2030 Commitment Climate Action Plan

ELLENZWEIG

Introduction

As architects, we understand the need to exercise leadership in our role in creating the built environment.

Located in Boston, Massachusetts, Ellenzweig's national practice is centered on the design of academic, institutional, and corporate buildings for science research and teaching, medical and health science education, and energy infrastructure.

Buildings today are the largest single contributor to greenhouse gas emissions (GHGs), responsible for almost one-half of the total annual production in the US. As architects, we understand the need to exercise leadership in mitigating GHGs, particularly because the building types we design are technically complex and highly energy intensive.

Our Climate Action Plan outlines how we will work towards carbon neutrality through Staff Engagement, Design Process and Innovation, Facility Operations, and Advocacy and Outreach.

Massachusetts Institute of Technology
Koch Institute for Integrative
Cancer Research, Cambridge, MA

LEED Gold

Staff Engagement

At Ellenzweig, staff engagement is one of the pillars of our collaborative and creative environment.

Leadership / When the 2030 Challenge was initiated in 2006, and it became apparent that buildings were such a significant source of GHGs in the United States, Ellenzweig launched its Green Committee with 19 members including five Principals. Its mandate was to act as an incubator for sustainable design development and knowledge sharing. It advocated for the advancement of new tools, piloting of sustainable design initiatives, and hosting of green building workshops. Today these strategies are fully integrated into our firm culture.

In February 2013, Ellenzweig became a signatory of the American Institute of Architects' 2030 Commitment and its goal of carbon-neutral buildings by the year 2030. Ellenzweig's leadership committed to report to the AIA annually on the progress of the firm's design portfolio and energy performance towards meeting the 2030 goals.

Training / We have a strong history of staff training, and guidance on Sustainability is no exception. Industry experts are regularly invited to present on emerging technologies and topics, and employees attend conferences such as those hosted by USGBC and I2SL.

Communication / An office-wide Sustainable Practices blog allows members of the firm to post information on new technologies and current developments in the field, as well as occasional global environmental news.

Our training programs include:

- yearly or bi-annual LEED and WELL Study Groups to enable staff to earn and maintain credentials;
- education on how to communicate the benefits of integrating sustainable design measures, including the advantage of using renewable resources, life cycle analysis, evaluation of long-term benefits, or occupant health;
- seminars on architectural and interiors products with regard to impact on occupant health and the overall environment;
- coaching on how and when to use available sustainable design tools and assessment software;
- guidance on how to conduct sustainable design charrettes; and
- regular seminars and webinars on various sustainable design topics.

EMD Serono
Project SagaMORE, Billerica, MA

First WELL Gold in U.S.

Design Process and Innovation

We increasingly seek to implement innovative sustainable design strategies as form givers, challenging traditional boundaries of the buildings we design, transforming their visual character as well as the experiences of those who use them. By integrating emerging green technologies in our projects, our process supports our clients as advocates of energy efficiency and environmental action within their organizations.

Team / With about 50% of our staff holding a LEED credential, our project teams are inherently composed of sustainable design-minded professionals and designers. In addition, Sustainable Design reviews of every project are scheduled with the full consultant team during the design phases of each project to ensure that every sustainable design aspect is explored, and life cycle analyses are presented to our clients to help them make informed choices. We select our consultants for both their proficiency in the design of technically complex buildings, and their expertise in effectively designing infrastructure systems to reduce the carbon footprint of our buildings.

Tools / A checklist of sustainable design practices to be investigated at all phases of the design process is available to each project team, and the office database of projects, tracking sustainable design strategies, energy use, and certifications, is a valuable resource for all staff. The Project Architect and Project Manager are responsible for accurately completing the database.

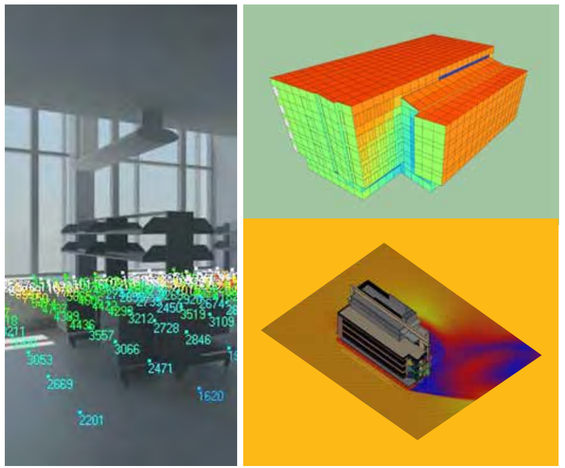
We also rely on design tools developed by experts outside of the office, such as the Whole Building Design Guide, BuildingGreen, and the COTE Top Ten Toolkit to help project teams make the most informed decisions at each stage of a project.

