



# 2022

## SUSTAINABILITY: PROGRESS REPORT

# RSP ARCHITECTS: WHERE WE STAND ON SUSTAINABLE DESIGN 2022

There is little doubt that these past two years have been an inflection point for many. For our clients and our colleagues, our industry and our planet, ourselves and those we care about, so many things have changed. But it also feels as if we have been given a new pair of glasses—a sharper set of lenses with which to view the world. There is wonder and energy in this, of course, especially for those who thrive on disruption and bold thinking, but there is also a sense that we now have the opportunity to see things in a new way and to elevate the issues and concerns we may have taken for granted in the past.

This is RSP's first Sustainability Report. It is not that the issue was unimportant to us in the past—quite the contrary—but that we have always believed the issue deserves a more complete, nuanced treatment. Statements, we know, are important...but it is action that leads to lasting change. Indeed, "sustainability," if it is to be truly meaningful, must go beyond the fundamental discussion of materials and systems and also address the social needs of community, the business needs of our clients, and the environmental needs of our planet. And that larger context, for better or for worse, took us some time to articulate.

Time, of course, is one of those commodities that seems in short supply. So, it is with no small degree of urgency that we offer RSP's take on the subject, the measure of where we are now but more importantly where we want to go.

At RSP, we believe in the transformative power of what we do as professionals—to solve problems and make the world a better place. Our clients place their trust in us to do just that, and it is something we cherish.

We believe our company must not only reflect the communities in which we work but that we must play an active role in those communities as volunteers and change agents, as responsible corporate citizens and advocates for social justice and equity. There are no simple, quick solutions here; but we are in it for the long haul.

We believe in the interconnectedness of things, that everyone is a part of the main, and it is our responsibility to endorse a culture of inclusion.

We believe in the stewardship of our planet and its resources so that we leave things better than how we found them. Yes, materials and systems are important but so are new ideas, innovation and technology.

We believe collaboration and the work of the team accomplishes more than the efforts of the lone genius. This is why the respectful exchange of ideas and multiple perspectives leads not only to better solutions and clearer perspectives but to a shared purpose and a common vision.

**We believe in the interconnectedness of things, that everyone is a part of the main; and it is our responsibility to endorse a culture of inclusion.**

We believe in honesty, even if it is uncomfortable, and fighting for a righteous cause, even if it is unpopular.

And, because we work in an organization that predates each one of us, we respect all that came before even while we drive an impatient search for whatever is next.

We are proud of the progress we made in 2021 but it is deep in our DNA to focus not on the accomplishments but on the journey ahead. We have a great deal of work to do, but I can't think of a better team of professionals, creatives and doers than the group that brought us this far.



David C Norback AIA

# 2030 CHALLENGE CHECK-IN

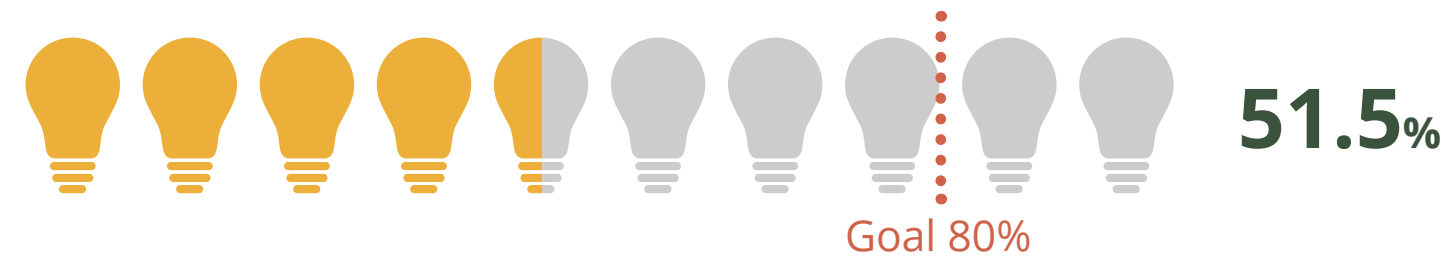
2021 was a year of sweeping changes, highs and lows, across industries. RSP is no exception. While we exceeded our sustainability goals in some areas, others require more focus in the coming year.



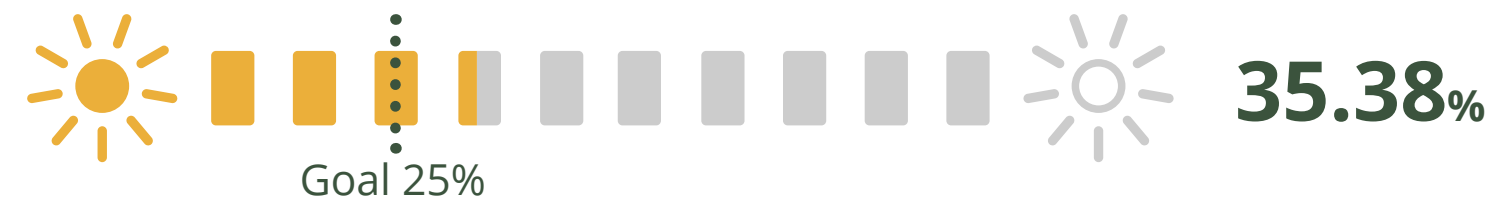
## 2019 Predicted EUI Reduction



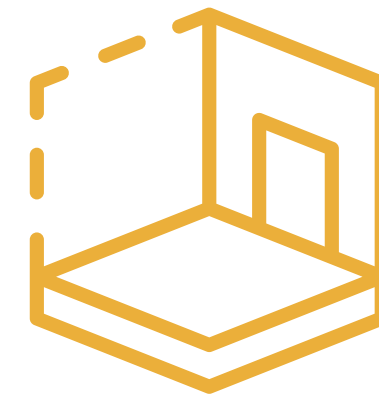
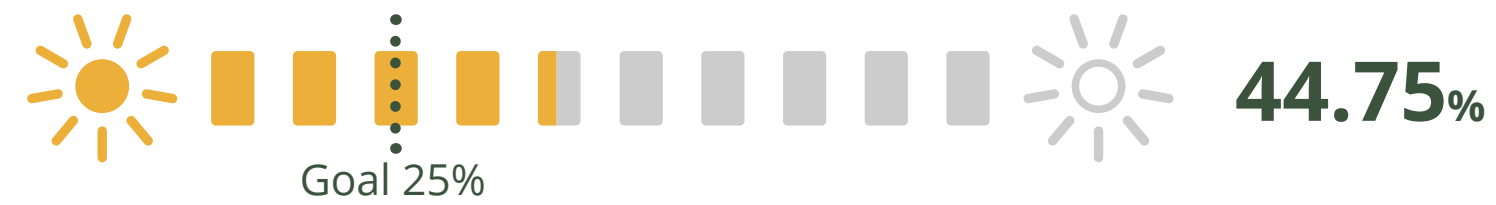
## 2021 Predicted EUI Reduction



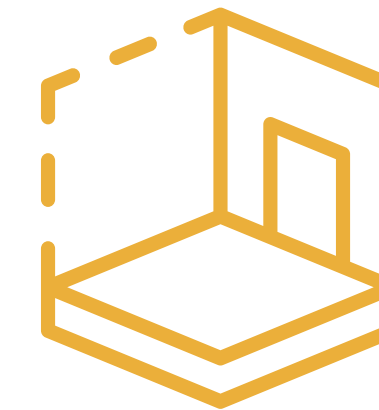
## 2019 Predicted LPD Reduction



## 2021 Predicted LPD Reduction



**84%**  
interior projects met or exceeded the 25% pLPD reduction target, versus 54% for our peers in 2021



**20%**  
additional reduction in lighting power density (LPD) beyond the 2030 goal of 25% on average across all submitted interior projects.

