2030 BY THE NUMBERS

The 2018 summary of
the AIA 2030 Commitment

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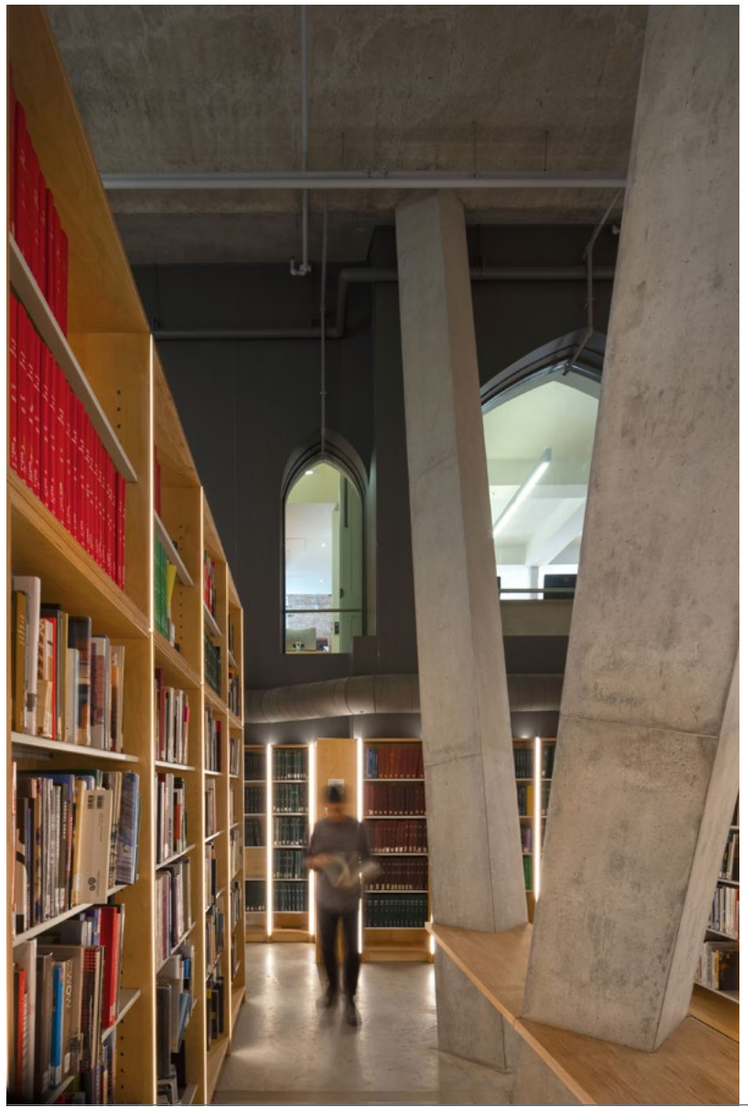
EXECUTIVE SUMMARY



The question of combating climate change through the built environment has long ceased to be one of "whether?" "why?" or "when?" Instead, the real question is "who?"

Architects, engineers, and owners all have critical roles to play in fighting climate change and the opportunity to become leaders in the movement. Every single one of us can—and should—align our work with efforts to fight climate change. This recognition of individual responsibility underpinned the passage of a resolution for "urgent and sustained climate action" by an overwhelming margin of voting members at the 2019 AIA Conference on Architecture.[1]

The 2030 Commitment, at its core, is a response to our climate crisis and a platform for architects, engineers, and owners—whether in small practices or international organizations—to demonstrate climate action through energy-efficient design. Signatories of the 2030 Commitment report annual progress against increasingly aggressive targets for energy reduction in projects, culminating in a goal of zero net carbon buildings by 2030.

For 2018 alone, 252 firms reported data to the 2030 Commitment's Design Data Exchange (DDx) on projects totaling nearly 3 billion square feet across 92 countries. These projects accounted for an overall predicted energy use (pEUI) reduction equivalent to avoiding 17.7 million metric tons of CO_2 emissions—and operating savings of more than $3.3 billion—relative to 2030 baseline-equivalent buildings.*

**See appendix for the method used to calculate these savings.*

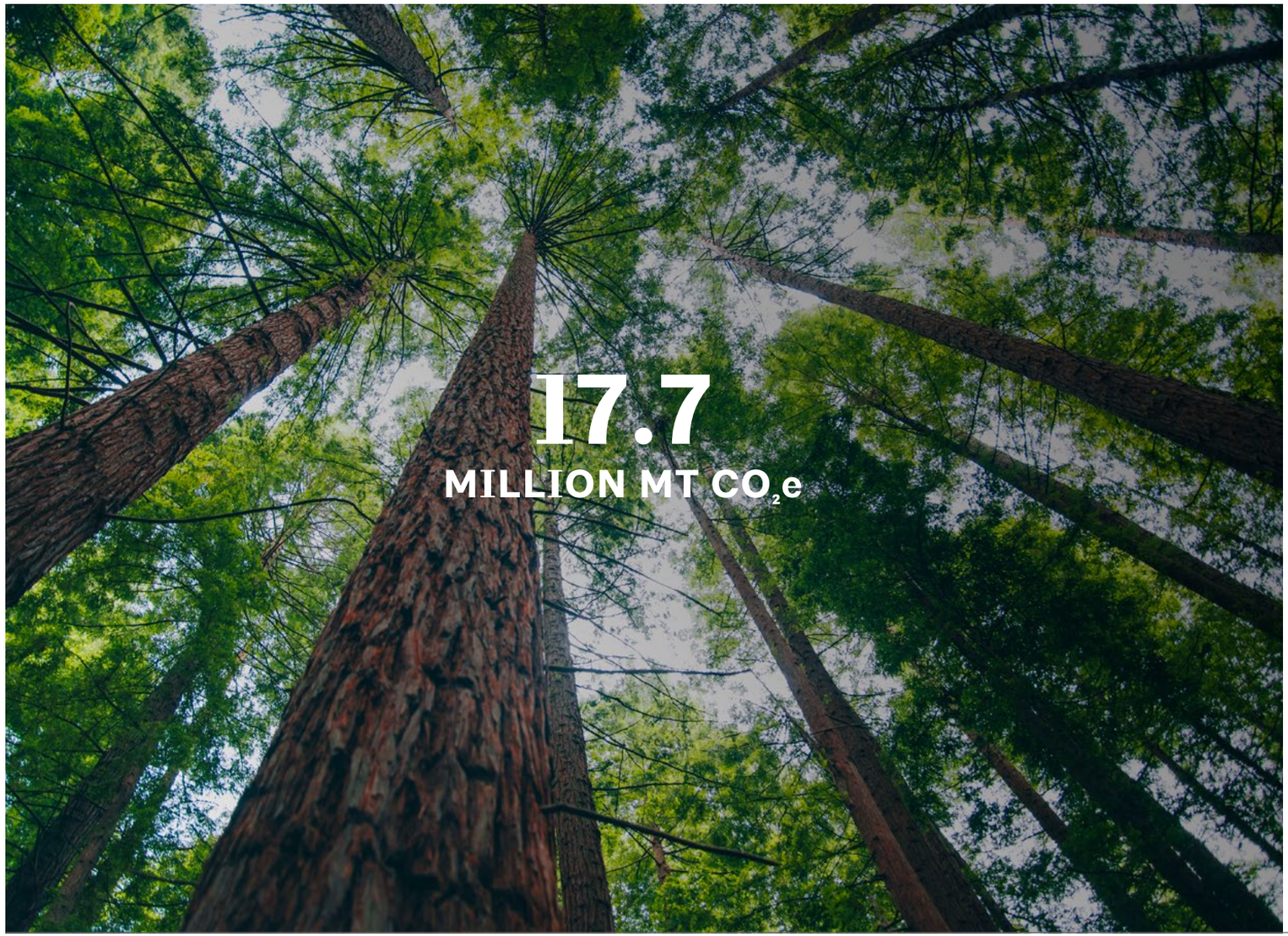
Nevertheless, it's clear that we must double down on efforts to meet our 2030 targets. This year's average weighted pEUI reduction—46%—is the best in 2030 history, but less than the current 70% target. To reach a zero net carbon future, we must vastly increase the number of 2030 signatories and the project's performance data by working together to:

- Increase incorporation of energy modeling especially during early design phases to set reduction targets and focus on incorporating passive design strategies. In 2018, modeled projects reported about 25% better pEUI reduction than non-modeled projects, but only about half of all reported projects were modeled—leaving untapped a powerful tool to drive design and improve performance.

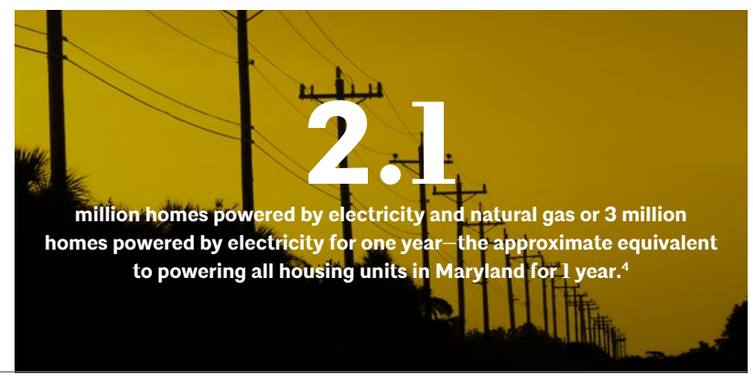
- Embrace both on- and off-site renewable energy in design. Innovative design and passive strategies alone cannot bring every project to zero net carbon emissions.

- Advocate for more stringent codes that continue to push the bottom up. For instance, universal adoption of the ZERO Code, championed by Architecture 2030 and AIA, could make zero net carbon buildings the norm.

- Encourage more signatories and collaborators to share their data. Reporting project data is the only way to show accountability and progress toward the 2030 goals. It also helps firm leaders better understand the performance and impact of their portfolios in the industry context and strengthens the case for zero net carbon solutions.



In 2018, 2030 Commitment projects accounted for an annual overall energy savings equivalent to avoiding 17.7 million MT CO_2e. Over a year, this equates to:



SECTION 1.

2030 SIGNATORIES ARE LEADERS

LEADERS / Reporting firms in 2018

THESE 16 FIRMS ACHIEVED A 70% OR GREATER pEUI SAVINGS ACROSS THEIR ENTIRE PORTFOLIO!

Arkin Tilt Architects

Bergmeyer Associates

COULSON

ehdd

Green Hammer

Kaplan Thompson Architects

Lehrer Architects LA, Inc.

