

SL Green - 2021 TCFD Report

REPORT PREPARED IN ACCORDANCE WITH TASK FORCE ON CLIMATE-RELATED
FINANCIAL DISCLOSURES FRAMEWORK

SL GREEN TCFD REPORT

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A FOREWORD FROM THE CFO

Over the past decade, ESG has emerged at the forefront of the values held by our stakeholders and investors. SL Green now provides sustainable office buildings for over 150,000 tenant employees – and as Manhattan's largest office landlord – we recognize that the performance of our portfolio has a significant influence on the low-carbon future of New York City. We are privileged to be in a position to lead the transition towards efficient, climate-resilient buildings in Manhattan, and our early focus on environmental stewardship has continually advanced the sustainability of our buildings each year. This has not only benefitted SL Green directly, but also our partners, tenants, and the greater community.

Our long-standing commitment to sustainability has now paved the way to our first dedicated TCFD disclosure. We view the publication of this report as another critical step in our sustainability journey, which increasingly emphasizes transparency and clear management of climate-related issues that are becoming more and more important to our investors.

The COVID-19 pandemic highlighted the critical role that our surroundings play in supporting the health, safety, and well-being of all building occupants, and we believe that buildings can play similarly critical roles in protecting occupants from the impacts of possible climate-related changes. We believe our rapid, comprehensive response and ability to adapt to COVID-19 demonstrated the strength of our governance structure and management oversight. As we continue to strive for best-in-class action against climate change, we are positioned to apply this same rigour while maintaining the flexibility to address any unanticipated climate-related risks that could emerge in the future.

Climate-related risks and opportunities are dynamic and evolving, and as part of our ESG program, we intend to continue to advance upon our TCFD disclosure, ensuring that our targets and commitments are in accordance with the highest level of ambition and our stakeholders expectations.



Matthew J. DiLiberto
Chief Financial Officer

OUR TCFD OVERVIEW

SL Green have demonstrated committed to transparency on climate issues via adherence to best practice frameworks, including GRI (Global Reporting Initiative), GRESB (Global Real Estate Benchmark), SASB (Sustainability Accounting Standards Board), and CDP (formerly known as the Carbon Disclosure Project).

The TCFD (Task Force on Climate-related Financial Disclosures) recommendations were released in 2017, providing a framework for organizations to evaluate and report climate-related risks, opportunities, and governance and management practices. In 2018, the TCFD recommendations were incorporated into CDPs Climate Change Questionnaire. We have responded to the CDP since 2018, and are now the highest-scoring U.S. Office REIT on the S&P 500. While our CDP responses have previously addressed the material topics of the TCFD recommendations, we are now pleased to present a dedicated TCFD disclosure through the publication of this report.

Our TCFD reporting process involved internal engagement with key roles across SL Green's business segments, conducting detailed climate-related scenario analysis across our portfolio and operations, and leveraging our sustainability and ESG progress to date.

Our report is structured in accordance with the 11 TCFD recommendations covering our climate governance, strategy, management, and metrics, respectively.

Climate-related risks and opportunities are dynamic and evolving, and as part of our ESG program, we intend to continue to advance and update our targets and commitments in accordance with the highest level of ambition, and our stakeholders expectations.

TCFD CLIMATE-RELATED DISCLOSURES:

GOVERNANCE

Board oversight of risks and opportunities

SL Green's Board directly oversees our ESG program, which includes assessing climate-related issues such as physical risks, transition risks and associated opportunities. The Board has executive-level participation, along with a dedicated team responsible for implementing the ESG program. Sustainability is a company-wide priority supported by executive-level participation on our Sustainability team, and we have integrated ESG considerations across all areas of our business. A sustained focus on ESG issues has led to effective risk-management practices that influence strategic decisions at the highest levels. SL Green's Board receives ESG updates quarterly and our Executive Team every month.



The below list demonstrates key governance functions used by our Board and Executive Team to monitor and advance SL Green's ESG program and oversee climate-related risks and opportunities:

SL Green's Climate-related Governance Mechanisms	Guide strategy
	Review major plans of action and business plans
	Oversee risk management policies and procedures
	Analyze annual budgets
	Establish performance objectives
	Monitor implementation and performance of objectives
	Manage major capital expenditures, acquisitions, and divestitures
	Track progress against goals and targets

Role of management in assessing and managing risks and opportunities

One of the Board's most important functions relates to its role in formulating and overseeing the execution of our business strategy, which includes our ESG and climate-related strategy. In addition to our financial and operational performance, the Board discusses measures including sustainability and governance goals. The Board actively participates with management in formulating and refining our business strategy to help ensure that our strategic goals are thoughtfully constructed and well-articulated. The Board has historically met with our management and external advisors in full day or multi-day sessions focused on long-term strategic planning to facilitate this process. In addition, the Board regularly receives updates from management regarding internal progress toward strategic goals and external strategic opportunities and challenges, which the Board and management use to react accordingly and refine our business strategy.

STRATEGY

Overview of risks and opportunities

As part of our TCFD reporting process under strategy-related recommendations, we reviewed and consolidated the climate-related risks and opportunities deemed most relevant to the organization across short-, medium-, and long-term time horizons (as shown below).

Time Horizon	Range Considered	End year
Short-term	0-1 years	2021
Medium-term	1-15 years	2035
Long-term	15-40 years	2060

Physical and Transition Risks Overview

With our roots in New York City, we are at the center of one of the world's most ambitious climate legislative environments. Through the Climate Leadership and Community Protection Act, New York State mandated the adoption of a net zero carbon economy statewide by 2050, with a zero-carbon electricity grid by 2040. In New York City, the Climate Mobilization Act sets carbon caps for large buildings starting in 2024 as part of a broader commitment to reducing greenhouse gas emissions by 40% by 2030, and by 80% by 2050. As the largest office landlord in Manhattan, these policy elements represent the most material sources of transition risks relevant to our business.

