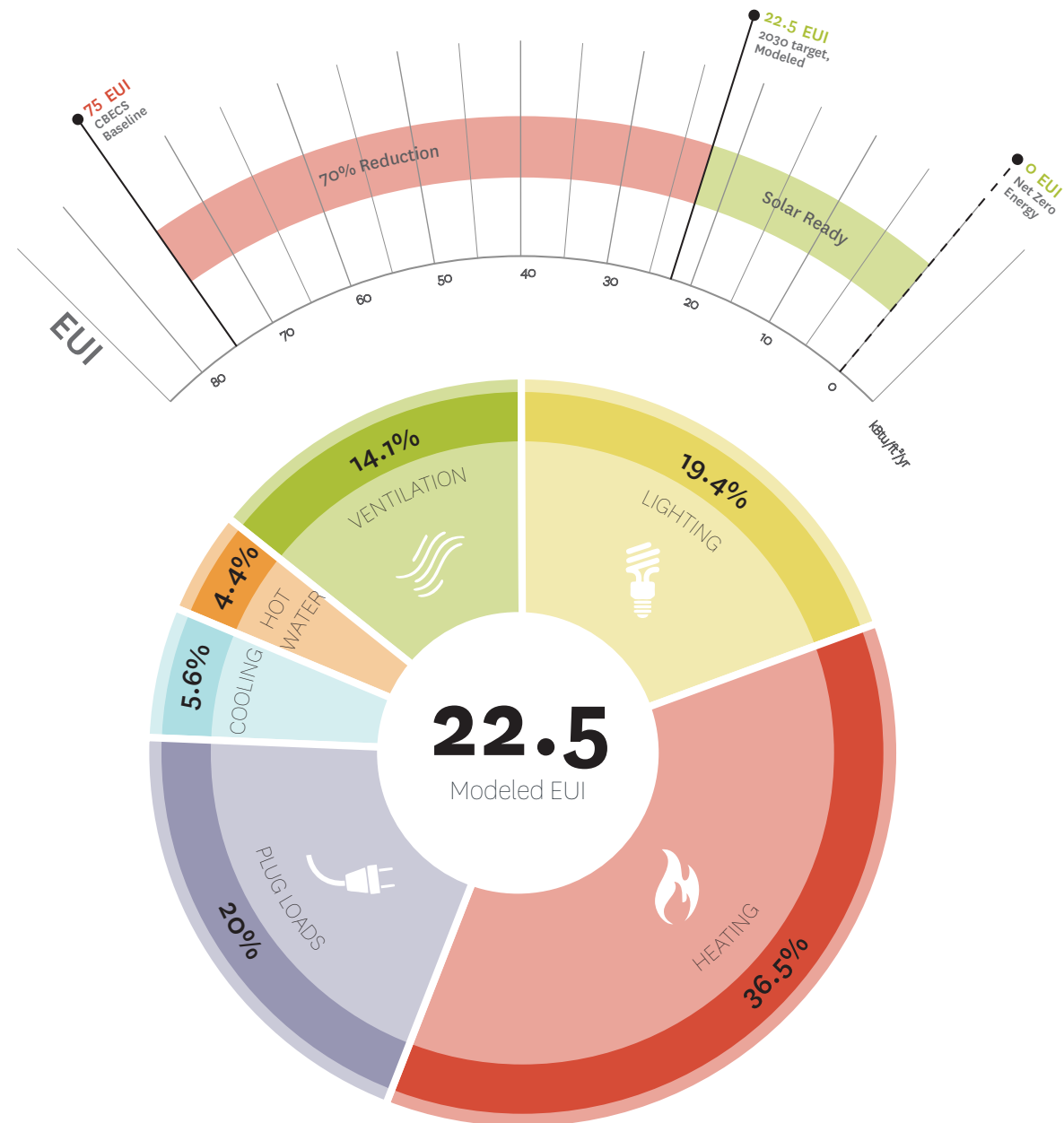


**Gilkey International Middle School
French American International School**
Sustainability Summary

Project Type: K-12 Education
Location: Portland, Oregon
Built Area: 26,560 SF
Scope: New Building, completed 2018
Certification: 2030 Compliant, Net Zero ready

Architect: Hacker



Design Summary

The French American International School improves upon an existing campus of separate modular buildings with no internal circulation by creating a social learning “habitat” with a strong connection to both the forested canyon outside and the existing school. The project was highly collaborative, and sustainability was integral to the design and construction of the building, leading the client to set ambitious goals for the future.

Key Sustainability Concepts

The sustainable design process began with a meeting and work-session with stakeholders and the Energy Trust of Oregon (ETO) that put the project on the Path to Net Zero program. Thanks to the incentives offered by ETO, a sustainable and high-performance building became possible despite the client’s tight budget.

The design concept treats classroom spaces as cabins in the woods, bringing the forest through the building and blurring the lines between inside and out. Using wood as

a driving element throughout the design, the building not only connects to its surroundings but also sequesters carbon and supports local timber industry. Glulam beams and columns accent special points throughout the building, and Black Locust – a hardwood grown in America – replaces tropical hardwoods that would have otherwise contributed to deforestation.

A lively single-loaded corridor provides informal social learning along with the “HUB,” a central gathering space, both being accented by large operable windows. This configuration provides ample daylight and a connection to the landscape while simultaneously allowing cross-ventilation to occur naturally. Likewise, a 3-inch concrete topping slab acts as a solar heat-sink, passively regulating internal temperatures and reducing the need to electrically heat the space.

As part of the Path to Net Zero, the building was oriented and constructed to support the addition of solar panels in the future. Going one step further, conversations with the client about the potential of the site led to creating

a forward-thinking campus initiative to achieve energy independence in the future via a large, ground-mounted solar array.

In order to celebrate the building’s position above a significant natural watershed, rainwater runoff is emphasized on its path down the building, under the path, and into a stormwater pond. This visual expression of stormwater management will be used as a teaching tool, further connecting the building and students to the natural environment.

An unexpected issue that arose was how expensive it would be to build into the steeply sloping site. The native fill was too wet to be useful, and retaining the soil for a light well came with a large price tag. Therefore, money needed to be saved elsewhere. Luckily, through close collaboration with the contractor, the building envelope was reconfigured to provide the same high level of performance as the original design for significantly lower cost.