SFMI
The Sustainable FM Index

Climate Risk in the Built Environment

sfmi@acclaro-advisory.com
+44 (0) 118 327 3519
https://www.acclaro-advisory.com/sfmi/

Climate Risk in the Built Environment

Climate change poses a number of challenges with respect to the built environment, both in terms of ensuring that buildings are protected against the risks posed by the changing climate and ensuring the wellbeing of their occupants. Consequently, buildings need to be designed, constructed, maintained and operated with the future climate in mind.

Climate change impacts are already having - and will continue to have - a wide range of consequences on both the construction and FM sectors, along with the asset owners. Implications on the choice of design and materials, including supply chain disruption from severe weather all around the world, could affect construction timetables. Climate change will inevitably impact on the operation and management of our buildings and their grounds, including both new-build and legacy structures.

The severity of climate impacts is expected to increase in the coming years, with the IPCC expecting to breach the 1.5C limit set by the Paris Agreement before 2028.

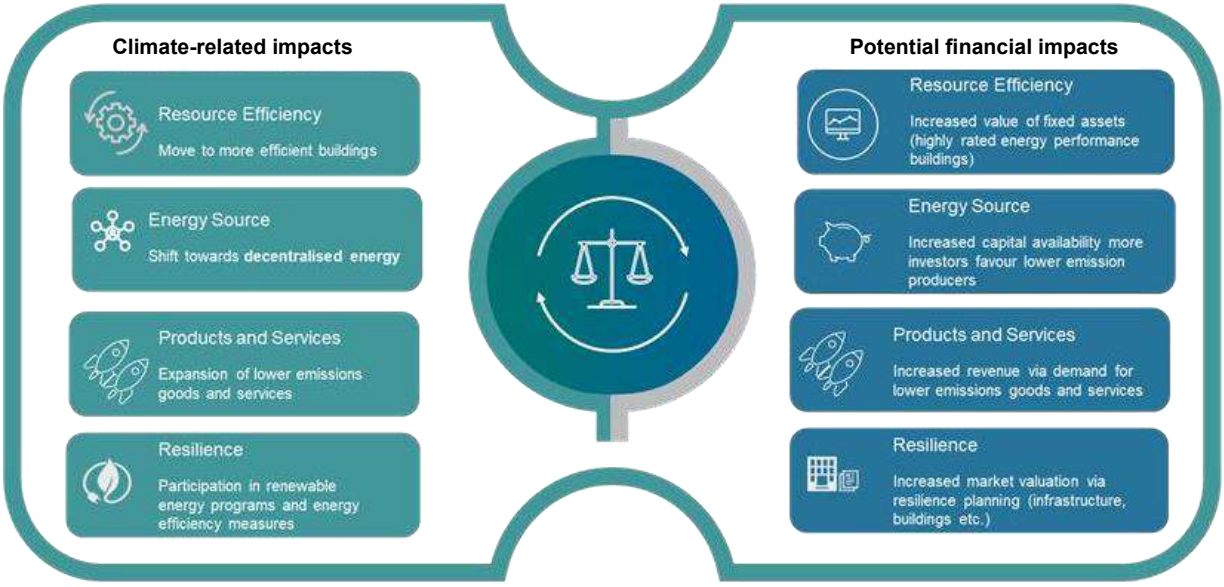
Societies have been adapting to the changing climate, but the pace and scale of adaptation will likely need to increase significantly. Key adaptation measures include protecting people and assets, building resilience, reducing exposure, and ensuring that appropriate financing and insurance are in place. While adaptation is now urgent and there are many adaptation opportunities, climate science shows us that the risk from further warming can only be mitigated by achieving zero net greenhouse gas emissions and that the warming already in the system from past emissions will continue to increase even if we cease to emit greenhouse gases entirely. Therefore, we need to prepare for the inevitable consequences of historic inaction on climate change.

Sector Context - Climate Risks and Opportunities in Property

Extreme weather and physical hazards, such as hurricanes, floods, and wildfires, can cause substantial damage to property located in vulnerable areas. The sector (directly and indirectly) is responsible for about 40% of all greenhouse gas (GHG) emissions globally[1]. New research published by *Nature* suggests the threat of flooding rains, landslides, and erosion has been underestimated, with the impacts from climate change appearing more quickly than originally envisaged.

A significant challenge for the property sector is the poor awareness that exists within organisations, particularly at senior levels, of the impacts that climate change will have and the increasing negative impacts from not planning ahead. But also of the actions and opportunities that can take place to adapt to the climate transition.

Types of action to adapt to climate change to achieve opportunities across the UK:



[1] UNEP FI, 2022

The risks outlined in Table 1 below will impact the financial capabilities of building operations through increased operating costs, higher capital investment requirements and likely depressed revenue streams. The ability to understand these risks and their implications across the forward business strategy has real impacts, both direct and indirect.

