

TCFD REPORT 2022



MGM RESORTS
INTERNATIONAL®

Table of Contents

1	Introduction
---	--------------

5	Climate Governance
---	--------------------

8	Climate Strategy
---	------------------

15	Climate Risk Management
----	-------------------------

21	Climate Metrics & Targets
----	---------------------------

Forward-Looking Statements

Statements in this report that are not historical facts are “forward-looking” statements within the meaning of the safe harbor under the Private Securities Litigation Reform Act of 1995 and other related laws. Such statements involve risks and/or uncertainties, including as described in the Company’s public filings with the U.S. Securities and Exchange Commission (the “SEC”).

MGM Resorts International (the “Company”) has based these forward-looking statements on management’s current expectations and assumptions, not historical facts. Examples of these statements include, but are not limited to, the Company’s expectations regarding its Environmental, Social, and Governance (“ESG”) initiatives and the Company’s ability to achieve its ESG goals. Among the important factors that could cause actual results to differ materially from those indicated in such forward-looking statements include the continued impact of the COVID-19 pandemic on the Company’s business, effects of economic conditions and market conditions, including elevated levels of inflation, in the markets in which the Company operates and competition with other destination travel locations throughout the United States and the world, the design, timing and costs of expansion projects, risks relating to international operations, permits, licenses, financings, approvals and other contingencies in connection with growth in new or existing jurisdictions, risks relating to cybersecurity and additional risks and uncertainties described in the Company’s annual report on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K reports (including all amendments to those reports).

In providing forward-looking statements, the Company is not undertaking any duty or obligation to update these statements publicly as a result of new information, future events, or otherwise, except as required by law. If the Company updates one or more forward-looking statements, no inference should be drawn that it will make additional updates with respect to those other forward-looking statements.

Notes on Risk Assessment

In 2021, MGMRI made a public commitment to provide public disclosure in directional alignment with frameworks from prevailing third party ESG standard setters, including the Sustainability Accounting Standards Board (“SASB”), Global Reporting Initiative (“GRI”), and the Task Force for Climate-related Financial Disclosures (“TCFD”). This document provides an initial high-level summary of the MGMRI approach to climate as of the end of 2022, in line with the recommendations of the TCFD. Climate risk assessment and scenario analysis is a rapidly evolving area for many companies, including MGMRI, and we expect that tools and methodologies for conducting such analyses will continue to evolve over time. This report represents an important step upon which we will continue to build in order to expand our understanding of climate risks and opportunities moving forward.

Notes on Materiality

At MGMRI, we recognize that in general, assessing materiality requires consideration not only of any applicable materiality standard, but also of our purpose in assessing materiality and in communicating to our stakeholders. Our public disclosures, including voluntary environmental, social and governance (ESG) disclosures (particularly those related to climate) include a range of topics that we believe are relevant to our business and may be of interest to our investors and other stakeholders. We use the definition of materiality established under U.S. federal securities laws for the purposes of complying with the mandatory disclosure rules and regulations enforced by the U.S. Securities and Exchange Commission (SEC) and applicable stock exchange listing standards. However, in our voluntary ESG disclosures, including those that relate to climate change, we have adapted an approach to materiality based on the specific subject matter and purpose of said disclosures. Our approach to voluntary ESG disclosures often considers broader definitions of materiality promulgated by certain external ESG frameworks and reporting guidelines. For the purposes of discussing climate risks and opportunities in this TCFD report, we use a broader approach to materiality. We follow the guidance within TCFD and consider both the climate’s impact on our company, and our company’s impact on climate, and we also use a longer timeframe to assess potential impacts than time frames typically used in our required financial disclosures. This layered approach means that this TCFD report and many of our other voluntary disclosures capture details on ESG issues, including climate-related risks and opportunities that may not be, and are not required to be, incorporated into our mandatory disclosures.

Relatedly, our approach to materiality in this TCFD report and other voluntary ESG disclosures means that statements made in this report and in our other voluntary disclosures use a greater number and level of assumptions and estimates than many of our mandatory disclosures. These assumptions and estimates are highly likely to change over time, and, when coupled with the longer time frames used in these voluntary disclosures, make any assessment of materiality inherently uncertain. In addition, our climate risk analysis remains ongoing, and the data underlying our analysis and strategy remain subject to evolution over time. As a result, we expect that certain disclosures made in this report and our other voluntary ESG disclosures are likely to be amended, updated or restated in the future as the quality and completeness of our data, tools, and methodologies continue to improve.

Introduction

In this 2022 update, we summarize annual climate-related performance and progress, and further explore our relevant climate-related risks and opportunities, the degree of their exposure and the action taken to adapt to and mitigate potential impacts on our business. This report aligns with TCFD recommendations, which we [officially support](#). As such, the structure of this report includes the following sections:

- Climate Governance
- Climate Strategy
- Climate Risk Management
- Climate Metrics & Targets

We utilized specific climate change scenarios to understand the implications of climate change on our business over various time horizons. This report provides an overview of how we manage and mitigate specific physical and transition risk factors, such as policy action and water stress, as modeled in these scenarios. Additionally, this report highlights steps we take to reduce greenhouse gas ("GHG") emissions at the source, such as investing heavily in renewable energy development, which in 2022 is approximately 110 megawatts ("MW") of installed solar capacity.

A key milestone in our approach to climate change is the approval of our climate targets. In 2021, we established two climate targets, both aligned with the 1.5°C pathway: (i) a commitment to reducing absolute Scope 1 and 2 GHG emissions by 50% by 2030 (2019 base year); and (ii) a commitment to sourcing 100% renewable electricity in the United States and 80% globally by 2030. In 2022, we developed a climate target for our value chain emissions aligned with a 2.0°C pathway: a commitment to reducing absolute emissions across significant Scope 3 categories by 30% by 2030 (2019 base year). These goals were submitted to the Science Based Targets initiative ("SBTi") and were approved in April 2023 by that entity. The approval of our science-based targets codifies our commitment to reducing our emissions in line with the latest climate science.

Also in 2022, we strengthened our commitment to addressing climate change by participating in collective engagements around climate-related risks by committing to the following pledges:

- **U.S. Department of Energy (Better Climate Challenge):** Reduce Scope 1 and 2 GHG emissions by at least 50% within 10 years (2019 baseline)
- **World Resources Institute (The Coolfood Pledge):** Reduce emissions associated with the food we serve by 25% by 2030 (2019 baseline)
- **U.N. Global Compact (CEO Water Mandate):** Commit to continual progress along six areas of water stewardship: Direct Operations, Supply Chain & Watershed Management, Collective Action, Public Policy, Community Engagement and Transparency

While we recognize the potential business impacts climate change poses to our company and are taking proactive steps to mitigate these risks, we also recognize the value proposition of corporate climate leadership. We are aggressively committed to building business value through climate stewardship and finding collective solutions as we transition to a lower carbon economy.

Climate Governance

Governance of climate-related risks and opportunities is embedded into our overall corporate governance, and as of 2020, climate-related risks are assessed as part of our formal enterprise risk management process. To manage these risks and opportunities, our Board of Directors ("Board") has well-defined oversight, and our management team helps to implement strategies to enable progress toward our climate goals.

Board Oversight of Climate-Related Risk and Opportunities

Our Board exercises oversight over climate-related risks and opportunities through our Board-Level Corporate Social Responsibility & Sustainability ("CSR&S") Committee, comprised of independent directors. [Rose McKinney James](#) – a global expert in clean energy advocacy and MGMRI Board Director – chairs the Committee. Among its duties, the Committee meets multiple times per year with management to review significant policies and performance and provides guidance on ESG topics. See Figure 1.

