

# GAIN INSIGHTS FROM NET ZERO FELLOWSHIP RESEARCH

## BUILD YOUR KNOWLEDGE WITH INNOVATIVE RESEARCH TOOLS AND ON-DEMAND PRESENTATIONS

Recipients of the Net Zero Fellowship use grant funding to research net-zero building practices, address potential barriers and help us all build a more sustainable future. Energy Trust of Oregon invites you to check out their discoveries.



**JEAN VON BARGEN ROOT**  
MWA ARCHITECTS

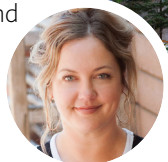


### Removing Barriers to Net Zero Commercial-Industrial Development

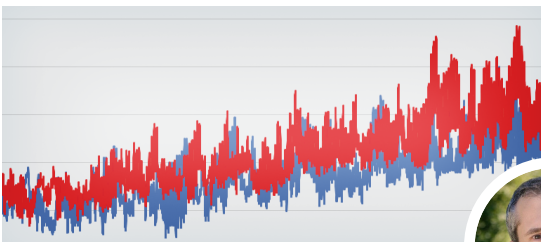
Jean evaluated current and future climate conditions, assessing how local codes, standards and policies help or hinder net-zero performance in commercial-industrial developments. The study looks at the three fastest growing regions in Oregon where commercial-industrial development patterns have the greatest impact on energy consumption: Willamette Valley, Rogue Valley and High Desert.

### A Prototype for Affordable, Resilient, Low-Energy Cottage Cluster Housing

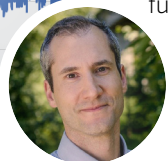
Jessy explored energy efficiency in affordable housing, and the impact of clustering units, using mass plywood panels, centralizing mechanical and hot water systems, and optimizing development scale for solar microgrids. The analysis focuses on the Milwaukie Courtyard Housing Project, which seeks to prototype this type of housing to meet community energy, affordability and resiliency goals.



**JESSY LEDESMA**  
HOMEWORK DEVELOPMENT



**JOEL GOOD**  
RWDI



### Passively Building for Resiliency

Joel's research looks at passive design strategies that create resiliency and prepare new buildings for a changing climate. He examined Oregon's future climate conditions and offers a standardized method, as well as future climate files for two different climate zones (Portland and Bend) to assess the resiliency of proposed developments in Oregon.

## Net-Zero Schools From Process to Impact

Ihab offers a database of net-zero schools in the U.S. after evaluating them based on six major categories: design process, design strategies, site performance, building performance, envelope performance and indoor environmental quality/occupant performance. Out of 41 verified net-zero school buildings, the project focused on seven that are relevant to the Oregon climate.



**DR. IHAB ELZEYADI**  
UNIVERSITY OF OREGON



**SHILPA SURANA**  
BRIGHTWORKS



## Approaching Net Zero for Today's Buildings

Shilpa looked to determine best strategies for achieving net-zero energy based on systems that are technically and economically feasible today. Her findings include analysis of two building types: midrise multifamily buildings and low-to-midrise office buildings, with case studies on the Vestas Headquarters and Beech Street Apartments.

## The Cost of Multifamily Energy Efficiency in Oregon

Katy analyzed energy efficiency strategies and cost estimations for net-zero multifamily new construction, exploring ways to optimize energy savings per dollar invested. She developed a baseline building design to determine construction costs and baseline energy use. Analysis of energy savings includes variations in the shell, plumbing and HVAC systems.



**KATY ANDERSON**  
GLUMAC

## Reaching Net Zero in Affordable Housing

Mark looked into the cost drivers associated with net-zero affordable housing in Oregon. He presents resources for developers, designers and construction teams to evaluate energy efficiency options and rate them according to cost of construction and return on investment. The study focuses on housing units at Victory Commons and Trails View multifamily housing projects in Klamath County, Oregon.



**MARK MCKECHNIE**  
OREGON ARCHITECTURE, INC.



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