**PROJECTS THAT ARE ENERGY MODELED**



**HIGHEST PERFORMING**

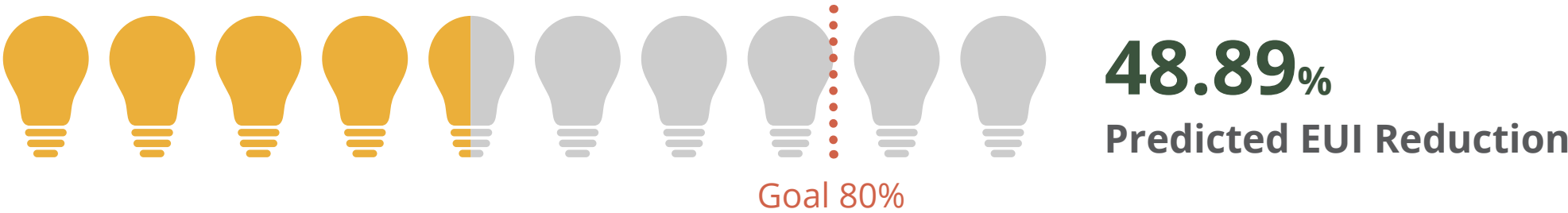


**<10%**  
submitted projects were energy modeled, a data point that must be improved in 2022

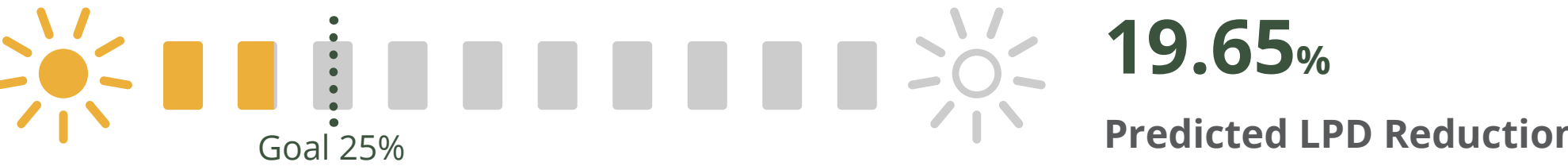
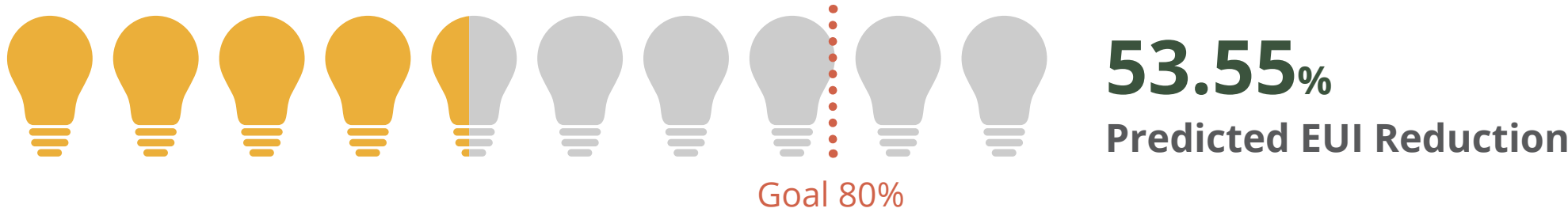
# RESULTS BY OFFICE 2021

RSP is one team. But that doesn't preclude a little healthy competition where sustainability is concerned. Each of our offices has expertise in different sectors and project types, which affects their 2030 Commitment contributions. We see these numbers as benchmarks to spur new growth and we look forward to seeing how far all our offices and studios progress in the coming year.

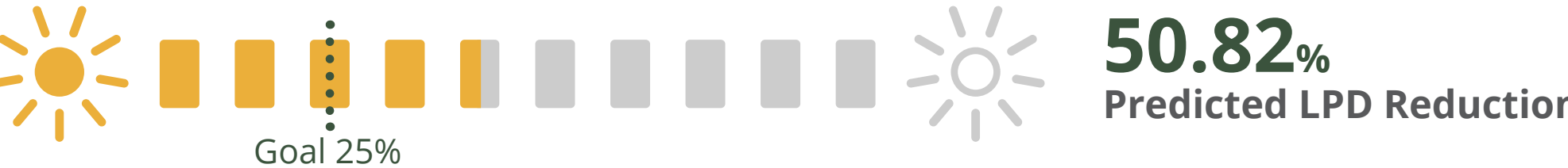
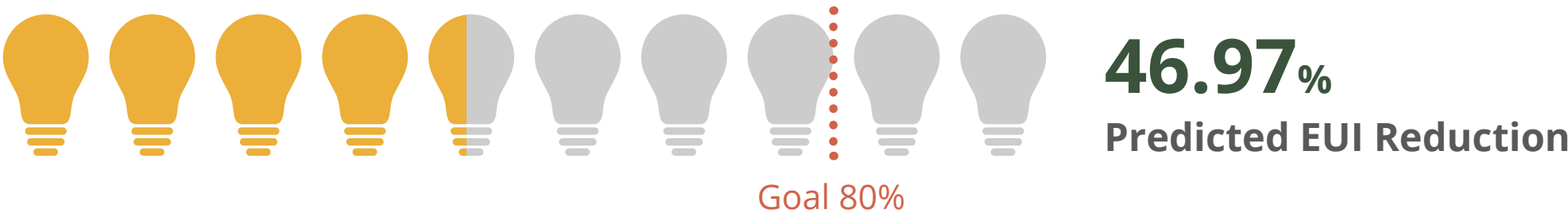
## Miami



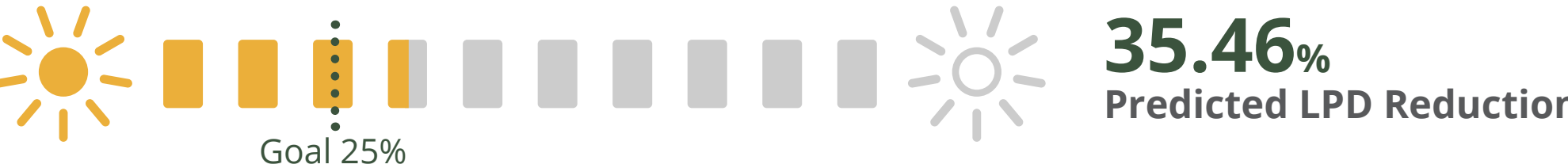
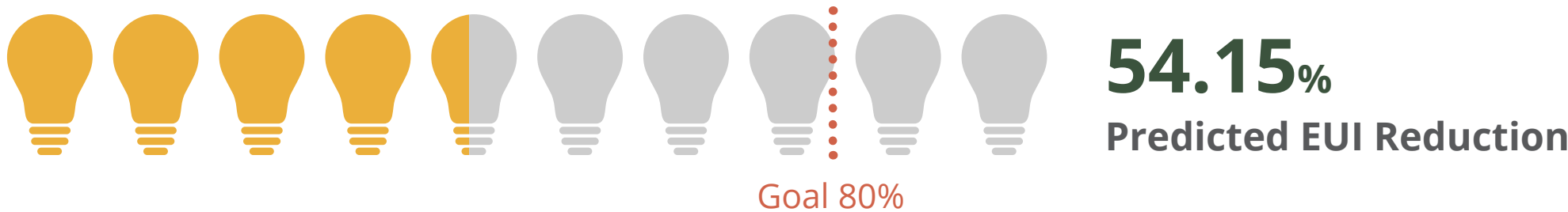
## MN Corporate Team



