

Mitigating Climate Impacts on Construction Projects

by [Lawrence A. Borda](#) and [William J. Tinsley, Jr.](#), [Phelps Dunbar LLP](#), with [Practical Law Real Estate](#)

Status: **Maintained** | Jurisdiction: **USA (National/Federal)**

This document is published by Practical Law and can be found at: content.next.westlaw.com/w-050-2189

Request a free trial and demonstration at: tr.com/practicallaw-home

A Practice Note that explores emerging threats to private commercial construction projects from climate change and extreme weather events. This Practice Note discusses why standard building codes and design approaches are often insufficient to address future climate impacts and provides guidance on steps to mitigate them. It outlines risk mitigation strategies for owners, beginning with climate-focused project planning, site assessment, and due diligence. This Practice Note also explains how to allocate climate-related risks in agreements with designers and contractors, addressing the evolving standard of care for design professionals and key contract provisions like force majeure, indemnification, and warranties. It provides an overview of crucial insurance protections, including builder's risk, commercial general liability (CGL), and professional liability policies, to help manage and cover potential climate-related losses during and after construction.

Extreme weather events that affect construction projects continue to grow in number and severity. Climate-related conditions, including intense heat and shoreline erosion, have also increased. These circumstances have raised questions about the resilience of projects to climate impacts and exposures, both during and after construction.

Standard approaches to design development and construction do not fully address climate concerns because industry practices typically prioritize scheduling pressures, short-term budgets, and baseline requirements for legal compliance over long-term project performance. These approaches often result in significant climate-related gaps in a project's development.

Building codes do not effectively address the issue because the codes tend to be backward looking, drawing on past experience to establish minimum design standards and construction requirements, and do not evolve quickly.

Climate projections often fail to provide sufficient guidance because they focus on future events and rely on trends, forecasts, and predictive modeling. They do not necessarily establish adequate design and construction strategies.

Between the codes, the projections, and the industry norms are the competing interests of the project parties, including:

- Owners and developers seeking environmentally resilient structures with undue additional expense.
- Contractors, [construction managers at risk](#) (CM@Rs), and subcontractors wanting to avoid cost-escalation, schedule disruption, and extended liability due to climate impacts.
- [Design professionals](#) needing the owner's guidance on project objectives while maintaining compliance with codes, ethics, and the [standard of care](#), along with avoiding longer-term design liabilities.
- Suppliers seeking to limit extended exposure for materials and equipment designed to meet warranty requirements and not future conditions.

The parties' interests are best served with detailed discussions focused on:

- Site selection.
- Project planning.
- Budget, with an emphasis on the owner making

Mitigating Climate Impacts on Construction Projects

well-informed decisions on the costs of mitigating climate impacts.

- Technology limitations.
- Evenly balanced contracts.
- Insurance to cover losses during and after construction.

This Practice Note focuses on how owners can identify and allocate climate-related risks on private commercial construction projects. The Note:

- Addresses project planning, contract terms, such as [force majeure](#) and [indemnification](#), warranties, insurance coverages, and maintenance, from a climate perspective.
- Outlines some industry reactions to climate and weather-related events and how they affect the planning, design, and construction of private commercial buildings.

This Note does not address public projects, residential construction, specific building codes, climate-change litigation, [environmental, social, and governance](#) (ESG) regulations and disclosures, or renewable energy projects. For information on ESG issues impacting property owners, see [Practice Notes, Environmental, Social, and Governance \(ESG\): Overview](#) and [Key Environmental Developments in ESG Affecting Real Property Owners](#).

Evolving Construction Climate Concerns

The construction industry has focused on environmental impacts for several decades. Because the industry is a significant waste contributor and energy consumer, industry organizations have developed standards for energy efficiency, including:

- The [Leadership in Energy and Environmental Design](#) (LEED) certification program, which was developed by the [US Green Building Council](#) to promote sustainability in building.
- The [Green Building Initiative's](#) Green Globes project, which evaluates the sustainability, health, wellness, and resilience of commercial buildings (see [Green Globes](#)).
- The [International Living Future Institute's](#) Living Building Challenge, which sets a high measure of

green-building sustainability for the construction industry intended to reconnect building occupants with nature (see [Living Building Challenge](#)).

