

## MEMO

**TO:** Community Growth Advisory Committee

**FROM:** Jeff Erickson (CBO) & Alex Sanchez

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**RE:** Pitkin County Energy Code White Paper

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### I. Glossary of Terms

- **The Home Energy Rating System (HERS) -**  
<https://www.hersindex.com/hers-index/what-is-the-hers-index/>
  - The Home Energy Rating System (HERS) is the industry standard by which a home's energy efficiency is measured. It's also the nationally recognized system for inspecting and calculating a home's energy performance.
  - To calculate a home's HERS Index Score, a certified RESNET HERS Rater does an energy rating on your home and compares the data against a '**reference home**'— a designed-model home of the same size and shape as the actual home, so your score is always relative to the size, shape, and type of house you live in.
  - An Energy Rating Index is used by a certified Home Energy Rater to assess the energy efficiency of a home, assigning it a relative performance score. The lower the number, the more energy efficient the home is.
- **Energy Rating Index - ERI**
  - The ERI compares the energy performance to a baseline rather than the energy cost. The ERI requires the design to be a specified percentage better than the baseline. The baseline for the ERI is the 2006 IECC (score of 100). The currently adopted 2020 Pitkin County Energy Code requires that homes reach a score of 30 (70% more efficient than a standard 'reference home'), with the ultimate goal of reaching an ERI of 0 or Net Zero by 2030.
- **NetZero**
  - NetZero is an energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy.
  - It is important to remember that an ERI of 0 is a performance score based on a 'reference home'. This does not take into account additional "amenity" loads.
- **Amenity Loads**
  - Amenity Loads are any load that utilizes energy and is not captured in a Home Energy Rating Index, examples include: snowmelt, pools, spas, heat tape, fire pits, heated garages, dehumidification systems, oxygen concentrator systems, oversized exhaust hoods, home theaters, outdoor kitchens, outdoor fountains, elevators, building automation systems, additional heating systems, backup generators, etc.

- **Renewable Energy Mitigation Program - REMP**
  - Requires that homes with exterior energy usage either mitigate their consumption by installing on-site renewable energy systems or pay a REMP (Renewable Energy Mitigation Program) fee.

## **II. Existing Conditions - How the Energy Code and the Renewable Energy Mitigation Program Work Today**

### **The Home Energy Rating System (HERS)**

In 2018, the Board of County Commissioners directed the Community Development Department to look at the current energy code and make recommendations to ensure we'd reach our goal of net zero by 2030. Community Development convened a group of local stakeholders and over the course of 6 months from 12/18 - 4/19, they worked through a variety of areas to propose changes. Those recommendations were incorporated in the adoption of the 2020 energy code, with the implementation of the Home Energy Rating System - HERS.

The Home Energy Rating System uses the Energy Rating Index - ERI. This is a scale from 100 to 0 and the lower the score on the scale the more energy efficient the home. The ERI compares the energy performance to a baseline rather than the energy cost. Pitkin County adopted an initial ERI value of 60 based on sample houses and data provided by HERS raters in the Roaring Fork Valley. This currently only applies to new dwelling units and complete demolition and rebuilds. Remodels and additions have other options for code compliance.

A home energy rating index( ERI) threshold for Pitkin County is a rating of 60 or below in order to get in the door. The home must ultimately have an ERI of 30 before it is finally approved. In order to get from an ERI rating of 60 to 30 a home must use on-site renewables( photovoltaic or geothermal). The goal by 2030 is to have homes reach an ERI of 0.

### **REMP**

The Renewable Energy Mitigation Program - REMP was launched in 2000 as a joint partnership between Pitkin County and the City of Aspen. The program requires that homes with exterior energy usage either mitigate their consumption by installing on-site renewable energy systems or pay a REMP fee. Those fees were used to promote renewable energy programs and energy efficiency measures, primarily managed by Community Office for Resource Efficiency - C.O.R.E. Exterior energy use is not accounted for in the HERS program and is currently added via the REMP program.

During the 2020 Energy Code adoption, there were also revisions to the Renewable Energy Mitigation Program (REMP). The changes include updating fees. Each project is required to complete a REMP calculation spreadsheet for their project. They enter the home's energy performance based on the HERS ERI rating. Then they enter their expected exterior energy use; for snowmelt, spas, heat tape, or outdoor pool heating. The County currently has a cap on snowmelt of 6,000 square footage that can be installed. The applicant is then given the option to install additional renewable energy on-site to offset the remaining exterior energy or pay in lieu.

### **III. Issues or Potential Gaps**

The current HERS' rating system model homes that we use to score against, does not account for the amenity loads that we see in the County. Amenity Loads are any load that utilizes energy and is not captured in a Home Energy Rating Index, examples include: snowmelt, pools, spas, heat tape, fire pits, heated garages, dehumidification systems, oxygen concentrator systems, oversized exhaust hoods, home theaters, outdoor kitchens, outdoor fountains, elevators, building automation systems, additional heating systems, backup generators, etc.