AIA Albuquerque A177

The 2030 Commitment: What is it? & The Benefits to Joining 7,23,20MW2030

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Credit(s) earned on completion of this course will be reported to AIA CES for AIA members. Certificates of Completion for both AIA members and non-AIA members are available upon request.

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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.



The mission of the AIA's 2030 Commitment is to support the 2030 Challenge and transform the practice of architecture in a way that is holistic, firm-wide, project based and data-driven. By prioritizing energy performance, participating firms can more easily work toward carbon neutral buildings, developments and major renovations by 2030. This course will provide an overview of the program. Two New Mexico firms will give first-hand reports of why they joined the 2030 Commitment, what they've learned, benefits to their firms and discuss any difficulties with submitting project data into the Design Data Exchange (DDx). Along the way, we'll demystify myths about the program and describe the benefits to any size firm in becoming part of the 2030 Commitment.

Learning objectives

- Explain the 2030 Commitment and the importance of energy-efficient design in meeting global climate challenges. Describe the benefits of a holistic, data-driven approach to improving your portfolio performance.
- 2. Learn how to use the 2030 DDx for current and future projects and how to submit data to the Design Data Exchange (DDx).
- 3. Explain how an energy efficient design process differs from traditional design. Current means and methods of increasing energy performance. What tools and processes during design and construction can be implemented to reach the 2030 goals?
- 4. Explain the importance of energy analysis and assessment throughout the design process. Explain how firms can establish a culture that supports achieving 2030 Commitment targets.

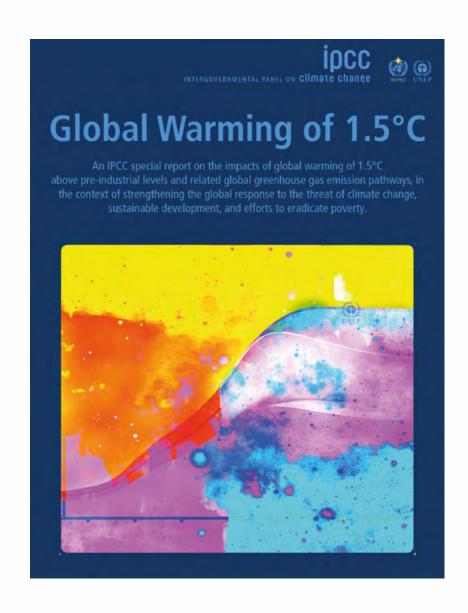
AIA 2030 COMMITMENT

- 1. CLIMATE CHANGE AND THE ROLE OF THE ARCHITECT
- 2. 2030 SIGNATORIES AND THEIR IMPACT
- 3. MAKING THE COMMITMENT
- 4. 2030 COMMITMENT IN PRACTICE
- 5. GETTING TO ZERO WITH THE DESIGN DATA EXCHANGE (DDx)

Climate change

and the role of the architect

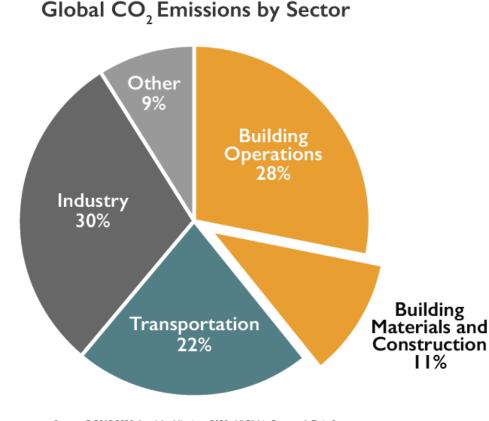
In 2018, The United Nations'
Intergovernmental Panel on Climate
Change reported the need to limit global
temperature change to 1.5 degree
Celsius, requiring "rapid and farreaching" improvements to reach net
zero by 2050.



Building operations are responsible for about 30% of greenhouse gas (GHG) emissions globally.

In some cities, building operations account for more than 70% of GHG emissions.

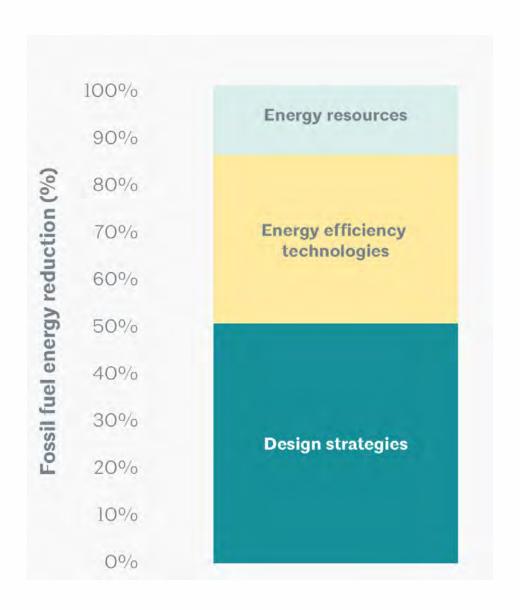
Embodied carbon emissions from (core and shell) materials and construction are estimated to be another 11% of GHG emissions globally.



Source: © 2018 2030, Inc. / Architecture 2030. All Rights Reserved. Data Sources: UN Environment Global Status Report 2017; EIA International Energy Outlook 2017

Design strategies have the greatest impact on building energy use.

Architects have the greatest impact on design strategies early in the design process.



The consequences of climate change are alarming, but they are not inevitable.

As professionals continue to coalesce around shared values and common goals, the opportunities for meeting the challenge expand. In 2019, AIA members overwhelmingly passed a resolution for "urgent and sustained climate action."

The time to start is now!

2006 Architecture 2030 publishes the 2030 Challenge

2019

2009 AlA establishes the AlA 2030 Commitment

AIA Resolution on Climate Change passed at the AIA's 2019 National Convention.

Until zero-net carbon practice is the accepted standard of its members, the AIA will prioritize and support urgent climate action as a health, safety, and welfare issue, to exponentially accelerate the "decarbonization" of buildings, the building sector, and the built environment.

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.





Of the 113 million existing buildings in the US, about half will need a retrofit over the next decade.

Each of the 20,000 architecture firms in the US could perform 250+ building retrofits annually and there would still be work to be done.

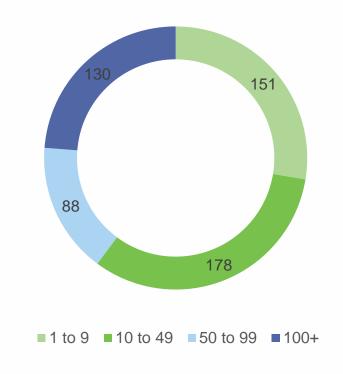
< Interior restoration at St. Patrick's Cathedral, a 2019 COTE® Top Ten recipient.

