will decrease significantly as we transition to renewable energy. We want to do more. However, there aren't readily tradable credits for habitat restoration in the same way that there are for carbon offsets, RECs, and water restoration. Biodiversity gains are more often a co-benefit of projects completed for other purposes. So, our strategy is to look for projects with multiple co-benefits to help us work toward several target topics at the same time. The co-benefits can include expanding or preserving wildlife habitat, reducing water stress, improving communities, carbon reduction and removal, or improved renewable energy.

One way that we have pursued this strategy is through the purchase of Water Restoration Certificates® to increase water flows, improving regional water stress for both human use and local wildlife habitat. For more information about this water restoration, see Water. We have begun to map out additional offsite efforts to maximize biodiversity co-benefits. Possibilities include expanding partnerships with conservation organizations, supporting nature-based carbon removal or emissions reductions projects, and additional water restoration projects.

Metrics and Targets

To tackle this problem innovatively, we are avoiding prescribing metrics in the short term; however, we are closely following the development of reporting frameworks like the Taskforce for Nature-related Financial Disclosures and Science-Based Targets for Nature. We will continue to monitor these frameworks for emerging metrics and targets.

HIGHLIGHT STORY: CONEJOS RIVER WATERSHED RESTORATION

Our *net positive water* commitment at the Carrollton data center is fulfilled in part through our contribution to watershed restoration in the Conejos and upper Rio Grande Rivers. Bonneville Environmental Foundation and Trout Unlimited have partnered to manage water in the area to maintain flows throughout the year that are critical to sustaining the lifecycle of fish. We are pleased that our water restoration goals pair with impactful conservation outcomes. This project is a perfect example of how we intend to structure our offsite habitat improvement partnerships going forward — lending support to organizations with conservation expertise to fulfill multifaceted environmental goals.

Circular Economy

CyrusOne is developing and expanding our strategy for transitioning to a circular economy. In general, one of the key strategies of a circular economy is dematerialization: transitioning material processes to digital ones. We recognize that data centers play a central role in dematerialization by providing a reliable digital infrastructure that can make alternatives not only less material-intensive but also more energy and labor efficient. Other sections of this report detail how we are reducing the environmental burdens of data centers so that the benefits of dematerialization do not simply shift the impacts to carbon or water. In this section, we describe our efforts at making our material streams more circular.

For material issues, CyrusOne's challenges are more closely related to those of a typical real estate company than to those of an in-house data center operator. For example, the EU Climate Neutral Data Centre Pact's Circular Economy commitment, commits to set a high bar of reusing, repairing, or recycling 100% of used server equipment. However, as we described in the Introduction, we do not control the servers in our colocation facilities — they belong to our customers. Due to this, our operational material waste generation is very low, largely consisting of customer packaging and break room waste. However, because we are building new facilities each year, our primary opportunity to contribute to the circular economy transition comes from incorporating circularity into our construction practices.

Construction Circularity

Construction Upstreaming

One technique that we have used to improve the circularity of our construction practices is through "upstreaming" construction so that more of it happens at the manufacturer rather than on the construction site. This seemingly simple change in support of our innovative modular construction techniques means that each manufacturer's waste stays with the manufacturer, where they can better manage it in bulk. For example, during construction, a process may generate a remnant 5-foot carbon steel pipe. If this fabrication occurred at the construction site, the pipe remnant would most likely end up in the recycling bin since the opportunities to reuse it would be limited. At a high-volume manufacturing facility, however, there are many more opportunities for that pipe section to be used rather than recycled.

Construction Material Choices

Our construction material choices also have opportunities to close the loop and contribute toward a circular economy. We are evaluating the potential for recycled content and low-carbon construction materials in addition to other environmentally preferable materials, like low-VOC paints and adhesives. Each choice is another step on the road to circularity and reducing the other environmental impacts of construction.

Construction Recycling

Once construction is underway, there are opportunities to recycle discarded construction and demolition materials. Construction site recycling practices are built into our standard process and are one of our requirements when selecting general contractors.

Operations Circularity

While construction is our major opportunity to contribute towards the transition to a circular economy, we still look for opportunities to improve waste and circularity in our operations.

Paperless Processes

We have transitioned several of our standard business processes to paperless systems. Two examples with major impacts are our contracts system and our commissioning documentation. By transitioning from paper to electronic formats, we are (in our own small way) realizing the potential of dematerialization that data centers can offer to the economy at large.

General Recycling

As part of our service to customers during their move-in process, we provide recycling for their packaging, such as cardboard boxes. For each facility, this waste generation is highly episodic — we may have a few months of this waste during move-in and then nothing for years until the customer upgrades their equipment and generates more packaging. Many of our data centers also offer meeting rooms for customer use, and as part of this service, we offer office recycling of paper and drink containers at all locations. This matches the recycling we implement at our headquarters.

Battery Recycling

The most significant part of our waste stream is the spent lead-acid batteries that power our Uninterruptible Power Supply (UPS) systems. These systems provide a large amount of power capacity for 5-10 minutes in the event of a power outage, as the backup generators come online to provide continuous uptime to our customers' servers. The batteries inside the UPS must be replaced every 5 years, and our spent batteries are recycled by our battery service provider.

Where Are Your Servers?

As we described in the Introduction, as a colocation data center operator, we do not own or control the servers in our facilities. Servers are our "tenants," so to speak, and are owned, operated, and retired by our customers. This is different from owner-operated data centers — such as those operated by Microsoft, Amazon, or Google — where they manage both the data center and its servers. Because of the importance of data security, server end-of-life management is managed by our customers so that they retain custody of their confidential data. Because of this, the decision to dispose of, recycle, or reuse these assets is entirely up to them. We do practice e-waste recycling for our owned electronic assets, such as teammate laptops and monitors, but this is a small component of our overall waste profile.

SOCIAL RESPONSIBILITY

Social Responsibility

At CyrusOne, we understand that we have a responsibility to act as good corporate citizens. We pride ourselves on our Core Values of Community, Agility, Respect, Enjoyable Workplace, Ethics, and Exceptional Service. Our social responsibility efforts fall under the following four headings:

- **Responsible Supply Chain:** Because we have a relatively small number of teammates, our supply chain provides us an important opportunity to increase our social impact.
- **Responsibility to Our Employees:** Our people are our most important resource, and we have a responsibility to promote their well-being and help them grow.
- **Responsibility to Our Customers:** We value our customers and work to keep them safe when they're at our sites.
- **Responsibility to Our Communities:** We strive to be a good neighbor in the communities where we operate.

Responsible Supply Chain

At CyrusOne, we realize that much of our impact and influence on society comes through our supply chain. Our commitment to creating a responsible supply chain means that our ethics extend to 1) our relationship with our suppliers and 2) our suppliers' behavior. We have established practices to set clear guidelines and expectations for a responsible relationship with our suppliers, preventing conflicts of interest and creating mutually beneficial long-term relationships. It is also important to us that our suppliers conform with all applicable human rights standards, labor and employment laws and norms, and environmental regulations and best practices. To properly communicate our values and expectations, CyrusOne provides suppliers with a comprehensive framework of standards in the form of our Vendor Code of Conduct. Our relationship with our business partners is important to us and is guided by our responsibility to our community's well-being and safety.

Strategy

Our strategy to manage a responsible supply chain is to integrate our supplier ESG tools into all stages of the vendor lifecycle:

1. New Vendor Screening
2. Prequalification
3. Vendor Selection
4. Vendor Onboarding
5. Vendor Life Management

Upholding ethics and compliance with our vendors is a part of our supply chain DNA. We don't simply "check the box" when our vendors are selected, we continue the conversation and maintain integrity through our supply chain standards. Long after selection and onboarding, we use these standards as part of our Quarterly Business Reviews with vendors to maintain responsible relationship management.

Risk Management

Our approach to managing risks related to our suppliers is embedded in our initial vendor lifecycle stages: New Vendor Screening and Prequalification. Through these initial stages, we can evaluate the ethical standing of our potential suppliers. By applying the standards of our Vendor Code of Conduct to these two steps, we manage the risks that can come from forming partnerships with companies that don't share our values. All of our Tier I suppliers operate solely in developed democracies (the United States, the United Kingdom, Ireland, Germany, and the Netherlands) with strong human rights protections, so our risk of human rights issues in our supply chain is minimal.

Supplier Diversity Initiative

Diversity, equity, and inclusion within our supply chain is important to us at CyrusOne. To see how we integrate this value into our employee community, please see Responsibility to Our Employees. Since we have relatively few teammates for a company of our revenue, our greatest contribution to addressing diversity, equity, and inclusion comes from our supply chain. To track our impact on this important topic, we have set a goal to increase our partnerships with diverse and underrepresented suppliers, such as small businesses, minority-owned businesses, or women-owned businesses.

Metrics and Targets

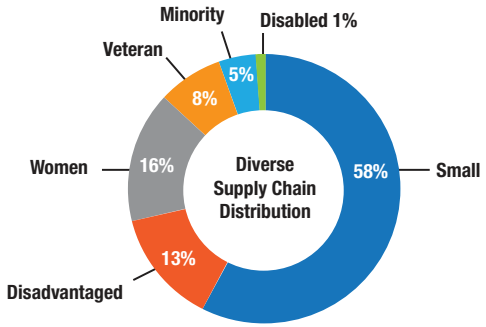
We measure our supply chain diversity progress by identifying the percentage of our supply chain spend that goes to certified small businesses, minority-owned businesses, or women-owned businesses. Companies that are certified to multiple of these criteria are counted in each of their categories. Since the U.S. has certification systems in place for these designations, we started our target there (U.S. business represents 70% of our total spend).

Target: Diverse Supply Chain Spend

Our target is to expand our supply chain spend on small businesses or businesses owned by disadvantaged, women, veteran, minority, or disabled owners for U.S. spend. As of the end of 2020, these businesses represented 7.2% of our U.S.-based spend. Our target is to reach 10% by the end of 2021 and 20% by the end of 2024.

Metric: Diverse Supply Chain Distribution

We track the percentage of our diverse supply chain spend that goes to different certified categories of historically underrepresented businesses. As of the end of 2020, these businesses represented 7.2% of our spend. Companies whose owners represent more than one of these categories (such as women veterans) are represented in multiple categories. The breakdown of spending on the different business categories is shown in the chart below.



Vendor Code of Conduct

At CyrusOne, we adhere to our Core Value of commitment to ethical business practices. To reinforce this value, we utilize a Vendor Code of Conduct to share our standards with our business partners and facilitate ethical and professional relationships. We take the Vendor Code of Conduct seriously and have integrated it as a decision tool across all parts of the vendor lifecycle (see strategy above).

As part of our continuous improvement process, we updated our Vendor Code of Conduct in 2021. Our improved Vendor Code of Conduct can be found on our website and covers the following topics:

- **Workplace and Business Practices:**
  - No Bullying, Discrimination, or Harassment
  - Human Rights & Dignity
  - Health & Safety
  - Compensation & Benefits
  - Environmental Compliance
  - Anti-Corruption & Anti-Bribery
  - Freedom of Association/Collective Bargaining
- **Conflicts of Interest:**
  - Vendor & Supplier Relations
  - Business Entertainment, Meals, Gifts, & Favors
  - Participation in Purchasing Decisions
  - Purchases From Related Businesses

Metrics and Targets

Since we updated our Vendor Code of Conduct, we have established short-term metrics to methodically integrate it into business.

Target: Integrate Improved Vendor Code of Conduct

Our goal is to use our updated Vendor Code of Conduct in 100% of new vendor selection processes by mid-2021 and propagate to 100% of existing vendors by the close of 2021.

Contractor Occupational Safety

Our focus on safety extends to our contractors as well. In 2020, we collaborated with several kinds of CyrusOne contractors — including construction, facility maintenance, and security — to improve transparency and safety efforts. Through this collaboration, we were able to collect valuable safety metrics from our contractors, review safety processes and programs, and form an open line of communication between the CyrusOne safety team and the contractors. While we have a high level of data quality globally for facility maintenance and security contractors, our data for construction contractors currently only covers the United States.

Information about Employee Occupational Safety and Customer Safety are covered in other parts of this chapter.

Construction Safety

Due to construction projects being at high risk for serious injuries, supporting the safety performance of our construction general contractors is a top priority. We want to ensure that we not only get the best but also the safest company for the job. There are three primary components to our Construction Safety Program: Prequalification, Metrics Monitoring, and Onsite Assessments.

Prequalification

Our process begins with the prequalification phase. To be considered for a project, all general contractors must first qualify by submitting evidence of strong and measurable safety performance. The safety prequalification is conducted by our team of EHS experts and results in the company receiving an overall score. Indicators we review include the level of safety support provided to projects, insurance indicators, injury rates, and a comprehensive safety program.