- The [International Well Building Institute's](#) WELL Building Standard, which provides a framework for building spaces intended to enhance human health and well-being (see [WELL Building Standard](#)).

Some states, including California, Texas, and Florida, have issued regulations on building energy efficiency and emissions (see [Practice Note, Recent Developments in Building Emissions and Energy Efficiency Laws \(Commercial Real Estate\) \(Select States and Cities\)](#)). For further guidance on building emissions and energy efficiency laws in select states and cities, see [Climate Change Laws and Legal Updates Toolkit \(Commercial Real Estate\)](#).

While these efficiency, emissions, and waste-reduction strategies continue to evolve, a related concern is emerging over the increases in severe weather events impacting design and construction. Industry standards and professional association guidance are being developed to respond, such as from:

- The [American Society of Civil Engineers](#) (ASCE) (see [ASCE/SEI 7-22 Minimum Design Loads and Associated Criteria for Buildings and Other Structures](#), which identifies tornado-resistant design, 500-year flooding, and sea level rise criteria, new snow-load modeling, and data requirements for environmental hazards).

The [International Code Council](#) (ICC) (see [ICC IBC-2024®](#)), which includes tornado loadings, updated rain-load design criteria, updated wind-, earthquake-, and snow-loading, and wind-resistance requirements for certain roofing.

With these and other new standards and guidance, and added climate-related design ethics rules from [The American Institute of Architects](#) (AIA), the standard of care for designers is also facing change. This evolving standard of care:

- Increasingly requires designers to:
 - address these issues and mandates; and
 - anticipate future environmental conditions when developing designs.

- May expand designers' potential liability to owners.

(See [Climate and the Designer's Standard of Care](#).)

Climate-Focused Project Planning

To mitigate climate risk, the owner should begin developing a project strategy with its designer, owner's representative, or another [program](#) planner at an early stage.

Site Assessment

A key initial risk-mitigation step is performing a site assessment. For example, for projects following [LEED v5](#), a climate resilience assessment is mandatory. If there is any concern about locating the project in an area susceptible to recent extreme weather events, this [due diligence](#) should include evaluating the following, at a minimum, modified as appropriate to fit the project site characteristics:

- 100-year storm and 100-year flood investigations.
- Previously experienced weather conditions, such as:
 - historical wind and flood events;
 - intense heat conditions; and
 - relative humidity and moisture.
- Wildfire risks.
- Coastal and river proximity.
- Site topography features, such as elevation and sloping.
- Droughts and water resource availability.

(See [Practice Notes, Assessing Due Diligence Needs Beyond a Phase I Environmental Assessment: Property Resilience Assessments, Identifying and Managing Project Finance Risks: Environmental Risk and Climate-Related Risks, and Key Environmental Developments in ESG Affecting Real Property Owners: ASTM International Publishes New Property Resilience Assessment Guide](#).)

For an example of a risk assessment tool, see the [Climate Mapping for Resilience and Adaptation](#)

[Assessment Tool](#). For further climate resilience guidance, see the [AIA's Resilient Project Process Guide \(2022\)](#).

Additional Climate-Related Due Diligence

Other recommended steps an owner should pursue in the initial planning phase include the following:

- Identifying the project's period of useful life and comparing it with available climate data for an equal period of duration.
- Investigating the design professional's experience working on similar:
 - projects; and
 - potential locations for the project.
- Researching technologies that are available to withstand expected climate exposures.
- Examining legal requirements for reporting on building performance, including energy efficiency and emissions standards.
- Possibly adding climate consultants to establish project goals, requirements, and performance criteria.

Informed Selection of Project Parameters

As this due diligence progresses, the results should be incorporated into the project program and requirements. The results and project requirements will guide the owner in choosing:

- The project team (see [Practice Note, Development Project Risk Management for Property Owners: Selection of Project Team](#)).
- The project delivery method (see [Practice Notes, Private Construction Project Delivery Systems: Overview: Design-Bid-Build and Design-Build](#) and [Selecting the Right Private Project Delivery System: Selecting Design-Bid-Build](#) and [Selecting Design-Build](#)).
- The pricing approach (see [Practice Note, Construction Pricing: Understanding Pricing Structures](#)).

