

Green Empowerment exports clean energy knowledge

By Christina Williams

A handful of Portland-based clean-energy specialists are working on wind, solar, small-scale hydro and bio-digester projects.

But unlike other efforts that will wean the grid of carbon-intensive energy sources, the projects are aimed at providing electricity for the first time to small villages in Latin America and Asia.

With a team of six people and an annual budget of \$800,000 Portland-based Green Empowerment is a global expert in connecting off-grid villages with renewable energy sources.

This week Green Empowerment's executive director, Anna Garwood, is in Costa Rica, convening a team of energy experts to coordinate research on the use of bio-digesters, use cow manure to produce biogas and fertilizer, in Latin America.

"We've become a hub for international networking around small-scale technologies," Garwood said.

The bio-digester seminar brings to-

gether researchers from Peru, Bolivia and Costa Rica to discuss the results of 10 biogas digesters installed in five Latin American countries.

"It's been really interesting, in some regions they are most interested in the fertilizer that comes out of the bio-digester for growing organic produce, others care most about the biogas which is used as cooking fuel. For others, it's the potential for electricity," Garwood said.

Digesters are also becoming more common in the United States. Last week the U.S. Department of Agriculture announced it would work with the U.S. Environmental Protection Agency to make \$3.9 million available to farm projects aimed at capturing and using biogas via the AgStar program.

David Van't Hof, a renewable energy specialist and lawyer with Lane Powell PC said these kinds of parallels between the work that Green Empowerment is doing and what's happening in the U.S. make the work even more compelling.

"It's like what happened with cell phones in some countries that never had land lines," said Van't Hof who serves on Green Empowerment's board of directors. "Some of these villages will be able to skip to a generation of transmission-free energy."

Garwood, who took over as Green Empowerment's executive director in January, said the organization is able to work on such a wide range of projects — such as a solar-wind hybrid project in Nicaragua, a wind-powered micro-grid in the Peruvian Andes, and solar panels on rural clinics near the Thailand-Burma border — because it partners with local nonprofits and adds its green power expertise to existing efforts.

As it happens, what this group has been quietly working on since 1997, has now become a booming industry sector.

Or, as Garwood puts it: "It's no longer something fringe."

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