Environmental sustainability topics, namely issues related to climate change, are included as Board agenda items several times per year. Included throughout the year at CSR&S meetings are discussions on climate-related matters, including but not limited to reviewing and giving input on the following:

- Corporate strategies for carbon emissions, energy, water and materials and waste
- Energy efficiency investments
- Renewable energy investments
- 2025 and 2030 ESG goals performance
- Science based targets
- Scope 3 emissions quantification
- Climate risk management and mitigation, including those related to water
- Materials and waste management efforts, including food waste reduction
- Sustainable procurement functions
- Sustainable conventions and events strategy

Management leverages the CSR&S Committee meetings to enhance Board member education on ESG-related topics by inviting third-party experts and critical stakeholders on specific ESG topics. For example, in 2022, leaders from the Southern Nevada Water Authority presented to the CSR&S Committee on water stress and strategic resilience in Southern Nevada. The company's dedicated ESG Reporting team – which tracks progress toward climate targets – also leverages these meetings to provide regular updates to the CSR&S Committee on goals performance.

Other Board committees will review and give input on climate-related matters on a provisional basis. In 2022, the Audit Committee reviewed the proposed SEC Climate Disclosure Rule and all risks entered into the risk register. The Human Capital and Compensation Committee determines the provision of incentives related to ESG Strategy Implementation – a component of the Annual Incentive Program for the Chief Executive Officer and other Named Executive Officers – for efforts undertaken to achieve our publicly disclosed 2025 and 2030 Social Impact & Sustainability goals.

Climate Governance

Management Oversight of Climate-Related Risk and Opportunities

Our CEO and President, Bill Hornbuckle, oversees climate-related matters on behalf of management. Mr. Hornbuckle also liaises between the CSR&S Committee and senior management. Our company's primary division with ESG oversight is the Social Impact & Sustainability Center of Excellence which focuses on Diversity, Equity & Inclusion, Philanthropy & Community Engagement, and Environmental Sustainability. In collaboration with MGM Resorts Design & Development, these two divisions lead our overall approach to climate change. More specifically, our Chief People, Inclusion & Sustainability Officer, and President of Design & Development champion progress toward interim and longer-term climate goals. Additionally, we implement specific measures to foster management-level governance of climate-related risks and opportunities, including an ESG Task Force, executive goal sponsorship, ESG-linked executive compensation and climate-related policies.

ESG Task Force: In 2019, company leadership spearheaded an ESG Taskforce comprised of executives from finance, facilities, investor relations, legal, risk, purchasing and other vital functions. This group supports the integration of our ongoing commitment to social impact and sustainability by assisting management with the following:

- Identifying and assessing material ESG issues
- Developing strategic approaches to managing material ESG issues
- Integrating ESG management approaches into operational strategies and financial planning
- Activating the implementation of sustainable practices to drive progress on ESG objectives
- Supporting the development of ESG disclosures to satisfy stakeholder interests
- Championing change management to drive the transition to a more sustainable and resilient business model

Executive Goal Sponsorship: Each 2025 Social Impact & Sustainability goal, including those related to emissions reduction, water stress and energy efficiency, is championed by an executive sponsor. Executive goal sponsorship has been a critical factor in our goals' progress. Functional teams provide ongoing updates to executive sponsors who review and provide input on the strategy, implementation plan and progress toward key milestones. Each sponsor also champions the implementation of best management practices. For example, our Chief Operating Officer, Corey Sanders, an executive sponsor of several Social Impact & Sustainability goals, publishes an annual memo to all management employees requiring action toward stated goals.



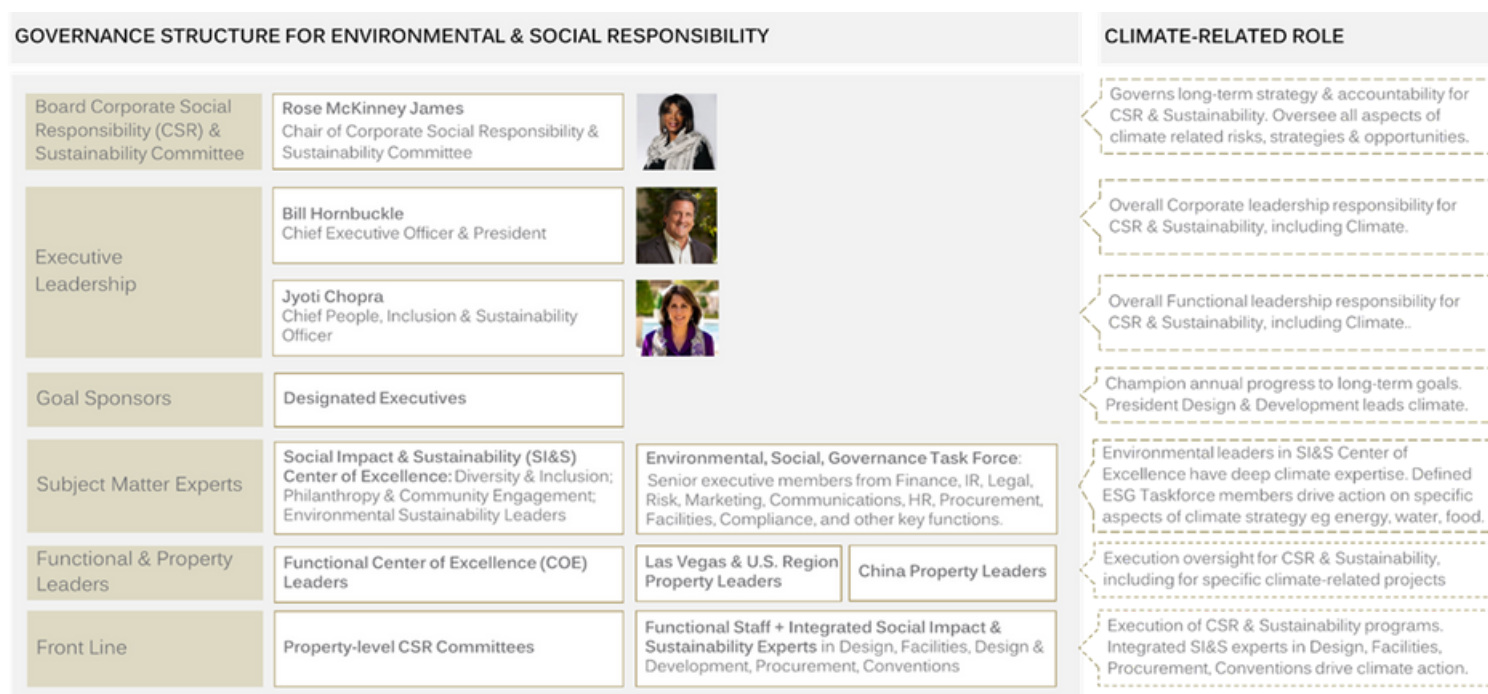
Board Director and CSR&S Committee Chair – Rose McKinney James – and CEO and President – Bill Hornbuckle – unveil the 100MW MGM Mega Solar Array alongside energy partners and Nevada's U.S. Senators

Climate Governance

ESG-linked Executive Compensation: Our ESG initiatives are increasingly important to shareholders. To appropriately incentivize management to focus on ESG issues, the Implementation of ESG Strategy (weighted 10%) is a strategic goal in the Annual Incentive Program for our Chief Executive Officer and other Named Executive Officers. Progress on this goal is determined using a selection of Social Impact & Sustainability goals and targets, including climate and water targets. The Human Capital and Compensation Committee determines the provision of incentives in this area for efforts undertaken to achieve our publicly disclosed 2025 and 2030 Social Impact & Sustainability goals. See pages 52 and 53 of the 2023 Proxy Statement for additional details (<https://investors.mgmresorts.com/investors>).

Climate Policy: We have developed a set of policy statements to codify and communicate how climate-related matters are handled at our company. Our [Environmental Policy](#), published in 2019, includes a section on climate change and aligns with the United Nations Sustainable Development Goals. In 2022, we developed a [Global Water Policy](#) to guide our behavior and improve practices related to water stress. Training and acknowledgment of the new water policy was required for approximately 11,000 managers and supervisors in early 2023.