Metrics Monitoring

Once a construction general contractor is hired for a CyrusOne job, they are given requirements for safety metrics reporting. Safety metrics are to be submitted to the CyrusOne EHS department monthly. These monthly metrics include a blend of both leading and lagging indicators, such as injury rates and unsafe worksite observations. These monthly metrics are aggregated and scored with a minimum score that must be maintained. If a project drops below our target threshold or we identify a negative trend, CyrusOne implements a series of interventions. These interventions are intended to signal concern, ensure alignment on priorities, and lend additional resources to the project.

Onsite Assessments

CyrusOne also utilizes third parties to perform physical safety audits at our construction sites. The purpose of the third-party audit is to verify the status of the various safety management functions of the project, highlight areas where the general contractor meets or fails to meet minimum requirements, and identify management deficiencies to be corrected. This project safety management audit covers items such as:

- Safety leadership
- Safety planning
- Safety training
- Safety monitoring
- Safety accountability
- Safety communication
- Accident/injury prevention/management
- Soft tissue injury prevention
- General liability exposures/controls

Contractor Safety Metrics

These metrics represent CyrusOne's global reporting for facility management and security and U.S.-based construction contractors. We are working to add Europe-based construction contractors for future reporting. Definitions for each metric can be found in Appendix 2: Primary Metrics (Occupational Safety Metrics).

Metric: Contractor Injury Incidents

These metrics indicate the total count of injuries, categorized by severity.

Contractor Safety Metrics	
Incident Counts	**2020**
Number of Fatalities	0
Number of Total Recordable Cases	15
Number of Total Lost Workday Cases	1
Number of First Aid Cases	16
Number of Near Miss Incidents	4
** Global reporting for facility management and security and U.S.-based construction contractors*	

Metric: Contractor Injury Rates

These metrics normalize the metrics above to the amount of work performed that year to arrive at an injury rate. This is shown below as the performance metric per 200,000 hours worked (as is typical for U.S. OSHA reporting).

Contractor Injury Rates	
Incident Rates (per 200,000 hours worked)	**2020**
Total Hours Worked	1,870,927
Lost Time Injury Rate	0.11
Total Recordable Incident Rate (TRIR)	1.60
** Global reporting for facility management and security and U.S.-based construction contractors*	

Responsibility to Our Employees

At CyrusOne, we aim to be a preferred neighbor and employer. We are committed to having a positive social impact on the communities we serve, attracting great talent, and building diverse and inclusive teams. In doing so, our efforts are focused on creating a culture of belonging, ensuring the health and safety of our teammates, and providing a work environment that promotes career development and community. We recognize that our 450 teammates are the foundation of CyrusOne and that we are stronger when we grow together. Our leadership ensures that each teammate gets what they need to thrive in their careers, help our teams grow, and contribute at their highest potential. We aim to be an employer of choice, with passionate, innovative, and fully engaged teammates. All of our teammates operate solely in developed democracies (the United States, the United Kingdom, Ireland, Germany, and the Netherlands) with strong human rights protections, so our risk of human rights issues related to employment is minimal.

Embracing Diversity, Equity, & Inclusion

We can most effectively support and serve our diverse customer base with a diverse and inclusive team. Our diverse workforce is a reflection of a changing world and marketplace that recognizes that there are many ways of seeing the world, solving problems, and working together. Our goal is not simply to create diverse representation within our employee population but also to nurture an environment where all workers are treated equally. Diversity, Equity, and Inclusion is a business imperative that helps us build and empower our future workforce while also doing our part to address societal challenges.

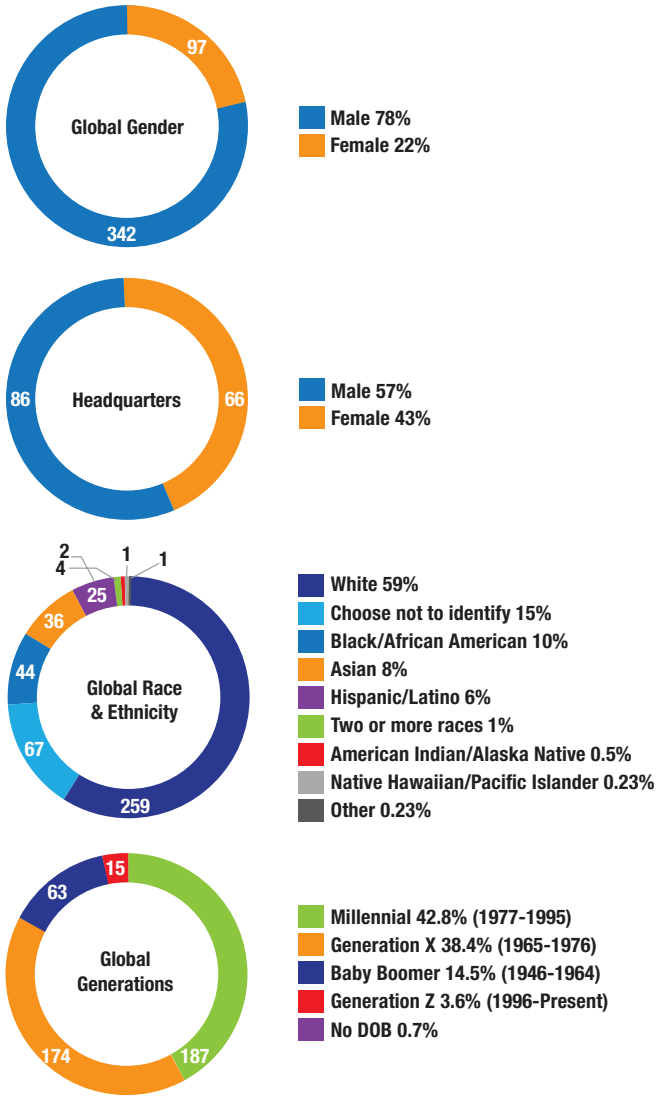
The pillars of our diversity strategy focus on:

- Shaping and nurturing a culture that embraces and values a diverse team
- Attracting, recruiting, and hiring diverse talent
- Onboarding, developing, and retaining diverse talent
- Community engagement to support diversity within our workforce

At a pivotal time in history, we recognize that proactive leadership is imperative in moving the needle concerning racial equality and social justice. Our employee-led Community, Agility, Respect, Enjoyable Workplace, Ethics, and Exceptional Service (CAREEE) Group opens channels of communication across our company and creates an environment where listening and understanding different perspectives promotes a culture of increased awareness.

Workforce Metrics Disclosure

Our metrics represent our north star as we progress toward achieving our strong goals for racial and gender equity and inclusion. Our talented team boasts an average tenure of 4.6 years and experienced a 6% voluntary turnover rate in 2020.



Women's Resource Group

Our data tell us that a key area of opportunity is improving our female representation. While women make up 42% of our corporate headquarters workforce, we see a terrific opportunity to acquire, grow, and develop women within our data center operations, a field in which they are underrepresented. In pursuit of this goal, we created our first employee resource group (ERG), called the Women's Resource Group (WRG). This team is sponsored and chaired by four senior female leaders, including our chief financial officer and our senior vice president of operations.

Katherine Motlagh
Executive Vice President and Chief Financial Officer

Andrea Munoz
Sr. Vice President, Operations & Customer Success

Theresa Chareunsab
Sr. Director, Information Systems

Laurene Richards
Global Marketing Director

The mission of the group is to cultivate an inclusive environment that supports and encourages women to advance their skills and leadership potential through connection, networking, mentorship, collaboration, and discussion. The group serves as a safe space and forum for CyrusOne women facing similar challenges to be heard within the organization and community and allows for the women in our organization to show up as their authentic selves. The WRG encourages women to use their unique expertise and bring about positive impacts to the business.

Diversity Partnerships

Much like the talent we source for full-time positions, we believe internships provide the company with an opportunity to recruit interns who can provide unique perspectives when hired from diverse backgrounds. CyrusOne has a long practice of building a strong summer internship program with a focus on bringing in diverse talent. Most recently, CyrusOne took a creative approach by partnering with BakerHostetler to share a diverse legal intern during the summer of 2021, with plans to continue the program in 2022. Throughout the summer, the intern had the opportunity to work in different areas of expertise while also learning different work cultures and developing mentoring relationships within both companies.

HIGHLIGHT STORY: NADIA'S IMPACTFUL JOURNEY WITH CYRUSONE

Nadia Jones initially joined CyrusOne in 2017 as an intern that was recruited from the Knowledge is Power Program (KIPP), a charter college preparatory school for underprivileged communities throughout the United States. After her successful internship, Nadia was hired on as a full-time Marketing Coordinator.

In addition to her regular responsibilities, Nadia is the leader of our CAREEE Group. CAREEE is an acronym that represents our values of Community, Agility, Respect, Enjoyable Workplace, Ethics, and Exceptional Service. The CAREEE Group is made up of 15 cross-functional, diverse teammates across the organization. In 2020, this Group was instrumental in driving diversity and inclusion. During the inception of COVID-19 and the heightened awareness around racial injustice and Black Lives Matters, Nadia led the efforts to organize monthly diversity topic discussions for all teammates to participate in. Our team discussed topics such as Microaggressions, Women in the Workplace, Mental Health, and Race & Prejudice. Our celebrations and events included Martin Luther King Day, Chinese New Year, Cinco de Mayo, Veterans Day, and Juneteenth.

Listening Sessions

The aftermath of George Floyd's death put a spotlight on institutionalized racism and social injustice. As #BlackLivesMatter and similar social change initiatives gained visibility, CyrusOne leadership established a series of different listening sessions to help our teammates cope with the mental and emotional strain resulting from the events and understand the perspectives of others with a growth mindset. Immediate and specific actions included our CEO speaking to the entire organization about the realities of police brutality and racism in America, as well as CyrusOne's commitment to being part of the solution. Each of the senior management executives met directly with their teams to create a safe space to process together, share their experiences, and surface the emotional and mental strain they were holding. A monthly CAREEE Group meeting focused on encouraging one another to understand the importance of caring for our mental health. At CyrusOne, by carefully listening with compassion and an open heart, we recognized the importance of starting an ongoing dialogue to thoughtfully address systemic issues.

Collective Bargaining

CyrusOne recognizes the right of teammates to participate in collective bargaining if they desire. As of 2020, less than 1% of CyrusOne teammates are represented by an independent trade union or covered by collective bargaining agreements.

Ensuring a Harassment- and Discrimination-Free Workplace

Congruent with our company values and our policy against harassment and discrimination in the workplace, we aim to maintain a work environment free from all forms of harassment and retaliation. We affirm the fundamental principle that everyone is entitled to fair treatment and equal opportunity without discrimination on the basis of any characteristic such as race, ethnicity, color, nationality, gender, sexual orientation, gender identity, age, language, religion, creed, social status, or disability. We expect a workplace where customers, teammates, suppliers, business partners, visitors, and shareholders are treated with dignity, respect, and courtesy. All teammates are provided with transparent, respectful, and confidential avenues to bring forth concerns or workplace misconduct, including a 24/7 ethics and compliance helpline. The law and policies of CyrusOne prohibit disparate treatment on the basis of sex or any other protected characteristic, with regard to terms, conditions, and privileges of employment.

Human Capital

One of the ways we grow our company is by attracting, retaining, and developing talent. This section lists our efforts to offer competitive, modern benefits and provide training and development opportunities.

Employee Benefits

Our teammates are the heartbeat behind the success of our products and services. Our focus on health and well-being represents CyrusOne's commitment to building and sustaining a high-performing team by giving teammates and their families the incentives, programs, and social support needed to thrive. We offer a wide range of benefits as part of our overall Total Rewards to help our teammates feel safe:

- Medical, Dental, and Vision Coverage
- Life Insurance
- Employee Stock Purchase Program
- Retirement Savings Plan (401k) with Company Match
- Parental Leave
- Employee Assistance Program (EAP)
- Caregiver Benefits
- Health Savings Account
- Flex Spending Account
- Telemedicine
- Short- and Long-Term Disability Insurance
- Nine Paid Holidays and a Volunteer Day
- Flexible Work Schedule

Employee Training and Development

We are committed to helping teammates reach their full potential and strengthen technical, professional, and leadership skills at every level throughout their careers. We focus on developing our teams through onboarding and assimilation training, ongoing education, experiential learning, and ongoing performance feedback. Our learning management system also provides our teammates with over 800 courses on a vast array of topics that can assist them with their ongoing professional development. This online tool also includes our mandatory annual compliance training courses, which focus on topics including data protection, HIPPA privacy, emergency response plans, ethics and values, code of conduct, and Diversity, Equity, & Inclusion (DEI). This year, our training efforts also assisted our team in learning more about unconscious bias as well as how to return to our office safely during the pandemic. In 2020, our teammates spent over 1,600 hours completing online training. Our leadership team reviews the performance and potential of our team each year as part of our "Talent Day" process, which includes developing succession plans within our organization and clear professional development plans for our talent.

