Alternative - Renewable Energy Letter of Interest Summary

ID	Organization	Project Title	Description		Cost	Community	Planning Area	Alt Energy	Energy Efficiency	Not AEEE	Resource	Research and Devel	Proto-type	Resource Assess-ment	Planning/ Recon	Feasibility	Design	Construc-tion	Operations	Other
1	City of Tenakee Springs	Tenakee Springs Hydroelectric	Tenakee proposes to build a mini hydroelectric project on Indian River. This is a low head plant that will use a falls as a "natural water feature". In FY2006 the community used 59,431 gallons of diesel. A new diesel module will use less fuel. However, fuel prices have increased greatly. The diesel plant generated 432,000 kWh of electricity in FY2006. The proposed run-of-river hydro plant can produce about 1,000,000 kWh. Energy in excess of utility needs will be used to replace heating oil use in public and private buildings.	$	1,085,000	Tenakee	Rural	X			Hydro					X	X	X		
2	Ohogamiut Traditional Council	Wind Energy Feasibility Study	Lease two or more anemometers from AEA for the year-long wind study. Hire a local person(s) to work with AVEC to place wind monitroing instruments in the designated sites and to maintain the equipment during the duration of the feasibility study. Mascerquliq, Inc., the local Native Village Corporation who is the land owner has pre-approved land usage for the study.	$	13,000	Marshall	Rural	X			Wind			X	X	X				
3	Alaska Brands Group, LLC	Geothermal Energy for Elim, White Mountian, & Koyuk	Project to be located near Elim. Construction includes: drilling of geothermal wells, power plant, distribution network, and greenhouses to be operated from geothermal sources.	$	216,750,000	Bering Straits	Rural	X			Geothermal			X	X	X	X	X		
4	City of Adak	Adak Hydro Feasibility-Conceptual and Final Design	Project will include an initial feasibility analysis ($25,000) followed by draft and final design. ($40,000)	$	40,000	Adak	Rural	X			Hydro					X	X			
5	Whitestone Community	Alaska River In-Stream Energy Conservation	Kinetic hydro for WCA on the Tanana River.			Whitestone	Rural	X			Hydro		X	X	X	X				
6	City of Chignik	Replacement of existing energy source	Replacement of exisiting un-efficient generators with fuel efficient generators; upgrade needed electricity capacity for existing and future needs; extend power lines and transformers to service outline area within city limits now serviced by separate un-efficient generators supplied by city; upgrade power panel system and breakers for 3-phase and standard 120V, 240V, and 440V; upgrade transformers, wire, clamps, and poles for weather problems.	$	800,000	Chignik	Rural			X	RPSU									
7	Ivanof Bay Village Council	Wind Powered Generators for Standby and water	Feasibility study for standby windmill generators for the village residents and commercial buildings. Also feasibility study for water wind turbine pumps.	$	485,000	Ivanof Bay	Rural	X			Wind					X	X	X		

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8	Native Village of Eyak	Establish Wind Turbines on Eyak Tribal Lands	Replace or supplement high cost fossil fuel power generation plants with new renewable wind energy wind turbine plants to provide power to our tribe and members of our community. With the long term goal of using only renewable wind energy while phasing out of fossil fuel generated power.		Eyak	Rural	X			Wind			X	X	X	X	X		
9	Native Village of Eyak	Establish Wood Recycling Facility on Eyak Tribal Lands	A facility of this nature could be utilized to reuse and recycle wood forest products within our community saving tribal members on purchasing new supplies it would also save the City of Cordova money on monitoring and / or maintaining the current local burn pile.	$ 200,000	Eyak	Rural	X			Biomass				X	X	X	X		
10	Department of Petroleum Engineering, College of Engineering & Mines, University of Alaska Fairbanks	Biogas generation from organic waste: a feasibility study for Alaska's communities	The highlight of the project is to evaluate if it is technically and economically feasible to produce methane (biogas) from solid organic waste generated in the state of Alaska especially given the challenging cold climates. And, subsequently, how this gas can be made available for the benefit of local population for residential uses. Considering the significant amount of MSW generated, commercial exploitation of these waste resources to produce energy at least merits a feasibility study.	$ 100,000	Fairbanks	Statewide	X			Biofuel					X				
11	Kawerak, Inc.	Bering Straits Regional Energy Resource Assessment, Phase 1	An analysis of options available to the villages in the Bering Straits region for reducing electric power needs and lower dependence on diesel, include coal, coalbed natural gas, natural gas, geothermal, hydropower, wind, tital/wave energy, small nuclear, wood energy, solar energy or a combination of all.	$ 4,562,191	Nome	Bering Straits				Multiple				X					
12	City and Borough of Sitka Electric Department	Sitka 6.5 Megawatt Blue Lake Third Turbine Addition	This project would allow recovery about 6,000 megawatt hours of energy presently lost in dam spill, through improved efficiency of the new unit and improved operating flexibility in water use between the two existing hydroelectric projects. Additional benefit is curtailing the need for operation of diesel generation for an addition 10 years. the benefit in CO2 reduction would be 4092 tons/year.	$ 15,964,250	Sitka	4DP Southeast	X			Hydro						X	X		
13	City and Borough of Sitka Electric Department	Sitka R & D Geothermal Feasibility	This resource would be explored along with the other feasibility studies in progress for additional hydroelectric projects. the 2005 load forecast projects that by 2009 we will not meet are peak demand with our existing hydroelectric facilities. This will require us to take care of the peaks with diesel.	$ 1,000,000	Sitka	4DP Southeast	X			Geothermal			X	X	X				

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14	Cold Climate Housing Research Center (CCHRC)	Hybrid Micro Energy Project	The Cold Climate Housing Research Center (CCHRC) will test and monitor a hybrid micro-energy systems composed of solar photo voltaic, solar thermal, wind, and a biomass combined heat and power unit. The four renewable energy projects will be instrumented with data loggers for evaluation and analysis, and controls that allow switching and integration of the four systems.	$	1,367,139	Fairbanks	Statewide	X			Multiple		X			X	X	X	X	
15	Kodiak Electric Association, Inc.	Pillar Mountain Wind Project	The Pillar Mountain Wind Project is to construct and operate two General Electric 1.5 MW Wind Turbines on Pillar Mountain.	$	14,400,000	Kodiak	4DP Southeast	X			Wind					X	X	X		
16	Ivanof Bay Village Council	Alternative heating and lumber materials	The coast of Ivanof Bay has a lot of drift wood that can be used for alternative heating for commercial and residential use. Also has a enough wood to stock up on lumber. This supply can be stocked and used locally and shipped to customers around Invanof Bay	$	450,000	Ivanof Bay	Rural	X			Biomass							X	X	
17	Bering Straits Development Company	BSNC Building Solar Panel Installation	Installation of 96 solar panels (17kw) on roof and walls of BSNC Building in Nome.	$	175,000	Nome	Rural	X			Solar							X		
18	Paul Ivanoff III	Unalakleet Residential Wind Energy Project	I would like to do a pilot project in Unalakleet for residential wind energy. Unalakleet is known for an endless supply of wind.	$	15,500	Unalakleet	Rural	X			Wind							X		
19	Alaska Energy Authority	Atka Hydro Construction Completion	This 270 kW hydroelectric project is approximately 60% complete. The turbine building and access trails have been completed.	$	2,100,000	Atka	Rural	X			Hydro							X		
20	Alaska Energy Authority	Chignik (Bay) Hydro Upgrade Assessment	The cannery's existing 40 kW hydro in Chignik could be expanded to provide 300+ kW for the community and cannery.	$	150,000	Chignik	Rural	X			Hydro					X				
21	Ahtna, Incorporated	Ahtna Wood Pellet Plant	At this point we are only in the pre-feasibility stages and researching possible funding sources, markets, inventories, etc.	$	9,150,000	Ahtna Region	Statewide 4DP?	X			Biomass			X	X	X				
22	Bering Straits Development Company	BSNC Building Energy Efficient Lighting Project	Replacement of older T-12 light fixtures throughout building with more efficient T-8 and / or T-5 lighting.	$	51,000	Nome	Rural		X		Facility EE							X		
23	Alaska Energy Authority	Chignik Lagoon Hydro Design and Construction	This project would include the design and construction of a new 150 kW hydro facility for the community of Chignik Lagoon.	$	1,500,000	Chignik Lagoon	Rural	X			Hydro						X	X		
24	Alaska Energy Authority	Chitina Hydro Design (O'Brien Creek)	This project would produce the 95% Design Drawings for a 400 kW hydro facility for the community of Chitina.	$	475,000	Chitina	Railbelt	X			Hydro						X			

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25	Alaska Energy Authority	Elfin Cove Hydro Assessment and Conceptual	Potential watersources have been identified and a brief assessment was performed 20 years ago, time to update & evaluate res	$	160,000	Elfin Cove	Rural	X			Hydro			X		X	X			
26	Alaska Energy Authority	King Cove Hydro Upgrade	Bringing in additional water from a nearby stream will increase the capacity of the existing hydro system and extend the season	$	3,200,000	King Cove	Rural	X			Hydro						X	X		
27	Chugachmiut, Inc.	Regional Management Plan Development for Biomass Procurement in the Kachemak Bay Communities	Expand the scope of a current feasibility study commissioned for Port Graham regarding the conversion from fossil fuel dependence to utilizing locally obtained biomass fuels for heat and power generation	$	229,110	Port Graham	Railbelt	X			Biomass			X	X	X				
28	Ounalashka Corporation	Summers Bay Geothermal	400 Kw Geothermal Power Plant using Chena Hot Springs low temp technology with 2 mile transmission line to connect to City of Unalaska grid.	$	3,840,000	Summers Bay	Rural	X			Geothermal			X		X	X	X		
29	Ounalashka Corporation	Captains Bay Wind Farm	Erect 500kw of Wind Generated power at the Captains Bay Ridge Site with another 500 kw to follow.	$	1,950,000	Captains Bay	Rural	X			Wind						X	X		
30	Community of Elfin Cove Non-Profit Corporation	Elfin Cove Hydroelectric Project	In the planning stages for over 20 years, the proposed hydroelectric generation facility would be located approximately 1.25 miles southeast of Elfin Cove. The project cost estimate includes all phases of the project from a feasibility study, stream gauging, and final design, to permitting, equipment and construction. This project should provide the electricity Elfin Cove needs for 9 months of the year, resulting in a fuel cost savings of $93,400 per year at August 2007 prices.	$	1,500,000	Elfin Cove	Rural	X			Hydro			X		X	X	X		

