What are the Requirements?

New residential dwelling projects must install onsite renewable energy system(s) capable of producing approximately 50% of the building’s annual energy use. Per DEC R404.7 this comes out to about:

- 7.2 kbtu/yr (2.1 kWh/yr) OR
- 0.12 sq. ft. of panel per square foot of conditioned floor area

All renewable systems must meet the requirements outlined in Section R404.7, unless one of the exceptions applies.

How Does this Apply to Your Project?

While solar photovoltaic (PV) systems are the most common renewable energy system for residential buildings, this code section does not require projects to use PV. The design team may select the onsite renewable energy system that best meets the needs of the project.

Projects exempted from the minimum renewable energy system requirements are:

- All-electric properties
- Buildings that achieve 13 additional efficiency package credits under Section R408 (on top of the minimum requirements of R408.1)
- Buildings that achieve an ERI score five points below the requirements of Section R406
- Buildings that achieve a proposed energy use 9% below the requirements of Section R405
- Dwelling units with a conditioned floor area of less than 1,000 square feet

Why is this Important?

The minimum renewable energy system capacity requirement will greatly reduce the operational carbon footprint of new construction residential buildings. It will also add distributed renewable power generation across Denver, reducing emissions and helping the electric grid transition to renewable energy.

What is the Climate Impact?

The 2022 Denver Energy Code will reduce operational carbon emissions for residential new construction by 58% over the previous code. The minimum renewable requirements of Section R404.7 alone account for 19% operational carbon and is the DEC amendment with the largest contribution to carbon savings.