

WEST VILLAGE DISTRICT ENERGY

SHOWCASING ADVANCED WOOD ENERGY IN DESCHUTES COUNTY

Photo credit: Snowbrains



**Deschutes County Board of
County Commissioners**

Bend, Oregon

December 20th, 2021

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POWDR

ADVENTURE LIFESTYLE CO.

OUTLINE

- Project Summary
- Project Impacts
- Status Update



West Village District Heating PROJECT SUMMARY



Mt. Bachelor spends an average **\$270,000 per year** on propane fuel and heating system maintenance – this year jumped to nearly **\$400k**



The biomass system is estimated to lower operating costs for heating by **two-thirds.**



Construction costs are estimated to be **\$6.8MM**, including high efficiency modern wood boiler

MODERN WOOD ENERGY TECHNOLOGY



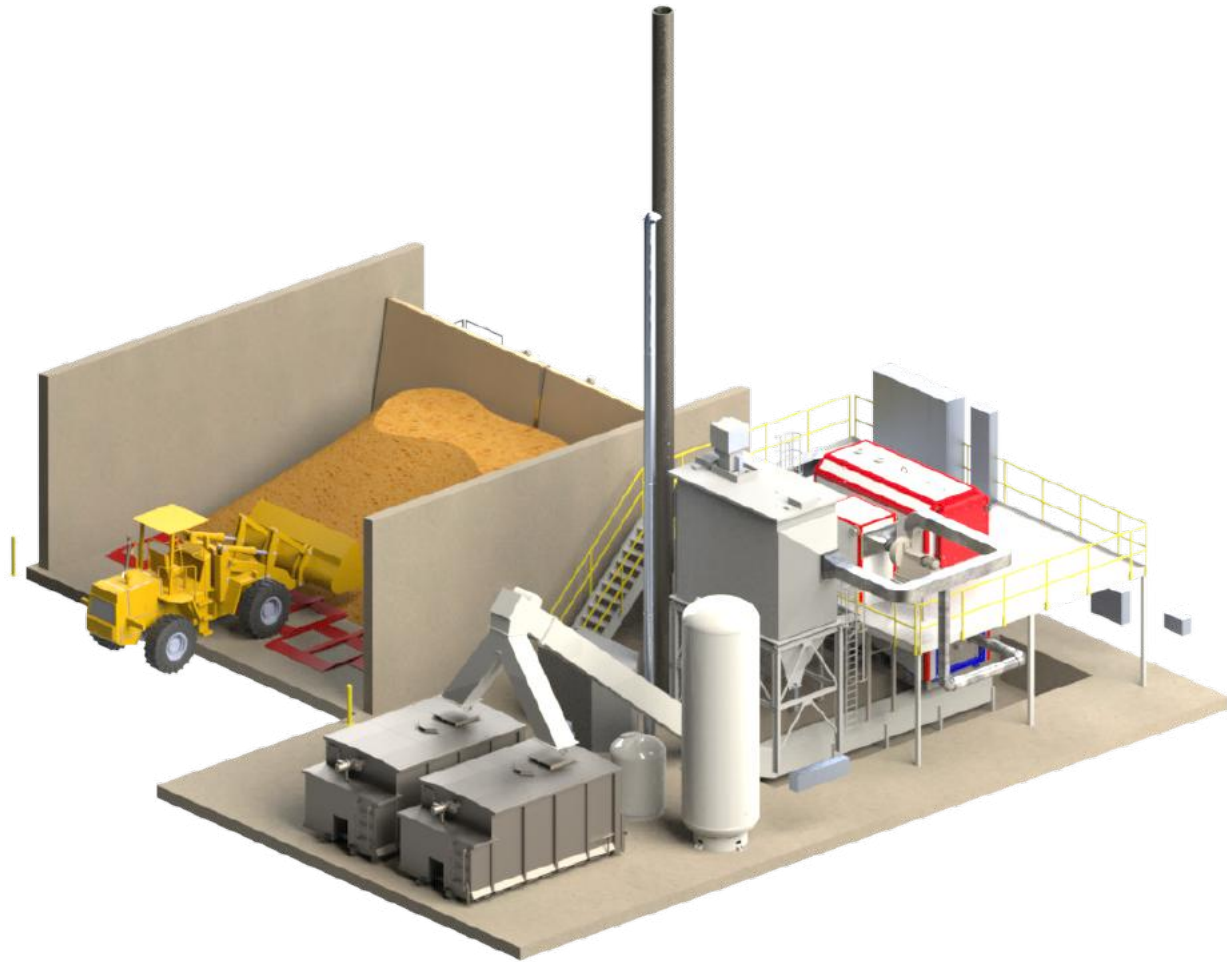
Photos from similar boiler installed in Harney County, Oregon