In 2012, Hurricane Sandy demonstrated the devastating potential impacts of acute climate-related events to New York City real estate. While SL Green's portfolio was not substantially affected by Hurricane Sandy, we have continued to develop our approach to physical climate risk assessment, management, and mitigation in order to manage and minimize the impacts of similar future events. As part of this management process and to support the implementation of the TCFD recommendations, we have conducted climate-related scenario analyses of physical and transition risks in order to assess our exposure to chronic and acute physical climate hazards, as well as our exposure to the impacts of future carbon mitigation policies such as carbon pricing.

An overview of the most relevant climate-related risks selected for evaluation in our scenario analysis process are detailed in the tables below. Effective assessment, management, and mitigation of these risks further serves as an opportunity for SL Green to maximize the value of our portfolio for our stakeholders, including our building tenants and investors. In *Strategy Resilience*, we discuss the strategic actions that allow us to capitalize on climate-related opportunities.

Transition Risks	
Policy & Legal	<ul style="list-style-type: none"> • Federal, State and City-level legislation to limit built-environment emissions (e.g. Local Law 97)) • Mandatory carbon pricing costs • Enhanced emissions reporting obligations • Embodied carbon restrictions
Technology	<ul style="list-style-type: none"> • Required investment in new technology to reduce GHG emissions of buildings • Natural gas lock-in • Technology disruption, including building automation and renewable technologies
Market	<ul style="list-style-type: none"> • Increased cost of raw materials and utilities (natural gas, electricity, water, etc.) • Tenants moving to avoid utility costs or environmental regulations • Increased tenant preferences for green, efficient buildings (e.g. demand-side emissions targets) • Increased expenses of construction materials
Reputation	<ul style="list-style-type: none"> • Negative investor perception of high-emissions sectors • Stakeholder perceived inadequacy of corporate climate action and response affecting our competitiveness

Physical Risks	
Chronic	Increasing average temperatures <ul style="list-style-type: none"> • Increased energy demand associated with cooling requirements; increased water demands • Increased tenant demand for thermal comfort measures
	Sea level rise <ul style="list-style-type: none"> • Properties at risk of inundation and/or devaluation due to proximity to projected water levels • Required investment in flood-resistant infrastructure
Acute	Extreme heat <ul style="list-style-type: none"> • Excessive heat build-up in buildings may call for additional design measures for thermal efficiency, or upgrades to cooling systems • Extreme heat is linked to droughts and increased water demand, and can cause disruptions to building infrastructure, and decrease efficiency
	Hurricanes / tropical storms <ul style="list-style-type: none"> • Potential property damage and/or power outages
	Extreme Precipitation <ul style="list-style-type: none"> • Surface water flooding, and sewage flooding

Impact on business, strategy, and financial planning

As the largest commercial office owner in New York, we recognise the leading role we can play in the low carbon transition, and are committed to reducing greenhouse gas emissions across our portfolio. We acknowledge New York's ambitious climate goals, which are aligned with the 1.5°C climate scenario, and we have committed to voluntary emissions reductions.

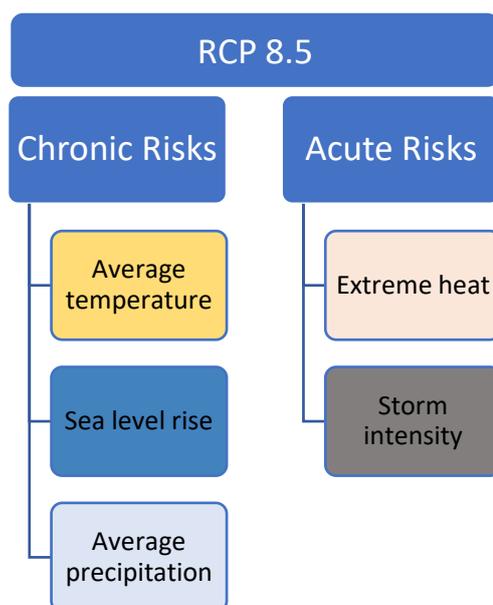
We consider the successful management and mitigation of climate-related risks across our portfolio as an opportunity to raise the financial value of our buildings—benefits that are also passed on to our stakeholders, tenants, and investors. Our investments over the last 20 years in energy efficiency improvements and greenhouse gas emissions reductions have minimized the impact of climate legislation on our portfolio.

These considerations have shaped our comprehensive climate-related risk management processes and resilience strategy, which is detailed further in *Strategy Resilience*.

