SUSTAINABILITY REPORT

THINKING. **INSIDE OUR** BUILDINGS

Glumac specializes in cost-effective and sustainable mechanical, electrical, plumbing, energy, lighting, low voltage design, and commissioning of advanced technology, healthcare, institutional, and commercial facilities worldwide. Our passion is engineering **green buildings that work**.

We are a proud to be a leader in sustainable design. We are longtime, active members of the U.S. Green Building Council and International Living Future Institute, and partners with Delos and the WELL Building Standard, and have **6 projects targeting LBC** and several more pursuing WELL certification.

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To be engineers for a sustainable future, we need to start in our own backyard. This document examines where we are and where we're going.
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The development team for our Corporate Sustainability Report put together a list of goals for the company to work toward in the coming year. We'll track our progress and report on it in the Glumac Corporate Sustainability Report 2.0.
GOALS FOR THIS YEAR **| P. 44**

Throughout our **sustainability report**, Glumac leadership shares their thoughts on the path forward for our firm, and how we are working toward our goal of creating a sustainable future. Just look for the inspiration icon.

WILSHIRE GRAND TOWER

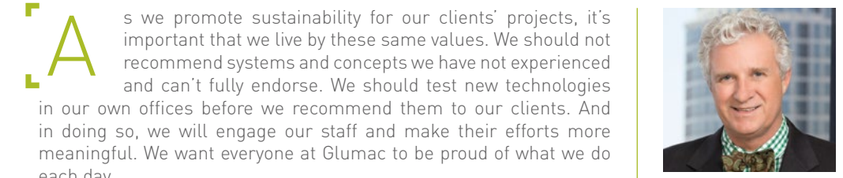
IMAGE COURTESY OF AC MARTIN

To be engineers for a **sustainable** future, we need to start in our own backyard...

As we promote sustainability for our clients' projects, it's important that we live by these same values. We should not recommend systems and concepts we have not experienced and can't fully endorse. We should test new technologies in our own offices before we recommend them to our clients. And in doing so, we will engage our staff and make their efforts more meaningful. We want everyone at Glumac to be proud of what we do each day.

At Glumac, our mantra is Great People Working on Great Projects. It's a reflection of our company culture, where we strive to be an inclusive, fun, and creative place to work. It's also a reflection of how we approach our work - with energy and excitement, and always searching for ways to improve our sustainable designs and the ways we incorporate them into our projects.

Now, as a Tetra Tech Company, we are better prepared than ever to make a truly positive impact on our environment as we do today.



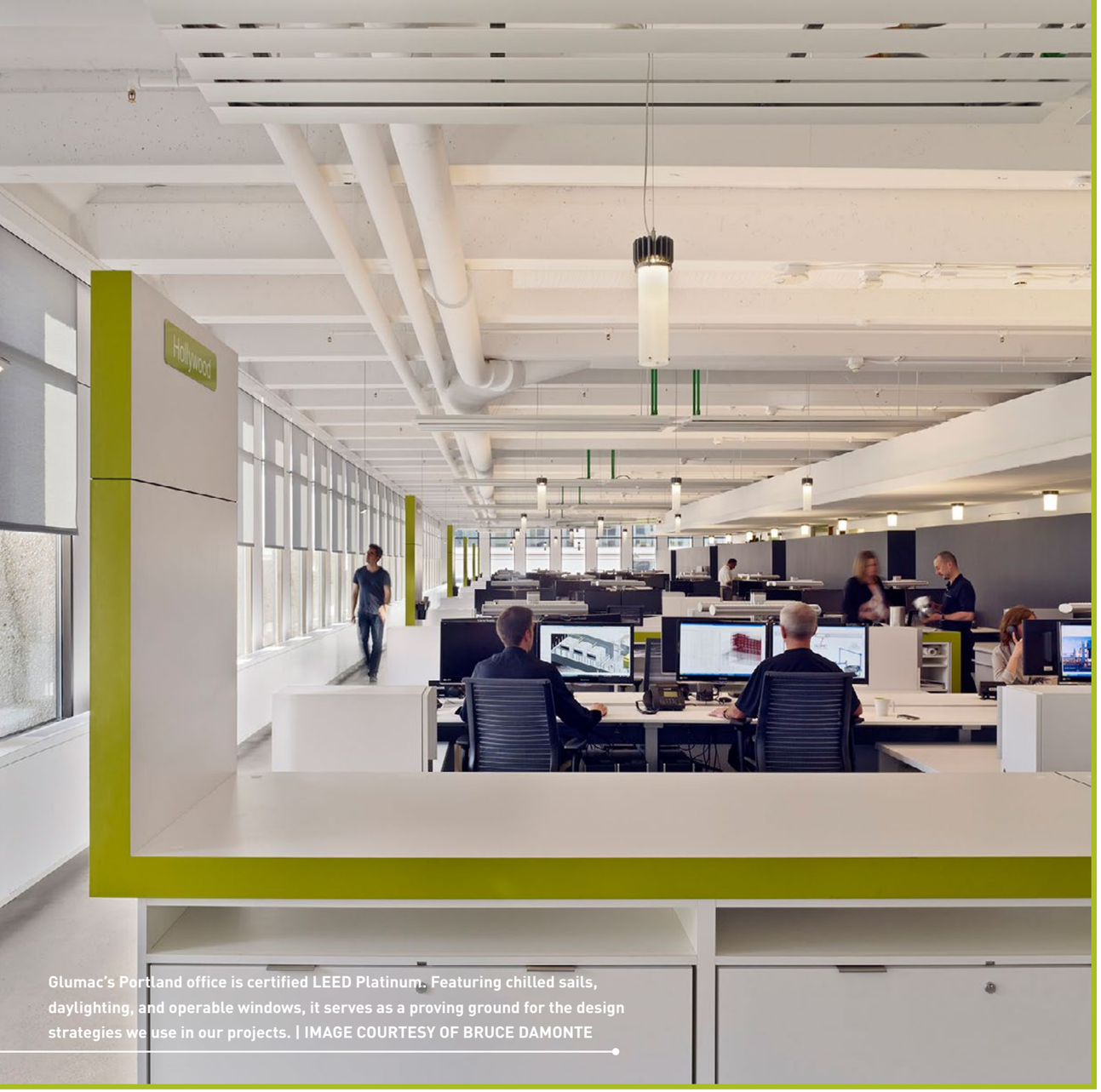
STEVE STRAUS
President
Glumac

WE LIVE OUR DESIGNS

Glumac has worked to achieve LEED Platinum certification in four of our offices, and have targeted Living Building Challenge Net-Zero Energy for both our Los Angeles and Shanghai offices. We are also pursuing WELL certification in our San Francisco and Shanghai offices. Currently, our firm is working to identify one flagship sustainability project in each region every year. It's an effort to show that not only are we wholly confident in the building technologies we utilize in projects and for our clients, but that sustainability is more than just a professional achievement for us. **At Glumac, it's a core value.**