Table 1.

RISK	SUMMARY
TRANSITION RISKS	
Increasing regulation and policy pressure	Climate first regulations in Europe and US are already in place, with thresholds lowered to bring more companies into scope and through the supply chain. New policies and additional costs, such as stricter building standards, carbon pricing, and additional reporting standards in the next 5 years.
Cost of indirect emissions	Activities like construction, refurbishment, and demolition contribute significantly to indirect emissions. Although property may not have direct control over these emissions, it could exert influence over their magnitude – promoting low carbon refurbishments and re-use of materials together with easier maintenance options reducing lifecycle impacts.
Shifting market preferences	As awareness of climate change grows, customers, Government estates and potential buyers are beginning to expect more from the FM sector regarding emissions reductions. The sector faces new risks with increased technology poorly installed and conflicting management.
Change in investor sentiment	To align portfolios to climate goals, investors could attempt to offset emissions elsewhere in their portfolio to counter high-emitting buildings or favour low-emitting real estate assets. Strategic planning can achieve wins for all parties.
Reputational risk	Inaction to decarbonise, particularly with heat, and not fully encapsulating the operational impacts is resulting in the property sector and specific organisations facing public pressure to reduce its share of emissions.
PHYSICAL RISKS	
Sea level rise and coastal flooding	Sea levels are rising, leading to more frequent and severe coastal flooding. This is causing heightened property damage and escalating repair and maintenance costs.
Inland flooding	Inland flooding due to the greater frequency and severity of precipitation events can increase property damage. Driven by rapid urbanisation, it can also cause the costs of repairing and maintaining properties to rise.
Extreme storms and wind	Greater severity and frequency of extreme storms, such as hurricanes, can cause damage worth billions of dollars. Extreme storms can negatively impact the value of commercial real estate in the near term.
Wildfires	Millions of residential and commercial buildings have been built in areas prone to wildfires. With the intensity and severity of such fires increasing, the likelihood of these properties being destroyed by a wildfire rises.
Subsidence	An increasing number of real estate assets are likely to be at risk of subsidence in the coming years, potentially causing serious structural damage to buildings.

Heat and water stress	Rising temperatures will create new cooling needs for buildings, resulting in higher operating costs. Infrastructure will also be impacted, affecting access to buildings and causing damage to services. Water stress will also lead to higher operating costs due to increased water prices, the need to improve water efficiency, and the regulation of water use.

Similar to the identified risks, the opportunities outlined in Table 2 can provide the ability to move ahead of the market, increasing market share and demonstrating authentic leadership. Integrating these opportunities into the overall strategy will allow organisations to support their customers effectively in the coming years.

Table 2.

OPPORTUNITY	SUMMARY
Increasing regulation and policy pressure	Scenario modelling to optimise the refurbishment and upgrade of properties to meet future standards. Alignment of asset upgrades with regulations will reduce costs and hold the asset value, while exceeding regulations could improve the property value
Increased resilience	Adaptation of properties through low carbon refurbishments + resilience measures can improve the properties ability to operate as intended (energy use, building comfort, structural integrity). Property value likely to be more resilient if resilient to shifting climate conditions.
Extra services on-site	Firms can introduce new revenue streams, including vehicle charging, green facilities management, and other on-site services that enable occupants' sustainable preferences. Making it more attractive to a climate-conscious customer base.
Services for reducing and tracking emissions	Specifically focussed on emissions related services, firms managing property can support occupants by tracking emissions and offering solutions to reduce carbon footprints. These services could include smart sensors and tracking energy consumption through heating, cooling, lighting, and space management
Access to Finance	Being aware of financial mechanisms in target jurisdictions to meet lower carbon solutions. For example, the US Inflation Reduction Act, provides significant funding and rebates to organisations who can demonstrate robust data and where financial support can achieve decarbonisation goals.
Positive Reputation	From a leadership position, communicating lessons learnt and providing advice to the sector provides a powerful reputational benefit that can lead to customer acquisition
Technology enabled solutions	Deployment of technology-enabled services reducing reliance of on-site maintenance and management, built into the strategic and operational delivery

Climate Risk Related Case studies

Technological and Construction Risk
City Developments Limited (CDL) Integrated Sustainability Report, 2021
Singaporean multinational real estate company – Transition risks

Building standards

Standards that mandate building and energy efficiency would directly affect CDL's costs from increased investment in technology. However, there may be future opportunities to embrace the new technology types that are currently not cost-efficient but may become so under a high carbon price scenario. CDL may also enjoy energy cost savings if all CDL hotels are retrofitted to the highest energy efficiency standard.

Construction costs

Higher expectations on energy efficiency will result in higher construction costs due to the inclusion of green features in new development properties. Potential mandates that call for the use of sustainable construction materials will also raise construction costs.