## Ft. Worth



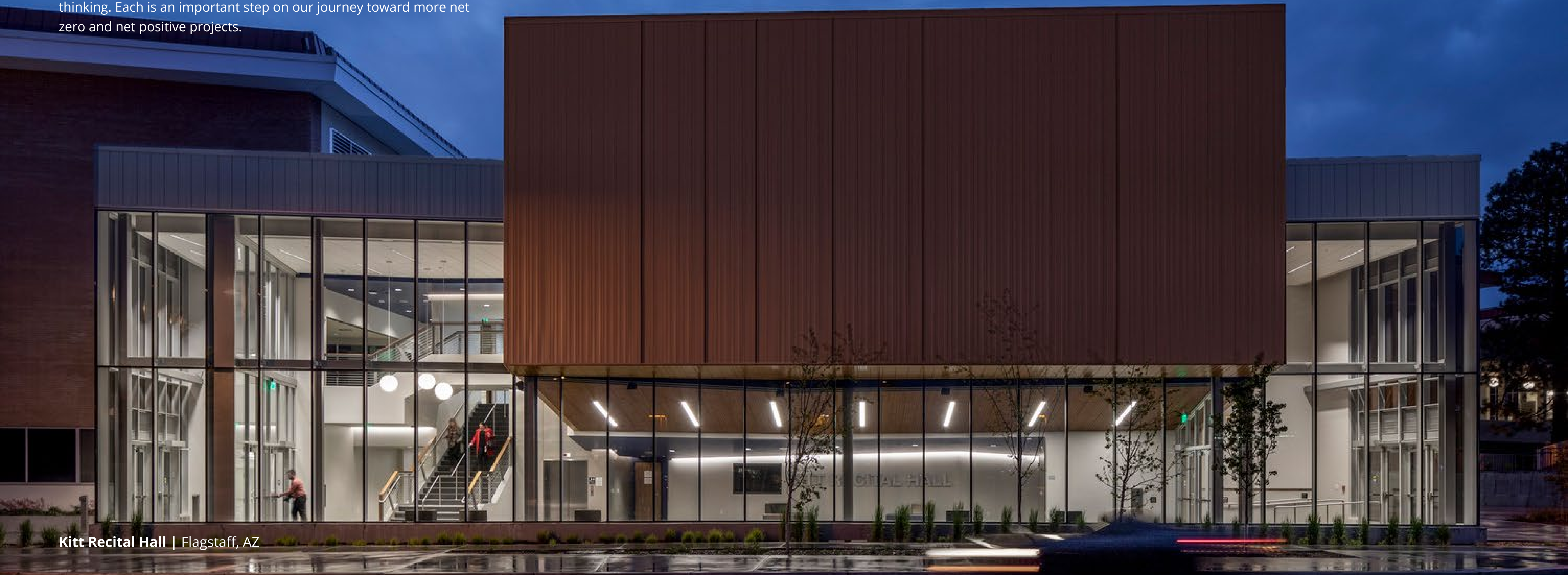
## Phoenix



# SUSTAINABLE DESIGN IN THE REAL WORLD

Even as we look to our future as a much more environmentally driven design firm, with concrete plans to make it all happen, we have to continue to focus on real, tangible results that are happening right now.

The projects that follow represent work that hinges on sustainable thinking. Each is an important step on our journey toward more net zero and net positive projects.



Kitt Recital Hall | Flagstaff, AZ

# The Future of Sustainable Construction

## The Beam on Farmer | Tempe, AZ

Partnering with Mortenson, RSP's team saw the incredible potential of using Cross-Laminated Timber (CLT) at The Beam on Farmer, a 184,000-SF, 5-story office building in Tempe and the first CLT building in Arizona.

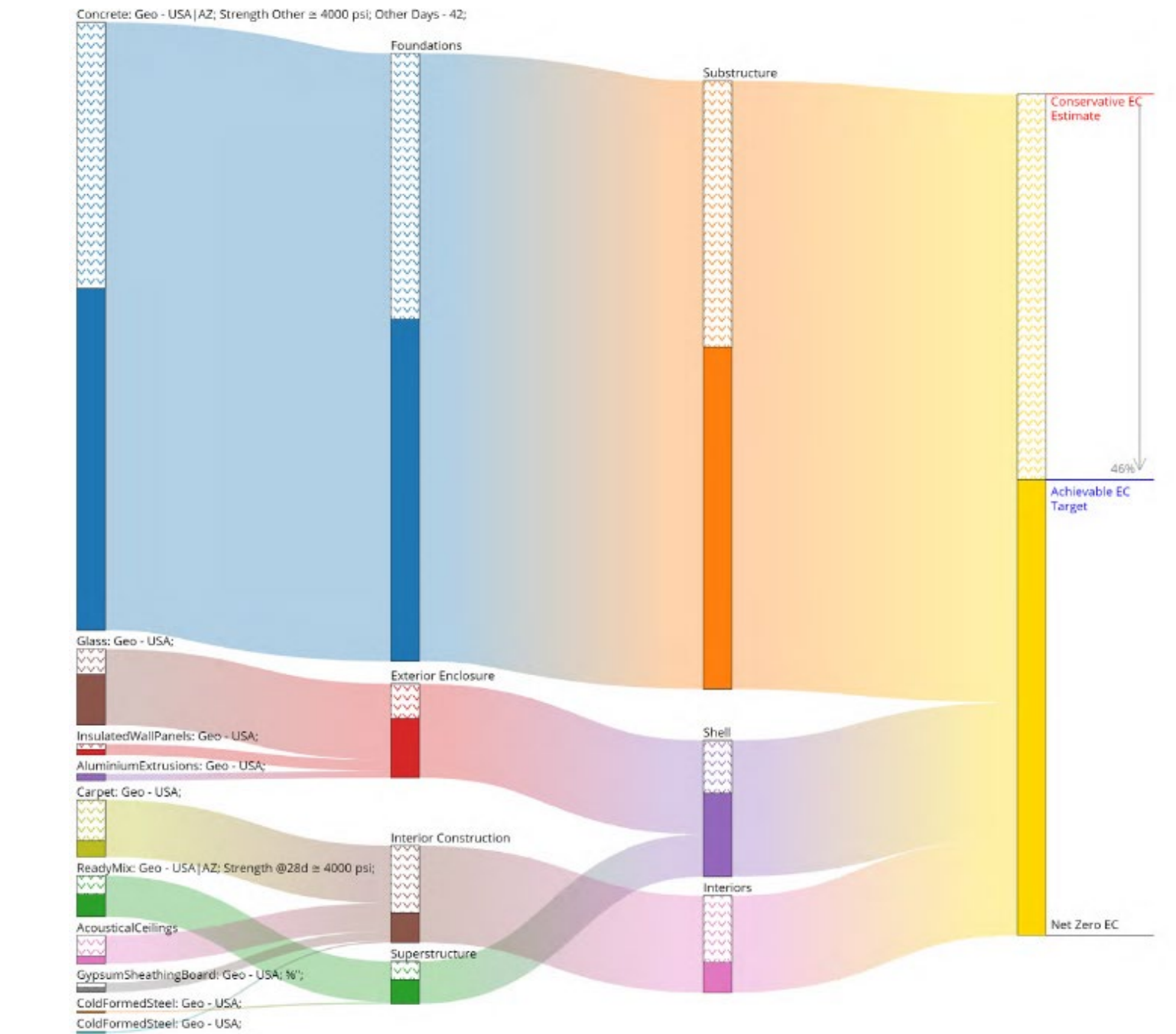
Sustainability and wellness are intrinsic to this construction model—because the material is so lightweight and requires an innovative manufacturing and design process, responsibly-sourced CLT buildings can sequester as much carbon as a concrete building creates.