Figure 1: Overview of Governance Process for Environmental & Social Responsibility and Climate-Related Stakeholder Roles



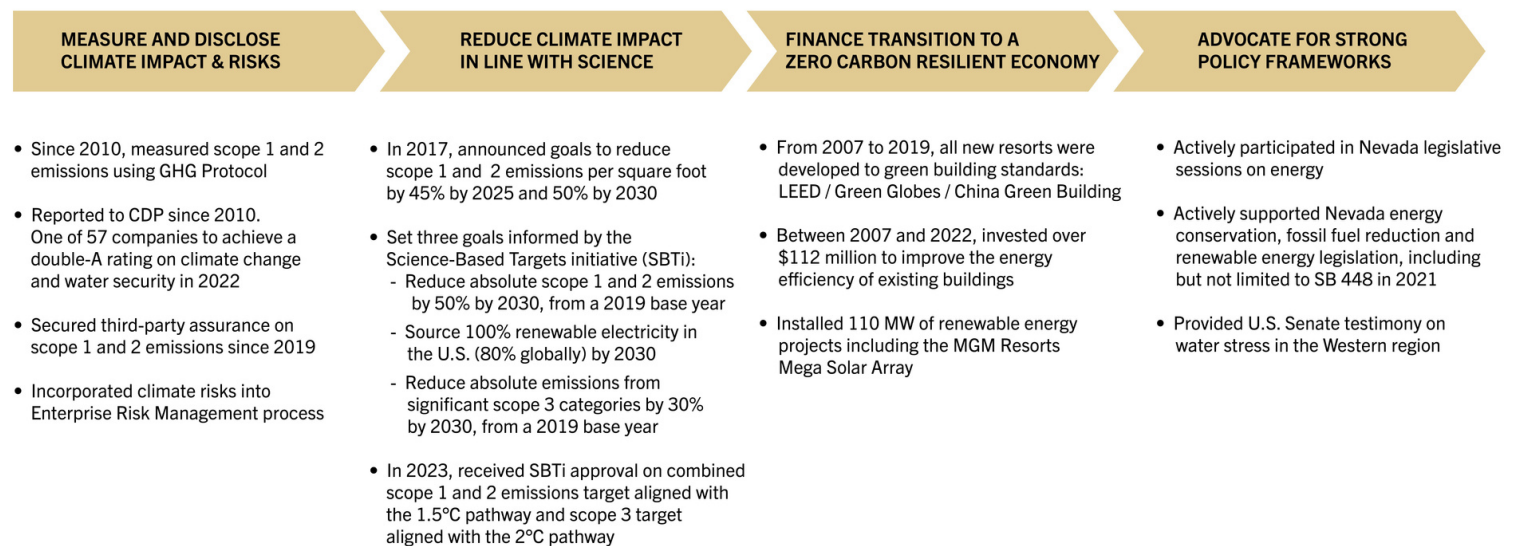
Climate Strategy

Climate change is a high-priority issue for our company and we are committed to continuous improvement of the resilience of our climate strategy. A detailed climate risk and opportunity assessment, including a profile of potential exposure to transition risks and seven types of physical climate hazards, informs our strategy and approach to climate risk management.

Our Approach to Climate Action

As a framework for our strategic approach to climate change, we reference the Corporate Climate Stewardship Guidelines for Best Practice Climate Action in the Paris Agreement Era. Developed by CDP (formerly the Carbon Disclosure Project), World Wildlife Fund ("WWF"), and The Gold Standard, this framework has four key elements and informs our overall approach as well as specific tactics we have implemented and others that are in process.

Figure 2: Climate Action Framework at MGMRI



Setting Goals in Line with Climate Science

Beyond the tactics listed above, we engaged an independent third-party expert to further understand the resilience of our strategy by conducting a detailed climate risk and opportunity assessment. Our ambition around climate change is driven by a set of science-based targets. In 2021, we established two climate targets, both aligned with the 1.5°C pathway: (i) a commitment to reducing absolute Scope 1 and 2 GHG emissions by 50% by 2030 (2019 base year); and (ii) a commitment to sourcing 100% renewable electricity in the United States and 80% globally by 2030. In 2022, we developed a climate target for our value chain emissions aligned with a 2.0°C pathway: a commitment to reducing absolute emissions across significant Scope 3 categories by 30% by 2030 (2019 base year). These goals were approved in April 2023, codifying our commitment to reducing our emissions in line with the latest climate science.

Climate Strategy

Climate-Related Risks and Opportunities

We identify potential climate-related risks and opportunities as outlined in the [Recommendations of the Task Force on Climate-Related Financial Disclosures](#). Transition risks manifest as business impacts from policy action and changing stakeholder behavior, including carbon taxes and marketplace shifts associated with transitioning to a lower carbon economy. Physical climate risks represent impacts from climate change, such as interruptions or closures. Climate change also presents business opportunities such as cost savings and enhanced brand value through climate leadership.

Figure 3: Overview of Climate-Related Risks and Opportunities per the TCFD



Impact of Climate-Related Risks and Opportunities

When determining the impact of climate-related risks and opportunities on our company, we consider the impact on business activities, long-term strategic business objectives and financial planning. Regarding time horizons, we assume short-term risks along the same time scale as our operational and financial planning, generally zero to three years. Medium-term risks are assessed along the same time scale as our capital planning, typically three to five years. We consider long-term risks along the same scale as our Social Impact & Sustainability planning, generally five to ten years. Our public goals in these areas are established for 2025 and 2030, the latter to align with United Nations Sustainable Development Goals.

Climate Strategy

Business: We recognize that climate change poses potential business impacts for our company. An example is changing consumer behavior related to a transition to a lower carbon economy. Changing consumer behavior is anticipated to manifest through our significant convention and meeting business as sustainability requirements increase among prospective convention clients. We meet the rising demand for sustainable convention and meeting facilities by operating and maintaining resource-efficient facilities, developing science-based targets and maintaining an active [Sustainable Events](#) program.

Another example of potential business impact is policy action related to water stress in Southern Nevada. Reliable access to safe water is critical for the operation of our resorts and many of the amenities we offer in Las Vegas, such as pool complexes and golf. Policies limiting our access to or use of water for these amenities could affect the guest experience. We have developed a robust strategic framework around water conservation and stewardship and have codified this ambition through a [Global Water Policy](#). Additionally, recent and ongoing efforts to combat water stress include:

- Replacing over 200,000 square feet of grass with drought-tolerant landscaping in Las Vegas
- Enhancing the efficiency of our cooling towers at our Las Vegas Strip Resorts
- Diversifying our water sources, such as using groundwater via private wells for many of our pools and water features, including Lake Bellagio and its fountains
- Actively participating in public policy engagement via trade associations and directly with policymakers through our Public Affairs Center of Excellence

Additional details on the risk types facing our company can be found in our [2022 CDP Climate Change disclosure](#) on page 6.

Strategy: Some of our properties face increased physical risk associated with extreme weather events exacerbated by climate change. This is especially true for properties near rivers and oceans. As outlined in the risk register, to mitigate these physical risks and ensure greater resilience to these events, we develop long-term solutions including:

- Significant financial investment for business continuity (See page 18 for the approach to coastal flooding management)
- Significant collaboration with local, state and federal agencies focused on regional climate adaptation and resilience efforts, including hard and nature-based resilience investments.

Additionally, we endeavor to mitigate supply chain risks through multiple strategies, including supplier and commodity risk assessment, onshoring, supplier diversity and supply contingency planning.

Financial planning: We actively enable progress on climate-related goals and targets through financial planning by investing in emissions reduction, energy efficiency and water conservation. For example, the MGMRI Facilities Center of Excellence was first established in 2019 and oversees and implements a dedicated annual energy conservation capital budget for projects throughout the company. Additionally, we actively analyze energy sources to increase the share of energy generated from renewable resources in the future.

Climate Strategy

Climate Strategy Resilience: Climate Risk Scenario Analysis

As part of incorporating climate risk into our enterprise risk management processes, we completed an independent climate risk and opportunity assessment, resulting in a detailed review of our potential exposure to policy risks and seven types of physical risks.