Mitigating actions

Meet net zero carbon commitment through building design and material selection: formulate clear steps to achieve net zero operational carbon; offset unavoidable emissions using emerging and innovative technologies; may include green building materials, district cooling, incorporating renewables through BIPV and leveraging AI technology to reduce water and energy use.

Promote construction designs for waste reduction and management; embed dedicated waste segregation capabilities within buildings; use materials and components that can be easily reused or adapted to reduce waste.

Source: Sectoral Risk Briefings: Insights for Financial Institutions | Climate Risks in the Real Estate Sector, UNEP-FI

Global IT Services Provider

Operating over twenty strategic on-prem data centres across four continents, the impacts of climate risk are becoming more prevalent. Acclaro Advisory provided an initial climate risk screening for all locations to understand the potential impacts and the associated mitigation measures that would be required. In addition, implications upon the operational performance were developed. This is being developed into financial metrics over a short-term timeframe to allow for decision making on adaptation and mitigation measures.

"Acclaro Advisory facilitated a cross-function series of workshops delivering integration of environmental risk management within the lending portfolio rather than merely focussing on the direct operational environmental impact of UKAR. Workshop slides prepared by Acclaro Advisory promoted discussion, engagement, and debate whilst Acclaro Advisory also recorded the decisions taken by the group providing a clear process trail. It leaves UKAR in a better holistic position to manage climate risk and related statutory reporting."

Ian Campbell, Property and Facilities Manager, UKAR

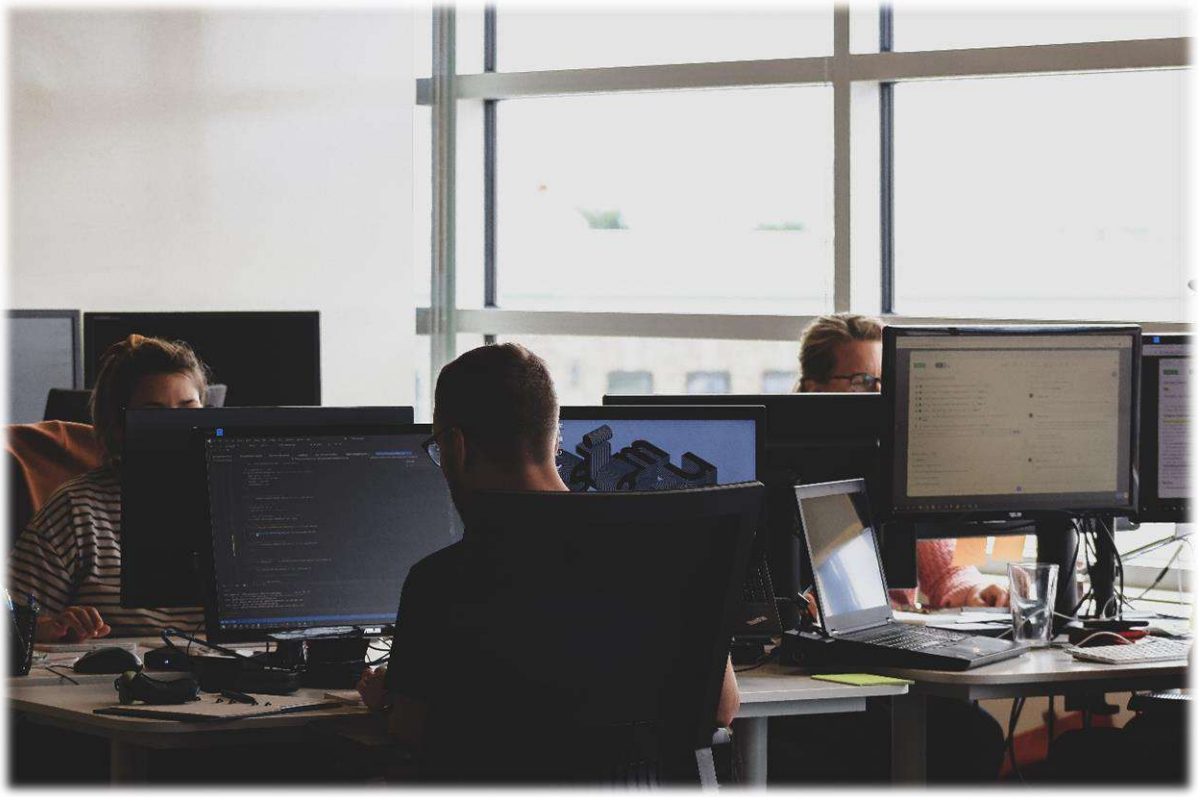
Partner Case Study: Arcus FM

Arcus FM have a strong risk management approach with a corporate risk register which includes environmental and sustainability risks. These cover both financial and non-financial risks to the organisation. The risk register has 6 monthly reviews and was created in conjunction with the C-suite. For each risk identified, a C-suite/Board member owner is assigned. Progress against risks is reported for significant risks too. Arcus have also recently added a risk score tracker to enable the tracking of risks over time.