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31	City of Tanana	Yukon-Kuskokwim Propane Demonstration Project	Tanana is participating in the Yukon-Kuskokwin Propane Demonstration Project (YKPDP) where North Slope produced propane will be trucked to the Yukon River and barged to Tanana. Tanana's involvement will help establish the feasibility of using propane as a viable energy source for villages along the Yukon and Kuskokwim Rivers. The project will establish the basis from which other villages can utilize Alaska natural gas that is processed and delivered within the state. The logistical, testing, implementation and cost analysis of using propane will help to gauge potential cost savings of extracting propane from North Slope natural gas at a future take-off point located at the Yukon River bridge. Ultimately, using Alaska natural gas processed and delivered within the state will help provide relief from the expense of barging and storing fuel oil, diesel and gasoline in expensive to build and maintain tank farms. The City looks forward to participating in this vital project and believes Tanana's involvement will begin a new era for providing cost effective and reliable energy to most rural Alaska co	$ 100,000	Tanana	Rural	X			Gas					X				
32	Naknek Electric Association	Bristol Bay Regional Geothermal Energy Project	25mw regional geothermal energy plant and transmission to serve the Bristol Bay region	$ 200,000,000	Naknek	Rural	X			Geothermal			X	X	X	X	X		
33	Chignik Lagoon Power Utility	Chignik Lagoon Hydroelectric Plant	A hydro project to generate 1,170,000 kwh/yr	$ 930,000	Chignik Lagoon	Rural	X			Hydro									
34	University of Alaska Fairbanks	Alaska Center for Energy and Power	Providing cost effective electricty and other energy to rural communities is a critical issue in Alaska. While much can be gained by implementing best current practicies, forward looking research is necessary for reducing the dependence on "imported" energy. The University of Alaska Fairbanks is proposing a new research based instution to address these issues, with funding coming from state, federal and private souces.		Fairbanks	Statewide	X	X		Multiple	X	X	X		X				
35	University of Alaska Fairbanks	Small Scale hybrid systems for remote power	Providing small amounts of electrical power (200 to 2500 watts) through the cold dark Alaskan winter has proved difficult. A small scale hybrid system based on a small propane engine and batteries, supplemented with solar and wind power would seem to be an ideal soluion, but implementation requires careful attention to many deteils. This project proposes to build and demonstrate such a system.	$ 120,000	Fairbanks	Statewide	X			Multiple	X	X							

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36	University of Alaska Fairbanks	Diesel Engine Test Bed support	Most of the electrical power in rural Alaskan communities is generated with diesel engines. Despite the recent rise in the cost of diesel fuel, diesel engines will likely remain the dominant power generation technology for decades. UAF is requesting support for the existing testing facility to continue work in new fuels, emissions, and new technologies.	$ 225,000	Fairbanks	Statewide	X			Multiple	X								X	
37	University of Alaska Fairbanks	Fish Oil biodiesel	Use of locally available biofuels may be of significant benefit to some rural Alaskan communities, especially those where local biomass is readily available. Fish oil obtained from rendering fish byproducts may be such a resource. However, initial attempts to operate diesel generators on B100 fish oil biodiesel resulted in engine failures due to lacquer films on fuel injectors and pumps. The formation of these films is due to the spontaneous oxidation of these oils during storage. Methods for rendering, processing, storing and using the fuel must be developed.		Fairbanks	Statewide	X			Biofuel	X								X	
38	University of Alaska Fairbanks	VRB Flow Battery Laboratory Demonstration	Renewable resources such as wind and solar power are limited by the mismatch betwe available energy in the load. This is especially problematic in remote villages where there is no electrical grid tube sorb excess power. Conventional lead acid batteries degrade rapidly under her cyclic loading, and are not cost-effective. The VRB flow battery currently in the precommercial stage me address some of these issues. The battery supplier claims that many deep cycles can be done with no degradation of the battery. This removes a major technical hurdle to use with wind power systems.		Fairbanks	Statewide	X			Multiple	X	X							X	
39	Sitnasuak Native Corporation	Sitnasuak Solar Hot Water and Wind Residential Project	To create a shareholder program that assists households with setting up a solar hot water as well as wind system	$ 979,168	Bering Straits	Rural	X			Multiple								X	

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40		Thermal Energy Storage System for Vehicle Engine Preheating	A thermal management system (TMS) that utilizes wasted engine heat is proposed to leverage the electricity expense and related capital and maintenance costs incurred by the usage of electricity outlets to preheat engine during cold seasons to reduce engine exhaust emissions in Alaska. It is anticipated that the replacement of the engine block heater with the TMS will save ~$9,173-$22,920 per cold day (Fairbanks alone) in addition to savings in fuel usage, the capital cost in constructing the electricity outlet infrastructures, and their maintnenance expense.	$	240,200	Fairbanks	Statewide		X		Facility EE		X								
41	Native Village of Cantwelll	Jack River Hydro	The community of Cantwell wishes to improve the reliability and lower the cost of their power system. Currently they obtain power from the line between MEA and GVEA. To accomplish this they propose to builtd a hydroelectric project on Jack River a short distance from Cantwell. The installed capacity of this plant will be in exccess of 1 MW. It will be comprised of a dam and a short tunnel. A feasibility design and scopiing are required to provide the parameters of the project.			Cantwell	Railbelt	X			Hydro				X	X				
42	Tatitlek IRA Council	Tatitlek Generator System Waste Heat Recovery	This project is to add waste heat recovery to the Tatitlek Diesel Generator System to provide the majority of the heating requirements for the Tatitlek Community Center. This project is fully designed and ready for construction, the generator system was originally designed by Alaska Energy Authority to utilize waste heat recovery and the community center mechanical system has been replaced so that it will be able to utilize the generator waste heat to heat the entire building with an oil fired boiler to make up heat when the waste heat is not sufficient.	$	305,000	Tatitlek	Rural		X		Generation EE							X		
43	City of Old Harbor	Old Harbor Hydroelectric Project	500 kW impulse generator installed using run of river penstock and raceways. FERC license approved and environmental assessments complete. Planning phases complete, need for final design, budget, and actual construction.			Old Harbor	Rural	X			Hydro						X	X		
44	Nelson Lagoon Tribal Association	Nelson Lagoon Tidal and Wave power generation assessment	The Nelson Lagoon Tribe wishes to investigate the feasibility of tidal and wave power generation in and around Nelson Lagoon, Alaska.	$	150,000	Nelson Lagoon	Rural	X			Ocean			X		X				

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45	City of St. George	St. George Wind/Diesel Hybrid Power generation plant	The City of St. George proposes a new wind-diesel fueled power plant; replace powerhouse fuel use by up to 40%.	$ 2,078,000	St. George	Rural	X			Wind						X	X		
46	City of Old Harbor	Old Harbor Wind Generation Project	Install up to three 65-100Kw wind turbines in the community of Old Harbor. Anemometer study is beginning in September 2007.		Old Harbor	Rural	X			Wind			X	X	X				
47	South Fork Hydro, LLC	South Fork Run-of-River Small Hydro	1.2 MW Run-of-river Hydro Plant in Eagle River, Alaska		Eagle River	Railbelt	X			Hydro						X	X		
48		Chakachamna Hydro	300+ MW hydroelectric project, transmission lines to Beluga and possible upgrades to the transmission system between Beluga and Anchorage.		Tyonek	Railbelt	X			Hydro			X	X	X	X	X		
49	Chugach Electric Association, Inc.	Fire Island Transmission Line	138-Kv transmission circuit between Fire Island and Chugach's Pt. Woronzof marine terminal. Project would include modification to the Pt. Woronzof facility, submarine cable, a marine terminal substation and transmission lines on Fire Island.	$ 30,000,000	Anchorage	Railbelt	X			Wind						X	X		
50	Fishhook Renewable Energy, LLC	Fishook Hydro	1.2 MW Run-of-River Hydro Plant in Hatcher Pass, Alaska.		Hatcher Pass	Railbelt	X			Hydro						X	X		
51		Mt. Spurr Geothermal Generation	50-100 MW geothermal generation project, plus transmission lines to Chugach's Beluga power planty and possible transmission upgrades between Beluga and Anchorage.		Mt. Spurr	Railbelt Tyonek	X			Geothermal			X	X	X	X	X		
52	Archangel Green Power, LLC	Archangel Creek Hydro	1.2 MW Run-of-River Hydro Plant in Hatcher Pass, Alaska.		Hatcher Pass	Railbelt	X			Hydro						X	X		
53		Fire Island wind Project	36-72 MW Wind Generation Project		Anchorage	Railbelt	X			Wind						X	X		
54	Fishhook Renewable Energy, LLC	Fishhook Creek Hydroelectric Project	The Fishhook Creek Hydroelectric Project is an environmentally friendly run-of-river hydroelectric project proposed for Fishhook Creek, located on the east side of Hatcher Pass. The project would have 1,000 feet of gross head, a design flow of 29 cfs, and a peak output of 2.0 MW. Average annual energy from the project would be 7,200 MWh. Power would be sold to Matanuska Electric Association. Fishook Renewable Energy, LLC has completed preliminary design and feasibility studies of the project, and is currently in the state permitting process.	$ 4,000,000	Hatcher Pass	Railbelt	X			Hydro						X	X		

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55	Jill Reese Investments and Green Power Development	Archangel Hydroelectric Project	The Archangel Hydroelectric Project is a run-of-river hydroelectric project located in Hatcher Pass on Archangel Creek. The project would have 490 feet of gross head, a design flow of 60 cfs, and a peak output of 1.7 MW. Average annual energy from the project would be 7,700 MWh. Power would be sold to Matanuska Electric Association. Funding for the powerline line extension to the Motherlode Logde (powerhouse site) is required to begin permitting, design, and construction. To date, project surveying, feasibility, and conceptual design have been completed.	$	6,420,000	Hatcher Pass	Railbelt	X			Hydro						X	X		
56	Chignik Lagoon Power Utility	Chignik Lagoon Hydroelectric Project	Past feasibility studies and recent conceptual design call for a 190 kW project located on Packers Creek. Utilizing a 16 ich diameter pipe, the project diverts 8 cfs a distance of 3800 feet resulting in 390 feet of gross head. The project would produce up to 1300 MWh/yr with a useable energy of 510 MWh offsetting about 42,500 gallons of high cost diesel fuel each year.	$	1,900,000	Chignik Lagoon	Rural	X			Hydro						X	X		
57	Shannon & Wilson	Biodiesel from Alaskan Microalgae	This project seeks to provide a foundation to initiate a resource-assessment and research program for Alaskan biodiesel fuel.			Fairbanks	Statewide	X			Biofuel	X	X	X		X				
58	BQ Energy, LLC	Kenai Winds	The project under development is a 25 MW wind energy facility located on industrial land near Kenai.	$	40,000,000	Kenai	Railbelt	X			Wind						X	X		
59	Gulkana Village Council	Gulkana Wood Hot Water Boiler	The Gulkana Village is working toward constructing an outdoor wood fired boiler system. To establish wildland fire protection Gulkana Village has received funds to clear a defensible space around each home in the Gulkana Village. Phase Two of this project includes clearing a firebreak around the entire Village. These projects will make wood available to fuel the wood boiler.	$	150,000	Gulkana	Railbelt	X			Biomass						X	X		
60	City of Whittier	Whittier Alternative Energy Preliminary Site Investigation	The City of Whittier proposes conducting an alternative energy preliminary site investigation for both hydroelectric and wind. Although Chugach Electric currently provides electricity to Whittier, frequent and prolonged outages, particularly during the winter months, necessitates the need to develop alternate energy sources for a local generation system that could also supply the Railbelt when not needed as a primary provider to the community. The project would assess the potential for the development of Whittier into a sustainable community that utilizes renewable energy systems.	$	29,000	Whittier	Railbelt	X			Multiple			X	X					