Methodology: We conducted a climate risk assessment to identify the potential climate risk factors that present business implications to our company. The methods for each analysis are described below:

- **Transition Risk** - Carbon price data was compiled from publicly available information on current carbon prices across 100 geographies and property-level information was collected from MGMRI. The assessment of transition risks considered low, moderate and high carbon price scenarios for potential climate policies. The high carbon price scenario aligns with a pathway to limit climate change to 2°C by 2100. The carbon pricing risk methodology utilized key metrics – carbon price risk premium and potential future carbon price – at various levels: enterprise, business unit and geographic location. The carbon price risk premium represents the delta between current and projected carbon prices. Revenue, expenditure and emissions projections enabled an assessment of the impact of increases in carbon prices in future years. This required several assumptions on business growth. Additionally, we modeled supplier pass-through to estimate the effect of rising carbon prices on suppliers in our company. Analyses of the supplier carbon pricing model and carbon price risk premium drew insights into the impact of rising carbon prices on our financial performance.
- **Physical Risk** - We began the analysis by mapping climate hazards using climate risk datasets and hazard models to understand physical risks at the asset level. Geographic location data for each property was combined with hazard mapping to quantify exposure across our portfolio against different climate risk factors. A sensitivity analysis was used to reflect the materiality of climate factors for individual properties across the physical risks, culminating in a corporate physical risk profile with climate factors. Three climate scenarios – RCP 2.6, RCP 4.5 and RCP 8.5 – were considered in the analysis and modeled across three time periods: 2020s (Baseline), 2030s and 2050s. Upon determining our climate risk profile, we monetized physical climate risks to understand the potential long-term financial impacts on our company. Our method for climate risk monetization was a multi-pronged approach, including (1) mapping asset-level financial data; (2) quantifying climate hazard exposure; (3) applying asset-specific impact functions; and (4) quantifying financial impact. Financial impacts across two climate scenarios – RCP 4.5 and RCP 8.5 – were estimated from the 2020s to the 2090s. A particular emphasis was placed on the impacts across a 2030 to 2039 horizon.



Climate Strategy

Risks Identified: As part of this climate risk scenario analysis, we analyzed the following risks – policy risk and seven physical risks – and modeled them against various climate scenarios to understand the risk exposure and business implications for the company. We have considered the complete list of transition risks as identified by the TCFD and noted them in our latest CDP Climate Change disclosure. See page 6 of our [2022 CDP Climate Change disclosure](#) for additional details on other transition risks, including those related to current and emerging regulations, technology advancements, legal implications, changes in the marketplace and reputational impacts. In this climate risk assessment, we focused on the quantifiable impacts of transition risks, which we determined to be primarily related to carbon pricing.

Figure 4: Overview of Climate-Related Risk Factors

Type	Risk Factor	Hazard Type	Description	Potential Impacts
Transition risk	Policy risk (carbon pricing)	Chronic	Risk of policy action stemming from the transition to a lower carbon economy with business implications on direct operations or upstream supply chain	<ul style="list-style-type: none"> Increased operating costs
Physical risk	Wildfires	Acute	Increased probability of wildfire conditions causing damage to facilities, disrupting communities, and interrupting critical services	<ul style="list-style-type: none"> Disruption to customer travel and transportation in the supply chain
Physical risk	Drought	Chronic	Increased frequency of drought conditions contributing to a period of abnormally dry weather long enough to cause a hydrological imbalance	<ul style="list-style-type: none"> Increased operating costs Negative impacts on the workforce
Physical risk	Temperature extremes	Chronic	Changes in the frequency or occurrence of temperature extremes, including cold and heat waves	<ul style="list-style-type: none"> Increased operating costs Negative impacts on the workforce
Physical risk	Water stress	Chronic	Changes in the future ratio of water withdrawals to renewable water supply in a given area	<ul style="list-style-type: none"> Increased operating costs Negative impacts on the workforce Early retirement of equipment
Physical risk	Coastal flooding	Acute	Increased frequency of coastal flooding resulting from average sea level, tides, and regional weather systems	<ul style="list-style-type: none"> Increased operating costs Increased insurance costs Increased capital costs
Physical risk	Hurricanes	Acute	Increased intensity and frequency of hurricanes, cyclones, and tropical storms	<ul style="list-style-type: none"> Business closures Increased insurance costs Increased capital costs
Physical risk	Fluvial flooding	Acute	Increased frequency of exceeding the historical 100-year flood level relative to a historical baseline period	<ul style="list-style-type: none"> Business closures Disruptions to operations



Climate Strategy

Transition Risk Analysis: The assessment of policy risks considered low, moderate and high carbon price scenarios for potential climate policies. The high carbon price scenario aligns with limiting climate change to 2°C by 2100. Even under a high carbon price scenario and when including potential impacts on our supply chain, the assessment found that our company has limited exposure to climate policy risks related to carbon pricing.

Figure 5: Outcomes of Climate Scenario Analysis (Transition Risks)

Climate Scenario Analysis Outcomes (Transition Risks)			
Inputs			
Scenario	Low Carbon Price Scenario	Moderate Carbon Price Scenario	High Carbon Price Scenario
Description	This scenario represents the full implementation of the country Nationally Determined Contributions under the Paris Agreement, based on research by OECD and IEA (2017).	This scenario assumes that policies will be implemented to reduce GHG emissions and limit climate change to 2°C in the long term, but with action delayed in the short term.	This scenario represents the implementation of policies that are considered sufficient to reduce GHG emissions in line with the goal of limiting climate change to 2°C by 2100.
Timescale	2050	2050	2050
Risk Factor(s)	<ul style="list-style-type: none">Policy Risk (carbon pricing)		
Relevant Metrics	The carbon pricing risk methodology presents the calculated Carbon Price Risk Premium and potential Future Carbon Price at the enterprise, business unit, and geography level		
Assumptions	<ul style="list-style-type: none">A 50% reduction in absolute Scope 1 and 2 emissions between 2019 and 2030A discount rate of 2%Assumptions related to revenue, operating expenditure, and compound annual growth rate (“CAGR”)		
Data Sources	<ul style="list-style-type: none">Trucost carbon pricing scenarios (key sources include OECD and IEA data (2017))Property-level location dataScope 1 and 2 emissions per propertyScope 3 emissions data per significant categoryMGMRI Scope 1, 2 and 3 GHG emissions reduction targets		
Outcome & Discussion			
Policy Risk	<p>Low Risk</p> <p>The emergence of increasing taxes on fuel or GHG emissions may leave MGMRI with increased expenses. However, under a high carbon price scenario and even when including potential impacts to our supply chain, the assessment found that MGMRI has limited exposure to climate policy risks. For example, the percentage change in operating expenditure is expected to be between 0% and 2% across low, moderate, and high carbon price scenarios between 2030 and 2050. Nevertheless, we remain committed to reducing emissions and engaging our supply chain and customers in emissions reduction efforts. In both low and high-price scenarios, the carbon pricing risk associated with Scope 3 (Category 1 and 2) emissions accounts for 66% of MGMRI's overall carbon pricing risk.</p>		

Climate Strategy

Physical Risk Analysis: Building on an initial climate risk assessment to determine our corporate climate risk profile, we conducted a physical risk exposure analysis, leveraging two scenarios to assess the potential financial impacts of increasing frequency and severity of climate hazards on company assets.

