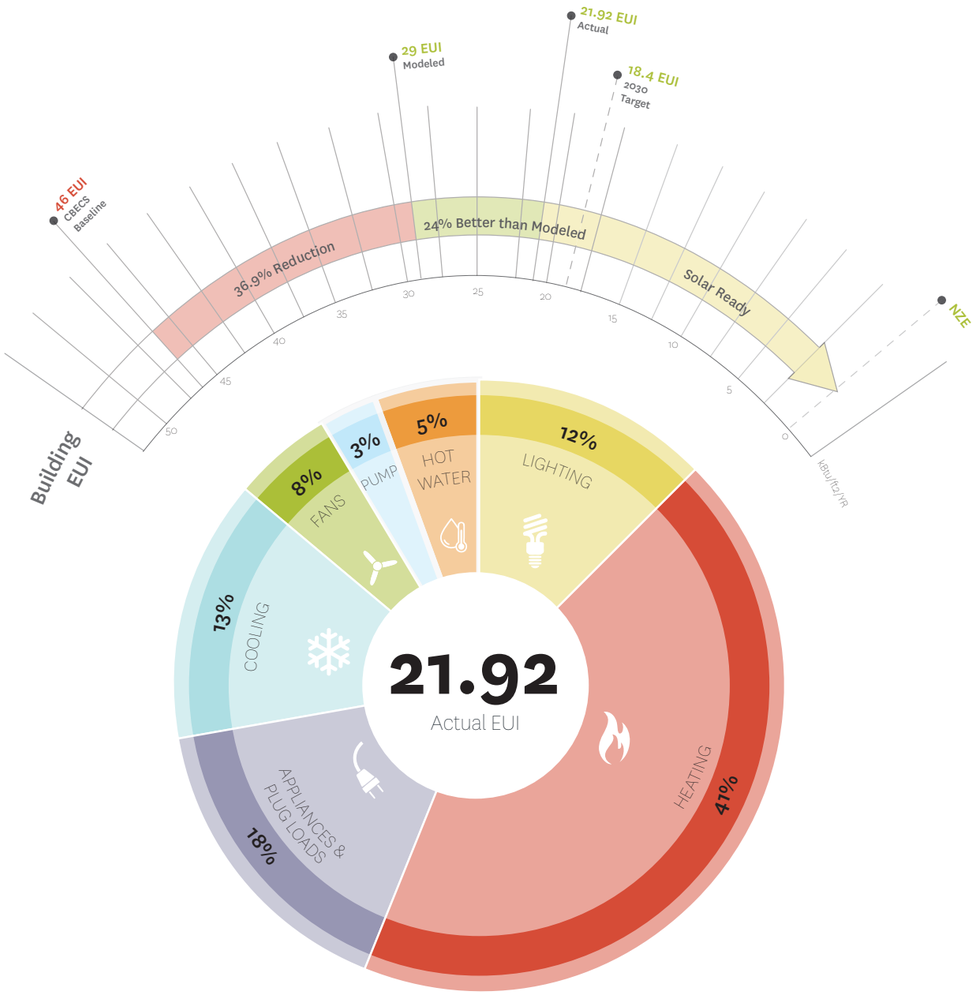
Unitarian Universalist Fellowship of Central Oregon
Sustainability Summary

Project Type: Spiritual / Worship
Location: Bend, Oregon
Built Area: 17,883 SF
Scope: New Building, completed 2015
Certification: Earth Advantage Platinum, Net Zero Energy (NZE) Ready

Architect: Hacker
Energy Consultant: PAE
Sustainability Consultant: ML Vidas



Design Summary
The new spiritual home for the Unitarian Universalist Fellowship of Central Oregon explores the potential for integrating spiritual, educational, and community functions with the subtle beauty of the Central Oregon landscape. The project is designed to embrace the high desert landscape while also serving as a model of sustainability within the often harsh Central Oregon climate. This embodies the Unitarian Universalists' belief in having "respect for the interdependent web of all existence."

Key Sustainability Concepts
The team started the design process by focusing on passive strategies, prioritizing solar orientation, daylighting, and natural ventilation. The building's form and orientation take advantage of the site's abundant sun exposure, allowing for optimum solar harvesting and daylighting. Overhangs on the south façade are tuned to allow for maximum solar gain in the winter while providing shade in the harsh summer months.

Operable clerestory windows allow daylight to penetrate deep into the building while also creating a source for passive cross ventilation. These dual purpose windows reduce the reliance on electric lighting and mechanical cooling.

A 12" thick concrete Trombe wall on the south acts as a thermal mass behind a glass façade. This mass successfully retains the sun's heat and naturally warms the main sanctuary. Additionally, radiant floor heating is used throughout to help heat the spaces during the cold winter months. Both of these strategies minimize the demand on mechanical heating.

A high-performance building envelope reduces the building's demand on mechanical heating and cooling. LED lighting with occupancy sensors reduces the use of electrical lighting. Though solar panels were not installed during this phase due to budget limitations, the roof is structurally designed with adequate area reserved to support the number of solar panels required for this project to achieve Net Zero upon full installation.

This project is also Earth Advantage Platinum certified. Post occupancy energy bills indicate that the passive design strategies and the high performance envelope result in a building that performs 24% better than the modeled EUI.