Allocating Climate Risk with the Designer

Assuming the project is proceeding on a [design-bid-build](#) basis, there will be separate contracts between the owner, its selected designer, and its contractor or CM@R, respectively. Because the design largely determines the project's climate resilience, the owner should:

- Address key climate-related issues and risks when negotiating the owner-designer agreement.
- Clearly state the required climate considerations in the designer's scope. The more specifically identified, the more adequately these considerations will define the designer's roles and responsibilities.

Merely requiring the design to comply with building codes is not enough to protect the owner and the project. Codes establish a baseline, but they are backward looking based on historical data, and they are not consistently and timely updated.

Blanket requirements to comply with all applicable laws and regulations will likely be equally insufficient to achieve the owner's climate-related objectives, particularly if those laws and regulations do not detail climate mitigation requirements.

While the designer may face exposure for a negligence claim if the designer fails to comply with these types of requirements, the owner will be left with both a dispute and a project not meeting its needs.

Instead of generic code or legal compliance mandates, the owner should consider requiring the designer to evaluate applicable codes, laws, and regulations, including any updates, and assess whether compliance with these codes, laws, and regulations will satisfy the project's life cycle and the owner's climate risk tolerance. When the owner wants climate-related assessments from the designer, such as evaluating the proposed site and climate vulnerability, the owner should:

- Detail the scope of those services in the agreement.
- Require that the findings from any assessments be incorporated into the project design while maintaining alignment with the owner's program.

If properly developed, the owner's program should include life expectancy, budget, and other owner requirements for the project, such as:

- sustainability measures; or
- the ability to retrofit the project for climate mitigation technologies that are not presently required, available, or financially viable.

General references to address climate concerns in its designs may not require the designer to perform its work under a standard of care equal to one for a designer having climate-mitigating experience. To address this issue, the owner should:

- Identify its specific elements of concern and the desired project resilience.
- Engage a climate consultant to develop the climate-related elements of the program and designer's scope, if necessary.

These approaches reduce the risks of getting a design that does not meet the owner's needs, while maintaining the designer's responsibility for meeting these needs under its standard of care.

Climate and the Designer's Standard of Care

A designer's legal exposure and professional liability insurance coverage largely turn on whether the designer has met the standard of care for performance. The standard of care, often stated in the contract, benchmarks the designer's professional obligations to the owner.

As generally recognized, the standard of care for designers is that level of skill and care ordinarily used by members of the profession performing under similar circumstances, in the same locale and time as the project. For example, the [ConsensusDocs](#) owner-designer agreement outlines the required standard of care as follows:

- Providing the architectural and engineering services required by the owner as stated in the owner's program and other attached project data.
- Performing the basic and additional services consistent with the standard of professional care and skill on a project of a similar nature during the time when those services are provided.

Mitigating Climate Impacts on Construction Projects

(See ConsensusDocs 240 Standard Agreement Between Owner and Design Professional § 2.1.)

This standard of care is consistent with custom and practice in the construction industry and professional liability insurance requirements. Because this standard of care is tied to the scope of design services, it is also influenced by what climate-focused services the agreement includes and how precisely they and other performance criteria are stated. This approach:

- Requires much less reliance on case law, which may not consistently necessitate anticipating and planning for climate events and their impacts on the owner and third parties.
- Avoids tying the designer's obligations solely to what is shown in existing codes and weather, storm, and flood records.

As climate data becomes more available and evolves, this information may further modify the standard of care. For current engagements, however, it will likely remain limited to the standard in effect at the time of performance and not the standard as it may exist in the future. As a consequence, the standard of care for claims against the designer is likely to be what a reasonable professional should have anticipated at the time of service.