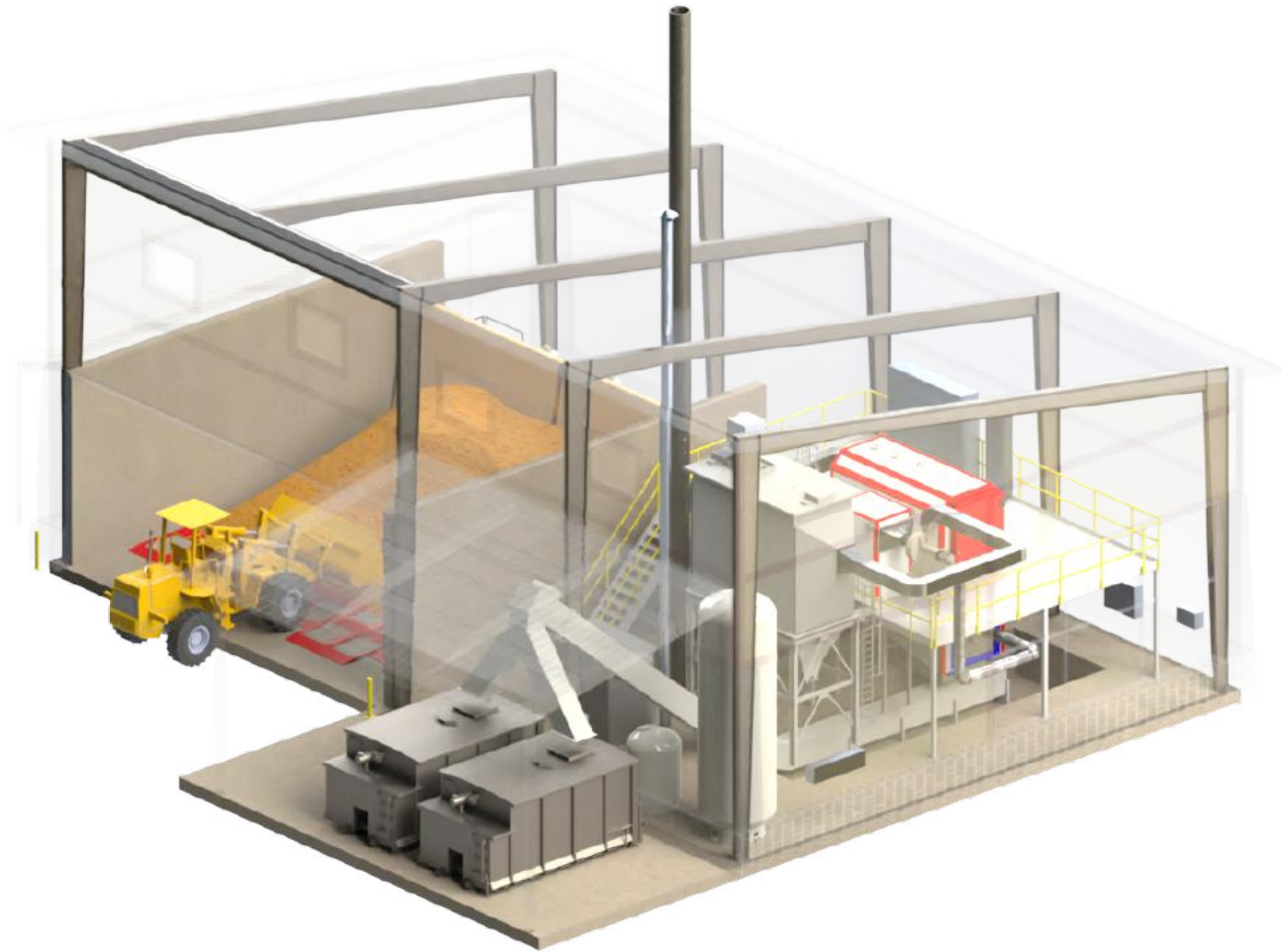
WEST VILLAGE DISTRICT HEATING LOOP







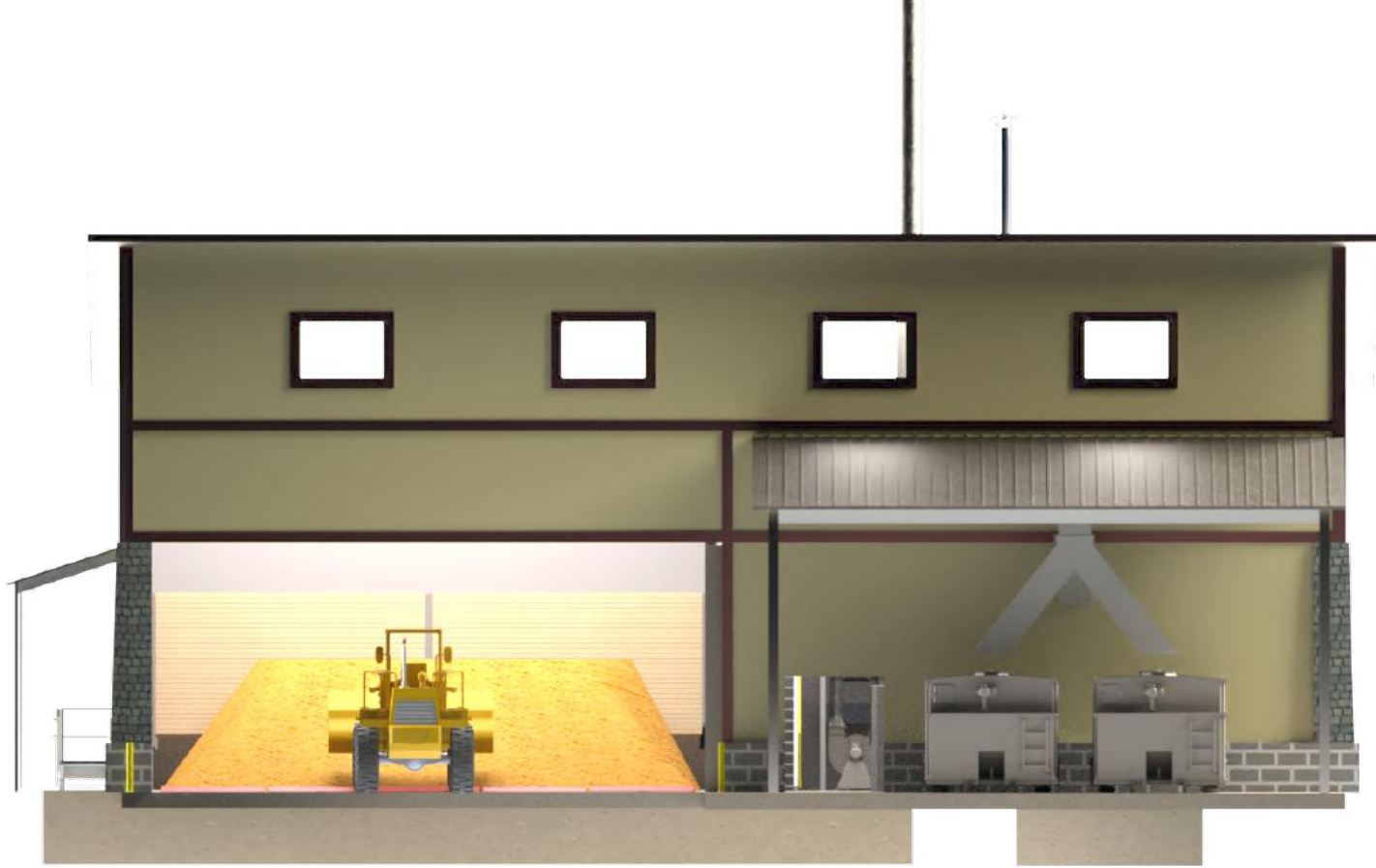




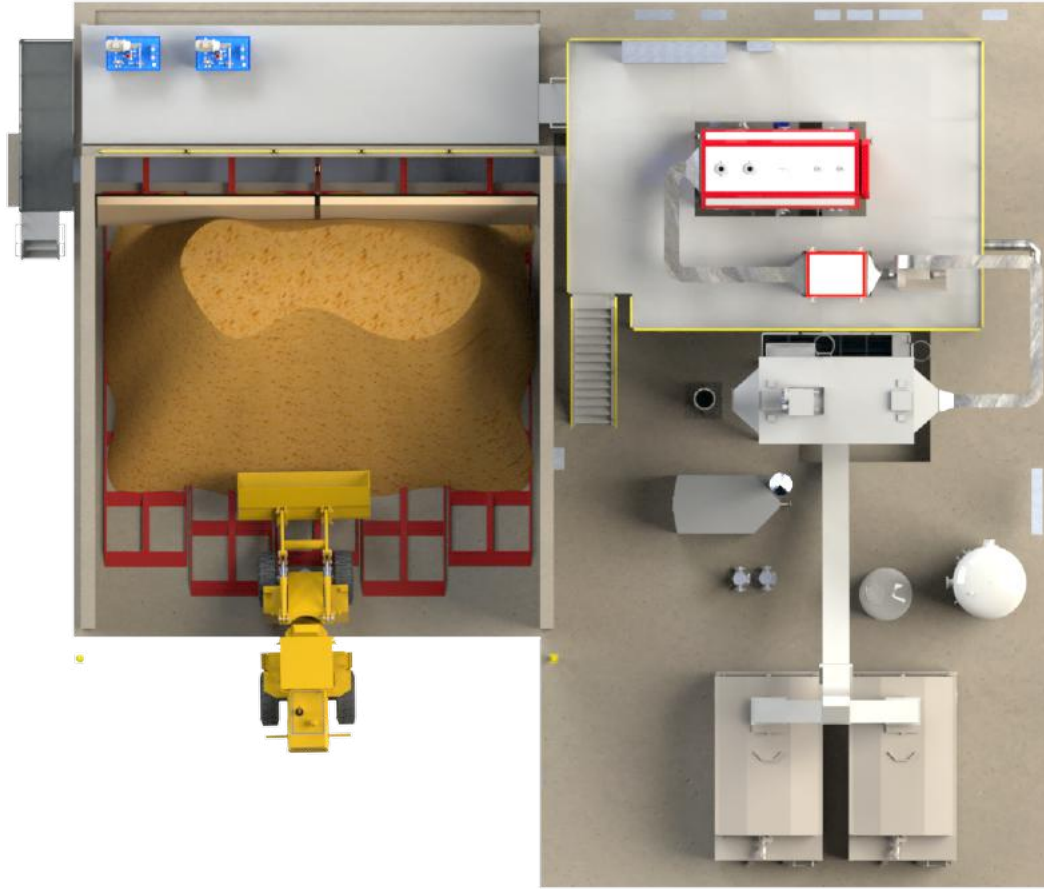
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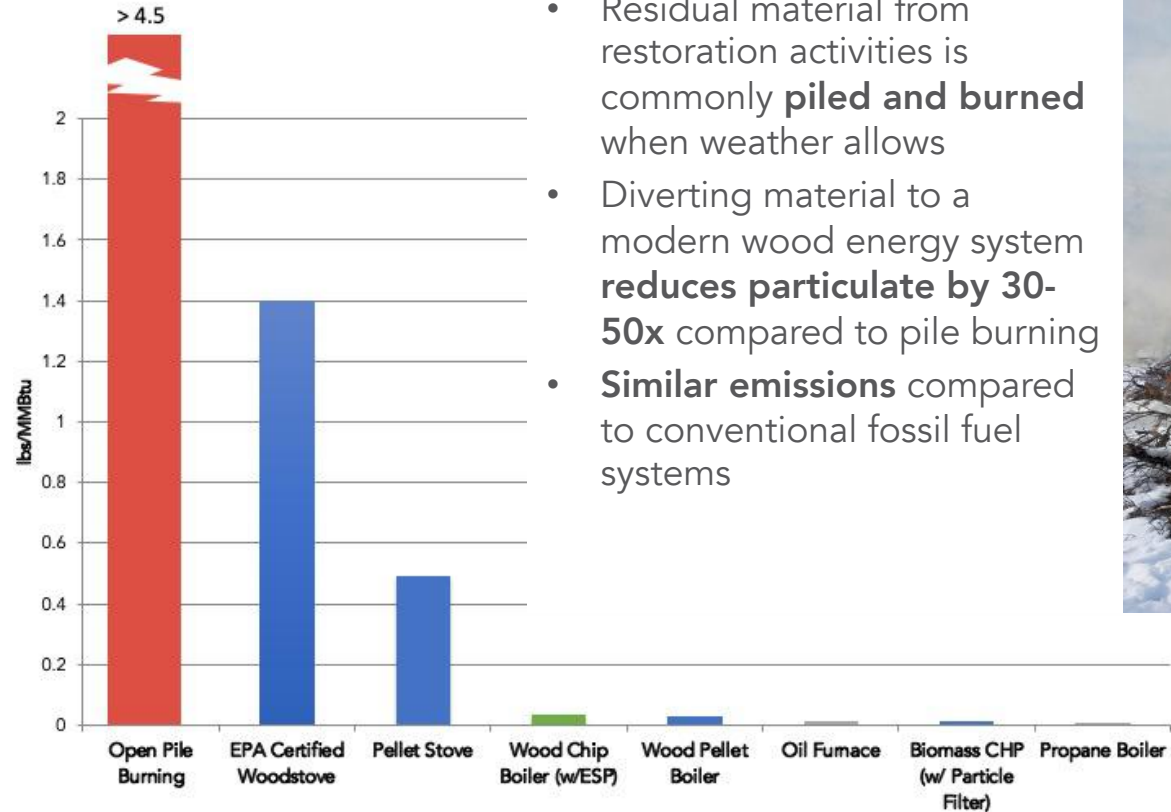
West Village District Heating PROJECT IMPACTS

SUSTAINABLE WOOD FUEL SUPPLY



- **Mt. Bachelor Demand**
 - Mt. Bachelor system will use approx. **1,000 tons/yr**
 - 1,000 tons = approx. **50 semi-trucks** per year
 - Wood fuel to be sourced from **forest restoration activities** in Deschutes National Forest
- **Regional Supply**
 - 1,000 tons = approx. **100 treated acres per year** in Central Oregon
 - Deschutes National Forest has NEPA-approved restoration treatments on **47,000 acres, all near Mt. Bachelor**
 - This equates to **500 years of operations** for Mt. Bachelor, even if no further management activities ever occur on the National Forest

IMPROVE AIR QUALITY



- Residual material from restoration activities is commonly **piled and burned** when weather allows
- Diverting material to a modern wood energy system **reduces particulate by 30-50x** compared to pile burning
- **Similar emissions** compared to conventional fossil fuel systems