ARCHITECT Murphy Burnham & Buttrick Architects PHOTO © Whitney Cox

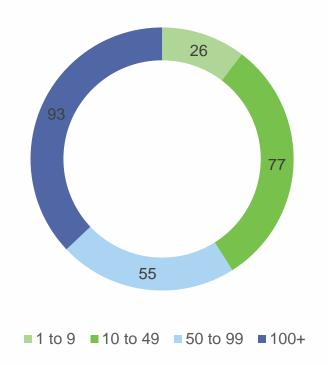
2030 Signatories

and their impact

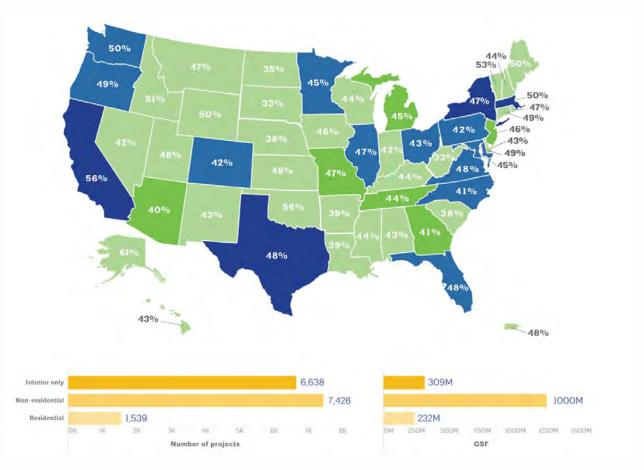
Count of active firms who joined before 2019, by size

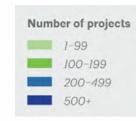


Count of firms who reported 2018 project data, by size



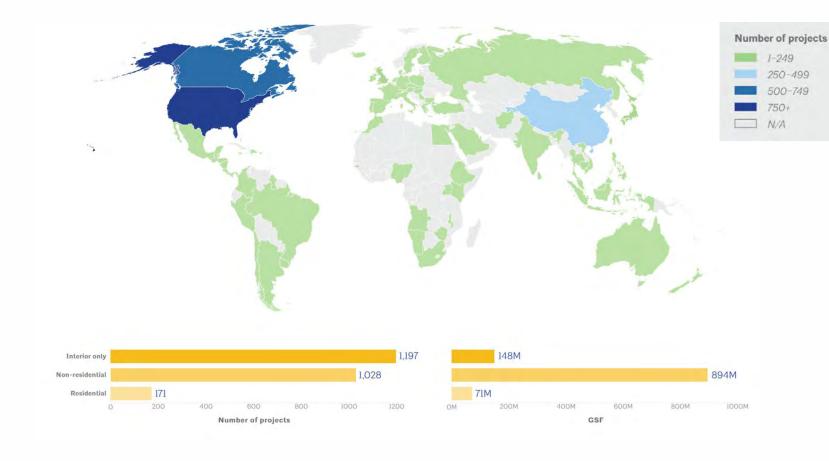
In 2018, 2030 signatories reported 15,603 projects—totaling 1.7 billion sq ft—from every US state, the District of Columbia, and Puerto Rico.





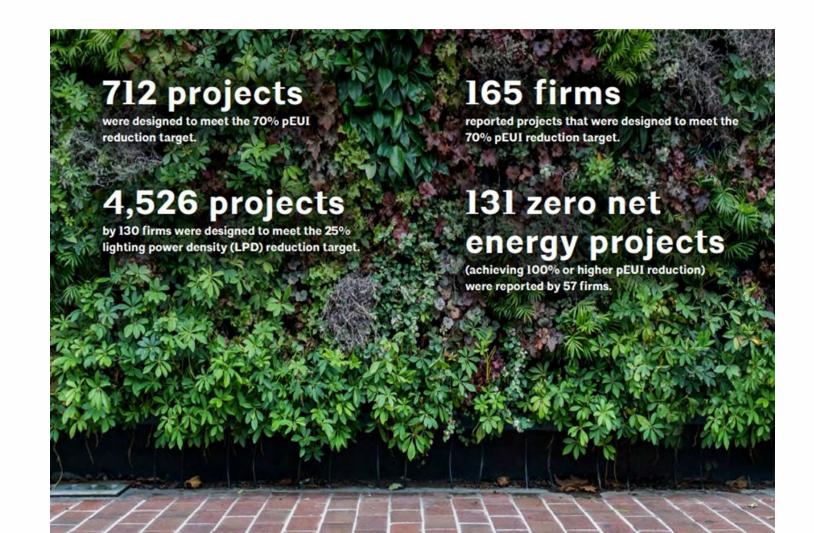
The impact of the 2030 Commitment extends beyond the US.

In 2018, 2,296 projects totaling more than 1.1 billion sq ft were reported outside the US.



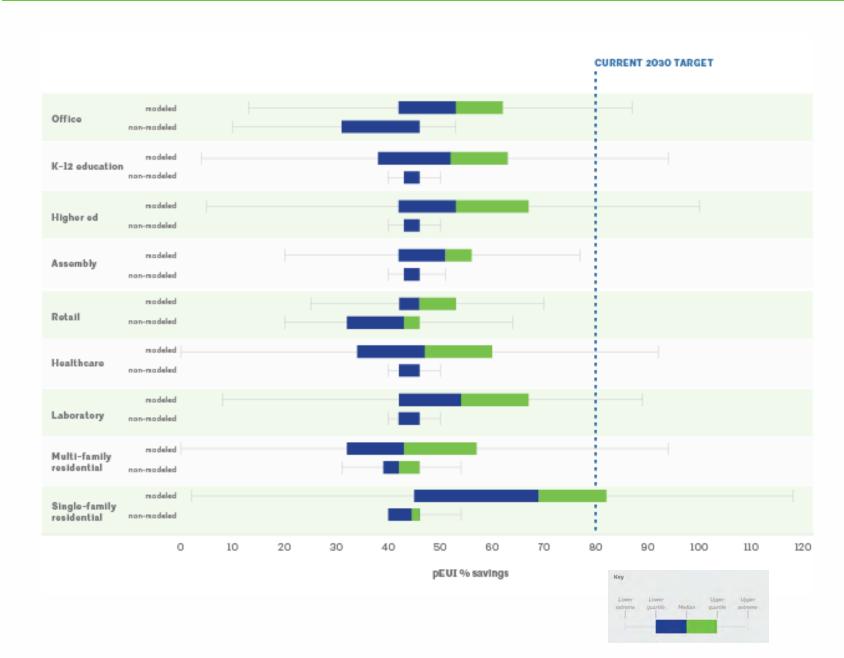
In 2018, 2030
Commitment projects
predicted an annual
overall energy savings
equivalent to avoiding
17.7 million MT CO2e.