Throughout the pandemic, our talent acquisition and onboarding processes became fully managed remotely. This new approach strengthened our ability to convey our culture, values, office environment, and vision in a virtual manner, providing a transparent and true sense of who CyrusOne is as an employer while making new teammates feel valued and welcomed.

As our teammates have become more informed and educated in all areas of corporate sustainability, we have integrated sustainability metrics into our annual bonus including progress on renewables, energy efficiency, and DEI initiatives.

Employee Occupational Safety

At CyrusOne, we view the health and safety of our teammates as a fundamental value. Eliminating injuries requires teamwork, focus, and a continuous improvement mindset. We have aligned our practices with ISO 45001 international safety standard with six areas of focus: leadership and worker participation, planning, support, operation, performance evaluation, and improvement.

CyrusOne takes a methodical, systems-based approach to health and safety, which has resulted in world-class performance, including high productivity, high employee morale, low injury rates, low worker's compensation costs, and a low average cost of injury.

Information about our efforts to improve Contractor Safety and Customer Safety are covered in other parts of this chapter.

Strategy

CyrusOne understands that as an employer, we have a duty to our teammates to create and invest in a workplace that is free from recognized hazards. At CyrusOne, we live by our CAREEE core values. As seen in these core values, we are here to improve the lives of our stakeholders, shareholders, communities, and teammates.

Our company also makes the business case for safety by demonstrating that this is not only the right thing to do, but it also helps to save the company money by lowering workers' compensation and medical expenses, avoiding regulatory penalties and citations, and avoiding potential lawsuits. We also recognize that when teammates are working in an environment that is free from hazards, they are less likely to leave to find employment elsewhere and will be more productive at work.

All in all, we are "Safe by Design" and strive to protect and improve the health, safety, and well-being of all our teammates through our health and safety program.

Risk Management

As a company, we aim to achieve excellence when it comes to our health and safety program and performance through our written EHS programs; training; assessments/audits; hazard recognition, evaluation, and control; and incident management.

Written Programs

CyrusOne has a wide range of written EHS Programs that serve as the backbone of our successful EHS performance. These programs help ensure that we not only follow regulatory standards but that we also have plans in place to go above and beyond such standards. The contents of our written programs include program goals and objectives, safe operating procedures, a list of responsible persons/parties in relation to the program, guidelines on recordkeeping, training requirements, and a list of additional resources. Our written programs are reviewed at least annually to make sure they are kept up to date.

Examples of CyrusOne written EHS programs include:

- Bloodborne Pathogens
- EHS Event Reporting
- Electrical Safety
- Emergency Action Plan
- Environmental Awareness
- Fall Protection and Ladders
- Hand and Portable Power Tools
- Hazard Communications
- Hearing Conservation
- Job Hazard Analysis (JHA)
- Lockout Tagout
- Confined Spaces
- Material Handling
- Powered Industrial Trucks
- Personal Protective Equipment

Training

CyrusOne takes pride in our EHS training program. Along with on-the-job training, our online training courses follow best practices and local standards, such as OSHA standards set forth in 29 CFR 1910 (General Industry). Each training course is custom made specifically for our teammates and pulls in examples and real-life situations that are seen in our facilities. New training courses are pushed out monthly for our teammates to complete. After completing each narrated course, teammates must display their knowledge by passing a quiz at the end of the training. The Environmental Health Safety & Sustainability (EHSS) department continually tracks the training status of all teammates and works to ensure 100% completion of our monthly EHS trainings. Our EHS training program is continuously improving to ensure the information provided in these trainings is up to date, comprehensive, and relevant to the job being performed.

Examples of EHS training topics include:

- Bloodborne Pathogens
- Confined Space Awareness
- EHS Event Reporting
- Electrical Safety Awareness
- Emergency Action/Business Continuity
- Environmental Awareness
- Ergonomics Training
- Fall Protection
- Forklift Awareness
- Forklift Operator Certification
- Hand and Portable Power Tools
- Hazard Communications
- Hearing Conservation
- Ladder Safety
- Lockout Tagout Awareness
- Personal Protective Equipment (PPE)
- Rack and Dock Safety

Hazard Recognition, Evaluation, and Control

To prevent incidents from occurring and to maintain a safe working environment, recognizing, evaluating, and controlling hazards is of utmost importance. Our two primary tools for this are our Job Hazard Analysis (JHA) and Near Miss Program.

Job Hazard Analysis (JHA) Development: Our JHA program allows for hazards to be properly identified and helps to ensure that certain steps or procedures can be put into place to mitigate such hazards. When developing JHAs for certain job tasks, our teammates are involved in the entire process from identifying job tasks, helping to gather the appropriate information, and reviewing the completed JHA. With potential hazards being mitigated through JHAs, many incidents and near misses can be avoided. Our JHAs are continually being reviewed and expanded upon to ensure that the information remains up to date for the tasks performed by our teammates. Allowing teammates the opportunity to actively participate in this process allows us to stay aligned with the ISO 45001 standard by fostering an environment that promotes worker participation in the safety process of our company.

Near Miss Program: Our Near Miss Program helps to proactively identify potential hazards that have not yet caused an incident to occur. Available to all CyrusOne teammates, this program allows for near misses to be easily reported and documented online. If a near miss is seen, an employee would access the reporting system online and submit information regarding the hazard, such as a description and the location of the hazard, as well as any recommendations on how to correct or control the hazard. After the near miss is reported, facility management is notified, and a plan is put into place to investigate the hazard and act on the recommendations given on the near miss report to control or correct the hazard. In analyzing and correcting near misses, we can identify areas that need improvement and prevent incidents from occurring.

Incident Management

All EHS related events are reported and documented, whether it is an injury, environmental event, property damage, or a general liability case. Once an incident occurs and the situation is assessed, the incident is reported through our company-wide ticketing process, which alerts facility management and the EHSS department. The EHSS team facilitates the incident investigation processes and works with the facility team to conduct a root cause analysis (RCA) of the incident. All stages of the incident investigation process are fully documented through our enterprise safety information management system. Using this system allows for the consolidation of our EHS-related metrics and helps promote efficiency in our recordkeeping process.

Facility Assessments

To ensure compliance of our facilities, each of our data centers undergoes an in-depth annual EHS assessment led by our team of experts. These assessments help to ensure that our facilities are both in compliance with local standards, such as 29 CFR 1910, and following all CyrusOne's health and safety programs and policies. Following our continuous improvement mindset seen from ISO 45001, these assessments allow for validation of our EHS performance and act as the "check" stage in the Plan-Do-Check-Act (PDCA) cycle. With the ISO 45001 standard being founded on the PDCA cycle, using this continuous improvement process is integral to the way we manage our EHS program.

With these assessments, our EHSS team works closely with facility management and the operations team to confirm that each assessment is done as thoroughly as possible. Each assessment aims to dive into our programs, processes, and documentation, as well as conducting safety observations, walkthroughs, and employee interviews. These assessments are comprised of a wide range of EHS-related topics that we investigate and score at each site. Each site is scored on how well they performed during the assessment, and corrective actions are developed for areas that need improvement. The goal of these assessments is to not only identify the EHS performance of our sites but to also share best practices seen among the sites.

Metrics and Targets

These metrics measure the health and safety outcomes for all CyrusOne teammates. A description of each metric and formula is found in Appendix 2: Primary Metrics (Occupational Safety Metrics). Metrics for contractors can be found in the Contractor Safety section.

Metric: Employee Injury Incidents

These metrics indicate the total count of injuries categorized by severity.

Employee Injury Incidents		
Performance Metric	**2019***	**2020**
Number of Fatalities	0	0
Number of Total Recordable Cases	8	1
Number of Lost Workday Cases	3	0
Number of Restricted/Transfer of Duty Cases	2	0
Number of Other Recordable Cases	3	1
Number of First Aid Cases	1	0
**** 2019 data for European operations was not available, so they have been removed from both incidents and hours worked.***		

The decrease in injury rate in 2020 is due to several factors, including the maturity of our safety program and safety culture, increased leadership involvement, and improved training and learning management. While the pandemic did not reduce the hours worked for onsite staff who have occupational exposure to hazards, it did highlight the importance of safety across the operation.

Metric: Employee Injury Severity

These metrics indicate the severity of the metrics reported above, as measured by how many days an employee spends away from work recovering or on restricted duty to allow healing at work.

Employee Injury Severity		
Performance Metric	**2019***	**2020**
Number of Days Away from Work	178	0
Number of Restricted/Transfer Duty Days	215	0
2019 data for European operations was not available, so they have been removed from both incidents and hours worked.		

Metric: Employee Injury Rates

These metrics normalize the metrics above to the amount of work performed that year to arrive at an injury rate. This is shown as the performance metric per 200,000 hours worked below (as is typical for U.S. OSHA reporting).

Employee Injury Rates		
Performance Metric per 200,000 hours	**2019***	**2020**
Total Hours Worked	822,635	860,942
Lost Time Injury Rate	0.73	0
Days Away Restricted or Transferred (DART) Rate	1.22	0
Total Recordable Incident Rate (TRIR)	1.94	0.23
2019 data for European operations was not available, so they have been removed from both incidents and hours worked.		

Changes in hours worked in 2020 were due to the addition of European hours worked and injuries to our metrics.

Metric: Chemical Spills

These metrics indicate the spills of chemicals (including fuels) that could impact local health or the environment.

Chemical Spills		
Performance Metric	**2019**	**2020**
Reportable Spills with Environmental Impact	0	0
Reportable Spills without Environmental Impact	0	1

The one reportable spill in 2020 involved diesel for a generator and did not reach waterways or open soil. None of these spills resulted in injury or illness.

Responsibility to Customers

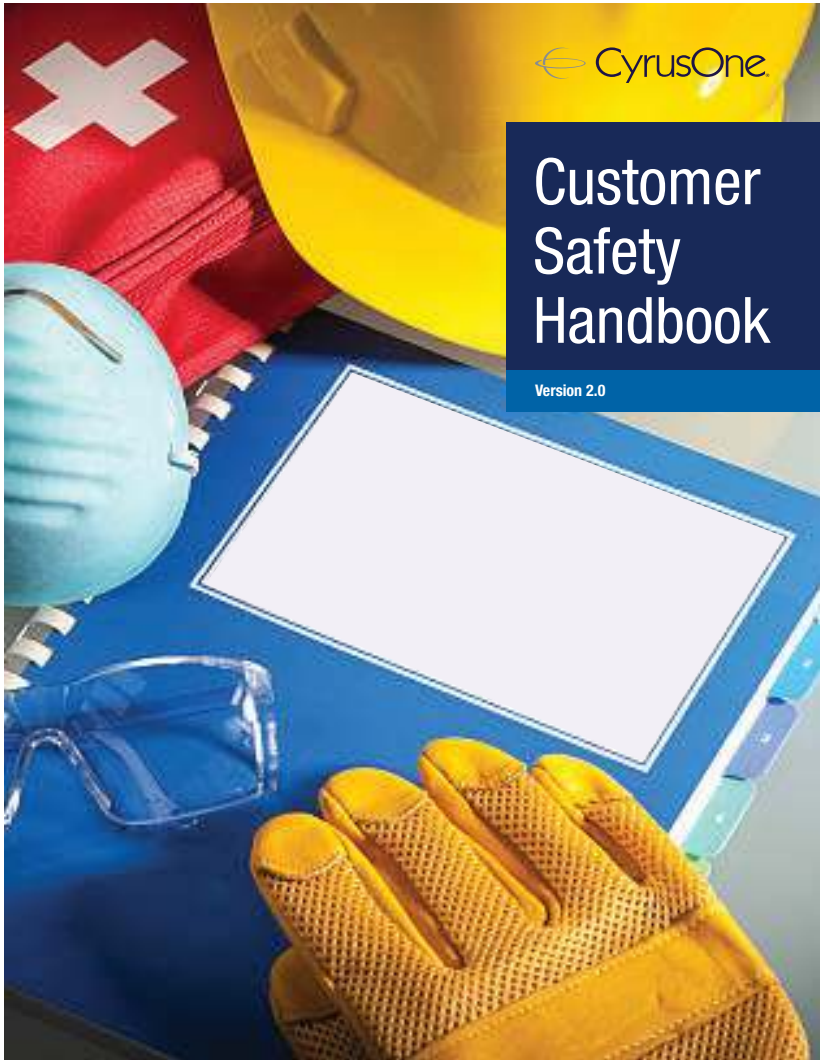
We recognize that our responsibility to customers goes beyond delivering a great product with great customer service. We also have a responsibility to partner with our customers on safety while they are at our facilities.

Customer Safety

Just as we prioritize the safety of our teammates (see Employee Occupational Safety) and partner with contractors to work safely at our sites (see Contractor Safety), our focus on safety extends to our customers who share our colocation spaces. To provide shared guidelines, we've developed a Customer Safety Handbook. This Handbook outlines general safety rules, as well as topic-specific considerations, such as safe ladder use, electrical safety, fire prevention, and material handling. These rules all have one thing in common: they are there for the safety of all who work in or operate our data centers.

