

Alaska Renewable Energy Fund
Projected Energy Production and Cost Savings from Round 1-4 Projects
March 28, 2012



Resource	ID	Grantee	Project Name	Energy and Fuel				Project Cost				Cost Savings			In Operation 2011
				Energy Production		Fuel Displaced (x 1000)		(\$ x 1000)		Net Savings (\$ x 1000/yr)	Cost / Savings Payback Time (Years)		Project Life (Years)		
				Electrical (MWh/yr)	Thermal (mmBtu/yr)	Diesel (gal/yr)	Natural Gas (MCF/yr)	Diesel Equivalent (gal/yr)	Total Cost		REF Funding	Total Cost		REF Funding	
BIOMASS	49	Alaska Gateway School District	Tok Wood Heating Construction		6,990	50	0	3,260	3,245	183	18	18	20	x	
	15	Cheesh'na Tribal Council	Chistochina Central Wood Heating Construction		1,832	13	0	512	500	35	14	14	20		
	53	Chena Power, LLC	Biomass-fired Organic Rankine Cycle System	3,098	1,035	201	0	4,613	2,000	520	9	4	20		
	33	Chilkoot Indian Association	Haines Central Wood Heating Construction		5,320	38	0	225	189	149	2	1	20		
	605	City of Craig	Biomass Fuel Dryer Project		6,621	48	0	600	350	129	5	3	20		
	476	City of Tanana	City-Tribe Biomass Energy Conservation		1,609	12	0	508	413	52	10	8	20		
	649	Copper River School District	Kenny Lake School Wood Fired Boiler		2,774	20	0	565	565	46	12	12	20		
	112	Delta/Greely School District	Delta Junction Wood Chip Heating		7,282	53	0	2,868	2,000	151	19	13	20		
	2	Gulkana Village Council	Gulkana Central Wood Heating Construction		2,031	15	0	500	500	23	22	22	20	x	
	445	Gwitchyaa Zhee Utility Company	District Wood Heating in Fort Yukon		19,040	137	0	3,606	2,318	538	7	4	20		
GEO-THERMAL	681	Lake and Peninsula Borough	Lake and Peninsula Wood Boilers		541	4	0	493	370	24	21	16	20		
	623	Matanuska Sustina Borough	Sustina Valley High School Wood Heat		2,885	21	0	756	750	40	19	19	20		
	68	Municipality of Anchorage	Anchorage Landfill Gas Electricity Construction	24,183		0	311,378	7,395	2,000	1,219	6	2	20		
	26	Native Village of Eyak	Cordova Wood Processing Plant		1,803	13	0	138	138	43	3	3	20	x	
	211,636	Southeast Island School District	Thorne Bay Wood Boiler		2,427	18	0	580	478	32	18	15	20		
	705	City and Borough of Sitka	Japonski Island Boathouse Heat Pump		374	3	0	165	125	9	18	14	20		
	999	City and Borough of Juneau	Juneau Airport Ground Source Heat Pump		5,143	37	0	1,026	513	148	7	3	20	x	
	111	City and Borough of Juneau	Juneau Aquatic Ctr Ground Source Heat Pump Constr		15,140	109	0	1,950	1,450	141	14	10	20		
	453	City of Seward	Alaska Sealife Center Ph II Seawater Heat Pump		7,196	52	0	287	287	117	2	2	20		
	307	City of Ambler	Ambler Heat Recovery Construction		1,229	9	0	500	435	47	11	9	20		
HEAT RECOVERY	448	City of Saint Paul Electric Utility	Saint Paul Fuel Economy Upgrade		2,501	18	0	98	98	100	1	1	20		
	271	City of Unalaska	Unalaska Heat Recovery Construction		1,662	128	0	1,920	1,300	546	4	2	20		
	22	Cordova Electric Cooperative	Cordova Heat Recovery Construction		7,874	57	0	3,770	1,780	256	15	7	20		
	105	Golden Valley Electric Association	North Pole Heat Recovery Construction	1,476		92	0	1,050	840	237	4	4	20	x	
	687	Inside Passage Electric Cooperative	Hoonah Heat Recovery Project		7,905	57	0	1,005	475	220	5	2	20		
	235	Kotzebue Electric Association	Kotzebue Electric Heat Recovery Construction	1,213	12,649	185	0	1,216	916	978	1	1	20		
	61	McGrath Light & Power Company	McGrath Heat Recovery Construction		4,438	32	0	954	712	196	5	4	20	x	
	244	North Slope Borough	Point Lay Heat Recovery Construction		15,199	110	0	4,257	396	694	6	1	20		
	672	Alaska Electric Light & Power Company	Snettisham Transmission Avalanche Mitigation	936		72	0	3,344	2,000	258	13	8	50		
	23	Alaska Power and Telephone	North Prince of Wales Island Intertie Project	1,356		104	0	6,155	3,752	279	22	13	50	x	
HYDRO	9	City and Borough of Wrangell	Wrangell Hydro Based Electric Boilers Construction		11,903	86	0	2,082	2,000	374	6	5	50	x	
	469	City of Akutan	Akutan Hydroelectric System Repair and Upgrade	420		32	0	1,491	1,391	113	13	12	50		
	58	City of Atka	Chunilissax Creek Hydroelectric Construction	568		44	0	7,167	996	239	30	4	50		
	37, 620	City of Ketchikan	Whitman Lake Project	7,926		528	0	25,000	700	2,113	12	0	50		
	688	City of Pelican	Pelican Hydroelectric Upgrade Project	1,000		77	0	5,521	1,897	270	20	7	50		
	21, 407	Cordova Electric Cooperative	Humpback Creek Hydroelectric Construction	3,764		290	0	21,300	8,000	1,211	18	7	50	x	
	10	Gustavus Electric Company	Falls Creek Hydroelectric Construction	1,766		118	0	8,400	750	540	16	1	50	x	
	653	Kodiak Electric Association	Terror Lake Unit 3 Hydroelectric Project	6,456		455	0	15,908	3,752	1,997	8	2	50		
	104, 629	Southeast Conference	Reynolds Creek Hydroelectric Project	7,351		565	0	27,000	4,000	1,877	14	2	50		