LPA, Inc.

McLennan Design

Placetailor

Pyatok Architecture + Urban Design

Sam Rodell Architects AIA

TBDA

Vermont Integrated Architecture

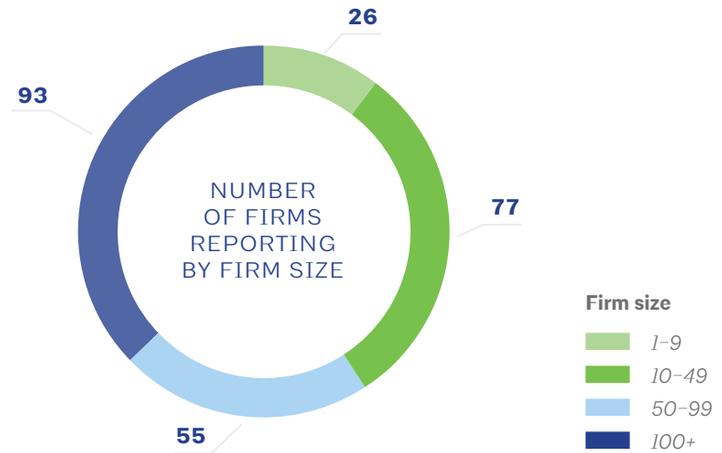
YGH Architecture

ZeroEnergy Design

In 2018, 252 signatories—45% of all 2030 signatories—reported nearly 3 billion square feet of project data. The data presents a striking picture of climate leadership globally, locally, and across the profession.

THESE FIRMS REPORTED PROJECT DATA IN 2018.

100 Fold Studio
5G Studio Collaborative
AC Martin
Adrian Smith + Gordon Gill Architecture
Albert Kahn Associates, Inc.
Alliiance
Ankrom Moisan Architects, Inc.
Ann Beha Architects
ARC/Architectural Resources Cambridge, Inc.
Archimania
Architectural Nexus, Inc.
Arkin Tilt Architects
Arrowstreet
Ashley McGraw Architects
Atelier Ten
Ayers Saint Gross
Ballinger
BAR Architects
Bassetti Architects
Bergmeyer Associates
Beyer Blinder Belle Architects & Planners, LLP
bKL Architecture LLC
BKV Group
Blair + Mui Dowd Architects, PC
BLT Architects
BNIM Architects
Bohlin Cywinski Jackson
Bora Architects
Boulder Associates, Inc.
Braun and Steidl Architects
Brininstool + Lynch, Ltd.
Brooks + Scarpa Architects, Inc.
Browning Day Mullins Dierdorf
Bruner/Cott & Associates
BuroHappold Engineering
BWBR
CallisonRTKL
CambridgeSeven
Cannon Design
Carleton Hart Architecture
CBT Architecture
Clark Nexsen
CO Architects
Coldham & Hartman Architects
COOKFOX Architects
Cooper Carry
Corgan
COULSON
CS&P
CTA Architects Engineers
Cuningham Group Architecture, Inc.
Dake Wells Architecture
Dattner Architects
David Baker Architects
Davis Partnership Architects
DBR Engineering Consultants, Inc.
Dekker/Perich/Sabatini
Design Collective, Inc.
designLAB architects
Dewberry



DIALOG
DIGSAU
DiMella Shaffer
DLR Group
DRAW Architecture + Urban Design
DS Architecture, LLC
DSK Architects + Planners
DWL Architects + Planners Inc.
Ehdd
Ehrlich Yanai Rhee Chaney Architects
Elkus Manfredi Architects
Ellenzweig
Elness Swenson Graham Architects, Inc.
ELS Architecture and Urban Design
emersion DESIGN

LEADERS / Reporting firms in 2018

Engberg Anderson Architects
English + Associates Architects, Inc.
Ennead Architects
Eskew+Dumez+Ripple
EwingCole
EYP
Farr Associates
Feldman Architecture
FFA Architecture and Interiors, Inc.
Finegold Alexander Architects
Flad Architects
Frederick + Frederick Architects
FXFOWLE
gbA Architecture & Planning
GBD Architects Incorporated
Gensler
GFF
GLHN Architects & Engineers, Inc.
Goody Clancy
Gould Evans
GREC
Green Hammer
Gresham, Smith and Partners
Grimm and Parker
GSBS Architects
Guidon Design
Hacker
Hahnfeld Hoffer Stanford
Hanbury Evans Wright Vlattas + Company
Handel Architects, LLP
Harley Ellis Devereaux
HarrisonKornberg Architects
Hartshorne Plunkard Architecture
Hastings Architecture Associates, LLC
HDR
Helix Architecture + Design
Hennebery Eddy Architects, Inc.
HGA Architects and Engineers
High Plains Architects
HKS
HMC Architects
HMFH Architects, Inc.
HOK Inc.
Holst Architecture
Hord Coplan Macht
Howeler + Yoon Architecture, LLP
ICON Architecture, Inc.
IKM Incorporated
In Balance Green Consulting
Jacobs Global Buildings Design
Jer Greene, AIA + CPHC
John Ronan Architects
Johnson Roberts Associates, Inc.
Jones Studio, Inc.
Jones Whitsett Architects
JSA, Inc.
Kaplan Thompson Architects
KieranTimberlake
Kipnis Architecture + Planning
Kirksey
KOO LLC
Krueck + Sexton Architects
Kuhn Riddle Architects
Lake|Flato Architects
Landon Bone Baker Architects (LBBA)
Leddy Maytum Stacy Architects
Leers Weinzapfel Associates
Legat Architects
Lehrer Architects LA, Inc.
LHB, Inc.
Little Divsersified Architectural Consulting
LMN Architects
Lord Aeck Sargent
LPA, Inc.
LSW Architects
Maclay Architects
Mahlum Architects
Marlene Imirzian & Associates Architects
Mazzetti
McGranahan Architects
McLennan Design
Miller Dyer Spears, Inc.
Mithun
MJMA
mode associates
Moody Nolan
Moseley Architects
MSR
NAC Architecture
NBBJ
Neumann Monson Architects
Olson Kundig
OPN Architects

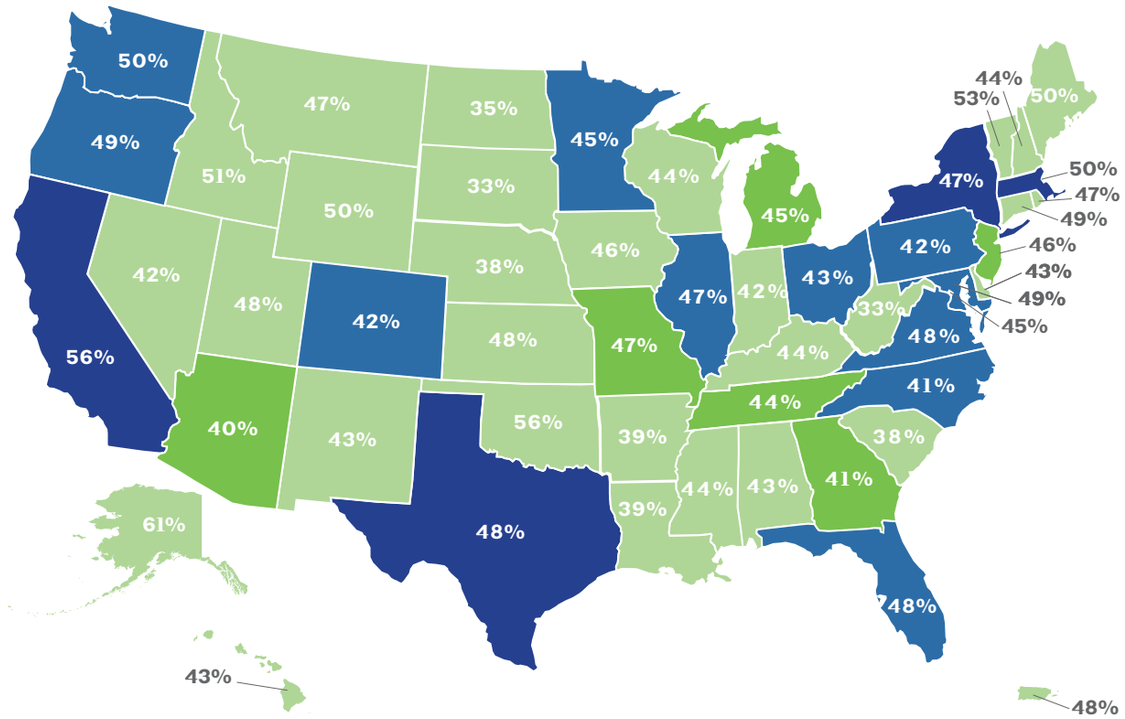
LEADERS / Reporting firms in 2018

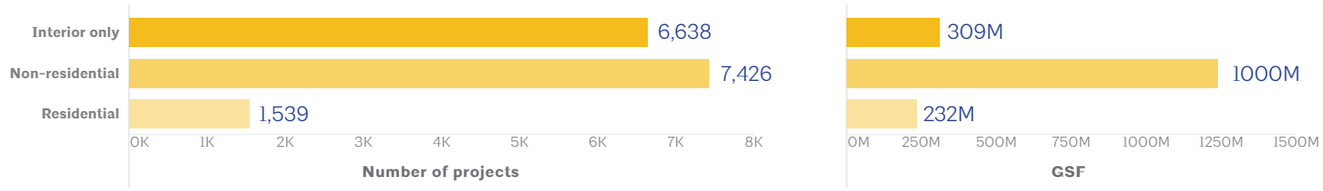
Opsis Architecture
Orcutt | Winslow
Otak, Inc.
Overland Partners Architects
Page
Pappageorge Haymes Partners
PATH Architecture
Paul Poirier + Associates Architects
Payette
Pei Cobb Freed & Partners Architects LLC
Pelli Clarke Pelli Architects
Perkins + Will
Perkins Eastman
Pickard Chilton
Placetailor
Precipitate, PLLC
Pyatok Architecture + Urban Design
Quattrocchi Kwok Architects
Quinn Evans Architects
Ratcliff
RATIO Architects
RB+B Architects, Inc.
richärd + bauer
RMW architecture & interiors
RNT Architects
Robert A.M. Stern Architects
Ross Barney Architects
RSP Architects
RVK Architects, Inc.
Sam Rodell Architects AIA
Sasaki Associates
Schadler Selnau Associates PC
SERA Architects
Serena Sturm Architects
Shepley Bulfinch
SHKS Architects
SHP Leading Design
siegel & strain architects
Smith Seckman Reid, Inc.
SmithGroupJJR
Smith-Miller + Hawkinson Architects
SMMA
Snow Kreilich Architects
Solomon Cordwell Buenz
SOM (Skidmore Owings & Merrill)
Speranza Architecture
SRG Partnership, Inc.
Stantec Architecture
Steinberg Architects
Sterner Design
Studio Ma
STUDIOS architecture
TBDA
The Beck Group
The Green Engineer, Inc.
The Miller Hull Partnership
The Sheward Partnership
The SLAM Collaborative
Thornton Thomasetti
TK-Architecture
TLC Engineering Solutions
TLCD Architecture
TreanorHL
Trivers Associates
Urban Design Perspectives
UrbanWorks, Ltd.
Utile
Valerio Dewalt Train Associates
Vanderweil Engineers
Vermont Integrated Architecture
VMDO Architects
WBRC Architects/Engineers
WDG Architecture
Weber Thompson
Wight & Company
William Rawn Associates
WLC Architects, Inc.
Wright Heerema Architects
WRNS Studio
WRT
Yost Grube Hall
ZeroEnergy Design
ZGF Architects LLP
Ziger/Snead

THESE FIRMS JOINED THE 2030 COMMITMENT IN 2018.