In addition to our Customer Safety Handbook, we also supply our customers and any visitors to our data centers with a site-specific Visitor Brochure. This brochure covers information regarding emergency numbers, evacuation routes, and site-specific security and safety information that may be needed during an emergency or just during normal operation. Our Customer Safety Handbook and Visitor Brochures help to ensure that our customers are provided with the appropriate information needed to stay safe while in our data centers, as well as be prepared in the event of an emergency situation.

When customers visit our data centers, we want their visit to be productive, efficient and above all else, safe. One way to help keep everyone safe in our data centers, is to ensure that a proper incident management system is in place in the event of any EHS related incidents. CyrusOne has set processes in place to document and investigate any safety issues or onsite injuries that occur at our data centers that involves our customers. Customers are encouraged to report any hazards or unsafe conditions that they may find while visiting our data centers to our 24/7 security personnel or through our customer service software. All EHS related incidents are then fully investigated by site staff and our EHS department to ensure that any immediate hazards or issues are mitigated to prevent further issues.



Responsibility to Communities

As a global data center company, we have an obligation to positively impact the communities where our facilities are located. These communities have provided us with a location to do business and incredible teammates, so we feel it is a part of our social responsibility to give back to local residents, the surrounding environment, and organizations that make a difference. We understand that we influence the overall wellness of the areas in which we operate and aim to contribute positively whenever we can.

Community Engagement

The first part of our responsibility to our communities is to be a part of the community. This involves engaging with our communities in a variety of ways, both by listening and by going out and working alongside our neighbors to make the community a better place.

Good Neighbor

Part of being a good neighbor is listening to our neighbors if and when our operations are affecting their lives. When we get complaints, such as for noise coming from our operations, we make it a point to engage with neighbors rather than retreating behind the letter of the law. We listen to their point of view and then work to remedy issues so that we will continue to be welcome members of the community.

Supporting Employee Volunteering

"Community" is central to our company CAREEE core values. However, in 2020, COVID-19 created some limitations on our team's opportunities to give back via community service. Each year, our teammates are provided eight paid hours for volunteering within their respective communities.

Community Impact

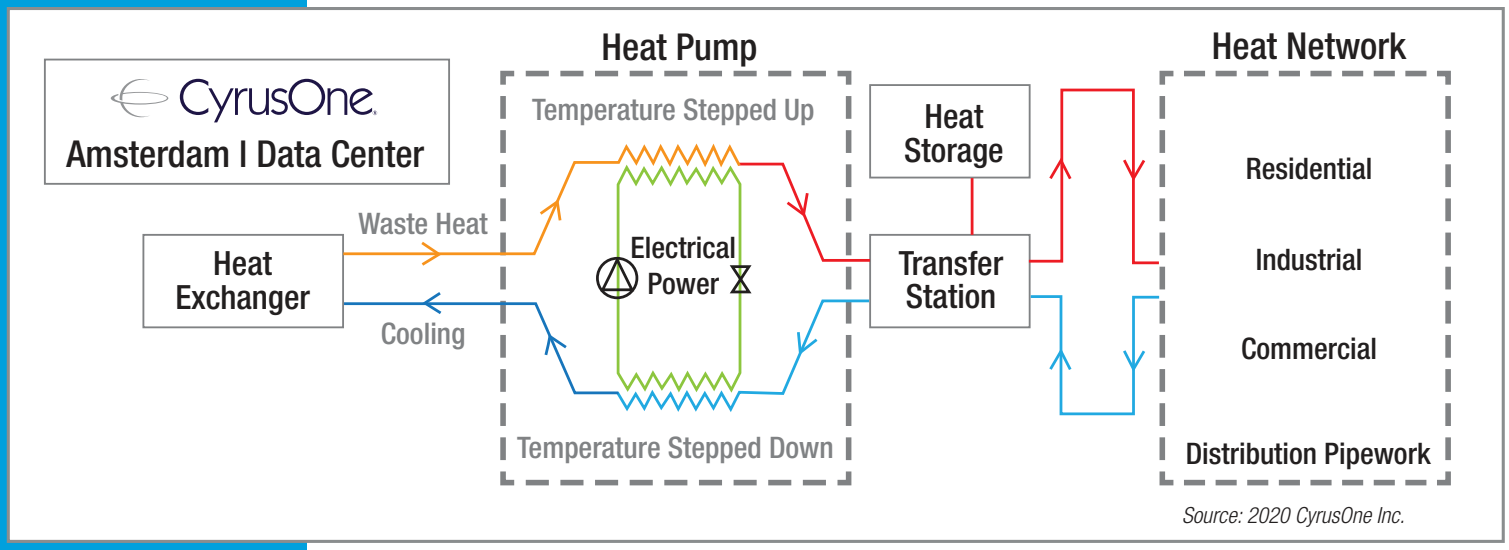
We understand that our operations can have both positive and negative impacts on the communities in which we operate. This section details our efforts to increase positive impacts and minimize negative impacts.

All of our directly operated facilities are located in developed democracies (the United States, the United Kingdom, Ireland, Germany, and the Netherlands) with strong human rights protections, so our risk of significant community human rights issues related to our operations is minimal.

Corporate Giving

The COVID-19 pandemic quarantine and stay-at-home orders resulted in school closures, increased unemployment and poverty, and a high demand on local food banks to provide meals. In response to the economic and community challenges brought on by the COVID-19 pandemic, CyrusOne donated over $250,000 in 2020 to hunger relief organizations, such as Feeding America, Member Food Bank, the North Texas Foodbank, and charities in Europe. The donations helped to fund millions of meals for people in need. We are grateful for these partnerships that allowed us to give back to our communities during this unprecedented time.

HIGHLIGHT STORY: BRINGING THE HEAT, TO OUR NEIGHBORS



Source: 2020 CyrusOne Inc.

In 2020, CyrusOne signed a Memorandum of Understanding (MoU) with the Municipality of Haarlem and PolanenPark to jointly research the economic and technical feasibility of reusing the heat that is generated from CyrusOne's Amsterdam I facility. This facility's cooling process produces an abundance of heat that has the potential to be captured and reused. If the results of this collaborative research prove that residual heat from the facility can be captured and delivered feasibly, the project could provide heat to a new district heating network to warm up to 15,000 homes in the municipality. With the amount of heat that is already produced from our renewable energy-powered data center, the project has the potential to reduce the natural gas that the Municipality of Haarlem has to burn, helping to lower their annual carbon emissions. The recovered heat from our data center can then be distributed for a variety of uses, including industrial, leisure, and residential. We are looking forward to completing this research with the hope of starting a heat reuse project in the near future.

APPENDIX 1: METHODOLOGY

Appendix 1: Methodology

Materiality Assessment

Process

We surveyed all members of our Sustainability Working Group, select experts in the company who could represent specific topics or stakeholders, and four external experts. Based on guidance from GRI and this survey information, we determined if a topic was 1) important to stakeholders and 2) impactful to the environment or society. These two factors then determine what we do and do not report.

Materiality

To determine what could be considered material, we had to answer three key questions: what, where, and when? For what, we looked across industries to determine what impacts our industry contributes to most. In where, we considered the locations in which we operate to ensure that we are sensitive to local or regional issues. Finally, for when, we assessed topics both as they are now and as they are projected to be in 10-20 years.

Importance to Stakeholders

To determine the importance of a topic to stakeholders, we evaluated the degree to which each type of stakeholder has conveyed concern about each topic. The scores were then weighted to reflect our strategic focus on the customer. For this first assessment, stakeholders are defined as customers, investors, and communities. In the future, we may try to include additional stakeholders, such as teammates (employees), non-governmental organizations (NGOs), or suppliers.

Impact on the Environment or Society

To determine our impact on the environment, we again asked three questions: what is our impact on human health and habitat, what is our impact on scarce resources, and what is our impact on climate? The scores were then weighted to provide a final impact score. For impact on society, we relied on our external experts to weigh the impact on society against a variety of factors.

Climate Risk

Future Flood Risk Assessment

U.S. Properties

All U.S. properties were assessed with the Flood Factor Tool. Based on the property's address, the tool issues a score of 1-10 (10 being the maximum risk) indicating the probability of a flood occurring and the depth of the flooding (i.e., a higher score indicates that the property is either more likely to flood, the flood height will be higher, or both). A full description of its methodology can be found here.

If the tool was unable to locate the property from its address, we used a nearby location. These locations were never more than a couple of buildings away or across a road. This occurred for 18 properties, the majority of which scored a 1 (low risk). Scores of 1-2 were categorized as low risk, scores of 3-5 as low-medium and 6-7 as medium-high risk. No scores were in the 8-10 high risk category.

UK Properties

All UK properties were assessed using UK government Flood Risk Tool. The tool assesses an area's flooding risk from rivers and sea as well as from surface water. Reported risk is a function of the probability of flooding and the consequences of flooding (be that environmental, economic, human health, etc.). The tool's full methodology can be found here. All UK properties scored low or very low in both flooding risk from rivers and sea, as well as from surface water, and were therefore included in the report's low risk bucket.

Remaining Properties

The remaining properties were evaluated using country-specific reports and tools. The Amsterdam property was assessed with this governmental report. The Dublin property utilized this online tool. The Frankfurt properties utilized this study from 2010 and this study from 2016. Finally, the property in Singapore was assessed with this government tool. For each of these properties, the method was unable to tie a level of risk with a particular address. Rather, the general location of the property (often the city or region) was used to match the granularity of the study. All of these sites were in the low categories of risk from their respective evaluation and were therefore included in the report's low risk bucket.

Carbon Pricing Risk Assessment

To cover the range of likely possibilities, we looked at three carbon price scenarios. The first is based on a key customer's current self-imposed internal carbon price of $15/ton. This is the Voluntary Scenario. Economic estimates conclude that in order for countries to meet the commitments to the Paris Accord through carbon taxes, they will need to impose carbon taxes in the range of $50-100/ton by 2030. Based on this, we selected two other scenarios we named Paris low and Paris high.

- Voluntary price: $15/ton
- Paris low price: $50/ton
- Paris high price: $100/ton

It is highly unlikely that a carbon tax would be levied directly on CyrusOne; instead, it will likely increase the cost of energy and raw materials. We analyzed the impact of these increases on CyrusOne's business activity, including both facility construction and operations. We then applied these impacts on a per-facility basis to compare the potential energy price increases to each facility's current electricity price. Then, we considered the different styles of customer contracts to understand, at the facility level, how much the carbon price would affect (1) our direct expenses and (2) our competitive position (by passing through to our customers). This per-facility analysis also gave us a way to calculate the benefit of new renewable electricity contracts in reducing carbon pricing risk.

Energy

Energy Source Scoping

Our operational energy-use calculations include four sources:

1. CyrusOne electricity for server support and common areas
2. Customer electricity for their servers in our data halls
3. Natural gas for comfort heating (only used at some facilities)
4. Diesel for emergency backup generation at all facilities

These data are combined into a common unit, kWh (using standard conversion factors for natural gas and diesel from the European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector). The energy-use data in this report covers all global facilities where we exercise operational control. Facilities that we do not include are those operated by our customers (such as San Antonio IV) or the few leased facilities where we do not have operational control (London-Woking, International Business Park in Singapore, and our HQ office suites). We anticipate that all directly managed facilities built in the future will be included in our scope of operational control, and we will clearly state any exceptions to this rule.

Energy Inventory

The table below summarizes how we group different energy types into our metrics.

Energy Inventory Categories	
Fuels	
Non-renewable	Diesel (1 US gallon = 40.8 kWh) Natural gas (1 therm = 29.3kWh) Hydrogen from nonrenewable sources
Renewable	Biodiesel, biogas, green hydrogen
Electricity (CyrusOne support equipment and customer server loads)	
Non-renewable, Zero Carbon	Thermoelectric from nuclear
Non-renewable, Fossil Fuel	Thermoelectric from coal, oil, gas
Renewable	Solar, wind, hydroelectric, geothermal
Renewable Electricity Procurement Types	
Direct	PPA, Green Tariff, retail product, direct generation, VPPA
Offsets	Unbundled RECs/Guarantees of Origin and other Energy Attribute Certificates (both National and Regional)
Grid-embedded	Percentage delivered in grid generation resource mix
Other Imported Energy	
Non-renewable	Offsite steam, district heating, district chilled water, etc.
Renewable	Above, generated from renewable energy

Climate Impact

Greenhouse Gas Inventory

Our greenhouse gas (GHG) inventory accounts for greenhouse gas emissions from electricity, diesel, and natural gas. This includes direct emissions from our operations (Scope 1), purchased electricity (Scope 2 for both our own operations and our customer server equipment), and indirect emissions, including those from our energy supply chain, employee travel, and customer-operated data centers (Scope 3). Our Scope 1 emissions come from burning diesel in backup generators and natural gas in facility comfort heating. We do not purchase any Scope 2 energy other than electricity (such as district heat or chilled water).

