June 29, 2023

How commercial real estate prices are connected to climate risk

As building construction and operations account for 40% of global greenhouse gas (GHG) emissions, real estate will most likely be a focal point for governments, companies, and investors in their efforts to reach net-zero emissions targets or other climate-related goals. From major hurricanes to wildfires, real estate assets are also facing an increase in the intensity and frequency of extreme weather events related to climate change. Moreover, tenants are now demanding more sustainable buildings to meet their own emissions targets, satisfy their employees' expectations for sustainability, and attract talent.

It's irrefutable—like so many other things, climate change is now affecting real estate markets.

Climate change is likely to affect all real estate, but all real estate won't be affected equally

Admittedly, it's hard to make the case that the introduction of a higher climate risk premium won't affect commercial property prices—all else being equal. But the reality is that pricing in climate risk is complex, as there's a lot of uncertainty around climate-related regulation and capital expenditure (CapEx). Moreover, in the case of real estate and climate risk, we believe all else won't be equal.

While climate risk is systemic and inevitable in the real estate market, we believe its impact on valuations will be uneven across sectors, regions, and properties. There are also concrete actions asset owners can take today to better navigate climate change, and there will be opportunities to be seized by those who are well positioned for a more sustainable future.

Climate change may also present three longer-run opportunities

In the investment world, climate change often has a negative connotation. After all, transition and physical risks present great challenges to the economy, and particularly to real estate assets. But climate change isn't just a story of risks and challenges. In fact, we believe there are three overlooked elements that can help at least partly offset a potential drag on prices given a rising climate risk premium.

1. Higher demand for green and resilient buildings
2. Tighter long-term supply
3. New revenue sources

1 Higher demand for green buildings is creating relative tailwinds

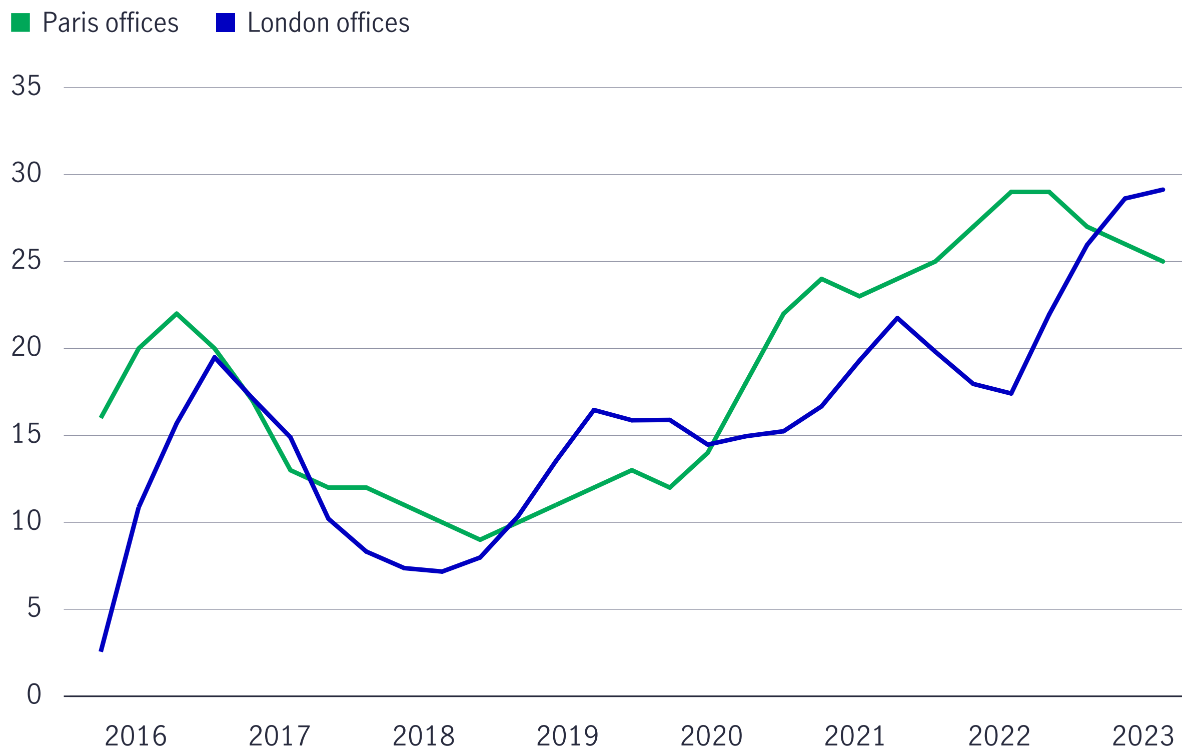
Achieving net zero is critical to combating climate change and limiting the temperature rise of our planet to less than 2˚C, and many companies and organizations from different industries are committed to reducing their GHG emissions. If they want a chance to succeed and reach increasingly ambitious emissions targets, however, they'll need to be environmentally conscious with their real estate decisions, whether as buyers, as tenants, or as lenders, which will help drive demand for sustainable buildings higher relative to non-green buildings.