The Sustainability Committee, Horizon Group and Risk Management Committee are all engaged in risk management. Risk is also covered in the Compliance and Obligations register which includes TCFD recommendations.

Implications for Facilities Management (FM)

The highlighted risks and opportunities will immediately influence service delivery, necessitating the incorporation of projected impacts into strategic decision-making. Given the uncertainty surrounding the speed and extent of warming, scenario analysis enables the evaluation of a range of potential outcomes.



Scenario Analysis

A process for identifying and assessing a potential range of outcomes of future events under conditions of uncertainty. In the case of climate change, for example, scenarios allow an organisation to explore and develop an understanding of how the physical and transition risks of climate change may impact its businesses, strategies and financial performance over time.

Some examples of how climate risk will affect FM are highlighted below:

Table 3.

Category	Description of Impact
Supply chain Management	▪ Supply chain delays from global impacts affecting the delivery of products, food and materials resulting in longer lead in times and shortages in some areas.
Travel to site	▪ Access by individuals to site, whether FM staff or customers, who may be impacted due to reduced train speeds and road closures adding time to journeys
FM Services	▪ Subsidence, reduced travel speeds and road closures will limit access of skilled labour to sites including contractors accessing facilities
Utility and Infrastructure management	▪ Increased utility bills associated with greater cooling demand, de-humidification, and airflow management ▪ Drier summers will lead to subsidence issues and infrastructure failures due to pipe damage affecting water and energy supplies – incorporated into business continuity plans
Wellbeing	▪ Poor management of indoor air quality and temperature affecting employee wellbeing leading to increased sickness levels ▪ Short term cooling demands, with increased costs from temporary units
Capital planning	▪ Changes in plant and operational equipment required to meet existing climatic conditions and future scenarios ▪ Lease issues with new equipment not aligned with direct replacement criteria necessitating contractual amendments
Strategic decisions	▪ Budget increases being effectively communicated and appropriate options in place to allow for SLT decision making ▪ Inability of the building to meet requirements for the business leading to reduced staff attendance ▪ Asset value reductions which impact upon book value ▪ Increased taxes and costs due to the performance of the building

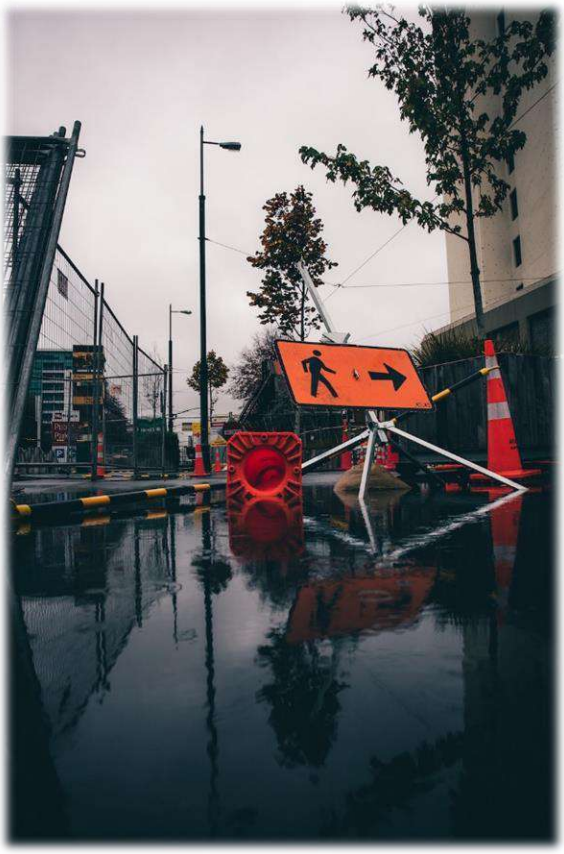
How FM can accelerate the integration of climate risks and opportunities in the built environment

To accelerate action on climate adaptation and resilience within the built environment, Facilities Management (FM) can play a pivotal role. By aligning with the TCFD and ISSB reporting structures, FM organisations can integrate climate risks and opportunities into governance, strategy, and risk management in ways that add resilience, demonstrate leadership, and create competitive advantage.

Governance

Definition (TCFD/ISSB): How an organisation's board and management oversee climate-related risks and opportunities, and how responsibilities are assigned and executed.

Governance of climate risk sits with the board and executive management, who are accountable for oversight and disclosure. FM creates the essential connection between this high-level responsibility and operational delivery.



FM can contribute in several ways, including:

- Operational accountability for resilience (e.g. HVAC, flood response, continuity planning)
- Embedding climate obligations into contracts and KPIs
- Providing reliable data for disclosure and reporting
- Demonstrating climate competence in bids and renewals
- Supporting executive climate literacy and informed decision-making

Strategy

Definition (TCFD/ISSB): The actual and potential impacts of climate-related risks and opportunities on an organisation's business model, strategy, and financial planning.