That's the same as removing 3.7 million cars from the road for one year.

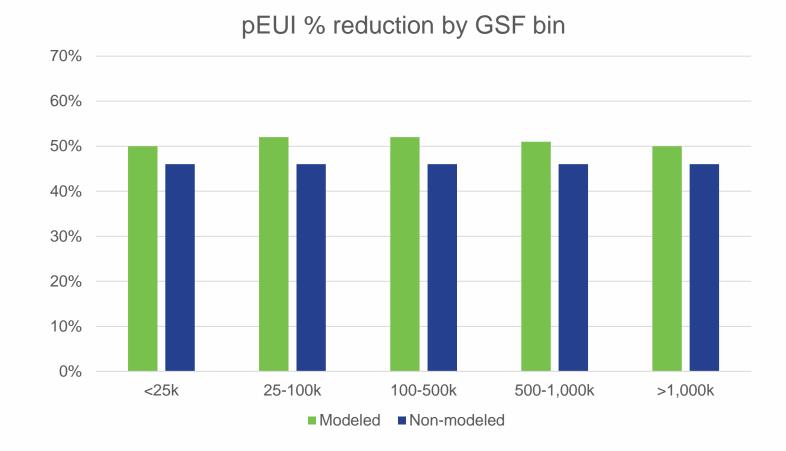


In 2018, projects in every use type demonstrated an ability to meet the 70% pEUI reduction target.

Energy modeling is even more important as the target increases to 80% in 2020.



Modeled projects consistently report higher savings, regardless of size.



In 2018, 2030 projects represented energy savings of more than \$3.3 billion over the baseline equivalent.

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 CO₂e 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

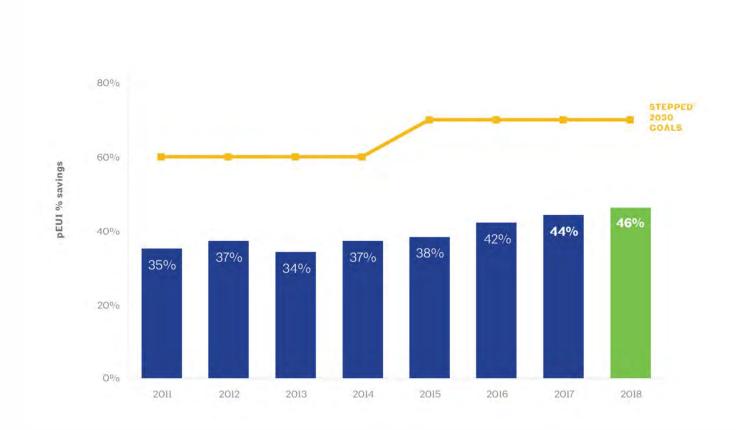
in projected energy cost savings

~9

metric tons CO₂e reduction

Our progress is not keeping pace with the growing urgency and impacts of climate change.

Along with continued incorporation of proven energy-efficient design strategies, we also need to increase our use of energy modeling and incorporate on- and off-site renewable energy to reach these targets.

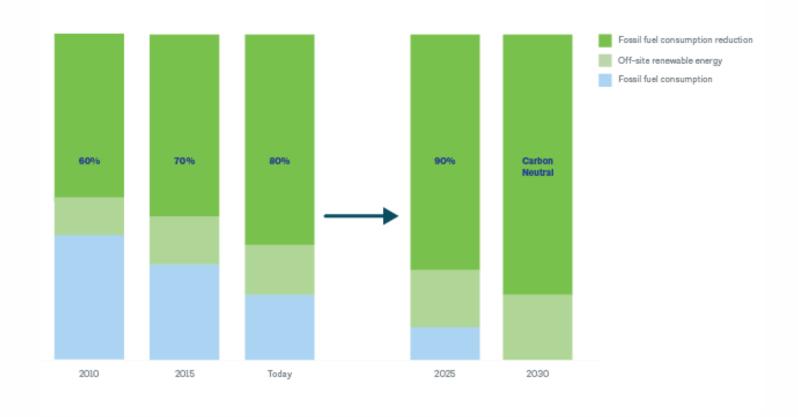


Making the Commitment

and becoming a 2030 signatory

The mission of the AIA 2030 Commitment is to transform the practice of architecture in a way that is holistic, firm-wide, project based, and datadriven.

Participants prioritize energy performance as they work toward carbon neutral buildings, developments and major renovations by 2030.



Benefits for 2030 signatory firms



Engage in a data-driven transformation of architectural practice to curb the effects of climate change.



Analyze and report the performance of your projects with a free and confidential cloud-based tool.



Compare the performance of your projects to other firms by program type, climate region, and additional variables.



Captivate clients, talent, and staff.



Streamline submission criteria for design awards.

1

Sign the Commitment letter

2

Create a
Sustainability
Action Plan

3

Endeavor to meet 2030 targets

4

Report all projects in the DDx

5

Review and update your Sustainability Action Plan



- Create a DDx account (https://2030ddx.aia.org/)
- Draft a Letter of Commitment signed by firm leadership. A template letter is available here.
- Upload Letter of Commitment to the DDx

[Date]

Robert Ivy, FAIA EVP/Chief Executive Officer The American Institute of Architects 1735 New York Avenue, NW Washington, DC 20006-5292

Dear Robe

[Firm Name], a [size of firm] person firm located in [location(s)], is hereby signing on to the AIA 2030 Commitment program and its goal of carbon-neutral buildings by the year 2030.

The places where we live, work and play represent the largest sources of greenhouse gas emissions in America, as well as around the world. The design and construction industry has made significant strides toward creating high performance buildings of all types and uses. As a result, the industry is positioned to have a profound impact by continuing to foster high building performance and reducing building-related greenhouse gas emissions.

As architects, we understand the need to exercise leadership in creating the built environment. We believe we must alter our profession's practices and encourage our clients and the entire design and construction industry to join with us to change the course of the planet's future. A multi-year effort will be required to alter current design and construction practices and realize significant reductions in the use of natural resources, non-renewable energy sources and waste production and promote regeneration of natural resources.