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61	Maniilaq Association	Mavsigviq and Renewable Energy - Achieving Wellness through Self-Sufficiency	A unique substance dependency and wellness program based at Maniilaq Association, Mavsigviq seeks to develop alternative energy and increase energy efficiency for two primary reasons. The first goal is to develop a system to utilize available solar and wind energy, renewable energy sources that are currently untapped. Secondly, the goal of this project is to reduce reliance on non-Maniilaq sources of energy, thereby reducing operational costs and increasing self-sufficiency.	$	395,000	Kotzebue	Rural	X	X		Multiple					X	X	X		
62	Copper River School District	CRSD Kenny Lake and Copper Center School Wood Fired Boilers	Replace 8,000 gallons of fuel oil at Copper Center School and 21,600 at Kenny Lake utilizing bark beetle killed spruce.	$	350,000	Kenny Lake	4DP Southeast	X			Biomass					X	X	X		
63	City of Ketchikan	Granite Basin Power Plant	The 750 kW Granite Basin (hydroelectric) Power Plant will meet a portion of Ketchikan's power needs, displacing diesel generation. It will increase the capacity of the existing 4,200 kW Ketchikan Lakes Hydroelectric Project through the placement of a turbine-generator on the tunnel conveying water from the Granite Basin diversion dam to the Fawn Lake forebay. Items included in the construction are 1,200 feet of HDPE pipe liner within the existing tunnel, 250 feet of 41-inch steel penstock, a new powerhouse with a single Francis unit, and 3,800 feet of new transmission line.	$	3,423,500	Ketchikan	4DP Southeast	X			Hydro						X	X		
64	City of Ketchikan	Whitman Lake Hydroelectric Project	The 4,600 kW Whitman Lake Hydroelectric Project will meet a portion of Ketchikan's power needs, displacing diesel generation and reducing emissions. It will utilize the water supply created by an existing dam to produce an estimated average annual generation of 16,225,000 kWh. New project features include a powerhouse and turbine/generator units, intake and penstocks, diversion structure on Achilles Creek, a switchyard and transmission line. The hydro project will operate in conjunction with a fish hatchery. KPU has applied for a FERC license for project construction.	$	9,580,000	Ketchikan	4DP Southeast	X			Hydro						X	X		
65	Alaska Energy Authority	Tenakee Springs Hydro Design	This project would provide for the final field investigation, engineered design, and construction cost estimate for a 125 kW resor	$	380,000	Tenakee	Rural	X			Hydro						X			

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66	Rural Alaska Community Action Progam	Rural Alaska Village Energy	RurAL CAP will work with 10 communities each year to coordinate strategic energy planning and home energy audits. Each community will engage a locally recruited VISTA member to serve for one year. The VISTAs will be supported by a full time Energy Program Coordinator who will train VISTAs and assist with developing community energy plans, coordinating residential energy audits, and connecting communities to appropriate resources. RurAL CAP will also work with communities to increase access to energy efficient materials for homes.	$	209,000	Anchorage	Statewide		X		Multiple				X					
67	Native Village of Perryville	Perryville Alternative Energy Project	Residential-scale wind and photovoltaic installations.	$	265,000	Perryville	Rural	X			Multiple							X		
68	Natural Currents Energy Services, LLC	Alaska Tidal Electric Cooperatives	Alaska Tidal Electric Cooperatives (ATECs) will provide a demonstration of state-of-the-art tidal power technology to three (3) coastal communities in the Alaskan panhandle, each with two (2) 20 kW Red Hawk tidal elelctric turbines for community power generation during the period of 2008-2010. The project will include job training in power system design, installation and maintenance. It will include an initial component for site evaluation that will enable system expansion throughout Alaska that will enable a prioritization of sites, based on common evaluation parameters.	$	610,000	Southeast	4DP Southeast	X			Ocean			X	X	X	X	X		
69	Alaska Energy Authority	Chenega Bay Hydro Assessment	Chenega Bay has several prospective hydro streams near the community that need to be assessed for hydropower potential.	$	190,000	Chenega Bay	Rural	X			Hydro			X		X				
70	Nushagak Electric and Telephone Cooperative/AVEC	Togiak Tuya Geothermal Project	Resource assessment for possible geothermal power development from the Togiak Tuya formation. Geothermal generated electric power from such a development could possibly power Togiak (and its seasonal cannery load), Twin Hills (and its seasonal cannery load), Manokotak, and Dillingham (and its cannery load). These combined settlements support approximately 4,500-5,000 year round inhabitants with an average load estimated to be 4.5MW reaching a seasonal peak at 8MW.	$	5,000,000	Bristol Bay	Rural	X			Geothermal			X		X				

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71	Nushagak Electric & Telephone Cooperative	Dillingham Hydro, Phase 1: Lake Elva to Dillingham	NETC has a hydro project in the early planning stages that would provide renewable hydro power for Dillingham and Aleknagik from two geographically separate sources. The initial completion of the smaller Phase 1, from a dam at Lake Elva to Dillingham would include a tie line robust enough to carry future power from Phase 2. That three phase tie line would be routed underwater through Snake Lake (Nunavaugaluk) to a substation near Snake Lake Road and out to the existing power line from the Dillingham substation which would be reinforced to three phase capacity.	$ 22,173,000	Bristol Bay	Rural	X			Hydro					X	X	X		
72	Nushagak Electric & Telephone Cooperative	Dillingham Hydro, Phase 2: Grant Lake to Lake Elva to Dillingham	NETC has a hydro project in the early planning stages that would provide renewable hydro power for Dillingham and Aleknagik from two geographically separate sources. The initial completion of the smaller Phase 1, from a dam at Lake Elva to Dillingham would include a tie line robust enough to carry future power from Phase 2. The additional dam to dam three phase tie line could be routed underwater as much as possible from Grant Lake and connect at the Lake Elva facility.	$ 24,500,000	Bristol Bay	Rural	X			Hydro			X		X	X	X		
73	Lake & Peninsula Borough / Kokhanok Village Council Utility	Kokhanok Wind Diesel	A 100 to 130 kW wind system, integrated into the electric diesel power grid to displace 30,000 gallons of diesel fuel.	$ 1,300,000	Kokhanok	Rural	X			Wind						X	X		
74	Ivanof Bay Village Council	Ivanof Bay Wind Project	Design and construction of a wind project.	$ 2,240,000	Ivanof Bay	Rural	X			Wind					X	X	X		
75	Karluk IRA Tribal Council	Karluk Tidal/Wave Energy Project	Investigate and ananlyze the tidal/wave alternative energy potential for the Native Village of Karluk. This feasibility study will determine the viability of this energy resource could supplement the energy needs of the village, help reduce the cost of power, and displace the high cost of fuels.	$ 348,000	Karluk	Rural	X			Ocean					X	X			
76	City of Saint Paul	Wind-Diesel Interconnection	Installation of an intertie and controls between the City's existing diesel power plant and distribution system and the TDX Corporation's existing wind turbines. This project includes advanced diesel controls and flywheel storage equipment. By connecting the existing power generation and distribution system and the existing renewable energy resource, the project will result in higher energy efficiencies and, therefore, will also result in lower electrical costs for consumers.	$ 1,723,950	Saint Paul	Rural	X			Wind						X	X		
77	Bristol Bay Area Health Corporation	Kanakanak Hospital Boiler Plant Project	Newer boiler technology will achieve up to 86% energy efficiency, with estimated savings in fuel of up to $31,000 per year.	$ 5,400,000	Kanakanak	Rural		X		Generation EE									

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78	None (though supported by the Sitka Global Warming Group)	Microhydro Power Generation	Reduce Sitka's power needs by focusing on small scale microhydro projects that can be repeated in many places in Sitka.	$	27,000	Sitka	4DP Southeast	X			Hydro				X		X	X		
79	University of Alaska Fairbanks	Novel Functional-gradient Thermal Barrier Coatings in Hydrogen-based Gas Turbine Systems	University of Alaska Fairbanks (UAF) proposes a 24 month program aimed at development, characterization and evaluation of a novel functionally graded materials, pyrochlore oxides for thermal barrier coatings (TBC). Compared with the current standard TBC, Partially Yttria Stabilized Zirconia (PYSZ), pyrochlore oxides A2 3+B24+O7 (e.g, La2Zr2O7,Nd2Zr2O7, Sm2Zr2O7, Gd2Zr2O7) have demonstrated lower thermal conductivity and better thermal stability, which are crucial to the high temperature applications such as hydrogen-based gas turbines. The TBCs will be fabricated by using High Velocity Oxy-Fuel (HVOF) thermal spray and Air Plasma Spraying (APS) techniques to produce multiplayer functionally gradient coatings. In this program, we propose to develop fundamental knowledge to support the needs of applications of TBCs in hydrogen-based gas turbines. We propose to move forward in three major thrust areas: 1) coating design and fabrications, 2) coating evaluation and characterizations, and 3) modeling of properties of coatings. These thrust areas are critical to the exten	$	100,000	Fairbanks	Statewide			X	Electricity	X									
80	University of Alaska Fairbanks	Development of a User Friendly Software for Determining If Exhaust and/or Turbocharger Air Heat Recovery Is Feasible and Economical for Rural Diesel Power Plants	To develop a user friendly software, which can be used to evaluate if the application of exhaust and/or turbocharger air heat recovery to the diesel power plant of any particular village is feasible and economical. Input of the computer program will apply engine operation parameters, engine load pattern, village heating system parameters, fuel cost, relative locations between the heat sourse and the heat sink, etc. Output of the program will give details (system layout, pipe size, pump size, etc.) of the design of the heat recovery system, feasibility and economic analysis results.	$	70,000	Fairbanks	Statewide		X		Generation EE	X				X				

