

2012 ALASKA ENERGY STATISTICS FINAL REPORT

ALASKA ENERGY AUTHORITY

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INTRODUCTION

This twenty-sixth edition of the Alaska Energy Statistics reconciles energy data from public sources and makes that data more easily available to the public and stakeholders. It presents 2012 data on electricity produced by primarily certified utilities in Alaska. It includes a brief introduction, a summary of Alaska's energy portfolio, and highlights of changes and trends observed in the year. This report contains only highlights of the complete information provided in the data tables. The data tables are available for download at the Alaska Energy Authority (AEA) website. The data tables are also searchable and selected data may be downloaded at the Alaska Energy Data Gateway (AEDG) database, where other Alaska data has also been gathered, such as community information and population statistics. Links to those sources are provided below.

A collection of appendixes define terms, list references, and describes data sources. This report presents data for the state and for the 11 Alaska Energy Authority energy regions. In the accompanying workbook, we also present data by U.S. census areas, Alaska Native corporation regions, and regions used in earlier *Alaska Electric Energy Statistics* reports.

Purpose

This Alaska Energy Statistics Report is assembled to be a comprehensive and single source of electrical generation information across Alaska. Two primary sources of energy data are available to the public, though each is only a partial data set. Larger Alaska electric utilities report to the U.S. Energy Information Administration, which publishes the data. But the majority of Alaska utilities are under the size threshold required for reporting to EIA. The Power Cost Equalization program, administered by AEA, gathers energy data from these smaller utilities. This report combines the two datasets to produce a statewide electrical generation summary.

This report, and particularly the accompanying workbook and information published in the AEDG database, is intended for decision makers, project managers, utility managers and others to have access to statewide energy data to drive policy and project decisions. It also serves as Alaska's measure of progress against the goal of 50 percent renewable energy by 2020.

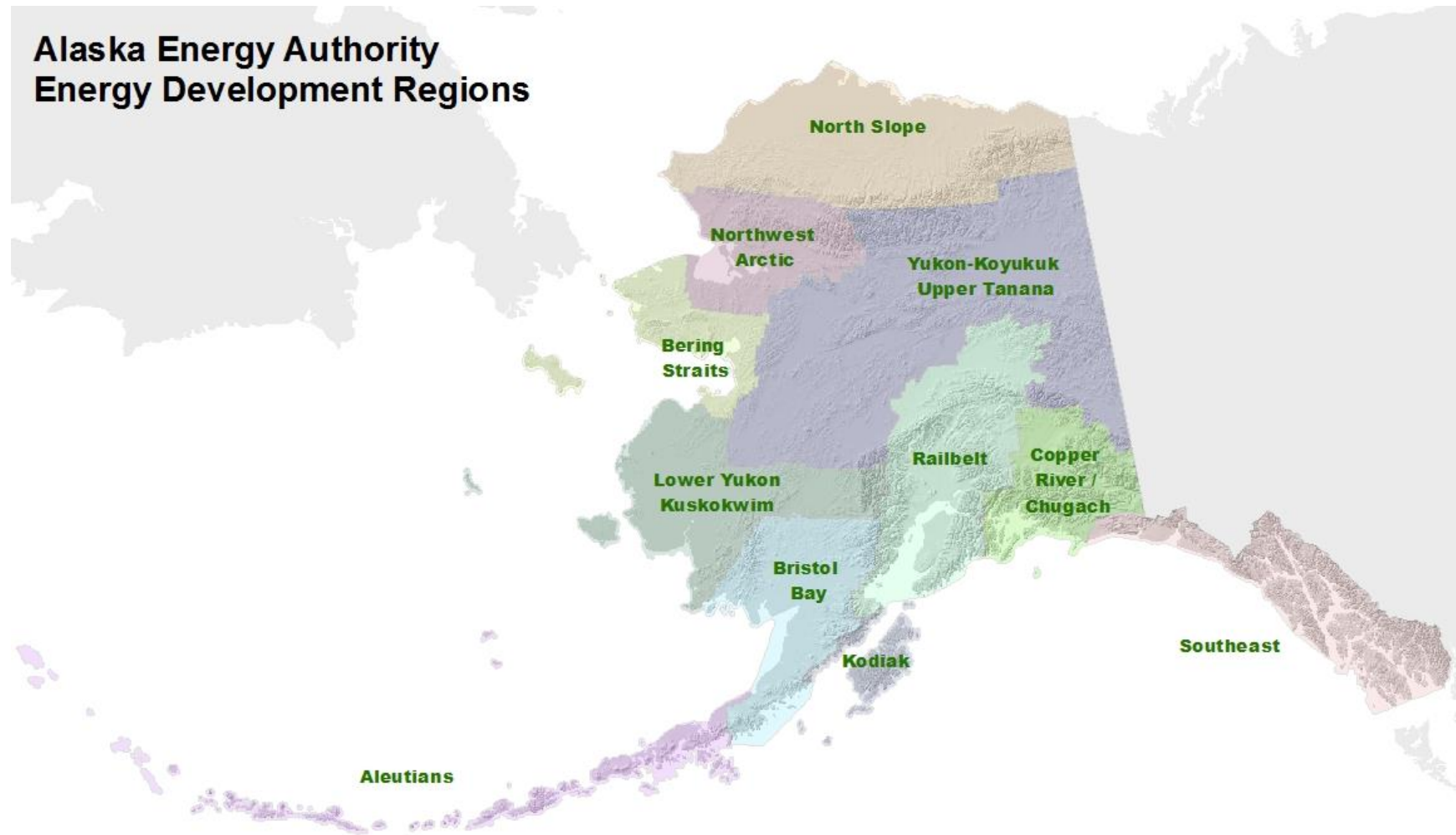
Workbook Contents

The workbook containing detailed data tables is available on the AEA website at (<http://www.akenergyauthority.org/Publications>). The data presented in this report are also available for viewing and downloading through the AEDG (<https://akenergygateway.alaska.edu>). Refer to Appendix B for a list of all data tables available in the MS Excel workbook.

Energy Regions

Figure 1 on the following page shows the areas of Alaska that fall within each of the Alaska Energy Authority's eleven energy regions.

Figure 1. Alaska Energy Authority Energy Regions, 2012



Source: Alaska Energy Authority

HIGHLIGHTS AND SUMMARY

This report features information that may be of general interest on electricity produced primarily by certified utilities in Alaska in 2012. The report is not intended to provide detailed analysis of energy production and consumption or to make suggestions about how Alaska should manage its energy portfolio. The detailed data sets of the information summarized here are available on the AEA website (<http://www.akenergyauthority.org/Publications>).

Table 1 provides an overview of generation, capacity, and population within each energy region and statewide.

Table 1. Overview of Alaska's Energy Portfolio, 2012

AEA Energy Region	Installed Capacity	Net Generation	Share of Net Generation	Share of Population
Aleutians	37,485	67,073	1%	1%
Bering Strait	39,433	55,971	1%	1%
Bristol Bay	27,903	55,918	1%	1%
Copper River/Chugach	57,344	120,639	2%	1%
Kodiak	67,107	155,892	2%	1%
Lower Yukon-Kuskokwim	57,409	100,527	2%	3%
North Slope	40,200	82,279	1%	1%
Northwest Arctic	25,919	37,664	1%	1%
Railbelt	1,455,375	5,042,565	75%	77%
Southeast	418,862	924,533	14%	10%
Yukon-Koyukuk/Upper Tanana	30,316	36,104	1%	1%
Total	2,257,353	6,679,165	100%	100%

Sources: Energy Information Administration; Alaska Energy Authority Power Cost Equalization program data; authors' calculations.

One of the most fundamental characteristics of Alaska is that the vast majority of the state's population and energy activity is concentrated in one region known as the Railbelt. This region generally comprises the areas surrounding the Alaska Railroad including Fairbanks, Anchorage, Homer and all of the communities in between. The Southeast region, which includes the capitol city of Juneau, has the second largest concentration of the state's population. Accordingly, most of Alaska's energy is produced and consumed in these regions. In 2012, only about 11% of statewide net generation occurred in the other nine regions.

Compared to 2011, total installed capacity increased by 2.7% and total net generation increased by 1.9%. This change occurred at the same time that statewide population increased by 1.1%.