The GHG inventory data in this report covers all of our global facilities where we exercise operational control. Facilities that we do not include are those operated by our customers (such as San Antonio IV) or the few leased facilities where we do not have operational control (London-Woking, International Business Park in Singapore, and our HQ office suites). We anticipate that all directly managed facilities built in the future will be included in our scope of operational control, and we will clearly state any exceptions to this rule.

Following the WRI Greenhouse Gas Protocol, our GHG Inventory evaluates the major greenhouse gases: carbon dioxide, methane, nitrous oxide, refrigerants, and sulfur hexafluoride. We do not currently have data on refrigerant emissions, so those are not included in our inventory, but we plan to include them in the future. Sulfur hexafluoride was evaluated and does not apply to our operations. All emissions are reported in carbon dioxide equivalents – based on the global warming potential of each gas relative to carbon dioxide, as determined by the U.S. EPA. Our earliest year of available complete data is 2018, which also serves as our baseline year. We are seeking to expand our access to historical data before 2018 so that we can re-evaluate our baseline year.

Scope Change: Customer Server Electricity as Scope 2

To support our transition to renewable energy and support customer targets, we have changed our scope of carbon metrics for electricity. Electricity in our facilities goes toward three broad purposes:

1. Customer IT Equipment (servers)
2. Data Hall Support Functions (cooling, humidification, lighting, etc.)
3. Common Areas (offices, lobbies, outdoor lighting, etc.)

In the 2020 report, we had assigned electricity delivered to customer IT equipment as a Scope 3 carbon emission, while Data Hall Support and Common Areas were Scope 2. Starting with the 2021 report and going forward, we are assigning all three categories as Scope 2 carbon emission for all of our carbon metrics. We have restated all previous years in this report to provide accurate year-over-year comparisons. For more information about the impact of this change on energy metrics, see Energy Performance.

Scope 3 Estimates

Our Scope 3 emissions are carbon emissions from CyrusOne's indirect sources. Below are our Scope 3 sources and the methodology that we used to calculate the carbon emissions from each:

- **Construction Materials (Capital Goods):** Estimated from industry averages for concrete, steel, and other metals.
- **Fuel and Energy-Related Activities:** Estimated using industry averages for fuel extraction, refinement, and transport, as well as electrical generation, transmission, and distribution.
- **Business Travel:** Estimated using WRI Mobile Source Tool and estimates of company flights per employee per year.
- **Employee Commuting:** Estimated using WRI Mobile Source Tool with company-wide estimates of miles commuted by teammates in passenger vehicles.
- **Customer-Operated Facilities (Downstream Leased Assets):** Measured from customer-operated (indirectly managed) facilities that report energy data.

Water

Water Risk Assessment

Our Water Risk Assessment takes a three-step approach to understanding CyrusOne's specific risks and opportunities associated with water supplies. In our assessment, we evaluate three views into the relationship between water and CyrusOne's operations:

1. **Regional Water Stress:** The balance of regional supplies of water versus regional demand for water, both now and with projections for the future (2030 and 2040). This stress is shared by all companies that operate in the region.
2. **Facility Water Use:** How much water CyrusOne facilities use in a year.
3. **Facility Water Risk Exposure:** The combination of Regional Water Stress and Facility Water Use, indicating how much exposure each CyrusOne facility has to the regional risk.

Regional Water Stress helps us understand which regions are now or will soon be high risk, which is useful for both current facilities and site selection for new facilities. Understanding Facility Water Use can help us focus our attention on the current largest users of water and identify where improvements in water efficiency would be most beneficial. Finally, the Facility Water Risk Exposure identifies which facilities use significant amounts of water in high water-supply-stressed regions. Some CyrusOne facilities in high-stress regions do not use much water and thus are not exposed to that region's risk while other sites might use significant amounts of water in areas where water is plentiful. Neither of these is of particular concern. Instead, it is important to identify high-use sites in high-stress areas.

Regional Water Stress

Because water stress varies greatly by location, it is important to understand both the current and projected future water stress at each site. The World Resources Institute, a global research organization focused on sustainable management of natural resources, provides the definitive tool for evaluating water risk in its Aqueduct Water Risk Atlas. In WRI's words, "The Atlas uses a robust, peer-reviewed methodology and the best available data to create high-resolution, customizable global maps of water risk." It is currently in version 3.0.

Facility Water Use

In order to perform a water risk assessment, we first needed to know how much water is consumed by CyrusOne sites. This was gathered from utility bills or reported by facility managers. Water is reported by different water agencies in different units. The conversion factors used for each unit of measurement are listed below.

Water Conversion Factors		
Abbreviation	**Unit of Measure**	**Gallons per Unit**
gal	gallons	1
CCF	hundred cubic feet	748
HCF	hundred cubic feet	748
kgal	thousand gallons	1,000
AF	acre-feet	325,851
L	liters	0.264
KL	kiloliters	264

Facility Water Risk Exposure

The next step was to analyze the intersection between water risk and water consumption for each location (the water risk exposure). We brought these factors together to create a heat map of locations showing the intersection of regional water stress (current and future) and CyrusOne's facilities' water withdrawal in total gallons.

Scoping

Our 2021 Water Risk Assessment evaluates the current water stress for all of our facilities and the predicted water stress in 2030 and 2040. We also calculate total water use at the facilities for which we have data (94.4% of building area) to determine each site's exposure to regional water risk. For our leased facilities where water use data is not available (5.6% of building area), we can only monitor the regional risk, not the facility-specific risk. For this assessment, we consider all water withdrawal for our facilities regardless of the end use of the water (evaporation or discharge).

Biodiversity

Environmental Impact Assessments

Environmental Impact Assessments are performed while evaluating a property for purchase. These are conducted to the standards of the countries in which CyrusOne operates, but all share similar components. In the United States, for example, we start with a Phase I Environmental Site Assessment ("Phase I ESA"). The intent of a Phase I ESA is to assess whether current or historical property uses have impacted the soil or groundwater beneath the property and could pose a threat to the environment and/or human health.

A Phase I ESA typically includes the following:

- A site visit to observe current and past conditions and uses of the property and adjacent properties.
- A review of federal, state, tribal, and local regulatory databases including, but not limited to, underground storage tanks (USTs), aboveground storage tanks (ASTs), known or suspected release cases, the storage of hazardous substances, and disposal of hazardous wastes including petroleum products and institutional and engineering controls.
- A review of historical records, such as historical aerial photographs, fire insurance maps (Sanborn maps), historical city directories, and historical topographic maps.
- A review of state and local agency records including, but not limited to, state environmental agencies, Building Departments, Fire Departments, and Health Departments.
- Interviews with current and past property owners, operators, occupants, or others familiar with the property.

If the Phase I ESA identifies a recognized environmental condition, we proceed to a Phase II Environmental Site Assessment to collect soil, groundwater, and soil vapor samples from the subsurface to analyze for the presence of contamination.

Protected Areas Assessment

After a property has been purchased and is in operation, we monitor for changes to surrounding areas to check if any areas have become protected since purchase. This assessment is conducted annually using map searches for each facility. Changes in the designation of surrounding areas lead to deeper research as to the nature of the change and whether it represents a protected habitat of any sort.

APPENDIX 2: PRIMARY METRICS

Appendix 2: Primary Metrics

As described in the Introduction, throughout this report, we share the results of our primary metrics that we used to measure our progress against our goals. This appendix provides additional detail about exactly how we arrived at these metrics and our reasoning for them. We also clarify scoping so that it is clear what is included in these measurements, what is not, and why. While the actual results are in the relevant chapters, we hope that this can become a resource for our industry and help our customers and investors compare apples to apples.

Supply Chain Diversity Metrics

This section provides additional detail about the precise metrics and scoping for our primary metrics for supply chain diversity.

Metric: Diverse Supply Chain Percentage

We track the percentage of our supply chain spend that goes to small businesses, minority-owned businesses, and women-owned businesses.

Occupational Safety Metrics

This section provides additional detail about the precise metrics and scoping for our primary metrics for health and safety.

Injury Categories

- **Fatalities:** An employee death resulting from a work-related incident or exposure.
- **Recordable Cases:** Any work-related injury or illness that results in a fatality, loss of consciousness, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, work-related diagnosed case of cancer, chronic irreversible diseases, fractured or cracked bones or teeth, and punctured eardrums.
- **Lost Workday Cases:** Any work-related injury or illness that results in one or more days away from work for recovery.
- **Restricted/Transfer of Duty Cases:** Any work-related injury or illness that results in one or more days of restricted work or a job transfer.
- **Other Recordable Cases:** Any recordable injury or illness where an employee received medical treatment beyond first aid but that did not involve a fatality, one or more days away from work, or one or more days of restricted work or job transfer.
- **First Aid Cases:** Any injury or illness that can be treated with basic first aid treatment or over-the-counter medication.
- **Near Miss Incident:** A reported incident in which no property damage or personal injury was sustained but had the potential to do so.

Injury Severity Indicators

- **Days Away from Work:** Total number of days that an employee was unable to work due to work-related injury or illness.
- **Restricted/Transfer of Duty Days:** Total number of days that an employee was on restricted work duty or job transfer due to work-related injury or illness.

Injury Intensity Rates

- **Total Hours Worked:** Total number of hours worked by CyrusOne contractors for each given year
- **Lost Time Injury Rate:** Number of Lost Workday Cases per 200,000 Total Hours Worked
- **Days Away Restricted or Transferred (DART) Rate:** Number of Lost Workday and Restricted/Transfer of Duty Cases per 200,000 Total Hours Worked
- **Total Recordable Incident Rate (TRIR):** Number of Total Recordable Cases per 200,000 Total Hours Worked

Chemical Spill Reporting Metrics

- **Reportable Spills with Environmental Impact:** Spills significant enough to require reporting to local environmental agencies that were determined to have impacted local soil or water (spills not contained on pavement or retention).
- **Reportable Spills without Environmental Impact:** Spills significant enough to require reporting to local environmental agencies that did not impact local soil or water (spills contained on pavement or retention and cleaned up).

Building for Sustainability Metrics

This section provides additional detail about the precise metrics and scoping for our primary metrics for building design and construction.

Metric: Design PUE

Power Usage Effectiveness (PUE) is the ratio of a data centers' total electricity usage to the electricity delivered to servers. For more information about PUE, see Power Usage Effectiveness under Wet vs. Dry Data Centers, below.

We make a distinction between a facility's Design PUE (the idealized PUE of a facility running at full capacity based on its design and assumptions about customer servers) and its Operating PUE (the measured PUE of a facility in a given year based on actual conditions). Operating PUE will always be higher (worse) than Design PUE because, to maintain redundancy and flexible capacity, colocation data centers are never run at full capacity.

Metric: Percentage of New Data Centers with Water-Free Cooling

To focus our efforts on water-free cooling at new data centers, we track the percentage of new data centers each year that can operate without consuming water for cooling. Some facilities may be hybrid facilities with the option of consuming water but can fully operate without it — these contribute toward improving this metric since they limit our risk exposure to increased regional water stress without costly retrofits.

Energy Metrics

This section provides additional detail about the precise metrics and scoping for our primary metrics for energy efficiency.

Modern vs Legacy Data Centers

We group our facilities into two categories: modern facilities, which we designed and built based on our design standards or acquired and are otherwise consistent with our design standards; and legacy facilities, our older facilities that we purchased or built before our modern standards. We make this distinction because the energy and carbon use from our modern facilities in operation give a more accurate estimate of the future emissions from facilities that are still in development and construction since they are built to the same standard. This distinction between legacy and modern facilities also guides our strategy for improving existing facilities (see Energy Performance).

Wet vs. Dry Data Centers

Among our data centers, some consume water for cooling (e.g., using water towers or evaporative coolers), which we term wet facilities; and others consume no water for cooling, called dry facilities. Because energy metrics (like PUE, below) treat water as "invisible," we make the distinction between facilities that rely on increased water consumption to reduce their PUE and those that achieve it without water. The majority of our modern data centers (including pre-built-out and under-development sites) are capable of providing cooling without consuming water and thus are categorized as dry. We have a small number of modern facilities that use evaporative cooling (wet) and a few with hybrid systems that can operate without consuming water but currently supplement cooling with water consumption and are therefore also included in the modern wet category.

Energy Metrics

Using the categories above, we report on the following metrics for energy:

- Absolute Energy Consumption
- Power Usage Effectiveness (PUE) (total kWh/server kWh)
  - Operating PUE
  - Design PUE
- Building Energy Intensity (MWh-eq/ft^2)
- Electricity Procured as Renewable (%)
- Grid-Embedded Renewable Energy (%)
- Facilities with Renewable Option (%)

Metric: Absolute Energy Consumption

Our operational energy use calculations include four sources: (1) CyrusOne electricity for server support and common areas, (2) customer electricity for their servers in our data halls, (3) natural gas for comfort heating (only used at some facilities), and (4) diesel for emergency backup generation at all facilities.