Figure 6: Outcome of Climate Scenario Analysis (Physical Risks)

Climate Scenario Analysis Outcomes (Physical Risks)		
Inputs		
Scenario	Moderate Emissions (RCP 4.5)	High Emissions (RCP 8.5)
Description	Strong mitigation actions to reduce emissions to half of the current levels by 2080. This scenario is more likely than not to result in warming in excess of 2.0°C by 2100	Continuation of business as usual with emissions at current rates. This scenario is expected to result in warming in excess of 4.0°C by 2100
Timescale	2030	2030
Risk Factor(s)	<ul style="list-style-type: none">▪ Coastal flooding▪ Drought▪ Hurricanes▪ Fluvial flooding▪ Temperature extremes▪ Water stress▪ Wildfires	
Relevant Metrics	The metrics considered were Modelled Average Annual Loss, which included Relative Risk (%) and Absolute Risk (mUSD). The results were modeled at the enterprise and asset levels and by climate hazard.	
Assumptions	The physical risk financial impact analysis focuses on changes in climate hazard exposure over time and the financial consequences. Since RCP 2.6 assumes that warming is limited to less than 2 degrees C and the most significant physical risks of climate change are avoided, the change in hazard exposure and impact is expected to be less significant and has therefore been excluded from the physical risk assessment.	
Data Sources	<ul style="list-style-type: none">▪ Physical climate risk data from third-party internal model▪ Property-level location data▪ Property-level financial data	
Outcome & Discussion		
Low Risk In the 2030s, the model projected that MGMRI had low physical risk exposure under the RCP 4.5 and 8.5 scenarios. Temperature extremes and coastal flooding were identified as the company's most significant risk factors – accounting for approximately 85% of the total potential financial impact – in the 2030s. The vast majority of the total value of MGMRI's assets is considered to have a low level of risk to the hazards assessed. <i>Discussion on Water Stress and Drought:</i> Based on the climate risk scenario analysis, water stress is assessed to have a very low relative risk across both moderate and high scenarios. Water stress is the projected ratio of water withdrawals to total renewable water supply in a given area. The WRI Aqueduct Risk Atlas was a vital tool for measuring water stress for company assets. This tool compares water supply and demand to compile a set of indicators, including baseline and future water stress. Since the Colorado River basin is presently in a state of stress, the projected change between baseline and future water stress in our basin is relatively small. A similar scenario exists for drought, explaining its similarly low potential impact on MGMRI. Given that MGMRI acknowledges both the absolute and relative risk of physical climate hazards, the company is aggressively committed to addressing water stress, as defined in our Risk Management section and Global Water Policy.		

Climate Risk Management

Climate risk factors are considered in the risk management process at our company, with structured procedures for identifying and assessing climate risks concerning other business risks. We proactively manage climate-related risks through mitigation measures and critical controls, prioritized by a materiality analysis. Material risks are integrated into our company's overall enterprise risk management process.

Identifying and Assessing Climate Risks

Our Board has the ultimate oversight authority over the risk management process, and various committees of the Board are responsible for their respective areas of expertise. Each Board committee reviews and discusses the specific risk topics relevant to its focus area, consistent with its charter and other responsibilities that may be delegated to it by the Board. In particular, the Audit Committee focuses on significant risk exposures faced by our company, including general business risk, financial risk, internal controls, regulatory and compliance matters, cybersecurity risk and material litigation and potential disputes, and assesses the steps and processes management has implemented to monitor, control and/or minimize such exposures. The CSR&S Committee is primarily responsible for identifying and assessing climate-related risks while guiding and overseeing the implementation of our social impact and environmental sustainability policies and programs. Climate change and other ESG risks have been officially recorded in the enterprise risk management risk register, where risk treatment plans are developed accordingly.

It is important to note that we define substantive financial or strategic impact to be related to risks that most directly threaten the achievement of our company's most important long-term strategic objectives:

- Strong People and Culture
- Customer-Centric Model
- Operational Excellence
- Disciplined Capital Allocation to Maximize Shareholder Value
- Gaming Entertainment

When assessing and identifying climate-related risks and opportunities, which primarily manifest as energy costs for our company, a modest (low) financial impact is defined as a potential impact with a net present value of less than \$1.0 million. A substantive (medium) financial impact is any potential impact with a net present value between \$1.0 million and \$10.0 million. A severe (high) financial impact is any potential impact with a net present value of \$10.0 million or greater. An example of a quantifiable indicator is a climate-related operating expense element, such as an analysis of the market price of carbon-intensive energy versus renewable energy.

Managing Climate Risks

We have undertaken a comprehensive set of actions to mitigate the potential impacts of material climate-related risks on business activities. Below are the primary efforts taken to reduce risk related to policy action, drought and water stress, coastal flooding, wildfires and extreme temperatures.

Climate Risk Management

GHG Emissions Management: The TCFD highlights increased pricing of GHG emissions and increased operating costs, such as higher compliance costs, as examples of potential impacts from climate-related transition risks. Our investments in energy efficiency and renewable energy help mitigate the potential financial impact of these risks on our company. We are utilizing the Framework for Greenhouse Gas Emissions Reduction Planning: Building Portfolios from the Better Climate Challenge (an initiative of the U.S. Department of Energy) to strategically plan and communicate our emissions reduction efforts.

- **Energy Efficiency** - Our Facilities Center of Excellence manages annual capital and operating budgets dedicated to the deployment of energy efficiency measures. From 2007 through 2022 there were a total of 231 individual projects dedicated, in whole or substantially, to energy conservation (electricity and natural gas). This represents a total investment of \$112 million and cumulative savings of 3.6 million megawatt hours of combined electricity and natural gas usage in this timeframe. A critical tranche in our energy efficiency investments has been lighting retrofits. For example, in 2021, we completed approximately 1.5 million lighting retrofits with LEDs and other efficient alternatives across our portfolio. By piloting a wide array of energy efficiency technologies and scaling the most effective ones, we deliver significant long-term cost benefits while advancing our progress toward energy efficiency and decarbonization. Between 2007 and 2022, we reduced our energy use intensity by 22.6%, which represents 90.4% progress toward our 2025 goal.
- **Off-site Renewables** - In 2016, our company transitioned to distribution-only service with the local utility in Southern Nevada to increase control over our energy procurement and enhance our use of renewable electricity. Per a decision of the MGM Resorts Board of Directors, we commissioned the development of a 100MW solar array to help significantly lower our long-term carbon footprint in our home region of Las Vegas. The Array was developed in a solar energy zone designated by the Bureau of Land Management. Solar energy zones are areas identified as well-suited for utility-scale production of solar energy based on factors including the proximity and accessibility to transmission service and the presence of sensitive, threatened or endangered species, and the direct and indirect impacts on habitat, among others. This MGM Resorts Mega Solar Array ("Array") began operational service in mid-2021, providing up to 90% of daytime electricity use of our Las Vegas Strip Resorts (>65 million square feet) and approximately 30% of total Las Vegas resort electricity use (day and night). The first full year of Mega Solar Array production drove emissions reductions in 2022, contributing to a 49.2% decrease from our 2007 baseline, achieving our 2025 carbon goal to reduce carbon emissions intensity by 45%. We expect the Array to be a key enabler of our absolute Scope 1 and 2 emissions reduction target and renewable electricity sourcing goals.
- **On-site Renewables** - MGM Resorts has a select number of properties with installed solar capacity. In 2016, MGM Resorts commissioned the final phase of the 8.3-megawatt rooftop solar photovoltaic installation at Mandalay Bay in Las Vegas, one of the largest contiguous rooftop solar arrays on a convention center in the United States. Other properties with on-site renewables include T-Mobile Arena and MGM Springfield.
- **Fuel Conservation and Fugitive Emissions Management** - MGM Resorts has taken strides to reduce Scope 1 emissions through fossil fuel conservation, such as enhancing the efficiency of our boilers, kitchen appliances and other natural gas-fired equipment. Through our robust preventative maintenance efforts, we aim to avoid fugitive emissions through regular testing, maintenance, internal controls and infrastructure enhancements related to natural gas usage (the primary source of our Scope 1 emissions).

Climate Risk Management

- **Greening of the Grid** - Part of Nevada's approach to creating a new energy economy is achieving leadership in clean energy. In Nevada, electricity is generated primarily through natural gas-fired plants. The state aims to increase the percentage of renewable energy sold in the state via an increasing Renewable Portfolio Standard (RPS) that reaches 50% by 2030. Furthermore, in 2020, Nevada issued its climate strategy that details the objective to reduce statewide GHG emissions to net-zero by 2050. MGM Resorts actively supports legislation designed to increase the share of renewable electricity of the wider grid and improve overall energy infrastructure in Nevada, including via SB 358 signed into law in April 2019 and most recently SB 448 signed into law in June 2021.
- **Value Chain Decarbonization** - The main mechanism by which we expect to achieve our Scope 3 target is through targeted action in each significant category: (1) *Purchased Goods & Services*: primarily based on applying multiple levers to reduce embodied emissions in our purchased goods and services. Example interventions include food portion size reduction and supplier engagement; (2) *Fuel-and-energy-related activities*: primarily based on the forecast transition to a greener energy supply in the state of Nevada and other markets where we operate; (3) *Employee Commuting*: primarily based on the transition to remote work for a percentage of employees and transition to electric vehicles and other forms of lower carbon transportation; and (4) *Waste generated in operations*: primarily based through our correlated goal to reduce materials disposed to landfill or incineration by 75% by 2030.