In fact, we can already see green premiums—rental and price premiums—emerging across the real estate market. For instance, rents for grade A office buildings that comply with green certifications—such as LEED—are up to 28% higher than noncertified grade A buildings in some of Asia's biggest markets like Hong Kong, Seoul, and Singapore.

Meanwhile in Europe's largest property markets, price premiums for office buildings with environmental ratings are now as high as 29% compared to similar buildings without a rating. Moreover, the price gap has significantly widened from early 2019, indicating significant momentum for sustainability in real estate.

Sustainability in real estate is gaining momentum

Sale price gap between offices that do—and do not—have sustainability ratings (%)



Source: MSCI, from March 2016 to March 2023. London sustainability ratings are based on offices that have either BREEAM or LEED ratings; Paris based on BREEAM, LEED, HQE, and BBC certifications.

For lenders, pressure is mounting to decarbonize their loan books and meet their GHG emissions targets. This means that they'll become increasingly reluctant to lend to carbon-intensive buildings, while chasing sustainability-friendly deals; in other words, we believe green buildings will benefit from better borrowing spreads and conditions than non-green buildings over time.

To summarize, tenants are willing to pay for sustainability, buyers value it, and lenders need it—and this higher demand from different real estate market participants should help support valuations of well-positioned real estate assets.

2 Climate considerations are curbing supply growth

One of the key elements that's helped real estate managers deliver strong and stable income, along with constant capital appreciations, over the long term is *pricing power*. In the aftermath of the global financial crisis, real estate construction was slow to recover, which created favorable supply-and-demand imbalances that have helped real

estate managers increase rents, maintain healthy occupancy rates, and negotiate higher sale prices over time. Controlled supply is a very important driver of pricing power in real estate, and we believe that the transition toward a more sustainable future will help limit long-term supply for two main reasons:

- **First, more stringent regulation and building codes are accelerating obsolescence.** Obsolete assets are properties that are no longer up to standard, can't be leased, and thereby exit the market. For example, the United Kingdom now requires all commercial rental properties to have an Energy Performance Certification rating of E or above on a scale from A to G to be leased to tenants. In 2019, New York became the first city in the world to put carbon emissions limits on all existing and new buildings over 25,000 square feet.

  The list goes on, and we believe it's only the beginning: Given the ongoing emphasis on decarbonization, policymakers around the world will most likely continue to adopt tighter climate-related regulation that will affect real estate. Consequently, real estate managers will have increasingly difficult decisions to make: invest and make the necessary improvements or move on from obsolete assets. Meanwhile, owners of assets that comply with higher climate standards may benefit from greater pricing power.

- **Second, higher construction costs and longer lead times are delaying new supply.** While building costs can vary by green certification level, green constructions are typically more expensive than the costs of conventional buildings. For example, green buildings in the United Kingdom that are rated either BREEAM Very Good or Excellent cost 5% to 19% more to build than noncertified properties. Construction lead times are also 11% longer in this case.

  Although there usually are long-term financial benefits to constructing green buildings that help boost the return on investment (e.g., lower energy bills, rental premiums), higher initial investment requirements tend to curb new supply and thereby limit competition. This means that real estate managers already in the green building market can be more aggressive with their offering and during contract negotiations with tenants to increase revenue.

3 Real estate owners can leverage their assets to generate green revenues

From stores and apartments to offices and warehouses, real estate is physically present in most aspects of our economy. This unique physical presence is also an opportunity for real estate owners to use their buildings to provide climate-related solutions.

For example, owners of apartment complexes can install rooftop solar panels to help their tenants reduce their energy consumption and reduce their energy bill through renewables, while also having the possibility to sell excess energy to utility companies nearby and generate additional revenue.

Another additional revenue source is the passenger electric vehicle (EV) market. As the number of EVs grows exponentially, deployment of public charging infrastructure is hardly keeping pace, and we believe real estate owners are uniquely positioned to help close that gap. By providing on-site charging stations, real estate managers can cash in on new revenue streams, attract tenants, and increase occupancy rates.

While this kind of initiative requires significant investments, we believe that with some creativity, real estate managers can expand their revenue generation through a broad range of climate possibilities at a cost that makes sense financially over the long term.

The integration of a higher climate risk premium seems inevitable, as there's a growing focus on the world's decarbonization, and climate events are increasingly intense and frequent. But all else won't be equal. We believe the climate transition will also help drive rental and price premiums for certain real estate assets, limit overall supply, and generate a more diversified income stream.

Alert real estate managers can manage climate risks

From a risk/return standpoint, we believe the main concern isn't necessarily about the introduction of a higher climate risk premium—which may be at least partially offset

by climate opportunities—but more about potential major write-downs due to climate change. In fact, the International Energy Renewable Agency estimates that up to $10.8 trillion worth of real estate could be *stranded* (i.e., experience premature write-downs) by 2050.