CLT isn't the only innovation at The Beam. The under-floor, low-pressure air system is among the first in CLT construction. At only 8 inches high, down from 24 inches in a traditional raised floor system, the low pressure technology drives air to the perimeter of the building. This increases thermal comfort, uses less energy and makes the system more flexible for users. Aesthetically, this allows for higher ceiling heights without the need for tenants to install drop ceilings to hide the air ducts.

The Beam may be the first CLT project in Tempe, but the City anticipates that it won't be the last. Mortenson will move in as the ground-floor tenant and other tech-focused companies are expected to lease the upper floors as Tempe grows into its reputation as an innovation hub.



Image © David Huff Photography



Typically, one of the drawbacks to CLT construction is that it requires a denser column grid than concrete or steel. In this case, the team incorporated deeper beams into the design so that the column grid is almost as sparse as a typical office building and gives the space an open, airy quality that matches the warmth of the wood and showcases the beautiful pattern created by the ceiling beams.



## Greening the Guest Experience

### Moxy Hotel | Oakland, CA


Most hotels are terrible for the environment. From food waste to high-energy appliances running 24/7 to vast amounts of laundry, it's easy to see why more and more hotel chains are looking to reduce energy consumption and carbon emissions. One perhaps surprising way they can achieve their sustainability goals is through modular construction. The Moxy in Oakland used a combination of on-site construction and modular fabrication and is an example of how the hospitality industry can become significantly greener without sacrificing the guest experience.

Nestled in Oakland's Arts & Entertainment District, the seven-story Moxy is the quintessential boutique experience. The hotel consists of two levels of a site-built concrete frame under five levels of factory-built wood-frame rooms. This approach, a first for the area, reduced construction time by 25%. The lobby, which features garage-style doors along the street, pays homage to the neighborhood's art deco theaters in an edgy and modern way. The lobby's performance stage serves as a platform to showcase and celebrate Oakland musicians, dancers, authors and performing artists. On the opposite end of the lobby, a 35-seat Moxy boardroom doubles as an art gallery, with rotating pieces from local artists.





While every project is different and needs customized sustainability strategies, pre-fabricated modular construction has the potential to be a game-changer for any number of industries.

 Reduces construction times by up to **50%**

 Reduces delivery vehicle frequency by up to **70%**

 Modular construction reduces safety incidents by up to **80%**

 **20%** Reduction of labor costs, outweighing increased material costs, cutting overall cost

 A steel prefab system can reduce material consumption by up to **78%** when compared to conventional reinforced concrete





We have moved past the point where we can pretend that individual contributions and individual projects don't matter when it comes to climate change. We all have to be part of the solution.

—David Norback, RSP CEO

## MODULAR CONSTRUCTION: BY THE NUMBERS



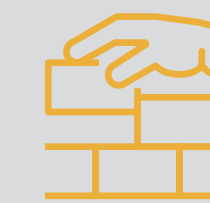
Cradle to site, modular construction reduces embodied carbon by

**34%**



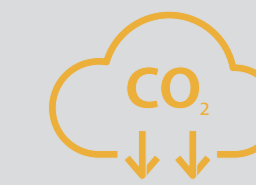
Cuts larger buildings embodied energy by

**26%**



Cuts small structures embodied energy by

**56%**



**MODULAR CONSTRUCTION** reduces direct emissions by **43%** and has lower maintenance cost due to improved structure "tightness."



**MODULAR CONSTRUCTION** can increase water usage, but it also decreases GHG emissions, acidification, carcinogens, criteria pollutants, ecotoxicity, smog and ozone depletion

CASE STUDY: ENERGY / RENEWABLES

# A New Standard for Sustainability

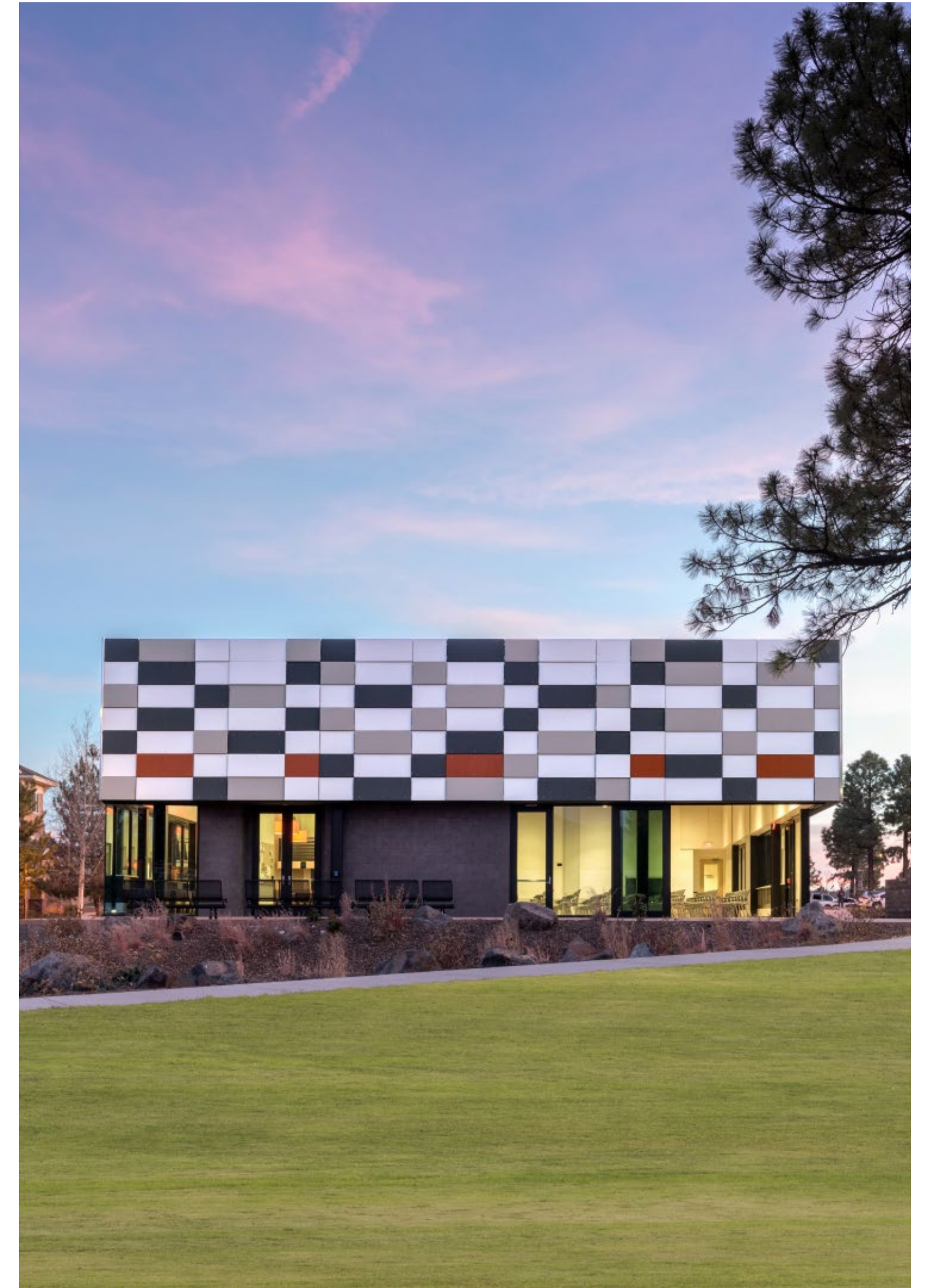
Northern Arizona University Center of International Education | Flagstaff, AZ



**CASE STUDY: ENERGY / RENEWABLES**

At its core, the mission of Northern Arizona University's Center of International Education is to bring together people with different viewpoints to discuss and solve some of the world's most intractable challenges. And as far as global climate change is concerned, the project itself is part of the solution—it is the first higher education building in Arizona to achieve Net Zero energy and LEED-NC Platinum status.