Strategy requires organisations to understand how climate-related risks and opportunities affect business models and long-term planning. FM provides the bridge between high-level transition plans and the realities of daily operation. With strong influence over supply chains and tenants, FM ensures that strategic ambitions for resilience, emissions reduction, and service innovation are implemented across estates and portfolios.

FM can contribute in several ways, including:

- Translating client transition plans into operational delivery
- Leveraging supply chains and subcontractors to achieve sustainable outcomes
- Embedding resilience measures into daily operations and tenant engagement
- Identifying new value streams (smart monitoring, energy optimisation, climate-ready retrofits)
- Aligning services with regulatory and market expectations

Risk Management

Definition (TCFD/ISSB): How an organisation identifies, assesses, and manages climate-related risks, and how these processes are integrated into overall risk management.

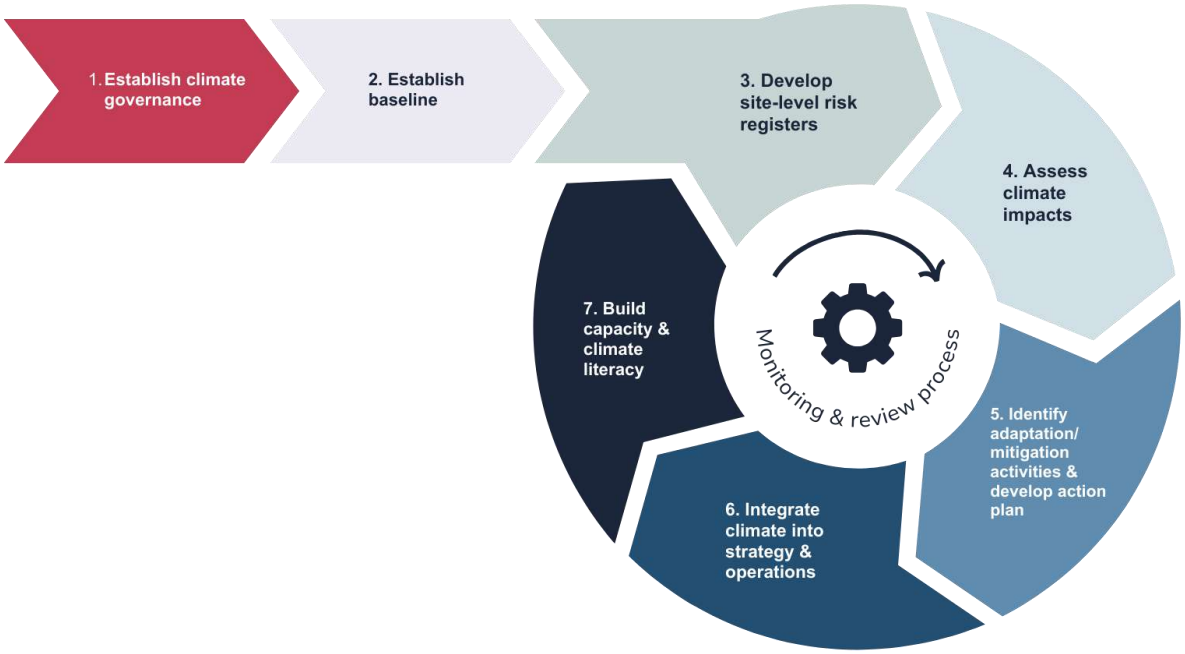
Risk management involves identifying, assessing, and addressing climate risks, and integrating them into organisational processes. FM plays a dual role: protecting the resilience of buildings and systems, and safeguarding the continuity of services.

FM can contribute in several ways, including:

- Feeding site-level intelligence into landlord/owner risk processes
- Ownership of site-specific risk registers for hazards (floods, overheating, storms)
- Distinguishing and managing both asset risks (building resilience) and service provision risks (continuity, supply chain disruption)
- Applying scenario analysis to test resilience under different climate futures
- Embedding adaptive measures into day-to-day service delivery

What's Next: Adaptive and Mitigating Actions

Facilities Management (FM) teams now have a pivotal role to play in embedding climate resilience and decarbonisation into the built environment. The challenge is to translate risks and opportunities into **practical steps** that can be delivered on the ground, while also feeding back to senior leadership and disclosure frameworks such as TCFD and ISSB.



An overall approach for how to manage climate risk.

1. Establish Climate Governance

"Robust climate governance is no longer optional — it is a licence to operate and compete."

Climate governance requires oversight at the board level, but its effectiveness depends on robust mechanisms to cascade accountability into operations. FM plays the role in bridging this gap, embedding responsibilities into day-to-day operations through contracts, KPIs, reporting structures, and performance oversight. Governance must not be a top-down statement; it requires a two-way link between leadership commitments and operational delivery. FM provides the feedback loop that supplies decision-useful data and insights, enabling boards to demonstrate governance in action. In this way, governance becomes both strategic and practical, ensuring climate priorities are embedded at every level.

