

Performance of Renewable Energy Fund Projects in Operation

				Note: 9 months only for 2013															
				2011				2012				Jan - Sep, 2013				Cumulative Total (2009-Sep,2013)			
				Energy Production		Fuel Displaced		Energy Production		Fuel Displaced		Energy Production		Fuel Displaced		Energy Production		Fuel Displaced	
Technology Type	Grantee	Project Name	Operation Start Date	Electrical (MWh)	Thermal (MMBtu)	Diesel (Galx1000)	Value (\$ x 1000)	Electrical (MWh)	Thermal (MMBtu)	Diesel (Galx1000)	Value (\$ x 1000)	Electrical (MWh)	Thermal (MMBtu)	Diesel (Galx1000)	Value (\$ x 1000)	Electrical (MWh)	Thermal (MMBtu)	Diesel (Galx1000)	Value (\$ x 1000)
LANDFILL GAS	Municipality of Anchorage	Anchorage Landfill Gas Electricity	2012 Aug	-	-	-	\$ -	-	-	-	\$ -	33,834	-	3,224.0	\$ 1,602.0	33,834	-	3,224.0	\$ 1,079.0
HYDRO	City of Atka	Chuniisax Creek Hydroelectric	2012 Dec	-	-	-	\$ -	-	-	-	\$ -	285	-	21.9	\$ 118.4	285	-	21.9	\$ 118.4
HYDRO	Cordova Electric Cooperative	Humpback Creek Hydroelectric Project Rehabilitation	2011 Jul	1,563	-	114.9	\$ 410.3	3,510	-	270.0	\$ 1,050.6	2,933	-	225.6	\$ 809.6	8,006	-	610.5	\$ 2,270.5
HYDRO	Gustavus Electric Company	Falls Creek Hydroelectric Construction	2009 Jul	1,933	-	138.1	\$ 483.3	1,956	-	150.4	\$ 645.3	1,490	-	114.6	\$ 481.1	8,044	-	583.8	\$ 2,143.7
HYDRO	City of Pelican	Pelican Hydroelectric Upgrade Project	2013 Mar									711		57.8	\$ 257.6	711		57.8	\$ 257.6
SOLAR	Alaska Village Electric Cooperative	Kaltag Solar Construction	2012 Oct	-	-	-	\$ -	-	-	-	\$ -	9	-	0.6	\$ 2.3	9	-	0.6	\$ 2.3
TRANSMISSION	Alaska Power and Telephone	North Prince of Wales Island Intertie Project	2011 Sep	311	-	16.4	\$ 67.0	589	-	44.3	\$ 161.7	644	-	48.4	\$ 175.0	1,544	-	109.1	\$ 403.7
TRANSMISSION	Nome Joint Utility System	Nome Banner Peak Wind Farm Transmission	2010 Oct	955	-	53.9	\$ 151.6	995	-	61.2	\$ 193.3	700	-	43.1	\$ 138.2	4,040	-	236.0	\$ 730.2
WIND	Alaska Environmental Power	Delta Area Wind Turbines	2010 Sep	1,641	-	95.9	\$ 256.1	989	-	63.9	\$ 132.9	210	-	13.6	\$ 36.4	3,429	-	202.8	\$ 482.5
WIND	Alaska Village Electric Cooperative	Toksook Wind Farm	2009 Aug	560	-	37.7	\$ 129.1	131	-	9.6	\$ 38.5	96	-	7.0	\$ 26.1	922	-	64.2	\$ 238.6
WIND	Alaska Village Electric Cooperative	Mekoryuk Wind Farm	2010 Nov	239	-	13.7	\$ 49.5	147	-	10.4	\$ 41.1	123	-	8.7	\$ 32.5	513	-	33.2	\$ 123.9
WIND	Alaska Village Electric Cooperative	Quinhagak Wind Farm	2010 Nov	409	-	28.9	\$ 105.6	500	-	38.1	\$ 161.4	391	-	29.8	\$ 116.7	1,372	-	101.9	\$ 398.0
WIND	Alaska Village Electric Cooperative	Emmonak/Alakanuk Wind	2011 Sep	63	-	4.5	\$ 17.7	505	-	35.8	\$ 142.0	406	-	28.8	\$ 111.0	975	-	69.1	\$ 270.7
WIND	Alaska Village Electric Cooperative	Shakttoolik Wind Construction	2012 Apr	-	-	-	\$ -	116	-	8.9	\$ 35.7	119	-	9.2	\$ 35.1	235	-	18.1	\$ 70.8
WIND	Golden Valley Electric Association	GVEA Eva Creek Wind Turbine Purchase	2012 Oct	-	-	-	\$ -	13,091	-	921.9	\$ 1,972.9	50,496	-	3,556.1	\$ 9,530.3	63,588	-	4,478.0	\$ 11,503.2
WIND	Kodiak Electric Association, Inc.	Pillar Mountain Wind Project	2010 Sep	12,448	-	870.7	\$ 2,873.3	16,201	-	1,140.9	\$ 4,211.8	18,085	-	1,273.6	\$ 4,385.3	65,185	-	4,584.6	\$ 15,849.5
WIND	Kotzebue Electric Association	Kotzebue High Penetration Wind-Battery-Diesel Hybrid	2012 May	-	-	-	\$ -	2,177	-	148.1	\$ 549.9	1,941	-	132.0	\$ 468.7	4,118	-	280.1	\$ 1,018.5
WIND	Nome Joint Utility System	Banner Peak Wind Farm Expansion	2013 Jul	-	-	-	\$ -	-	-	-	\$ -	635	-	38.8	\$ 124.6	635	-	38.8	\$ 124.6
