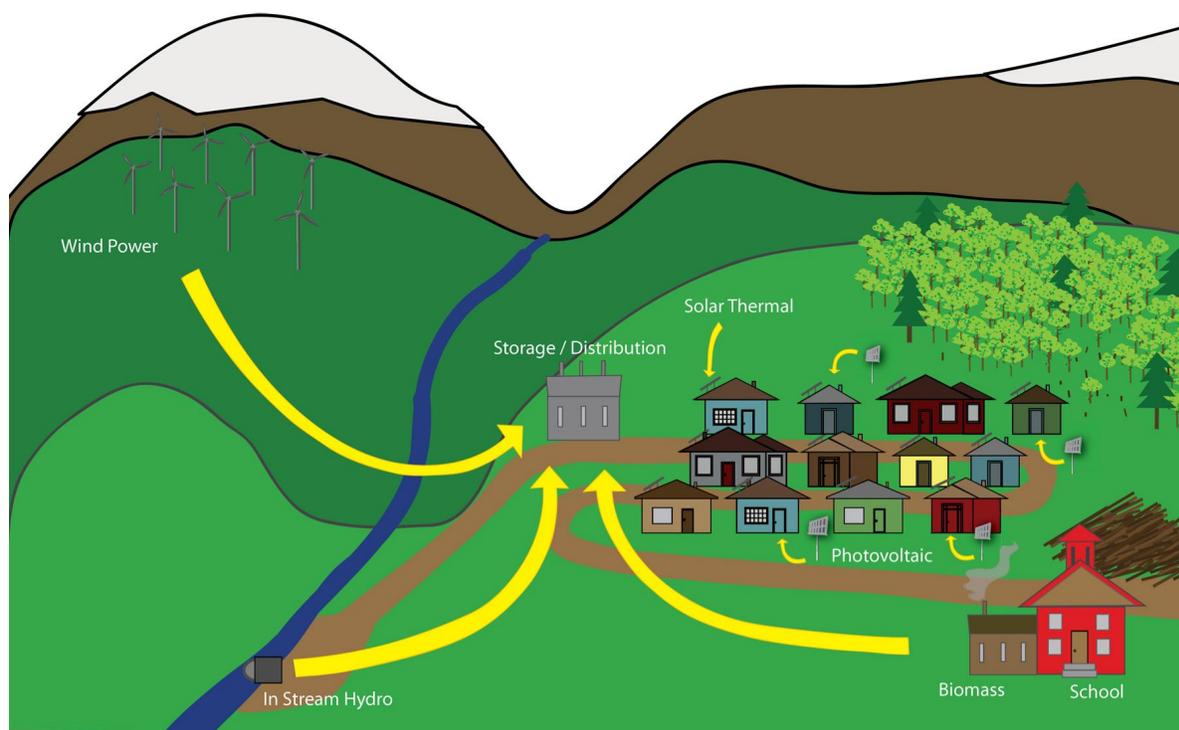




Hybrid Micro Energy Project (HMEP)

The Cold Climate Housing Research Center (CCHRC), in collaboration with BP, the Fairbanks North Star Borough, the State of Alaska, Siemens, GW Scientific, Remote Power, the University of Alaska Fairbanks, EEInternet, the Golden Valley Electric Association and the Cooperative Extension Service is embarking on a two-year demonstration project that will test and monitor a hybrid system composed of solar photo voltaic, solar thermal, wind and a biomass Combined Heat and Power (CHP) unit. Hybrid micro-power systems are particularly suited for Alaska's rural communities as an economical and sustainable supplement to diesel for producing electricity, heat and hot water. Project partners anticipate that the research will show that communities utilizing a diversity of indigenous renewable resources in an integrated hybrid system will be more sustainable than communities relying on a single energy resource alone. During the cold months of the year when solar energy resources are at a minimum, hybrid systems can utilize biomass and wind. Diesel and/or natural gas will no longer be the only resource but instead will supplement energy needs. The HMEP project will demonstrate an integrated system, useful year-round and designed to meet the needs of rural Alaskan communities. Each renewable energy system will be integrated with the other energy technology, monitored, and analyzed for energy performance in the Interior of Alaska. The systems together will provide heat and power and will incorporate a battery bank and back-up generator system to demonstrate reliable power in an arctic climate.

This picture illustrates how solar, wind, micro-hydro and biomass can provide heat and power to homes and a community.



Demonstration projects are vital to confirming the viability of biomass, solar, and wind technologies and the integration of systems prior to large-scale replication in Alaska. CCHRC's work on the HMEP project will be important to the introduction of integrated renewable energy technology to rural Alaska. It is particularly important in these times of climatic, cultural and economic change that everyone works together toward solutions to our shared challenges and to impart knowledge in a manner that is easy to understand and access.