

Emerging Energy Technology: Alaskan Innovation for Global Solutions

Meyer, Jason ^{*1}

(1) Alaska Center for Energy and Power, Institute of Northern Engineering, Anchorage, AK.

Alaska is an ideal test bed for emerging energy technology. Given Alaska's abundant energy resources, the high cost of energy, and vast variation in climate and landscape, Alaska is quickly becoming a leader in energy technology innovation and development, providing localized energy solutions and global expertise.

Energy technology has a development process: it moves from ideas, to the lab, to demonstration, then to commercialization. Emerging energy technology is a key phase in this process, linking research and development to commercialization of energy solutions, but has historically been underfunded and overlooked. In recent years, however, a new emphasis has been placed on this critical phase.

Emerging Technology Funds have helped states, provinces, and countries attract private investment, create jobs, and develop cutting-edge energy technologies. These funds serve as examples of how government investment in innovative research and development creates jobs, fosters entrepreneurship, and increases the quality of life for the community.

Alaska has recently developed two such funds, the Denali Commission's Emerging Energy Technology Grant (EETG) and the State of Alaska's Emerging Energy Technology Fund (EETF). EETG project examples include in-river hydrokinetics in Nenana and Eagle, wood biomass in Juneau, a sea water heat pump in Seward, a high penetration wind-diesel hybrid system in Wales, psychrophiles for biogas digestors in Cordova, and even solar thermal technology in Kotzebue. Results and initial lessons learned from these projects and more will be presented, along with a discussion of the future role of the EETF.