Installed Capacity

Table 2 lists the inventories of installed capacity within each energy region by prime mover. In 2012 the state had a total installed capacity of nearly 2.3 gigawatts. Over 57% of that capacity is from turbines which are located mostly in the Railbelt. The most prevalent type of capacity in the rest of the state is internal combustion totaling to just over 20%. Hydroelectric power makes up another 20% of capacity and is located in regions where the resource is available.

Table 2. Installed Capacity of Certified Utilities by AEA Region (kW), 2012

AEA Energy Region	Fossil Fuel Turbines	Reciprocating Internal Combustion Engine	Hydroelectric	Wind	Regional Total	Percent of Statewide Total
Aleutians	0	34,945	800	1,740	37,485	2%
Bering Strait	0	36,833	0	2,600	39,433	2%
Bristol Bay	0	26,879	800	224	27,903	1%
Copper River/Chugach	8,100	30,044	19,200	0	57,344	3%
Kodiak	0	35,232	22,875	9,000	67,107	3%
Lower Yukon-Kuskokwim	0	53,709	0	3,700	57,409	3%
North Slope	17,300	22,900	0	0	40,200	2%
Northwest Arctic	0	20,959	0	4,960	25,919	1%
Railbelt	1,198,900	28,200	184,675	43,600	1,455,375	64%
Southeast	70,900	138,277	209,685	0	418,862	19%
Yukon-Koyukuk/Upper Tanana	0	30,316	0	0	30,316	1%
Total	1,295,200	458,294	438,035	65,824	2,257,353	100%

Source: U.S. Energy Information Administration, Alaska Energy Authority's Village Assessment Preliminary Dataset, and authors' calculations.

The year 2012 saw about a 3% gain (60.3 MW) in statewide installed capacity from the previous year. The most significant regional gains were realized in the Kodiak region which saw a 7% increase in total capacity. This change was a result of Kodiak Electric Association doubling their capacity at the Pillar Mountain wind farm.

Several regions completed construction of new wind capacity in the year with installed capacity increasing by an astonishing 375% statewide. The most notable regional gains were an additional 100% in Kodiak, 250% in Northwest Arctic, 400% in Bristol Bay, and over 4200% in the Railbelt.

Net Generation

Table 3 lists the 2012 net generation in each energy region for specific fuel types.

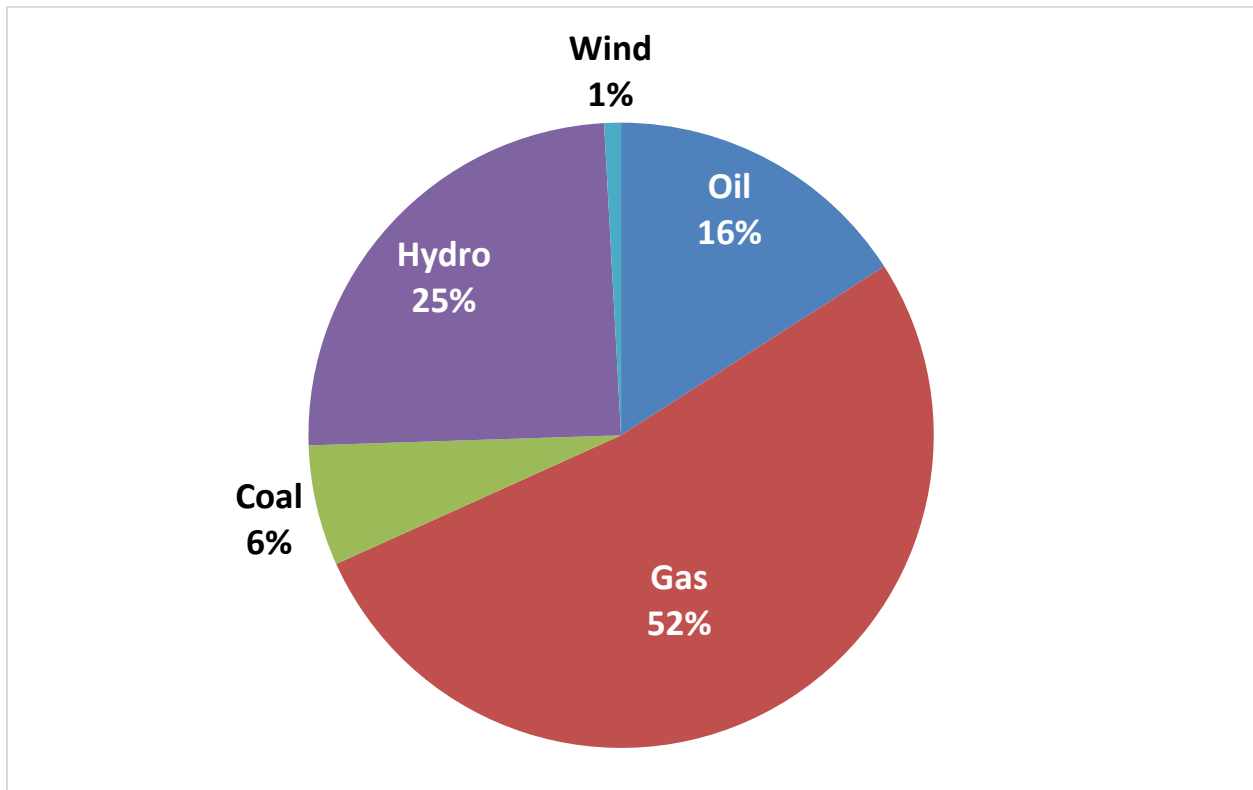
Table 3. Net Generation by Fuel Type by Certified Utilities (MWh), 2012

AEA Energy Region	Oil	Gas	Coal	Hydro	Wind	Total	Percent of Statewide Total
Aleutians	64,252	0	0	2,821	0	67,073	1%
Bering Strait	54,190	0	0	0	1,781	55,971	1%
Bristol Bay	51,465	0	0	4,259	194	55,918	1%
Copper River/Chugach	59,730	0	0	60,909	0	120,639	2%
Kodiak	7,483	0	0	132,096	16,313	155,892	2%
Lower Yukon-Kuskokwim	96,460	0	0	0	4,067	100,527	2%
North Slope	31,282	50,997	0	0	0	82,279	1%
Northwest Arctic	34,544	0	0	0	3,120	37,664	1%
Railbelt	603,271	3,444,104	416,715	546,088	32,387	5,042,565	75%
Southeast	24,397	0	0	900,136	0	924,533	14%
Yukon-Koyukuk/Upper Tanana	36,104	0	0	0	0	36,104	1%
Total	1,063,178	3,495,101	416,715	1,646,309	57,862	6,679,165	100%
Percent of Total	16%	52%	6%	25%	0.9%	100%	

Sources: Energy Information Administration; Alaska Energy Authority Power Cost Equalization program data; authors' calculations.

The state generated a total of 6,679 gigawatt-hours from all sources. Just over half of that electricity was generated with natural gas in the North Slope and Railbelt regions- currently the only regions with ample access to this resource. Almost another quarter was generated at hydroelectric facilities across the state. Coal, constituting 6% of all net generation, is used for generation only in the Railbelt region where a large coal mine ships the fuel up and down the rail line. The statewide distribution of generation by fuel type is illustrated in Figure 2.

Figure 2. Net Generation by Fuel Type by Certified Utilities (MWh), 2012



Source: U.S. Energy Information Administration, Power Cost Equalization program data and authors' calculations.

Total net generation gained modestly from 2011 with an increase of 1.9% (126.9 GWh). The only fuel type with reduced generation in 2012 was natural gas at a loss of about 8%. Correspondingly, the Railbelt was the only region with a decrease, generating about 1% less electricity. Hydroelectric and wind total generation experienced considerable growth with gains of 23% and 173% respectively.