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81	Maniilaq Association, Inc.	Maniilaq Association Health Facilities Energy Efficiency Improvements	Maniilaq Association recently completed an energy audit of the Maniilaq Health Center and several other Association facilities to better understand how it is using energy and how it can conserve energy. For the Maniilaq health facilities audited it was concluded that with an investment of $720,000 in equipment and controls upgrades, an annual energy saving of $172,000 can be achieved. Maniilaq Association spends $1.6 million annually on electrical and thermal energy.	$	720,000	Kotzebue	Nana		X		Facility EE							X	X		
82	Loopy Lupine Recycled Products	Loopy Lupine Sustainable Warehouse	Loopy Lupine Recycled Products is a distributor of recycled, biodegradable, and environmentally preferable supplies for business. In line with the philosophy of our business, Loopy Lupine will build a new warehouse in a fashion that respects the environment. Using local renewable materials, designing for passive and active solar power, insulating to the highest standards, and incorporating wind power, will allow Loopy Lupine to be an example of low impact sustainable building for other businesses throughout the state.	$	170,000	Homer	Railbelt	X	X		Multiple		X					X	X		
83	City of Coffman Cove	Tidal Power	Rural Communities in Alaska who are not connected by an electrical interite pay an electric rate two to three times higher than the Alaska average and five to ten times higher than the national average per killowatt hour. Tidal power is a new technology which has an enormous potential in Alaska. SE Alaska could provide enough tidal power to "power up" the Pacific Northwest of the United States. Coffman Cove has the potential to be a pilot project for tidal power. Our electric rate is 48 cents per killowatt hour. We would like to be considered for this project.	$	2,275,000	Coffman Cove	Southeast 4DP?	X			Ocean		X				X	X	X		
84	Applied Geometry	Whittier Creek Hydro	A demonstration of hydroelectric project design using natural steam features, rather than changing them with heavy equipment and concrete. Equipment instillation without a road. A dmonstration of a renewable energy source that produces power cheaper than the price of natural gas. (avoided rate)	$	751,000	Whittier	Railbelt	X			Hydro							X	X		

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85	Juneau International Airport	Geothermal Energy Project	Alaska's dependence on fossil fuels and issues from the resultant carbon dioxide emissions are economically and socially complex. Raising public awareness, understanding the science in the solutions, and empowering people to try new technologies requires leadership, innovation, and funding. The Geothermal Energy Project at the Juneau International Airport offers significant opportunities to make buildings at Juneau's airport more efficient, while simultaneously serving as a demonstration of energy conservation and emerging alternative energy technologies for all of Alaska.	$	600,000	Juneau	Southeast 4DP?	X	X		Geothermal					X	X	X		
86	Alaska Center for Appropriate Technology and Valley Community for Recycling Solutions	Renewable and "Waste" Energy Systems for the Net Zero Energy Mat-Su Regional Resource Recovery and Training Park	The Mat-Su Regional Resource Recovery and Training Park is a facility being constructed to 1) house the new Mat-Su Community Recycling Center and 2) be a place for education, research, demonstration and technology transfer related to solid waste reduction, materials recycling, and energy efficiency/renewable energy systems. The main building will be designed to become a Net Zero Energy building, and the campus will accommodate research, training and technology transfer for waste reduction and energy systems application across Alaska.	$	1,000,000	Wasilla	Railbelt	X	X		Multiple					X	X	X		
87	Nuera Corporation	Alternate Heating with Used (waste) Oil	Provide a means to reduce rural high heating costs utilzing an existing, on-site free heating fuel (used oil) in outlying communities, while eliminating a potential pollutant. Used cooking oil /vegetable oil (a Biomass fuel) is also a useable alternate fuel source.	$	10,000	Statewide	Statewide	X			Biofuel									
88	Ultimate Engineering	Susitna Valley High School Wood Fired Heating Plant	This project is intended to provide the new Susitna Valley High School facility with a wood fired heating plant.	$	318,500	Talkeetna	Railbelt	X			Biomass						X	X		
89	Larry M. Whiting and Associates	Distributed Power Generation from Cook Inlet Tidal Currents	This project proposes to design, install, operate and remove a prototype of a distributed tidal power system located in Cook Inlet. It will be comprised of several inter-connected tidal power generators, bottom anchored in the tidal current and connected to the electrical grid. The primary participants have extensive experience in planning, surveying, designing and constructing projects throughout Alaska, particularly in the harsh environment of Cook Inlet. Additional team members and resources will be detailed in the proposal.	$	2,750,000	Cook Inlet	Railbelt	X			Ocean			X	X	X	X	X	X	

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91	Firehouse 23	Firehouse 23 Goes Green	Complete construction of restaurant utilizing solar power to convert water into hydrogen, storing hydrogen until needed.	$ 255,440	Nenana	Railbelt	X			Solar									
92	University of Alaska Fairbanks	The Alaska Center for Energy and Power	The Alaska Center for Energy and Power (ACEP) is currently in the formation stages. We expect ACEP to be a collaborative organization between the University of Alaska, the State of Alaska, municipalities and related organizations, non-governmental organizations, and private industry. The ACEP will focus on applied research and testing for alternative and renewable energy, "the oilfield of the future", and powering the economy. The oilfield of the future division will focus on new resource opportunities such as gas liquids and gas hydrates. The powering the economy division will focus on big power opportunities such as 500MW and greater power plants located in the Aleutians. These power plants with marine access could serve high energy demands such minerals refining. We hope to fund the ACEP through a combination of state, federal and industry funding.	$ 25,000,000	Fairbanks	Statewide	X	X		Multiple	X	X	X		X				
93	Ormat Nevada, Inc.	Mount Spurr Geothermal Project	The Mount Spurr area represents one of the best opportunities in Alaska for utility-scale geothermal development. The target site is located 70 miles west of Anchorage on state land. Field work was performed at the site in 1985. It is reasonable to expect that a project would take shape if the generating plant could support in the range of 50-150 MW. Determining the range will depend on the outcome of exploration drilling. Within the last 12 months, Ormat has pursued leases for the prospect and submitted a preliminary development plan to the Alaska DNR. (Cap cost estimated at $300-600 M)	$450,000,000	Mt. Spurr	Railbelt Tyonek	X			Geothermal			X	X	X	X	X		
94	New England Technology Development Center	Alaska Solar Home Clusters	Alaska Solar Home Clusters will provide a demonstration of most current technology to two to four coastal communities in the Alaskan panhandle, each with ten to twenty homes with net positive energy production and income-providing excess generation supplied into the power grid. The project includes job training in solar power system design, installation and repair/maintenance. Includes feasibility studies regarding best sites, highest level of need, and community acceptance criteria.	$ 700,000	Statewide	Statewide	X	X		Multiple				X		X	X	X	

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95	ORPC Alaska, LLC ("ORPC"), wholly owned by Ocean Renewable Power Company, LLC	Cook Inlet OCGen™ Tidal Power Project	ORPC has been issued a Preliminary Permit by the Federal Energy Regulatory Commission for a tidal energy site in the Cook Inlet/Knik Arm (Project No. 12679), which completes the 1st step in the FERC licensing process. The proposed project will utilize ORPC's proprietary Ocean Current Generation ("OCGen™") technology to generate emission-free electricty from Cook Inlet tides and be developed in phases. The first phase will be a 30-45 day demonstration project scheduled for May 08 as proof of design for a 32 kilowatt turbine-generator unit ("TGU") developed specifically for this application. The second phase will be the deployment of a full scale prototype OCGen™ module with 2-4 TGU's for a full year of testing and environmental monitoring scheduled for mid-2010 and completion of the FERC Licensing Process. The third phase will be the commercialization phase scheduled for commencement in mid-2012 in which tens of OCGen™ modules will be deployed in arrays over a 2-3 year period to generate approximately tens of megawatts (peak capacity in a 6 knot current) of power to be sold to th	$ 10,000,000	Cook Inlet Knik Arm	Railbelt	X			Ocean					X	X	X	X	
96	Power Alternative	Launching an Eco-Industrial Revolution	Purpose of projects is to develop a network of self-sustainable support services facilities or otherwise Eco-Industrial Park (EIP) which would not only address urgent needs for affordable power for isolated energy consumers and rural communities throughout Alaska, but contribute to creating new employment opportunities in vast markets of emerging Eco-Industry promoting application of Clean Technologies and implementing environmental practices/services beneficial to reduce impact of progress.	$ 100,000	Anchorage	Railbelt	X	X		Unknown		X	X		X	X			
97	Mountain Solar Electric	Solar Energy Demonstration	Mountain Solar Electric is consulting with Mt. Sanford Tribal Consortium on a solar demonstration project to determine the feasibility of using PV's to offset the high cost of electrical power in the villages of Mentasta and Chistochina.	$ 71,808	Mentasta Chistochina	Rural	X			Solar						X	X	X	
98	Igiugig Tribal Village Council	Igiugig Tribal Village Alternative Energy Scoping and Resource Project	The Village of Igiugig is proposing to develop hydro-electric and wind energy sources to reduce its dependency on Carbon fuel.	$ 1,085,000	Igiugig	Rural	X			Multiple				X	X	X	X		

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99	Jeff and Jessica Martin	Clean Air Clean Energy with a Hydrogen A Plant Plan	The project is a plan to construct a plant to turn water into hydrogen with solar energy to use for electricity and heating.	$	128,000	Nenana	Railbelt	X			Solar		X			X	X	X		
100	Jeff and Jessica Martin	Clean Air via Engine Hybrids	Transform gas guzzling engines of all types to hybrid hydrogen/pertoleum engines.	$	101,850	Nenana	Railbelt		X		Transportation EE									
101	Chignik Lagoon Power Utility	Chignik Lagoon Hydroelectric Plant	Past feasibility studies and recent conceptual design call for a 190 kW project located on Packers Creek. Utilizing a 16 ich diameter pipe, the project diverts 8 cfs a distance of 3800 feet resulting in 390 feet of gross head. The project would produce up to 1300 MWh/yr with a useable energy of 510 MWh offsetting about 42,500 gallons of high cost diesel fuel each year.	$	1,500,000	Chignik Lagoon	Rual	X			Hydro						X	X		
102	City of Nome	Solar Energy For Recreation Center And Student Housing In Nome Alaska	Install solar panels on community buildings (recreation center and student housing) while they are under construction/remodel. The recreation center is getting a new roof and now is the time to integrate solar panels. It is utilized by the entire community and is very visible. The new student housing building is under construction and will be an excellent example. Solar panels will be used to heat the building and heat water that is highly used in both facilities that otherwise are solely dependent on diesel oil for heat and electricity. System performance will be monitored.	$	145,000	Nome	Rural	X			Solar						X	X	X	
103	Icy Straits Lumber & Milling	Wood Waste To Generate Heat For Dry Kilns	The present problem is coverting enough wood waste into energy for heating dry kilns for value-added forest products. Presently being used is a diesel fired boiler, because a system has not yet been developed to efficently operate an already installed wood fired boiler. Burning properly processed wood waste will save tremendous amounts of fossil fuels.	$	330,000	Hoonah	Rural	X			Biomass						X	X		
104	City of Bethel	City Shop Wind Turbine Project	The City of Bethel is interested in purchasing, installing, operating, and maintaining a small commercial wind turbine that would provide electric power to the City's Public Works building (a.k.a. City Shop). The wind turbine would be situated 300-500 feet away from the City Shop building. Initial estimates indicate that a 100 kW wind turbine has the potential to provide up to 2/3 of the amount of power used by the City Shop in a year (370,640 kWh). Net metering might prove useful. City Shop location north of town ideal to take advantage of Bethel's strong northeast winds.	$	875,000	Bethel	Rural	X			Wind						X	X		