100 Fold Studio
Anmahian Winton Architects
Antunovich Associates
BBGM Architects & Interiors, Inc.
Behnisch Architekten
Ben Rosenblum Studio
bKL Architecture LLC
BKSK Architects
BKV Group
Blackney Hayes Architects
Brininstool + Lynch
CambridgeSeven
Carleton Hart Architecture
Corgan
Cowart Group PC
dbHMS
DBR Engineering Consultants, Inc.
DesignStudiosNUS
DMAC Architecture
Dominek Architecture, LLC
DS Architecture, LLC
Duda Paine Architects
Ellipsis Architecture
Encore Sustainable Design
EXP
Felix DeVito Architect
Fennick McCredie Architecture, Ltd.
Fergus Garber Young
FFKR Architects
FGP Atelier International LLC
gbA Architecture & Planning
GLHN Architects & Engineers, Inc.
GO Logic
Hart Howerton
HBRA Architects
HKS Architects
Howeler + Yoon Architecture, LLP
John Ronan Architects
Johnson Roberts Associates, Inc.
Jurassic Studio
KBZ Architects
KOO LLC
KSS Architects
Kuhn Riddle Architects
Lorcan O'Herlihy Architects
Machado and Silvetti Associates
McLennan Design
MEPCE, Inc.
MJMA
Native Son Design Studio
Odile Compagnon Architect
Optima, Inc.
Otak, Inc.
Oudens Ello Architecture, LLC
Pappageorge Haymes Partners
PATH Architecture
Pieri Architects
Placetailor
Prellwitz Chilinski Associates
Pyatok Architecture + Urban Design
RDG Planning & Design
Ross Architecture, Inc.
Semple Brown Design, PC
Sillman Wright Architects
Sté Yaba and Kumba Intl.
Stantec Architecture
Studio Dwell Architects
Studio Gang Architects
Studio Twenty Seven Architecture
STUDIO-E Architecture, PC
SWBR
THRIVE Collaborative
TLCD Architecture
Utile
Walker Architects
Walter Street Architecture
Weston C. Burrer, Architect
Wheeler Kearns Architects
Wright Heerema Architects

LEADERS / pEUI by state





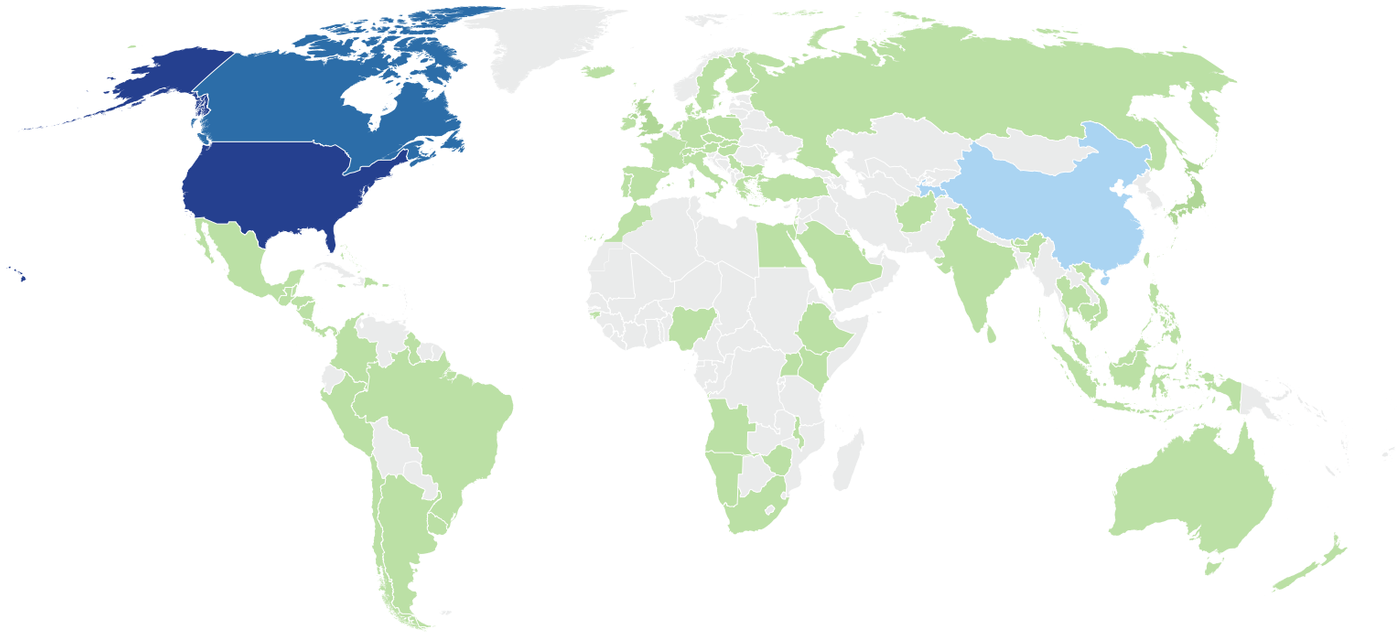
2030 SIGNATORIES ARE LEADERS IN COMBATING CLIMATE CHANGE THROUGH THE BUILT ENVIRONMENT

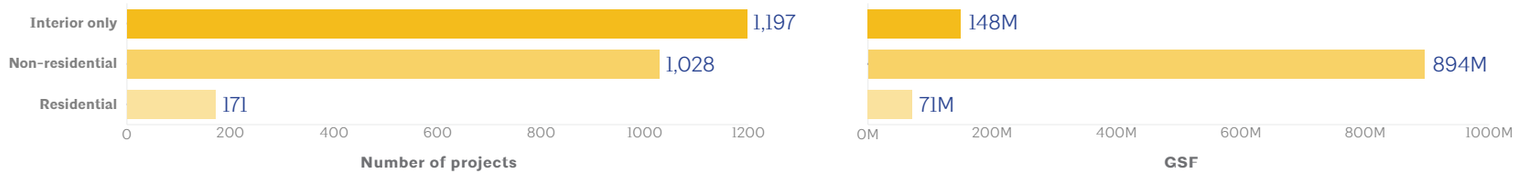
In the US alone, they reported 1.7 billion square feet—a total of 15,603 projects—touching every US state, the District of Columbia, and Puerto Rico. California leads the nation in total number of projects and reporting pEUI savings.

Number of projects

- *1–99*
- *100–199*
- *200–499*
- *500+*

The data shown on the map excludes interior only projects and shows only whole building projects (residential and non-residential).





A GLOBAL FOOTPRINT

Signatories also reported 2,396 projects outside of the US, totaling 1.1 billion square feet, or 35% of total GSF, across 92 countries.

Number of projects

- *1–249*
- *250–499*
- *500–749*
- *750+*
- *N/A*

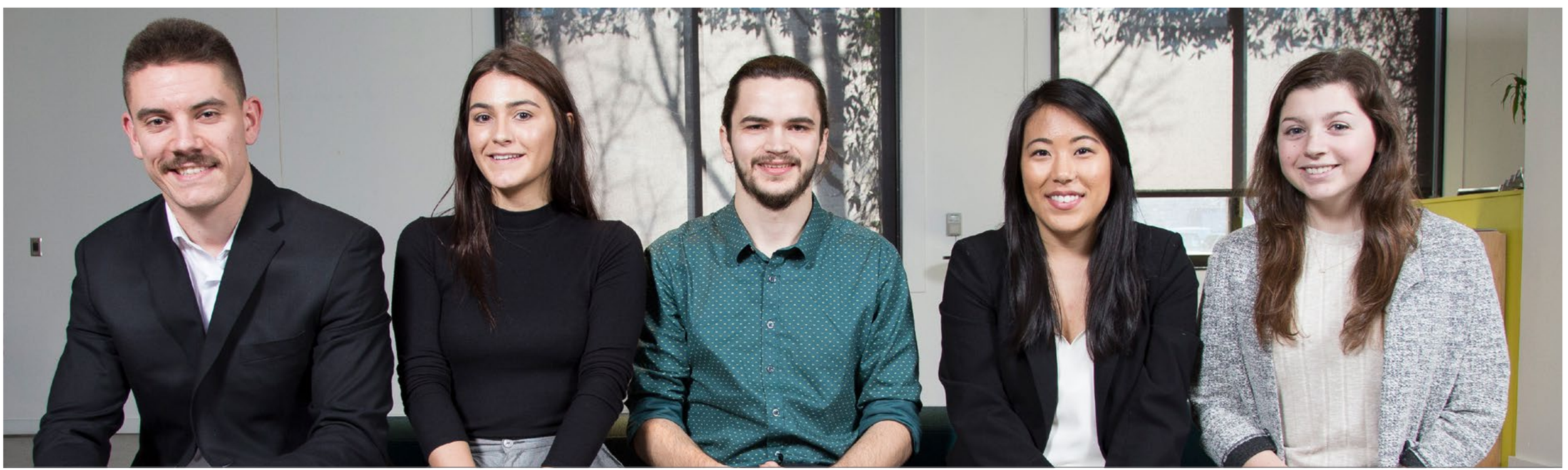
The US is only added to the map for reference and not included in the bar graphs.

“My local 2030 ‘huddle’ is a form of authentic support from others at signatory firms striving to design to reach the 2030 Commitment targets. It reminds me that we are all committed together to respond to climate urgency.”