We therefore commit [Firm Name] to take the following steps that are part of the AIA 2030 Commitment program:

- · Create an account in the Design Data Exchange (DDx).
- Within six months of the commitment date, conduct firm engagement related to the 2030 Commitment and create a Sustainability Action Plan.
- We endeavor to meet 2030 energy reduction targets across every project as a deliberate part of design.
 Within the first year and each year thereafter, report the progress of our firm's entire design portfolio
- toward meeting the 2030 goals by using the AIA 2030 DDx.
- Review how progress and practices are tracking with our firm's Sustainability Action Plan. Update our Sustainability Action Plan once every three years, reflecting on the progress shown our reporting.

We also support the critical need for more consistent and more rigorous metrics related to actual building performance. We further commit our firm's assistance to the AIA and others in the ongoing development of effective metrics and standards for reporting purposes. It is understood that reporting through the AIA 2030 Commitment program must respect the confidentiality of information about specific clients, projects and proprietary tools.

We look forward to working with you and our professional colleagues to achieve the goals of the 2030 Commitment

Sincerely,

[Name, title]

cc: [list partners here if appropriate]

 Upload a Sustainability Action Plan (SAPs) to DDx within first 6-months.

SAPs document a firm's approach to sustainable design and should address:

- Firm commitment
- Design & approach
- Evaluation & reporting
- Outreach & advocacy
- Training and education
- Operations & outlook

Examples can be found <u>here</u>.





Sustainability Action Plan

AOS Architects

- 40 years in practice
- 25-30 people
- Philadelphia & Santa Fe offices
- College and university
- Historic preservation
- Religious and event spaces
- Museums and cultural sites
- 8 LEED certified projects
- 1 Net Zero in construction
- 1 LEED Gold in design
- 1 LBC Core in design





Firmwide Survey

How important is it for our work to reduce its contribution to global GHG emissions?

What are the most important ways for our firm to have a sustainable impact?

What are the risks in our firm embracing sustainability as a core value?

What are the opportunities in expanding our commitment to sustainable design?

How effective is our current design process in producing high-performing buildings?

What are the main obstacles to improving our sustainable design practices?

What actions are our peers taking that we can emulate or improve upon?

What are the targets and goals we can hope to achieve over the next 3 to 5 years?



Values



Lasting community value through high-performance new buildings



Avoided carbon emissions through preservation and adaptive re-use



Resilience through local labor, materials, and supply chains



Design Process

Integrated Design Process

Engage all consultants and stakeholders in a collaborative design effort at project start

Set Project Targets

Establish goals for energy use and embodied carbon at the beginning and track progress

Passive Design First

Pursue low/no-cost passive design strategies to reduce the size of active building systems

Model Early and Often

Assess the impact of design decisions and verify project development continues to support goals

Equipment and Renewables

Integrate efficient equipment and controls, then pursue on- or off-site renewable energy

Report and Verify

Share designed values with peers, then verify through procurement and commissioning



Evaluation

Measure progress internally and relative to the profession

PLAN

- Identify sustainability lead for each office
- Energy use, embodied carbon targets for all projects
- Internal data transparency
- Annual reporting to DDx

GOAL

- Energy use, embodied carbon targets for all projects
- Carbon neutral projects by 2023
- Carbon positive projects by 2025





Advocacy

Outward efforts to educate clients, consultants, and the profession

PI AN

- Advance project sustainability goals
- Develop network of consultants, peer firms
- Thought and design leadership

GOALS

- Regular publication
- Speaking engagements
- Other firms sign AIA 2030 Commitment
- Design awards

GREEN FIRE TIMES

News & Views from the Sustainable Southwest

VOLUME 12 NO. 3 JULY/AUGUST 2020

RESILIENT DESIGN AND PLANNING

BY ANTHONY GUIDA AND NICKY RHODES ATKIN OLSHIN SCHADE ARCHITECTS

Over the past few months, COVID-19 has forced a genuine reckoning about our capacity to maintain essential functions at home, in the workplace and in our institutions, while we absorb the myriad of disruptions presented by the pandemic.

All of us have begun to ident perhaps less so, such as the n commutes. Reliability, redunc ant measures of how our bui tions.

Pandemics are among the un that resilient design and plant able design and is bolstered be operations and reduced carbo. The effects of climate chang other minority communities, stand in solidatity with these to collaborate in the work of Resilient design strategies that ings to better serve the institu



At Ohkey Owingeh, new and renovated homes in the pueblo incorporate locally sourced materials and traditional construction techniques like adobe and med planter, supporting local labor and strengthening settlement patterns and authoral activities that are amberies old. Kate Russell Photography



Training

Internal education for firm leadership, project management and design staff

PLAN

- Firmwide training on action plan and design process
- Software training for key project personnel
- Conferences and webinars
- Informal software tips and project show-and-tells
- Share relevant case studies and articles
- Internal resource library















Operations

Sustainable operations strengthen firm culture and communicate our values.

- Urban office locations; reimburse transit expenses
- 85% walk, bike or use transit; 45% NEVER drive
- Track printing, recycling, LED lighting

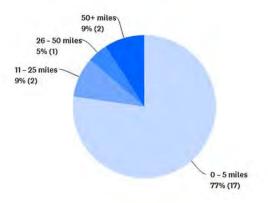
PLAN

- Continue to reduce vehicle miles traveled
- Improve efficiency of office systems and equipment
- Track office energy use and carbon footprint

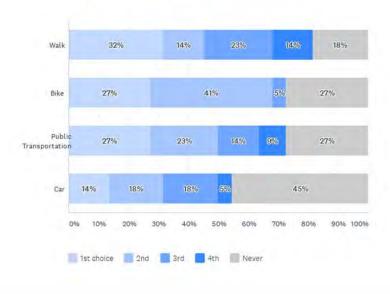
GOAL

Carbon neutral operations by 2025

Q3 What is the length of your commute to the office (in one direction)?



Q4 How do you commute to the office?

