Sustainability Action Plan

SEPTEMBER 2025 UPDATE

AIA 2030 Commitment

About Us

Freeman French Freeman is Vermont's leading architecture firm, with a ninety-year legacy of innovative and enduring design. Our team strives to create architecture that serves our clients' needs today, tomorrow, and long into the future.

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UVM JAMES JEFFORDS BUILDING

01

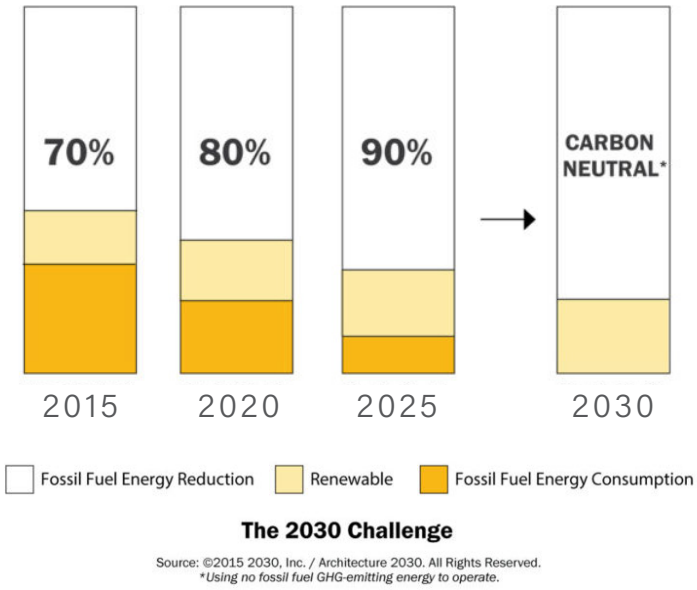
Vision 2030: Our Commitment to Sustainability Goes Beyond Energy Conservation

A well designed building is resilient, sustainable, and provides for a place of health and longevity. Resilient buildings use reliable and durable building materials and methods and are flexible when program needs shift. Sustainable buildings passively reduce energy and water use, generate energy, and actively work to sequester carbon. Buildings of health use concepts of biophilic, neurodivergent, and trauma-informed design. Buildings of longevity provide fresh air and light creating spaces that are comfortable and productive.

WATERBURY STATE OFFICE COMPLEX

AIA 2030 COMMITMENT

The 2030 Commitment charge is simple: All new buildings, developments, and major renovations shall be carbon-neutral by 2030.

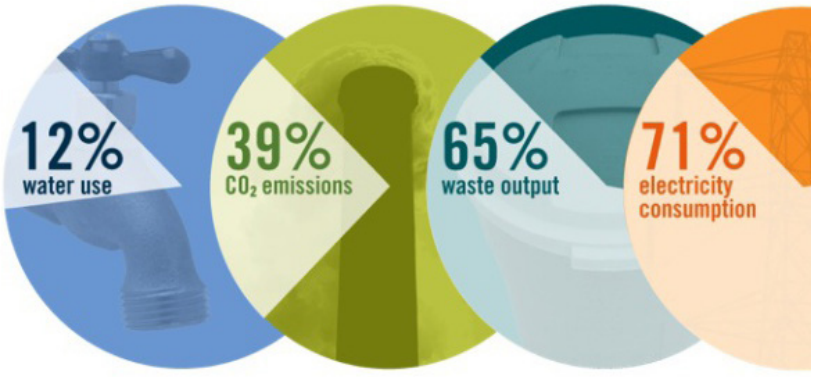


The 2030 Challenge

**Using no fossil fuel GHG-emitting energy to operate.*

U.S. Building Impacts

published by the United States Green Building Council



2020 Goals in Review

In 2020 FFF published its first Sustainability Action Plan (SAP). Since then, we have used the SAP to help guide the firm and our clients toward a more sustainable future. We are proud of our progress to date and have seen great results on many of our projects.

Yet much has changed in the last five years as technologies improve and the design community redefines what sustainability means in an era of accelerated climate change. As a living document, the 2025 update to our Sustainability Action Plan is an opportunity to assess challenges, celebrate successes, and introduce new goals.