For more on the standard of care, see:

- [Practice Note, Owner Considerations on ConsensusDocs Owner-Design Professional Agreement: ConsensusDocs Standard of Care.](#)
- [Standard Clause, Architect Standard of Care.](#)
- [Owner-Architect Agreement for Design-Bid-Build: Owner's Drafting Checklist: Define the Standard of Care.](#)

Anticipating the Designer's Position in Negotiations

In response to the owner's climate-related requests, the designer may seek to limit its responsibility by:

- Confirming and listing the most current versions of applicable codes in the agreement.
- Limiting the application of any emerging standards and guidance, such as from the AIA and ASCE, to its services (for example, [ASCE's Policy statement 360 - Climate change \(2024\)](#),

requiring design approaches to address climate change and reduce project vulnerability).

- Obligating the owner to represent the validity of all owner-provided climate information and research and list all data to be followed.
- Informing the owner of climate risks based on the site, program, and selected materials and stating those risks in the agreement.
- Identifying the cost of alternative approaches that would increase or decrease climate exposure for the owner's selection.
- Seeking permission to evaluate (at the owner's expense) budgeting for dealing with 200-, 250- and, if appropriate, 500-year storms.
- Adding a limitation of liability capped at:
 - the designer's fee for its services; or
 - available insurance coverage.
- Requiring the owner to indemnify the designer for third-party claims unless and until there is a legal determination of the designer's negligence.
- Disclaiming:
 - climate and extreme weather consequences from owner-selected materials and equipment, including incompatibility;
 - liability for the specified products' failure to perform as represented by the manufacturer;
 - responsibility for owner-furnished climate information represented by the owner to be complete and accurate;
 - future performance of its present designs that surpasses identified requirements;
 - warranties that exceed the standard of care; and
 - reliance on the designer's duties beyond those expressed in the owner-designer agreement.

The owner should anticipate and address these positions based on the circumstances of the project and its risk tolerance. It should also confirm that professional liability insurance is in place and enforceable consistent with the designer's scope of services.

Indemnification from the designer is generally not an option, including for climate-related liabilities,

largely because the designer's professional liability insurance will not cover a contractual risk beyond the designer's errors and omissions under the applicable standard of care (see [Owner-Architect Agreement for Design-Bid-Build: Owner's Drafting Checklist: Identify Indemnification Restrictions](#)).

Allocating Climate Risk in the Construction Agreement

Similar to designer engagements, the owner-contractor agreement should address climate-related responsibilities, including those specific elements included in the project's design. In particular:

- The scope of work should:
 - identify sustainability elements, where appropriate, such as construction activity pollution mitigation and indoor air quality management during construction;
 - specify document collection for reporting; and
 - mandate compliance with all climate-related requirements in the construction contract, plans, and specifications, without qualification.
- The contractor should represent its knowledge and experience in doing the stated scope of work.
- If building and occupancy permits require proof of climate-based measures or emissions, the agreement should define the party responsible for documenting this information with the regulatory authorities.
- The parties should tailor standard [force majeure clauses](#) to address the specifics of the contractor's scope of performance (see [Climate and Force Majeure](#)).
- The agreement should incorporate a no-damages-for-delay provision to protect the owner from liability to the contractor for weather-related project schedule impacts (see [No Damages for Delay](#)).
- The contractor's indemnity obligation to the owner should include failures to follow specified climate performance and mitigation requirements in the construction contract, plans, and specifications (see [Allocating Climate Risk with Indemnity](#)).

- Where climate-resilient or energy-efficient materials and equipment are selected by the owner and obtained through the contractor, all related subcontractor and supplier warranties should be:

- issued in the owner's name; or
- readily transferable to the owner.

(See [Warranty Considerations](#).)

Climate and Force Majeure

Force majeure provisions in the construction contract should be drafted with careful consideration of the foreseeable weather events for the project's area, season, and type of performance. Any clause or similar provision allowing schedule relief should specify that the weather conditions affecting the work are not those typical for the project location or season. For example:

- [AIA Contract Documents](#) (ACD) requires adverse weather claims to be documented with data showing that the conditions that impacted the schedule were abnormal for that time and not foreseeable (see AIA Document A201®-2017 General Conditions of the Contract for Construction § 15.1.6.2).
- ConsensusDocs allows schedule relief for unanticipated transportation delays or for adverse weather conditions that were not reasonably anticipated (see ConsensusDocs 200 Standard Agreement and General Conditions Between Owner and Constructor (Lump Sum) § 6.3.1(e), (m)).
- The [Design-Build Institute of America](#) (DBIA) incorporates similar language regarding adverse weather conditions not being reasonably anticipated (see DBIA 535: Standard Form of General Conditions of Contract Between Owner and Design-Builder § 1.2.9).