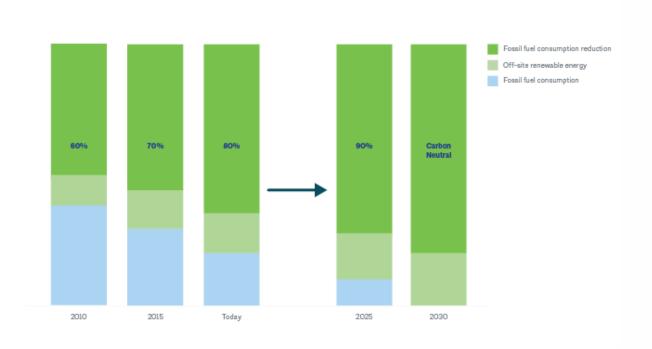




 Endeavor to design all projects to meet current reduction targets:

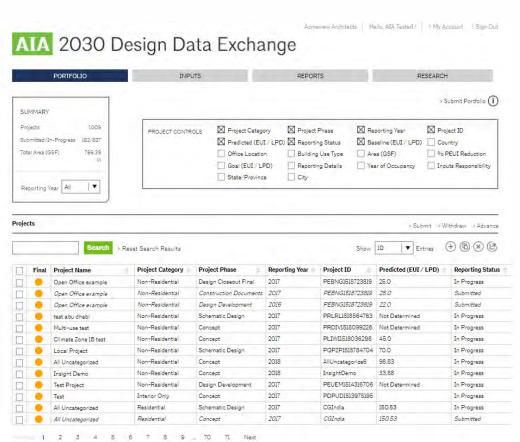
80% pEUI reduction from the baseline energy performance for whole-building projects

25% pLPD reduction from baseline for interiors projects.



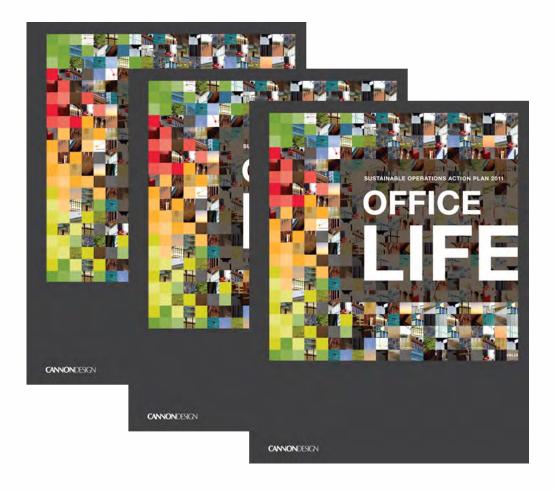


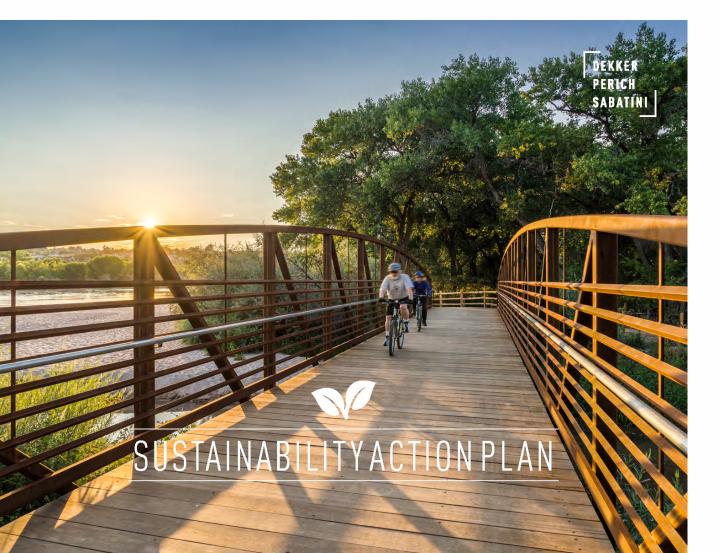
 Report all projects in an active design phase during the reporting year by March 31st.





• Update your Sustainability Action Plan every three years.





2016/2017

- 2016 Signed Letter of Commitment
- 2017 Sustainability Action Plan

- Defining what Sustainability means to DPS
- Team Green
- People / Profit / Planet
- Action Plan Roadmap

defining sustainability...



















2016/2017

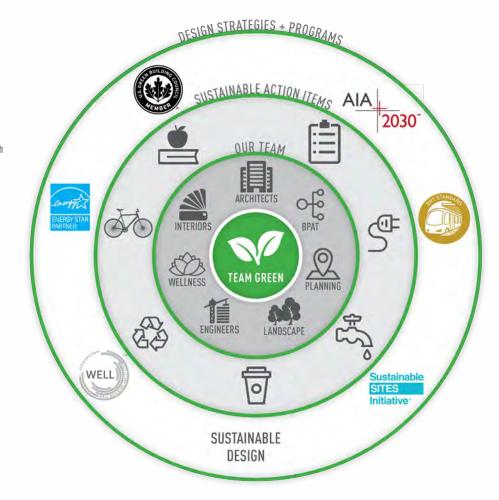
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team green

Team Green is our sustainability group with representatives from each practice area and office location.

Team Green's mission is to support sustainable design by promoting sustainable strategies and programs in all our projects and within our own offices.



2016/2017

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the triple bottom line

Sustainability benefits people, profit, and planet.

Dekker/Perich/Sabatini is committed to working with clients and consultants to achieve responsible, cost-effective design that promotes healthy indoor environments, lowers operating costs, and conserves natural resources.

2016/2017

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action plan roadmap



wellness



10 WELL Accredited Professionals
Robust HR Wellness Program

Filtered water stations throughout the office
Social sustainability as a core value of our firm's

Ergonomic workspace furniture available to all employees upon request



SHORT TERM Modify catering options to provide healthy options and accommodate dietary restrictions