UVM PATRICK LEAHY BUILDING

2020 GOAL	PROGRESS TO DATE
Calculate Projected Energy Use Intensity (pEUI) on all new buildings and major renovations. Establish EUI targets and baseline on all new buildings and major renovations using the Zero Tool.	pEUI calculations have been documented on all new buildings and renovations over 10,000 square feet. Established EUI targets were developed for all new projects using the Zero Tool.
Provide a path for owner to achieve 80% reduction from baseline on EUI. This 2030 Challenge target will require a balance of tight envelope detailing, efficient systems, and renewable energy on site.	We achieved between 25% - 90% reduction in pEUI compared to baseline for new construction and major renovation projects, and averaged a 72% reduction overall on a square-foot basis.
Gather research of embodied carbon, Global Warming Potential (GWP), and Ozone Depletion Potential (ODP) of standard building materials. Develop standard details that begin to lower assembly embodied carbon, GWP, and ODP.	We began evaluating select products for embodied carbon, GWP, and ozone depletion to guide product selection and have revised our standards for insulation, exterior wall framing, and some interior finish products.
Encourage use of products with Environmental Product Declarations (EPDs). Use tool such as SM Transparency Catalog.	We included products with EPDs in record documents for major projects and have leveraged our larger projects to obtain building material ingredient reporting and sourcing information on major building components.
As part of the 2030 commitment, begin inputting project data annually into the Design Data Exchange (DDx) for all major active projects. Perform quarterly upload of information on new projects to 2030 Challenge DDx and report at quarterly office-wide meetings.	We have implemented annual DDx reporting for all major projects and report our findings at quarterly meetings.
Coordinate with interested building owners to track actual energy performance through Energy Star Portfolio Manager.	We request energy use data from building owners to compare projected energy use with post-occupancy data. This helps ensure that owners are realizing the building's energy conservation potential and teaches us which design strategies are most effective.

2025 Goals: Starting Today

Calculate pEUI on all projects that involve building envelopes. Calculate Lighting Power Density (LPD) on all interior-only projects. Incorporate energy modeling throughout the design process to make informed design decisions that affect EUI and carbon.

Following 2030 targets, provide a path for owner to achieve 90% Reduction from Baseline on EUI.

Work with clients to eliminate use of Red List products from all projects, and specify products with EPDs and HPDs.

Calculate embodied carbon of whole building design on all new buildings and major renovations using life cycle analyis tools.

Gather EUI data post occupancy on all built projects and include this expectation in proposals and contracts.

Quantify and publish energy use for FFF company operations, including commuting and travel, as part of annual report to employees.

VERMONT AGRICULTURAL & ENVIRONMENTAL LAB

2030 Goals: Looking Ahead

Provide a path for owner to achieve 100% reduction from Baseline on EUI. This reflects the 2030 Commitment net zero energy goal.

Expand FFF services to assist clients in reducing their operational energy and carbon use in areas such as transportation, building maintenance, etc.

All projects are designed to provide a path to fossil-fuel-free operation. Reduce embodied carbon in our building 50% from baseline.

Publish energy performance on all designed projects as part of firm marketing materials.

Participate in energy policy and code development.

UVM STEM COMPLEX

Projects: The Work We Do

Our firm's goals for improving energy performance and moving towards net-zero are reinforced by the Vermont Commercial Building Energy Standards (Vermont CBES), one of the nation's most stringent energy efficiency codes. The code is based on the IECC, but goes well beyond the baseline requirements of the reference codes. The stated goal of the CBES is to adopt a net-zero-energy code by 2029. FFF actively participates in the code development process, providing comments supporting the net-zero goals and advocating for enhanced enforcement of the energy code. We also go beyond energy performance to design buildings that prioritize occupant health, community integration, and stand the test of time.

Our Clients Come First

It is our responsibility as architects to educate our clients on the benefits of sustainable design. We acknowledge and accept our role in leading clients to make informed decisions on their building's performance and embodied carbon as well as impacts on occupant health. We model these behaviors in our approach to projects, as well as in improvements to our own building.

