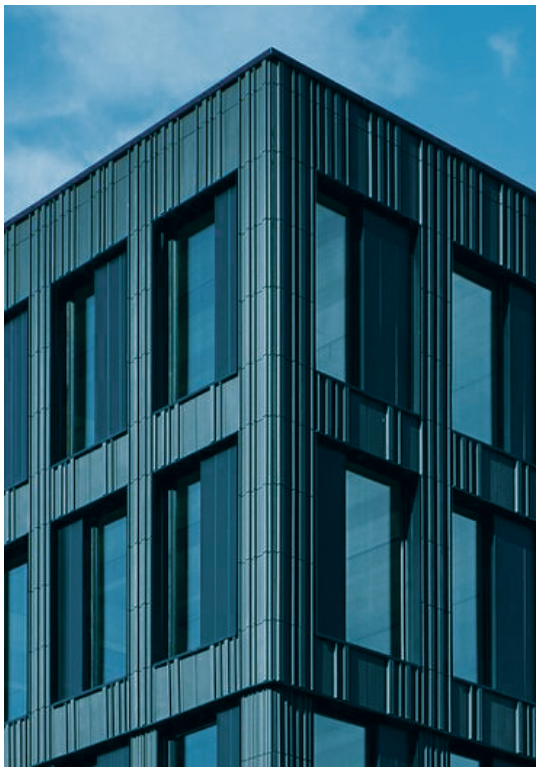
Catalyst Building and Eco-District

Tour Information

WHAT IS CATALYST?



The Catalyst Building is a Zero Energy and Zero Carbon building developed by McKinstry. Its efficiency is supported by the shared-energy South Landing EcoDistrict (Morris Center).

WHY IS IT UNIQUE?

This project shatters barriers to Zero Energy and Zero Carbon by:

- Being one of the world's largest ILFI ready Zero Energy buildings; pursuing dual Zero Energy + Zero Carbon certifications.
- Becoming the first building in western hemisphere to use ILFI's innovative Zero Energy offsite renewable pathway; which provides1,100,000 total kwh/year from renewables.
- Leveraging Cross-laminated timber construction to drastically cut embodied carbon compared to typical steel and cement construction.
- Developing a tenant energy engagement program, including Furniture, Fixtures & Equipment (FF&E) specifications and active management

INNOVATIVE CONSTRUCTION

The development of Catalyst provided a testbed for three key innovations identified by McKinstry to reduce waste in this type of construction:

- Sharing heating/cooling systems across a campus district, enabling thermal waste transfer and economy of scale, substantially increasing efficiency while reducing cost
- Use of timber for structure and decking, instead of heavier steel/concrete construction
- Mass assembly and alignment of disparate interior mechanical, electrical, fire, low voltage, and IT systems

The Catalyst Building and South Landing EcoDistrict prove innovation can drive out waste and enable climate positive buildings in educational environments with no net cost increase.

LEARNING OBJECTIVES

In addition to seeing how this building functions in real-time we will also dive deeper into the following;

- Unifying the Energy Value Chain: Elevating South Landing from an energy consumer into a valued contributor to the grid.
    - EcoDistrict and collaboration with Avista behind the meter
- Zero Energy Engineering, Design & Operations: Decisions focused on exceeding zero-energy certification requirements.

  - Achieves Passive House Institute United States standard
  - Designed for ZC operations: ASHPs, chillers, heat recovery, thermal storage and peaking cold temp boilers
  - East-West orientation to minimize afternoon glare and overheating which minimizes cooling needs
  - High efficiency LED lighting which uses lower-than-code power
- Lean Construction Eradicates Waste: Planning, design, and construction considerations for high performance buildings and a low carbon future.
  - Multi-Service Hub (Overcast Cloud)
- Cross-Laminated Timber (CLT) Benefits Beyond Sustainability: Up and coming technologies and approaches to low carbon buildings.
- Zero Energy Equals a Better Asset: Thinking about sustainability early on ensures utility costs remain lower.