Eliminate bottle water and promote filtered water stations

Continue to expand the HR Wellness Program to engage more employees



LONG TERM

Integration of WELL concepts in all offices

Develop a culture of wellness promotion





energy

Policy to power down computers at day's end

Plug-load competition between practice areas for awareness

Renewable energy sourced on-site at ABQ headquarters

Vacancy sensors in meeting rooms

SMART Building Technology

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D/P/S - Now

AIA 2030 COMMITMENT | Buliding Performance Reporting Progress

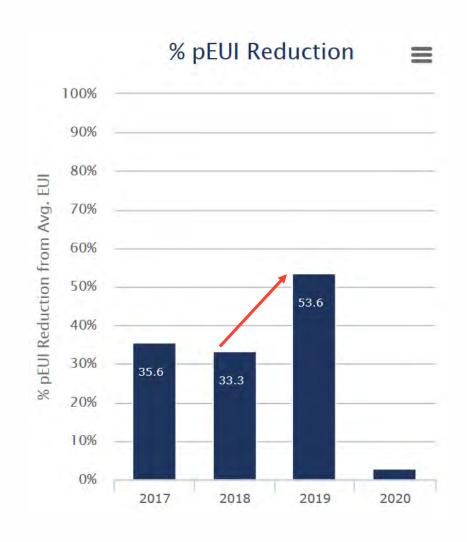




2016-2019

• 3.8 Million SF reported to AlAddx

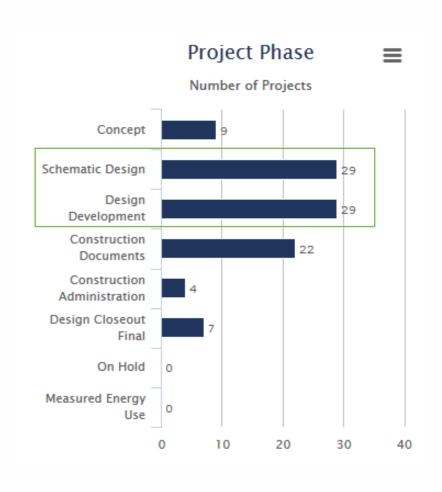
D/P/S - Now



2019

- With 5% of our projects meeting 2030
 Challenge targets of >70% pEUI
 reduction
- 20% improvement from 2018 to 2019!
- 1 net-positive energy project integrated with micro-grid infrastructure.
- 60+ LEED certified projects

D/P/S - Now



2020

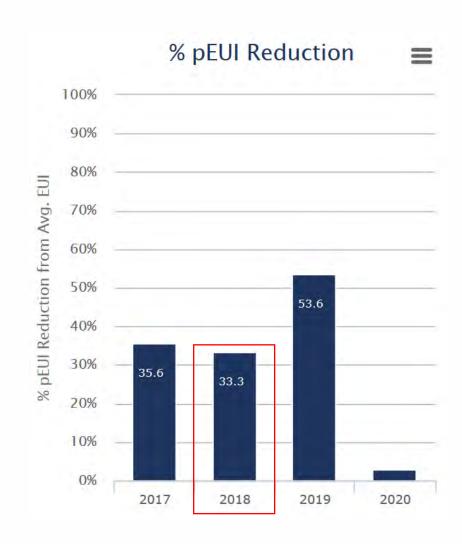
- Starting to see analysis and reporting taking place early in the design process!
- The greatest impact can often happen during these phases!

Time to update our short and long terms goals



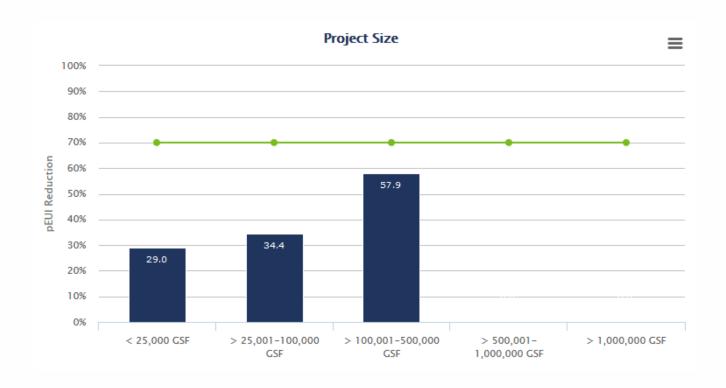
3 Years of:

- Wellness
- Office Recycling
- Office Energy
- Waste Reduction
- Water Use Reduction
- Education
- Projects



Downs:

- Lower performing years
- Not fit for every new project yet

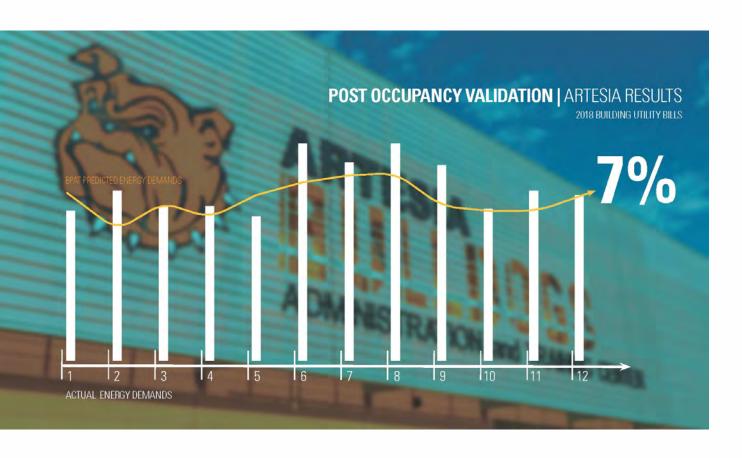


Downs:

- Lower performing years
- Not fit for every new project yet



- Integrating Analysis & Design Teams
- Success Stories
- Energy Impact Awareness
- Expansion of capabilities
- Sustainablity Awareness
- Resiliency Awareness
- Building Performance Curiosities
- Informed design choices, quickly

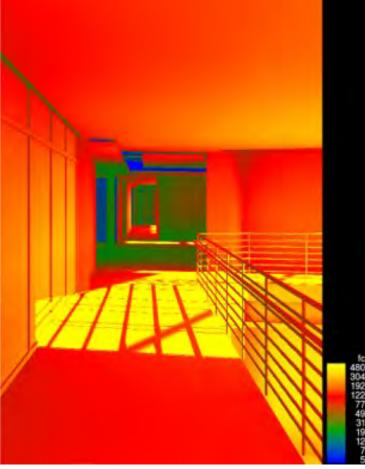


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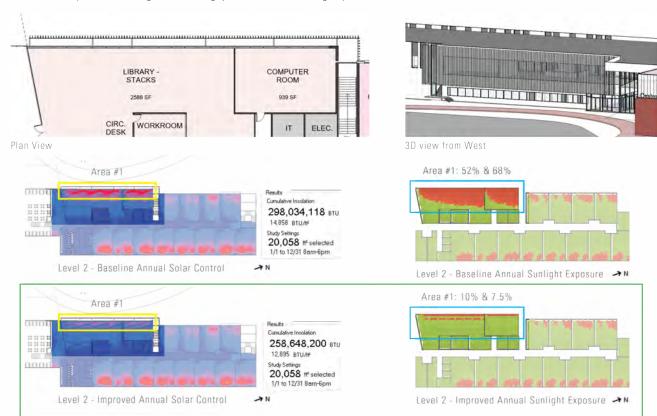




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ANALYSIS | Solution Finding - Area #1: Library & Computer Room

Addition of 14" deep vertical straight fins with gap for window cleaning/replacement