Scenario analysis and strategy resilience

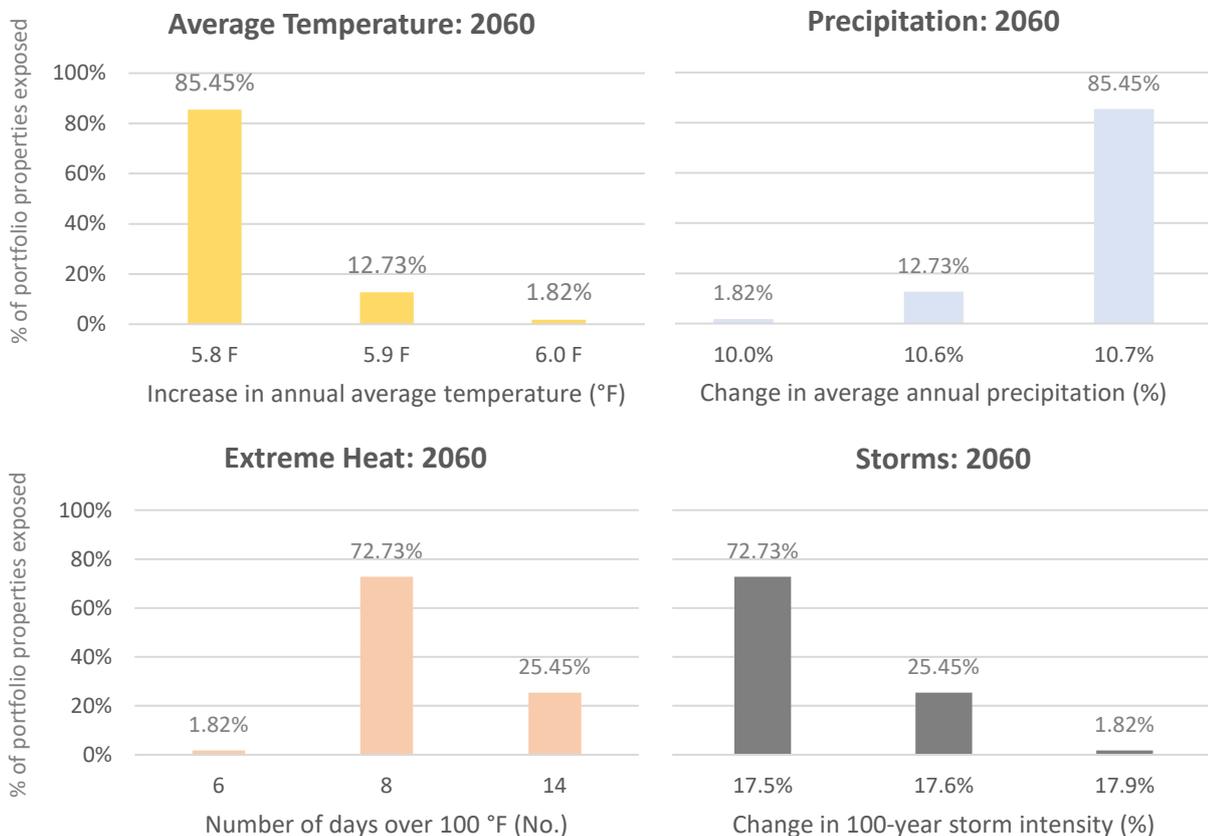
Physical Risks

We quantitatively assessed the exposure of our entire portfolio of properties to chronic and acute climate-related hazards detailed in the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathway (RCP) 8.5.¹ This is considered a worst-case climate scenario in which emissions continue unabated into the long term. We applied this high global emissions scenario to evaluate the extremes of physical climate risks that our portfolio could experience under a worst-case scenario. The assessment considered key indicators for each type of physical hazard, and projected the changes to these metrics over the medium- and long-term time horizons.



¹ The Environmental Protection Agency (EPA) Climate Scenarios Projection Map (CREAT) provides projected changes from Global Climate Models (GCMs) from the Coupled Model Intercomparison Project, Phase 5 (CMIP5), the same data used to support the IPCC AR5. Data provided in CREAT were from model simulations employing Representative Concentration Pathway 8.5, a higher trajectory for projected greenhouse gas concentrations to support assessments looking at higher potential risk futures. Each projection includes changes in temperature and precipitation averaged over two 20-year time periods: '2035 period' from 2026-2045 and '2060 period' from 2051-2070. Because the outputs from GCMs vary, CREAT provides averages from Model projections that represent a range of potential future Climate conditions. Due to the differences in data sources across different data types, conditions are not necessarily linked, and a scenario does not necessarily represent a potential future derived by consistent model projections. Instead, scenarios represent a combination of potential conditions under RCP 8.5, artificially combined to present challenges that may necessitate changes to withstand if they were to occur. For each climate hazard assessed using this tool, the scenario resulting in the most extreme change at the site was selected to delineate a possible worst-case scenario under RCP 8.5 for that particular climate hazard. This is the value reported for each climate hazard.