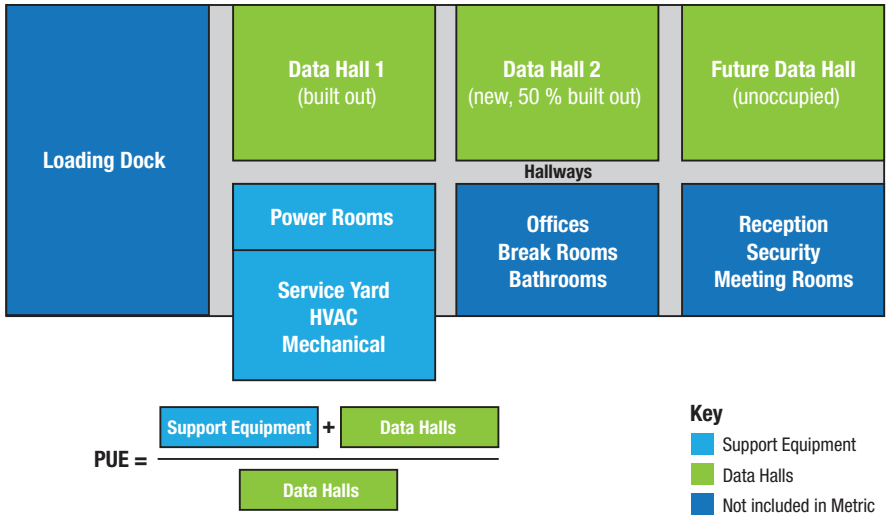
These data are combined into a common unit for aggregation (kWh). We use standard conversion factors for natural gas and diesel (from the European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector). For more detail about the scope and methods, see Energy Inventory in Appendix 1: Methodology.

Metric: Power Usage Effectiveness (PUE)

Power Usage Effectiveness (PUE) is the ratio of a data centers' total electricity usage to the electricity delivered to servers. This extra, non-server power is used to operate the cooling, electrical distribution, lighting, and other mechanical systems necessary for server operation. Since CyrusOne doesn't make any decisions about the efficiency of our customers' servers themselves, we focus on how efficiently we can support their cooling and power needs. Using the standard calculations developed by The Green Grid, these measurements determine how efficiently we provide support services to our customers' servers. PUE measures the total energy from a facility (total energy) divided by the energy used by customer servers (server energy). Thus, PUE has a theoretical minimum of 1.0 total kWh/server kWh (indicating that no energy is used to provide cooling and energy distribution to the servers). When taking an average of this metric, we only include built-out facilities that we manage directly to avoid the volatility of pre-built-out facilities and those out of our operational control.

Based on The Green Grid definition, power consumption from other parts of the data center that do not support the data halls (such as offices, break rooms, bathrooms, etc.) are considered administrative energy and are not considered in the total energy PUE category. This illustration shows which areas are included in the ideal calculation.

Facility Map for PUE Scoping



Because these administrative areas are typically very minor contributors to the site's total energy usage, many CyrusOne facilities do not have submetering for them, so we do not subtract this administrative energy from the PUE. This has the effect of conservatively overestimating our PUE.

PUE is a helpful metric because it scales with customer demand for power, which predicts the amount of heat generated by servers. This heat is the primary driver of our power usage to provide cooling.

The challenge with this metric is that water is "invisible" because it can be used to lower PUE without recognizing the impact of water consumption. This is why we make a distinction between wet and dry data centers. PUE is also subject to volatility based on how much of a data center's capacity is being used. This is why PUE must be considered in conjunction with Building Energy Intensity (below) to see the full picture.

Metric: Operating Power Usage Effectiveness (PUE)

We make a distinction between a facility's Design PUE (the idealized PUE of a facility running at full capacity based on its design and assumptions about customer servers) and its Operating PUE (the measured PUE of a facility in a given year based on actual conditions). Operating PUE will always be higher than Design PUE because, to maintain redundancy and flexible capacity, colocation data centers are never run at full capacity. For more information about Design PUE see Building for Sustainability.

Metric: Building Energy Intensity

Building energy intensity describes the energy use per built-out colocation building area of our facilities. Building energy intensity is measured in megawatt-hours per square foot (MWh/ft^2). This metric includes the total energy consumed by the facility, including electricity used for infrastructure, electricity supplied to customer servers, and fuels (diesel and natural gas).

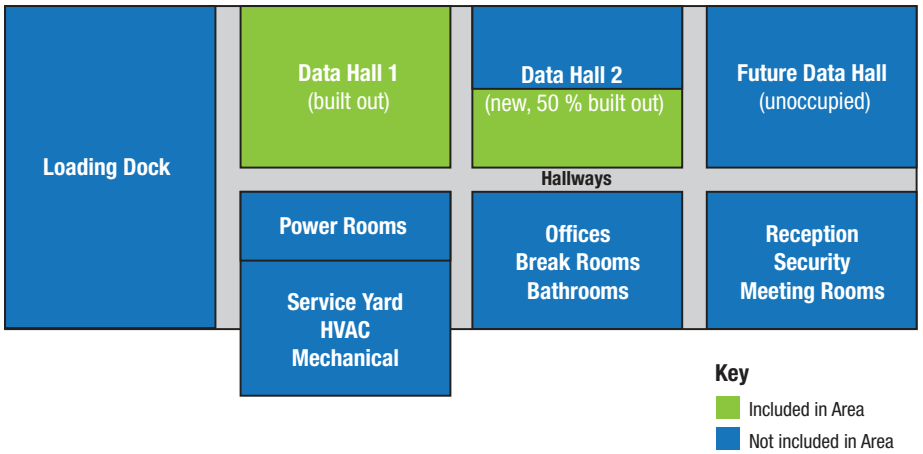
Within our data centers, the vast majority of the environmental impacts originate, directly or indirectly, from server activity in the data halls. Because of this, we measure business activity for these metrics in colocation square feet. "Colocation" refers to the server housing space (data halls) and does not include office space, common areas, or support infrastructure (power rooms, service yard, HVAC equipment). Office space and common areas do draw minimal amounts of power, but they are insignificant compared to the data halls, so including them would dilute our measurements. Even though the support infrastructure area does draw power, it is done in

service to the data halls, so we find the colocation building area to be the best denominator of our intensity metrics. Furthermore, we only include facilities that we directly manage (removing the two tenant-operated/indirectly managed facilities from both our energy and building area metrics).

To determine our company-wide averages, we further focus our metrics on built-out colocation square feet. "Built-out" means that a customer has not only rented the space but has also installed their servers and begun to draw power. In the first year or two of operation, data centers require energy for start-up activities and may have low occupancy as customers plan their move-in and begin operations. This can result in volatile metrics that skew averages (such as a facility with a PUE of 233 instead of a typical 1.5). These facilities are referred to as "pre-built-out," and we do not include them in averages (though they are included in gross totals). Once they become built-out, we include them in averages without negatively impacting our data quality.

This fictitious data hall floor plan illustrates which building area is included in the denominator of this building intensity metric.

Facility Map for Built-out Colocation Building Area Scoping



The challenge with these metrics is that, within our portfolio, some facilities are designed to provide greater than average power density (W/ft^2) to customer servers in order to support high-performance computing (HPC). Modern facilities tend to support a higher design power density than legacy facilities. Of course, how our customers use this design capacity is up to them, and they often do not draw the full power available to the space. So, if the energy intensity of a facility decreases, it could be because the facility became more efficient due to an upgrade or good management or it could mean that customers changed their computing power needs. This is why Energy Intensity must be considered in conjunction with PUE to see the full picture.

Metric: Percentage of Electricity Procured as Renewable

We measure the amount of energy that we procure as 100% renewable as a percentage of all the electricity that we purchase (including electricity delivered to customers). This includes mechanisms like retail green power offerings, Power Purchase Agreements (PPAs), Virtual Power Purchase Agreements (VPPAs), and the like.

Metric: Percentage of Electricity Offset as Renewable

We also measure the amount of energy that we pair with unbundled Renewable Energy Certificates (RECs) or other offset mechanisms as a percentage of all the electricity that we purchase (including electricity delivered to customers).

Metric: Percentage of Grid-Embedded Renewable Energy

As we consider the carbon intensity of grids in our data center site-selection process, we also pay attention to how much renewable electricity is supplied by the grids from which we source power. While we don't take credit for the efforts of power providers to expand their renewable portfolio, it is helpful to track their progress to see the effects of renewable energy development and advocacy in the region. This measurement is grid-embedded renewable electricity as a percentage of our total electricity procurement.

Metric: Percentage of Facilities with Renewable Option

This measures how many of our facilities can offer customers some form of renewable electricity through our power provider, as an upgraded service, as a percentage of our total number of facilities.

Climate Impact

This section provides the precise metrics and scoping for our climate impact and carbon accounting primary metrics.

Scope 1, 2, and 3 Emissions

Scope 1 includes emissions from diesel and natural gas while Scope 2 includes both emissions from customer server electricity and electricity used to service common areas and data halls, including cooling. Scope 2 emissions are reported in both market-based and location-based methods.

Our Scope 3 emissions are not directly emitted by CyrusOne. These emissions are from sources indirectly associated with CyrusOne, such as construction materials (capital goods), fuel and energy-related activities, business travel, employee commuting, and customer-operated facilities (downstream leased assets). Note that customer servers inside facilities that we operate are counted as Scope 2 emissions (see Scope Change in Appendix 1: Methodology).

Climate Impact Metrics

Carbon Intensity

We measure carbon intensity in several ways to give us different perspectives:

- Carbon Usage Effectiveness (CUE) (kg CO_2e/server kWh)
- Grid Carbon Intensity ($MTCO_2e$/MWh)
- Building Carbon Intensity ($MTCO_2e$ /ft^2)
- Revenue Carbon Intensity ($MTCO_2e$ /$1M Revenue)

Metric: Carbon Usage Effectiveness (CUE)

Carbon Usage Effectiveness is the ratio of total carbon (including electricity and fuels) to the electricity delivered to servers. Here, the electricity delivered to servers is used as an indicator of activity rather than a source of carbon. Since over 99% of our Scope 1 and Scope 2 carbon emissions are due to electricity consumption, PUE and CUE are closely related within a facility but can vary between facilities based on the source of electricity.

Using the standard calculations developed by The Green Grid, CUE is a measurement that determines how efficiently we provide support services to our customers' servers. CUE measures the total carbon from a facility divided by the energy used by customer servers. Thus, CUE has a theoretical minimum of 0 kg CO_2/server kWh (indicating no carbon is generated by the facility's operations). When taking averages of this metric, we only include built-out facilities that we manage directly to avoid the volatility of pre-built-out facilities and those out of our operational control.

Metric: Grid Carbon Intensity

We measure grid carbon intensity as the carbon use per megawatt-hour (MWh) delivered to our facilities from the grid. This is measured in metric tons of carbon dioxide equivalent per MWh of electricity ($MTCO_2e$/MWh). It gives us an indication of how carbon-intensive the grid is and helps us prioritize our renewable energy transition strategy. It also is used to calculate location-based Scope 2 carbon emissions.

Metric: Building Carbon Intensity

We measure building carbon intensity as the carbon use per built-out colocation area in our facilities. This is measured in metric tons of carbon dioxide equivalent per square foot ($MTCO_2e$/ft^2). It gives us an indication of how carbon-dense each facility is and is a secondary measurement of the carbon relative to the size of different buildings.

Metric: Revenue Carbon Intensity

We measure the carbon use per million dollars ($USD) of revenue across CyrusOne's portfolio to determine how efficiently we "turn carbon into revenue." It is measured in metric tons of carbon dioxide equivalent per one-million-dollar ($USD) revenue ($MTCO_2e$/$1M Revenue).

Water Conservation Metrics

This section provides additional detail about the precise metrics and scoping for our primary metrics for water conservation and restoration. The way we interpret the significance of these water metrics is that water withdrawal describes the potential impact of regional water scarcity on our facilities while water consumption describes the impact of our facilities on potential regional water scarcity.

Metric: Absolute Water Withdrawal

Withdrawn water is the total water taken in by our facilities, regardless of whether the water goes toward cooling, facility maintenance, or domestic water uses. All sources of withdrawn water are municipal supply except for our geothermal system, which is described below.

Metric: Absolute Water Consumption and Discharge

Once in our facilities, water is either discharged to water treatment works (such as industrial or domestic wastewater treatment) and returned to the watershed, or it is consumed through evaporative cooling or irrigation. Since our consumption of water removes it from the watershed, this serves as an indication of our impact on potential regional water scarcity.