Electricity Sales and Consumption

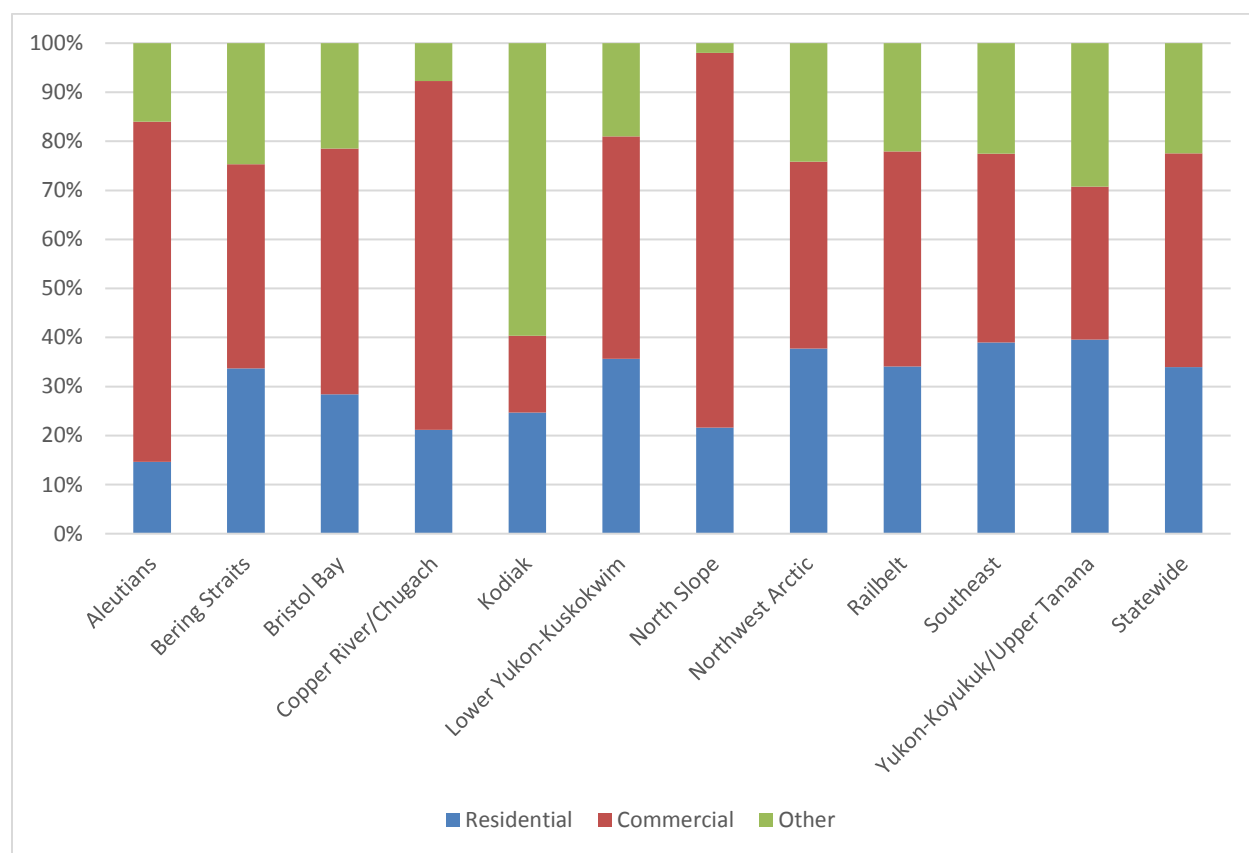
Table 4 shows electricity sales in megawatt-hours within each region of the state. The table also delineates sales by customer class. Residential sales constituted 34% at a total of 2,160 gigawatt-hours. Nearly 44% of gigawatt-hours were sold to commercial customers with a total of 2,769. Other sales made up 22% of statewide sales with a total of 1,428 gigawatt-hours. All electricity sales within the state in the year 2012 summed to 6,356 gigawatt-hours.

Table 4. Electricity Sales of Certified Utilities (MWh), 2012

AEA Energy Region	Residential	Commercial	Other	Region Total	Percent of Statewide Total
Aleutians	9,162	43,225	10,003	62,388	1%
Bering Strait	18,160	22,427	13,276	53,863	1%
Bristol Bay	14,901	26,239	11,253	52,392	1%
Copper River/Chugach	23,570	79,116	8,588	111,275	2%
Kodiak	36,270	23,072	87,666	147,007	2%
Lower Yukon-Kuskokwim	33,264	42,291	17,748	93,304	1%
North Slope	17,753	62,679	1,619	82,050	1%
Northwest Arctic	13,530	13,641	8,653	35,825	1%
Railbelt	1,653,812	2,123,090	1,071,000	4,847,902	76%
Southeast	326,472	322,961	188,608	838,046	13%
Yukon-Koyukuk/Upper Tanana	12,655	9,963	9,361	31,980	1%
Total	2,159,549	2,768,704	1,427,775	6,356,032	
Percent of Total	34%	44%	22%	100%	

Source: Energy Information Administration, Alaska Energy Authority's Power Cost Equalization program data, and authors' calculations.

Figure 3 shows the distribution of electricity sales to each customer class for each energy region. The Yukon-Koyukuk/Upper Tanana region had the highest share of residential sales at 40%. The North Slope region had the highest share of commercial sales at 76%. The Kodiak region had the highest share of other sales at 60%.

Figure 3. Distribution of Sales by Customer Type and Energy Region by Certified Utilities (%), 2012

Source: U.S. Energy Information Administration, Power Cost Equalization program data, and authors' calculations.
 Note: The category "Other" includes sales to industrial customers, public lighting service, public authority service to public authorities, railroad and railway service, and interdepartmental services.

Table 5 uses data from communities participating in the Power Cost Equalization program in 2012 to show minimum, maximum, and mean of community average residential electricity consumption at a range of effective rates.¹ PCE only applies to the first 500 kilowatt-hours of residential electricity consumed per household so there is a strong incentive for customers to keep their monthly consumption below that threshold, particularly in communities with higher rates. The far right column in the table shows the percentage of kilowatt-hours that were eligible for PCE according to this and other criteria. The table also breaks out these measures into semiannual seasons to illustrate the changes in consumption due to the changes in temperature, daylight, and price variability associated with winter.

¹ The effective rate is simply the pre-PCE residential rate less the PCE level in a particular community.

Table 5. Community Average Consumption per Residential Customer per Month in Power Cost Equalization Communities, 2012

Summer 2012 (April - September)				Percentage Residential Consumption Eligible for PCE
Community Average kWh per Customer per Month				
Effective Rate	Min	Mean	Max	
Less than \$0.19	147	433	827	69%
\$0.20 - \$0.29	122	365	800	77%
\$0.30 - \$0.39	77	314	543	76%
\$0.40 - \$0.49	112	302	477	80%
\$0.50 - \$0.59	106	140	196	100%
More than \$0.60	53	157	231	93%

Winter 2012 (October - March)				Percentage Residential Consumption Eligible for PCE
Community Average kWh per Customer per Month				
Effective Rate	Min	Mean	Max	
Less than \$0.19	200	533	1,138	60%
\$0.20 - \$0.29	136	435	957	70%
\$0.30 - \$0.39	57	378	693	74%
\$0.40 - \$0.49	81	307	732	77%
\$0.50 - \$0.59	59	291	449	77%
More than \$0.60	64	202	267	87%

Note: All averages are weighted. Percentages of residential consumption may seem lower than expected because some communities eligible to receive PCE participated in the program for only a portion of the year. If during a given month a utility did not participate and did not receive a PCE payment, then its eligible PCE consumption is 0% of sales for that month.

In nearly every case, an increase in the effective rate is associated with a decrease in consumption. The percentage of kilowatt-hours consumed that were eligible for PCE was as low as 69% in the summer and 60% in the winter. At the higher end of effective rates, the maximum eligibility rates ranged from 100% in the summer to 87% in the winter.

Electricity Prices and Revenues

Table 6 shows the weighted average price components for a range of effective rates in PCE communities. The average residential rate in PCE eligible communities equaled 50 cents per kilowatt-hour in 2012. The same measure including all communities in the state averaged at 18 cents per kilowatt-hour.

Table 6. Rates in PCE Communities (\$/kWh), 2012

Effective Rate (\$/kWh)	No. of PCE Communities	Average Rate (\$/kWh)		
		Residential	PCE	Effective
Less than \$0.19	43	0.38	0.21	0.17
\$0.20 - \$0.29	116	0.58	0.36	0.23
\$0.30 - \$0.39	22	0.73	0.38	0.35
\$0.40 - \$0.49	6	0.82	0.40	0.42
\$0.50 - \$0.59	0			
More than \$0.60	3	1.01	0.35	0.66
Total No. of Communities	190			

Note: All averages are weighted.