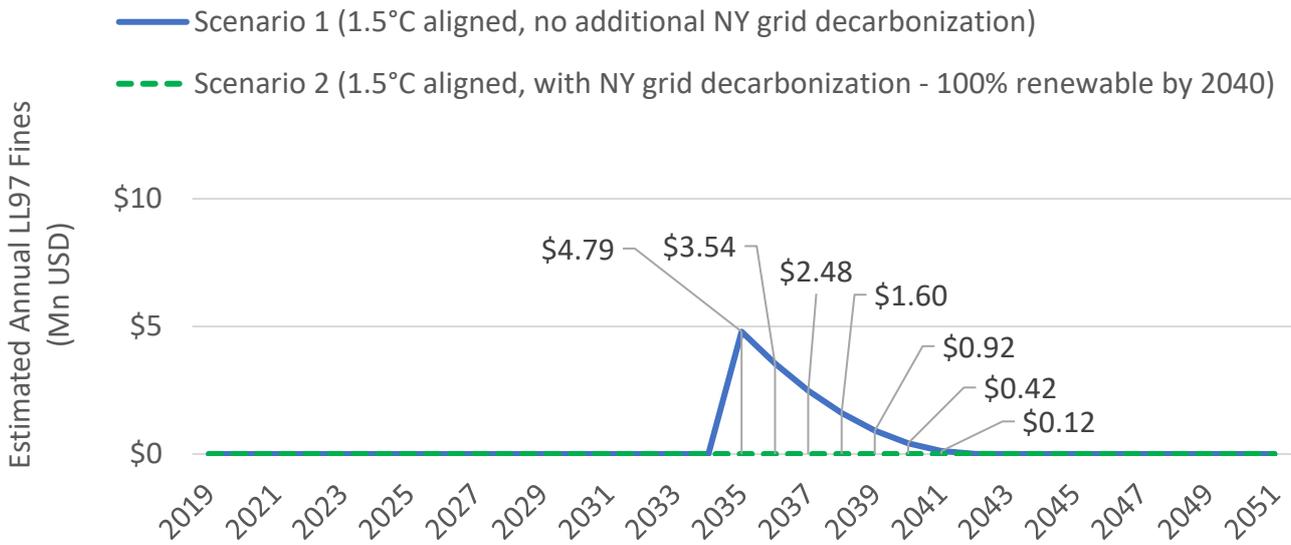
Our physical hazard exposure results are collated in the charts below. The results were aggregated across our entire portfolio, with the percentage of properties exposed under each projected level associated with a physical hazard. We also assessed our exposure to sea level rise using tools and data from the National Ocean and Atmospheric Administration (NOAA), the European Environment Agency (EEA), and reports from the New York City Panel on Climate Change (NPCC); however, the results showed no portfolio exposure to this hazard by 2060 under RCP 8.5. The resilience of our portfolio to the physical climate hazards identified via scenario analysis is discussed further in *Strategy Resilience*.



Transition Risks

We quantitatively assessed transition risks from carbon pricing under IPCC RCP 2.6, a 1.5°C-aligned global emission scenario. The potential impacts of carbon pricing under Local Law 97 (LL97) were evaluated for a 33-property sample segment of SL Green's portfolio comprising over 25.5 million square feet, assuming that our aggregated portfolio-level emissions intensity (tCO₂e/ SQFT) decreases in accordance with the highest level of ambition of science-based targets as contained within our roadmap (see *Climate-Related Targets* for details). We modelled two emissions scenarios aligned with 1.5°C. Under *Scenario 1*, potential annual fines under LL97 were calculated assuming an even share of emissions reductions across all properties in the sample, and no reductions to grid emissions factors relative to present. Due to SL Green's longstanding commitment to efficient building operations supported by capital improvements, under *Scenario 1* we do not expect any financial impact from LL97 in the first two compliance periods through 2035. The scenario analysis results indicate low materiality potential fines could peak around 2035 on account of the expected emissions cap reduction starting in the 2035-2050 compliance period. Due to SL Green's modelled emissions reductions, the portfolio exposure decreases to zero over the course of the subsequent 6-year period. Under *Scenario 2*, we also accounted for a reduction in electrical grid emissions expected as a result of New York State's target to achieve 100% carbon-free grid electricity by 2040, as part of the Climate Leadership and Communities Protection Act – this results in reductions to SL Green's Scope 2 emissions from electricity additional to those resulting from our ongoing building efficiency improvements. Under *Scenario 2*, which we believe to be most likely due to the New York State legislated goal of a zero carbon grid electricity by 2040, we projected that SL Green would not be exposed to any fines under LL97 across all compliance periods.

Scenario Analysis LL97 Annual Fine Estimation (Mn USD, Portfolio Aggregated)



Strategy Resilience

In alignment with our focus on increasing the resiliency of our properties, we have implemented comprehensive procedures to manage and respond to risks associated with climate-related weather events. We believe our prudent approach to risk management and our long-term planning process fortifies the stability of our business and underpins our commitment to a sustainable future. Every building is also proactively reviewed under both a financial and environmental lens to ensure that building systems and operations align with our ESG goals. SL Green's active development pipeline sets the standard for sustainable new construction and responsible community engagement. We leverage years of operational excellence to incorporate innovative design and technological solutions, and recommendations from our portfolio-wide NYSERDA emissions reduction study help lower emissions from tenant spaces and base building operations. Together, these measures minimize our vulnerability to the physical risks of climate change, as well as transition risks covering policy and legal, market, technology, and reputational factors.

- (1) **Building Evaluation:** From a lifecycle perspective, our climate-related risk management process begins with our underwriting team, which works closely with our sustainability team to stay ahead of existing and new legal developments. In the process of structuring capital investment strategies for prospective acquisitions, redevelopments, or new developments, we always ensure compliance with LL87 and LL97 and fully evaluate against LL32, LL33, LL88 to ensure climate resilience is embedded into our portfolio. When evaluating buildings, we focus on ESG, looking exhaustively at available building design and equipment technologies to implement the best sustainability measures possible. Greenhouse gas emissions and building certifications are considered crucial elements of our building evaluations and are always accounted for in our budget and planning processes. Our due diligence process covering all transactions also incorporates the analysis of flood risk, although our absence of a lower Manhattan footprint minimizes SL Green's exposure to climate-related flood events such as those resulting from Hurricane Sandy.
- (2) **Energy Management Strategy:** Our energy management strategy flexibly adjusts consumption based on fluctuating demand without compromising efficiency. At SL Green, we are continually exploring commercially available solutions to optimize our day-to-day energy management program. Over the past decade, we have incorporated portfolio-wide programs and technologies that set the baseline for efficient building operations. Digital control systems such as the Building Management System (BMS) allow our engineers to control energy use to precisely match tenant demand. Data from occupancy sensors and indoor environmental quality (IEQ) sensors like iES's WellStat are incorporated into our real-time energy platform, iES EnergyDesk, to ensure that

optimal conditions are maintained. Advanced data analytics allow us to project next-day energy demand, which equips our Engineering Teams with the knowledge to curtail our electricity consumption during demand response events to ensure grid reliability and avoid service disruptions.