To learn more, visit our blog, Sustainability Matters, at **glumac.com/sustainability-matters**

EDITH GREEN-WENDELL WYATT FEDERAL BUILDING, LEED PLATINUM
PORTLAND, OR | IMAGE COURTESY OF NIC LEHOUX



Glumac's Portland office is certified LEED Platinum. Featuring chilled sails, daylighting, and operable windows, it serves as a proving ground for the design strategies we use in our projects. | IMAGE COURTESY OF BRUCE DAMONTE

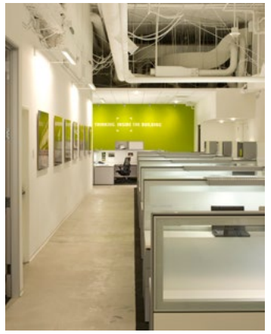
PROOF OF CONCEPT

We believe that to best understand the design strategies we recommend our clients, we have to experience them for ourselves. From underfloor radiant heating and cooling, chilled sails, and innovative heat recovery systems; to effective task lighting and the latest LED technology, and daylight harvesting strategies; to water conservation strategies like rainwater harvesting and greywater capture, each of our offices offer examples of how to successfully integrate sustainable design into the built environment. Further, we have worked closely with the USGBC to secure LEED Platinum certification for four of our offices. Our staff is passionate about sustainable design, and we live it everyday.

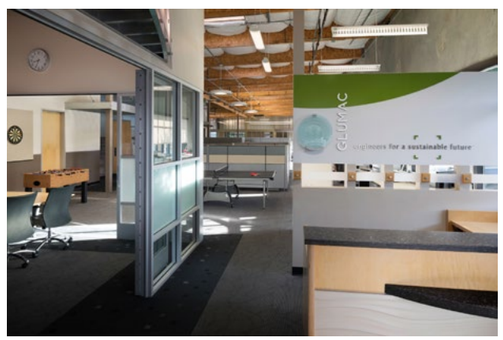
SHANGHAI
On the cutting edge of sustainable design, our Shanghai office is designed to Living Building Challenge and WELL Building Standard goals, and is the first LEED v4 Platinum project in China.

LOS ANGELES
Located in the Aon Building downtown, our LA office features a heat recovery system that provides heating for 20 floors, replacing electric resistance heating.

SEATTLE
Our Seattle office helps lead our firm-wide effort toward developing best in class energy analysis, energy modeling and commercial design.



IRVINE
In Southern California, our Irvine office features innovative lighting strategies, including task lighting.



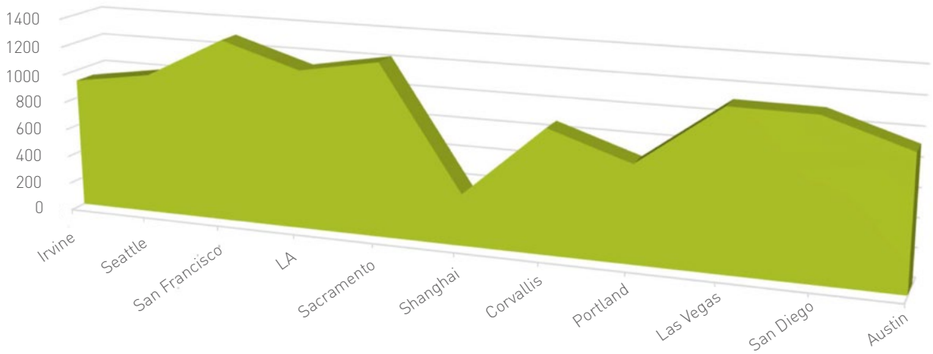
SACRAMENTO
Featuring solar hot water, rainwater harvesting, and a drought-resistant landscape, our Sacramento office prioritizes water conservation.

SAN FRANCISCO
The founding city and foundational center of the company, our San Francisco office is where it all began in 1971.

WATER PERFORMANCE BY OFFICE

AVERAGE: 969.82
gallons/office

GALLONS OF H_2O/PERSON/OFFICE



Water is at a premium in California. Conservation is a crucial issue facing populations across the state, and we believe the built environment can and should be a key player in leading the way toward creating paths to a more sustainable water future. To showcase our dedication, we designed our Sacramento office to feature several strategies that add a high level of water efficiency. Even though rain is not common in the area, a little can go a long way with a rainwater harvesting system placed on the building's rooftop - which here helps provide water for toilet flushing. And a solar hot water system is implemented to provide sustainable and energy-efficient hot water to the office, and further divorce the building from the surrounding water infrastructure.

Sustainability means that we look beyond the first-time costs and the easy solutions, and strive to provide solutions that benefit a project over the long haul.
ANGELA TEMPLIN | VICE PRESIDENT | NORTHERN REGION COMMISSIONING LEAD

CASE STUDY: GLUMAC SACRAMENTO

RAINWATER HARVESTING IN NORTHERN CALIFORNIA

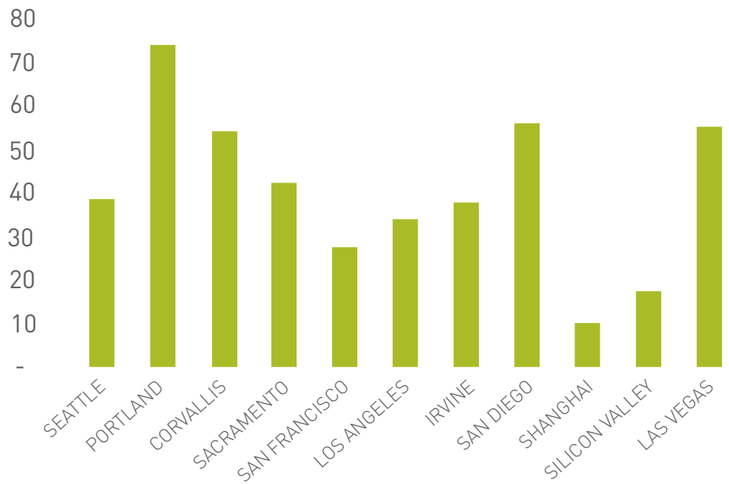
ROOFTOP COLLECTION
An inch of rainfall on a roof similarly sized to that on our Sacramento office can produce as much as **5,000 gallons of water**. During the months of heaviest rain, our rainwater harvesting system will capture **more than 20,000 gallons**.

LANDSCAPE
The office's surrounding landscape is made up of drought-resistant native spices (live Oak, California Bay Laurel, Red Bud), to provide 50% shade within 5 years of planing. Drip irrigation is provided by harvested rainwater.

UNDERGROUND STORAGE TANK
Placed under the parking lot, the underground rainwater tanks allow for enough storage to supply 100% of non-potable water on site.

SOLAR HOT WATER
Provides energy-efficient hot water to all areas of the office.