Gwen Fuertes, AIA, LEED AP BD+C
LMSA

From Boston and New York, to Pittsburgh and Chicago, to Seattle and San Francisco, 2030 signatories are working to mobilize collaboration on a regional and local scale. These groups—whether informal peer-to-peer support networks or more formal AIA committees—are building a culture that promotes energy and emissions savings in design. In 2018, these groups worked to push zoning incentives for energy-efficient buildings, advocate for code improvements, support renewable energy, and participate in pilot programs.

Utilities and state-based energy organizations also recognize the value of 2030. In 2018, Energy Trust of Oregon piloted an internship program to assist five Oregon-based firms in reporting projects and hitting energy targets. As a result of the program, for these five firms the weighted average EUI reduction improved from 41% in 2017 to 43% in 2018 and the number of reported projects more than tripled.



AIA ARCHITECTURE FIRM AWARD RECIPIENTS AND SIGNATORIES

Payette – 2019

Snow Kreilich Architects – 2018

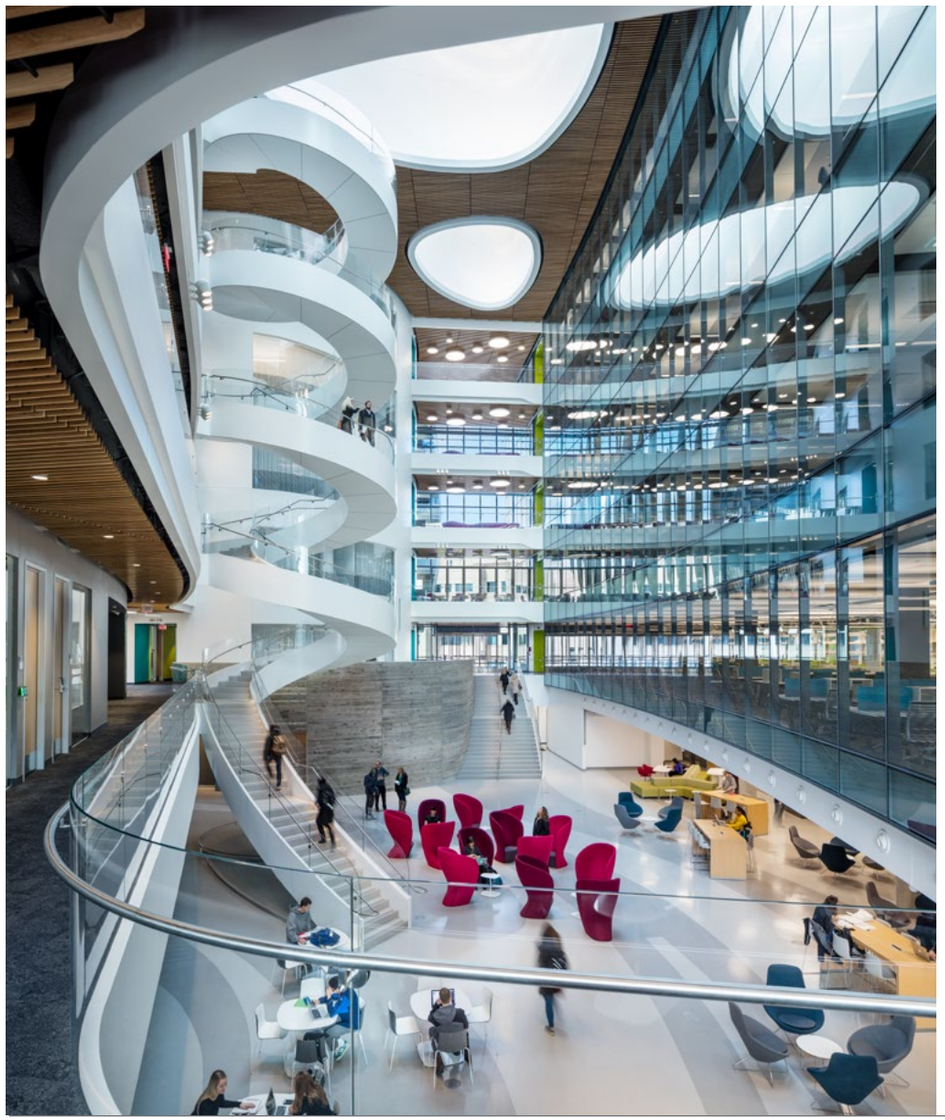
Leddy Maytum Stacy Architects – 2017

LMN Architects – 2016

Ehrlich Architects – 2015

Eskew+Dumez+Ripple – 2014

2030 signatories are proving that high-level technical performance is compatible with award-winning design. In 2018, more than 70% of AIA award-winning projects were designed by one or more 2030 signatory firms. Since the inception of the COTE® Top Ten Awards in 1997, every firm to receive the award has also been a 2030 signatory. For the sixth consecutive year, the AIA Architecture Firm Award recipient was a 2030 signatory.



PAYETTE

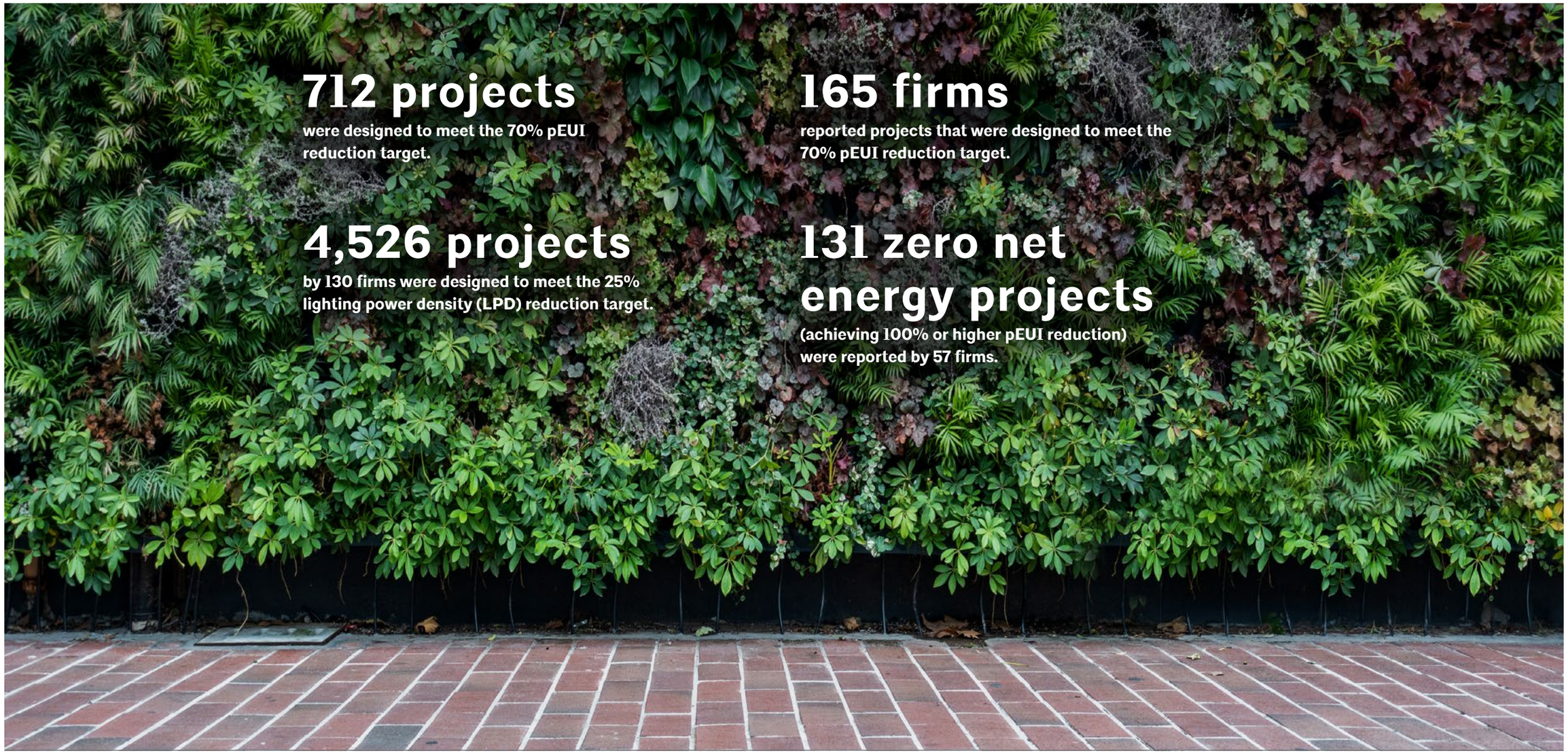
As AIA's 2019 Architecture Firm Award recipient, Boston-based Payette has earned a reputation for its innovative, complex design work focused on academic science and health care facilities—building types known for high energy demands. The firm has long worked to integrate performance with design, which made joining the 2030 Commitment in 2011 an easy choice—and one that has helped the firm further embed sustainable design throughout its practice.