POMERLEAU FAMILY YMCA

02 Projects: The Work We Do

BY THE NUMBERS | September 2025

17 completed LEED projects, 3 projects in progress

PLATINUM

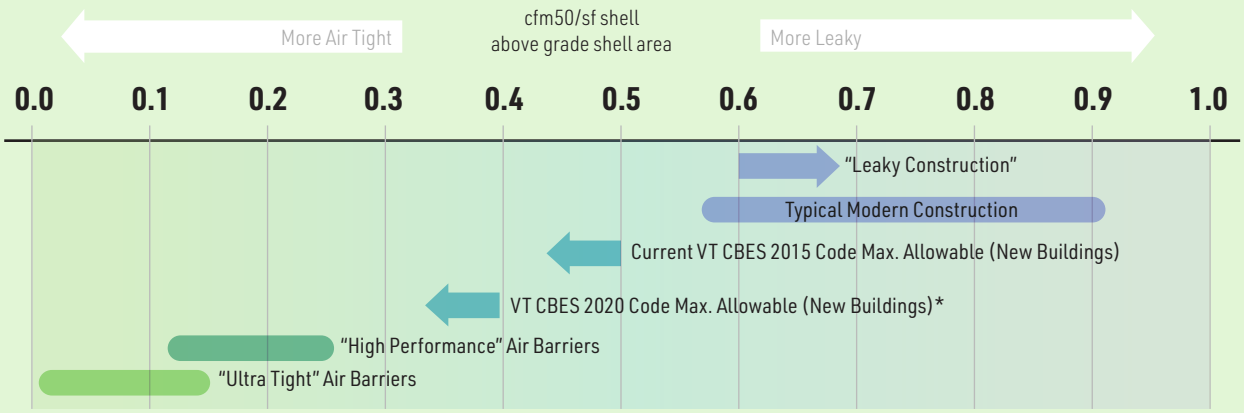
GOLD

SILVER

CERTIFIED

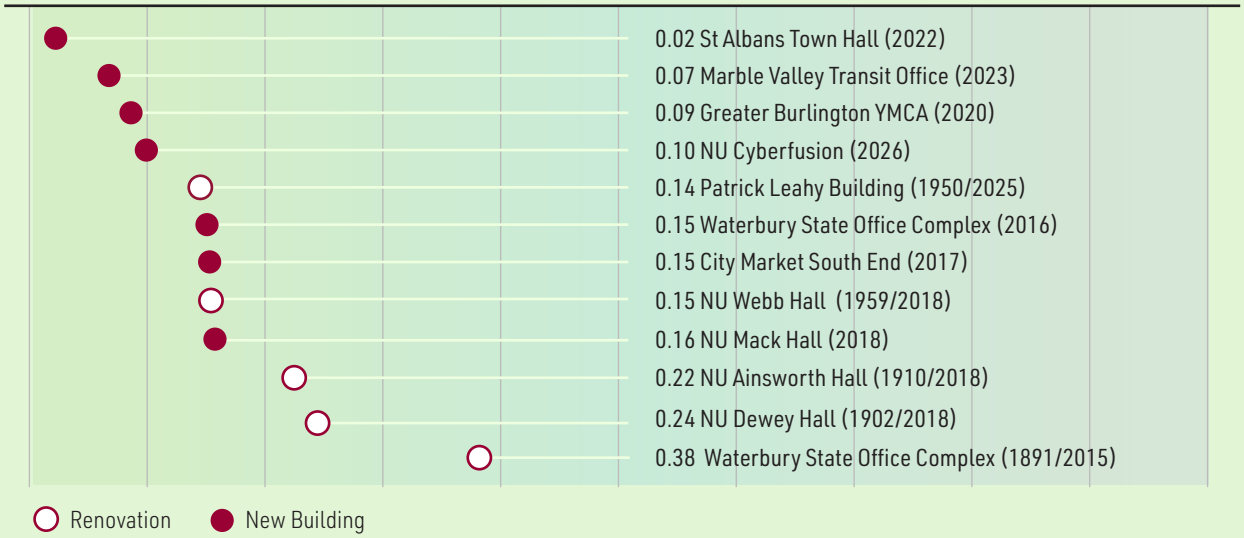

CITY MARKET

Blower Door Test Results on Recent Projects



*six-sided, cfm75 tests

RESULTS



02 Projects: The Work We Do

PROJECTED EUI ON RECENT MAJOR PROJECTS | September 2025

YEAR	PROJECT NAME	PROJECT TYPE	PEUI*	BASELINE**	REDUCTION %	LEED
2028	CityPlace Phase 2	Mixed Use Residential	48.0	109	56 %	Gold ▲
2026	Burlington High School	Education	26.2	92	72 %	Gold ▲
2025	Burlington Square	Mixed Use Residential	6.4	64	90 %	Gold ▲
2023	River Valley Residence	Inpatient Mental Health	43.0	83	48%	-
2023	St Albans Town Hall	Municipal Building	26.7	82	67%	-
2023	UVM Leahy Building	Renovation - University	71.2	83	15 %	-
2019	UVM STEM	University + Laboratory	187.8	444	58 %	Silver
2019	Norwich U. Mack Hall	University	57.5	166	67 %	-
2017	City Market South End	Supermarket	139.2	363	62 %	-
2017	UVM Rescue	Emergency Services	34.8	83	58 %	Silver
2017	Norwich U. Ainsworth	Renovation - University	37.6	166	77 %	-
2016	Norwich U. Dalrymple	Dormitory	93.3	166	44 %	Gold
2015	WSOC Central Plant	Utility Station	43.4	66	34 %	Gold
2015	WSOC Offices	Office (57% Historic)	39.1	120	67 %	Platinum
2013	EastRise Shelburne Rd.	Bank Branch	85.5	114	25 %	Silver
2013	Saint Michael's College	Dormitory	25.7	166	85 %	-
2012	Community Health Center	Urgent Care / Clinic	38.1	104	63 %	Certified

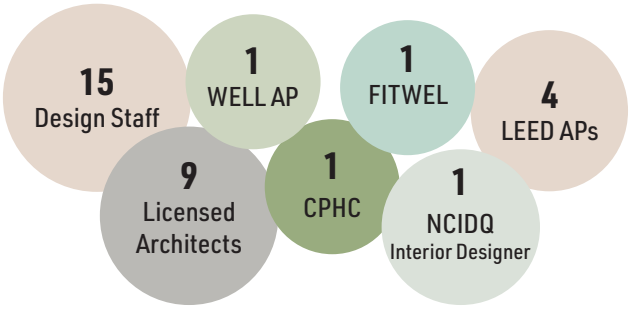
* from energy model, kBTU/sf
** baseline EUI taken from ZERO Tool by Project Type and Labs21
▲ anticipated

UVM RESCUE

For nearly nine decades, clients have turned to Freeman French Freeman to deliver innovative solutions to their most pressing problems. One area of expertise we are known for is the critical importance of building enclosure systems.

New England's challenging climate demands an effective interface between interior and exterior environments. A well designed building envelope reduces energy use, improves longevity of buildings, and creates a more comfortable and productive space for occupants. Our approach to design is collaborative and we regularly partner with building science experts to deliver a successful project.

BY THE NUMBERS | September 2025



LEED AP
Leadership in Energy and Environmental Design, Accredited Professional

CPHC
Certified Passive House Consultant

NCIDQ
National Council for Interior Design Qualification

WELL AP
WELL Building Standard Accredited Professional

FITWEL
Building Health Accredited Professional


SAINT MICHAEL'S COLLEGE