- (3) **Energy Efficiency Through Capital Improvement:** At SL Green, identifying energy efficiency opportunities is a team effort spearheaded by our engineers, and our longstanding investment in efficiency enables us to defer capital improvements in times of crisis without jeopardizing our industry-leading operating standards. Preventative maintenance and best practices allow our building equipment to achieve maximum efficiency and durability. We also recognize that equipment replacements are an opportunity to deploy new technology and meet the evolving needs of our building occupants. We monitor utility incentive programs that incentivize the installation of state-of-the-art building equipment over the continued operation of outdated equipment. Capital improvements increase the overall value of our properties, reduce operating costs, and modernize our base building systems. For each property in our portfolio, SL Green develops a 5-year and 10-year capital plan based on an assessment of building equipment conditions to anticipate all future capital needs. Our Engineering Team identifies equipment near the end of its useful life and proposes capital projects to produce energy efficiency improvements. Beyond our internal expertise, we also leverage external consultants to improve our properties through retro-commissioning--ensuring building systems perform up to specifications--and conducting ASHRAE Level II Energy Audits to identify energy efficiency opportunities. We review our capital plans annually and reevaluate projects to prioritize project implementation based on financial and environmental benefits.

A list of examples of climate-related resilience measures and considerations from across our portfolio is shown below:

Latest climate-resilience measures	Replace Steam Turbines with Electric Drives
	BMS System upgrades and replacements, including Optimization
	Elevator Upgrades
	Belimo Valves
	DOAS System in new redevelopment
	EC Motors
	Solar Panels (capacity limited due to limited roof space) ¹
	Wind Turbines (available space limits capacity) ¹
Fuel Cell ¹	
Long-standing climate-resilience measures	Automatic Water Saving Devices
	VFD and HE motors
	Real Time Energy and Total Occupancy Counts
	Thermodynamic Storage (Ice Plant)
	Rain Water Retention (OVA)
	LED installation
Event-based climate-resilience measures	NYC Flood Plan Map
	Emergency supply closets
	Portable and trailered generators
	Green roofs
	Event preparedness alert system for engineering staff

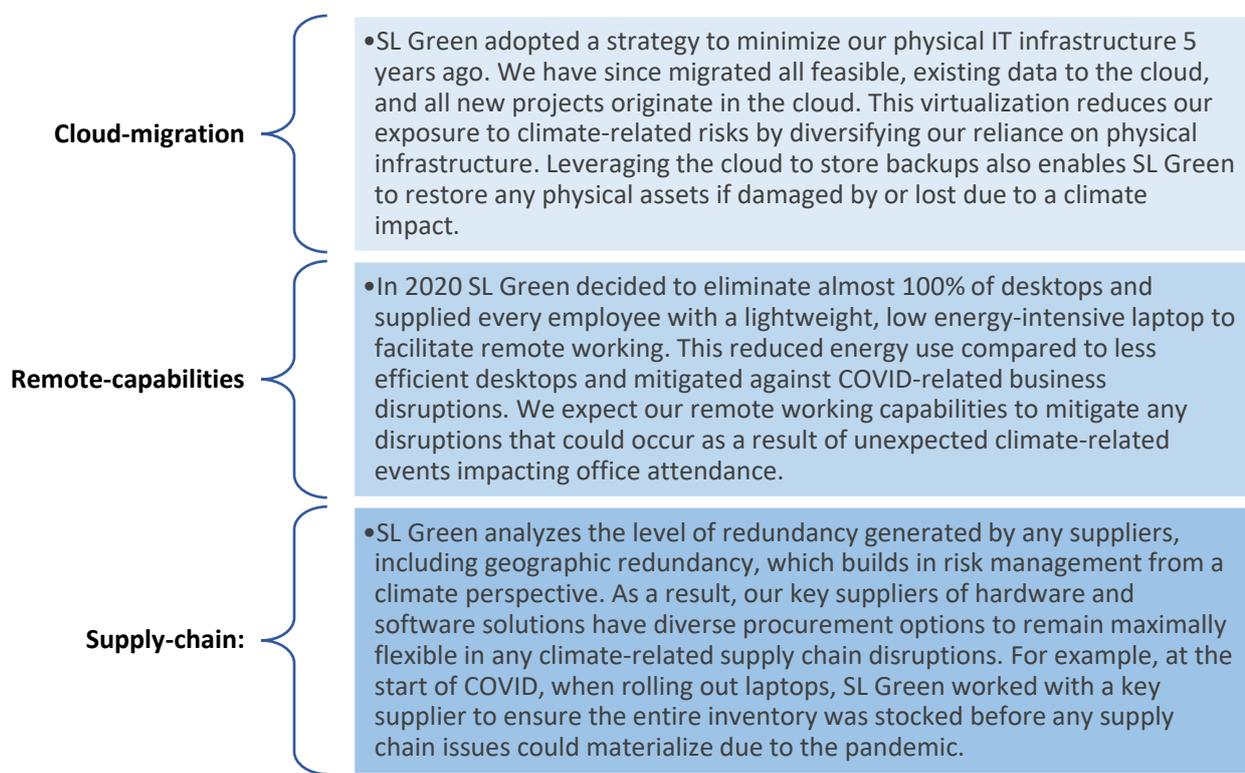
[1] measures have been evaluated for use in buildings but not implemented due to incompatibility

(4) **Tenant Engagement Strategy:** Since tenants typically account for over 60% of total building energy use and emissions, our strategy extends beyond our direct control, recognizing the importance of partnering with our tenants to accelerate reductions. Tenant engagement facilitated by data transparency is critical to furthering progressing sustainable practices throughout our portfolio. We are committed to enhancing the data tool coverage to the thousands of companies with office space in our portfolio.