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105	Haida Corporation	Reynolds Creek Hydroelectric Project	The Reynolds Creek Hydroelectric Project will be a new, 5.0-megawatt resource interconnected to the existing transmission grid on Prince of Wales Island. The Project will utilitize Lake Mellen for much of its storage capacity, thus minimizing the need for impoundment dams and structures. The average annual energy of 19.3 GWh will be sold by the owner (the Haida Corporation) on a wholesale basis to Alaska Power Company and displace the increasing need for diesel generation on the island. The Haida Corporation holds the FERC license to construct, own, and operate the Project.	$ 11,000,000	Hydaburg	Rural Southeast	X			Hydro						X	X		
106	University of Alaska Fairbanks	Feasibility of Wind Generation, Solar Photovoltaics, and Economic Dispatch in Alaska Rural Village Power Systems	The cost, efficiency, and reliability of electric power production in rural Alaska villages is vital to the economic survival and sustainability of these communities that rely on standalone diesel electric generators (DEGs) for electric power. This project investigates the economic feasibility of integrating wind-turbine generators (WTGs), photovoltaics (PV), and economic dispatch systems into rural Alaska village power systems. An assessment tool called the Hybrid Arctic Remote Power Simulator (HARPSim) is being developed that can estimate the increase in efficiency, reduction in fuel consumption, cost of electricity (COE), life cycle cost (LCC), and pollutants by implementing renewables in the villages of Kongiganak and Buckland, Alaska.	$ 96,985	Fairbanks	Statewide	X	X		Multiple	X				X				
107	Chaninik Wind Group	Chaninik Wind Group Regional Wind Project and Support Center	$3.5 million to construct three village wind projects (Kongiganak, Kwigillingok, and Tuntutuliak) as a single project and to create a regional wind support center. Each project displaces 35+% of the fuel used to generate electricity. Cost savings and economies of scale from combined project enable the purchase of specialized equipment, training and operations and maintenance support. The proposed system design can be cost-effectively replicated in 8 other communities in this region and many other communities in rural Alaska	$ 5,500,000	Calista	Rural	X			Wind						X	X		
108	Golden Valley Electric Association, Inc.	Eva Creek Wind Project	GVEA has been monitoring the wind resource at the Eva Creek Site for three years and has found a resource with approximately a 32% to 35% capacity factor. It is very near an existing transmission line, making the interconnection viable. The site is located near Ferry, Alaska in the GVEA service territory.	$ 72,931,000	Ferry Eva Creek	Railbelt	X			Wind						X	X		

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109	Fairbanks Economic Development Corporation (FEDC)	Pellet Fuel Project	The FEDC Pellet Fuel Project promotes the development of a value added fuel from woody biomass. The Pellet Fuel Project supports a continuous up-to-date Interior forest inventory, completion of a state wide market survey on residents current and potential use of woody biomass for heating, a feasibility study with consideration to locating a pellet fuel plant in Fairbanks, Alaska, and the development of a pellet fuel plant business plan. Completion of this project would result in the development of a local industry that would provide an alternative-renewable fuel and lower emissions.	$	100,000	Fairbanks	Statewide	X			Biomass			X	X	X				
110	Merlin Ivanoff	Inupiaq Plumbing & Pipefitting (IPP)	This project seeks to begin a Quality Training Apprenticeship Program in Rural Alaska to increase the number of qualified Alaskans in the Plumbing & Pipefitting trades. This training program will later be expanded to provide plumbing and pipefitting services in Rural Alaska as well as to manufacture and sell prototype multifuel boilers to Rural Alaska. Inupiaq Plumbing & Pipefitting will be set up as a profit and non-profit organization.	$	5,600,000	Anchorage	Statewide	X			Multiple									X
111	City of White Mountain	White Mountain Energy Efficiency Improvements and Planning	The proposed project is to help improve energy efficiency within the community by assessing the current ordinances, policies, administrative procedures and electrical power generation/operation. Upon assessment completion an Energy Efficiency Plan will be created for the City and will be implemented by the Council and staff.	$	210,000	White Mountain	Rural		X		Multiple			X	X					
112	North Slope Borough, Dept. of Public Works, Division of Fuel & Natural Gas Facilities	Anaktuvuk Pass Energy Management & Efficiency Project Analysis Report	The NSB facilities uses more than 65% of all the fuel and electricity consumed in the Seven Villages. Fuel Cost the Borough over $16 million dollars a year and the production and distribution of power cost over $11 million year. The cost of fuel has doubled since 2003. The Borough is in a key position to reduce the spiraling cost of fuel for both space heating and electrical power generation by installing current high energy efficiency technology in all of it's facilities. This project performs an energy audit on all North Slope Borough facilities in the Community of Anaktuvuk Pass	$	19,300	Arctic Slope	Rural		X		Facility EE					X				
113	North Slope Borough, Dept. of Public Works, Division of Fuel & Natural Gas Facilities	Atqasuk Wind Turbine Site Evaluation & Cost Estimate	This project performed a preliminary wind assessment, site evaluation & cost estimation for installation of utility grade wind turbine(s) in Atqasuk	$	41,000	Atqasuk	Rural	X			Wind			X	X	X				

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114	North Slope Borough, Dept. of Public Works, Division of Fuel & Natural Gas Facilities	Point Lay, Point Hope & Kaktovik Wind Turbine Site Assessment	Site evaluation & cost estimation for installation of utility grade wind turbines in Point Lay, Point Hope & Kaktovik	$	31,650	Arctic Slope	Rural	X			Wind			X	X	X				
115	North Slope Borough, Dept. of Public Works, Division of Fuel & Natural Gas Facilities	Atqasuk Energy Assessment	NPRA grant funded project to reduce or eliminate the community of Atqasuk's depedency on fuel oil for space heating and electrical energy requirements through the identification of cost-effective, clean and safe alternative energy sources and scenarios.	$	100,042	Atqasuk	Rural	X			Multiple				X					
116	North Slope Borough, Dept. of Public Works, Division of Fuel & Natural Gas Facilities	Characterization & Quantification of the Methane Hydrates Resource Potential Associated with the Barrow Gas Field	This project is a phased approach to characterize & quantify the postulated methane hydrate resource in the existing Barrow Gas Fields, Barrow, Alaska.	$	762,324	Arctic Slope	Rural	X			Gas			X						
117	Alaska Village Electric Cooperative	Hydropower resource assessment, feasibility, and FERC licensing consultation - Old Harbor, Alaska	In the 1990's, a 500 kW hydro site was licensed in the rural community of Old Harbor, but was challenged by the construction and regulatory costs. negative economics of the fairly low fuel costs enjoyed in the late 90s and early 2000s. Recent skyrocketing fuel costs that experts consider to be unlikely to reverse have greatly improved the projected economics of this project and a smaller, 300-kW project is now being considered for relicensing.	$	250,000	Old Harbor	Rural	X			Hydro					X				
118	Paul D Kendall	An Alaskan Hydrogen project for the average citizen's single family home	The documentation and filming for viewing by public the process of an average citizen implimenting a limited hydrogen Gas fueled project involving the conversion of 3 each. --Natural gas Range stove top and oven, floor heater, and gas lantern -- to hydrogen by means of producing hydrogen via 1 to 5 ways, along with storage, transmission, maintainence, and overall awareness of what is involved in transitioning from a known fuel of familiarity to a new earth friendly fuel.			Anchorage	Statewide	X			Multiple									X

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119	Alaska Village Electric Cooperative	High Penetration Wind-Diesel Feasibility	Wind-diesel hybrid generation systems which displace 10-30% of diesel consumption used for power generation are operating successfully in rural Alaska. Under certain conditions, the amount of diesel generation being offset by these systems can be as much as 50%. This study would investigate the the feasibility of increasing the amount of non-diesel generation to levels significantly beyond what is presently attainable, with a final goal of reaching 100% penetration, where the diesel generator sets are no longer required to operate when the alternative source is generating at peak	$	200,000	AVEC	Statewide	X			Wind					X				
120	Alaska Village Electric Cooperative	Heat Recovery for Power Generation Feasibility Study	This project would examine the feasibility of recovering waste heat generated by the combustion of fossil fuels through the use of an Organic Rankine Cycle, extracting energy from the hot fluid in the form of mechanical work for electricity generation in a combined cycle.	$	350,000	AVEC	Statewide		X		Generation EE					X	X	X		
121	Alaska Village Electric Cooperative	Improved air and water source heat pump, feasibility and demonstration for rural Alaska.	This project would determine the feasibility of using advanced heat pump technology to provide space heat from locally available water bodies as the high temperature reservoir.	$	300,000	AVEC	Statewide		X		Facility EE					X	X	X		
122	Alaska Village Electric Cooperative	Additional Wind Turbine Installation - Hooper Bay, Alaska	This project includes the addition of a fourth NW 100 turbine to the three that are currently planned for installation in 2008. This would increase the wind generation output by 25%, and would reduce fuel consumption by an additional 10,500 gallons annually.	$	750,000	Hooper Bay	Rural	X			Wind							X		
123	Northwest Arctic Borough	Mini/micro Hydro Power Feasibility within Northwest Arctic Borough	Kogoluktuk falls on the Kogoluktuk River have a high volume of water and flow to potentially accommodate mini or micro hydro power for the villages in the upper Kobuk River Valley in the Northwest Arctic Borough who have no barge service for fuel delivery. A resource assessment and feasibility study would help the borough to explore this potential source of clean, affordable, alternative, renewable energy.			Kogolutuk	Rural	X			Hydro			X	X					