Due to a lack of submetering, we assume that all water used at our few facilities that use water-consuming cooling (wet facilities) was consumed, even though some of it is domestic and facility maintenance water that is discharged for local treatment. Similarly, at our dry facilities, we assume that all water is discharged for treatment, even though some portion of it is consumed through landscape irrigation.

Geothermal Cooling Throughput (Withdrawal and Discharge)

At our Hamilton, Ohio facility, we use a geothermal cooling system that pumps groundwater through the facility, using its low ambient temperature for cooling. After cooling our facility, the water is then discharged to surface waters. This geothermal water is not evaporated (consumed) and does not need treatment, so its net impact on the watershed is minimal. Because the scale of the throughput of this system dwarfs our other water metrics, we report it separately so that changes in our total portfolio are visible.

Metric: Absolute Water Withdrawal, Consumption, and Discharge in High-Stress Regions

To focus our attention on areas where water is scarce, we track the total water withdrawal, consumption, and discharge from regions listed as currently in high or extremely high stress, according to the Aqueduct Water Risk Atlas. This is a helpful metric because it is a risk-based approach that focuses on where we are removing water from regions that have little of it. The limitation of this metric is that it does not, in itself, take into account future water stress and how it is projected to change. We compensate for this limitation by using our water risk assessment to incorporate future water stress into our planning.

Metric: Water Usage Effectiveness

The standard metric for measuring water efficiency in data centers is Water Usage Effectiveness (WUE). This metric was created by The Green Grid specifically for data centers to understand and compare their water impact. WUE is a ratio of annual water use to server energy and is measured in liters per kilowatt-hour (L/kWh). This metric allows us to understand how much water we are using in our facility operations relative to the energy used for data operations. Since server energy use drives the need for cooling, in wet facilities, water use is linked with energy use, and an increase in server energy leads to an increase in water consumption. By the Green Grid standard, WUE should only be calculated using water that is used for server support. Other water use, like facility maintenance (cleaning, irrigation, etc.) and domestic use (bathrooms, break rooms, etc.), can be excluded. However, because our facilities tend to use such little water, we do not submeter the different water uses. Thus, our calculations of WUE include all uses of water at the facility, conservatively overstating them compared to the ideal calculation.

Metric: *Net Positive Water* Facility

We consider a facility to have reached *net positive water* if, after reducing water use onsite through efficiency, we are able to partner with environmental nonprofits to restore water flows in these regions in excess of the water that we use. To ensure that the positive portion is not just a token amount (such as 1 gallon), we consider a facility to be a *net positive water* facility if we can restore at least 20% more water than we use. For example, if a facility uses 5 million gallons of water and we restore at least 6 million gallons of water, we designate it as *net positive water*.

Biodiversity Metrics

This section provides additional detail about the precise metrics and scoping for our primary metrics for habitat improvement. This is our newest topic, so we are still developing these metrics.

Metric: Facilities with Improved Habitat

To track progress on our target, we will track and report how many of our facilities have some improved habitat onsite that supports biodiversity in the area. Since, according to the Wildlife Habitat Council, small spaces can have big impacts, this metric counts a facility if it has at least 100 square feet of improved habitat, such as a pollinator garden or migratory waystation. This metric tells us how widespread our habitat network has become rather than the total land area improved.

APPENDIX 3: STANDARDIZED METRICS

Appendix 3: Standardized Metrics

As described in the Introduction, this report is aligned with three systems of standardized metrics: GRI, SASB, and TCFD. These standardized metrics are organized into the tables below. The metrics are grouped for each standard — duplicate metrics are repeated on each table for easy reference. Since SASB guidance and the general consensus is that environmental topics have the largest impacts in the data center industry, we have focused on those standardized metrics. Note that all CyrusOne buildings fall within the REIT property subcategory "Data Centers." All numbers represent the data as of the close of 2020 unless otherwise specified.

GRI Metrics Summary Table

Index	Metric	Response
General		
102-1	Name of org	CyrusOne Inc.
102-2	Activities, brands, products, and services	Colocation data centers for the world's largest companies
102-3	Location of headquarters	2850 N Harwood St., Suite 2200 Dallas, Texas 75201
102-4	Location of operations	CyrusOne Locations
102-5	Ownership and legal form	Publicly held company, Real Estate Investment Trust (REIT)
102-6	Markets served	Markets are served in the North American and European markets with partnerships extending to South America and Asia. Our main clients are either enterprise IT departments in companies or hyperscale cloud services.
102-7i	Number of employees	444 (as of end of CY2020)
102-7ii	Number of operations	55 data centers
102-7III	Net sales/net revenues	$1033.5 million in Total Revenue
102-7iv	Total capitalizations (debt and equity)	Debt: $3,409 million Equity: $2558.2 million
102-7v	Quantity of products/services provided	4,440,169 colocation square feet (Does not include leasable office space) Average occupancy rate 83%
102-8a	Total number of employees by employment contract (permanent and temporary), by gender	Permanent: Male (343), Female (99), Decline to State (0); Temporary: Male (0), Female (2), Decline to State (0)
102-8b	Total number of employees by employment contract (permanent and temporary), by region	Permanent: North America (354), Europe (88); Temporary: North America (1), Europe (1)
102-8c	Total number of employees by employment type (full-time and part-time), by gender	Full-Time: Male (342), Female (97), Decline to State (0); Part-Time: Male (1), Female (4), Decline to State (0)
102-8d	Whether a significant portion of the organization's activities are performed by workers who are not employees. If applicable, a description of the nature and scale of work performed by workers who are not employees	CyrusOne Employees (444, 35%), Other: • Security (435, 35%) • Facility Management (303, 24%) • Design & Construction (50, 4%)
102-8e	Any significant variations in the numbers reported in Disclosures 102-8-a, 102-8-b, and 102-8-c	No significant variations.
102-8f	An explanation of how the data have been compiled, including any assumptions made	Employee information database populated by new-hire process. The data is a snapshot from December 31, 2020.
102-10	Significant changes to the organization's size, structure, ownership, or supply chain	From 2018 to 2020, there was a 24% growth in colocation area available. From 2019 to 2020, there was a 7% growth in colocation area available.
102-11	Whether and how the organization applies the Precautionary Principle or approach	CyrusOne integrates the Precautionary Principle (as defined by the UN Framework Convention on Climate Change) into our thorough risk management processes. We believe that a reliance on science is essential, and this informs our current action to mitigate environmental impacts to ensure a better future for our company and the communities in which we operate. This is demonstrated by our *Net Zero Carbon* targets, our action on reducing water stress based on future projections, and an emphasis on improving habitat — all based on the best available scientific knowledge. Since these are threats of serious or irreversible damage, we are not postponing measures to minimize or mitigate the adverse effects of our operations. Our participation in industry groups and commitment to transparency furthers our position to exceed standards and maintain relevance.
102-12	A list of externally-developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes, or which it endorses	CyrusOne aligns its targets with the UN Sustainable Development Goals at the indicator level. CyrusOne is a founding member of the Climate Neutral Data Centre Pact, which applies to all of our European facilities.

GRI Metrics Summary Table | *SASB Metrics Summary Table* | *TCFD Metrics Summary Table*

Index	Metric	Response
General		
102-13	A list of the main memberships of industry or other associations, and national or international	Nareit (international), Data Center Coalition (US), European Data Center Association (EUDCA, international)
102-14	A statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy for addressing sustainability	Letter from Senior Management in Chapter 1, Introduction
102-16	A description of the organization's values, principles, standards, and norms of behavior	See Employee Code of Conduct
102-18a	Governance structure of the organization, including committees of the highest governance body	Described in Governance chapter, ESG Governance
102-18b	Committees responsible for decision-making on economic, environmental, and social topics	Described in Governance chapter, ESG Governance
102-40	A list of stakeholder groups engaged by the organization	Customers, Investors, Employees, Community
102-41	Percentage of total employees covered by collective bargaining agreements	No CyrusOne employees (0%) are covered by collective bargaining agreements.
102-42	The basis for identifying and selecting stakeholders with whom to engage	We engage with stakeholders that contact us and have identified the stakeholders most closely affected by our business: Customers, Investors, and Employees.
102-43	The organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	We do not have any group-wide stakeholder engagement governance structure in place.
102-44	Key topics and concerns that have been raised through stakeholder engagement including: how the organization has responded to those key topics and concerns including through its reporting; the stakeholder groups that raised each of the key topics and concerns	We have added reporting on good neighbor responsibility based on customer feedback on our first report. The most commonly raised issues from customers and investors are carbon, renewable energy, water resources, and safety.

Index	Metric	Response
General		
102-45a	A list of all entities included in the organization's consolidated financial statements or equivalent documents	Reported in the 2020 10-K, Exhibit 21.1
102-45b	Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report	No, all subsidiaries are covered by our report.
102-46	An explanation of the process for designing the report content and topic boundaries; how org has implemented reporting principles for defining report content	Described in Governance chapter, ESG Strategy and ESG Reporting
102-47	A list of the material topics identified in the process for defining report content	General, Energy, Water and Effluents, Biodiversity, Emissions, Effluents and Waste, Compliance, Supplier Environmental Assessment
102-48	The effect of any restatements of information given in previous reports and the reasons for such restatements	Updates to greenhouse gas inventory from updated emission factors and shifting onsite customer equipment electricity from Scope 3 to Scope 2. This report restates all prior years with this change for comparison purposes.
102-49	Significant changes from previous reporting periods in the list of material topics and topic boundaries	We have completed the materiality assessment for governance and social topics and expanded our reporting on those topics.
102-50	Reporting period for the information provided	CY2020
102-51	If applicable, the date of the most recent previous report	September 2020
102-52	Reporting cycle	Annual
102-53	The contact point for questions regarding the report or its contents.	Kyle Myers, Senior Director, EHS & Sustainability
102-54	The claim if the report has been prepared in accordance with GRI	This report has been prepared in accordance with the GRI Standards: Core option.
102-55a, b	The GRI content index, which specifies each of the GRI Standards used and lists all disclosures included in the report	This table serves as the content index.
102-56	A description of the organization's policy and practice with regard to seeking external assurance for the report	We do not seek external assurance of our sustainability report at this time.

Index	Metric	Response
Energy		
103-1	For each material topic: Why is it material; the boundary for topic (where impacts occur, org's involvement with impacts); specific limitation regarding topic boundary)	Described in Environmental Impact chapter, Energy and Building for Sustainability
103-2	For each material topic: how org manages topic, purpose of management approach, description of the policies, commitments, goals/targets, responsibilities, resources, grievance mechanisms, other specific actions	Described in Environmental Impact chapter, Energy and Building for Sustainability
103-3	For each material topic: how org evaluates management approach (process, results, related adjustments to approach)	Described in Environmental Impact chapter, Energy and Building for Sustainability
302-1a	Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used	**Total Fuel Consumption:** 29,586 MWh-eq Natural Gas (15.6%): 4,629 MWh-eq Diesel (84.4%): 24,957 MWh-eq
302-1b	Total fuel consumption within the organization from renewable sources, in joules or multiples, and including fuel types used	No renewable fuels consumed.
302-1c	Total electricity consumption	**Total Electricity Consumption:** 2,773,308 MWh Grid Energy (97.9%): 2,714,112 MWh Purchased Renewables (2.1%): 59,197 MWh We do not consume purchased heating, cooling, or steam.
302-1d	Total electricity sold	None
302-1e-g	Total energy consumption within the organization, including methods and assumptions in the calculations	**Total Energy Consumption:** 2,802,894 MWh-eq Electricity (98.9%): 2,773,308 MWh Fuels (1.1%): 29,586 MWh-eq Calculation based on purchased electricity and fuels. Conversion factors from ICT Footprint (European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector) for diesel energy content, NREL: https://openei.org/wiki/Definition:Therm. The energy consumption data covers 100% of directly managed colocation floor area of portfolio.
302-2	Energy consumption outside the organization	No energy is consumed outside of the organization.
302-3	Building energy intensity (by organization specific metric); intensity ratio for the organization	0.812 MWh/built-out colocation square foot across all directly managed facilities, including electricity, natural gas, and diesel consumption within the organization.