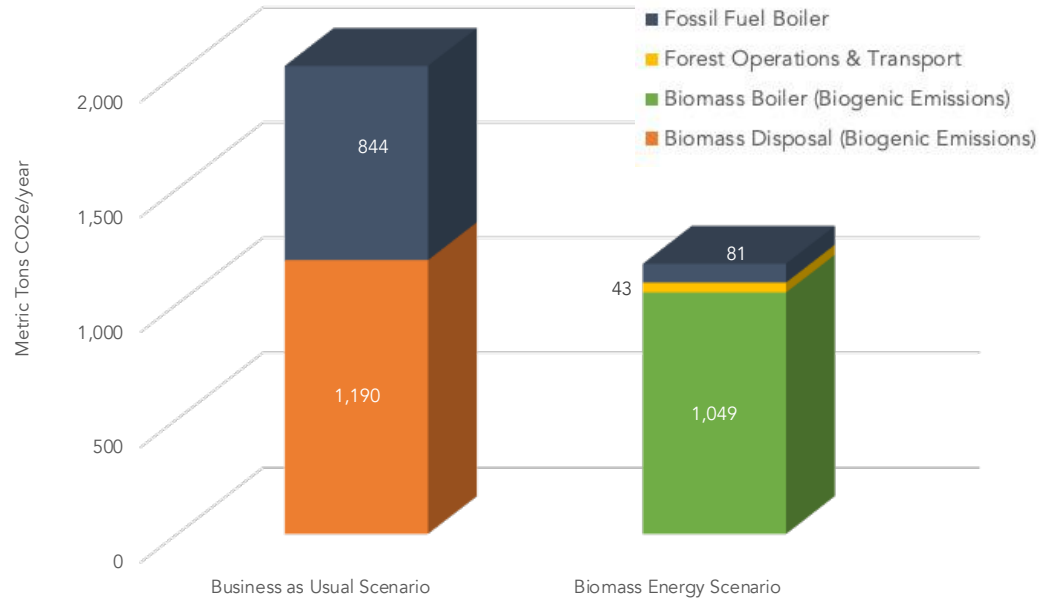
Photos of pile burning on BLM land near Prineville, Oregon

- Carbon neutral or negative in short term
- Reduce in-woods open-pile burning
- Displace fossil fuel use in perpetuity
- Contribute to reduced carbon release from wildfire

