

## Wapiti Commons



### Project Goals

Wapiti Commons is an all-electric affordable workforce housing project that will be built to be net-zero. There are two types of units in the project: townhomes and condos. The townhomes will be built using conventional methods, but the condos will be built using reclaimed shipping containers. The shipping containers will be built by Certified B Corp *indieDwellin* in a facility located in Colorado.

The project is expected to be completed in 2022. This case study highlights the plan for achieving net-zero and energy modeling.

### General Information

**Building:** Wapiti Commons

**Location:** Rifle, CO

**Type:** 18 Unit Affordable Condo Development

**Size:** 18,000 sf

**To be completed:** 2022

**Project Team:**

*Developer and Contractor* - Habitat for Humanity, Roaring Fork

*Architect* - Move Matter Architects

### Planned Systems

Each unit will have:

- Mitsubishi Mini Split Air Source Heat Pumps for heating and cooling
- Heat pump water heaters with data port for utility interface
- Induction stove
- Non-ducted ERVs for ventilation
- EV ready garage

Townhouse units will also be equipped with 6.5 kW solar PV systems. Capacity for the smaller units has not been determined yet.

### Estimated Energy Use and Cost

Various scenarios were modeled to show energy consumption and calculate how much is solar needed for offsetting energy use. The anticipated annual energy use in projected modeling came to be about 8,976 kWh per unit.

Considering the net-zero design, with energy consumption and generation, the anticipated annual energy cost is about **\$67** per unit.

The design also passes 45L/Epact tax credit, which gives a \$2,000 credit for a unit certified to use at least 50% less energy consumption for heating and cooling than comparable units, and 1/5 of that energy use reduction must come from building envelope improvements. Project developers are also pursuing the Energy Star New Homes Rebate from Xcel Energy.