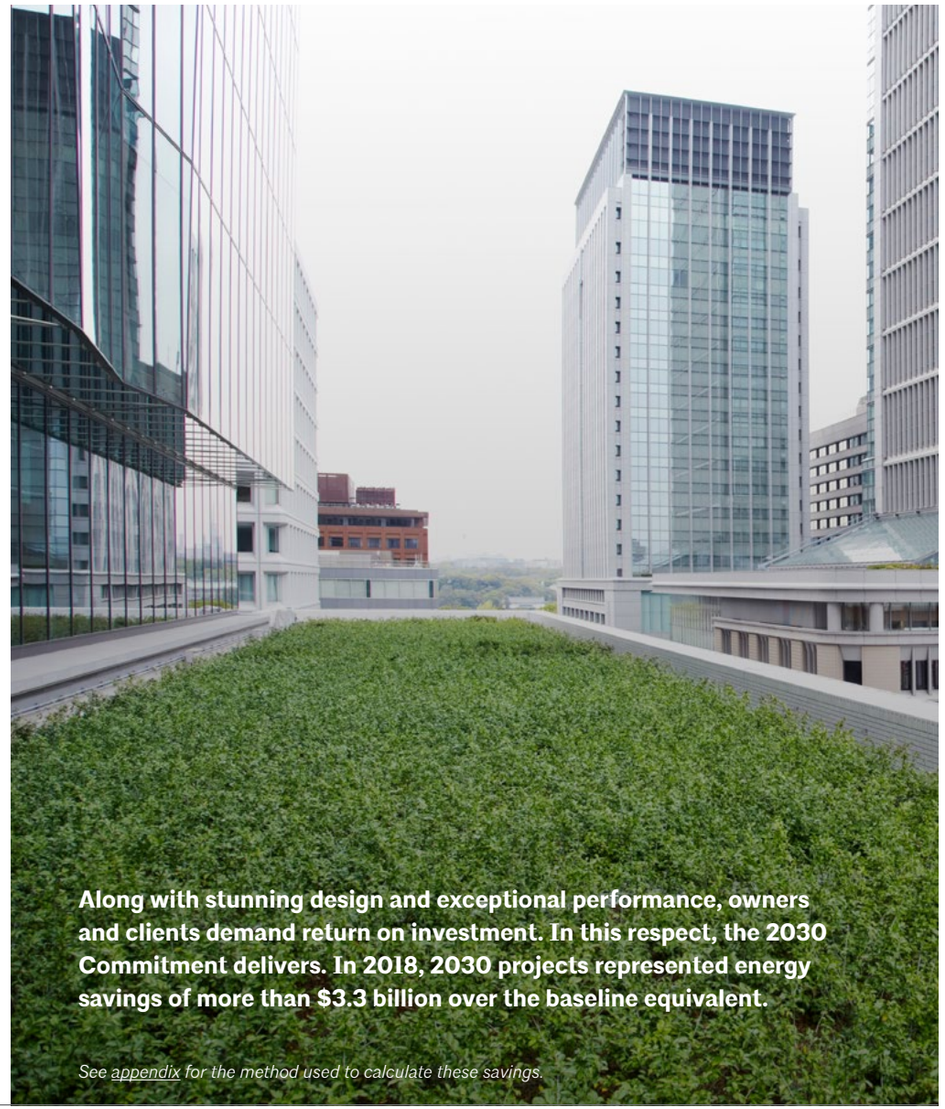
"It's not just a few exemplar projects," explains Andrea Love, AIA, principal and director of building science. "Everyone understands that we as a firm have made the commitment, and so in every project, they now have a responsibility to try to meet that target. It also helps us build energy literacy across the board and makes energy use a key part of how we talk about projects both internally and to clients."

Payette has also shared the firm's experience in operationalizing the 2030 Commitment with area peers via the Boston 2030 discussion group and mentoring. "We'll all be better if we're all participating in the 2030 Commitment," says Love. "It's a healthy sense of competition that pushes us to design high-performing, beautiful buildings and move toward the 2030 targets."

SECTION 2.

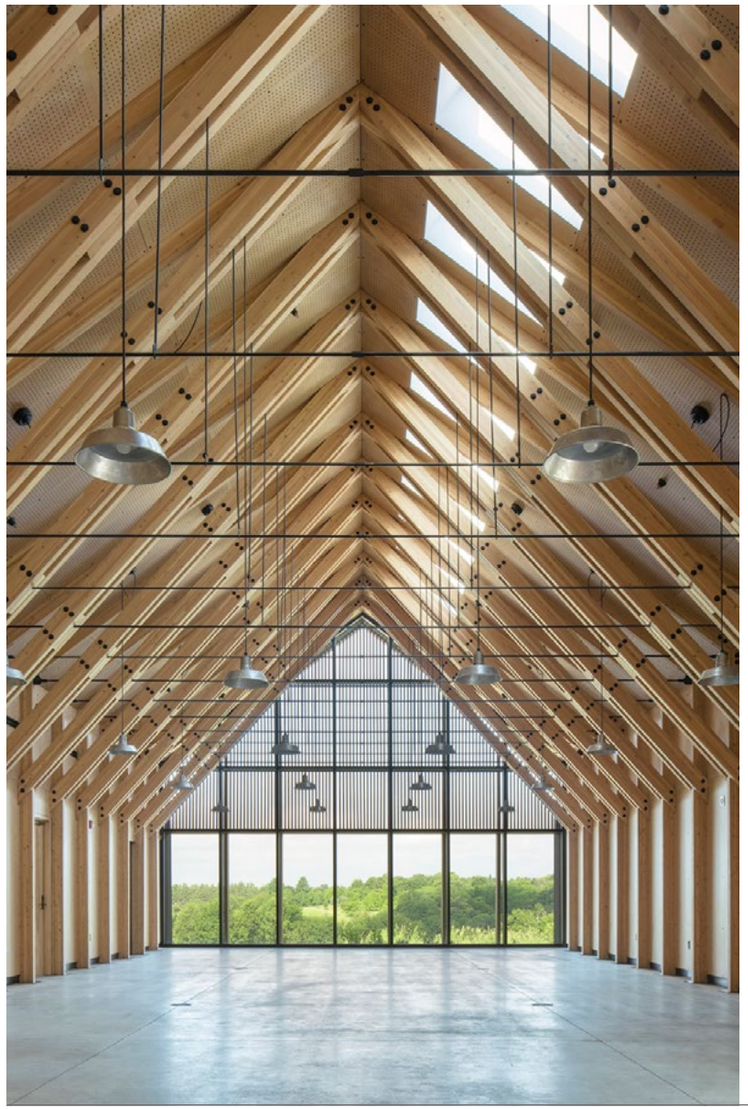
PRACTICAL SOLUTIONS, TODAY


712 projects
were designed to meet the 70% pEUI reduction target.
165 firms
reported projects that were designed to meet the 70% pEUI reduction target.
4,526 projects
by 130 firms were designed to meet the 25% lighting power density (LPD) reduction target.
131 zero net energy projects
(achieving 100% or higher pEUI reduction) were reported by 57 firms.



Along with stunning design and exceptional performance, owners and clients demand return on investment. In this respect, the 2030 Commitment delivers. In 2018, 2030 projects represented energy savings of more than $3.3 billion over the baseline equivalent.

See appendix for the method used to calculate these savings.



COMMERCIAL SAVINGS

A typical 100,000-square-foot commercial office building in New York City designed to perform 70% better than the 2030 baseline would yield the following annual savings:

~2,154 MWh
less energy

~$199,600
in projected energy cost savings

~520
metric tons CO_2e reduction

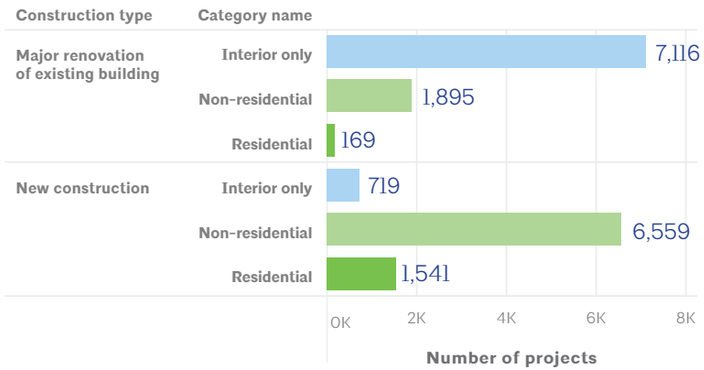
RESIDENTIAL SAVINGS

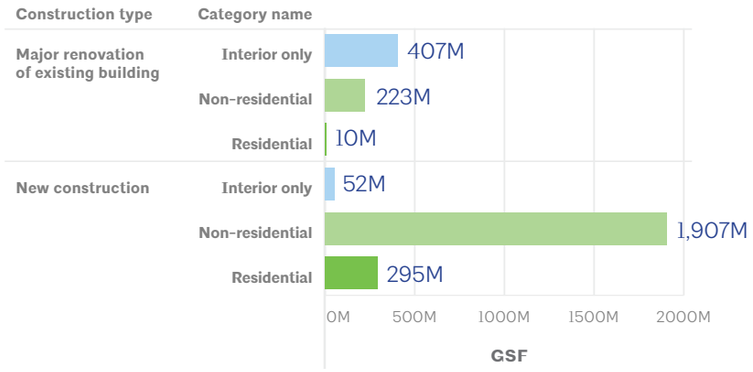
Meanwhile, a typical 2,500-square-foot single-family home in Mobile, Alabama, designed to perform 70% better than the 2030 baseline would yield the following annual savings:

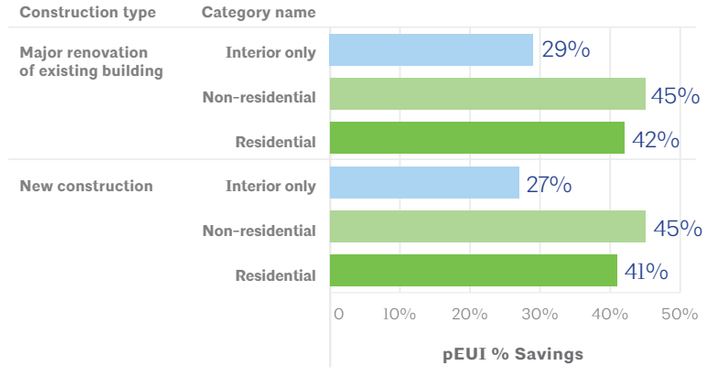
~22.6 MWh
less energy

~$2,050
in projected energy cost savings

~9
metric tons of CO_2e reduction



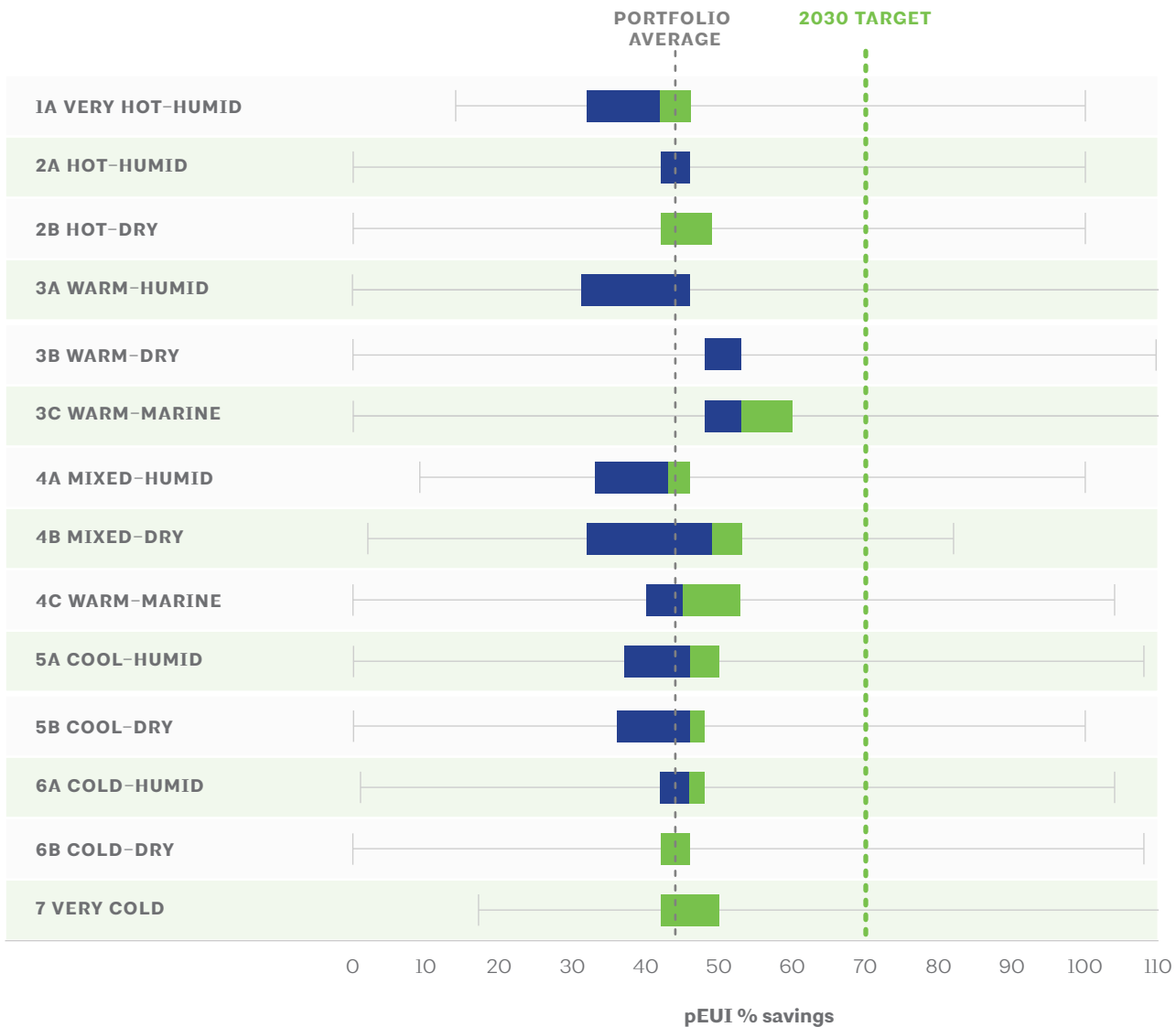




MAJOR RENOVATIONS OF NON-RESIDENTIAL BUILDINGS PERFORM SIMILARLY TO NEW CONTRIBUTIONS IN TERMS OF ENERGY EFFICIENCY

Recognizing the importance of improving our existing building stock, the 2030 Commitment began tracking major renovations of existing buildings in 2018. The results are compelling: At 45% pEUI, major renovations of nonresidential building perform similarly to new contributions in terms of energy efficiency.

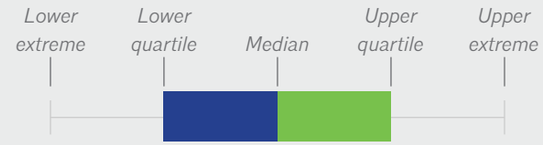
Existing buildings represent a considerable opportunity to minimize the effects of the built environment on climate change by reducing carbon emissions for building material manufacture, transportation, and construction.

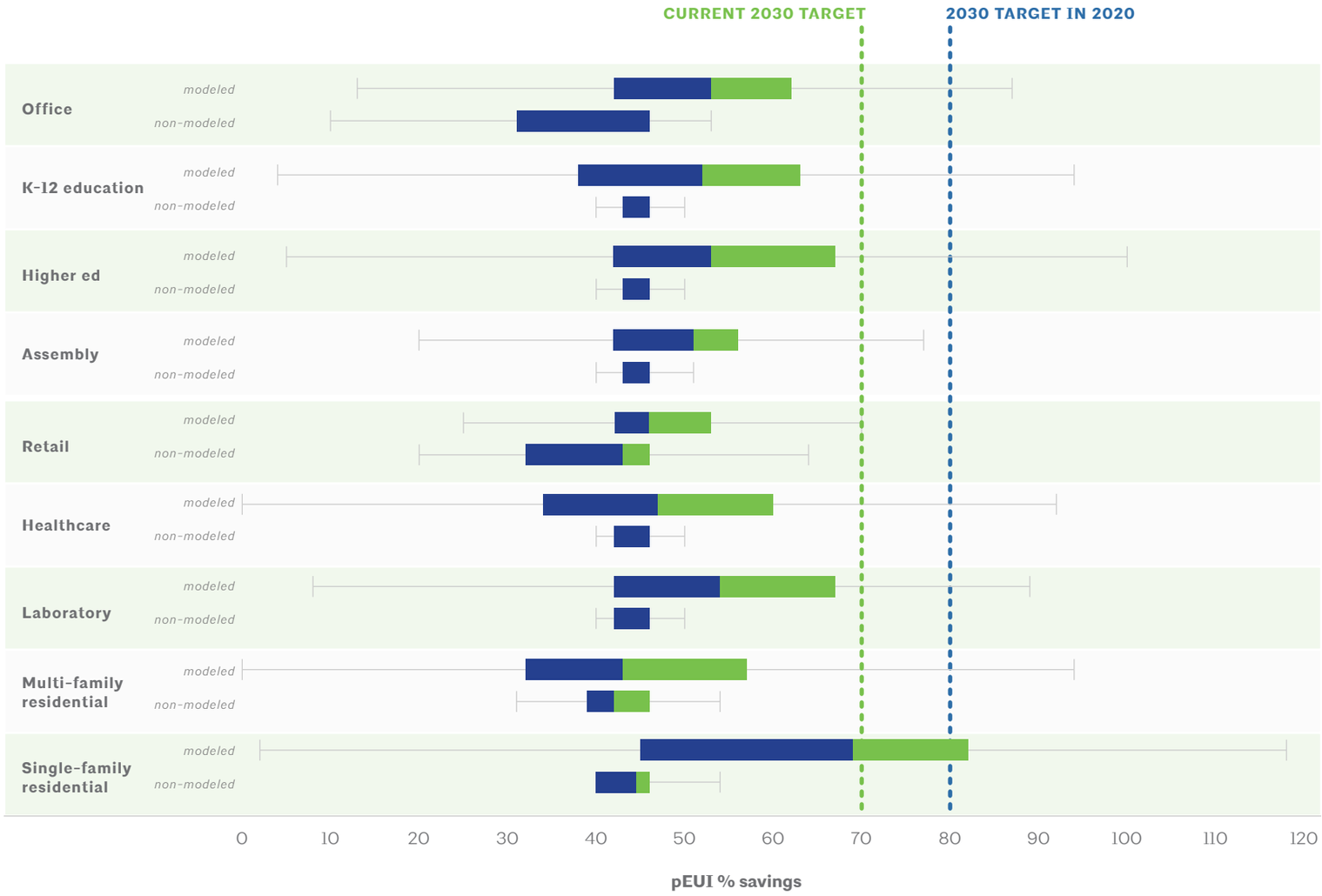


2030 TARGETS ARE ACHIEVABLE IN ALL ZONES

While every climate zone presents its own challenges to designers and architects, 2030 projects show that meeting and exceeding performance standards is possible.

Key

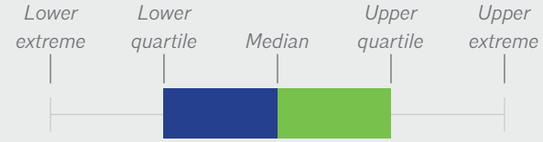


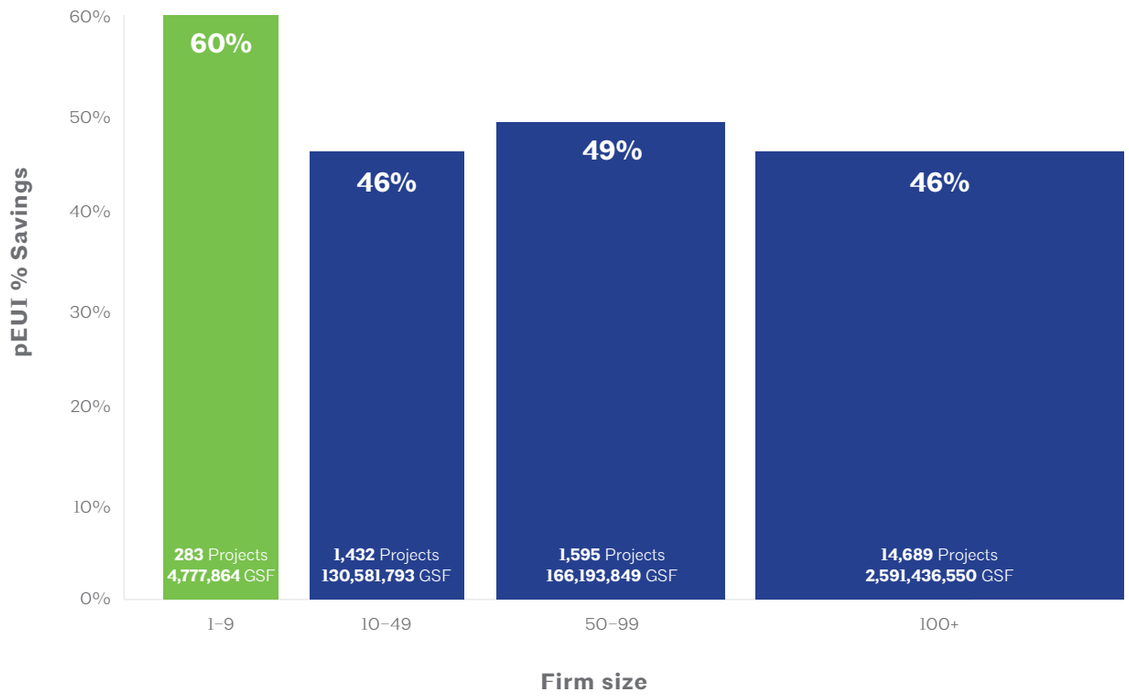


ALL USE TYPES CAN MEET THE CURRENT 2030 TARGETS, BUT ONLY WITH ENERGY MODELING

The 2018 data shows that most use types will be able to meet the more challenging 2020 target: 80% pEUI reduction. Energy modeling will become even more important as the targets become more challenging in 2020, 2025, and 2030.