Total number of communities does not match the total in Table 9 because one community participating in the PCE program did not report residential rate data.

Table 7 provides revenues from each of the recorded customer classes to all certified utilities by energy region. The share of revenues in the Railbelt is considerably lower than the share of sales in the Railbelt simply because those utilities can sell electricity at lower rates. The same is true for Southeast, though to a lesser extent.

Table 7. Certified Utilities Revenue (\$000), 2012

AEA Energy Region	Residential	Commercial	Other	Regional Total	Percent of Statewide
					Total
Aleutians	5,068	22,626	5,830	33,525	3%
Bering Strait	8,287	9,164	6,215	23,665	2%
Bristol Bay	8,317	14,072	6,486	28,874	3%
Copper River/Chugach	8,094	22,477	2,310	32,882	3%
Kodiak	7,071	4,402	15,105	26,576	3%
Lower Yukon-Kuskokwim	20,134	23,749	10,875	54,753	5%
North Slope	2,235	7,305	233	9,774	1%
Northwest Arctic	7,331	6,603	5,254	19,186	2%
Railbelt	276,119	249,968	183,696	709,783	67%
Southeast	41,945	39,456	20,830	102,242	10%
Yukon-Koyukuk/Upper Tanana	7,711	6,151	5,920	19,784	2%
Total	392,312	406,973	262,754	1,061,044	
Percent of Total	37%	38%	25%	100%	

Source: Energy Information Administration, Alaska Energy Authority Power Cost Equalization program data and authors' calculations.

Note: Commercial and Other revenues are estimated using the average pre-PCE residential rate from each region.

The year 2012 saw a statewide revenue increase of 3.3% in the residential class and 10% in the other class while commercial revenues remained nearly flat. Outside of the Railbelt, however, all but one region actually saw gains in commercial revenues. The most notable increases were in the Aleutians (17.4%), Bristol Bay (17.1%), Lower Yukon-Kuskokwim (22.2%), and Yukon-Koyukuk/Upper Tanana (36.7%) regions.

Generation Fuel

Most communities in Alaska still rely, at least partially, on fossil fuels for electricity generation. Outside of the North Slope and Railbelt regions, fuel oil is the only utilized generation fuel source. In 2012, natural gas was the most prevalent fuel source statewide. By energy content, gas constituted 68% of all fuel burned. This was followed by oil at 18% and coal at 14% of fuel used in 2012.

Table 8. Fuel Used for Power Generation by Certified Utilities, 2012

AEA Energy Region	Oil² (Gallons)	Gas (Mcf)	Coal (Short Tons)
Aleutians	4,398,182	0	0
Bering Strait	3,686,912	0	0
Bristol Bay	3,716,995	0	0
Copper River/Chugach	5,462,214	0	0
Kodiak	616,864	0	0
Lower Yukon-Kuskokwim	7,325,240	0	0
North Slope	2,221,340	767,833	0
Northwest Arctic	2,555,571	0	0
Railbelt	39,663,918	38,069,783	425,095
Southeast	2,053,950	0	0
Yukon-Koyukuk/Upper Tanana	2,777,730	0	0
Total (Physical Units)	74,478,916	38,837,616	425,095
Conversion Factor ³ (MMBtu)	0.139	1.025	19.536
Total MMBtu	10,352,569	39,808,556	8,304,656

Source: Energy Information Administration, Alaska Energy Authority's Power Cost Equalization program data, and authors' calculations.

² Utilities in Alaska use a variety of fuel oil types including distillate fuel oil, jet fuel, residual fuel oil, naphtha, and heavy atmospheric gas oil (HAGO). Each type of fuel has different characteristics and Btu content; all these fuels are included here under the label "oil." For detailed information, please refer to Table 2.3c—Generation, Fuel Use, Fuel Cost and Efficiency—in the workbook accompanying this publication.

³ Thermal conversion factors can be used to estimate the heat content in British thermal units (Btu) of a given amount of energy measured in physical units. The conversion factors shown correspond to the average Btu content in barrels of petroleum fuel (oil), Mcf of natural gas, and short tons of coal, respectively, as published by the U.S. Energy Information Administration.

In 2012, statewide use of oil and coal for electricity generation increased by about 7% each. At the same time, natural gas usage decreased by 5%. Two oil-dependent regions significantly decreased their use in 2012. Kodiak consumed 65% less oil than in 2011 and Southeast oil usage declined by nearly 24%.

Power Cost Equalization

The PCE program provides economic assistance to communities throughout the state by subsidizing their local electricity rates, so long as they are eligible and active. Community eligibility for PCE is mostly contingent on whether or not a community benefits from any of a number of major energy investments that the State of Alaska made in the Railbelt and Southeast regions. Community activity requires utilities to regularly report a number of statistics concerning power production and distribution and to submit all residential and community facility bills for the calculated reimbursement.

Table 9. Communities Participating in Power Cost Equalization Program, 2012

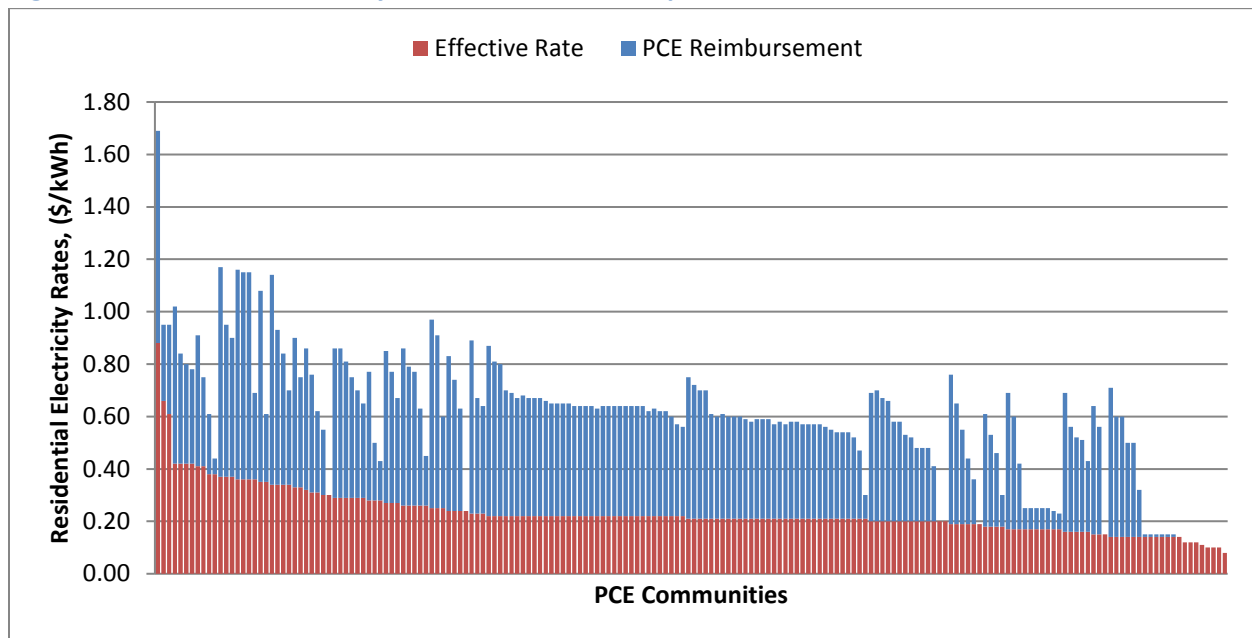
AEA Energy Region	PCE Eligible Active	PCE Eligible Inactive	PCE Ineligible	Percent Active in PCE program
Aleutians	12	0	0	100%
Bering Strait	16	0	0	100%
Bristol Bay	26	1	0	96%
Copper River/Chugach	8	0	15	100%
Kodiak	4	1	5	80%
Lower Yukon-Kuskokwim	47	1	0	98%
North Slope	7	0	2	100%
Northwest Arctic	11	0	0	100%
Railbelt	0	0	95	
Southeast	22	0	6	100%
Yukon-Koyukuk/Upper Tanana	38	4	1	90%
Total	191	7	124	

Note: Some utilities, in both urban and rural Alaska, serve multiple communities. Please refer to the "Community List" table in the accompanying workbook for detailed information about communities served by each utility.