ENERGY PERFORMANCE BY OFFICE



EUI is an energy metric that depends a lot on context. How big is the building? What is its main function and baseline energy needs? We calculated our office EUIs based on the utility bills from properties our offices are in. Some offices are in a high rise. Others have their own dedicated building. And some are a single office suite among many. So the context is broad, but we are working on adding new meters throughout the company so that we can have a more accurate representation of how each office is performing.

WHAT IS EUI

EUI, or Energy Use Intensity, is a building's annual energy use per unit area. It is typically measured in **thousands of BTU per square foot per year (kBTU/ft2/yr)**. The lower the EUI, the more efficient the energy use is.

ANNUAL SPACE ENERGY USE
(kBtus or MJ)

AREA
(ft^2 or m^2)

=EUI

CASE STUDY GLUMAC SHANGHAI

- Energy reduction of 50% compared to ASHRAE 2010.
- The Practical Module Efficiency of the PV panels is 17.12% higher than common PV panels. The combined power generating capacity of the PV panels is 45 kW. The PV panels are installed on the office rooftop and on two adjacent buildings.

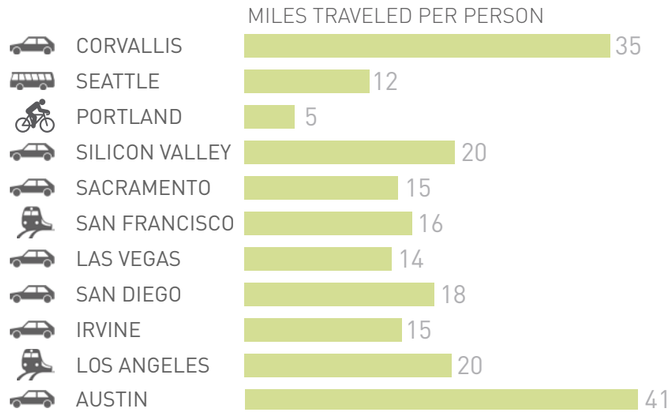
Sustainability is paramount to future generations. Therefore, it is our duty as engineers to suggest and implement innovative ways to reduce the energy utilized by systems in our built environment.

SCOTT VOLLMOELLER | EXECUTIVE VICE PRESIDENT | MECHANICAL ENGINEER

COMMUTES MATTER

Each of our office locations experience different challenges in mitigating single car commutes to work. Glumac encourages staff to utilize mass transit or other non-car options by subsidizing monthly bus passes and bike repairs for employees. Several offices encourage "Bike Month" challenges to help staff get comfortable with bike commutes. For offices with less accessibility to non-car infrastructure, Glumac has room to improve our support for employee commute options.

HOW WE MOVE



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BIKETOWN

Living up to its nickname, no office bikes more than **Portland**, with 15 riders in an office of 56.

21

TAKE THE TRAIN

As **Los Angeles**' public transit renaissance goes on, 21 of our staff are leaving their cars behind.

1

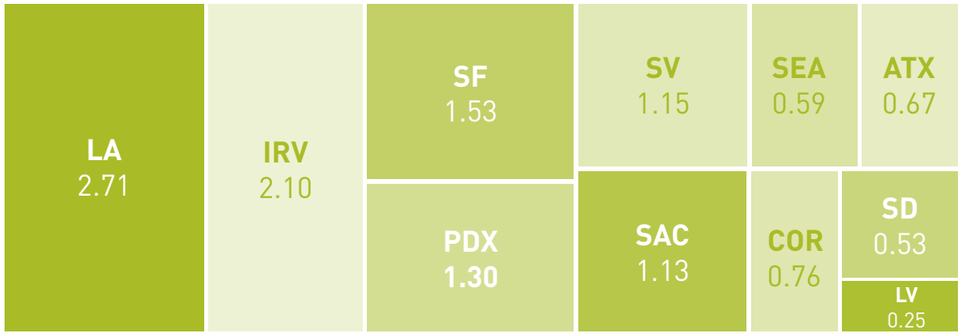
ALTERNATIVES

Only one staffer in **San Francisco** reported driving in. The rest use alternative methods

COMMUTE TRENDS BY OFFICE

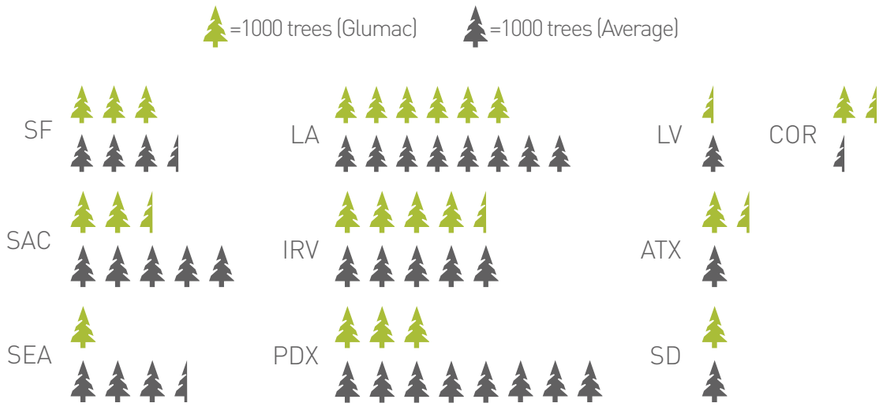
TOTAL COMMUTE EMISSIONS: MTCO$_2$e 12.71

Many different gases produced from activities like driving can impact global climate change. Metric Tons of Carbon Dioxide Equivilant (MTCO$_2$e) is a metric that converts all of the gases produced from an activity into the equivalent amount of carbon dioxide so its climate impact can be compared to alternative actives.



WHAT DOES THIS LOOK LIKE?

A metric ton can be pretty abstract. So we asked: how many trees would it take to offset our company's collective commutes? And how does that compare to the average commute in their city? One thing we found is that in areas like Los Angeles and Sacramento, where car culture is prevalent, our staff should be proud of finding ways to buck their local commuting trends.



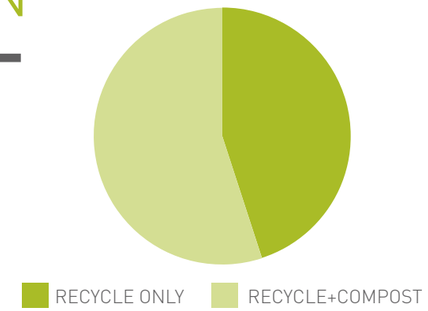
Senior year, some friends and I took a spring break road trip from the University of Wisconsin-Madison. On a daytrip in Portland we visited Powell's Books, where I got lost in the Green Architecture section. After paging through dozens of books, I found one that was filled with the innovative technologies I was most interested in - the Ecological Engineer. I read it on the road trip home and learned all about Glumac – little did I know I'd be working there 4 months later!

SAMUAL ZASTROW | ENERGY ANALYST

WASTE REDUCTION

SUSTAINABLE ENVIRONMENTS

All offices have dedicated recycling bins and more than **half of the offices** have a composting program. Most are started organically, with staff taking it upon themselves to educate their office on ways to decrease waste. One great example is our **Sacramento office** starting its own composting and vegetable garden (right).



