

The University of Washington Addresses Sustainability in the Built Environment: A Look at the New Life Sciences Building

February 15, 2018



Image courtesy of Rosemary Reyes

By [Jack Stubbs](#)

The University of Washington will have a new focal point for one of its most popular academic departments in the coming months and is also making moves in its efforts towards sustainable design.

The new Life Sciences Building (LSB)—a 187,000 square foot project

underway that will allow the institution's burgeoning Department of Biology to continue to grow and will represent a landmark in efforts around sustainability—last week underwent a pivotal moment in the construction process.

On Friday June 9th, an event was held to showcase the one-of-a-kind energy-producing solar fins at the UW Life Sciences Building. Construction began on the 5-story \$124 million facility in July 2016 and is set to be completed in June 2018 and ready for occupancy by fall 2018. The existing greenhouse and associated buildings on the site will be demolished as part of the project plans to make way for a new 20,000 square foot biology greenhouse that will also occupy the site.

The project team for the soon-to-be-completed development includes the UW Department of Biology, College of Arts and Sciences, Perkins+Will (architect), Skanska (contractor), AEI (electrical designer), VECA (electrical subcontractor) and Mission Glass. UW Solar, a student group at UW, was also actively involved in the analysis for the implemented solar energy system, writing grants for funding and presenting them to the University.

The imminent opening of the complex, located at 3745 W. Stevens Way NE along Montlake Ave., will be the final chapter in a multi-year project that will address a much-needed lack of infrastructure in the University's Biology department. "The new Life Science Building creates the opportunity for the University, College of Arts and Science and the Department of Biology to finally respond to the huge undergraduate teaching demands that have been in place for years by providing new lab space," said Steve Majeski Associate Dean for Research Administration and Infrastructure at the College of Arts and Sciences. The new complex will support 1,400-plus biology undergraduate majors and 100-plus graduate students, according to the project's web site.

The public ground level includes a café, lounge, active learning classroom, student collaboration rooms, teaching labs and a roof deck, while the lower

levels will include the new state-of-the-art greenhouse visible from the Burke-Gilman Trail. The upper levels will contain research labs, offices and conferences rooms.

The building includes several unique features aimed at encouraging sustainable design, one of which is the recently-installed solar technology on the building's exterior. The building's south wall, visible from Montlake Ave., will be partially comprised of a thin film of solar cells placed within vertical glass segments called "fins"—these fins will use the energy from the sun to generate electricity, which is then fed to the city's energy grid. This technology will produce enough electricity to light 12,400 square feet of space.

The project also features a 6-story 1,000 square foot glass-box atrium, which connects the south and north ends of the building and a "communicating stair" element that encourages greater flexibility and collaboration between biology researchers across the building's different levels.

Two other prominent features within the building align with the overarching goal of implementing a sustainable design. The main elevator core, visible from an exterior courtyard, is wrapped in live-edge wood slabs from 200-foot Douglas fir trees—a donation from the Leopold Foundation as part of forest preservation efforts—and a unique water-capturing reverse-osmosis system stores unusable water from the biology labs and re-uses it for watering the plants in the greenhouse.

And while these features are unique to the new LSB on the University of Washington's campus, these specific moves to incorporate sustainable elements is part of broader trend occurring in the larger regional context, according to Devin Kleiner, project architect and senior associate with Perkins+Will. "Sustainability issues are becoming more prominent in the architectural profession as the public is becoming more aware of the regional and global environmental challenges we face," he said.

The University and the Biology department, also, recognized that they could play a role in incorporating sustainable design elements. “There is also a growing awareness among clients that their projects can play a significant role in addressing these challenges,” Kleiner said. “The client representatives for the LSB recognized that sustainability is part of their Climate Action Plan.”

However, achieving a sustainable design in the new academic building did not come without a unique set of design challenges, according to Kleiner. “Cost is often a challenge with implementing aesthetically captivating designs while also addressing environmental concerns,” he said.

The LSB occupies a prominent position on the University of Washington’s Campus—and, subsequently, one of the primary obstacles was how to reconcile environmental concerns with the ultimate goals of the University, according to Kleiner. “As the gateway to Central Campus, The University and Biology department wanted both a striking building and an expression of their commitment to innovation and sustainability,” he said. “We worked closely with the University stakeholders in two sustainability workshops to align with the University’s goals and broader vision.”

Along with lofty goals around sustainability, the LSB will significantly enhance the infrastructure and long-term vision of the University’s Biology department. “The new building and its facilities...will give UW undergraduates the kind of science research skills and training that is needed to compete in the modern world of science research, biotechnology and health sciences,” Majeski said. A large portion of the University’s biology faculty will be moved into the new complex when it opens in the fall.

As one of Seattle’s most prominent academic institutions, the University and its growing Biology department influences wider trends in the region as well, according to Majeski. “Biology and other life science related departments at the University play a crucial role in helping the growing Life Sciences business sector in the Puget Sound region.”

Biology is the largest STEM major at the University (which graduates over 600 students per year) and across the state of Washington. According to Majeski, almost 50 percent of these graduates go into healthcare jobs in the state, while others go into biotechnology and teaching jobs. “We here at the UW are doing our part to provide the students from the state of Washington to have the skills and training to be able to fill those jobs.” In support of this trend, the Washington Employment Security Department projects a 21 percent growth in biology-related occupations by 2019 to more than 300,000 jobs statewide.

In terms of the longer-term impacts of the project, the new LSB will also contribute to the new Campus Master Plan in the works for the University, which will add up to 6 million net new gross square feet of development across the Central, West, South and East campuses. “The Life Science Building fits in well with the University’s new Campus Master Plan...the location of the building is important as it sits at the intersection of North and South Campus,” Majeski said.

A visible focal point because of the unique solar fins that adorn the building’s exterior facade, the design and larger objective of the LSB is to heighten awareness about more pressing concerns around sustainability as well, according to Kleiner. “We hope that the LSB will be part of a larger movement on campus to show how its built environment reflects [the University’s] vision for a sustainable campus,” he said.

The hope is that the aesthetically enticing visual impact of the building will illuminate more than first meets the eye. “In the evenings when the lights are on in the LSB the hope is that the solar fins glow like a lantern, providing a beacon on the campus and project their aspirational vision,” Kleiner said.