In 2012, just over 96% of all PCE eligible communities were active in the program. Regionally, this number ranged from 80-100%. There were only small changes to these statistics from 2011 but all resulted in increases to the corresponding regional activity in the program.

Figure 4 illustrates the PCE and effective rates of every PCE community that was active in the program. The weighted average PCE reimbursement rate in eligible communities equaled 29 cents per kilowatt-hour in 2012. The resulting effective rate equaled an average of 21 cents per kilowatt-hour in the same year.

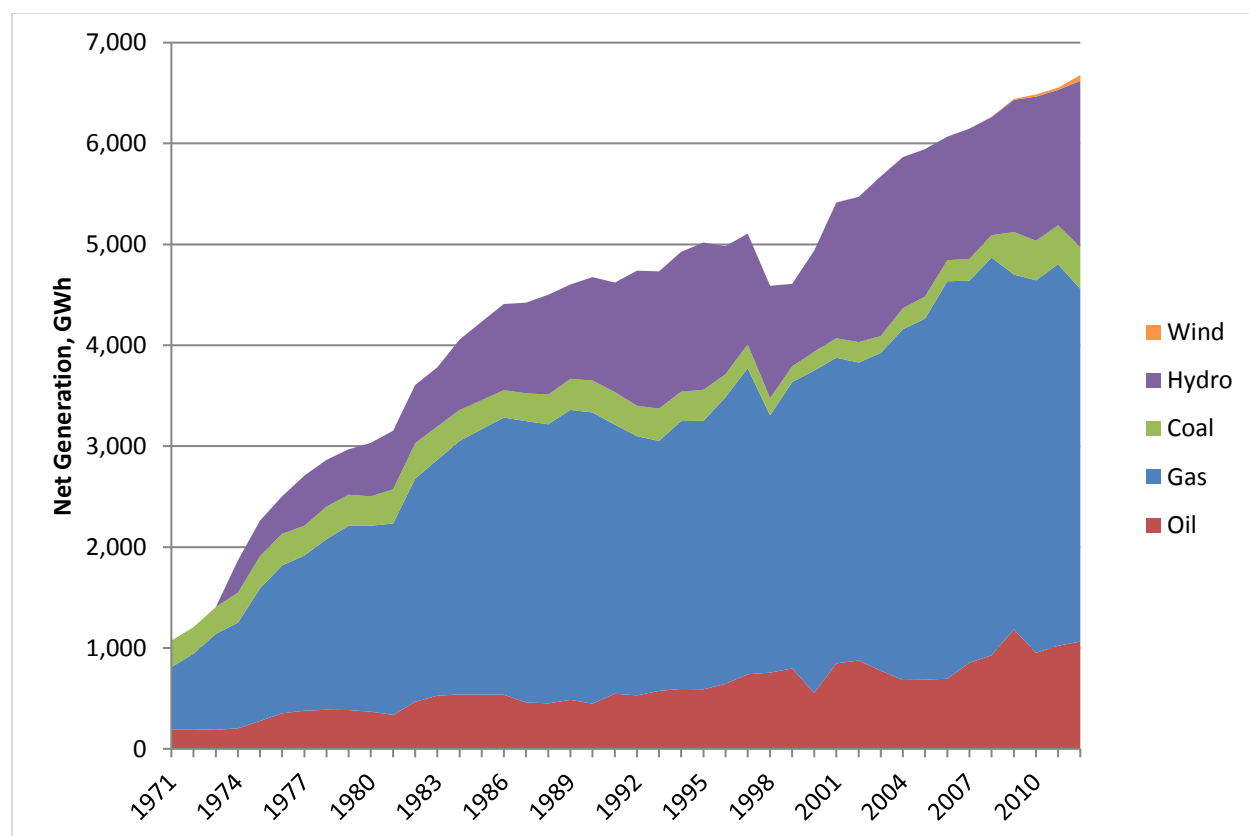
Figure 4. Residential Electricity Rates in Power Cost Equalization, 2012



Source: Alaska Energy Authority, Power Cost Equalization program data, 2012, and authors' calculations.

Summary

Figure 5 shows the historical net generation of electricity in Alaska from the years 1971 to 2012. In that time, statewide net generation has increased over six fold from 1,071 to 6,679 gigawatt-hours. This is an average growth rate of 136.8 gigawatt-hours per year. From 2011 to 2012, the annual change was slightly lower than that average increasing by 126.9 gigawatt-hours.

Figure 5. Net Generation by Fuel Type by Certified Utilities (GWh), 1971-2012

Source: U.S. Energy Information Administration, Power Cost Equalization program data and authors' calculations.

In 2009, the State of Alaska established a goal of meeting 50% of electrical demand through renewable generation sources. At that time, utilities were producing 21.4% of electricity from renewables.⁴ By 2011, this statistic was nearly unchanged at 20.8%.⁵ The year 2012 saw major progress towards this goal with 25.5% of generation coming from renewables. This is nearly a 25% year-to-year increase in the share.

⁴ It is important to note that this report only accounts for renewable electricity generated at the utility level. While many residential, community, commercial, and industrial consumers have installed renewable systems throughout the state, there is no comprehensive, consistent effort to collect data from these systems.

⁵ Most renewable energy in the state is generated by hydroelectric sources. As a result, the annual share of renewable generation is subject to significant natural variation depending on the amount and timing of rain, snowfall, and snow melt.

APPENDIX A. GLOSSARY OF TERMS⁶

Alaska Energy Authority (AEA): A public corporation of the state with a separate and independent legal existence with the mission to reduce the cost of energy in Alaska. <http://www.akenergyauthority.org/>

Auxiliary Generator: A generator at the electric plant site that provides power for the operation of the electrical generating equipment itself, including related demands such as plant lighting, during periods when the electric plant is not operating and power is unavailable from the grid. A black start generator used to start main central station generators is considered to be an auxiliary generator.

Backup (Standby) Generator: A generator that is used only for test purposes, or in the event of an emergency, such as a shortage of power needed to meet customer load requirements.

Barrel (bbl.): A unit of volume equal to 42 U.S. gallons.

Bituminous coal: A dense coal, usually black, sometimes dark brown, often with well-defined bands of bright and dull material, used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make coke. Bituminous coal is the most abundant coal in active U.S. mining regions. Its moisture content usually is less than 20%. The heat content of bituminous coal ranges from 21 to 30 million Btu per ton on a moist, mineral-matter-free basis. The heat content of bituminous coal consumed in the United States averages 24 million Btu per ton, on the as-received basis (i.e. containing both inherent moisture and mineral matter).

British Thermal Unit: The British thermal unit (BTU or Btu) is a traditional unit of energy equal to about 1.06 kilojoules. It is approximately the amount of energy needed to heat 1 pound (0.454 kg) of water 1 °F (0.556 °C). It is used in the power, steam generation, heating and air conditioning industries. In North America, the term “Btu” is used to describe the heat value (energy content) of fuels, and also to describe the power of heating and cooling systems. When used as a unit of power, Btu per hour (Btu/h) is the correct unit, though this is often abbreviated to just “Btu”.

Capital Cost: The cost of field development, plant construction, and the equipment required for industry operations.

Climate Change: A term used to refer to all forms of climatic inconsistency, but especially to significant change from one prevailing climatic condition to another. In some cases, “climate change” has been used synonymously with the term “global warming”; scientists, however, tend to use the term in a wider sense inclusive of natural changes in climate, including climatic cooling.

⁶ U.S. Energy Information Administration glossary posted at www.eia.doe.gov/ plus multiple sources for additional Alaska-specific terms.

Coal: A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50% by weight and more than 70% by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time. It is estimated that Alaska holds about 15% of the world's coal resources, amounting to 170 billion identified short tons. Major coal provinces include Northern Alaska, the Nenana area, Cook Inlet – Matanuska Valley, the Alaska Peninsula, and in the Gulf of Alaska and the Bering River. Alaska coals exhibit low metallic trace elements, good ash-fusion characteristics, and low nitrogen content making them favorable for meeting environmental constraints on combustion in power plants.

Cogeneration system: A system using a common energy source to produce both electricity and thermal energy for other uses, resulting in increased fuel efficiency.