PROCUREMENT PRACTICES

SMART SOURCING

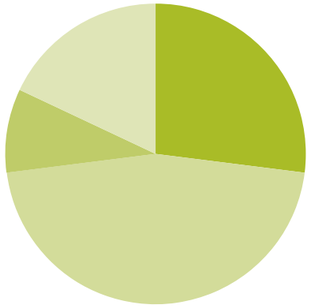
We are implementing sustainable catering practices throughout the company. Our **Sacramento** and **San Francisco** offices work with Give Something Back - a company that sells sustainably-sourced office supplies and turns its profits into sizable grants and donations to charitable organizations. In **Portland** we ask that food is not delivered with plastic cutlery and that food is not packaged in single serve Styrofoam containers, but rather big batch aluminum or plastic vessels.

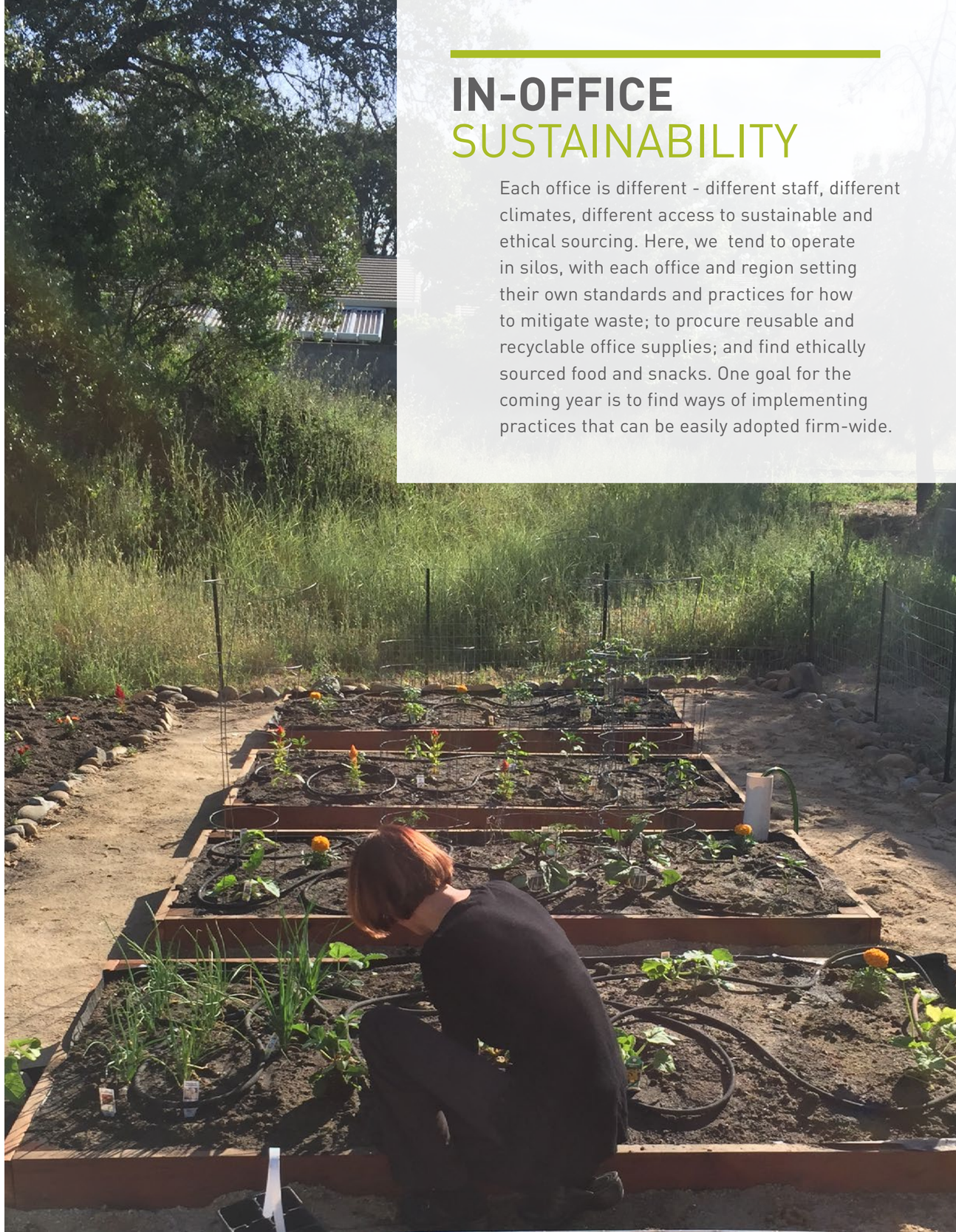
OUR GOALS

- No Plastic Cutlery
- Sorted Recycling Containers
- Waste Tracking
- Composting Containers
- Ethical Supply Sourcing
- Healthier In-Office Options

OFFICE SUPPLIES

OFFICE SNACKS





IN-OFFICE SUSTAINABILITY

Each office is different - different staff, different climates, different access to sustainable and ethical sourcing. Here, we tend to operate in silos, with each office and region setting their own standards and practices for how to mitigate waste; to procure reusable and recyclable office supplies; and find ethically sourced food and snacks. One goal for the coming year is to find ways of implementing practices that can be easily adopted firm-wide.

SOCIAL RESPONSIBILITY

Each of our offices gives back a little differently - but community engagement is a central value at Glumac. Be it through STEM mentorship programs, home rebuild programs, run/walk fundraisers, or industry advocacy and support, we feel sustainable social development is as crucial as the buildings we design.

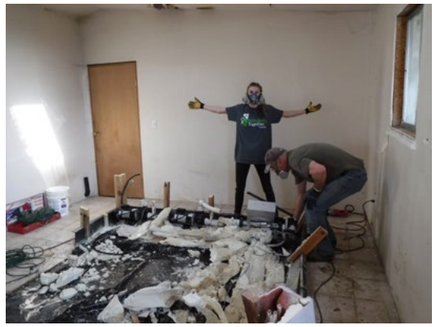
FIRM-WIDE GIVEBACK

HOW WE DO IT

Our community-engagement efforts are largely spear-headed by intrepid staff. In each office, we encourage staff to seek out and bring to the table new opportunities for community give back. This has resulted in some amazing partnerships that have led to a sustained impact on the cities in which we work.