Not all standard industry forms use the term force majeure. For more information on standard industry form agreements, see [Practice Note, Standard Construction Industry Documents: Overview](#).

If the parties anticipate specific climate circumstances in the location of the project, such as typical heat, snow, cold, and rain conditions based on available climate records, the parties should

Mitigating Climate Impacts on Construction Projects

exclude them from the force majeure provision. Instead, the parties should include them in other sections on delay relief, such as:

- Allowing temporary work suspensions for extreme heat days where worker safety might be compromised.
- Specifying the anticipated number of weather-related delays in the contract and the project schedule.

For example, the [US Army Corps of Engineers](#) adopted a schedule adjustment regulation to address unusually severe weather. It requires the contractor, where appropriate, to anticipate adverse weather days in its schedule based on [National Oceanic and Atmospheric Administration](#) data. (See [Army Corps of Eng'rs: Engineer Regulation No. 415-1-15 \(Oct. 31, 1989\)](#).)

For more information on force majeure terms in construction contracts, see [Practice Note, EPC Contract Drafting Considerations: Force Majeure Provisions](#) and [Standard Clause, Force Majeure Claims \(Construction\)](#).

No Damages for Delay

The owner should incorporate a no-damages-for-delay provision in the construction contract if severe climate conditions leading to project work stoppages are anticipated. Typically, this provision allows an extension of time as a sole remedy in cases where the contractor is delayed by events on the project.

Allocating Climate Risk with Indemnity

The parties typically use indemnity provisions to shift risk in the construction contract (see [Practice Note, Indemnification Provisions in Construction Contracts: Drafting Strategies](#)). For climate-related impacts, the owner may seek indemnification where the contractor failed to:

- Comply with the contract's climate-related requirements, including specified building moisture controls, heat resilient materials, and wind and storm protection measures.
- Provide planned mitigation measures, such as protecting materials and incorporating flood controls.

If these services are part of the project design and the contractor's scope of work, the owner should reference them in the indemnification provision (see [Standard Clause, Intermediate Indemnification Clause: Contractor as Indemnitor \(Construction\)](#)).

Likewise, when the owner supplies site information about the project, such as climate data, that proves to be incomplete or inadequate, and the contractor is damaged, the contractor could seek relief under an indemnification provision addressing owner-furnished information (see [Standard Clause, Intermediate Indemnification Clauses: Owner as Indemnitor \(Construction\)](#)). Before providing any climate data, the owner should verify that it is relevant, accurate, and complete.

Current standard industry form contracts do not include climate and extreme weather terms within the scope of their indemnification provisions. If these forms are used, they should be modified accordingly. Additionally, any indemnification provision, including those relating to climate events, must always be drafted consistently with applicable anti-indemnity laws (see [Construction Anti-Indemnity Statutes: State Comparison Chart](#)).

Requiring indemnification from designers is generally not available because it is not insurable. Conversely, some states statutorily prohibit designers from seeking indemnity for errors in their design or negligence (see [Construction Anti-Indemnity Statutes: State Comparison Chart](#)).

Warranty Considerations

Warranties should be developed with the project's anticipated climate exposures in mind. Warranties are typically included in the construction agreement or come with the materials and equipment selected for the project. When addressing warranty-related issues in project agreements, the parties should be mindful that:

- Designer warranties beyond the standard of care are generally uninsurable.
- Longer-term warranties may provide better owner protection against climate-related risks, including latent defects arising from climate exposures (see [Practice Note, Owner Obligations, Rights, and Remedies on Construction Project Completion: Warranties and Latent Defects in the Work](#)).