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124	Kotzebue Electric Association (KEA)	Kotzebue Off Shore Wind Development	The community of Kotzebue uses about 19.7 million kWh of electricity and 1.4 million gallons of diesel fuel each year. Approximately 8% of the electric needs are now from wind. KEA is working towards 3-4 megawatts of wind generation capacity which would enough to meet the electricity needs of the community at peak load (times of highest electricity use). While Alaska has excellent coastal wind resources, erecting higher capacity turbines on the land is not possible due to the need for heavy equipment, difficulties with permafrost, and shipping constraints. Offshore turbines could solve many of these problems. The next large goal for Kotzebue's Wind Farm will be the installation of four 1.5 megawatt General Electric turbines.	$	9,200,000	Kotzebue	Rural	X			Wind			X	X	X	X	X		
125	Kotzebue Electric Association (KEA)	Capacity for Kotzebue's Existing Wind Farm	The community of Kotzebue uses about 19.7 million kWh of electricity and 1.4 million gallons of diesel fuel each year. Approximately 8% of the electric needs are now provided for by wind energy. KEA is working towards 3-4 megawatts of wind generation capacity which would be enough to meet the electricity needs of the community at peak load. There currently is an installed capacity of 1.14 MW and the next benchmark for KEA"s Wind Farm will be to increase the capacity to 1.5 MW by adding five more 66kW Integrity turbines.	$	1,000,000	Kotzebue	Rural	X			Wind							X		

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126	Kotzebue Electric Association (KEA)	Vanadium Red-Ox Flow Battery Energy Storage	Most utilities, like Kotzebue Electric Association, are seeing the need for diversifying their energy portfolio, but the technology to confidently rely on distributed generation is still new. Utilizing an energy storage device, such as a Vanadium Red-Ox Flow Battery (VRXFB), would enable an irregular energy source such as wind power, to be stored and then supplied during periods of peak power. VRXFB have reportedly been used in various applications since 2001, however there has not been a project which can analyze the effects of a VRXFB in a micro-grid. A VRXFB has direct application in many of Alaska's remote and insolated grid systems. There is a need for this technology in larger grid connected environments such as Alaska's Rail Belt. Batteries offer power stabilization, load leveling from renewable energy, and can help manage power transmission line loads. The Kotzebue installation will reduce peak power load by fifteen percent and by installing high speed data acquisition systems we will be able to thoroughly understand the system dynamics and responsiveness of a wind-battery-diesel hybrid powe	$	2,600,000	Kotzebue	Rural		X		Generation EE		X						X		
127	Kotzebue Electric Association (KEA)	Geothermal Development within Northwest Arctic Borough	Kotzebue Electric Association (KEA), with full support from regional and local entities, will spur the exploration and development of geothermal resources in the Northwest Arctic region in order to secure a long term energy supply. Studies done on the presence of geothermal resources directly beneath Kotzebue are promising. There also are known resources in close proximity to the villages of Buckland, Deering, Ambler, Shungnak, and Kobuk. Kotzebue serves as the hub for these villages and is an ideal location for a geothermal pilot project. Two basic phases are involved: exploration and development. While some studies exist - much needs to be verified. There is no hard evidence which shows the temperature or volume of water present. Phase One will consist of exploration and drilling. Phase Two includes development but will depend on the discovered resource. Development options will include electricity generation, district heating, absorption chilling, and of course a heated swimming pool.	$	3,100,000	Kotzebue	Rural	X			Geothermal			X					X		

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128	Alaska Village Electric Cooperative	New Stuyahok Wind Construction	This project involves the installation of 180-200 kW of wind generation to offset fuel consumption of diesel generation in the community. The project would involve the installation of 3 remanufactured Vestas V-17 turbines with a combined output of 180 kW. An alternative solution would be the installation of 2 Northwind 100 kW units. The almalgamated project may also include the completion of an intertie line between New Stuyahok and the community of Ekwok, which would allow an additional community in rural Alaska to receive the benefits of renewable energy.	$	2,108,000	New Stuyahok	Rural	X			Wind						X	X		
129	Alaska Village Electric Cooperative	Geothermal Feasibility Investigation - Elim and Koyuk, Alaska	Recent reviews of available data have indicated that there may be potential for the development of geothermal resources near the communities of Elim and Koyuk in eastern Norton Sound. This effort would complete work to quantify this information and make a determination of the necessary development and life cycle costs of utilizing the resource for power generation for the rural communities of Elim and Koyuk.	$	250,000	Bering Straits	Rural	X			Geothermal			X		X				
130	Alaska Village Electric Cooperative	Old Harbor wind resource assessment and feasibility	This project will complete a wind resource assessment for the rural community of Old Harbor, located on Kodiak Island, Alaska. It will include the installation, maintenance, and monitoring of wind measurement equipment for the resource assessment and determine the feasibility of pursuing the development of a wind generation system to reduce community reliance on diesel fuel for power generation.	$	40,000	Old Harbor	Rural	X			Wind			X	X	X				
131	Alaska Village Electric Cooperative	Shaktoolik Wind Energy Installation	This project involves the installation of 200 kW of wind generation for the rural community of Shaktoolik, Alaska. AVEC is in the planning stage of the conceptual design report to provide the community with an upgraded bulk fuel storage and electric power generation project.	$	1,900,000	Shaktoolik	Rural	X			Wind						X	X		
132	Alaska Village Electric Cooperative	Stebbins - St. Michael Wind Energy Installation	This project involves the installation of 400 kW of wind generation for the rural communities of Stebbins and Saint Michael, Alaska. AVEC is currently in the final design stages to connect these communities together electrically which will allow the decomissioning of the full size power plant and related infrastructure in one village. Installation of wind generation equipment would allow both communities to receive the benefits of renewable wind energy.	$	3,600,000	Bering Straits	Rural	X			Wind						X	X		

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133	Alaska Village Electric Cooperative	Teller Wind Energy Installation	This project involves the installation of 300 kW of wind generation for the rural community of Teller, Alaska. AVEC is currently in the conceptual design stage to provide the community with an upgraded bulk fuel storage and electric power generation project. This project may undergo a redesign effort pending a decision by the village to relocate up the hill to avoid storm damage at the current location.	$	2,850,000	Teller	Rural	X			Wind						X	X		
134	Alaska Village Electric Cooperative	Toksook Bay Wind Turbine Addition	This program would provide for the installation of a fourth NW 100 wind turbine to the existing array, bringing the total installed generating capacity to 400 kW for this village. This project would increase the wind-generating capacity at Toksook Bay by 25% or approximately 125,000 kWh per year, offseting an additional 9,500 gallons of diesel fuel presently being consumed annually. This project will also provide additional wind generation for the communities of Tununak and Nightmute, which are connected with Toksook Bay via transmission lines.	$	850,000	Toksook Bay	Rural	X			Wind							X		
135	City of Bethel	Wind Farm Feasibility Study	The City of Bethel received a State of Alaska legislative grant in the amount of $150,000 in FY 2006 for a wind energy feasibility study. The City contracted with Electrical Power Systems (EPS) to complete the Study. Despite several delays in the project due to a lack of cooperation from Bethel Utilities Corporation to provide information to EPS, the study is currently in full swing. EPS is designing a low to high penetration plan that will allow the City to integrate wind energy into the grid so as not to disrupt BUC's ability to operate its diesel generators efficienctly.	$	150,000	Bethel	Rural	X			Wind			X	X	X				
136	Alaska Village Electric Cooperative	Upper Kobuk Hydropower Assessment	This project would be undertaken to conduct a detailed feasibility study of the potential for hydropower development on the upper navigable reaches of the Kobuk River, approximately between the villages of Ambler and Kobuk. The study would encompass assessment of both the Kobuk main stem and tributaries to that river identified as having potential flows suitable for the development of small utility scale hydro power.	$	500,000	Nana	Rural	X			Hydro			X	X	X				
137	Bristol Bay Native Association	Nushagak Waste Heat Ice Plant & Cold Storage	Waste heat from a 3.5 MW diesel electric plant will power a large-capacity Bristol Bay ice plant and cold storage.			Nushagak	Rural		X		Generation EE								

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138	Alaska Village Electric Cooperative	Upper Kobuk Wind Assessment	This project would conduct a detailed feasibility study for the development of a wind energy project, or projects, that would serve the upper Kobuk River villages of Ambler, Shungnak, and Kobuk. Computer wind mapping of the area shows areas of locally elevated wind energy potential along the river. Development of wind energy in this remote area of the state would offset the high costs for power generation that is currently 100% reliant on diesel fuel.	$ 150,000	Nana	Rural	X			Wind			X	X	X				
139	Northwest Arctic Borough	Development of Wind in the Northwest Arctic Borough	To provide four villages of the Northwest Arctic Borough with 200kW of wind energy. Diesel fuel is the primary energy source for both heat and electricity generation in the northwest Arctic Borough. The total cost of this diesel is becoming dangerously high as much of this diesel must be flown into the villages. The Kotzebue Wind Farm has successfully demonstrated the use of wind energy in a wind-diesel hybrid system to reduce the overall cost of power. Many villages in the region would benefit fromwind. Kotzebue already has the technical expertise to help the borough manage these projects. The villages most likely to receive the turbines are Selawi, Deering, Noorvik, and Ambler.	$ 4,000,000	Nana	Rural	X			Wind			X	X	X	X	X		
140	Alaska Village Electric Cooperative	Transmission Intertie Projects - AVEC Communities	There are multiple areas within the AVEC service area where it is possible to connect two or more member villages together with intertie transmission lines in order to reduce power generation fuel consumption and realize capital savings compared to operating full-size, stand alone power plants within each village. This type of project is the single most effective method for increasing efficiency through the reduction of fuel consumed and related operation and maintenance costs.	$ 19,500,000	AVEC	Statewide	X	X		Transmission				X	X	X	X		
141	Alaska Village Electric Cooperative	Wind Generation Construction - Mekoryuk, Alaska	This project includes the development and construction of medium to high penetration wind project in the village of Mekoryuk. The project would include additional site assessment and geotechnical work, installation of two Northwind model 100 direct drive wind turbines and associated equipment, and system connection to installed diesel generation.	$ 1,900,000	Mekoryuk	Rural	X			Wind						X	X		

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142	City of Dillingham and University of Alaska Fairbanks - Bristol Bay Campus	“Power” of One – The Net Zero Home	Design an energy efficient house in rural Alaska using as much local material as is available. The project will demonstrate how a rural Alaskan family would go about building the ‘rural house of the future.’ Heat would be provided by an efficient wood burning stove with a Toyotomi stove as back-up and powered using alternatives (solar panels, wind turbines, and a battery bank.) but connected to the grid where electricity can pass both ways. When the power is sold back into the grid the expected $400 per month will be funds used for winter heating fuel expenses (fuel oil or snow machine time to gather wood).	$ 107,000	Dillingham	Rural	X			Multiple		X				X			
143	City of Dillingham and University of Alaska Fairbanks - Bristol Bay Campus	Dillingham Electric Car Co-op	Small communities with limited road networks are good locations for the use of off-the-shelf electrical cars, light trucks, and scooters because the distance traveled is well within their battery storage capacity. When such vehicles are powered with alternative energy, they will significantly reduce transportation fuel consumption while promoting local energy independence. Power for the vehicles will be supplied via a combination of windmills, solar power, and conventional electricity sources using battery storage at homes and specially designed parking lots at commuting hubs. To study the feasibility of this concept, the first generation of vehicles used would be inexpensive (approximately $5000) -- little more than enclosed golf carts similar to those used in retirement communities and factories. As the co-op matures and more money is invested, more expensive electrical cars would be purchase by individual users.	$ 201,000	Bristol Bay	Rural		X		Transportation EE		X			X	X	X	X	
144	City of Dillingham and University of Alaska Fairbanks - Bristol Bay Campus	"Fuel Pellet Production"	The cost of fuel, combined with increased transportation costs, has risen dramatically in rural AK creating a financial hardship for many residents and creating an infrastructure that may not be sustainable in the future. Looking locally for a fuel source will: 1) benefit residents with lower fuel costs, 2) recycle waste products which otherwise go to the local land fill, 3) create an awareness of the ability to ‘produce locally’, 4) provide local jobs, 5) make a positive contribution to global energy use, and 6) could offer a model for other small communities around Alaska.		Bristol Bay	Rural	X			Biomass					X	X	X	X	