ORGANIZATIONS

- ACE Mentoring
- Adopt a Family
- CANstruction
- **Rappel for Her (left)**
- Habitat for Humanity
- OSU Advantage Accelerator Mentor
- Rebuilding Together
- Run for Love organized by The KFoundation
- Willamette Innovators Network-Board Member
- Architects in Schools (Architecture Foundation of Oregon)
- Portland State University Sustainability Mentorship Program



Rebuild Together | Portland

Run for Love | Shanghai

ACE Mentorship | Los Angeles

IMPROVING OUR APPROACH NEXT YEAR

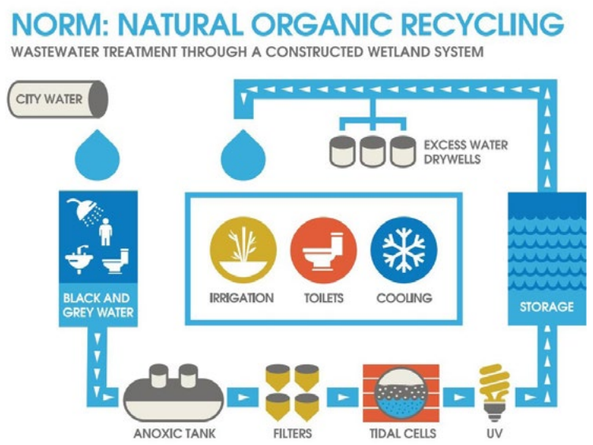
- Firm-wide Initiatives
- Tracking Volunteerism
- Develop Relationships with New Organizations
- Increase Participation
- Team w/ Industry Partners

GREAT PROJECTS

CITY CREEK CENTER, SALT LAKE CITY, UTAH
IMAGE COURTESY OF ALAN BLAKELY

HASSALO ON EIGHTH

Portland, Oregon



In the midst of a population boom, Portland has found itself in need of more residential space. With the city's infrastructure not able to keep up with that need, new buildings must find ways to accommodate a growing population while not damaging the surrounding environment. Hassalo on Eighth was conceived as an EcoDistrict – a series of buildings that share sustainable energy, water, and waste infrastructure – to at once ease the city's housing squeeze, revitalize a neighborhood in need of development, and allow its tenants the ability to reduce their carbon footprint by nearly a third.

Glumac provided mechanical, electrical, and plumbing design, energy analysis, technology integration, lighting design, and commissioning services on the Hassalo on Eighth project. With a focus on water reclamation to reduce increased strain on the Willamette River, which runs directly through Portland, Glumac partnered with Biohabitats to design a waste water system that cleans sewage using bacteria in an artificial tidal wetland, which appears as typical planting beds in the landscape between each building. It has the potential to transform up to 54,000 gallons of sewage into reusable gray water every day, which is then used in toilet flushing, cooling, and irrigation, with any available excess used for groundwater recharge. A central condenser water loop connects the retail spaces in each building, facilitating thermal energy sharing throughout the district. In addition, the mechanical plant in an existing 12-story commercial building on the site was upgraded to serve commercial spaces in the new buildings.

Based on the savings gained in water, sewer, and system development charges, Hassalo on Eighth's water system will pay for itself in four years. It has also achieved three LEED Platinum certifications.

PROJECT DETAILS

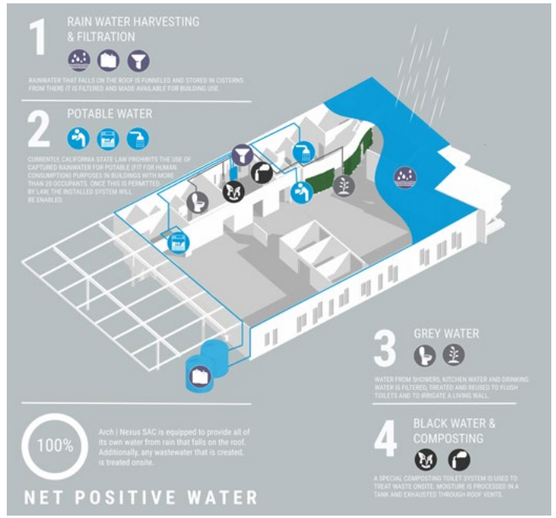
SIZE: Four-city blocks (592,616 sf of housing; 31,707 sf of retail; 26,400 sf of retail tenant; 271,582 sf of office)
PROJECT COST: $192 million
COMPLETION DATE: 2015
ARCHITECT: GBD Architects
CONTRACTOR: Turner Construction
WATER SYSTEM PARTNERS: Biohabitats, Puttman Infrastructure
DEVELOPER: American Assets Trust
SERVICES: Mechanical, Electrical, Plumbing, Energy Analysis, Technology Integration, Lighting Design, and Commissioning

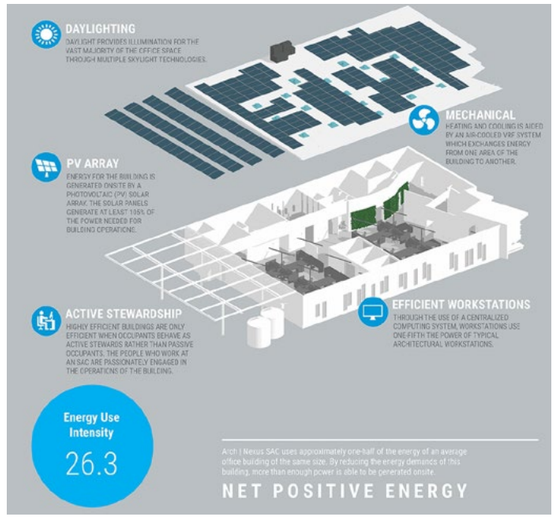
IMAGES COURTESY OF LARA SWIMMER
GRAPHIC COURTESY OF GBD ARCHITECTS

ARCH|NEXUS SAC

Sacramento, California

IMAGES COURTESY OF ARCH|NEXUS





The Arch Nexus Sacramento (Arch|Nexus SAC) headquarters is a noteworthy endeavor in that is the first **Living Building Certified building in California**, having achieved Net-Positive Energy, and is designed to achieve Net-Positive Water.

This is one of the first LEED v4 Platinum Office Buildings in the world. The firm invested in the City of Sacramento by undergoing a major renovation of an existing office building downtown, turning it into a showcase of high-performance design. It is now the new home of Arch Nexus and reflects the firm's core values of inspiration, stewardship and regeneration.

Glumac performed full mechanical, electrical, and plumbing design as well as lighting design and energy analysis. The use of photovoltaic panels on the rooftop helps the building achieve net-positive energy and the plan includes design for net-zero water use utilizing on-site rainfall capture and internal gray water recycling.

PROJECT DETAILS

SIZE: 8,200 sf

COMPLETION DATE: 2016

OWNER: Architectural Nexus, Inc.