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				Electrical (MWh/yr)	Thermal (mmBtu/yr)	Diesel (gal/yr)	Natural Gas (MCF/yr)	Diesel Equivalent (gal/yr)	Total Cost	REF Funding	Cost / Savings Payback Time (Years)			REF Cost Funding	
OCEAN/RIVER	660	Ocean Renewable Power Company	Cook Inlet Tidgen Project	1,840		0	23,494	174	8,051	2,000	43	186	46	15	
SOLAR	641	Alaska Village Electric Cooperative	Katleg Solar Construction	7,351		1	0	1	100	90	3	29	26	30	
	108	Golden Valley Electric Association	McKinley Village Solar Thermal Construction	32		2	0	2	194	190	11	18	17	30	x
	102	Alaska Environmental Power	Delta Area Wind Turbines-Construction	1,750		117	0	117	2,802	2,000	468	6	4	20	x
	70	Alaska Village Electric Cooperative	Quinhagak Wind Farm Construction	649		50	0	50	4,839	3,882	237	20	16	20	x
	71	Alaska Village Electric Cooperative	Toksook Wind Farm Construction	166		13	0	13	1,253	1,038	58	22	18	20	x
	72	Alaska Village Electric Cooperative	Mekoryuk Wind Farm Construction	478		34	0	34	4,031	3,156	165	24	19	20	x
	302	Alaska Village Electric Cooperative	Emmonak/Alakanuk Wind Design and Constr	637		45	0	45	10,733	8,000	157	68	51	20	x
	303	Alaska Village Electric Cooperative	Shaktcoik Wind Construction	360		33	0	33	2,728	2,466	153	18	16	20	
	317	Aleutian Wind Energy	Sand Point Wind Construction	1,855	2,122	158	0	158	1,078	640	884	1	1	20	x
	122,604	City of Bethel	Bethel Wind Power Project Times Four	817		63	0	63	3,198	2,598	418	8	6	20	
	486	City of Pilot Point	Pilot Point Wind Power & Heat	240		23	0	23	1,571	1,421	151	10	9	20	
	90	City of St. George	St. George Wind Farm Construction	511		39	0	39	2,000	1,500	154	13	10	20	
	616	Golden Valley Electric Association	GVEA Eva Creek Wind Turbine Purchase	55,510		3,469	0	3,469	93,300	1,463	6,890	14	0	20	
	103	Kodiak Electric Association	Pillar Mountain Wind Project - Construction	12,200		859	0	859	21,400	4,000	3,851	6	1	20	x
	85,518	Kotzebue Electric Association	High Penetration Wind Battery- Diesel Hybrid	4,267		328	0	328	10,809	8,000	1,627	7	5	20	
	107	Kwig Power Company	Kwillingok High Penetration Wind Diesel	743		69	0	69	3,200	1,600	348	9	5	20	
	89	Nikoiski IRA Council	Nikoiski Wind Integration Construction	84	366	10	0	10	451	409	63	7	7	20	
	52	Nome Joint Utilities	Newton Peak Wind Farm	4,267		328	0	328	4,444	4,000	1,470	3	3	20	
47	Nome Joint Utility Systems	Nome Banner Peak Wind Farm Transmission Constr	1,030		69	0	69	890	801	311	3	3	20	x	
110	Puvurnaq Power Company	Kongkanak High Penetration Wind Diesel	1,167		90	0	90	3,300	1,700	493	7	3	20		
503	TDX Corporation	St. Paul Wind Diesel Project	1,600		123	0	123	2,100	1,900	628	3	3	20		
273	Tuntutuliak Comm Svcs Assoc	Tuntutuliak High Penetration Wind Diesel	518		63	0	63	3,360	1,760	193	17	9	20		
50	Unalakleet Valley Electric Co	Unalakleet Wind Farm Construction	1,200		80	0	80	4,223	4,000	396	11	10	20	x	
TOTAL				162,447	156,229	9,968	334,862	12,443	358,240	112,995	35,318	10	3		

- Notes:
- Fuel savings and operation & maintenance (O&M) net cost figures are total present value over 20 years divided by 20. A real discount rate of 3% is assumed.
 - Estimated performance of projects is based on assumptions of round 1-4 economic analyses coordinated by ISER and modified by AEA given updated information.
 - Performance assumptions are subject to adjustment as new performance and actual price information becomes available.
 - Fuel prices are estimated based on updated Energy Information Administration Annual Energy Outlook 2012 Early Release. See http://www.iser.uaa.alaska.edu/Publications/Fuel_price_projection_2011-2035_final.pdf