Through our real-time energy management system, iES EnergyDesk, submetered tenants have access to their energy consumption in sub-hourly intervals. Integrating this energy management tool provides tenants with a clear visualization of their carbon emissions benchmarked from a baseline year and a basis for understanding their carbon footprint through unprecedented data transparency. Our goal is to expand our data-sharing capabilities further to provide tenants with granular data on their energy use, indoor environmental quality, and carbon emissions.

With the support of NYSERDA's Commercial Tenant Program, SL Green commissioned a portfolio-wide study to identify energy conservation measures through expert analysis of interval energy data. Customized reports will be shared with individual tenants outlining targeted efficiency opportunities. In addition, we are committed to refining lease language to maximize our environmental stewardship in partnership with tenants. Our green lease efforts have been recognized through the obtention of the Institute for Market Transformation's top accolade, the 2020 Green Lease Leaders Award at the Gold level. This award acknowledges our industry-leading commitment to green buildings through corporate policies and lease provisions promoting energy efficiency and sustainability. We were recognized for our best practices, including tracking energy data annually, sharing ENERGY STAR scores with tenants, metering energy consumption of tenant spaces, and passing through savings for energy efficiency improvements.

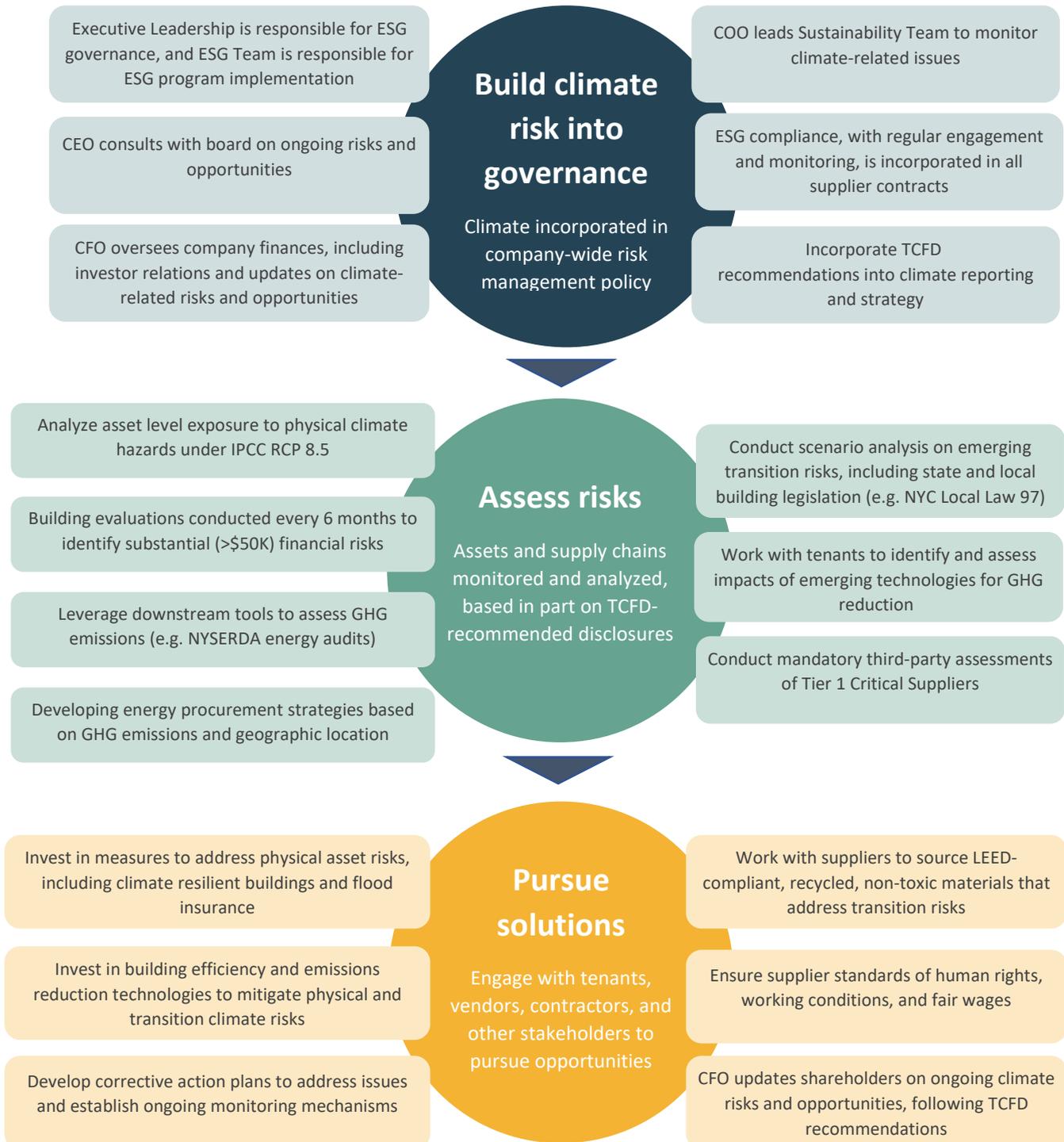
(5) **IT:** Our focus on energy efficiency is a strategic outlook that has shaped many of the prominent IT-related climate resilience measures ongoing at SL Green. Below we provide a snapshot of how our IT strategy considers and mitigates climate-related risks across our organization.