For additional details on our approach to climate change, see [here](#).

Physical Climate Risk Management: Based on the findings of our scenario analysis and other factors, we endeavor to mitigate the physical impacts of climate change on our company. We primarily focus on drought and water stress management, coastal flooding management, wildfire risk management, extreme temperature management, and environmental justice and climate equity.

- **Drought and Water Stress Management** - As a significant operator of resorts, many of which are in the desert destination of Las Vegas, we recognize the criticality of water to our business. We know long-term water stress exists in the Southwest U.S., where much of our company operates. Due to regional water infrastructure innovation (i.e., virtually all indoor water use is recycled back to its source), the region is well-positioned to adapt to potential future water supply constraints. However, we are still highly focused on water conservation, emphasizing consumptive water use reduction, such as evaporative loss and outdoor use. At our Las Vegas Strip properties, approximately three-quarters of water is used indoors, avoiding an impact on the permanent supply. While we continue to focus on GHG emissions and saw the first full year of successful operations for the Array in 2022, we intentionally emphasized corporate water stewardship. To achieve a leadership position in this area, we delivered a robust [Water Whitepaper](#), a [Global Water Policy](#), and a strategic framework for addressing water use. Additionally, we became the first gaming and Las Vegas-based company to endorse the CEO Water Mandate – a U.N. Global Compact initiative that mobilizes business leaders on water sanitation, and the United Nations Sustainable Development Goals.

Climate Risk Management

Examples of approaches we are taking to help mitigate this risk include:

- Investing in water-efficient equipment and retrofits, including installing more modern and water-efficient cooling towers
- Converting real grass to drought-tolerant landscaping
- Diversifying our water withdrawal sources (utility water, well water, rainwater harvesting)

For additional details on our approach to water stewardship, see [here](#).

- **Coastal Flooding Management (Sea Level Rise and Hurricanes)** - A small number of our properties are in areas that may be subject to sea-level rise and extreme weather events that may interrupt our operations (or the operations of critical suppliers). Damage may occur to these properties, reducing the number of customers who visit our facilities in such areas. Although we maintain property and business interruption insurance coverage for certain extreme weather conditions, such coverage is subject to deductibles, limits on maximum benefits and exclusions. There may even be risks related to the availability of this type of coverage in the future.

Examples of approaches we have taken to help mitigate this risk at Beau Rivage Resort & Casino in Biloxi, Mississippi, our property with the most exposure to this risk factor, include:

- Building the main floor and casino level at a 20-foot elevation to weather severe storms
- Setting the casino and selected food and beverage outlets atop a unique floating substructure comprised of five interconnected barges. These barges have already withstood severe storms because of the quality of the barge design, durable mooring arrangements, ductility of materials, and joint materials
- Implementing a series of additional protection measures, including 30 aluminum flood walls, a newly reinforced sea wall, improved hatches within the barges, and upgrading selected roofs
- Maintaining emergency backup generators and a robust hurricane preparedness and recovery plan

We intend to implement appropriate mitigation measures for future acquisitions and new developments if coastal flooding or extreme weather events are material risks.

- **Wildfire Risk Management** - While our portfolio has low exposure to direct damage from wildfire, our Las Vegas Strip Resorts and some regional properties are still close to regions of high wildfire risk exacerbated by climate change. This may cause disruptions in our supply chain or guests' ability to travel to our resorts. It may also give rise to air pollution that may negatively impact the guest experience.

Examples of approaches we are taking to help mitigate this risk include:

- Investing in portable air filtration equipment in selected guest-facing areas
- Investing in mechanical controls to allow significant flexibility in air flow volume intakes to ramp up or ramp down our use of outside air
- Installing high-efficiency air filters across all resorts in the U.S.
- Continued diversification of operations with targeted expansion in other jurisdictions and iGaming and sports betting

Risk Management

- **Extreme Temperature Management** - Given our concentration in Las Vegas, which is exposed to extreme heat, and our large employee base, we have undertaken measures to mitigate the impacts of extreme temperatures on our employees, guests and partners.

Examples of approaches we are taking to help mitigate this risk include:

- Developing a disaster response plan for energy systems to maintain cooling systems under stress
 - Distributing a memo (via property safety leaders) before and during inclement weather days relative to heat and/or winter safety
 - Offering extra and/or extended breaks to employees in the first few weeks of extremely hot weather to help get them acclimated
 - Providing annual training to employees to understand and prepare for heat-related stress or winter safety
 - Adding cooling stations at our Las Vegas Strip resorts during summer months
 - Developing processes to avoid negative implications of extreme heat on horticulture employees, including protective ware, access to hydration, working hour shifts and a buddy system
 - Participating in planning workshops to develop a regional tree canopy strategic plan focused on equitable implementation. Stakeholders include academic, governmental and research entities
- **Environmental Justice and Climate Equity** - We recognize that climate change does not affect all people equally and that all communities regardless of gender, race, geography or income have a right to equal protection from the burdens of climate change including clean air, clean and accessible water and transportation security, among others. We believe that everyone should have equal opportunities to participate in climate change mitigation and adaptation solutions in the global transition to a cleaner economy.

Examples of approaches we are taking to address environmental justice and climate equity include:

- Providing employee education on environmental justice and climate equity through our employee network group, MGM Planet Protectors
- Participating in tree plantings in heat-stressed, air-polluted regions and in low-income or marginalized communities
- Contributed \$500,000 to address food deserts - which are often exacerbated by climate change - in a historically black community in Las Vegas via a corporate grant
- Developing the Array in a solar energy zone designated by the Bureau of Land Management



Climate Risk Management

Integrating Climate Risks into Enterprise Risk Management

As of 2020, climate risk has been incorporated into our overall formal enterprise risk management process. This process, managed by our Senior Vice President of Internal Audit, includes a broad assessment of the risks we face. The outcome of this process is a risk register that includes the following conceptual areas:

- Risk Statements
- Risk Owner(s)
- Risk Mitigation Activity
- Risk Exposure
- Link to Strategy
- Primary Risk Owner(s)
- Secondary Risk Owner(s)

Climate change has been officially recorded in the enterprise risk management risk register. The following summary statement is provided in the risk register that is reviewed and approved by the Audit Committee of the Board:

"Some of the Company's properties face increased physical risk associated with severe weather events exacerbated by climate change. This is especially true for properties in close proximity to rivers and oceans. Severe weather events related to climate change have already and are likely to continue increasing supply chain shocks and related price spikes. This is driven by potential impacts on the flow of goods, as well as production constraints of agricultural commodities triggered by drought, flood or fire."



Climate Metrics & Targets

We have two sets of climate-related metrics, goals and targets. Our primary set focuses on absolute Scope 1, 2, and 3 emissions reduction and sourcing renewable electricity by 2030 (2019 baseline), and a secondary set covers intensity reduction for GHG emissions, energy, water and materials by 2025 (2007 baseline). Both groups rely on underlying metrics that drive performance in these areas.

