



NET ZERO

5280



COLORADO SCHOOL OF MINES
EARTH • ENERGY • ENVIRONMENT



ARAPAHOE COMMUNITY COLLEGE

About Us

Solar Decathlon

- ◆ DOE international collegiate competition
- ◆ Teams design and build innovative, net-zero energy buildings

Net Zero 5280

- ◆ ~30 members from the Colorado School of Mines & Arapahoe Community College



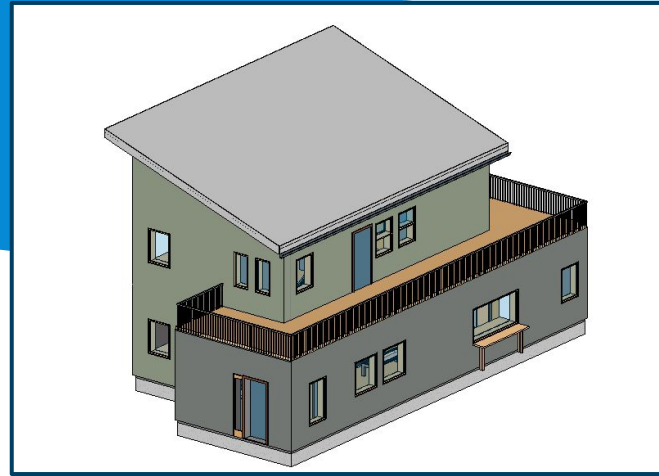
House and Build Details

House

- ◆ 4 Outdoorsy college students
- ◆ 4 Bed, 2 Bath
- ◆ 1,718 square feet
- ◆ Energy efficient materials, design, appliances
- ◆ Intended LEED certification

Energy

- ◆ Off grid islanding capabilities
- ◆ Consumes ~7,904 kWh per year of electricity



Build

- ◆ In Mines Park (local student community)
- ◆ Foundation set Summer 2022
- ◆ Build begins Fall 2022
- ◆ Finished by February 2023

Sponsorship Benefits: Money-Based

Below \$1,000:

- ◆ Featured on Net Zero 5280's website
- ◆ Receive frequent updates on the team's progress and the progress of their donation

\$1,000-\$5,000:

- ◆ All benefits listed in the above section
- ◆ Label on the item they donated or helped fund

\$5,000-\$10,000:

- ◆ All benefits listed in above sections
- ◆ Name on team's t-shirt
- ◆ Featured in our submissions to the Solar Decathlon competition
- ◆ Featured in any handouts and posters that the club shares
- ◆ LinkedIn post feature by Net Zero 5280's group LinkedIn

\$10,000-\$20,000

- ◆ All benefits listed in above sections
- ◆ Sponsor's name permanently and prominently featured on property, on a plaque or sign
- ◆ Instagram post feature by Net Zero 5280's Instagram page

\$20,000-\$100,000

- ◆ All benefits listed in above sections
- ◆ Featured on the main page of Net Zero 5280's website
- ◆ Participate in the donor's advertising wants (ex. donor's website/blog post)

Above \$100,000

- ◆ House naming rights awarded to sponsor

Partnership Benefits: Time-Based

2nd Energy Level Partners: One- or Two-Time Communication Throughout Project Phase

- ◆ Receive frequent updates on the team's progress

1st Energy Level Partners: Monthly Communication for Project Phase

- ◆ All benefits listed in the above section
- ◆ Featured on Net Zero 5280's website

Nucleus Partners: Weekly Communication for Project Phase

- ◆ All benefits listed in above sections
- ◆ Featured in our submissions to the Solar Decathlon competition
- ◆ Featured in any handouts and posters that the club shares
- ◆ LinkedIn post feature by Net Zero 5280's group LinkedIn

Energy Systems Details

Solar PV

- ◆ 8 kW system with a Sol-Ark 12K inverter
- ◆ Looking at SunPower X Series 335 W panels but flexible to any that interact well with the inverter
- ◆ Can use any inverter with grid islanding capabilities
- ◆ Need DC shut off switches and other small systems

Solar Thermal Collectors

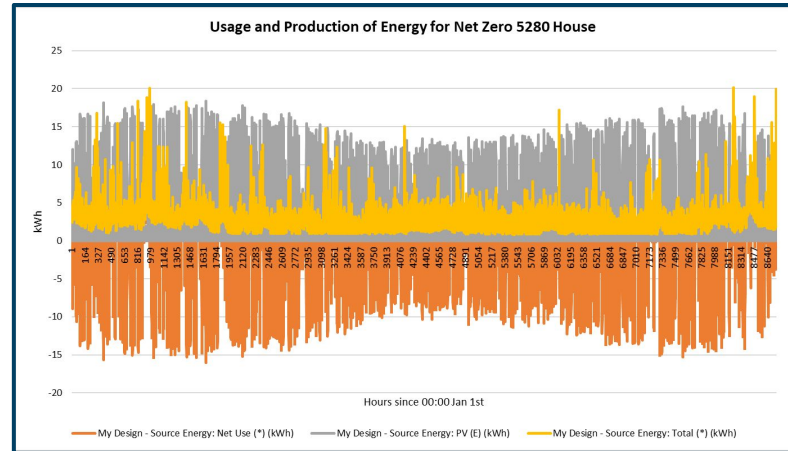
- ◆ Heats water in conjunction with a desuperheater (connected to the ground source heat pump)

Ground Source Heat Pump w/ Desuperheater

- ◆ Need a 2- or 3-ton system w/ 300 foot borehole

Batteries

- ◆ 17.5 kWh capacity
- ◆ Need rapid disconnects, BMS, dc cutoff switches



Key Appliances

Living wall

- ◆ Living room focal piece

Greywater filtration system

- ◆ Filter and disinfect shower water for use in the living wall and toilets

Broan ERV

- ◆ Performs house's ventilation

Smart system

- ◆ Assist occupants with energy saving
- ◆ Allow customizations through appliances, lights, sound system
- ◆ Controlled through a central app

Key Materials

Exterior Facades

- ◆ Stucco
- ◆ Wood siding

Lighting

- ◆ Can lights
- ◆ Pendant Lights
- ◆ Vanity Lights

Interior Features

- ◆ Glulam Beam
- ◆ Stairs
- ◆ Glass Panels for white boards
- ◆ Sinks/Faucets

Pergola

Framing/Drywall

Contact Information

Email

- ◆ minessolardecathlon@gmail.com

Stay connected with our progress!

- ◆ Instagram: netzero_5280
- ◆ LinkedIn: Net Zero 5280 Solar Decathlon Team
- ◆ Youtube: Net Zero 5280 Solar Decathlon Team