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SOLAR PV ANALYSIS | Design, Performance, Finance

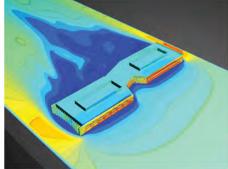


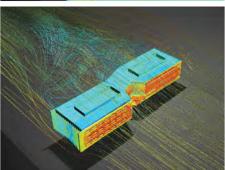
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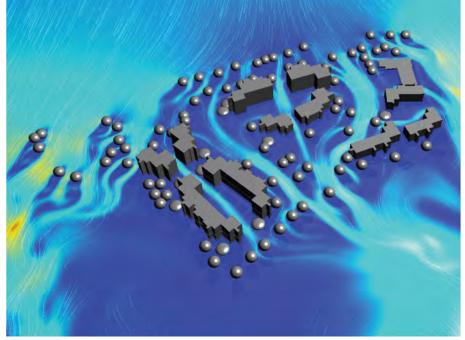
FLOW DESIGN ANALYSIS | Wind Tunnel

A virtual wind tunnel that models air flow around design concepts to help test ideas early on in schematic design or design development phase.

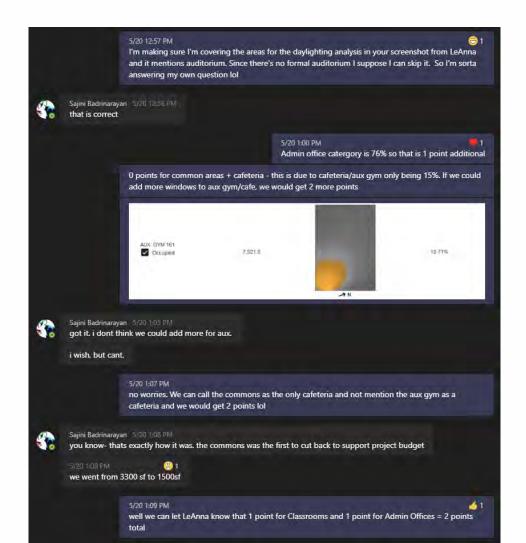
The safety and comfort of pedestrians are highly dependent on how air flows between structures. Flow Design acts as a wind tunnel simulator, so you can understand and analyze airflow patterns through and around structures in built-up areas. The analysis is able to help identify hazards caused by moving air, such as gusts and downdrafts, and still regions that may contain high concentrations of pollutants. Flow design can also identify areas where airborne debris will accumulate.







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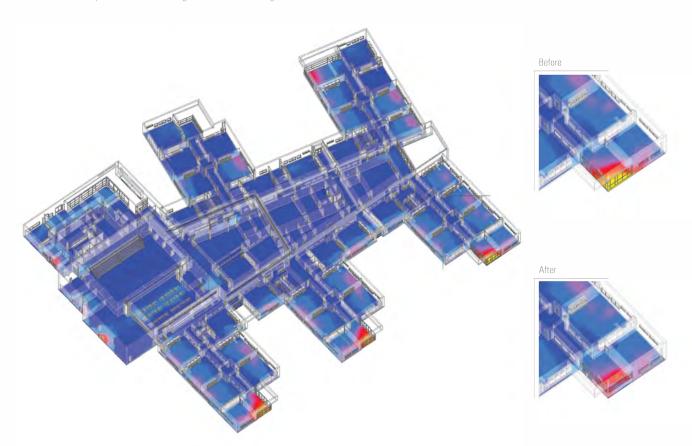


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INTERIOR SOLAR INSOLATION ANALYSIS | Shading Design Iterations

A graphic representation and analysis on the amount of solar radiation that falls on an interior surface across a given time period.

Interior Use: Finds potential locations for large amounts of solar heat gain – too much or too little



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2030 Commitment

in practice

AIA Framework for Design Excellence



Design for Integration



Design for Community



Design for Ecosystems



Design for Water



Design for Economy



Design for Energy



Design for Well-being



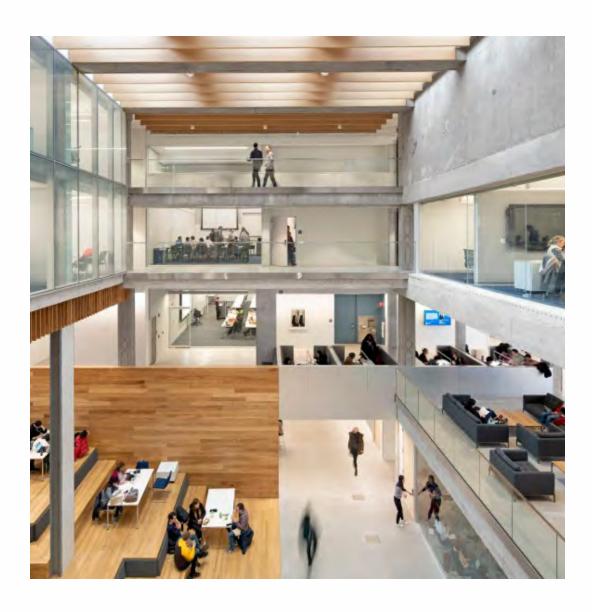
Design for Resources



Design for Change



Design for Discovery



2030 signatories are leaders in the profession.

- 7 of the 10 most-recent AIA Architecture Firm Award recipients are a 2030 signatory.
- Since its inception in 1997, every firm to receive a COTE® Top Ten Award has been a 2030 signatory.
- In 2018, more than 70% of AIA award-winning projects were designed by one or more 2030 signatory firm.
- < Atrium/forum at Keller Center, a 2020 COTE® Top Ten recipient.

ARCHITECT Farr Associates PHOTO © Tom Rossiter

Discussion about 2030 Commitment myths

MYTH

- It takes too much time.
- It requires too many resources.
- I may have poor performing projects in my portfolio.
- × I'll have to achieve the 2030 targets.
- × The project must be complete.

