The Task Force on Climate-related Financial Disclosures (TCFD) recommendations are structured around four thematic areas—governance, strategy, risk management, and metrics and targets—to help investors and others understand how reporting organizations think about and assess climate-related risks and opportunities.

2021 TCFD INDEX

GOVERNANCE

a. Describe the board's oversight of climate-related risks and opportunities.

Crown Castle's board, including through its committees, oversees climate-related risks as part of its broader annual enterprise risk assessment. The risk assessment process takes place throughout the year at regularly scheduled meetings of the Board and its committees. The Nominating, Environmental, Social and Governance Committee (NESG Committee) oversees our environmental, social and governance (ESG) strategies, goals and initiatives and receives quarterly updates from senior management regarding our ESG risks, opportunities, priorities, initiatives and progress toward goals.

b. Describe management's role in assessing and managing climate-related risks and opportunities.

Senior management proactively assesses and manages climate-related risks and opportunities. Crown Castle's Vice President—Investor Relations and Capital Markets and ESG Advisor coordinate company-wide sustainability priorities and keep senior management apprised of potential climate-related initiatives and opportunities identified through dialogue with internal business teams, engagement with shareholders and the investment community and benchmarking analysis.

Additionally, senior management identifies and evaluates risks (including climate-related risks) based on their potential materiality, the probability and magnitude of the risk and the risk mitigation measures adopted by Crown Castle. Senior management assesses renewable energy investment and energy efficiency opportunities that (1) align with Crown Castle's overall business strategy and business model and (2) support Crown Castle's climate-related priorities and goals. At least annually, Crown Castle's senior management provides feedback to the Vice President—Audit and Security regarding key risks (including climate-related risks, where relevant) faced by their business unit and Crown Castle as a whole.

STRATEGY

a. Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term.

b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.

In the following table, we have summarized the most relevant climate-related risks and opportunities that could impact our business, strategy and financial planning. Our assessment demonstrates that transitional and physical risks are generally immaterial to our business, strategy and financial planning, in large part due to our passive, geographically diversified assets.

Climate-Related Risks

RISK TYPE	DESCRIPTION	POTENTIAL KEY IMPACT(S)	MANAGEMENT APPROACH
Physical Risks			
Extreme weather	Our infrastructure assets could sustain damage from the increased severity and frequency of certain types of extreme weather events or natural disasters.	– Increased operating costs – Interrupted or delayed service for our customers – Legal claims or penalties – Damaged or delayed deployment of our communications infrastructure – Disruption in operations – Reputational damage	– We design our infrastructure to withstand extreme weather events, participate in governmental disaster management programs and conduct weather and disaster simulation tests every six months. – Our network resiliency initiatives are led by our Network Operations Center (NOC) teams, which operate 24/7/365 and monitor and project the impact of extreme weather events. Once assets in harm's way are identified, the NOC teams drive awareness and coordinate communication among the relevant internal groups, while our field operations teams assess vulnerabilities and devise a plan of action to protect our assets. We strategically mobilize essential supplies and technical teams in advance to equip us for an organized and swift response to the disaster. During and after the event, the NOC manages field operations, ensuring that our Field Operations teammates are safe and have access to food, fuel, safety gear and lodging. The NOC dispatches technical teams to address damaged infrastructure and communicates with customers and utilities to share information and coordinate repair activities. – We benefit from the geographically dispersed nature of our assets, which are spread out across the US. – Annual repair and maintenance-related expenses have historically been immaterial compared to the value of our asset base. For the three-year period ended December 31, 2021, Crown Castle spent an amount equal to approximately 0.01% annually of its $26 billion[1] in property and equipment on repairs and maintenance stemming from extreme weather events. – To protect assets and minimize disruptions to connectivity, we have invested over $1.6 million to date to create wildfire buffers at certain high-risk tower sites. By clearing, trimming or otherwise managing the vegetation surrounding our sites, we aim to insulate the high-risk sites against an approaching wildfire.
Wildfires	Effects of climate change have increased risks and extent of wildfires stemming from "hot work" (including cutting, welding and grinding) conducted on certain of Crown Castle's sites.	– Increased operating costs – Damaged or delayed deployment of our communications infrastructure – Legal claims or penalties – Disruption in operations	– We take proactive steps to address and raise awareness of wildfire risks, including additional rigorous risk management protocols for "hot work" at sites in areas prone to wildfires and mandatory training sessions for our teammates and certain general contractors.

1. Gross property and equipment as of December 31, 2021, excluding construction in process

Climate-Related Risks, cont'd

RISK TYPE	DESCRIPTION	POTENTIAL KEY IMPACT(S)	MANAGEMENT APPROACH
Transition Risks			
Electricity and fuel costs	The transition to a lower-carbon economy could increase electricity and fuel prices and costs of investment in energy-efficient technology and renewable energy.	– Increased operating costs	– Our electricity and fuel costs are limited relative to the size of the business. This is inherent to our business model of providing access to our shared communications infrastructure. For the year ended December 31, 2021, Crown Castle's electricity and fuel costs accounted for approximately 1% of our total cost of operations. – We contracted in 2021 to source renewable energy across 13 markets beginning in 2022. The 2022 contracted renewable energy volume represents approximately 63% of our 2021 electricity consumption and allows us to receive contracted renewable energy rates for the contract period, reducing our exposure to energy price volatility.
Current and emerging regulations	Existing and future laws and regulations, including those governing climate and environmental matters, could adversely affect our business.	– Increased operating costs – Delays in deployment of our communications infrastructure	– We monitor applicable policy and regulatory developments related to climate change and the environment at the local, state and federal level and create a course of action specific to the area(s) affected, as appropriate. – Recognizing the impact climate change could have on current and emerging regulations and the market, we are working to reduce our environmental footprint. For example, we have set a goal to be carbon neutral in our Scope 1 and Scope 2 emissions by 2025.