Actions to take:

- Clarify FM's role within organisational climate governance frameworks.
- Identify mechanisms such as KPIs, reporting structures, contracts and performance reviews to embed climate accountability into FM operations.
- Provide consistent operational data and insights to support board-level disclosure.

Business case: Weak governance creates regulatory, reputational, and financial risk; strong governance builds investor confidence, strengthens contract renewals, and differentiates FM providers in a competitive market.

2. Establish baseline

"You cannot manage what you don't measure."

Establishing a baseline is the essential first step in understanding an organisation's climate position. This includes gathering data on emissions, energy and water use, and identifying resilience gaps across sites. Without a clear baseline, risks remain abstract, progress is impossible to measure, and investments cannot be properly prioritised. For FM, the baseline provides a practical foundation that links asset-level performance with portfolio-wide risk management. It is also a critical input into disclosure frameworks and stakeholder reporting.

Actions to take:

- Collect FM operational data on energy, water, waste, and carbon.
- Identify current vulnerabilities in assets and services.
- Build site and portfolio-level baselines for resilience and transition planning.

Business case: A robust baseline enables prioritisation of investment and targeted resilience measures. It also supports compliance and transparency, reducing the risk of regulatory or client scrutiny.

3. Develop Site-Level Risk Registers

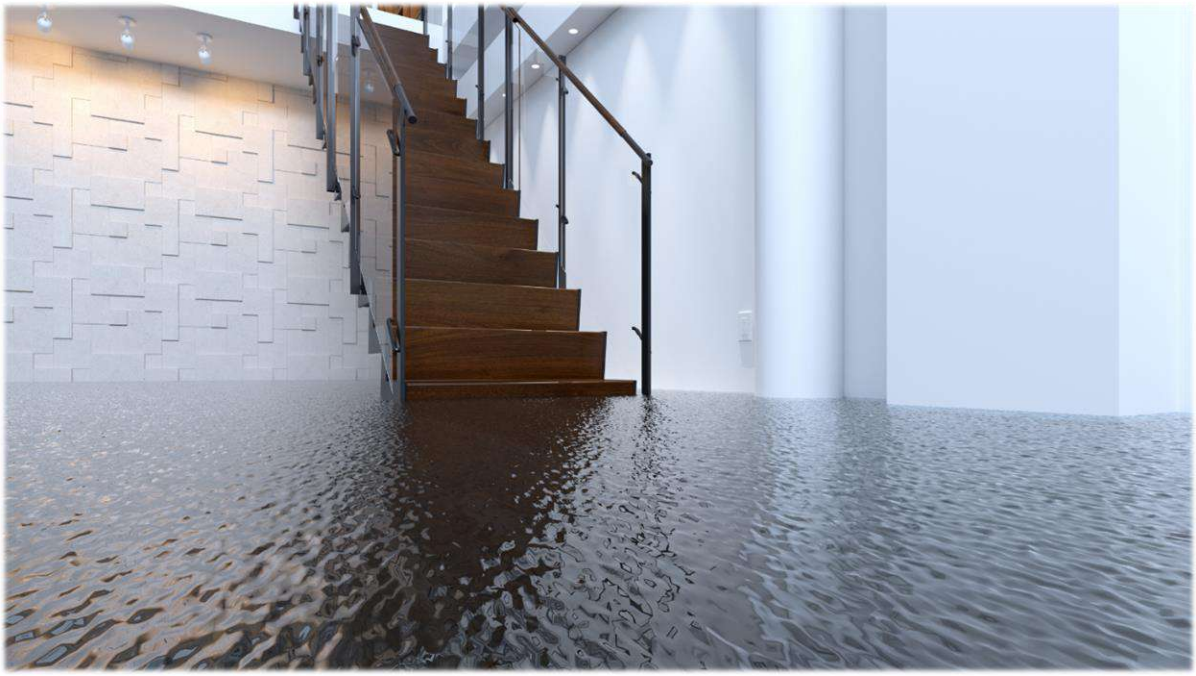
"Climate risks only drive decisions when they are embedded in the same systems as financial and operational risks."

Climate risks manifest locally, even when their drivers are global. Site-level risk registers ensure hazards such as flooding, overheating, or supply chain disruption are captured in a structured and consistent way. These registers allow FM to distinguish between asset risks, such as structural vulnerabilities, and service risks, such as continuity of FM operations. Linking these registers into landlord or owner-level processes ensures that insights are shared across the value chain. When regularly updated, risk registers provide a living tool to anticipate challenges and prepare proactive responses.

Actions to take:

- Identify and record local climate hazards and vulnerabilities.
- Link FM registers into landlord/owner risk processes.
- Use scenario analysis to test resilience under different climate futures.