SERVICES: Mechanical, Electrical, Plumbing Design, Energy Analysis, Lighting Design

PROJECT TEAM: Architectural Nexus, 2020 Engineering, Glumac, Warren Consulting Engineers, Miyamoto, Sustain3, Capital Engineering Consultants, Habitat Horticulture, Hunt Electric, Market One Builders

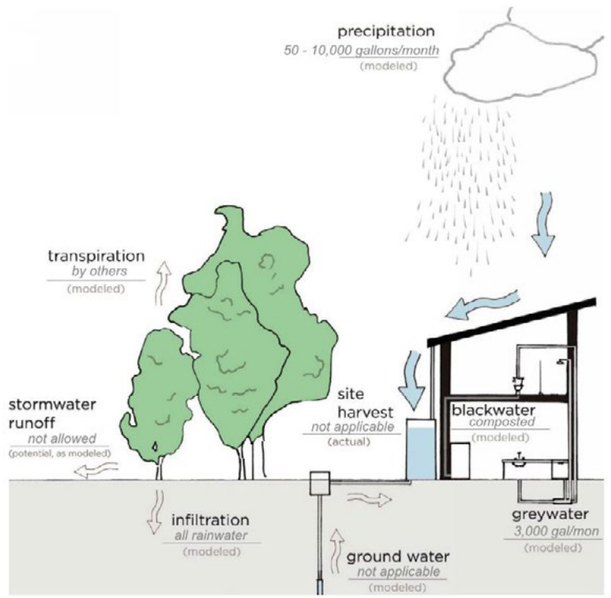
CSUN SUSTAINABILITY CENTER

Northridge, California

As the focus on sustainability continues to grow among students and administration at Cal State Northridge, and its Institute for Sustainability expands, it was determined a facility was needed to house its classes and faculty and serve as a showcase for their work. The existing recycling yard was tapped as a space for its new Sustainability Center, a facility designed to achieve LEED Platinum certification and to meet the Living Building Challenge with Net-Zero Energy.

Designed to work with the strengths and weaknesses of the San Fernando Valley's natural environment and climate, the facility houses faculty offices, meeting spaces, and maintains the recycling yard. As sunlight is plentiful in the area year round, the 5,000-square-foot recycling yard is covered with a 2,000-sqaure-foot solar photovoltaic canopy that supplies energy to the building. A solar hot water system provides heated water needs for the inside the facility. Since water is scarce in the area, composting toilets are used to negate water usage for waste removal, and a system for gray water capture is targeting to meet 100% of landscaping irrigation needs.

Glumac continues to work closely with CSUN students on the design of the project, and it has become an educational opportunity for students in the University's sustainability program. Glumac has held day-long design charettes with the students to learn about their needs for the facility, and in turn educate them on cutting-edge sustainable solutions.



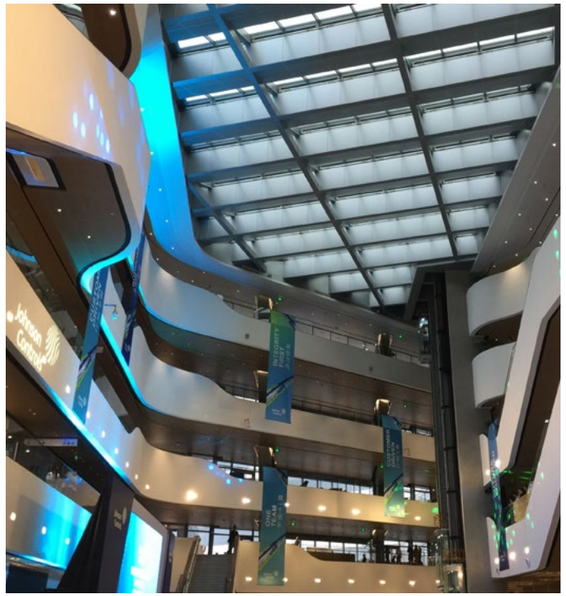
PROJECT DETAILS

SIZE: 4,000 sf inside; 5,000 sf outside
PROJECT COST: $2.3 million
COMPLETION DATE: 2017
ARCHITECT: Gensler
OWNER: California State University, Northridge
SERVICES: Mechanical, Electrical, Plumbing Design, Energy Analysis

IMAGES COURTESY OF CAL STATE NORTHRIDGE

JOHNSON CONTROLS

Shanghai, China



Glumac provided mechanical, electrical, and plumbing engineering services for Johnson Controls (JCI) China Headquarters Building in Shanghai. JCI's new headquarters features innovative and energy-efficient building systems to meet the project's goals of providing exceptional comfort while exemplifying innovative and sustainable design. The building services system will also showcase most of JCI's high tech products and systems.

The new building is used as an office for JCI's Chinese employees as well as research and development and showcase for its new products and technology. The building has a total area of 150,032 sf containing mostly open plan offices, kitchens, cafeteria, laboratories, gym, a data center, show rooms, and conference rooms.

The JCI Headquarters received the first-ever EDGE (Excellence in Design for Greater Efficiency) design-phase certification for an office building in China. It is also certified LEED Platinum.

FEATURES

- Displacement ventilation, floor mounted chilled beam system
- Geothermal system for condenser water system
- Earth tube system for outside air intake
- UV lamps installation at the air handling units
- Condensate water re-collection and recycling storage system
- Kitchen exhaust with variable airflow system
- Photovoltaic and solar hot water system
- Fuel cell system
- Low-flow plumbing fixtures and waterless urinals
- On-site water purification system
- Daylighting control

PROJECT DETAILS

SIZE: 150,032 sf
COMPLETION DATE: 2014
ARCHITECT: Gensler
OWNER: IBP (Landlord), Johnson Controls (Tenant)
SERVICES: Mechanical, Electrical, Plumbing Design, Lighting Design

ON THE BOARDS

Our main goal is to work on great projects that push the limits of sustainable design.

Our projects "on the boards" represent just some of what we hope to achieve in the coming year. By daring to think big, we aim to provide our clients with the best MEP, low voltage, and lighting design; energy analysis; and building commissioning possible.

A growing area of focus for Glumac is developing spaces that not only improve their surrounding environment, but improve the lives of the occupants who work, live, and play within them. Entering a partnership with Delos, we are working toward to becoming leaders in implementing the WELL Building Standard. It is a newly developed sustainable building designation that places emphasis on core design concepts of occupant health and wellness, and draws connections between sustainable systems, architectural design, and environmental consciousness. By melding these concepts together, we create a space that are mutually beneficial to owners, occupants and the environment.

AREAS OF FOCUS

- NET ZERO ENERGY/WATER
- SHARED INFRASTRUCTURE
- BUILDING COMMISSIONING
- RESILIENT DESIGN
- HUMAN-CENTRIC DESIGN
- LOW VOLTAGE DESIGN

1. BROADWAY OFFICE DEVELOPMENT | SAN ANTONIO, TX
Plans include use of geothermal energy; 100,000 gallon rain & condensate storage, treatment & reuse system with recycled water backup for 100% supply for toilets, urinals, landscape, and cooling tower water makeup, with an estimated total site domestic water offset of more than 4 million gallons per year as compared to code minimum plumbing fixtures and cooling towers. **(Rendering Courtesy of Silver Ventures)**

2. CARBON 12 | PORTLAND, OR
At the time of completion, this will be the tallest Cross-Laminated Timber (CLT) building in the US. The use of CLT instead of concrete permanently sequesters the carbon from construction instead of releasing it into the atmosphere. The systems used in the project include air-cooled VRF and LED lighting. **(Rendering Courtesy of Path Architecture)**

