

## Title

Cold Poop to Hot Power

## Team Name

Alaska AD Group

## Short Description

In response to the Challenge Prize, we formed a Team to achieve a common vision: A future of sustainable, low-cost, green energy for rural Alaska Native communities that uses anaerobic digestion to provide a clean source of renewable energy and improved sanitary conditions within the community.

We are a varied group of researchers, innovators, and practitioners of anaerobic digestion (AD) energy, alternative green energy, rural Arctic construction, and rural Alaska sanitation interested in improving conditions and reducing energy costs for the approximately 200 remote, low income, subsistence-based Alaska Native communities in rural Alaska. We include members from statewide entities and institutes interested in rural sanitation and/or energy, AD business founders, university student interns passionate about making a difference, and Alaska-based, national, and international public and private universities.

This Prize money will fund Phase One of our vision -- design of a pilot system through a community centered design approach with a paid, engaged, and informed Community Workgroup. We will develop a robust education/outreach plan to facilitate wider community engagement, awareness, and support for Green Energy opportunities. Community preferences, insights, and concerns will drive examination of existing user feedback on rural Alaska systems, and the range of climate, infrastructural, economic, and geographic conditions that affect the science of biological gas production. True community centered design is an iterative, intensive process and this prize will enable it. Without this Phase, any design we try will likely fail.

Zender Environmental Health & Research Group, a rural Alaska community-based non-profit focused on bolstering capacity for local waste utility & environmental health program administration by, and improving infrastructure and conditions for, isolated, small, and disadvantaged Alaska Native communities is the Competitor for this prize and will serve as both administrator and project manager for the Prize activities.

## Video Link

<https://youtu.be/TPxWZILMxE8>

## City and State

Anchorage, Alaska



## Team Members

Our Team is listed below with contact information. See Graphic 2 for their role in this Challenge Phase.

Name	Contact Information	Profile link(s)
Lynn Zender (Lead)	Zender Environmental Health and Research Group, 400 D St Ste 200, Anchorage, AK	<a href="http://www.zendergroup.org">www.zendergroup.org</a> <a href="https://zendergroup.org/staff/dr-lynn-zender/fatima.ochante@alaska.gov">https://zendergroup.org/staff/dr-lynn-zender/fatima.ochante@alaska.gov</a> <a href="https://www.facebook.com/Zender-Environmental-Health-and-Research-Group-161901527284326/">https://www.facebook.com/Zender-Environmental-Health-and-Research-Group-161901527284326/</a> ,
Simone Sebalò (Co Lead)	Zender Environmental Health and Research Group	See above and: <a href="https://backhaulalaska.org/">https://backhaulalaska.org/</a> , <a href="https://zendergroup.org/staff/simone-sebalò-m-s/">https://zendergroup.org/staff/simone-sebalò-m-s/</a>
Fatima Ochante	Alaska Department of Environmental Conservation (ADEC): Division of Water & Division of Health,	<a href="https://dec.alaska.gov/water/">https://dec.alaska.gov/water/</a> <a href="https://dec.alaska.gov/water/water-sewer-challenge/">https://dec.alaska.gov/water/water-sewer-challenge/</a>
Robert Bensin	Alaska Center for Energy Power-U of Alaska Fairbanks, AK	<a href="https://acep.uaf.edu/">https://acep.uaf.edu/</a> <a href="https://www.facebook.com/AlaskaCenterforEnergyandPower/">https://www.facebook.com/AlaskaCenterforEnergyandPower/</a>
John Warren	ANTHC: Environmental Health & Engineering, Anchorage, AK	<a href="https://anthc.org/what-we-do/community-environment-and-health/hfe/">https://anthc.org/what-we-do/community-environment-and-health/hfe/</a>
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Jaime Marti	Universidad Regional Amazonóca Ikiam ECUADOR	<a href="https://scholar.google.co.uk/citations?user=DsSRUA4AAAAJ&amp;hl=en">https://scholar.google.co.uk/citations?user=DsSRUA4AAAAJ&amp;hl=en</a>
Robin Szmidt	Target Renewables Ltd, Ayr SCOTLAND,	<a href="https://www.linkedin.com/in/robinszmidt/">https://www.linkedin.com/in/robinszmidt/</a> <a href="https://www.forensicandexpertwitness.co.uk/Target-Renewables-Ltd">https://www.forensicandexpertwitness.co.uk/Target-Renewables-Ltd</a> <a href="https://witnessdirectory.com/robert(robin)szmidt">https://witnessdirectory.com/robert(robin)szmidt</a> <a href="http://targetrenewables.com/">http://targetrenewables.com/</a>
Embrey Bronstad	Washington State University, Pullman, WA,	<a href="https://csanr.wsu.edu/">https://csanr.wsu.edu/</a>
Nathaniel Janega	Mt. Everest Biogas Project, <i>in transit</i>	<a href="https://www.mteverestbiogasproject.org/">https://www.mteverestbiogasproject.org/</a>
Tom Curtis	Newcastle University Newcastle UK,	<a href="https://www.ncl.ac.uk/">https://www.ncl.ac.uk/</a>
Abi Jegede	SEab Energy, London UK,	<a href="https://seabenergy.com/dr-abiodun-jegede-joins-the-seab-team/">https://seabenergy.com/dr-abiodun-jegede-joins-the-seab-team/</a>
Jane Fowler	Simon Fraser University, Burnaby BC, CANADA,	<a href="https://www.sfu.ca/biology/people/faculty/sifowler.html">https://www.sfu.ca/biology/people/faculty/sifowler.html</a>

## Other Partners

Project supporting entities include the State's Drinking Water Division, Facilities Program -- the state entity that funds and manages capital projects for water and sewer in Alaska via the Village Safe Water (VSW) Program and Alaska Native Tribal Health Consortium (ANTHC) Division of Environmental Health & Engineering that distributes and builds water and sewer projects with state and federal monies. Both are dedicated to ensuring all rural Alaska communities have access to safe and affordable sanitation but thus far, that has proven intractable.