Key





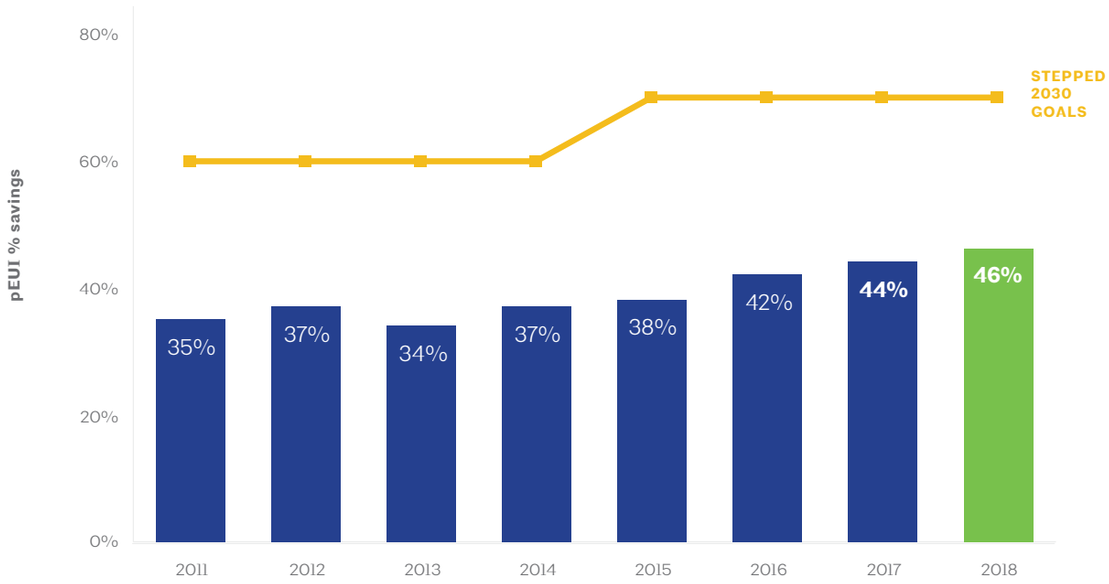
SMALL FIRMS AVERAGE 60% pEUI REDUCTION

While large firms contributed 90% of total GSF included in this year's analysis, the 2030 Commitment is relevant for firms of all sizes. In 2018, 80% of the firms meeting the 70% pEUI target have fewer than 50 people, and firms with fewer than 10 people have the highest average percent pEUI reduction, a whopping 60%!

SECTION 3.

URGENCY IS INCREASING FASTER THAN THE MARKET IS RESPONDING

The United Nations has projected that urban areas will add 2.5 billion people by 2050, moving from 55% of the world's population today to 68%.[6] The fight against climate change will play out in our cities and their buildings as we double the current global building stock—making zero net carbon new construction an imperative, not an option.

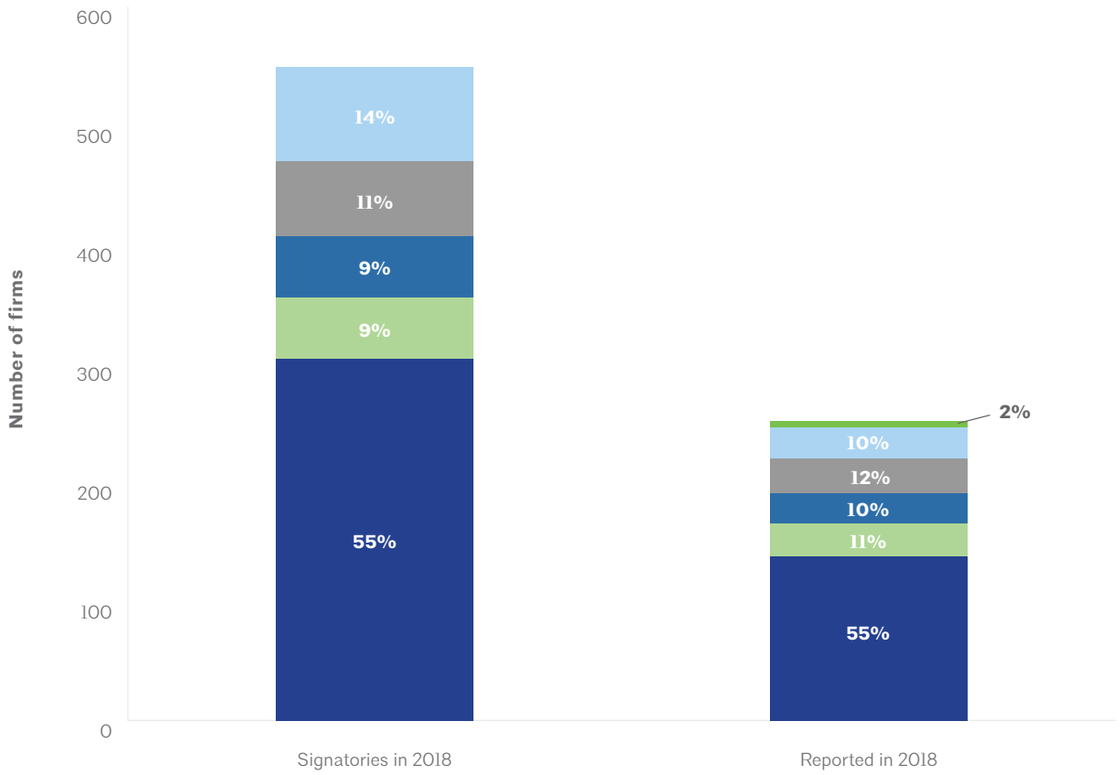


OUR PROGRESS IS NOT KEEPING PACE WITH THE GROWING URGENCY AND IMPACTS OF CLIMATE CHANGE

In 2006, Architecture 2030 set an ambitious roadmap to achieve carbon neutrality in new buildings by 2030 with incremental targets increasing every five years.

Although the average pEUI increased to 46% this year (the highest ever) from 44 in the prior year, this rate of improvement is unlikely to achieve 100% zero net carbon design by 2030 without exponential change. Along with continued incorporation of proven energy-efficient design strategies, we will also need to increase our use of energy modeling and incorporate on- and off-site renewable energy to reach these targets.

URGENCY / Percent of signatories who report

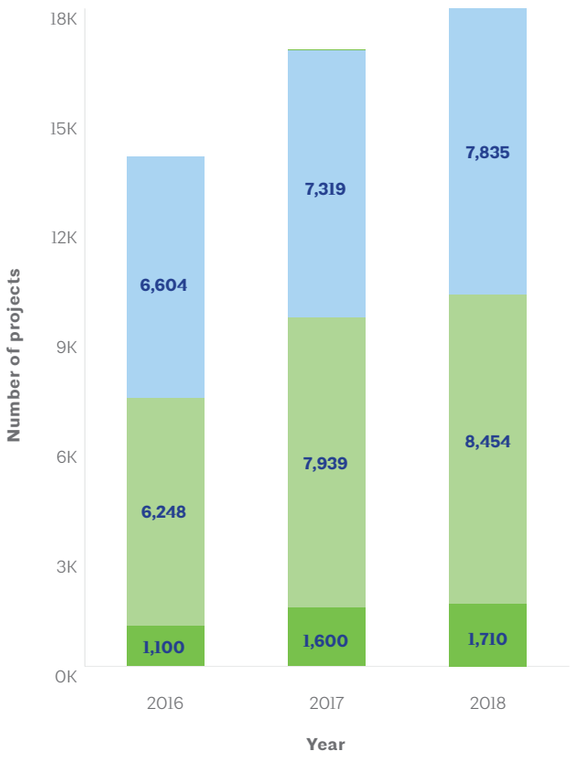


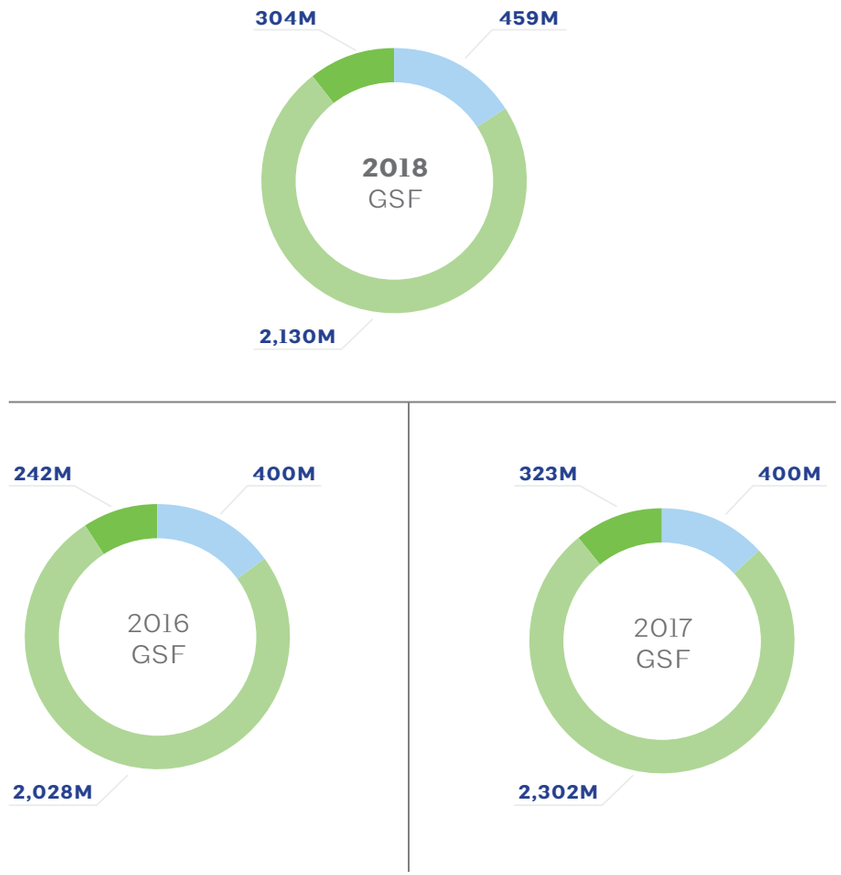
FEWER THAN HALF OF ALL SIGNATORIES ARE REPORTING, WHERE DOES YOUR FIRM STAND?

Seventy-nine new firms joined the 2030 Commitment in 2018, bringing the total number of active signatories to 549. Of those, 252 submitted portfolios in 2018 compared to 212 in 2017, an 18% increase. On average, 45% of signatories that joined in a given year are reporting, regardless of when they joined the 2030 Commitment. Encouragingly, six firms that joined the commitment in early 2019 were able to report before the 2018 reporting deadline.