The 10,000-SF facility is among the greenest buildings of its kind in the world, serving as a performance venue, classroom and student activity center. The design team incorporated natural airflow, radiant heating, an enhanced approach to daylighting, and a rooftop solar array to create as much energy as the facility consumes. Named Best of Show at the 36th Annual Environmental Excellence Awards, the project was dubbed a "building of the future" by the jury and sets the standard for sustainable design not just in higher education, but in every market and industry.



**When NAU initially conducted interviews of the various designers prior to selecting the design team, school officials assumed the building would target LEED Silver. But RSP's proposal and conviction that a LEED Platinum building was economically feasible won them the contract, says Agnes Drogi, director of planning design and construction facility services at NAU.**

**—ENRSouthwest**

Images © Michael Duerinckx



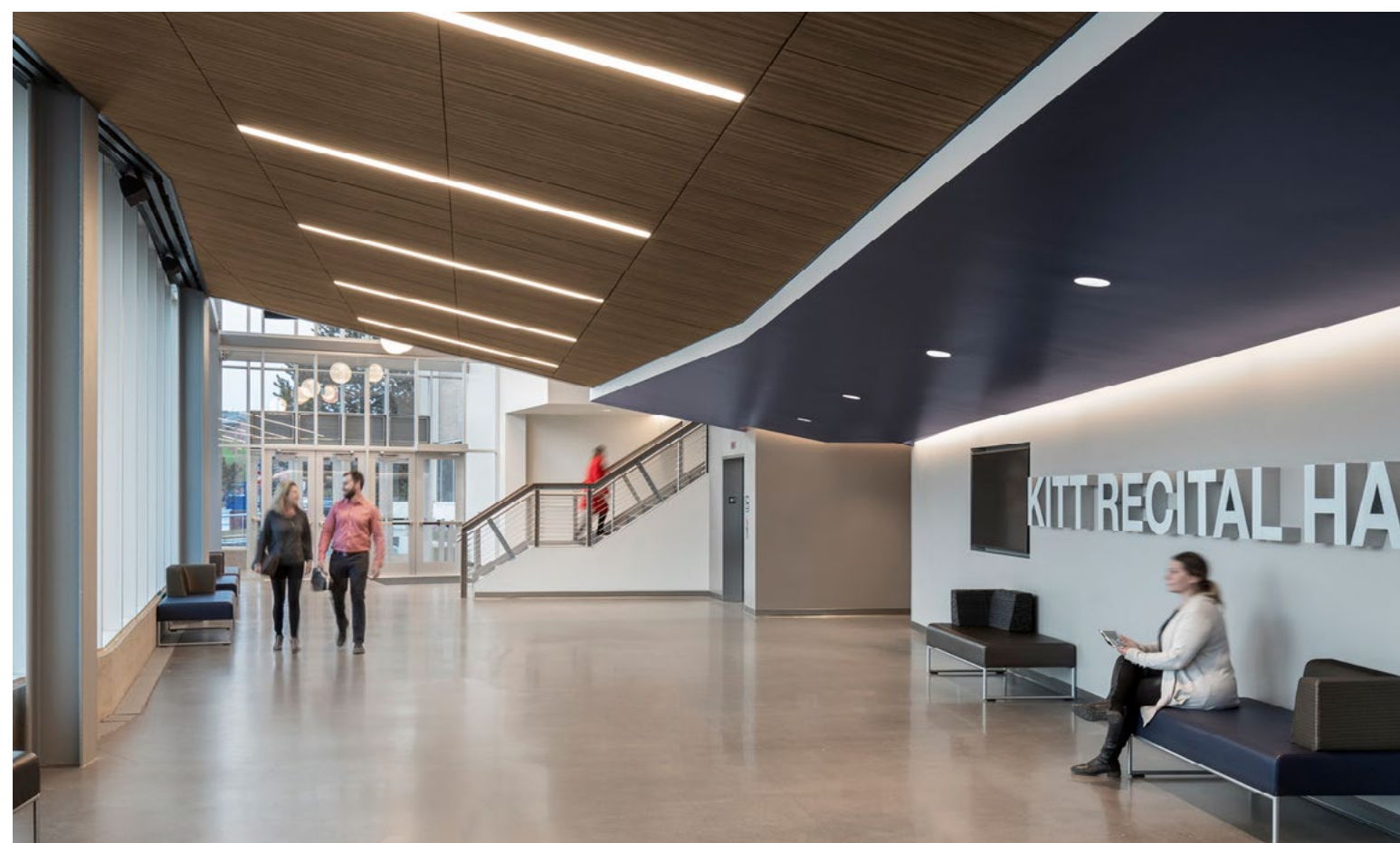
**CASE STUDY: RE-USE**

## Reduce, Reuse, Perform Kitt Recital Hall at NAU | Flagstaff, AZ

About 80% of predicted building stock for 2050 is already in existence. That means developers, owners, architects and organizations at every level have an opportunity and an obligation to retrofit existing assets.

According to the AIA, renovation and reuse projects can save up to 75% of embodied carbon emissions when compared to a new building. This is especially true if the foundation and structure are preserved, since that is the source of most embodied carbon.

More than 60% of the existing building structure was reused when designing the Kitt Recital Hall. Architecturally, this was a challenge, but the result is a building that future generations of students can look to as an example of sustainable development that celebrates the arts. This project is Gold LEED-certified and opened in 2019.



Images © Kyle Zirkus Photo

## A Workplace for Eco-Friendly Values SunOpta Global Headquarters | Eden Prairie, MN

SunOpta is known for pioneering sustainable, plant-based products. When the rapidly growing company needed a new global headquarters, they turned to RSP to design an eco-friendly workplace that would accelerate their ability to innovate and align with their values.

The 65,000-SF headquarters is designed to foster collaboration and embody SunOpta's mission of positively impacting people and planet. The space features a pilot plant and will expand SunOpta's co-manufacturing, private label, ingredient and branded product capabilities. The new headquarters is also home to a research and development center eight times the size of its previous location.

The sustainably-designed workplace is a key investment to achieving SunOpta's strategic business and growth goals, including doubling their plant-based business by 2025. RSP worked with Greiner Construction to bring SunOpta's passion for sustainability to life throughout the innovative, collaborative space. The building layers a variety of sustainable practices, including hundreds of indoor and outdoor plantings, a living plant wall, sustainable materials and fixtures, and generating more than 30% of electricity needs from 36,000 feet of solar panels.