REDUCE CARBON EMISSIONS

**Business As Usual:
uncontrolled emissions
+ fossil fuels**

**Biomass facility: clean,
efficient burn using local
resources**



Data from a representative biomass boiler system in Central Oregon

GLOBAL TECHNOLOGY, LOCAL STORY

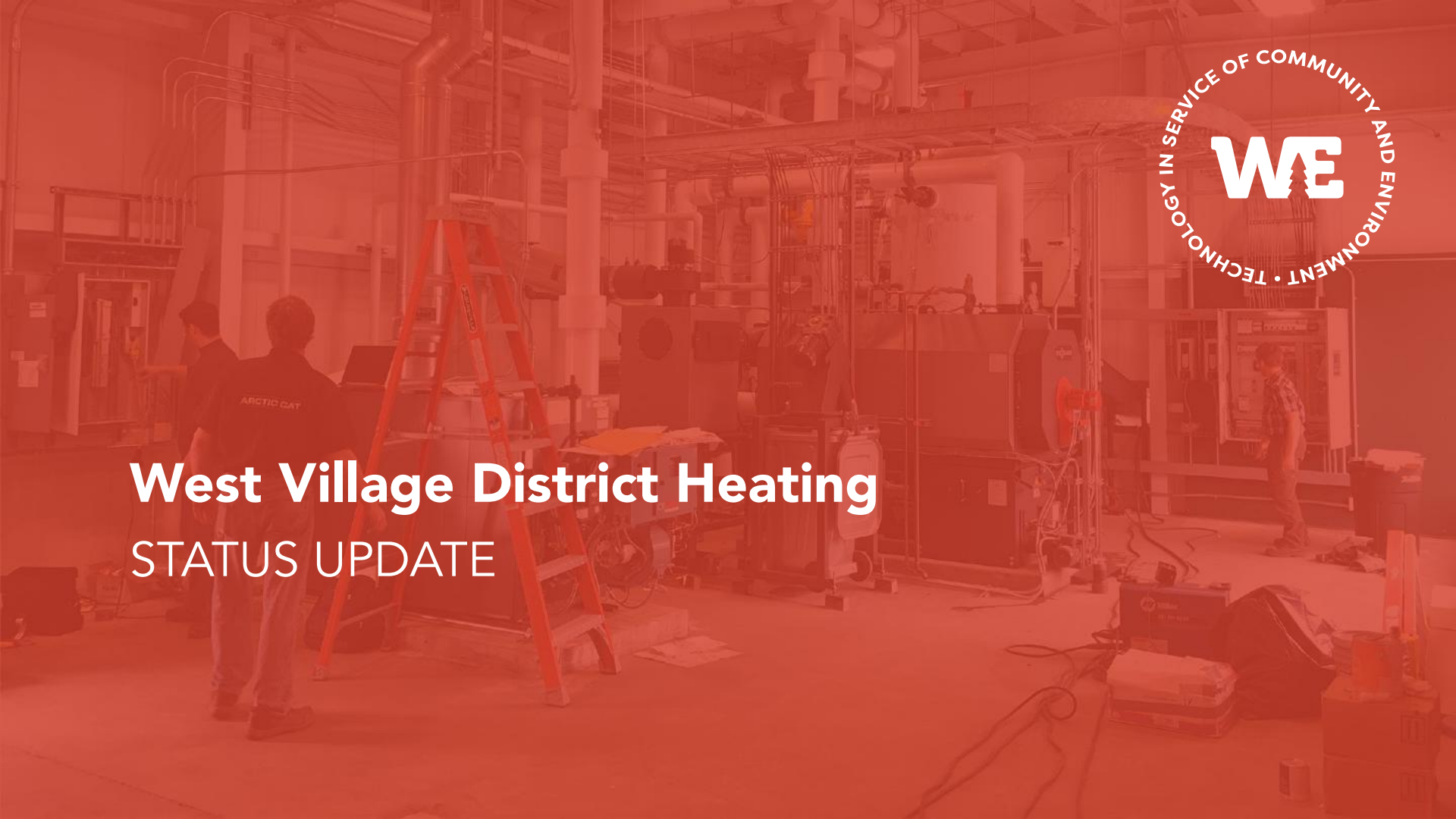
- Mt. Bachelor and Deschutes County will be adapting technology common among European ski towns
- Amplifies and elevates a key destination for Central Oregon visitors
- Tells a uniquely Western story of innovation to address wildfire and natural resource landscape challenges





West Village District Heating

STATUS UPDATE





NEXT STEPS

- Mt. Bachelor intends to apply for USFS grant funding, deadline of 1/19/22
- Investigating loan options
- Developing implementation timeline assuming funds available Spring 2022

OUR ASK

- \$1.5M grant for the project
- Letter of Intent to provide funds, for inclusion in USFS grant
 - *Due by 1/19/22*
 - *Caveats in letter are acceptable*



Summary

- Modern wood heating is among the **most efficient uses** of biomass energy
- In fire-adapted regions like Central Oregon, wood energy creates **meaningful markets** for low value woody material created as a **byproduct of fire-smart forest management**
- The Mt. Bachelor project would put the ski resort and Deschutes County on the map as a **national leader in regionally-appropriate renewable energy**, likely to be followed by ski resorts elsewhere
- Funding needed to help get the project over the finish line. **County Ask: \$1.5M grant**

THANK YOU! QUESTIONS?

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Photo: Marcus Kauffman