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145	City of Dillingham and University of Alaska Fairbanks - Bristol Bay Campus	Demonstration of Nushagak Bay Kinetic Tidal Power: Energy for the Fishing Industry	The tidal currents of Nushagak Bay are a substantia	$	202,000	Bristol Bay	Rural	X			Ocean		X			X	X	X		
146	Joe Whitteberry	Tensioned Harmonic Stand / Piezo-electric Transducer Wind Generator	Feasibility and design studies, and research into various structures and materials, for producing electrricity from tensioned harmonically tuned strands (I.e. guy wires) via piezo-electric transducers.	$	51,850	Cook Inlet Homer	Statewide	X			Wind	X	X			X	X	X		
147	Cheesh'na Tribal Council	Cheesh'na Biomass Project	Funding is needed to complete a system design, formalize an agreement with Ahtna, Inc. to harvest and store the resources, develop the infrastructure and human resources for operating the system, and purchasing and installing the equipment.	$	95,000	Gakona	Rural	X			Biomass						X	X		
148	TerraSond Limited	Energy Inventory for Rural Alaska	Collect baseline information and assess potential for energy production in communities along the Yukon and Kuskokwim Rivers as well as communities exposed to the Gulf of Alaska and Pacific Oceans. Baseline information would include comprehensive mapping as well as long term current and wave measurements. This information could be used to direct efforts and funding for renewable energy projects to the most promising locations. The baseline information should also be sufficient for preliminary and future impact assessment.	$	2,700,000	Doyon?	Rural	X			Ocean			X						
149	City of Homer	Lighting Retrofit Program Design and Demonstation Project	The Homer Airport Terminal has high energy consumption, in part due to out of date lighting equipment. A demonstration retrofit project would provide the basis for a local program to engage the community in energy saving lighting replacement projects. This project would entail development of a base program for assessment, contracting for retrofit and monitoring to provide accurate assessment of program efficacy.	$	58,000	Homer	Railbelt		X		Facility EE							X	X	X
150	City of Homer	Ocean Current Generator Feasibility Study	Proposal would examine the feasability of installing and monitoring a modest sized generator at the Homer Deep Water Dock. Present studies indicate a near constant one direction curent beneath the dock. It is felt the testing and design could lead to a feasible project to generate electricity for local use and for back-feeding the grid from this generator.	$	40,000	Homer	Railbelt	X			Ocean			X	X	X				

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151	Fairbanks Biodiesel Cooperative	Biodiesel Infrastructure Development in Fairbanks, AK	This project seeks to develop an effective infrastructure in Fairbanks for the production of biodiesel from waste vegetable oil.	$	47,000	Fairbanks	Railbelt	X			Biofuel			X	X	X	X	X	X	
152	City of Homer	Utility Waterline Turbines	The municipal water system supply is situated at an elevation of approximately 800' above the city center. This project would place water turbines within the water lines coming down the hill from the water storage tanks. The electricity generated would be conducted back to the reservoir and used to power the pumps that are currently filling the storage tanks. This generation and direct reuse of electricity would eliminate the inefficiency of back-feeding the grid and attempting to store power. This would reduce the cost of purchased power and carbon emissions.	$	370,000	HOmer	Railbelt	X			Hydro						X	X		
153	Nome Joint Utility Sustem (component of City of Nome, Alaska)	Wind Generation	Nome has been collecting wind data with the assistance and guidance of AEA for several years with two sites identified as promising (sufficient wind resource access, minimal environmental impact, reasonable location to allow interconnection to power grid, etc.). Monitoring towers were established established (Snake River Valley and Anvil Mountain). Preliminary data indicates one or both sites may provide sufficient wind energy to supplant some use of diesel fuel. Final data is being tabulated by AEA and is expected to be released in September. This project would add wind to the Nome power grid, reducing the consumption of diesel fuel.	$	2,190,000	Bering Straits	Rural	X			Wind			X		X	X	X		
154	Chena Hot Springs Resort	Alaska Center for Renewable Energy and Sustainable Development	Chena Hot Springs, Alaska, is one of the foremost locations in the United States for onsite production and use of renewable energy technologies, and taken a strong leadership role in encouraging renewable energy development and sustainable community building in Alaska. Chena is proposing to integrate these existing and future projects into an education, training and research center for Alaskans. The proposed center would be called the Alaska Center for Renewable Energy and Sustainable Development (ACRESD), and would be located at Chena Hot Springs.	$	500,000	Chena Hot Springs	Railbelt	X			Multiple									X

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155	Chena Hot Springs Resort	Hydrogen Production Facility	Chena Hot Springs Resort has established a highly successful track record of working with research corporations and universities in successfully integrating cutting edge technology into functioning demonstration projects which are being used as a model for other rural Alaska villages. These include: geothermal power, geothermal absorption chilling, hydropower, wind, solar, and biomass. Chena proposes to expand the scope of these existing projects to incorporate hydrogen production, storage, and end-use by undertaking a pilot project designed to generate and utilize hydrogen onsite.	$	950,000	Chena Hot Springs	Railbelt	X			Multiple						X	X	X	
156	K&K Recycling, Inc	UTC Power Fuel Cell Installation at Prudhoe Bay	K&K Recycling would like to propose the installation of two 400kW next generation fuel cells designed and built by UTC Power for operation at the K&K Recycling facility at Prudhoe Bay. This project will displace 1100 gallons of imported diesel fuel a day and use clean natural gas obtained locally under an existing contract with BP.	$	2,300,000	Prudhoe Bay	Rural		X		Generation EE						X	X		
157	Yukon River Inter-Tribal Watershed Council	Electric Motors, Energy Storage, and Transportation in Rural Alaska	This project will create an integrated system for remote transportation that includes high energy density batteries; electric motors for boats, snow machines, and all-terrain vehicles; and a solid waste backhaul system for spent batteries and vehicles. This system would essentially eliminate use of petroleum for local transportation, reduce motor maintenance, increase efficiencies, and establish a closed-loop system for solid waste management related to energy for transportation. In a parallel project this will be coupled with renewable energy production to charge the batteries.	$	325,000	Fairbanks	Statewide		X		Transportation EE					X	X	X		
158	Yukon River Inter-Tribal Watershed Council	Village Scale Renewable Energy Generation from Water, Waste, Wood, Wind, and Sun	This project aims to demonstrate a mixed renewable energy generation portfolio for Alaska villages based on affordable, clean, and locally available energy resources. Modified fish wheels optimized for energy production, high temperature combustion of solid waste and biomass, wind turbines, and solar panels will all be integrated in a utility scale demonstration application to reduce the need for diesel generation for energy production in villages. While site-specific, these technologies can be applied in various combinations to address different needs and situations.	$	390,000	Fairbanks	Statewide	X			Multiple					X	X	X		

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159	Chena Power	Biofuels Production Facility Using Woody Biomass Feedstock	Chena Power and United Technologies Corporation propose the development and demonstration of a small scale (<1 MW) bioenergy system to convert biomass into liquid fuel. The proposed system will be scaled to convert up to 5.5 tons/day of wet willow tree biomass into approximately 3 barrels/day of liquid fuel suitable for transportation use. The production of light gases equivalent to liquefied petroleum gas may also be produced. Depending on the technology deployed in the proposed system, the liquid fuel will either be a fuel alcohol blend or a synthetic diesel fuel.	$	3,600,000	Fairbanks	Railbelt	X			Biofuel						X	X	X	
160	Chena Power	Biomass Power Plant using Organic Rankine Cycle Technology	Chena Hot Springs Resort/Chena Power and United Technologies Corporation (UTC) is requesting funding to design, construct, and install two cascading 200 kW modular biomass power plants designed for use in rural Alaskan villages. The proposed biomass fueled power plant is a modified version of the highly successful 400 kW geothermal power plant built by UTC and installed at Chena Hot Springs Resort, coupled with a state-of-the-art thermal oil heater or boiler. The power plant would be installed as a demonstration project at the K&K Recycling facility in North Pole, which is a siste	$	2,900,000	Fairbanks	Statewide	X			Biomass						X	X	X	
161	Bristol Bay Area Health Corporation Inc.	Kanakanak Hospital Wind Energy Project	Design a high penetration wind-powered alternative energy system to offset rising energy costs which currently exceeds $1 million annually.	$	300,000	Kanakanak	Rural	X			Wind						X			
162	Native Village of Shungnak	Shungnak Alternative and Renewable Energy Project	Do a wind resource assessment using the Alaska Electric Association's Anemometer Loan Program to measure wind in Shungnak.			Shungnak	Rural	X			Wind			X	X	X				
163	Fairbanks Biodiesel Cooperative	Waste Vegetable Oil Study for the Fairbanks North Star Borough	The Fairbanks Biodiesel Cooperative would like to propose a study to assess how waste vegetable oil is disposed of in the Fairbanks North Star Borough. This study would build on previous efforts by the University of Alaska (Dr. Dan Walsh) in cooperation with the Catholic Schools of Fairbanks 4th grade class. Additionally, if it is determined that most vegetable oil is not collected and recycled, the Fairbanks Biodiesel Cooperative proposed to design and implement an effective strategy for waste oil collection in Fairbanks for use as a feedstock to produce biodiesel.	$	25,000	Fairbanks	Railbelt	X			Biofuel			X		X				