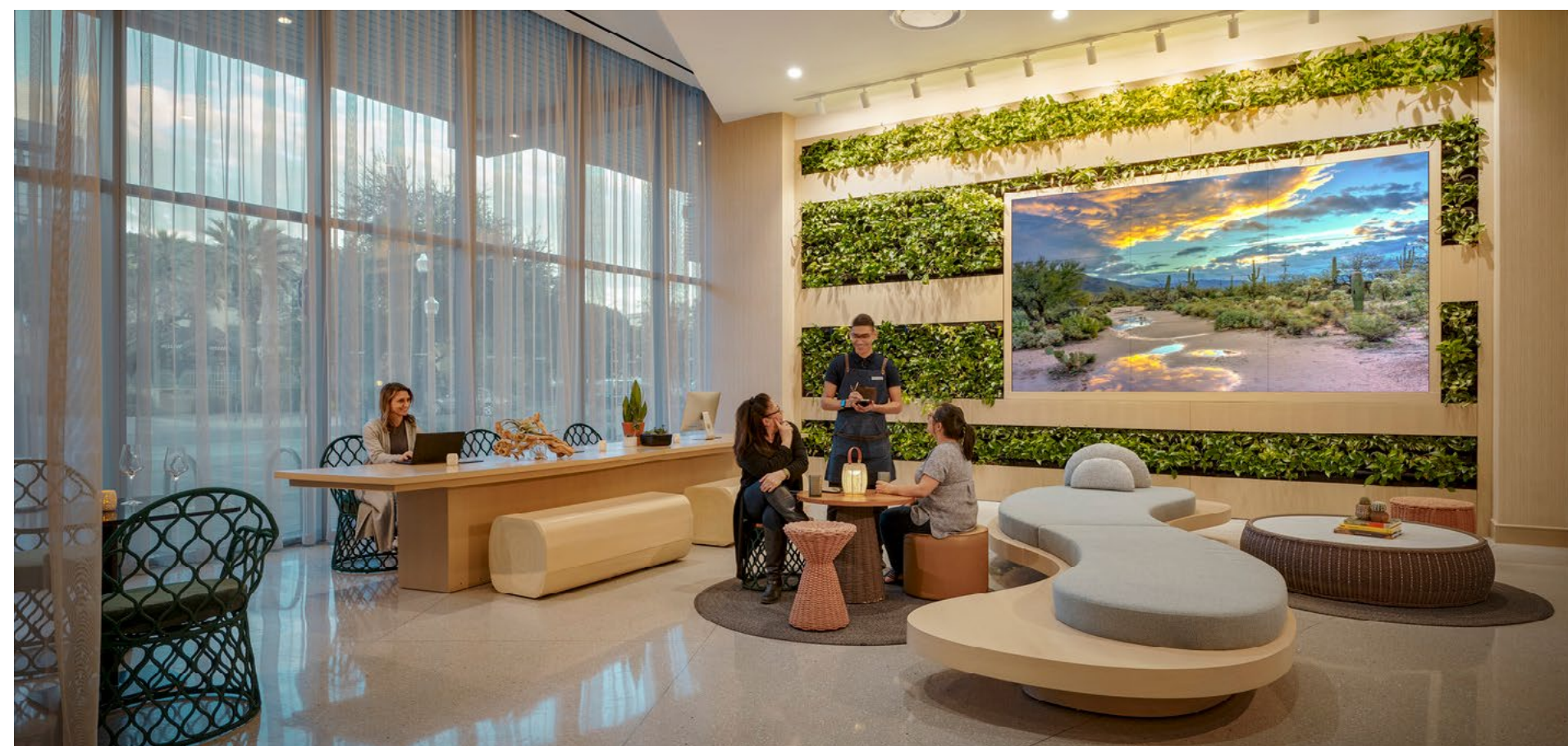
**Collaboration and innovation go hand in hand. This new space combined with our flexible approach to hybrid working brings us together to sustain innovation.**

*—SunOpta CEO Joe Ennen*



Images © Vondelinde





**CASE STUDY: BIOPHILIA**

## **Intrinsic Wellness** **Westin Tempe | Tempe, AZ**

Everything about the design of the Westin Tempe suggests a deep connection to the natural environment. Located on a tight and underutilized site in the popular Mill Avenue district, the 18-story, 290-key Westin Tempe simultaneously changes the skyline and activates the streetscape. RSP's team designed the property to blend exterior and interior architecture, providing respite from the rush of the surrounding urban environment.

Opened in late 2021, the hotel embraces Westin's strong brand promise known for wellness and maps directly to the 14 Patterns of Biophilic Design, drawing on the desert landscape, the surrounding hills and local flavor. Nature-inspired fractal patterns, natural materials like stone and copper, a 16-foot high living wall and panoramic views bring the outside in.

The guestrooms incorporate entry lighting that evokes treetop dappled light, as well as a bathroom wall that features a textured wall reminiscent of stratum found in canyon slots. The interior design embraces Westin's reputation for wellness, health and a deep connection to nature. Inspired by the beauty of the unique characteristics of the Sonoran Desert, the design team celebrated the contrast that comes from extremes.

Images © Ryan Gobuty Photography



**CASE STUDY: SITE AMENITIES AND ACTIVE DESIGN**

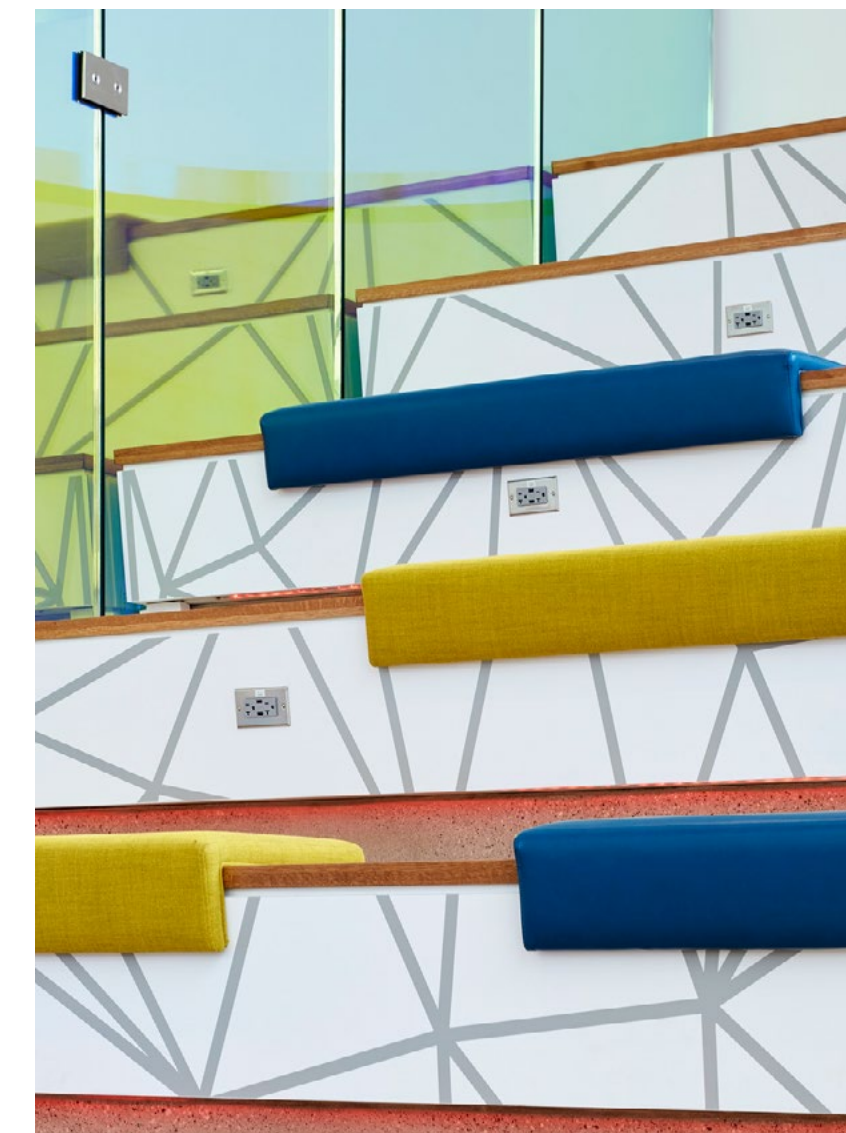
## Innovative by Design

### One Discovery Square | Rochester, MN

One Discovery Square stems from a monumental vision — one that embodies the very nature of discovery. And true to that vision, the project is now LEED v4 BD+C: Core and Shell Certified by the U.S. Green Building Council.