Business case: Proactive risk registers reduce downtime costs, protect asset value. They also ensure business continuity during extreme weather, avoiding unplanned and costly outages and reputational damage.



4. Assess Climate Impacts

"Risks are only half the story - impacts show the scale of exposure."

Identifying risks is a crucial step, but it is their potential impacts that determine the scale of vulnerability. FM must evaluate how risks translate into financial costs, service disruption, or reputational consequences. By quantifying impacts, organisations can prioritise the risks that matter most and allocate resources accordingly. Impact assessments also help distinguish between short-term operational issues and longer-term strategic threats. This analysis builds the case for proactive investment in resilience and adaptation.

Actions to take:

- Analyse potential disruptions to service delivery and asset value.
- Quantify impacts in financial, operational, and reputational terms.
- Prioritise sites, services, or supply chains most exposed.

Business case: Impact analysis supports investment prioritisation and contract resilience. It also ensures that risks are made visible in terms that resonate with boards and investors.

5. Identify Adaptation/Mitigation Activities & Develop Action Plan

"Risk assessment without action is diagnosis without treatment — resilience depends on turning risks into concrete measures."

Risk registers and impact assessments must lead to action, otherwise they fail to protect organisations from disruption. Action plans provide the bridge between analysis and implementation, outlining specific measures to reduce vulnerability and cut emissions. For FM, this may include physical adaptations such as resilience retrofits, as well as operational strategies like continuity planning. Equally important are mitigation activities such as energy optimisation and service decarbonisation. Clear, costed plans demonstrate accountability to stakeholders and ensure risks are actively managed.

Actions to take:

- Develop site and portfolio-level action plans.
- Prioritise adaptation measures (resilience retrofits, flood defences, continuity planning).
- Identify mitigation opportunities (energy optimisation, decarbonisation of FM services).

Business case: Clear action plans translate risk into proactive resilience, reducing exposure. They also demonstrate accountability to investors, regulators, and clients.

6. Integrate Climate Risk into ERM, Strategy & Operations

"If climate risks don't sit within enterprise systems and strategy, they won't shape decisions or delivery."

Too often, climate risk is treated as a standalone exercise, disconnected from how organisations make decisions and run operations. To be effective, risks must be integrated into Enterprise Risk Management frameworks so they are prioritised, scored, and escalated alongside financial and compliance risks. Once embedded, these risks should inform business strategy, ensuring climate resilience and decarbonisation objectives are aligned with core priorities. FM then delivers on these strategies in practice, embedding commitments into service delivery, procurement, and subcontractor performance. This combined approach ensures climate is both a board-level concern and an operational reality.

Actions to take:

- Map climate risks against ERM categories and align with corporate scoring methodologies.
- Translate enterprise-level risks into FM service delivery requirements.
- Embed climate objectives into procurement, subcontractor management, and operational planning.
- Explore opportunities for new services and innovations.

Business case: Integrating climate into both risk systems and strategy ensures issues are properly owned, resourced, and actionable. This reduces hidden exposures while creating competitive advantage by embedding resilience and sustainability into everyday operations.

7. Build Capacity & Climate Literacy

"An organisation is only as climate-resilient as the people making its daily decisions."

Resilience depends as much on people as it does on systems and processes. FM teams, executives, and clients all need the knowledge to understand risks and act effectively. Without climate literacy, even the best plans and frameworks risk failure in practice. Training and awareness-building empower teams to make better day-to-day decisions, while also enabling leaders to set credible, evidence-based strategies. Climate literacy also fosters a shared culture of responsibility across the value chain, embedding climate into organisational behaviour.

Actions to take:

- Provide training for FM teams and leadership.
- Raise awareness of physical and transition risks.
- Support decision-makers with clear, evidence-based options.

Business case: Strong climate literacy enables better day-to-day decisions across the organisation. It also builds confidence among clients and investors that FM is prepared and proactive.

8. Develop a Monitoring & Review Process

"Resilience is not a one-off project – it is a continuous process."

Climate risks, impacts, and strategies evolve as science, regulation, and business needs change. A monitoring and review process ensures that organisations stay ahead of these shifts rather than being caught unprepared. Regular reviews of risk registers and action plans keep them live and relevant, while KPIs provide a measurable link between strategy and performance. For FM, monitoring provides the opportunity to demonstrate delivery against commitments and supply assurance-ready data to boards and clients. Continuous improvement is key to maintaining resilience and credibility over the long term.