Climate-Related Goals and Targets

2030 Goals & Targets (2019 Baseline)								
Metric	Goal	2019 Baseline	2022 Performance	2030 Target	Change Needed from Baseline	Change Achieved by 2022	Progress to Target	Progress on Goal
Absolute emissions, adjusted (global), MTCO ₂ e (Scope 1 and 2) ^{i, ii, iii, iv, v}	50% reduction	938,044	648,466	469,022	(469,022)	(289,578)	61.7%	-30.9%
Absolute emissions (global), MTCO ₂ e (Scope 3: C1, C3, C5, C7) ^{iv, v}	30% reduction	1,594,575	1,453,899	1,116,203	(478,373)	(140,676)	29.4%	-8.8%
Renewable electricity (U.S.), % ^{vi}	100%	17.6%	24.4%	100%	82.4%	6.8%	8.2%	38.6%
Renewable electricity (global), % ^{vi}	80%	16.0%	22.4%	80%	64.0%	6.4%	10.0%	40.0%

2025 Goals & Targets (2007 Baseline)								
Metric	Goal	2007 Baseline	2022 Performance	2025 Target	Change Needed from Baseline	Change Achieved by 2022	Progress to Target	Progress on Goal
Carbon emissions intensity, lbs CO ₂ e/sf ^{ii, iii, iv, v, ix}	45% reduction	30.5	15.4	16.8	(13.7)	(15.1)	110.1%	-49.5%
Energy use intensity, kWh/sf ^{ii, v, vii}	25% reduction	31.2	23.9	23.4	(7.8)	(7.3)	93.2%	-23.3%
Water withdrawal intensity, gal/sf ^{ii, v, viii, xi}	33% reduction	76.4	51.2	51.2	(25.2)	(25.2)	99.8%	-32.9%
Materials disposal intensity, lbs/sf ^{ii, v, x}	60% reduction	3.34	1.71	1.34	(2.00)	(1.63)	81.4%	-48.8%

(i) Absolute Scope 1 and 2 emissions (global), adjusted reflect an adjustment of -30,026 MTCO₂e to remove emissions associated with Circus Circus Las Vegas, which was divested in December 2019. The adjusted metric is used for goal setting and tracking purposes. The unadjusted quantity of 968,070 MTCO₂e is still disclosed in other reporting as our actual 2019 inventory.

(ii) The Mirage, divested in December 2022, was included in our 2022 boundary. The Cosmopolitan of Las Vegas, acquired in May 2022, was excluded from the 2022 reporting boundary and will be integrated into 2023 disclosures.

(iii) Emissions are represented in metric tons of carbon dioxide equivalent (CO₂e) – a metric that normalizes the global warming potential of other GHG emissions (e.g., methane, nitrous oxide)

(iv) Scope 1 emissions are direct emissions from owned or controlled sources such as natural gas used in onsite boilers and kitchen equipment or diesel for vehicles. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are indirect emissions from several significant categories, including purchased goods and services, capital goods, fuel-and-energy-related activities (“FERA”), upstream transportation and distribution, waste generated in operations, business travel and employee commuting.

(v) Reductions in 2022 are driven somewhat by COVID-19-related business impacts.

(vi) Renewable electricity share includes grid-provided electricity from renewable sources (e.g., solar, wind, geothermal) in proportion to each state's annual RPS requirement.

Metrics & Targets

(vii) Energy includes electricity and natural gas (or equivalent).

(viii) Water withdrawal includes utility water and well water.

(ix) Carbon emissions intensity includes Scope 1 and 2 emissions.

(x) In 2021, we chose to revise our originally announced materials and waste related goal from one focused on increasing our material diversion rate to one focused on reducing materials disposed. This revised goal addresses the impact of waste on our business and the communities in which we operate and is better aligned with our overall climate strategy. Materials disposal includes landfill, waste-to-energy, incineration and food-to-wastewater.

(xi) In 2019, we achieved our 2025 water goal to reduce water per square foot by 30% from a 2007 base year. From the same base year, we have reset that goal to 33% by 2025.

Set in 2017, our initial climate goal was to reduce carbon emissions intensity per square foot by 45% by 2025 and 50% by 2030 from a 2007 baseline. However, recognizing the importance of absolute emissions reduction, in 2021, we developed new climate goals and targets, informed by guidance from the SBTi. Our primary target is to reduce absolute Scope 1 and 2 emissions (global) by 50% by 2030 (with a 2019 base year). This target aligns with the Paris Agreement's 1.5-degree scenario (to support global efforts to limit planetary temperature increases to below 1.5 degrees Celsius as compared to pre-industrial levels). To supplement this goal, we also set two renewable energy goals to source 100% renewable electricity in the United States and 80% globally by 2030. We recognize that our corporate carbon footprint also extends to our value chain. In 2022, we developed a Scope 3 emissions reduction target – a 30% reduction across our significant Scope 3 categories by 2030 which aligns with a 2.0-degree scenario – to address our value chain emissions. All climate targets received approval from SBTi in April 2023. See [here](#).

Developing our new climate goals and targets is a noteworthy development in our climate strategy. Using absolute reduction and emissions intensity targets is critical to driving our company toward a lower carbon economy. An absolute target refers to the total reduction of GHG emissions, whereas an emissions intensity signifies the carbon efficiency of the reporting company. We believe that progress on both sets of targets more accurately demonstrates our corporate carbon footprint and overall environmental performance as our company grows and our climate action continues.

The main mechanism by which we expect to achieve our primary Scope 1 and 2 target is by aiming to substantially reduce Scope 2 emissions associated with electricity use in the U.S. We plan to do this by pursuing a separate but related goal to source 100% renewable electricity in the U.S. by 2030. In mid-2021, we officially opened the Array in Las Vegas. With over 336,000 panels arranged across 640 acres, this is the hospitality industry's largest directly sourced renewable electricity project worldwide. In 2022, clean energy from the Array helped provide up to 90% of our Las Vegas daytime power needs. Overall, in 2022, this project produced clean electricity on the Nevada grid, helping us source 29% renewable electricity in our primary market of Las Vegas. We also work to reduce Scope 1 emissions through fugitive emissions management and fossil fuel conservation. Additionally, we are developing a low-carbon procurement strategy to address emission reductions in our value chain, particularly emphasizing purchased goods and services (namely food-related emissions reductions).

Metrics & Targets

For accounting and reporting purposes, GHG emissions can be classified into three categories based on their sources. Scope 1 includes direct emissions from sources controlled or owned by an organization (e.g., fuel combustion in the organization's facilities and vehicles). Scope 2 includes indirect emissions created from purchased energy (e.g., electricity) for organizations' usage. Scope 3 includes emissions in our value chain, including emissions from purchased goods and services and employee commuting, among others.

GHG Emissions Metrics

Metric	Performance (2019-2022)				% Change (2019-22)
	2019	2020	2021	2022	
Scope 1 and 2 Emissions: ⁱ					
Absolute Scope 1 emissions (global), MTCO ₂ e ⁱⁱ	278,476	199,686	249,387	242,877	-12.8%
Absolute Scope 2 emissions (Location-based; global), MTCO ₂ e ^{ii, iii}	726,872	538,557	569,208	531,176	-26.9%
Absolute Scope 2 emissions (Market-based; global), MTCO ₂ e ^{ii, iii}	689,594	509,131	480,185	405,589	-41.2%
Absolute emissions (Location-based; global), MTCO ₂ e (Scope 1 and 2) ^{ii, iii}	1,005,348	738,243	818,595	774,053	-23.0%
Absolute emissions (Market-based; global), MTCO ₂ e (Scope 1 and 2) ^{ii, iii}	968,070	708,817	729,572	648,466	-33.0%
Scope 3 Emissions: ^{i, viii}					
Absolute Scope 3 emissions (Purchased Goods & Services; global), MTCO ₂ e ^{iv, ix}	1,199,537	511,708	748,023	1,088,261	-9.3%
Absolute Scope 3 emissions (Capital Goods; global), MTCO ₂ e ^v	406,586	268,855	418,324	557,138	37.0%
Absolute Scope 3 emissions (FERA; global), MTCO ₂ e	261,515	204,483	236,147	240,081	-8.2%
Absolute Scope 3 emissions (Upstream Transportation & Distribution; global), MTCO ₂ e ^{vi}	773	10,962	14,028	25,241	3165.3%
Absolute Scope 3 emissions Waste Generated in Operations; global), MTCO ₂ e	26,088	14,180	22,611	27,307	4.7%
Absolute Scope 3 emissions (Business Travel; global), MTCO ₂ e	5,225	2,459	836	2,112	-59.6%
Absolute Scope 3 emissions (Employee Commuting; global), MTCO ₂ e ^{vii}	107,435	85,823	88,857	98,250	-8.5%
Absolute Scope 3 emissions, combined significant categories (global), MTCO ₂ e	2,007,159	1,098,470	1,528,826	2,038,389	1.6%
Scope 1, 2 and 3 Emissions: ^{i, ii, iii, iv, v, vi}					
Absolute Scope 1, 2 and 3 Emissions (Location-Based; global), MTCO ₂ e	3,012,507	1,836,713	2,347,421	2,812,442	-6.6%
Absolute Scope 1, 2 and 3 Emissions (Market-Based; global), MTCO ₂ e	2,975,229	1,807,287	2,258,398	2,686,855	-9.7%

(i) Any data point that is blue has received external assurance. We submitted our 2022 data for independent third-party verification in April 2023. [See](#) here for an archive of GHG emission verification statements. Metrics that are externally verified may differ slightly from other reported metrics given the time of external assurance.