This new urban life science hub is a catalyst for innovation, connecting Mayo Clinic experts with industry-leading researchers, entrepreneurs and start-ups. The 90,000SF building is at the epicenter of Discovery Square, one of six districts in Rochester's Destination Medical Center plan. Designed by RSP and HOK with Mortenson as the owner and developer, to support biomedical, research, education and technology innovation.

Celebrating science and putting it on display, the highly visible and active "Co-Lab Space" on the ground floor intertwines hospitality and science, welcoming tenants, stakeholders and the public to collaborate in a state-of-the-art environment. Throughout the site, pedestrian-friendly landscaping and outdoor gathering spaces form a vibrant live-work-play setting. This flexible and forward-looking design approach transforms Discovery Square into a local landmark, ensuring its success for years to come.





## Supporting Children Through Sustainable Design

UMN Institute of Child Development | Carmen D. and James R. Campbell Hall | Minneapolis, MN

Mitigating the effects of climate change is crucial to the generations of children to come. With that in mind, the University of Minnesota Institute of Child Development will provide cutting-edge research space for child development and child psychology programs within a sustainably designed environment.

RSP's design covers a renovation of the existing 1913 building, as well as a 46,000-SF addition. The design team carefully selected sustainable materials, systems and approaches, as well as biophilic elements, to make sure this project supports the researchers within as well as their mission of improving lives. Construction is underway on this project.

The building's envelope and massing were analyzed and designed to reduce the risk to birds and to follow a program of "Lights Out" light management, restricting the night-time use of lights during peak times of bird migration.

**This project is paving the way for researchers to increase their understanding of how the brain functions in children. It's a privilege to be a part of a project that is going to change the world for the better.**

*—Neal Cross AIA, NCARB, RSP Senior Associate*



## Planning for the Bigger Picture

### Summit Academy | Minneapolis, MN

Sustainable thinking isn't just about reducing carbon emissions—it's also about planning for a brighter future. That's the philosophy behind the Design Studio at Summit Academy, an eight-week program for teens in North Minneapolis that focuses on creative problem solving, design thinking and the fundamentals of architecture.

The course aims to give students a new view of the world and show them that design and architecture can give them the tools to better their communities and even change the world. The impact on the local community has already begun with the first cohort of students. Time will tell where that impact leads for the next generation of designers. If their skills and enthusiasm are our metrics, the future looks bright indeed.

The program is the result of a partnership between RSP Architects, Summit Academy, Northside STEM, and Best Buy's Teen Tech Center, which provides the students state-of-the-art laptops and access to technology for the duration of the course.



Photo courtesy of Summit Academy OLC

## Technology Innovation Center

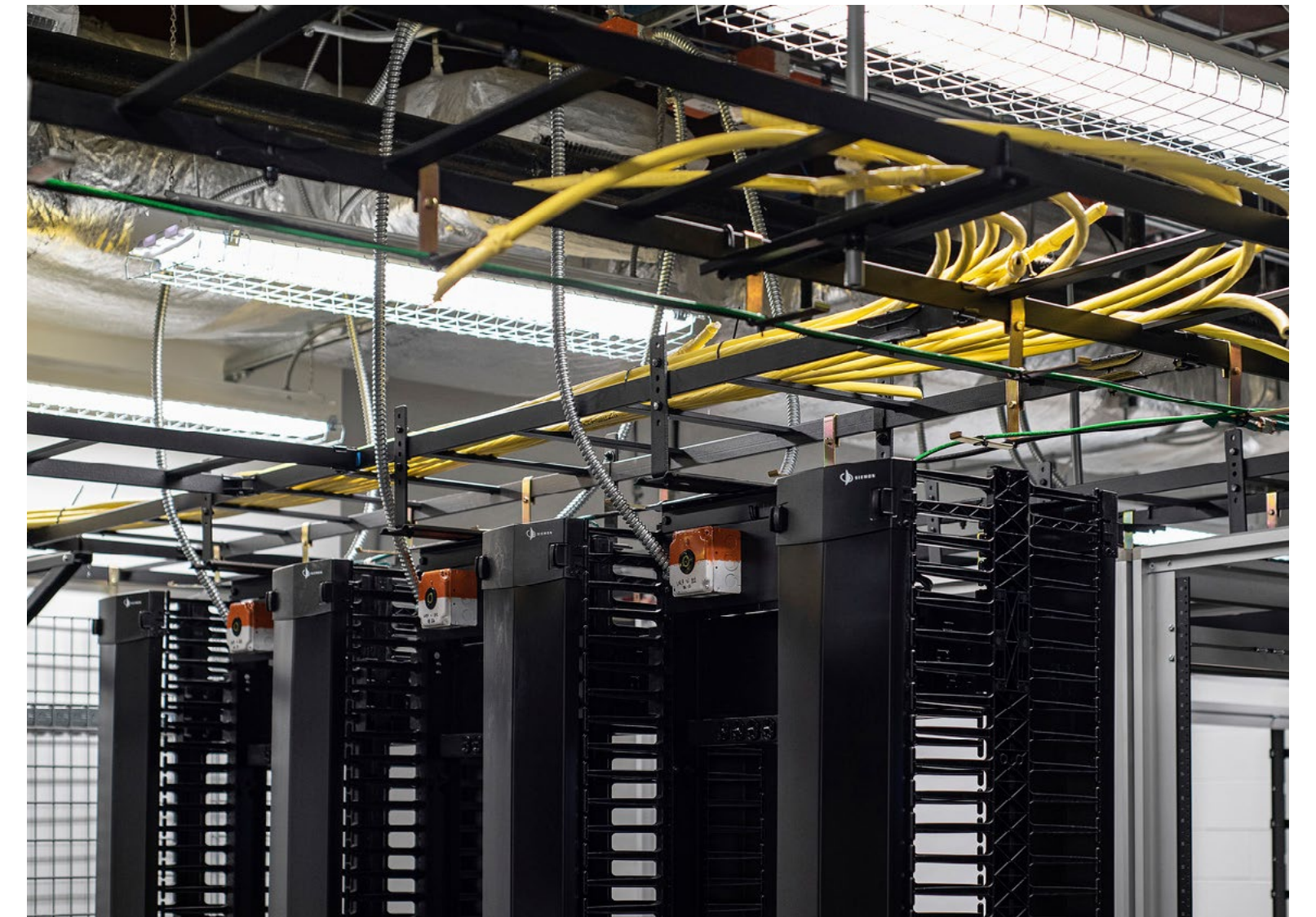
University of Alabama at Birmingham (UAB) |  
Birmingham, AL

Almost everything moves at the speed of data these days. UAB knew that they needed to evolve in order to keep up. RSP engineered a new, state-of-the-art data center and a research computer facility to allow UAB to be among the [Top500](#) most powerful IT systems in the world. RSP's Mission Critical team designed a solution that saved 7% OPEX costs over 10 years and saved 5% on overall building square footage, reducing carbon emissions in the process.