Climate-Related Opportunities

OPPORTUNITY TYPE	DESCRIPTION	POTENTIAL KEY IMPACT(S)	MANAGEMENT APPROACH
Resource efficiency	Upgrade traditional tower lighting systems with LED lighting systems	– Energy and carbon savings – Reduced number of site visits and associated fuel consumed by our vehicle fleet	– Across our portfolio of lit towers where lighting beacons are mandated by law, we have transitioned nearly 7,000, or 57%, to efficient LED lighting to reduce energy consumption. – LED lighting is 90% more efficient as compared to traditional lighting and has a five-times-longer life expectancy, resulting in fewer truck rolls for repairs and replacements.
	Increase in number of fuel-efficient and hybrid vehicles within our fleet	– Increased fuel efficiency – Carbon savings	– In the ordinary course of business, we continue to improve the fuel efficiency of our fleet. This may include replacing older vehicles, switching to more fuel-efficient engines, and utilizing telematics and other technologies to reduce idling and improve routing for more efficient operations. – Crown Castle is also exploring opportunities and technologies to decrease fuel consumption or otherwise improve the fuel efficiency of its fleet, including hybrid and electric vehicles.
	Invest in building efficiency upgrades at our owned office locations and new leased locations	– Energy and carbon savings	– We seek energy efficiency in our owned and leased offices, with 19 ENERGY STAR–certified, 14 LEED–certified and 4 WELL–certified. For new office spaces, we make efficiency improvements a standard practice by installing LED lighting and water-efficient faucets and commodes. – We are taking steps to reduce our water consumption and waste production, which primarily results from office operations. Our current waste reduction initiatives across offices include using compostable and recyclable materials, digitizing operations and donating old materials to reduce lifecycle impacts.
Energy source	Increase use of renewable energy	– Energy and carbon savings	– In 2021, we contracted to source renewable energy across 13 deregulated markets beginning in 2022. – We have set a goal to be carbon neutral in Scope 1 and 2 emissions by 2025.

RISK MANAGEMENT

a. Describe the organization's processes for identifying and assessing climate-related risks.

We identify and assess climate-related risks in connection with our broader enterprise risk assessment. When evaluating the materiality of climate-related risks in relation to other risks, the Board and senior management consider (in no order of priority): (1) with respect to both transition and physical risks, (a) the financial impact (considering insurance coverage and availability of capital, as applicable) and (b) input from key stakeholders, and (2) with respect to physical risks, the extent of (a) potential damage and necessary repair activities resulting therefrom and (b) any disruption to operations and the ability to support our customers.

In the case of extreme weather events, Crown Castle's NOC teams, which monitor extreme weather events, keep senior management apprised of the projected impact of impending extreme weather events, and the actual impact once Crown Castle's technical teams have had an opportunity to assess the resulting damage. Additionally, other business teams keep senior management informed of the short- and long-term financial implications of such events, and the financial implications of any regulatory compliance or significant shift in sentiment from key stakeholders stemming from transition risks.

b. Describe the organization's processes for managing climate-related risks.

Management of Physical Risks

Crown Castle's resiliency efforts play a key role in managing physical risks. Through disaster preparedness protocols and training; periodic assessments of Crown Castle's infrastructure; design and deployment considerations and network resiliency initiatives, we are able to reduce the extent of our exposure to such risks.

Company-wide engineering practices contribute significantly to the resilience of Crown Castle's assets to extreme weather events, regardless of the geographic location of such assets. For example, while design standards vary based on location, Crown Castle's tower portfolio is generally designed to withstand a 700-year wind event with customer equipment additions. Extreme weather events typically have relatively limited financial impact across Crown Castle's total asset base. In addition, the geographically dispersed nature of Crown Castle's assets helps mitigate the impact from any single extreme weather event or extreme weather events concentrated in one geographic region, even if such events were to increase in frequency or severity.

Where the measures discussed above are not adequate to protect Crown Castle's assets, it obtains insurance coverage to offset a portion of the cost of any resulting damage and subsequent repair costs. Where existing resiliency efforts, the geographically dispersed nature of our assets, and insurance coverage are insufficient to address existing or projected physical risks, Crown Castle evaluates additional measures or the expansion of existing measures and adjusts its operations and protocols accordingly.

Management of Transition Risks

While electricity and fuel costs have had limited financial impact on our cost structure, Crown Castle has implemented or explored various measures to manage transition risks. This includes investing in energy–efficient technology used in operations, exploring opportunities to improve the fuel efficiency of our fleet, pursuing renewable energy procurement opportunities and evaluating other investments in renewable energy.

c. Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.

The identification, assessment and management of climate-related risks are fully integrated into our established enterprise risk management framework. Specifically, we have incorporated four climate-related questions within our annual risk assessment survey that are designed to prompt respondents, which include senior and executive level leaders, to ensure that they are contemplating climate-related risks to our assets, operations and financial performance.

METRICS AND TARGETS

a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.

b. Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.

Crown Castle measures, reports and tracks its energy and fuel consumption, together with associated emissions (namely, Scope 1 and Scope 2 emissions), to aid in the assessment of climate-related risks and opportunities. See the details of our consumption and GHG emissions disclosed in our 2021 ESG Report.

c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

In 2021, Crown Castle announced a goal to achieve carbon neutrality in its Scope 1 and Scope 2 emissions by 2025. To achieve this goal, in 2021, Crown Castle contracted to source renewable energy across 13 deregulated markets beginning in 2022. The annual amount contracted represents approximately 63% of our 2021 electricity consumption. In addition, Crown Castle is exploring other opportunities to reduce energy and fuel consumption across its business and increase sourcing of renewable energy.