Actions to take:

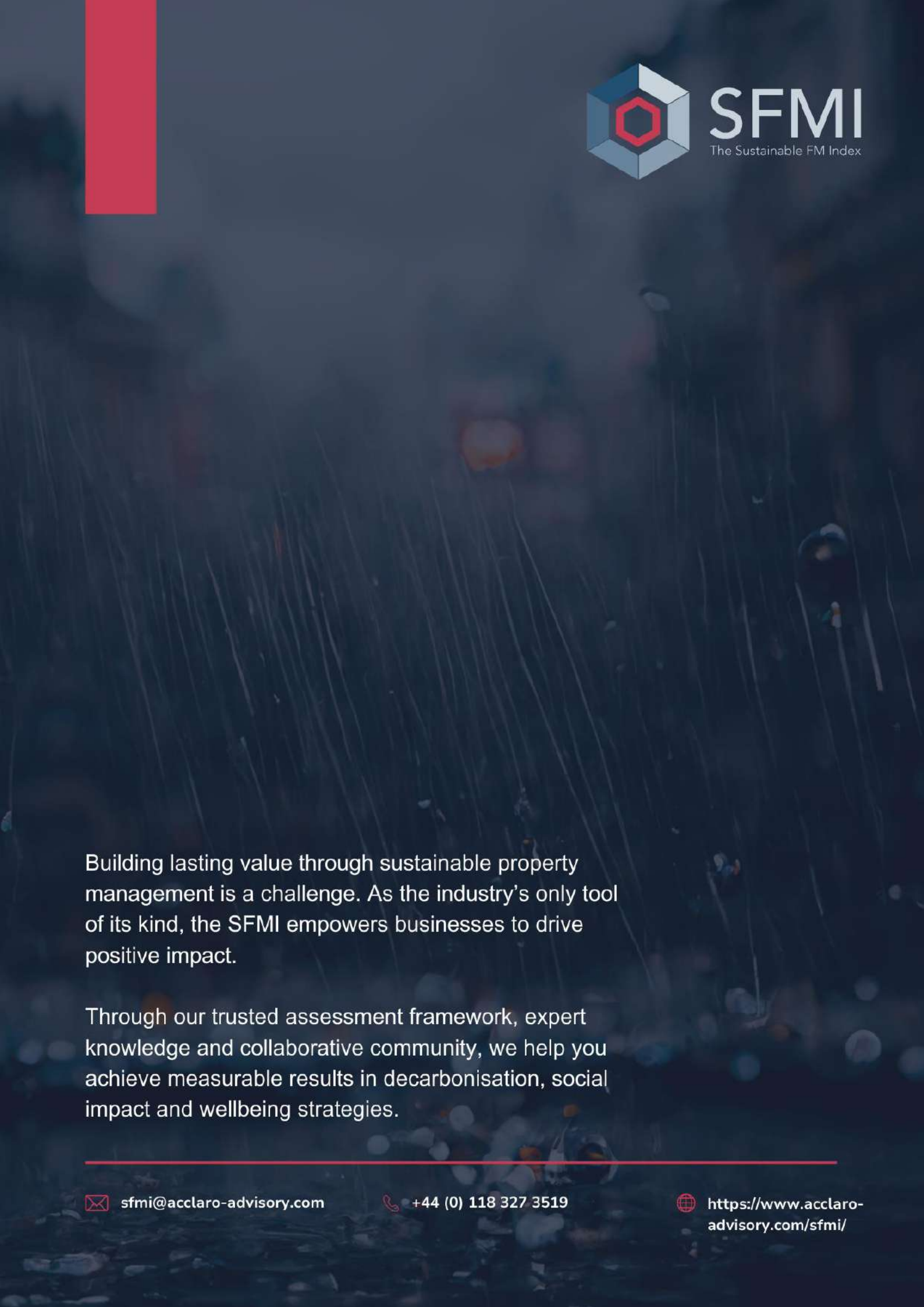
- Establish KPIs to measure resilience and performance.
- Conduct regular reviews and update risk registers.
- Use lessons learned to refine strategies and plans.

Business case: Monitoring strengthens accountability and ensures adaptive capacity. It also provides assurance to stakeholders that climate risks are actively managed.

Conclusion

The built environment is both a significant contributor to global carbon emissions but also, through the way it is designed, built and operated, can also play a significant role in helping to curb emissions and minimise global warming. It is also vital that people have access to homes, workplaces and public buildings that are both resilient to climate risks and continue to provide safe and comfortable accommodation in the face of unpredictable changes in weather patterns and extreme weather events. This creates both risks and opportunities for the sector, and preparing ahead of time can both minimise risks and capitalise on opportunities.

If you have any questions or would like to discuss this further, please contact Chris Havers at Chris.havers@acclaro-advisory.com.



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Building lasting value through sustainable property management is a challenge. As the industry's only tool of its kind, the SFMI empowers businesses to drive positive impact.

Through our trusted assessment framework, expert knowledge and collaborative community, we help you achieve measurable results in decarbonisation, social impact and wellbeing strategies.

sfmi@acclaro-advisory.com
+44 (0) 118 327 3519
https://www.acclaro-advisory.com/sfmi/