Methodology / In addition to designing sustainably and exploring emerging green technologies that might inform the building design, we employ computerized modeling for building performance analysis to assess building orientation, envelope design, and energy performance at the earliest phase of design. This allows us to test high-performance building metrics against the energy goals of a given project in collaboration with our engineers.

Our dedication to the design of high-performance buildings is manifested in our continuous research. Most recently, we formed a Task Force to explore high-performance Exterior Wall Assemblies that go well beyond standards mandated by the Building and Energy Codes. This ongoing work is disseminated and applied to active projects.

We strive to implement on each project—regardless of whether it is pursuing certification—the following actions:

- defining the project's sustainability and energy goals in Schematic Design, and establishing regular milestone checks throughout the project schedule, with energy modeling to begin at the onset of the Design Development phase;
- investigating available renewable resources at the given location of the project; and
- gathering post-occupancy performance and energy use data from our clients for benchmarking purposes.



Michigan State University
College of Human Medicine
Secchia Center for Medical Education
Grand Rapids, MI

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Facility Operations

We integrate sustainability not only in our architecture, but in the way we run our business. Since signing the AIA 2030 Commitment we have:

- significantly reduced paper consumption with double-sided printing as the default on all printers, and converted to electronic marketing materials;
- reduced the number of project-related trips with use of online meetings, resulting in a 25% decrease in our GHG travel footprint.

In 2016, Ellenzweig moved to 230 Congress Street in Boston, where we renovated our office environment. The renovation received LEED-CI Platinum certification. Priorities included the provision of:

- showers, lockers, and indoor bicycle storage to support and increase the pool of Ellenzweig cyclists;
- LED light fixtures throughout to reduce our Light Power Density;
- optimized day-lighting and use of lighting system sensors; and
- mechanical systems programmed to consume less energy.

Our office is within a three minute walk of a major transportation hub that includes bus, rail, and subway systems. Nearby parking with electrical charging stations is available for low-emitting vehicles and electric cars.

Advocacy and Outreach

We wish to elevate the discourse on high-performance buildings in our clients' settings by incorporating demonstration technology for their occupants and the public where possible.

As an example, we designed a 100-foot-long skylight for a community college facility with building-integrated photovoltaics, which students and faculty will experience every day.

Ellenzweig members frequently participate in activities that promote green building design. We speak at conferences nationally—such as Tradeline, SCUP, and I2SL—promoting innovative and sustainable design strategies for laboratory buildings. We sponsor USGBC, USGBC-MA, and I2SL in their mission to create a more sustainable built environment, and encourage our staff to volunteer in such organizations and in their communities to actively promote sustainable design.

Our senior staff continue to publish articles and case studies in professional journals advocating for a path to carbon neutrality, including a study examining the real carbon costs of using natural gas as a bridge fuel. As we move forward we look for more ways to learn and expand our reach by researching emerging green technologies and publishing promising applications.

University of Vermont
Jeffords Hall Plant Sciences Building
Burlington, Vermont

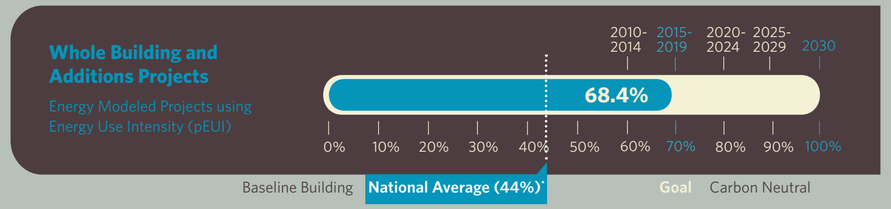
LEED Gold

Conclusion

Our most recent report to the AIA 2030 Commitment on the projected energy performance of building projects in design in 2018 reflected an average of 68.4% energy use reduction relative to the benchmarks established by the 2030 Challenge (namely 70% energy use reduction in the period of 2015–2019).

Our challenge is on-going. / Through the innovative and creative use of ever-growing renewable energy technologies, and the design of net-zero-ready buildings, we continue to strive to increasingly reduce systems and fuels that are detrimental to the environment in the buildings we design, as a commitment to the future generations who will inherit our world.

Ellenzweig
2018 Design Energy Use Reduction



*Preliminary results from AIA DDx

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