Year joined

- *2019*
- *2018*
- *2017*
- *2016*
- *2015*
- *Before 2015*





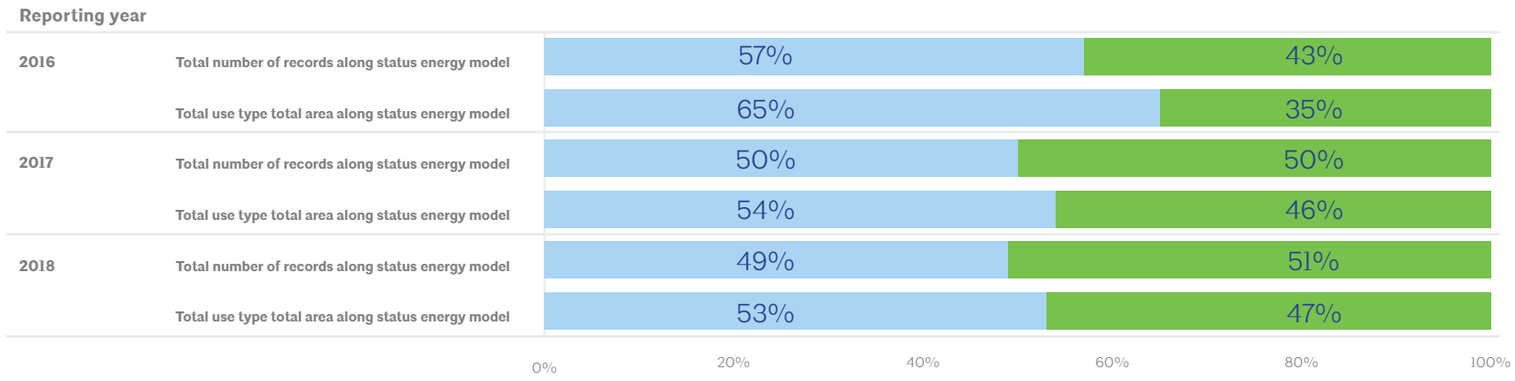
GSF DROPS 4%

For the first time, reported GSF shrunk compared to the previous year, dipping 4% to just under 3 billion GSF. At the same time, the total number of projects increased to 17,999—7% higher than 2017.

Key

- *Interior only*
- *Non-residential*
- *Residential*

URGENCY / Percent of modeled projects



MODELED PROJECTS ARE FLAT AT AROUND 50%

In 2018, on average, modeled projects have an approximately 25% higher pEUI reduction than non-modeled projects. Yet, the percentage of projects being modeled has not significantly changed since 2017, hovering around 50% for both the number of projects and the percentage of total GSF. This represents a significant missed opportunity.

Key

Non-modeled

Modeled

SECTION 4.

DRIVING EXPONENTIAL CHANGE

FOUR STRATEGIES FOR ACCELERATING PROGRESS

Clearly, more aggressive measures are needed to reach both our intermediate and ultimate goals in facing the demands of climate change, meeting the needs of clients, and maintaining the relevancy of practice—all while evolving and innovating through design. Moving forward, four areas of focus can help drive exponential change: universal incorporation of energy modeling tools for optimizing design efficiency, greater use of renewable energy, stronger building codes, and increased data sharing by signatories and partners.

Harnessing the potential of energy modeling

Energy modeling tools "improve both the quality and performance of architectural design" as "an essential mechanism to achieve the holistic design architects are expected to deliver," according to the Architect's Guide to Building Performance.[7] Based on 2030 data, significantly increasing the share of modeled projects must occur in order to meet established carbon targets. Not only does modeling allow firms to advise clients about annual expected energy use, it is the only way to quantify the impact of design decisions on energy use and costs.

Integrating renewable energy

Bridging the gap to zero net carbon will require architects to become well-versed in both on-site and off-site renewable energy options—enabling them to incorporate on-site renewables into projects and advise clients on off-site renewable procurement options. Currently, signatories have the option to track the use of on-site photovoltaic and other renewable energy sources in the DDx.

Understanding the power of codes

The potential of an energy code to influence building performance and combat climate change is immense. As part of the 2030 Commitment reporting process, all projects must enter a design code. Modeled projects then default to the pEUI calculated by energy models, while unmodeled projects default to the "code-equivalent" percent pEUI reductions established by the New Buildings Institute and Pacific Northwest National Laboratory.[8,9] The good news is that many codes are continuing to evolve to yield better building performance.[10]

For example, the calculated pEUI reduction for ASHRAE 90.1-2007 is 31%, whereas the calculated pEUI reduction for ASHRAE 90.1-2016 is 50%. If all 381 unmodeled projects designed to ASHRAE 90.1 2007 in 2018 were instead designed to ASHRAE 90.1 2016, the average pEUI reduction for all 2018 projects would increase from 46 to 48% pEUI reduction—a 4.3% increase in pEUI.

This clearly demonstrates the need for increasing stringency in adopted codes, such as the ZERO Code[11] supported by Architecture 2030 and AIA. The ZERO Code not only raises the bar by requiring the energy efficiency requirements of the latest national model code, but also requires all new buildings to generate or procure renewable energy to reach zero net carbon goals. The AIA Code Network[12] can guide efforts to advocate for improved codes.

Sharing data and knowledge

For firms that have not yet joined the 2030 Commitment—or those that have joined but are not yet reporting project data—there are a host of reasons to take the next step. Joining the commitment signals to employees, clients, collaborators, and peers that your firm understands the power of sustainable design in combatting climate change.

Reporting project data is the only way to show accountability and progress toward the 2030 goals. The robust, easy-to-use, online DDx integrates with Autodesk, Sefaira, and other energy simulation programs to make reporting streamlined, simple, and accessible for firms of all sizes, especially small firms.

By quantifying building energy performance for projects using common metrics, the DDx allows firms of all sizes to measure how their approach to building efficiency is resulting in higher-performing projects individually and collectively. As firm leaders better understand the performance and impact of their portfolios, the case is strengthened for design decisions that improve energy performance and carbon reduction. Encouraging engineers and consultants—and even owners—to track their own design portfolios in the DDx brings more valuable data into the fold and helps grow the 2030 movement.

RB+B ARCHITECTS, INC.

For RB+B Architects, a small firm in Fort Collins, Colorado, focused on K-12 projects, sustainability means designing well-detailed buildings that will endure for generations to come. Whether their clients are inherently interested in environmental impacts or are more motivated by long-term operating costs, RB+B makes the case that pushing toward zero net carbon achieves both goals.

"Our message is, we can give you a high-performing school that will save operating dollars," says Matt Arabasz, AIA, principal. Tracking performance data through the 2030 Commitment can aid in that discussion. "We can compare to similar buildings from the same time frames, showing annual savings of hundreds of thousands of dollars—which can be translated into a teacher's salary or some other need."

"The 2030 Commitment holds us more accountable and gives us a certain baseline to operate from," says Brianne Smith, AIA, senior associate. "It's one thing to say you're going to do something and another to be part of a larger community across the country working toward a bigger picture. It also gives us a pathway to talk to clients about energy, whether from the economic or environmental side."

SECTION 5.

FORWARD, TOGETHER

The consequences of climate change are alarming, but they are by no means inevitable. As professionals continue to coalesce around shared values and common goals, the opportunities for meeting the challenge expand. To capitalize on such opportunities, members at the 2019 conference overwhelmingly passed a resolution for "urgent and sustained climate action".

THE TIME TO START IS NOW

No matter where you are right now, the enormity of the challenge demands we all commit to taking the next steps forward—together.

Not yet a signatory?

- Join the 2030 Commitment.
- Prioritize working with firms that are signatories.
- Become involved with codes advocacy.

Already a signatory?

- Recommit or continue reporting your project data.
- Start adding on-site renewable energy to your projects, and advise your clients about off-site renewable energy procurement options to reach zero net carbon.
- Connect with other practitioners through local groups or the online 2030 Peer-to-Peer Network.
- Make use of resources such as AIAU's AIA+2030 Online Series (the first course is free for 2030 signatories), energy modeling tools and guidance, and the DDx to better understand how to make progress toward 2030 goals.

Projected CO'e emissions reduction calculation

1) The project use type was used to determine the percentage of electricity and natural gas for each project in the US and Canada.[13]

2) For US and Canadian projects, the eGrid subregion was determined based on the project ZIP code.[14]

3) The eGrid subregion was used to define the CO_2e emissions factors for electricity and natural gas, which were multiplied by the fuel source energy savings.[15]

4) For international projects, the country name was used to determine the CO_2e emissions factor, which was multiplied by the energy savings.

Design energy projected cost savings calculation

1) The project use type was used to determine the percentage of electricity and natural gas for each project in the US and Canada.[16]

2) For simplicity, all project energy savings for international projects were considered electricity savings.

3) For interior projects in all locations, all project energy savings were considered electricity savings.

4) Projected energy savings for whole building and interior-only projects were totaled.

5) The electricity and natural gas design energy savings for all projects were multiplied by the US average commercial rate for electricity[17] and natural gas.[18]

CO_2e and carbon sequestration equivalencies (such as acres of trees sequestered) were calculated using the EPA Greenhouse Gas Equivalencies Calculator.[19]

RESOURCES & REFERENCES

Resources

The 2030 Commitment

Healthier Materials Protocol

COTE® Top Ten Awards

Architect's Guide to Building Performance

Modular and Off-Site Construction Guide

Renovate, retrofit, and reuse

Conducting Vulnerability Assessments

Deep Energy Retrofits: An Emerging Opportunity

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ACKNOWLEDGMENTS

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Project: Amherst College Science Center
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76% Predicted reduction from national average EUI for building type.

Page 2
Project: Daniels Building at One Spadina Cresent
Architect: NADAAA with Adamson Associates and ERA Architects
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Page 4
Project: Oregon Zoo Education Center
Architect: Opsis Architecture
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107% Predicted reduction from national average EUI for building type.

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Project: Lakeside Senior Apartments
Architect: David Baker Architects
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70.5% Predicted reduction from national average EUI for building type.

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Project: Tashjian Bee and Pollinator Discovery Center
Architect: MSR Design
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71% Predicted reduction from national average EUI for building type.

Page 23
Project: North Transfer Station
Architect: Mahlum Architects
Photographer: Benjamin Benschneider
68% Predicted reduction from national average EUI for building type.

Page 29
Project: Tashjian Bee and Pollinator Discovery Center
Architect: MSR Design
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71% Predicted reduction from national average EUI for building type.

Page 32
Project: Interdisciplinary Science and Engineering Complex
Architect: Payette
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78% Predicted reduction from national average EUI for building type.

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