02 Projects: The Work We Do

Developed over nine decades of practice, our deep and enduring relationships with the local development community is one of our firm's core strengths. Working in true partnership with trusted colleagues allows us to find innovative ways to deliver durable, efficient, and sustainable buildings that also meet cost and schedule targets.

Planning & Pre-design

CURRENT PRACTICE

Advocate for an integrative process involving a broader design and construction team earlier in the process, when we have the best opportunity to optimize the balance between project cost, operational cost, and sustainability goals.

Educate clients on sustainability goals such as a tight envelope, right sized systems, LEED or other certifications, low operating energy use, etc.

For major and interested projects, we perform an "eco-charrette" with the full design team as early as possible in the design. This includes a representative from the applicable energy efficiency utility, and contractor and commissioning agents when possible.

GOAL

Establish an EUI target for all projects within the first month of project award.

Establish a path to targeted energy reduction or Net Zero for all projects within the first month of project award.

Expand eco-charrettes and energy modeling to all new construction and major renovation projects, and evaluate on-site renewables for all projects.

When considering renovating provide carbon savings/sequestration analysis.

Provide Life Cycle Costs on major building components.

Design

CURRENT PRACTICE

Provide envelope detailing in line with ultra tight construction. When feasible use resilient materials and assemblies in line with 50-year construction.

Advocate for including health & wellbeing requirements from the WELL Building Standard or FitWel into project goals.

Collaborate with Commissioning Agents and MEP engineers to establish efficiencies for major building systems (HVAC, Lighting, elevators) and, for major projects, integration of on-site renewable energy.

Educate our clients on the benefits of using LEED or other sustainability measurement devices.

Recommend products that are known to have a lower environmental impact and a less harmful to human health.

GOAL

Provide the owner with calculated on-site energy production required to achieve net-zero. Require Environmental Product Declarations (EPDs) and/or Health Product Declarations (HPDs) on submittals.

Work with utilities and organizations to maximize energy performance and incentives.

Buildings are designed to receive renewable energy.

Implement Red List-free specifications as applicable.

