SOLUTIONS LAB · WED, OCT 14 · 1:15-3:30 PM

Solutions Lab: Clean Energy & Tech (Hosted by Torus)

Five short talks on clean energy projects already working in mountain communities: smart heat tape on a school roof, a ground source heat pump for a Boise gym, a rural program that pays tradespeople to train, an Idaho workaround for community solar, and a solar microgrid for an off-grid Utah town.

KEY TAKEAWAYS

1. **Smart controls make heat tape far cheaper.** Sun Valley Community School students estimate camera and AI controls (PowderWatts) cut the school's heat tape bill from about $1,811 to $362 a season, roughly 80%.
2. **Staff resistance points to the right design.** Boise School District crews hated ground source heat pumps because of a troubled open-loop system. Asking why led to a closed design that also solved heating and noise.
3. **New borehole designs shrink the land footprint.** A dipole design that puts the heat exchanger down the well needs 3 boreholes instead of about 150 for a Boise high school gym. Test drilling is underway.
4. **Rural towns can grow their own clean energy trades.** EcoAction Partners and the Telluride Foundation reimburse local workers up to $1,500 to train in heat pumps, solar, EV charging and electrical work.
5. **Where community solar is blocked, donate savings.** Only utilities can sell power in Idaho, so Boise will put a 26 kW array on a city building and give about $5,000 a year in bill savings to low-income energy assistance.

WHAT LOCAL OFFICIALS CAN DO

- ☐ **Tier your energy projects.** No-cost fixes first, short-payback upgrades next, big capital last. How much payback you can wait for depends on how long the asset must last.
- ☐ **Write owner's project requirements.** Interview custodians, facilities staff and leaders, then require designers to consider ground source heat pumps first or justify why not.
- ☐ **Pay locals to train.** Cover fees or minimum wage for training time, favor free, local or virtual courses, and ask your utility to fund a mobile heat pump lab.
- ☐ **Recruit in person, not by email.** Contractors rarely read email. Show up on job sites, talk to lift crews and high schools, and let a graduate champion spread the word.
- ☐ **Put solar on a city roof and donate the savings.** Partner with your utility and local Community Action agency, and stack donated panels with elective pay credits.
- ☐ **Use storage to tame demand charges.** Torus sizes systems at about 250 kW to 2 MW to stay inside utilities' faster interconnection approval range.

BY THE NUMBERS

~80%
Est. heat tape savings, Sun Valley Community School

3 vs. ~150
Boreholes needed for a Boise gym, new design vs. old

$1,500
Max training reimbursement per worker, SW Colorado

12x
Growth in Colorado heat pump installs, 2022 to 2025

$50K
Boise budget for a 26 kW community solar pilot

~3.5 hrs
Overnight generator run in Ticaboo, Utah, once 24/7

WATCH OUT FOR

- ! Federal tax credits for commercial solar, available to cities through elective pay, expire at the end of 2027. Residential solar credits are already gone.
- ! Boise's first-choice solar site was dropped because the old roof needed replacing. Check roof age before you pick a building.

RESOURCES

EcoAction Partners
ecoactionpartners.org

Torus
torus.co

Idaho Sierra Club
Community solar video and brochures on its website

Community Action Partnership agencies
Can apply bill credits for low-income households

CONTACTS

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