Combined Cycle: An electric generating technology in which electricity is produced from a gas turbine in combination with a steam turbine that uses otherwise lost heat exiting from the gas (combustion) turbine. The exiting heat is routed to a conventional boiler or to a heat recovery steam generator for utilization by a steam turbine in the production of electricity. This process increases the efficiency of the electric generating unit.

Combustion: Chemical oxidation accompanied by the generation of light and heat.

Commercial Sector: An energy-consuming sector that consists of service-providing facilities and equipment of businesses; Federal, State, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes institutional living quarters. It also includes sewage treatment facilities. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment. Note: This sector includes generators that produce electricity and/or useful thermal output primarily to support the activities of the above-mentioned commercial establishments.

Consumer (energy): Any individually metered dwelling, building, establishment, or location.

Diesel #1: Also known as DF1 or Jet A. Diesel #1 is commonly used as a transportation and heating fuel throughout most of northern rural AK. Diesel #1 has a lower gel temperature than Diesel #2 which is sold as a transportation and heating fuel in warmer climates.

Diesel #2: Is commonly used throughout the US. In Alaska it is used for marine and highway diesel as well as heating fuel in warmer regions. Diesel #2 is preferred over #1 where it is warm enough as it has higher energy content and is typically cheaper.

Diesel Fuel: A fuel composed of distillates obtained in petroleum refining operation or blends of such distillates with residual oil used in motor vehicles. The boiling point and specific gravity are higher for diesel fuels than for gasoline.

Distillate Fuel Oil: A generic name for a refined petroleum product. It can refer to diesel, heating fuel or jet fuel.

Electricity: A form of energy characterized by the presence and motion of elementary charged particles generated by friction, induction, or chemical change.

Energy Balance: The difference between the total incoming and total outgoing energy. When the energy budget is balanced, the system neither gains nor loses energy.

Energy Information Agency (EIA): An independent agency within the U.S. Department of Energy that develops surveys, collects energy data, and analyzes and models energy issues.
<http://www.eia.doe.gov/>

Exports: Shipments of goods from within the 50 States and the District of Columbia to U.S. possessions and territories or to foreign countries.

Fuel: Any material substance that can be consumed to supply heat, power, or mechanical energy. Included are petroleum, coal, and natural gas (the fossil fuels), and other consumable materials, such as uranium, biomass, and hydrogen.

Furnished without payment (power): The amount of electricity furnished by the electric utility without charge, such as a municipality under a franchise agreement or for public street and highway lighting. It does not include energy consumed by the utility.

Gallon: A volumetric measure equal to four quarts (231 cubic inches) used to measure fuel oil.

Gas: A non-solid, non-liquid combustible energy source that includes natural gas, coke-oven gas, blast-furnace gas, and refinery gas.

Grid: The layout of an electrical distribution system.

Gross Domestic Disposition: The total amount of energy available for sale in the domestic region, i.e. energy produced for sale in the domestic region in addition to energy imported for sale within the domestic region.

Gross Extraction: The total amount of fuel obtained or produced by a power production plant.

Gross Generation: The total amount of electric energy produced by generating units and measured at the generating terminal in kilowatt-hours (kWh) or megawatt-hours (MWh).

Heating Degree Days (HDD): A measure of how cold a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the average of the day's high and low temperatures from the base temperature (65 degrees), with negative values set equal to zero. Each day's heating degree days are summed to create a heating degree day measure for a specified reference period. Heating degree days are used in energy analysis as an indicator of space heating energy requirements or use.

Hydroelectric Power: The use of flowing water to produce electrical energy. Storage hydro, run-of-river hydro, wave, river in-stream, and tidal power are all forms of hydroelectric power.

Imports: Receipts of goods into the 50 States and the District of Columbia from U.S. possessions and territories or from foreign countries.

Industrial Sector: An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing, agriculture, timber harvest and wood processing, fishing and fish processing, hunting, mining, oil and gas extraction, and construction. Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products. Note: This sector includes generators that produce electricity and/or useful thermal output primarily to support the above-mentioned industrial activities.

Injections: Natural gas injected into storage reservoirs.

Installed Capacity: The maximum theoretical production output of a plant, based either on nameplate capacity or actual (practically determined) capacity.

Internal Combustion: The process where fuel is burned, or combusted, inside a cylinder or turbine, such as a diesel or jet engine, producing power directly as opposed to fuel burning externally, such as in a steam engine. The term internal combustion engine usually refers to an engine in which combustion is intermittent, such as the more familiar four-stroke and two-stroke piston engines. A second class of internal combustion engines uses continuous combustion: gas turbines, jet engines and most rocket engines.

Kilowatt-hour (kWh): A unit of energy equal to one kW applied for one hour; running a one kW hair dryer for one hour would dissipate one kWh of electrical energy as heat. Also, one kWh is equivalent to one thousand watt-hours.

Kilowatt (kW): One thousand watts of electricity (See Watt).

Load (Electric): Amount of electricity required to meet customer demand at any given time.

MCF: One thousand cubic feet.

Megawatt (MW): One million watts of electricity (See Watt).

Mining: An energy-consuming subsector of the industrial sector that consists of all facilities and equipment used to extract energy and mineral resources.

Nameplate Capacity: The maximum rated output of an electric power production unit (i.e. generator, prime mover) under specific conditions designated by the manufacturer. Capacity is usually indicated on a nameplate physically attached to the generator.

Natural Gas: Gas in place at the time that a reservoir was converted to use as an underground storage reservoir in contrast to injected gas volumes.

Net Capacity: The maximum load that an electrical apparatus (i.e. generating unit or station) can carry, not including use by the electrical apparatus.

Net Domestic Disposition: The total amount of energy produced in the domestic region that is available for sale within the domestic region, i.e. not including energy use by producers or energy exported for sale outside of the domestic region.

Net Extraction: The total amount of fuel obtained or produced by a power production plant, not including electric energy use by the plants.

Net Generation: The amount of gross generation not including the electrical energy consumed at the generating station(s) for station service or auxiliaries. Note: Electricity required for pumping at pumped-storage plants is regarded as electricity for station service and is deducted from gross generation.

Oil: A mixture of hydrocarbons usually existing in the liquid state in natural underground pools or reservoirs. Gas is often found in association with oil (See Petroleum).

O&M: Operations and maintenance

Other: The “other” category is defined as representing electricity consumers not elsewhere classified. This category includes public street and highway lighting service, public authority service to public authorities, railroad and railway service, and interdepartmental services.

Peak: The amount of electricity required to meet customer demand at its highest. The summer peak period begins June 1st and ends September 30th, and the winter peak period begins December 1st and ends March 31st.

Petroleum: A broadly defined class of liquid hydrocarbon mixtures. Included are crude oil, lease condensate, unfinished oils, refined products obtained from the processing of crude oil, and natural gas plant liquids. Note: Volumes of finished petroleum products include non-hydrocarbon compounds, such as additives and detergents, after they have been blended into the products.

Petroleum Products: Petroleum products are obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products

Plant: A term commonly used either as a synonym for an industrial establishment or a generating facility or to refer to a particular process within an establishment.

Power: The rate of producing, transferring, or using energy that is capable of doing work, most commonly associated with electricity. Power is measured in watts and often expressed in kilowatts (kW) or megawatts (MW).

Power Cost Equalization Program (PCE): Program administered by the Alaska Energy Authority under which participating utilities receive state funding to reduce the charge to consumers in rural areas where prices can be three to five times higher than prices in urban areas.

Prime Mover: The engine, turbine, water wheel, or similar machine that drives an electric generator; or, for reporting purposes, a device that converts energy to electricity directly (e.g. photovoltaic solar and fuel cells).

<u>Prime Mover</u> <u>Code</u>	<u>Prime Mover Description (U.S. EIA)</u>
ST.....	Steam Turbine, including nuclear, geothermal and solar steam (does not include combined cycle)
GT.....	Combustion (Gas) Turbine (includes jet engine design)
IC.....	Internal Combustion Engine (diesel, piston)
CA.....	Combined Cycle Steam Part
CT.....	Combined Cycle Combustion Turbine Part
CS.....	Combined Cycle Single Shaft (combustion turbine and steam turbine share a single generator)
CC.....	Combined Cycle - Total Unit
HY.....	Hydraulic Turbine (includes turbines associated with delivery of water by pipeline)
PS.....	Hydraulic Turbine – Reversible (pumped storage)
BT.....	Turbines used in a binary cycle such as geothermal
PV.....	Photovoltaic
WT.....	Wind Turbine
CE.....	Compressed Air Energy Storage
FC.....	Fuel Cell
OT.....	Other
NA.....	Unknown at this time (use only for plants/generators in planning stage)

Pro Forma: A Latin term means “for the sake of form,” it describes a method of calculating financial results in order to emphasize either current or projected figures.