UAB has a rich tradition of pursuing and achieving ambitious goals, and nowhere is that more apparent in recent years than in IT, as we continually become faster, bigger, and better—driven by exceptional talent and top technology, including a supercomputer that is the fastest in the state and among the fastest in the Southeast.

—Ray L. Watts, UAB President



# MAKING OUR VOICE HEARD

There are many ways to tackle the climate crisis. Sustainable design on individual projects is one way. Thought leadership and sharing ideas on sustainability with the wider design community is another. Over the last year, some of our leading designers have published their insights and influenced the sustainable design conversation.



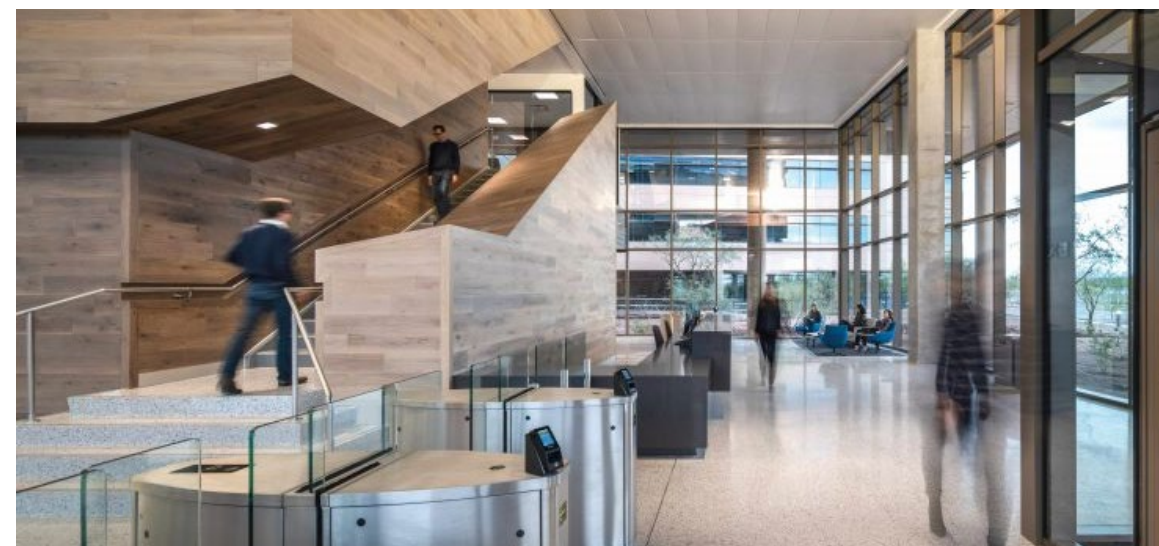
**LVDC AND THE FUTURE OF COMMERCIAL OFFICE BUILDINGS**



**THE HUMAN SIDE OF THE SUSTAINABLE WORKPLACE**



**THE FUTURE OF SUSTAINABLE CONSTRUCTION**



**WHAT'S NEXT FOR SMART BUILDING TECHNOLOGY**



**FUTURE OF ARCHITECTURE: INSPIRING A NEW GENERATION OF DESIGNERS**



**HOLISTIC SUSTAINABILITY: GREEN DESIGN FOR BUILDINGS AND ORGANIZATIONS**



# SOME OF OUR GREENEST PEOPLE

Our entire practice is committed to the future of our planet. But we do have some sustainability champions that are going the extra mile both in educating clients about the possibilities of more resilient design practices and pushing our colleagues to be even better through information sharing and technology.



## JEREMI VAN WAVE

LEED AP BD+C, WELL AP, GGP, FITWEL  
Sustainability Specialist, Phoenix

Jeremi is always thinking about what's next for the building industry. As a sustainability specialist and project design architect, he innovates and influences the path toward a more sustainable world. His focus on data, building science, and high-performance design has raised the bar for resiliency and sustainability for countless clients and more than 300 projects. His expertise covers navigating various third-party certifications, energy modeling and analysis, daylight simulations, whole building life cycle assessment, and determining the economic impact of selected building systems and architectural features. Jeremi is also at the forefront of the wellbeing movement, guiding clients to resilient, climatically responsive designs that optimize and promote occupant mental, physical and social well-being.



## RAJAN BATTISH

PE, ATD, LEED AP  
Principal, Baltimore

Rajan is an electrical engineer who has spent the past 25 years innovating the design of mission critical and data center projects. With a specialization in power infrastructure, Rajan pioneered the 400/230V at 60Hz for large data centers in the U.S., as well as the Tesla Battery Storage System. A passionate design thinker, Rajan regularly explores new ideas and beta tests new technology and products often before they hit the market. He is also a well-known thought leader and speaker, often publishing papers on data center trends, reliability and energy efficiency. An Accredited Tier Designer from the Uptime Institute and active member of Engineers Without Borders, Rajan helps colleagues and clients understand the technologies and strategies that have the potential to mitigate the effects of climate change.

# TECHNOLOGY AND STRATEGIZING FOR THE FUTURE

Now that we know where we've been and where we are, we need to apply similar metrics to where we're going.

The good news is that technology is allowing us to make better, more informed decisions earlier in the design process. And that is crucial to the ecological impact (and operations) of the final project.

Big data and Artificial Intelligence are accelerating the discovery of workable solutions. Cove.tool, for example, is an energy modeling software that uses AI outputs to inform the design process, relying on a database with nearly endless permutations to suggest optimized options for a particular project. And computational fluid dynamics (CFD) helps us in many ways, including understanding how air movement, heat and thermodynamics influence building massing, site layout and systems optimization. Data-informed decision-making is the future of design, and it has the potential to completely transform the profession.

## Wellness Upgraded

After moving forward with the AIA 2030 Challenge and recently becoming one of only 14 firms in the U.S. approved to be a WELL Performance Testing Organization, it has never been more clear to us that the overlap between wellness and sustainability cannot be overstated.

As one example of this powerful connection, measuring circadian light values is the next iteration of daylighting—when carefully designed, it has the capability to save energy along with imparting health benefits. And

from carpets to paint to structure to HVAC systems, healthier, greener materials are better for air quality and the environment from the beginning of the supply chain to end of lifecycle.

Although we learn more every day and adopt new innovations, it all seems to come back to RSP's philosophy of human-centric design—when we design for the health, wellness and betterment of people, we are also creating much more resilient solutions for the environment.

## New AIA 2030 Goals

We know we have a lot of work to do, but we are committed to helping our clients find sustainable, resilient solutions even as much as apply that same level of focus to our own organization. Our goals for the coming year are clear:

- Redouble our efforts in applying green design principles to all aspects of our organization, especially modelling (energy, daylight, embodied carbon, etc.);
- Continue to increase the number of projects we track
- Increase the granularity of the data that we capture and integrate additional data points, such as embodied carbon, operational data;
- Expand and refine our toolkit, including new technologies, applications and frameworks to track progress towards these goals





FOR MORE INFORMATION

To learn more about RSP, our work and our approach to sustainable design, check out our website or contact:

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jeremi.vanwave@rsparch.com