3. THE COMMONS | SEATTLE, WA
Located in the walkable neighborhood of Ballard, The Commons is a LEED-Platinum certified mixed-use project. Blending residential apartments, offices, and retail uses on one site, the project was designed with sustainability in mind. It features Energy Star appliances in the living spaces, LED lighting throughout, electric vehicle (EV) charging stations, solar PV panels to offset electricity use, air-cooled Variable Refrigerant Flow (VRF) for space conditioning in both offices and residences, smart controls for temperature and lighting in the residential units, rainwater harvesting for irrigation, and bike lockers on every floor. **(Rendering Courtesy of Studio Meng Strazzara)**

4. DURHAM CENTER SCHOOL | TIGARD, OR
Tigard Tualatin Durham Center is registered on the Path to Net Zero with the Energy Trust of Oregon and aims to pursue Net-Zero Energy. Energy modeling results show the total annual energy consumption in the building is reduced by 55% from 42.4 kBtu/sf-yr EUI to 20 kBtu/sf-yr EUI with the proposed construction materials, lighting, and mechanical system. **(Rendering Courtesy of Bora Architects)**

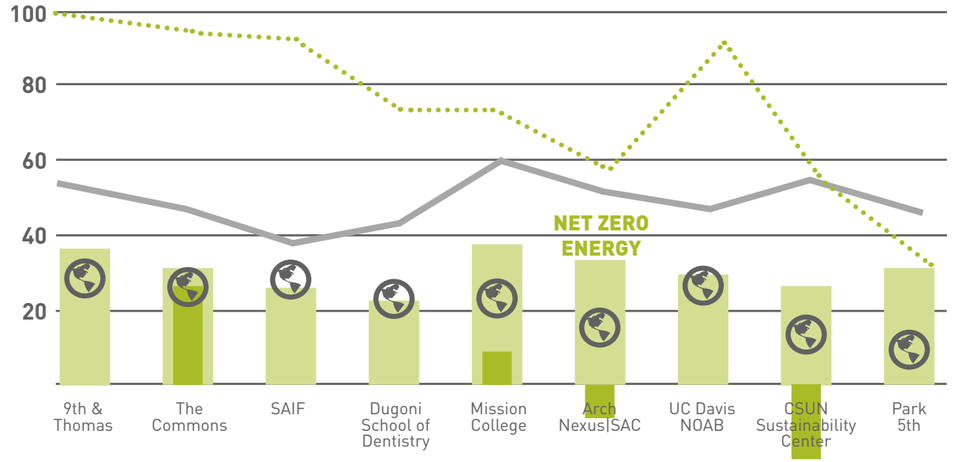
PROJECT
PERFORMANCE

Nature has taught us that being efficient with Earth's resources can also improve our health. For example, radiant technology and daylit buildings save energy and offer comfort and circadian stimulation. The public health research is compelling and it's an area of building design we want to continue to explore and educate our clients about.

NICOLE ISLE | VICE PRESIDENT | SUSTAINABILITY STRATEGIST

CHARTING
PROJECT EUI

This graph shows a few of our recent projects in terms of modeled EUI, ASHRAE 90.1, and architecture 2030 and by region. This is just a snap shot of what our energy team at Glumac does. Energy modeling for LEED, code compliance, LBC, or general sustainability is integral to sustainable building design. We wanted to showcase some examples in terms of EUI and energy modeling.



Architecture 2030 Baseline

Architecture 2030 Regional Baseline

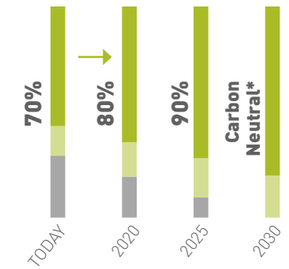
Modeled EUI (does not account for PV/ Net Zero)

ASHRAE 90.1 Baseline EUI

Modeled EUI (including PV)

WHAT IS ARCHITECTURE 2030?

In short - the drive for the built environment to dramatically reduce global fossil fuel consumption and GHG emissions. By presenting project designs that offer pathways for net-zero across all market sectors, Glumac is working toward a sustainable future. The road is not easy, and here, we want to present our progress.



architecture 2030

Fossil Fuel Energy Reduction

Renewable

Fossil Fuel Energy Consumption

Source: ©2015 2030, Inc./Architecture 2030

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

HIGHER EDUCATION

MISSION COLLEGE

Glumac provided mechanical, plumbing, electrical engineering, and energy services for the three-story Student Services Building at Mission College in Santa Clara, CA. The facility will serve 1,000 students and faculty and serve as the new main entry point for the campus. Originally targeting LEED Gold certification, the project is now striving for LEED Platinum. The Lean and collaborative approach, along with Glumac's energy usage database, fostered the creativity needed to achieve the end-user savings and functionality necessary to position Mission College as a sustainable campus.

EUI = **49.3** MODELED **WITHOUT PV** | **99%** ENERGY OFFSET **w/PV** | **35%** BETTER THAN **ASHRAE**

IMAGE COURTESY OF LIONAKIS

CORPORATE HEADQUARTERS OFFICE

SAIF HEADQUARTERS

During the winter of 2012, the Salem, OR area received nine inches of rain over a five-day period. Many buildings located in the flood-plain adjacent to Pringle Creek flooded. One of these buildings was SAIF headquarters, whose ground floor was overcome by water. When it was decided it was time for a substantial renovation of the campus, SAIF chose to turn the 22,000-square-foot ground floor into a basement to mitigate future flooding. The new first floor was built above the flood plain, as were all new building systems. The building also received a seismic upgrade to bring it up to current codes and standards. The building is solar ready, with space and equipment allocated for a future PV array. The building was also designed as a 50-year building, with low maintenance and durable materials. SAIF also acknowledged disaster preparedness is not only climate-related, and took extra measures to mitigate human-caused issues. This includes added security measures such as bulletproof glass and walls and a panic button near the building entrance.

EUI = **24.5** | ETO PATH TO **NET ZERO** | **40%** BETTER THAN **OREGON ENERGY CODE**

IMAGE COURTESY OF ANKROM MOISAN ARCHITECTS

HEALTHCARE FACILITY

UNIVERSITY OF WASHINGTON
SCHOOL OF MEDICINE

Glumac is involved in the phase 3.2 development of the University of Washington's School of Medicine - a 165,000-square-foot research tower that will feature a retina clinic, diabetes facility, urgent care unit, and a neighborhood clinic that will also house research labs and administrative spaces.

Our energy modeling group is heavily involved in energy efficiency measure modeling, and providing guidence on achieving LEED goals.
When completed, it will integrate in to the school's 1.2 million-square-foot campus, located on a two-block site in Seattle's South Lake Union neighborhood.