Purchased Capacity: The amount of energy and capacity available for purchase from outside the system.

Railbelt: The portion of Alaska that is near the Alaska Railroad, generally including Fairbanks, Anchorage, the communities between these two cities, and the Kenai Peninsula.

Refinery: An installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, and oxygenates.

Re-injected: The forcing of gas under pressure into an oil reservoir in an attempt to increase recovery.

Renewable Energy Fund (REF): Program established by the Alaska State Legislature and administered by the Alaska Energy Authority to competitively award grants to qualified applicants for renewable energy projects.

Renewable Energy Resources: Energy resources that are naturally replenishing but flow-limited. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Renewable energy resources include biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, and tidal action.

Residential Sector: An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters.

Residual Fuel Oil: A general classification for the heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations. It is used in steam-powered vessels in government service and inshore power plants, and can be issued for the production of electric power, space heating, vessel bunkering, and various industrial purposes.

Revenue (Electricity): The total amount of money received by an entity from sales of its products and/or services; gains from the sales or exchanges of assets, interest, and dividends earned on investments; and other increases in the owner's equity, except those arising from capital adjustments.

Short Ton: A unit of weight equal to 2,000 pounds.

Space Heating: The use of energy to generate heat for warmth in housing units using space-heating equipment. It does not include the use of energy to operate appliances (such as lights, televisions, and refrigerators) that give off heat as a byproduct.

Steam: Water in vapor form; used as the working fluid in steam turbines and some heating systems.

Transmission System (Electric): An interconnected group of electric transmission lines and associated equipment for moving or transferring electric energy in bulk between points of supply and points at which it is transformed for delivery over the distribution system lines to consumers, or is delivered to other electric systems.

Tonne (Ton): A unit of mass equal to 1,000 kilograms or 2,204.6 pounds, also known as a metric ton.

Total Disposition: The total amount of sold or transferred energy.

Turbine: A machine for generating rotary mechanical power from the energy of a moving force (such as water, hot gas, wind, or steam). Turbines convert the kinetic energy to mechanical energy through the principles of impulse and reaction, or a mixture of the two.

U.S. Department of Energy (DOE): Federal department that oversees programs, such as Wind Powering America, with the mission to advance national, economic, and energy security; promote innovation; and ensure environmental responsibility. <http://www.energy.gov/>

Watt (Electric): The electrical unit of power. The rate of energy transfer equivalent to one ampere of electric current flowing under a pressure of one volt at unity power factor.

Watt (Thermal): A unit of power in the metric system, expressed in terms of energy per second, equal to the work done at a rate of one joule per second.

Watt hour (Wh): The electrical energy unit of measure equal to one watt of power supplied to, or taken from, an electric circuit steadily for one hour.

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APPENDIX D. RCA UTILITY REGULATORY CODES SUMMARY

Regulatory Code	Summary Description	Simplified Category (ISER)
Commission Public Interest Exemption from 42.05.221 (42.05.711(d))	If it is found in the public interest, a utility may be exempted by the Regulatory Commission of Alaska from all regulation.	Not regulated
Commission Public Interest Exemption from all except certification (42.05.711(d))	If it is found in the public interest, a utility may be exempted from any of the following; installing individual meters for mobile homes and individual units in multi-unit buildings, providing efficient, continuous service, not having differences in service offered between localities or persons, filing tariff rates with the commission and public in a timely manner before changing rates, maintaining continuing property records in an instate office, being subject to the commission setting rates or the devaluation of property value, the requirement of having separate accounts from any other business, the requirement of maintaining instate account books and records and ensuring the commission can access them upon request. A utility may also be exempted from the provision which allows the commission to investigate its management practices. A utility may be exempted from paying a regulatory charge not more than 0.7% of annual revenue, and from the requirement to need to apply to discontinue services	Not regulated
Commission Public Interest Exemption from rate regulation but not service (42.05.711(d))	In this case the utility would be required to provide reasonably continuous service, but would not be subject to the commission potentially fixing rates.	Regulated, rate exemption
Cooperative passed 42.05.712 election (42.05.711(h))	A cooperative may elect to be exempt from regulation provided at least 15 percent of subscribers return ballots, subscribers receive 60 day notice of the election which uses impartial language, a list of all subscribers is provided to all subscribers who request one, the ballot uses language used in 42.05.712(g). The election may be called either by the utility's board of directors, or by a petition signed by 3 percent of subscribers, or members in excess of 5,000.	Not regulated

Regulatory Code	Summary Description	Simplified Category (ISER)
Customer election to terminate exemption from regulation (42.05.712(h))	An election to terminate exemption from regulation may be held in the same manner as an election to exempt a utility from regulation.	Regulated
Economically Regulated, no exemption (42.05 & 42.06)	A utility regulated under 42.05 is subject to the following; installing individual meters for mobile homes and individual units in multi-unit buildings, providing efficient, continuous service, providing the same service level to all localities and persons, filing tariff rates with the commission and public in a timely manner before changing rates, maintaining continuous property records in an instate office, being subject to the commission setting rates or the devaluation of property value, the requirement of having separate accounts from any other business, the requirement of maintaining instate account books and records and ensuring the commission can access them upon request. A utility may also be subject to a commission investigation of its management practices. A regulated utility also is required to pay the commission an annual regulatory charge which shall not exceed 0.7% of revenue, and to apply to the commission to discontinue any services.	Regulated
Electric/Telephone less than \$50k revenues (42.05.711(e))	If an electric or telephone utility grosses less than \$50k annually it is not subject to regulation by the commission.	Not regulated
Political Subdivision of the State (42.05.711(b))	Unless competing directly with another utility, utilities run by a political subdivision of the state is exempted from all regulation listed under the <i>Commission Public Interest Exemption from 42.05.221 (42.05.711(d))</i> , except for the requirement to pay a regulatory fee, and to ask the commission for permission to discontinue services.	Not regulated

Regulatory Code	Summary Description	Simplified Category (ISER)
Electric/Telephone with less than \$500k revenues and passed 42.05.712 election (42.05.711(f))	If a utility with less than \$500,000 in annual revenue passes an election under 42.05.712, the utility is exempt from all regulation with the exception of the following regulations. The utility is still required to obtain certification by the Regulatory Commission before providing services, and to pay an annual regulatory fee which shall not exceed 0.7% of annual revenue. Any such utility is also required to apply with the commission in order to discontinue service.	Not regulated
Political Subdivision of the State Competing w/ another utility (42.05.711(b)(2))	A political subdivision of the state competing with another utility is subject to all aspects of 42.05 including; installing individual meters for mobile homes and individual units in multi-unit buildings, providing efficient, continuous service, providing the same service level to all localities and persons, filing tariff rates with the commission and public in a timely manner before changing rates, maintaining continuous property records in an instate office, being subject to the commission setting rates or the devaluation of property value, the requirement of having separate accounts from any other business, the requirement of maintaining instate account books and records and ensuring the commission can access them upon request. A utility may also be subject to a commission investigation of its management practices. A regulated utility also is required to pay the commission an annual regulatory charge which shall not exceed 0.7% of revenue, and to apply to the commission to discontinue any services.	Regulated

APPENDIX E. DATA SOURCES FOR ELECTRIC ENERGY STATISTICS

Information on utility electricity capacity, generation, and other characteristics was gathered from reports filed with the U.S. Department of Energy's Energy Information Administration (EIA). The Alaska Energy Authority collected final EIA data files for the EIA survey forms 860, 861, and 923 for all reporting utilities in Alaska. Additionally, AEA used data collected by the Power Cost Equalization (PCE) program and a limited number of direct contacts with electric power producers. AEA also conducted a careful cross-check of the PCE program data. This report and accompanying tables present all final data.

All producers of electricity with installed capacity greater than one megawatt are required by law to report their operations to the federal government. Most utilities in Alaska fall below that installed capacity threshold.⁷ Information for these smaller utilities came primarily from the PCE program.