RISK MANAGEMENT

Process for risk identification and assessment, Management processes, Risk management integration

SL Green takes a proactive approach to climate-related risk management at all levels throughout the organization. ESG considerations are embedded into our governance structure and management responsibilities, driving our climate-related risk assessment processes and enabling comprehensive risk mitigation responses to be implemented in all relevant business segments. Our risk management flow chart delineates key climate-related procedures and updates, including the use of climate scenario analyses.



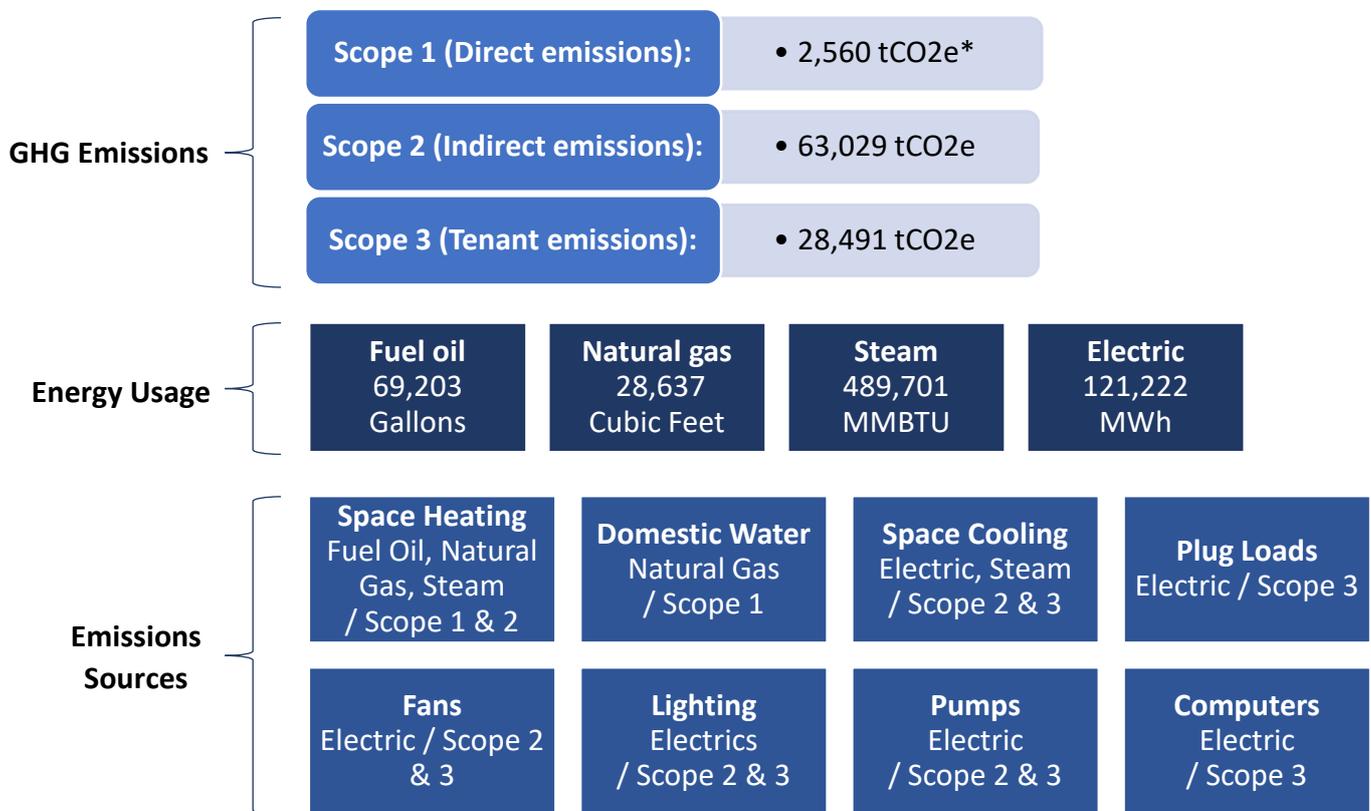
METRICS AND TARGETS

Transparent disclosure of our environmental performance data is an essential element of our sustainability program. Each year, we release a summary of our environmental performance through several key data channels – our GRI Content Index and Environmental Performance Summary, NYC Local Law 84 Filings, and CDP and GRESB submissions – all of which are publicly accessible. Ensuring data quality and consistency requires continuous support and coordination from many partners. Data points are collected on an ongoing basis from local utilities, submeter consultants, tenants, and waste haulers. To ensure that we provide the best available data, our environmental disclosures are externally verified and assured.

Metrics to evaluate risks and opportunities

2020 GHG Emissions

We track emissions sources across our entire portfolio by measuring energy uses from all material sources, which feeds into our greenhouse gas inventory, update on an annual basis. Below we show our 2020 emissions and consumption of key energy sources.