SubTotal				20,122	-	1,375	\$ 4,543.5	40,908	-	2,904	\$ 9,337.1	113,106	-	8,834	\$ 18,450.9	197,443	-	14,715	\$ 37,085.7
WIND	Aleutian Wind Energy	Sand Point Wind	2011 Aug	196	-	14.3	\$ 64.9	792	-	58.1	\$ 266.2	950	15	69.7	\$ 321.9	1,937	15	142.2	\$ 653.0
WIND	Kwigillingok Power Company	Kwigillingok High Penetration Wind-Diesel Smart Grid	2012 Feb	-	-	-	\$ -	-	-	-	\$ -	46	66	4.1	\$ 19.4	46	66	4.1	\$ 19.4
WIND	Puvurnaq Power Company	Kongiganak High Penetration Wind-Diesel Smart Grid	2010 Dec	88	-	6.6	\$ 30.1	185	-	14.0	\$ 63.4	232	454	21.9	\$ 105.0	504	454	42.5	\$ 198.5
WIND	Tuntutuliak Comm Svcs Assoc	Tuntutuliak High Penetration Wind-Diesel Smart Grid	2013 Jan	-	-	-	\$ -	-	-	-	\$ -	136	221	10.4	\$ 47.4		221	10.4	\$ 47.4
WIND	Unalakleet Valley Electric Co	Unalakleet Wind Farm	2009 Dec	958	-	58.2	\$ 211.2	938	-	67.8	\$ 247.6	626	204	47.2	\$ 179.8	3,250	204	226.4	\$ 777.2
SubTotal				1,242	-	79	\$ 306.2	1,914	-	140	\$ 577.2	1,988	960	153	\$ 673.5	5,873	960	426	\$ 1,695.5
BIOMASS	Alaska Gateway School District	Tok Wood Heating	2010 Oct	-	3,217	24.4	\$ 92.0	-	4,595	44.0	\$ 147.0	-	7,141	68.7	\$ 250.6	-	16,371	152.1	\$ 540.6
BIOMASS	Chilkoot Indian Association	Haines (Chilkoot) Central Wood Heating System Construction	2011 Oct	-	-	-	\$ -	-	212	1.7	\$ 6.8	-	231	2.4	\$ 10.4	-	453	4.2	\$ 17.3
BIOMASS	Delta/Greely School District	Delta Junction Wood Chip Heating	2011 Sep	-	-	-	\$ -	-	3,977	38.2	\$ 133.5	-	3,458	33.2	\$ 132.6	-	7,435	71.5	\$ 266.2
BIOMASS	Gulkana Village Council	Gulkana Central Wood Heating	2010 Oct	-	780	5.9	\$ 23.5	-	780	7.0	\$ 28.9	-	-	-	\$ -	-	1,840	15.9	\$ 63.3
BIOMASS	Native Village of Eyak	Cordova Wood Processing Plant	2011 Dec	-	1,500	11.4	\$ 42.0	-	600	5.4	\$ 25.3	-	-	-	\$ -	-	2,820	24.4	\$ 95.4
HEAT PUMPS	City and Borough of Juneau	Juneau Airport Ground Source Heat Pump	2011 May	-	5,117	37.1	\$ 130.5	-	5,400	45.0	\$ 159.0	-	5,400	45.0	\$ 159.0	-	15,917	127.1	\$ 448.5
HEAT PUMPS	City and Borough of Juneau	Juneau Aquatic Ctr. Ground Source Heat Pump	2011 Apr	-	-	-	\$ -	-	1,740	16.7	\$ 61.4	-	3,068	29.5	\$ 124.8	-	4,808	46.2	\$ 186.2
HEAT PUMPS	City of Seward	Alaska Sealife Center Ph II Seawater Heat Pump Project	2011 Nov	-	-	-	\$ -	-	-	-	\$ -	-	2,892	27.8	\$ 106.2	-	2,892	27.8	\$ 106.2
HEAT RECOVERY	Golden Valley Electric Association	North Pole Heat Recovery	2009 Nov	-	5,249	61.5	\$ 171.5	-	3,349	32.8	\$ 90.6	-	-	-	\$ -	-	9,595	106.0	\$ 285.2
HEAT RECOVERY	Inside Passage Electric Cooperative	Hoonah Heat Recovery Project	2012 Aug	-	-	-	\$ -	-	-	-	\$ -	-	4,119	36.7	\$ 178.7	-	4,119	36.7	\$ 178.7
HEAT RECOVERY	McGrath Light & Power Company	McGrath Heat Recovery	2010 May	-	2,896	23.0	\$ 156.7	-	2,617	25.2	\$ 97.1	-	1,681	16.2	\$ 120.1	-	8,356	76.6	\$ 419.5
HEAT RECOVERY	City and Borough of Wrangell	Wrangell Hydro Based Electric Boilers	2011 Feb	-	6,889	66.0	\$ 230.3	-	7,711	79.4	\$ 134.5	-	4,998	51.5	\$ 82.6	-	19,597	196.9	\$ 447.4
SOLAR	Golden Valley Electric Association	McKinley Village Solar Thermal	2010 Jun	-	134	1.8	\$ 7.1	-	130	1.9	\$ 7.6	-	108	0.8	\$ 6.8	-	433	5.0	\$ 23.0
SubTotal					25,782	231	\$ 853.6	-	31,111	297	\$ 891.7	-	33,096	312	\$ 1,171.8	-	94,636	890	\$ 3,077.5
TOTAL				21,364	25,782	1,684.9	\$ 5,703.3	42,821	31,111	3,341.0	\$ 10,806.1	115,095	34,056	9,299	\$ 20,296.2	203,316	95,596	16,030	\$ 41,858.7
2013 Estimated Annualized Total												153,460	45,408	12,398.3	\$ 27,061.6				