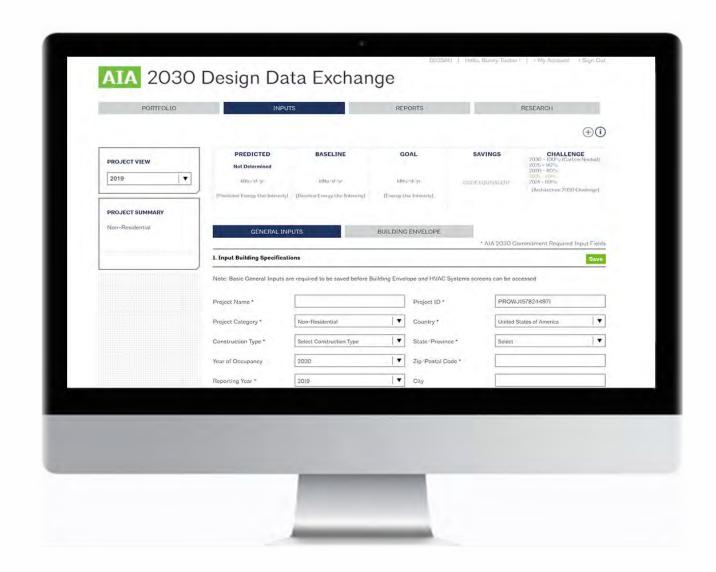
FACT

- ✓ Typical time to gather and input data is fewer than 30 minutes.
- ✓ The program is free! A variety of resources are available to support you.
- All data is aggregated and anonymous.
- Making progress is more important than meeting the targets.
- ✓ 2030 is a framework to set energy targets early in the design and track progress at each phase.

Getting to zero

with the Design Data Exchange (DDx)

The Design Data
Exchange (DDx) is a
cloud-based, confidential
reporting tool created by
AIA that allows you to
compare projects by
type, size, climate, and
other attributes across
the 2030 portfolio.





Direct input

- Great for smaller firms or portfolios
- High degree of control over data
- Easily manage team permissions



Bulk upload

- Great for firms with an in-house database
- Inputs limited to core fields
- Quickly upload hundreds of projects



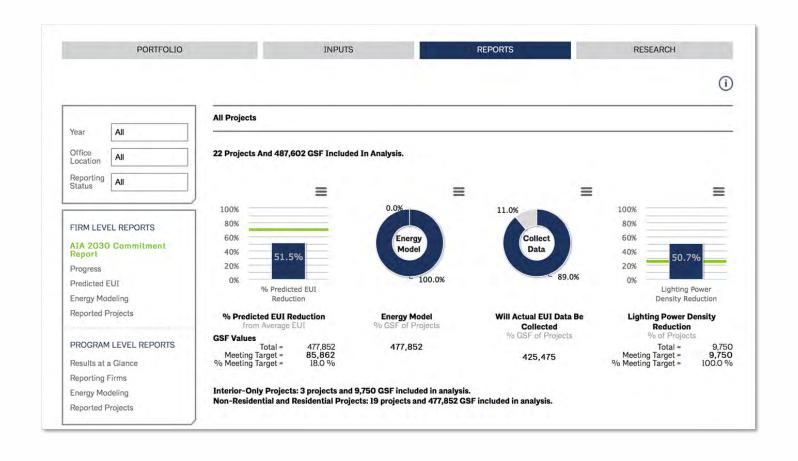
Via energy modeling software

- Great for firms who regularly model projects
- Connects with six software providers

Entering data

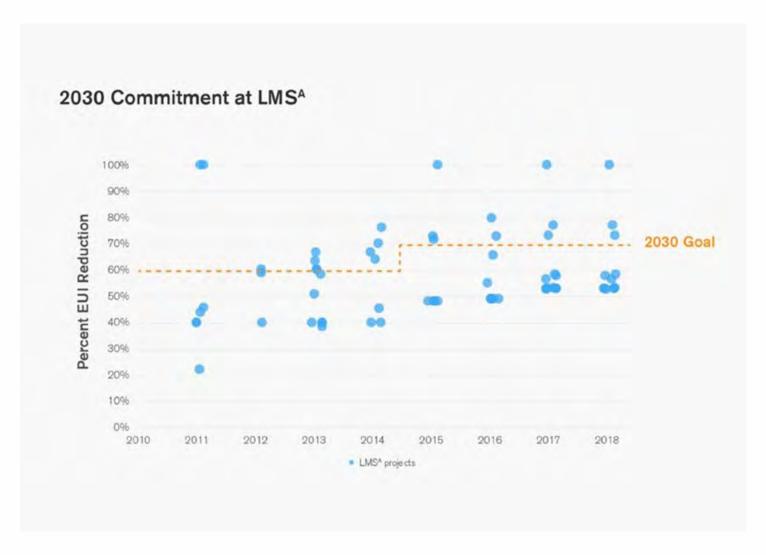
- Section 1. Define basic information about your project, including location and use type.
- Section 2. Document if residential and non-residential projects have been energy modeled and relevant energy code. Skip for interiors only projects.
- Section 3. Establish a baseline, target, and record your pEUI or pLPD.
- Section 4. Track additional data about your project, including embodied carbon and renewables!

Use the reports to access quick insights into your company's performance.



Export data from DDx to create charts and graphs that help you improve your company's annual performance.

Leddy Maytum Stacy Architects, a San Francisco-based firm and AIA Firm Award recipient, publishes their year over year data.

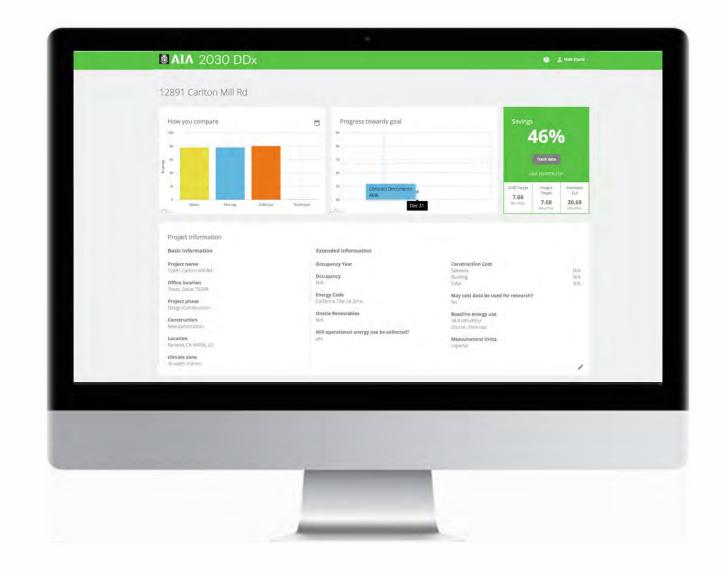


Source: "Scaling High Performance in an Era of Climate Urgency", Leddy Maytum Stacy Architects, https://www.lmsarch.com/studio/stories/research/scaling-high-performance-era-climate-urgency

Coming soon!

We're upgrading the DDx in 2020 with a new user interface and more flexibility for teams.

Test drive the beta at beta2030ddx.aia.org



Questions