Index	Metric	Response
Water		
103-1	For each material topic: Why is it material; the boundary for topic (where impacts occur, org's involvement with impacts); specific limitation regarding topic boundary)	Described in Environmental Impact chapter, Water and Building for Sustainability
103-2	For each material topic: how org manages topic, purpose of management approach, description of the policies, commitments, goals/targets, responsibilities, resources, grievance mechanisms, other specific actions	Described in Environmental Impact chapter, Water and Building for Sustainability
103-3	For each material topic: how org evaluates management approach (process, results, related adjustments to approach)	Described in Environmental Impact chapter, Water and Building for Sustainability
303-3 (withdrawal), 303-5ab (consumption)	Total water withdrawal, consumption, and discharge	**All Facilities** **Water withdrawn:** 957 ML **Water discharged:** 117 ML **Water consumed:** 839 ML **High Water Stress Facilities** **Water withdrawn:** 427 ML **Water discharged:** 387 ML **Water consumed:** 39.6 ML **Geothermal System** **Water withdrawn:** 2,990 ML **Water discharged:** 2,990 ML **Water consumed:** 0 ML
303-3d	Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used	At this time, we are assuming that, in facilities that use evaporation for cooling, 100% of the metered water is consumed (though some water is used for domestic and facility maintenance purposes). In general metrics, we have separated our geothermal cooling system, which pumps 2,990 ML per year of groundwater and returns it to the watershed.
303-5c	Change in water storage in megaliters, if water storage has been identified as having a significant water-related impact	Water storage does not have a significant impact.
303-5d	Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used, including whether the information is calculated, estimated, modeled, or sourced from direct measurements, and the approach taken for this, such as the use of any sector-specific factors	Water consumption data sourced from utility billing

Index	Metric	Response
Biodiversity		
103-1	For each material topic: Why is it material; the boundary for topic (where impacts occur, org's involvement with impacts); specific limitation regarding topic boundary)	Described in Environmental Impact chapter, Biodiversity and Building for Sustainability
103-2	For each material topic: how org manages topic, purpose of management approach, description of the policies, commitments, goals/targets, responsibilities, resources, grievance mechanisms, other specific actions	Described in Environmental Impact chapter, Biodiversity and Building for Sustainability
103-3	For each material topic: how org evaluates management approach (process, results, related adjustments to approach)	Described in Environmental Impact chapter, Biodiversity and Building for Sustainability
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	None identified, as verified by a Protected Areas Assessment
304-2	Significant impacts of activities, products, and services on biodiversity	No significant impacts of activities on biodiversity, as verified by a Protected Areas Assessment
304-2a	Nature of significant direct and indirect impacts on biodiversity with reference to one or more of the following: i. Construction or use of manufacturing plants, mines, and transport infrastructure; ii. Pollution (introduction of substances that do not naturally occur in the habitat from point and non-point sources); iii. Introduction of invasive species, pests, and pathogens; iv. Reduction of species; v. Habitat conversion; vi. Changes in ecological processes outside the natural range of variation (such as salinity or changes in groundwater level)	None identified, as verified by our Environmental Impact Assessments
304-2b	Significant direct and indirect positive and negative impacts with reference to the following: i. Species affected; ii. Extent of areas impacted; iii. Duration of impacts; iv. Reversibility or irreversibility of the impacts.	None identified, as verified by our Environmental Impact Assessments

Index	Metric	Response
Biodiversity		
304-3a	Size and location of all habitat areas protected or restored, and whether the success of the restoration measure was or is approved by independent external professionals	Dublin I improved habitat landscaping is 1.27 hectares. The landscape habitat was designed and installed by a landscape contractor with native plant habitat expertise and based on ecological assessments performed at the site before construction. Pollinator monitoring is beginning in CY2021 with the help of an external group, DCs for Bees.
304-3b	Whether partnerships exist with third parties to protect or restore habitat areas distinct from where the organization has overseen and implemented restoration or protection measures	Partnership with Bonneville Environmental Foundation, Trout Unlimited, and Arizona Land and Water Trust to restore water flows to Texas and Arizona rivers
304-3c	Status of each area based on its condition at the close of the reporting period	Data not available
304-3d	Standards, methodologies, and assumptions used	Bonneville Environmental Foundation Water Restoration Credits methodology
304-4	IUCN red list species and national conservation list species with habitats in areas affected by operations (Critically endangered, endangered vulnerable, near threatened, least concerned)	IUCN red list species and national conservation list species with habitats in areas affected by operations: none
Emissions		
103-1	For each material topic: Why is it material; the boundary for topic (where impacts occur, org's involvement with impacts); specific limitation regarding topic boundary)	Described in Environmental Impact chapter, Biodiversity and Building for Sustainability
103-2	For each material topic: how org manages topic, purpose of management approach, description of the policies, commitments, goals/targets, responsibilities, resources, grievance mechanisms, other specific actions	Described in Environmental Impact chapter, Biodiversity and Building for Sustainability
103-3	For each material topic: how org evaluates management approach (process, results, related adjustments to approach)	Described in Environmental Impact chapter, Biodiversity and Building for Sustainability

Index	Metric	Response
Emissions (continued)		
305-1,2,3	GHG emissions (Scope 1, 2, and 3), including methods and approach for calculations	CY20 Greenhouse Gas Emissions, in metric tonnes CO_2 equivalent ($MTCO_2e$) **Scope 1 GHG Emissions** (direct emissions): 7,085 $MTCO_2e$ **Scope 2 GHG Emissions**, **Market-based** (indirect emissions from purchased electricity): 1,012,031 $MTCO_2e$ **Scope 2 GHG Emissions**, **Location-based** (indirect emissions from purchased electricity): 1,027,377 $MTCO_2e$ **Scope 3 GHG Emissions Estimate** (indirect emissions from other sources): 310,747 Scope 3 categories included in estimate: Capital Goods (Construction Materials), Fuel-and-energy-related Activities, Business Travel, Employee Commuting, Downstream Leased Assets (Customer-operated Facilities) Calculations performed according to WRI GHG Protocol. Emissions factors from: U.S. EPA EGrid data, EU Europa. Includes carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Emissions consolidated based on operational control. The baseline year is currently 2018 (the earliest year of data available).
305-4	GHG emissions intensity, including organization specific metric and gases included in the calculation	CY20 Greenhouse Gas Emissions Intensity Scope 1+2 intensity: 0.294 $MTCO_2e/ft^2$ Our metric for the denominator of intensity calculations is built-out colocation square feet that are directly managed by CyrusOne, and calculations include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O)

Index	Metric	Response
Effluents and Waste		
306-3	Total number and total volume of recorded significant spills	Reported in Employee Occupational Safety
Compliance		
307-1a,b	Significant fines and non-monetary sanctions for non-compliance with environmental laws and/or regulations in terms of: i. total monetary value of significant fines; ii. total number of non-monetary sanctions; iii. cases brought through dispute resolution mechanisms. If the organization has not identified any non-compliance with environmental laws and/or regulations, a brief statement of this fact is sufficient.	No significant fines or sanctions. CyrusOne has received warning letters, investigation letters, and a notice of violations under our air permits and underground storage tank authorizations. The letters and notices have all been followed up on and corrected immediately, and none of them have been or resulted in a material violation. In fact, many of the letters and notices were based on administrative deficiencies, such as alleged failure to submit a report or provide a signature.

SASB Metrics Summary Table

SASB Index	Metric	Response
General		
IF-RE-000.A	Number of operations	55 data centers
IF-RE-000.B-D	Quantity of products/services provided	4,665,379 colocation square feet (Does not include leasable office space) Average occupancy rate 85%
IF-RE-130a.4	Percentage of eligible portfolio that has an energy/sustainability rating by property subsector	Percentage of portfolio with an energy/sustainability rating, by floor area: 10.5%
IF-RE-130a.4	Percentage of eligible portfolio that (2) is certified to ENERGY STAR, by property subsector	Percentage of portfolio that is ENERGY STAR certified, by floor area: 3.2%
TC-IM-130a.3	Discussion of the integration of environmental considerations into strategic planning for data center needs	See ESG Strategy section in Corporate Governance and the Building for Sustainability section in Environmental Impact.
Energy		
IF-RE-130a.2.1-3	Total energy consumption within the organization, including methods and assumptions in the calculations	**Total Energy Consumption:** 2,802,894 MWh-eq **Electricity (98.9%):** 2,773,308 MWh Grid Energy: 2,714,112 MWh Purchased Renewables: 59,197 MWh **Fuels (1.1%):** 29,586 MWh-eq Natural Gas: 4,629 MWh-eq Diesel: 24,957 MWh-eq Calculation based on purchased electricity and fuels. Conversion factors from ICT Footprint (European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector) for diesel energy content, NREL: https://openei.org/wiki/Definition:Therm. The energy consumption data covers 100% of directly managed colocation floor area of portfolio.
IF-RE-130a.3	Like-for-like percentage change in energy consumption for the portfolio area with data coverage, by property subsector	From 2019 to 2020, there was a 16% increase in total energy
IF-RE-130a.5	Description of how building energy management considerations are integrated into property investment analysis and operational strategy	Described in Environmental Impact chapter, Energy and Climate Impact
IF-RE-410a.2	Percentage of tenants that are separately metered or submetered for grid electricity consumption, by property subsector	100% of tenants' servers are submetered for electricity

SASB Index	Metric	Response
Climate Risk		
IF-RE-450a.1	Area of properties located in 100-year flood zones (flood hazard zones), by property subsector	Area of properties in flood hazard (100-year flood) zones: 51,290 ft²
IF-RE-450a.2	Description of climate change risk exposure analysis, degree of systematic portfolio exposure, and strategies for mitigating risks	Climate risk assessment is summarized in the Enterprise Risk Management section of Corporate Governance.
Water		
IF-RE-140a.1.1, 1.2	Water withdrawal data coverage	Data coverage: Only includes open facilities for which water data is available, covering 91% of portfolio (and 92% of areas in high and extremely high water stress). Data is not available for some smaller leased facilities.
IF-RE-140a.2.2, TC-IM-130a.2.1	Total water withdrawal, consumption, and discharge	**All Facilities** Water withdrawn: 957 ML Water discharged: 117 ML Water consumed: 839 ML **High Water Stress Facilities** Water withdrawn: 427 ML Water discharged: 387 ML Water consumed: 39.6 ML **Geothermal System** Water withdrawn: 2,990 ML Water discharged: 2,990 ML Water consumed: 0 ML
IF-RE-140a.3	Like-for-like percentage change in water withdrawn for portfolio area with data coverage, by property subsector	From 2018 to 2020, water withdrawal increased by 45% across all buildings in the portfolio with data coverage. From 2019 to 2020, withdrawal increased by 11%.
IF-RE-140a.4	Description of water management risks and discussion of strategies and practices to mitigate those risks	Described in Environmental Impact chapter, Water
IF-RE-410a.2	Percentage of tenants that are separately metered or submetered for water withdrawals, by property subsector	Not applicable (customer servers do not directly use water).

TCFD Metrics Summary Table

Metric	Response
General	
A breakdown of reserves and an indication of associated emissions factors to provide insight into potential future emissions	Not applicable.
Percentage of eligible portfolio that has an energy/sustainability rating by property subsector	Percentage of portfolio with an energy/sustainability rating, by floor area: 10.5%
Climate Risk	
Area of properties located in 100-year flood zones (flood hazard zones), by property subsector	Area of properties in flood hazard (100-year flood) zones: 51,290 ft²
Emissions	
GHG emissions intensity, including organization specific metric and gases included in the calculation	TCY20 Greenhouse Gas Emissions Intensity Scope 1+2 intensity: 0.294 $MTCO_2e/ft^2$ Our metric for the denominator of intensity calculations is built-out colocation square feet that are directly managed by CyrusOne, and calculations include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O)
Energy	
Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used	**Total Fuel Consumption:** 29,586 MWh-eq Natural Gas (15.6%): 4,629 MWh-eq Diesel (84.4%): 24,957 MWh-eq
Total energy consumption within the organization, including methods and assumptions in the calculations	**Total Energy Consumption:** 2,802,894 MWh-eq **Electricity (98.9%):** 2,773,308 MWh Grid Energy: 2,714,112 MWh Purchased Renewables: 59,197 MWh **Fuels (1.1%):** 29,586 MWh-eq Calculation based on purchased electricity and fuels. Conversion factors from ICT Footprint (European Framework Initiative for Energy & Environmental Efficiency in the ICT Sector) for diesel energy content, NREL: https://openei.org/wiki/Definition:Therm. The energy consumption data covers 100% of directly managed colocation floor area of portfolio.
Expenditures (OpEx) for low-carbon alternatives (e.g., R&D, technology, products, or services)	Not Available
Investment (CapEx) in low-carbon alternatives (e.g., capital equipment or assets)	Not Available
Building energy intensity (by organization specific metric); intensity ratio for the organization	0.812 MWh/built-out colocation square foot across all directly managed facilities, including electricity, natural gas, and diesel consumption within the organization
Water	
Total water withdrawal, consumption, and discharge	**All Facilities** Water withdrawn: 957 ML Water discharged: 117 ML Water consumed: 839 ML **High Water Stress Facilities** Water withdrawn: 427 ML Water discharged: 387 ML Water consumed: 39.6 ML **Geothermal System** Water withdrawn: 2,990 ML Water discharged: 2,990 ML Water consumed: 0 ML
Building water intensity (by occupants or square area)	**Building water intensity (withdrawal only):** 268 liters/built-out colocation square feet **Building water intensity (net water consumption):** 258 liters/built-out colocation square feet Net water consumption includes water restoration offsets