(ii) Absolute Scope 1 and 2 carbon emissions data in this table are unadjusted for the Circus Circus Las Vegas divestiture completed in December 2019.

(iii) Beginning in 2022, Scope 2 emissions have been calculated using both location-based and market-based approaches. Our location-based emissions reflect the average emissions intensity of grids where our electricity is consumed, whereas our market-based calculation reflects the electricity that we have chosen through our energy procurement strategies.

(iv) Emissions from purchased goods and services in 2021 differ from our 2021 CDP Climate Change filing, reflecting an update to our activity data exclusions. The change is an increase in emissions in this category by 42,829 MTCO₂e. Additionally, 2019 purchased goods and services differ from CDP-reported metrics based on guidance from SBTi, as part of our climate target baseline validation.

(v) Emissions from capital goods are susceptible to high annual variability due to changes in annual capital expenditures. Examples include purchases related to major renovation projects.

Metrics & Targets

(vi) A spend-based calculation is used to determine emissions from upstream transportation and distribution. The significant increase in emissions in this category between 2019 and 2022 reflects greater availability of 2022 transportation spend data. Based on available data and our calculation methodology, a subset of emissions from upstream transportation and distribution is still captured in the purchased goods and services category.

(vii) Emissions from employees commuting for 2019 and 2020 differ from our CDP Climate Change filings, reflecting an enhanced approach to emissions calculations in this category.

(viii) Categories 8 to 15 are considered irrelevant given our company's business as a global gaming entertainment company.

(ix) Increases in emissions from purchased goods and services (S3:C1) and capital goods (S3:C2) are partly driven by inflationary conditions given our spend-based calculation method.

Our intensity goals related to GHG emissions, energy use, water withdrawal and materials disposal reflect efficiency in these areas. We developed these intensity goals to reflect our acquisitions, divestitures and other arrangements that change the composition of our portfolio of integrated resorts and entertainment venues. Even though we have a clear set of primary climate metrics and targets related to emissions quantities, our perspective on climate is much broader. We approach climate with a perspective beyond energy-related GHG emissions alone, acknowledging that many climate-related risks manifest as water-related impacts and all materials have embodied carbon emissions. Multiple initiatives in these areas help deliver against a broader decarbonization agenda and help increase our resilience to climate risk. Three key examples include our 100 MW Array, which helps reduce Scope 2 emissions; our turf removal program, which helps reduce consumptive water use and mitigate our exposure to climate-exacerbated water stress; and our robust Materials & Waste program, which helps reduce disposal to landfill related to Scope 3 emissions.

Environmental Performance Metrics

Metric	2007 Baseline	2019	2020	2021	2022	% Change (2021-22)
Activity Metrics:						
Total square feet (global) ⁱ	59,921,356	95,658,380	92,730,468	92,730,468	92,730,468	0.0%
Occupancy ^{viii}	-	91%	55%	74%	89%	20.3%
Revenue, \$ (Enterprise total; thousands)	\$ 7,714,650	\$ 12,899,672	\$ 5,162,082	\$ 9,680,140	\$ 13,127,485	35.6%
Energy Use:						
Energy from electricity (global), MWh ^{i, ii}	1,140,215	1,494,263	1,204,660	1,363,329	1,383,802	1.5%
Energy from natural gas (or equivalent)(global), MWh ^{i, ii}	727,108	1,022,728	742,728	837,473	833,520	-0.5%
Energy from other fuels (global), MWh ^{i, ii}	72,812	124,021	58,475	143,781	149,648	4.1%
Energy use, combined electricity and natural gas (or equivalent) (global), MWh ^{i, ii}	1,867,323	2,516,991	1,947,388	2,200,803	2,217,322	0.8%
Energy use, all energy types (global), MWh ^{i, ii}	1,940,135	2,641,012	2,005,863	2,344,583	2,366,970	1.0%
Installed base of renewable electricity (global), MW ⁱⁱⁱ	-	9.6	9.6	109.6	109.6	0.0%
Water Withdrawal:						
Utility water withdrawal (global), kgal ^{i, ii}	4,076,367	4,667,626	3,338,461	4,013,694	4,230,182	5.4%
Well water withdrawal (U.S.), kgal ^{i, ii}	499,029	423,101	407,333	449,944	515,723	14.6%
Water withdrawal, combined utility and well water (global), kgal ^{i, ii}	4,575,395	5,090,727	3,745,794	4,463,639	4,745,905	6.3%
Materials & Waste:						
Materials disposed (global), mt ^{i, ii, iv}	90,730	71,478	36,801	63,656	71,829	12.8%
Materials diverted (global), mt ^{i, ii, v}	9,861	52,796	27,343	39,463	43,075	9.2%
Materials generated, combined disposed and diverted (global), mt ^{i, ii, iv, v}	100,591	124,274	64,144	103,119	114,904	11.4%
Sustainable Events:						
Revenue from client events with sustainable events plans (U.S.), \$ ^{ii, vi}	N/A	\$ 95,545,638	\$ 12,043,954	\$ 14,873,161	\$ 126,521,617	750.7%

Metrics & Targets

- (i) Any data point that is bold has been reviewed by the MGM Internal Audit department; ESG-related data points in blue have received external assurance. We submitted our 2022 data for independent third-party verification in April 2023. See [here](#) for an archive of GHG emission verification statements.
- (ii) Reductions in 2020, 2021 and 2022 were somewhat driven by COVID-19-related business impacts.
- (iii) Includes the MGMRI Array in Las Vegas and onsite solar arrays at Mandalay Bay, T-Mobile Arena and MGM Springfield.
- (iv) Includes landfill, waste-to-energy, incineration, and food-to-wastewater.
- (v) Includes recycled waste (e.g., metal, plastic, paper, cardboard); donated and liquidated materials (e.g., furniture, assets, food to charity); organic waste (e.g., food to farms, compost, organics, horticulture to farms/compost; yellow and brown grease to biofuel). Brown grease tonnage includes wastewater, fats, oils, and grease extracted from grease traps.
- (vi) Revenue from client events with sustainable event plans (U.S.) includes revenue from client meetings, trade shows, or conventions where a formal Sustainable Event Plan or quantitative Sustainable Event report was developed. This includes client meetings, trade shows or conventions where the climate was a focus in the event design and/or an estimated event carbon footprint report was provided.
- (vii) Units: megawatt-hour (MWh), megawatt (MW), a metric ton of carbon dioxide equivalent (MTCO₂e), thousand gallons (kgal), metric tons (mt)
- (viii) Rooms that were out of service, including full and midweek closures, during the years ended December 31, 2022, and 2020 due to the COVID-19 pandemic were excluded from the available room count when calculating hotel occupancy and REVPAR.

2022 TCFD Report



This report is focused on climate-related risks and opportunities and aligns with the recommendations of the Task Force on Climate-Related Financial Disclosures. More information about the Company's other ESG topics can be found at mgmresorts.com/esg.