In many parts of Alaska there is no utility-produced electricity available, and any activity using electricity requires self-generation. The number of such small installations (e.g. Point Baker, Port Protection, Telida) is quite large, though relatively small in terms of installed capacity and net generation. It would be a very expensive task to identify and contact individually each self-generator. As a result, total statewide estimates do not include self-generators and are therefore incomplete. In addition to small communities, there are industrial and military self-generators in Alaska, but few public data are available for these producers. Hence, data for industrial and military self-generators is included for those who report publically available data to the Energy Information Administration. The information presented in this report includes primarily certified public utilities for which public data are available.

It is important to note that this publication is meant to serve as a general reference and broad overview of electric power in Alaska. Because data come from a variety of sources that have imperfections, readers may find inconsistencies across tables. For example, Table 2.5b shows average rate per kilowatt-hour as calculated using reported revenue, sales, and customers, and Table 2.5c shows an imputed weighted average rate per kilowatt-hour as reported monthly by the utility to the PCE program. These two rates are sometimes slightly different.⁸ Data in different tables may include different cases, or may be guided by slightly different concept definitions, depending on the data source. However, the authors believe the data presented provide a reasonable and valuable overview of electric power and energy across Alaska.

Energy Information Administration Surveys

⁷ Data for approximately 93% of utilities is from the PCE database. (For utilities that manage many isolated systems, such as the Alaska Village Electric Cooperative (AVEC) and Alaska Power and Telephone Company (AP&T), each isolated system is counted as a "utility.") But as this report shows, most generation and electricity and fuel use are in the urban centers, which are served by larger utilities that do report to EIA. Utilities such as AVEC and AP&T also report to EIA, though for some variables only aggregated data is reported. In those cases, PCE data provides community level information.

⁸ This is only applicable to PCE communities. Communities for which the data source is EIA report the same calculated rate as in Table 2.5b.

The primary data source for the electric power statistics are the U.S. Department of Energy (DOE), Energy Information Administration (EIA) and the Alaska Energy Authority, Power Cost Equalization program data. Every utility and industrial (including military) electrical generating facility with a capacity greater than one megawatt is required to report their operating characteristics to the EIA annually, and in some instances, monthly. This information is compiled by the EIA and is available for every generating facility on their website: (<http://www.eia.doe.gov/>). The forms of interest to compile this publication are the EIA 860, 861 and 923. These are reporting forms for capacity, generation, sales and revenues.

Following the methodology established in 2010, we continue to use the EIA database with some modifications in order to publish this report more timely. Most utilities and industrial facilities are required by law to report to the federal government each year on their activities using the EIA forms; this information is then made available on the EIA website. This process causes a delay; the lag time for the availability of the federal data is approximately two years. However, it is redundant to collect the same information through a second questionnaire. Respondents are required by law to report to the EIA and this should make the response rate high. In order to expedite this process, the Alaska Energy Authority collected copies of the CY2012 EIA forms from a selective group of utilities, and created a reduced data set. After EIA final data files are published, a cross reference review of the data is done and a final report is produced.

Nonetheless, using EIA data poses some challenges because not all information reported in this publication is collected via the EIA forms. First, the smallest utilities with installed capacity less than one megawatt are not required to report to EIA and are not included in the EIA database. Second, not all Alaska generating facilities report as required by law.

These forms collect data at different levels of aggregation; for example some at the utility level only, while other data may be at the facility and/or generator level. This sometime causes differences in the underlying definition of the data making reconciliation of the information in the datasets within forms, and across the different forms sometimes difficult.

Alaska Energy Authority - Power Cost Equalization Program Data

To supplement missing data we used the database for the annual Power Cost Equalization Reports by the Alaska Energy Authority (AEA). Also, as needed, the Alaska Energy Authority and ISER supplemented these data sources by contacting utilities directly.

These data sources allowed us to collect information for almost all the utilities in the state without incurring the considerable cost of conducting a complete census of all producers. A few of the smallest utilities that were not in the EIA database nor in the Power Cost Equalization database were not included in the data informing this report.

The 2012 Power Cost Equalization data provided data on the generation and sales (residential and commercial) of all utilities participating in the Power Cost Equalization program, including a breakdown

by community for those utilities that operate in multiple communities, such as Alaska Village Electric Cooperative (AVEC) and Alaska Power and Telephone (AP&T). The EIA data for these utilities was in some cases reported only as a total across all communities, and we used these as control totals.

The PCE database contains information collected through AEA's PCE Utility Monthly Report which PCE participants must file. Utilities also report to the RCA annually for fuel cost adjustments. Reporting to both entities should be consistent; however, discrepancies are not unusual. These discrepancies may be due to high turnover in small utilities, poor reporting and limited staff to verify the utilities' self-reported data.

In addition, there are data (energy loss, use by facility and energy provided without charges) that is not included in the PCE report. Because of this, the values found in table 2.2a may not reflect a summation of all PCE communities as reported in the PCE report. Rather they reflect what was reported to the EIA directly as prepared by the utility itself. This same methodology was implemented in the sales and revenues tables (2.4a) when deemed appropriate. The intent is to create as comprehensive of a table as possible.

The summary information in the historical tables was calculated from the same sources mentioned above. Data from these sources was calculated and re-formatted where appropriate and consolidated into master data files from which all the tables in this report were built.

Inevitably the use of multiple data sources introduces some inconsistencies in reporting. Notwithstanding, we believe that the *2012 Alaska Energy Statistics Report* provides useful information on the state of electric power generation in Alaska.

APPENDIX F. REPORTING REQUIREMENTS

Energy Information Administration

Every utility facility with a capacity greater than one megawatt (MW) is required to report their operating characteristics to the US Department of Energy (DOE), Energy Information Administration (EIA) annually, and in some instances, monthly. This information is compiled by the EIA and is available for every generating facility on their website (<http://www.eia.doe.gov/>). Specific reporting requirements are determined by the Department of Energy but collected, assembled, and evaluated by the EIA according to the Federal Energy Administration Act of 1974. We obtained data for year 2012. Three EIA forms were used in this report:

- **EIA-860 Annual Electric Generator Report.** This report contains information on capacity and types of fuel used. It is completed by all existing plants and proposed (5-year plans) plants that: 1) have a total generator nameplate capacity (sum for all generators at a single site) of one megawatt or greater; and 2) where the plant is connected to the local or regional electric power grid and has the ability to draw power from the grid or deliver power to the grid.
- **EIA -860M Monthly Update to the Annual Electric Generator Report.** This report contains monthly updates to the EIA-860. It is completed by those who also completed EIA-860 and additionally indicated a proposed change in generator production within one month of the report period. The proposed change may be due to: 1) a new generator scheduled to start commercial operation; 2) an existing generator scheduled to retire from service; or 3) an existing generator with a proposed modification scheduled.
- **EIA-861 Annual Electric Power Industry Report.** This report contains information on peak production, net generation, sales, and revenues. It is completed by electric industry distributors including: electric utilities, wholesale power marketers (registered with the Federal Energy Regulatory Commission), energy service providers (registered with the Regulatory Commission of Alaska), and electric power producers.
- **EIA-923 Power Plant Operations Report.** This report contains information on electric power generation, fuel consumption, fossil fuel stocks, and fossil fuel cost and quality. It is completed by all electric power plants that: 1) have a total generator nameplate capacity (sum for generators at a single site) of one megawatt or greater; and 2) where the plant is connected to the local or regional electric power grid and has the ability to draw power from the grid or deliver power to the grid.

Power Cost Equalization Program and Regulatory Commission of Alaska

Participants of the Power Cost Equalization (PCE) program report to the Regulatory Commission of Alaska (RCA) for fuel and non-fuel cost adjustments to their rates. The RCA has authority to maintain accounts and records of public utilities that fall under its jurisdiction, under Alaska Statute 42.05.451. This responsibility allows the Regulatory Commission of Alaska to obtain information from regulated

utilities. Additionally, all utilities that serve ten or more customers must obtain an operating certificate, which describes the authorized service area and scope of operations of the utility. The RCA will issue a certificate when it finds the utility to be fit, willing, and able to provide the service. The RCA maintains a list of both regulated and unregulated certified utilities. Utilities report annually to the RCA, and file a PCE Utility Monthly Report with AEA.