Broadcast sustainable design choices and aspects of the project to owners, maintenance teams and end-users.

Construction

CURRENT PRACTICE

Collaborate with the construction team, recognizing their expertise and the importance of working together for the success of the project.

Encourage the construction of mock-ups of exterior assemblies that cover as many building envelope details as possible. For larger projects, we use standalone mock-ups; for smaller projects we use "first instance" installations. We then test mock-ups for performance.

Using independent subcontractors, we perform envelope and systems commissioning on major projects.

Recommend products that are known to have a lower environmental impact and a less harmful to human health.

GOAL

Collaborate with owners and contractors on project delivery methods that optimize efficiency and facilitate sustainability goals.

Collaborate with our construction partners and owners to bring new and innovative technologies to buildings.

Work with owners and contractors to provide additional time in construction to facilitate in-depth reviews of built items for construction team and commissioning entities.

Perform independent commissioning of envelope and building systems on all projects.

Require an Operations and Maintenance (O+M) manual for envelope and enclosure systems.

Work with contractors to adjust details to maximize material use efficiency.

Post-Occupancy

CURRENT PRACTICE

Review facility performance on large projects with owners after one year of occupancy.

Check in with clients at 1-year post occupancy to ensure building systems are performing as planned.

Obtain actual EUI data for some projects after 12-18 months.

GOAL

Conduct post occupancy surveys to evaluate how spaces are used and materials are performing.

When future renewable energy infrastructure is planned revisit with owners to potentially implement.

Reconcile actual performance with energy models.

Obtain actual EUI data for new construction and major renovations after 18 months.

Obtain renewable energy generation data from on-site systems.

Office: How We Work

As in all professions, staying abreast of technological and standards innovation is critical in architecture. FFF has long believed in the value of staff education, and signing the 2030 Commitment strengthens our firm's focus on encouraging lifelong learning.

FFF was one of the first members of the Burlington 2030 District, and is committed to reducing our own operational footprint to align with the district's goals. Those include 50% reduction in energy use, 50% reduction in transportation footprint, and 50% reduction in water use by 2030. FFF's offices are located in downtown Burlington, Vermont in a historic home, circa 1864.

UVM STEM

03 Office: How We Work

Staff Education & Professional Development

CURRENT PRACTICE

Staff are encouraged to earn professional licensure and LEED credentials. Testing is reimbursed by FFF, and the firm pays for maintaining licenses and credentials. In turn we expect our employees to support the community through great projects and volunteer works.

FFF is a leader in volunteerism and community engagement among Vermont architectural firms.

Each employee has an annual stipend for professional learning. Individuals who attend conferences are encouraged to share what they learned with the firm.

GOALS

Seek out learning opportunities that focus on innovative products and construction methods that will assist us in designing net zero buildings.

Participate in a significant green building conference annually.

All design staff will hold at least one sustainable design accreditation (such as LEED AP, WELL AP, CPHC, etc.)

POMERLEAU FAMILY YMCA

WATERBURY STATE OFFICE COMPLEX

03 Office: How We Work

Office Operations

CURRENT PRACTICE

In the past 15 years we have added heating zones and setback thermostats, installed an energy recovery ventilation system, and upgraded to low flow plumbing fixtures. Since 2020 we have upgraded all lighting to LED and high efficiency fluorescents, added a high efficiency air source heat pump system to replace dated window A/Cs, used our high efficiency gas boiler for backup heat on only the coldest days, performed a blower door test to dramatically reduce air leakage, replaced all windows, added plants and air filters to improve indoor air quality, and installed an EV charging station.

We have also worked to cultivate a company culture that supports healthy life choices including a healthy work/life balance, physical activity and social activities.

We have a written policy against single use dinnerware that includes vendor lunch and learns. We only use environmentally friendly cleaning supplies and 100% post consumer paper products.

We prioritize waste prevention (reduce packaging, copying and printing, and promote recycling and composting).

GOALS

Cut transportation carbon emissions by incentivizing biking and walking. Encourage biking and running by providing employee shower access, whether through building upgrade or partner with local business to allow shared shower use.

Investigate incentives and financing to advance new energy conservation measures, such as additional EV charging stations and rooftop solar.

Establish a donation program for product samples with local educators to encourage upcycling and re-use of non-returnable materials.

04 Glossary

CBES Commercial Building Energy Standards is Vermont's energy code for new buildings and major renovations. The code defines minimum insulation values and provides performance targets, among other green building requirements.