We believe, however, that real estate managers can take meaningful actions to stay ahead of the curve and limit write-downs in the future. More specifically, we believe that *decarbonizing current assets* and *integrating climate considerations as a key parameter of the underwriting process* are two elements that can materially help avoid capital impairment.

1 Current assets' decarbonization

Climate change is one of the greatest challenges real estate managers face today and many buildings will need to be upgraded and retrofitted to better navigate its impacts. But there's a cost to that, and to preserve the risk/return profile of their strategy, real estate managers can't start spending blindly on the pretext of mitigating climate risk. They need to be methodical with their CapEx programs.

As such, mapping, understanding, and identifying physical and transition risks for each asset is essential to designing asset-specific CapEx programs that can address high-priority risk factors.

Examples of CapEx programs we implemented to mitigate specific climate risks

	Forward-looking climate risks	CapEx programs
Building A	**Risk type: transition risk** Facing increasing energy prices and carbon tax	We invested into innovative controls systems to operate the facility more efficiently. This included $150,000 to purchase a building controls technology that optimizes heating, ventilation, and air conditioning (HVAC) equipment based on real-time space occupancy, which will help reduce energy consumption and GHG emissions.
Building B	**Risk type: physical risk** Facing high flood risk	We invested $80,000 into flood prevention barrier systems. We also implemented emergency management plans that identify key steps property teams need to take to deescalate an emergency, protect the safety of building occupants, and prevent or

		minimize property damage.

Source: For illustrative purposes only.

Around 80% of the buildings we have today will exist in 2050, so targeted retrofits will continue to be a crucial part of real estate managers' CapEx programs over the next few decades. While retrofit efforts mainly focus on the approximately 65% of energy that is used by HVAC equipment and lighting, retrofits likely to yield benefits also include upgrades to insulation, on-site infrastructure that supports renewable energy, and other efforts that provide usage efficiencies.

In some cases, physical and transition risk assessment may point to disposition as the best strategy, as certain assets are just not built for the future. However, we'd argue that tailored CapEx programs with targeted retrofits can help avoid most potential write-downs due to climate change when done methodically and proactively.

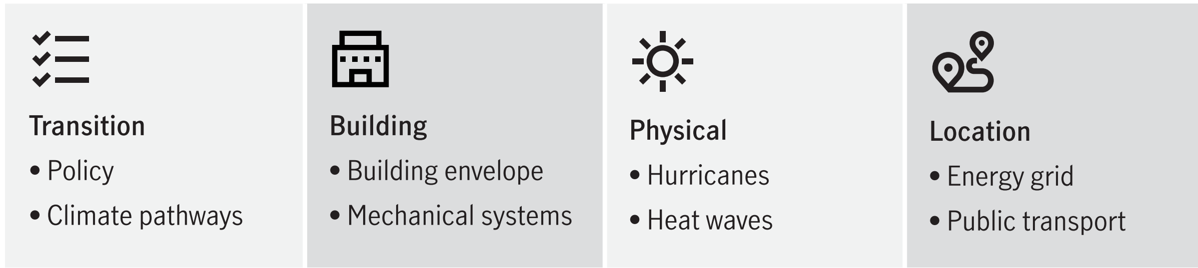
2 Underwriting process climate adjustment

Turning around a real estate portfolio can't be done overnight, and because of the long-lasting effects of every decision, selecting the right location and the right building is critical. As such, we believe that integrating climate considerations to the due diligence and underwriting process can make the difference between a detrimental decision and a beneficial one over the long term.

Markets where water is scarce, for example, won't have the same ability to handle density—i.e., more homes, schools, hospitals to accommodate more people within a given area—as other markets over time. We believe that there are various cities in this situation, and the competitive advantage they may have today will fade over time, as new development (that would be required to keep evolving) will be restricted due to limited water resources.

While the full effects of climate change are still unknown, adding physical and transition risks assessment to building and market selection during the underwriting stage can help investors quantify a reliable climate value at risk and thereby construct more resilient real estate portfolios.

Assessing climate considerations helps better manage climate risk



Source: Manulife Investment Management, 2023. For illustrative purposes only.

To be clear, we're not saying that real estate managers should exit all geographies or ignore all assets that are exposed to any climate-related physical or transition risks. But we believe it's important to be aware of all the risks involved, be compensated for them, and consider climate diversification when adding new assets.

Ceteris non paribus

From climate events to new regulation and tenants' higher expectations for sustainability, the impacts of climate change and the transition toward a low-carbon economy are increasingly felt across the real estate market, and we believe real estate managers who adopt a proactive rather than reactive approach will be better positioned to manage climate risk.

From a valuation standpoint, "all else being equal" is a concept that we believe is important to challenge when it comes to climate risk and real estate prices. While physical and transition risks present arguably the greatest long-term challenge the real estate industry faces today, we believe that there are some structural tailwinds that will help at least partially offset the impact of a potential higher climate risk premium. Higher demand for sustainability, tighter supply, and new income sources are all climate-related opportunities that we believe will support long-term prices for real estate managers who manage their assets through a climate lens.

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