



# Research and Innovation Laboratory (RAIL): Advancing Our Clean Energy Vision

RAIL supports cross-disciplinary research at the intersection of chemistry, materials science, and bioscience. Research in this laboratory will focus on plastics upcycling, next-generation batteries, and advanced energy materials. RAIL was designed to focus on flexibility and has the ability to transform and support a variety of scientific endeavors into the future.

## Intentional, Sustainable Building Features

- There are 2,810 square feet of Carbon Neutral Floors installed throughout the building, helping to offset 2 metric tons of carbon dioxide, or the equivalent of a car traveling 4,964 miles. Even better, the carpet installed in the corridor and collaboration space is the first **carbon-negative** carpet installed in Colorado.

### What is carbon negative?

The reduction of an entity's carbon footprint to less than neutral, resulting in a net effect of removing carbon dioxide from the atmosphere rather than adding it.

- The bird-friendly etched glass deters bird collisions and is coated with high-performance Solarban low-e coating for optimized energy performance.
- The project diverted a minimum of 75% of construction waste from landfills.

## Future Flexibility

- The roof is built to support future solar panel installation.
- The electrical infrastructure is designed to support a future microgrid powered by renewable power sources, like solar power.

## Laboratory Sustainability

- The building systems have been designed to be energy- and water-efficient.
- This building uses high-performance, low solar heat gain coefficient glazing.
- There is a 50% reduction in lighting power by utilizing LED lighting.
- An energy recovery system with indirect evaporative cooling helps to reduce costs for building heating and cooling loads.



## Central Plaza Features

- Native and adaptive plant materials are used throughout the design to help restore the natural habitat, stabilize soils, increase pollinator food sources, and provide a xeric, or low water-use, landscape.
- The metal wire baskets of large stones are called gabions. These permeable retaining walls allow storm water to flow through and percolate into the soil.