DDx The Design Data Exchange is a component of the 2030 Commitment, providing an online database of projected EUI on projects. Minimum annual data upload recommended.

EPD Environmental Product Declarations are independently verified and registered documents communicating transparent and comparable information about the life-cycle and environmental impact of building products.

ERV An Energy Recovery Ventilator (ERV) is a ventilation system designed to exchange indoor and outdoor air while maintaining the building's energy balance. It works by removing heat (and sometimes) humidity from outgoing air and transferring it to the incoming fresh air.

ESPM Energy Star Portfolio Manager is a website that allows tracking and assessment of energy and water consumption across a building portfolio.

EUI Energy Use Intensity is the energy use per square foot of a building. It is calculated in kBTU/sf. Baselines differ for different building types. The 2030 Challenge uses EUI to measure energy reduction from baseline for buildings.

GWP Global Warming Potential refers to a product's total contribution to global warming resulting from emissions. Calculated relative to one unit of carbon dioxide, which is assigned a value of 1.

HPD Health Product Declarations are independently verified and registered documents communicating information about a building product's contents and environmental health hazards.

LCA Life Cycle Assessment is a technique for assessing the environmental impact of a building or product over its entire life cycle, including resource extraction, processing, construction, operation, and disposal.

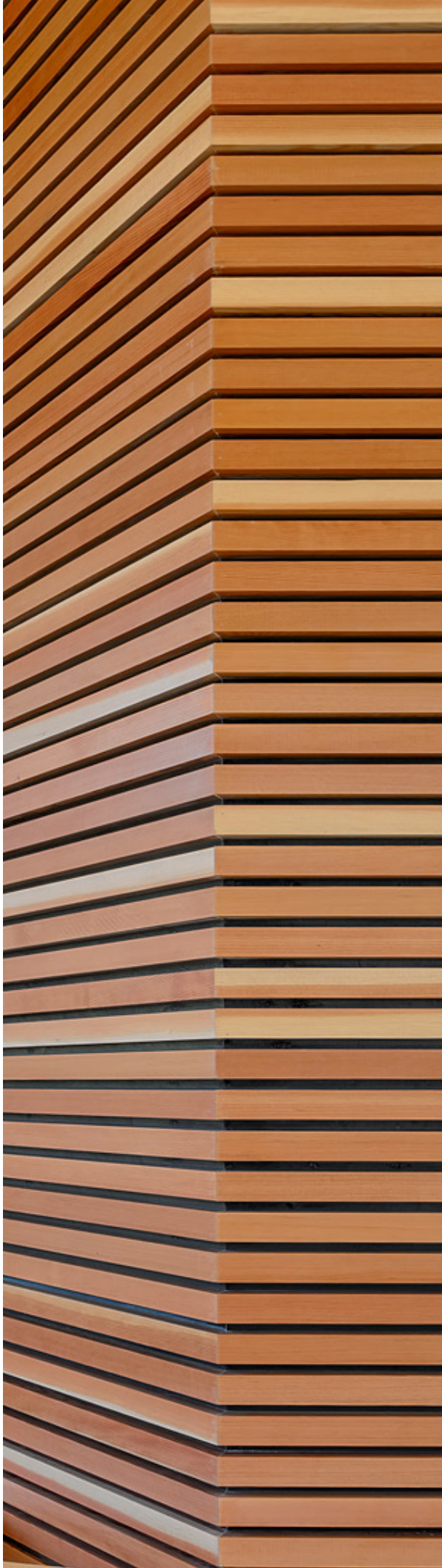
LPD Lighting Power Density is calculated in watts per square foot. The 2030 Challenge uses this measure for interiors-only projects to track energy improvement from baseline.

NZE Net Zero Energy refers to a building or project that produces as much renewable energy as it consumes on an annual basis.

ODP Ozone Depletion Potential is the relative amount of ozone layer loss due to the given chemical make-up of a material. Calculated relative to one unit of CFC-11, which is assigned a value of 1.

pEUI Predicted or Projected EUI refers to the anticipated energy consumption of a building based on energy modeling.

Red List The materials red list is a compilation of chemicals and materials that are designated as harmful-to-humans and living creatures. It is compiled by the International Living Future Institute, and represents materials that should be phased out of production.



Freeman French Freeman is committed to lowering the carbon footprint of every building we design.

We embrace innovation at every opportunity to meet evolving standards of energy efficiency.

We strive to go beyond net zero energy and into carbon neutrality with our building designs.

www.fffinc.com