Notes

The energy production data provided for years 2012 and 2013 is net renewable energy produced by Renewable Energy Fund projects. All previous years reflect gross renewable energy.

*2013 data represents the first three quarters of the year. An updated report will be published in March 2014.

Data for wind turbines in Toksook Bay represent only the portion covered by the REF grant in years 2012 and 2013. In year 2011, the data represents production from all wind turbines; the REF program funded only one of the four wind turbines installed.

Some Delta Area Wind Turbines needed repairs in 2013 and were not in operation for a period of time, hence production in 2013 was significantly lower than in previous years.

Data for the City of Pelican was pulled directly from the SCADA system installed by the AEA Energy System Upgrade

Data for the following projects in operation is not reported:

- City of Akutan Town Creek Hydro Repairs and Upgrade did not report performance data in 2013.
- Cordova Electric Cooperative Cordova Heat Recovery was commercialized but shut down one week after it started-up. The Organic Rankine Cycle commenced the start-up process on June 1, 2012.
- Because Cordova Electric operates on hydroelectric power throughout the summer and fall, the ORC will not be fully commissioned until late fall 2013. Initial runs show that the system was operating as designed.
- Golden Valley Electric North Pole Heat Recovery did not report performance data for 2013.
- Gulkana Village Council Gulkana Central Wood Heating Construction started operation and was commissioned in the 4th quarter of 2010. However, due to repairs to the system in 2013, performance data was not submitted by the applicant. Data reported in this table represents operation information from 2010 to 2012.
- Lake and Peninsula Borough Lake and Peninsula Wood Boilers.
- Native Village of Eyak Cordova Wood Processing Plant provided 2013 data on January 28th, 2014. The information will be incorporated in the next report update.
- Southeast Island School District Thorne Bay School Wood Fired Boiler Project started generating energy 4th Quarter 2012 but the system was not in operation in 2013 due to wet wood conditions.

Source: Fay, G., Villalobos Meléndez A., and Saylor B. 2014. Institute of Social and Economic Research, University of Alaska Anchorage, prepared for the Alaska Energy Authority.

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