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164	Nome Joint Utility Sustem (component of City of Nome, Alaska)	Diesel Efficiency	Nome is completing the construction of a new power generation facility. The facility is designed to reduce diesel fuel consumption and more efficiently produce electricity. The project experienced additional costs as a result of funding delays requiring phased construction. The completion will insure reliable power to the community, reduce reliance on aging and inefficient equipment, and allow for the installation of alternative energy technology (wind generation) onto the power grid.	$	2,250,000	Nome	Rural		X		Generation EE							X		
165	City of King Cove	Waterfall Creek Hydroelectric Project	A feasibility study for the Waterfall Creek Hydroelectric Project inKong Cove has determined the project to be financially and technically viable. The study has concluded that an additional 325kW/day of additional hydro power in King Cove would cost approximately $3.4 million. We wish to vigorously pursue this new opportunity to supplement our existing Detla Creek Hydroelectric facility. Our initial expectations are for 50% of this amount to come from the Denali Commission and/or AEA.	$	3,400,000	King Cove	Rural	X			Hydro							X	X	
166	Howee's Machine Shop	Micro steam power generation, as by-product of building heating	Cogeneration, with heating as a by-product is commonly provided from large power generating facilities in Alaskan cities. This is a proposal to work towards the inverse cogeneration, providing power as the by-product.	$	420,000	Fairbanks	Statewide		X		Generation EE		X					X		
167	City of McGrath	Biomass Energy in McGrath	This wood-fired biomass energy project is an integrated approach, creating supply and demand simultaneously. Initial development has been funded by a USDA RBEG grant. Collaboration between Alaska Village Initiatives and the City of McGrath includes a wide range of tribal and educational representation and state and federal agencies. This project is integrated with our AWEDTG Wood-Fired Heat for Public Facilities analysis and provides further benefit for all by closely meshing these projects together. A stewardship plan for land and timber resources is currently being developed.	$	910,000	McGrath	Rural	X			Biomass					X	X	X		

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168	Alaska Wind Energy, LLC, dba Wind Energy Alaska (JV of CIRI and enXco Development Corp)	Fire Island Wind Project	The Fire Island wind project would consist of 20 to 24 large turbines. The project could include an area set aside for approximately four smaller turbines such as those used in rural Alaska in wind / diesel systems. The project infrastructure includes electrical interconnection with the Railbelt grid, roads, barge landing and substation and maintenance facilities. The maintenance facilities could be used to support the training of technicians who work on wind turbines in village Alaska. The project proximity to Anchorage enhances the potential of coupling training efforts with the University of Alaska. Project funding would be divided into to broad categories. First is infrastructure, the cost for infrastructure is delineated below and is currently estimated at $43 million. With a 25% contingency the estimate is $53.75 million. The second category is the large scale wind turbines themselves which will be privately funded. Cook Inlet Region and its partner enXco development corporation will procure, design, install and maintain the large turbines. Electric power from the project will be sold to the Ra	$ 53,750,000	Anchorage	Railbelt	X			Wind							X	X		
169	Yukon River Inter-Tribal Watershed Council	Creating a Zero Net Emissions Structure for Rural Alaska	This project aims to create a zero net emissions/energy consumption residential building in rural Alaska. User education, renewable energy production, energy efficient design and construction techniques, integrated appliances and mechanical systems, and related technologies will all be employed to achieve the objective.	$ 380,000	Fairbanks	Statewide	X	X		Multiple					X	X	X		

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170	Alaska Wind Energy, LLC, dba Wind Energy Alaska (JV of CIRI and enXco Development Corp)	Alternative Energy Projects	Wind Energy Alaska is a joint venture of CIRI and enXco Development. CIRI is well known in the state of Alaska. enXco Development is one of the largest developers of renewable energy projects in the US. The company operates more than 3600 small and large wind turbines. enXco has substantial experience in training and operation and maintenance for renewable power projects.		Anchorage	Statewide	X			Multiple									X
171	University of Alaska Fairbanks	Use of nanofluids in building heating, automobiles and heat exchangers in industrial plants	Nanofluids are a new generation of heat transfer fluids, which is the dispersion of nanometer size metallic particles in the conventional liquids employed in heat transfer. These new kinds of fluids are shown to possess a much higher thermal conductivity, which enhances the convective heat transfer coefficient substantially in comparison to conventional heat transfer fluids. Therefore, they can operate as a very successful building heating and cooling fluid, as an engine coolant in automobiles. Because of higher heat transfer coefficient it will reduce the size of the heat transfer systems; e.g. heat transfer coils, piping, valves, circulating pumps, furnaces, radiators and heat exchangers. The gain would be from the reduction in size, weight and operating cost of the heat transfer system and requirement of less fluids. Recent engineering literatures describe that that using Aluminium oxide nanofluids a 15 % reduction in heat exchanger size is possible. At the Univ. of Alaska Fairbanks engineering department, we propose to conduct experimental and theoretica	$ 350,000	Fairbanks	Statewide		X		Multiple EE	X								
172	Juneau Economic Development Council, JEDC (for ad hoc Alaska Wood Energy Development Task Group; MOU)	Alaska Woody Biomass Heating Projects	Alaska Woody Biomass Heating Projects: Provide technical assistance to federal, state, local, and tribal governments, councils, and agencies; schools, not-for-profit organizations, etc. to help assess the practicability and feasibility of installing small- to medium-scale woody biomass boilers to provide heat, displace fossil fuels, create local employment opportunities, and address a variety of local forest management/wildlife management issues, including young growth management, hazardous fuels reduction, improved habitat/browse for wildlife, and insect/disease mortality salvage.		Juneau	Statewide	X			Biomass			X		X				

Alternative - Renewable Energy Letter of Interest Summary

ID	Organization	Project Title	Description	Cost	Community	Planning Area	Alt Energy	Energy Efficiency	Not AEEE	Resource	Research and Devel	Proto-type	Resource Assess-ment	Planning/ Recon	Feasibility	Design	Construc-tion	Operations	Other
173	Interior Regional Housing Authority	End-Use Effiiciency/Interior Village	IRHA would like to do a pilot project to demonstrate the benefits of end-use eifficienceies in an village in the Interior Region. IIRHA would do an initial assessment of residences, commercial and community facilities. IRHA would cost out retrofits for residences and coordinate with ofther agencies (USDA and AHFC) for program components that would reduce the overall nenrgy consumption in the village. This project includes an assessment, funds for residential fixture exchange, community workshops/particpations and a monitoring program.	$ 537,500	Fairbanks	Statewide		X		Facility EE							X	X		
174	Homer Electric Association	HEA Wind Generation	HEA seeks to identify and develop 1 to 2 wind generation sites to provide up to 20MW power within the next 3-5 years.	$ 60,000,000	Homer	Railbelt	X			Wind			X	X	X	X	X		
175	Homer Electric Association	HEA Small Hydro Development	HEA seeks to identify and develop 3 to 5 small hydroelectric generation sites to collectively provide from 15-25MW power within the next 7-9 years.	$ 100,000,000	Homer	Railbelt	X			Hydro			X	X	X	X	X		
176	Copper Valley Electric Association	Glennallen Diesel Plant Upgrade Project	The purpose of this project is to construct new efficient diesel generation in the Glennallen Diesel Plant to improve system reliability, provide capacity for load growth, and improve fuel efficiency.	$ 1,996,000	Glennallen	Railbelt		X		Generation EE							X		
177	Copper Valley Electric Association	Allison Lake Feasibility	CVEA has started to explore the options of an Allison Lake Hydro Project. CVEA has hired a consultant to provide a report to include a comparison of two Allison Lake project alternatives; a diversion project to Solomon Gulch and a powerhouse at tidewater project. The report will also identify the steps to apply for a FERC preliminary permit, and a budget to apply for that permit.	$ 1,000,000	CVEA Allison Lake to Solomon Gulch	4DP?	X			Hydro			X		X				
178	Copper Valley Electric Association	Ahtna 1-19 Feasibility	Mile 177 on the Glenn Highway is the location of the Ahtna 1-19 gas well located in the Copper Basin about 180 miles northeast of Anchorage. In July 2007 Rutter and Wilbanks Corp. encountered gas but need to do further testing to determine the amount of reserves. CVEA would like to explore the feasibility of the project and how it would impact our organization.	$ 250,000	CVEA Ahtna Region	Rural	X			Gas			X		X				

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ID	Organization	Project Title	Description		Cost	Community	Planning Area	Alt Energy	Energy Efficiency	Not AEEE	Resource	Research and Devel	Proto-type	Resource Assess-ment	Planning/ Recon	Feasibility	Design	Construc-tion	Operations	Other
179	Copper Valley Electric Association	Copper River School District Waste Heat Project	In ealry 2007, CVEA researched the possibility of providing waste heat to the Glennallen School District from the Glennallen diesel plant. It was determined this was possible however a significant capital investment would be required. In order to make this project feasible the school distrcit would need to have access to grant oney. It is estimated to cost $2.1 million. The heat provided by the Glennallen Diesel Plant would be supplemental to the school districts oil fired central heating system.	$	2,100,000	CVEA Glennallen	Railbelt		X		Generation EE						X	X		
180	Copper Valley Electric Association	Silver Lake Hydro Feasibility	Silver Lake is a potential hydroelectric site located 15 miles southwest of Valdez. Two options were reviewed in the 1992 Allison Lake study prepared by HDR. The first design included a 125 foot concrete dam, 6,000 feet of 108 inch pipeline, and 15MW powerhouse located at elevation 65 on the Duck River. The second option consisted of a 110 foot dam, 10,000 feet of 108 inch pipeline, and a 14 MW powerhouse. Both designs in 1993 were over $54 million.	$	250,000	CVEA Silver Lake	Rural	X			Hydro			X		X				
181	Copper Valley Electric Association	Copper Basin Geothermal Exploration	AEA has indicated there could be a geothermal resource within 10-20 miles of Glennallen.	$	250,000	Ahtna Region	Rural	X			Geothermal			X						
182	Edward Chase, Jr.	Wind Energy	I am interestedin getting a wind generator for my home in Bethel, Alaska.	$	10,000	Bethel	Rural	X			Wind					X	X	X		
	Alaska Village Initiatives	Biomass: Renewable Energy for Rural Alaska	Alaska Village Initiatives has been developing a Biomass renewable energy program with the potential to displace up to 90% of the diesel fuel used in rural Alaska with wood energy for heat, electricity, and eventually liquid fuels. This program will create a whole new economic base and industry in rural Alaska. The program is focused on supporting villages to generate their own heat and power through use of local resources whilel developing local economies. Stabilizing and reducing energy costs not only makes rural projects more sustainable, but the communities themselves.	$	1,606,840	Anchorage	Statewide	X			Biomass								X	X
183																				
184	Sheldon Jackson College		Install electrical high-efficiency room and water heating sub-systems for the central campus core.	$	730,247	Sitka	4DP?		X		Facility EE					X	X	X		
	Michael Yourkowski	Electric 4-Wheelers for Bush Communities	Develop battery powered 4-wheelers for bush communities where gas is expensive and incomes are low.	$	250,000	Cook Inlet Homer	Statewide		X		Transportation EE		X			X	X	X		
185																				