EUI = **145**
BASELINE: **195**

25%
LESS ENERGY THAN **BASELINE**

IMAGE COURTESY OF PERKINS+WILL

COMMERCIAL MIXED-USE DEVELOPMENT

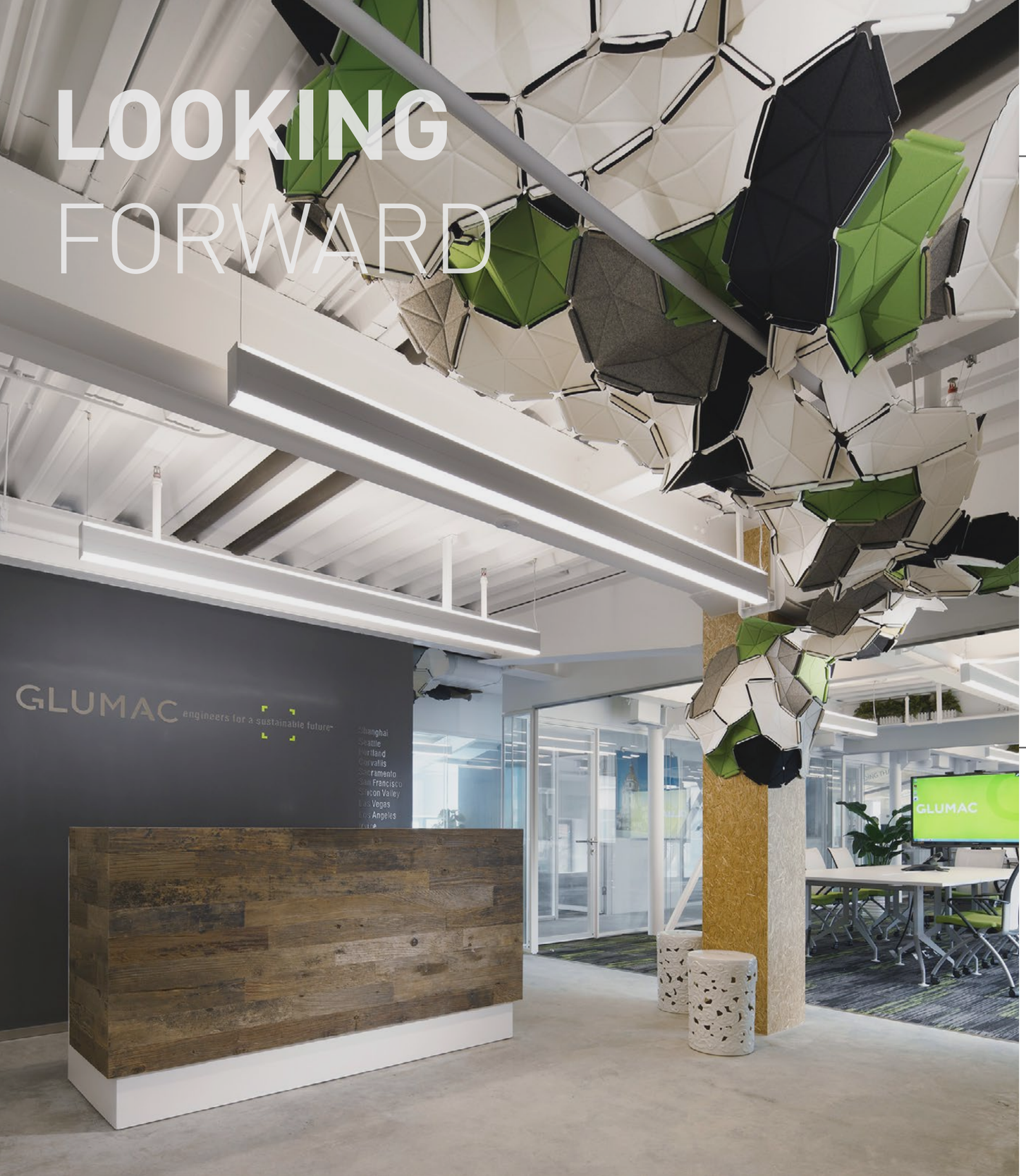
PARK FIFTH

The project is bounded by W. 5th St. and S. Olive St in Los Angeles .
It consists of a high-rise tower and a mid-rise on a common podium with 2 levels of above ground and 2 levels of underground parking for approximately 775 cars. The high-rise tower is will be 23-stories, 444,500 GSF, and 660 units. Occupancies will include market-rate apartments, interior amenities, podium-level courtyard, rooftop amenities, commercial uses at grade, and building services. Offsite scope will include mid-block connection between Hill Street and Olive Street and sidewalk improvements along Olive, 5th and Hill. It is designed to achieve a U.S. Green Building Council LEED for New Construction Silver.

EUI = **33**

25%
BETTER THAN
ASHRAE

IMAGE COURTESY OF CRAIG SHIMAHARA



LOOKING FORWARD

2018
GOALS

1. Start a firm-wide official bike to work initiative. Increase our miles biked to work or start new bike to work challenges in other offices.
2. Present plan to track the actual energy use in all of our offices.
3. Energy Team will improve upon tracking ongoing project data to better understand performance over time, either from M&V or utility data.
4. Revise our transportation tracking to gain a more holistic understanding of how each Glumac staff person commutes. This will help us learn more about our carbon foot print and how to shrink it
5. Start to weigh waste (trash – recycling – composting) in offices.
6. Aim to reduce GHG emissions.
7. Try and make more of our marketing materials either electronic only or printed on recycled paper or increase number of sustainable office supplies.
8. Begin tracking volunteer hours.
9. Develop sustainable policies/practices firm-wide - including healthy work environment, a procurement policy, a travel policy, and a housekeeping policy.
10. Obtain at least one standing desk per office.
11. Investigate at least 5 sustainable design and healthy building opportunities on every project.
12. Increase our WELL AP staff count to 30 total.
13. Add an additional 10 projects to the GBECS Energy Performance Building Database.
14. Lead at least 3 LEED Platinum projects in each Glumac Region.
15. Lead at least 1 Living Building Challenge or Net Positive project in each Glumac Region.
16. Lead at least 5 WELL Building Standard projects in each Glumac Region.

sustainability
ROCKSTARS

CSR PROJECT LEADER
Laure Michelon | Energy Analyst
Southern Region

REGIONAL CSR TEAM LEADERS
Lauren Adams | Energy Analyst
Central Region
Brian Goldcrump | Energy Analyst
Northern Region
Quinnie Li | Business Development
China Region

SUSTAINABILITY EXPERT
Nicole Isle | Sustainability Strategist
Northern Region

CONTRIBUTORS
Nicole Dunbar | Mechanical Designer
Northern Region
Siyang Zhou | Sustainability Consultant
China Region
Xiao Shi | Sustainability Consultant
China Region
Annie Levan | Energy Analyst
Central Region
Michael Adams | Energy Analyst
Southern Region

MARKETING
Alex Baumgardner | Marketing+Communications
Corporate

FINANCIAL REPORTING
Jaime Chavanu | Accounting Analyst
Corporate

LEADERSHIP
Steven Straus | President/CEO
Corporate
Angela Sheehan | Chief Financial Officer
Corporate

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