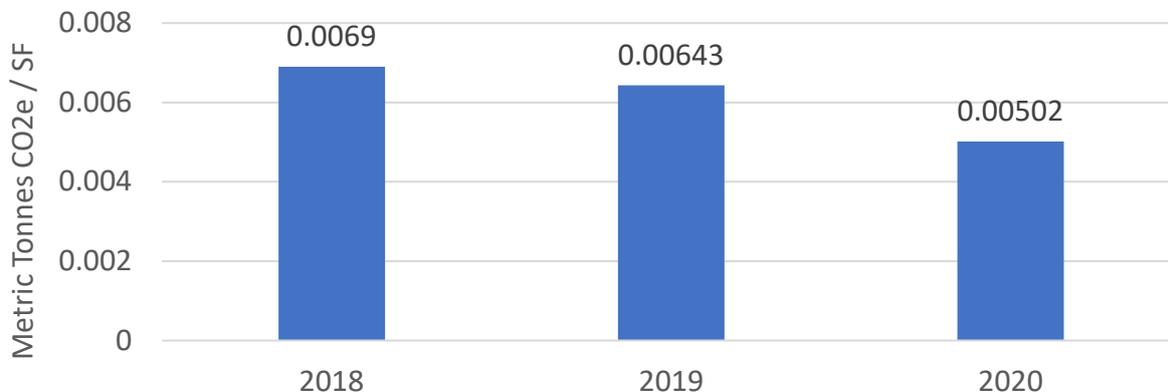


GHG Intensity

For our owned and operated property portfolio, we track our emissions intensity on an emissions per square foot basis. We've demonstrated strong progress year on year - our 2020 GHG intensity was 0.00502 tons/SF. This is 46% lower than our 2012 baseline and exceeds SL Green's existing emissions intensity target of a 30% reduction, equivalent to 0.00651 tons/SF, which we set to accomplish by 2025. Although our buildings were in operation throughout the COVID-19 pandemic, the decreased hours of operation, decreased occupancy, and deviations from standard operations due to COVID-19 played a significant role in the most recent years

reduction of building energy consumption and the associated GHG emissions. We are currently developing a new GHG intensity target, with the goal of having the target approved under the Science Based Target framework to demonstrate our continued commitment to a low carbon economy (see *Climate-related Targets*).

SL Green's Portfolio GHG Intensity Progress

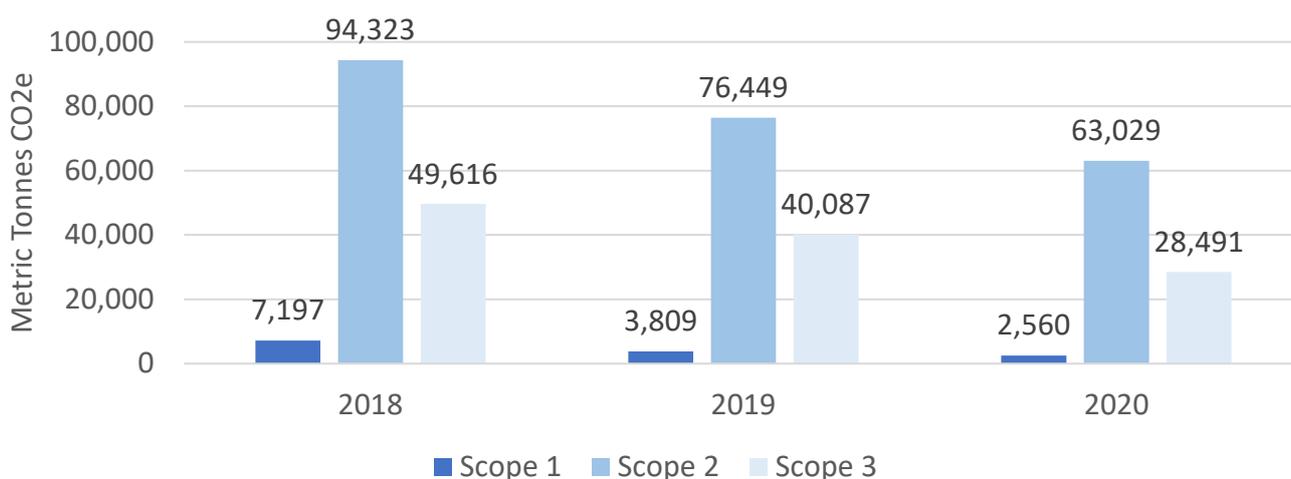


Emissions Progress

SL Green reduces Scope 1 and Scope 2 greenhouse gas emissions by optimizing building operations, implementing intensive energy management, and deploying capital investment in state-of-the-art equipment (see more details in *Strategy Resilience*). The reported Scope 3 emissions encompasses the emissions from tenant energy consumption in our buildings, categorized as downstream leased assets. Due to the significant contributions of tenants to our total building energy consumption and emissions profile, our emission reduction strategy extends beyond our direct control. We equip our tenants with tools to achieve Scope 3 energy reductions within their spaces (see more details in *Strategy Resilience*).

These efforts have resulted in year-on-year emissions reductions as shown below.

SL Green's Portfolio Emissions Progress



We are conducting an inventory of our Scope 3 emissions to determine whether additional sources of indirect emissions, following the categories defined by the Greenhouse Gas Protocol and Science Based Target framework, meet the materiality thresholds for inclusion in the Scope 3 emissions calculations.

Climate-related targets

Our portfolio-wide emissions reduction efforts drive progress towards our emissions and energy efficiency targets outlined below.

Energy	•Reduce whole-building energy consumption 20% by 2030
Emissions	•Reduce portfolio-wide greenhouse gas emissions intensity 30% by 2025

Since we have exceeded our original emissions reduction goal, we are currently in the process of exploring an intensity based Science-Based Target with the SBTi, aligned with the highest level of ambition. As we move forward, SL Green is committed to remaining industry leaders in sustainability and climate risk management, and we are proud to use our expertise and ambition to help New York achieve the transition to a climate-resilient, low-carbon economy.