- Materials or equipment specifically incorporated for climate resilience should offer longer risk protection warranties for the owner. They should be issued in the owner's name or readily transferred by the contractor or subcontractor to the owner.
- In most circumstances, these warranties require maintenance after project completion to avoid waiver (see [Practice Note, Owner Obligations, Rights, and Remedies on Construction Project Completion: Ongoing Maintenance Obligations](#)). A maintenance plan should also incorporate the climate resiliency principles defined in the project's design and construction agreements.

Insurance Protections for Climate-Related Claims

Apart from filing claims for breach of contract or negligence for failures to meet the contract terms or other performance requirements, insurance is the primary risk-mitigation tool on most projects. For climate-related losses, the owner must conduct additional due diligence on available insurance. This insurance could include specific types of policies, such as builder's risk and commercial general liability (CGL) (see [Builder's Risk Insurance](#) and [Commercial General Liability Insurance](#)).

Depending on the location of the project, certain coverage may be cost prohibitive or not practically available, such as for flood zones. In some circumstances, flood insurance is only available with documented research on flood events and design accommodations for them.

Specific coverages may also be needed depending on the anticipated losses. For example, mold-specific insurance may become more necessary in climates facing increased flooding, heat, and humidity.

Owners should consult experienced [insurance brokers](#) to explore availability and pricing of coverages early in project planning to confirm adequate coverages are in place.

Builder's Risk Insurance

Absent contrary exclusions in particular policies, builder's risk insurance generally covers direct physical loss or damage on the project. The cause of the damage must be unexpected and occur

during construction from some outside force or event, as opposed to faulty work.

Construction contracts often specify climate-related risks that cannot be excluded from this kind of coverage, such as:

- Flooding.
- Windstorms.
- Earthquakes, landslides, sinkholes, or other earth movement.

These policies do not, however, typically cover other purely economic losses or diminution in value unless supplementary endorsements are added. This could leave the owner without coverage for climate-related:

- Debris removal.
- Business interruption.

Builder's risk coverage also often ends at [substantial completion](#) of the project. The owner must have permanent property coverage in place at that time.

For more information on builder's risk insurance for construction projects, see [Practice Notes, Owner Considerations on Insurance for Construction Projects: Overview: Builder's Risk](#) and [Builder's Risk Insurance for Construction Projects: When Coverage Begins and Ends](#).

Commercial General Liability Insurance

While CGL coverage is for bodily injury and property damage during construction and for completed operations, it is subject to the terms and limits of each particular policy, its endorsements, and its exclusions (see [Practice Note, Owner Considerations on Insurance for Construction Projects: Overview: Commercial General Liability](#)). For example, CGL terms and limits could include exclusions for issues such as pollutants, [greenhouse gas](#) emissions, and mold.

Professional Liability Insurance

For design liabilities, recovery often depends on professional liability coverage. Recovery on a claim requires a showing that the designer's performance failed to meet the standard of care due to the designer's negligence. (See [Practice Note, Owner](#)

[Considerations on Insurance for Construction Projects: Overview: Professional Liability Insurance.](#))

Documenting Climate-Related Insurance Claims

Regardless of the policy involved, an examination of the project records on any climate-related claim beyond traditional notice and claim review will likely be required. This type of examination typically includes information on the following:

- Collected climate data.
- What design and construction decisions were made to establish project resilience.
- The event or occurrence causing the loss.

This requirement makes a comprehensive document collection and retention plan critical.

For guidance on insurance coverages and related claims, see [Practice Notes, Owner Considerations on Insurance for Construction Projects: Overview](#) and [Representing the Owner in Construction Litigation: Initial Considerations: Review Insurance Documents](#).

About Practical Law

Practical Law provides legal know-how that gives lawyers a better starting point. Our expert team of attorney editors creates and maintains thousands of up-to-date, practical resources across all major practice areas. We go beyond primary law and traditional legal research to give you the resources needed to practice more efficiently, improve client service and add more value.

If you are not currently a subscriber, we invite you to take a trial of our online services at legalsolutions.com/practical-law. For more information or to schedule training, call 1-800-733-2889 or e-mail referenceattorneys@tr.com.