

Kimberly Program Update

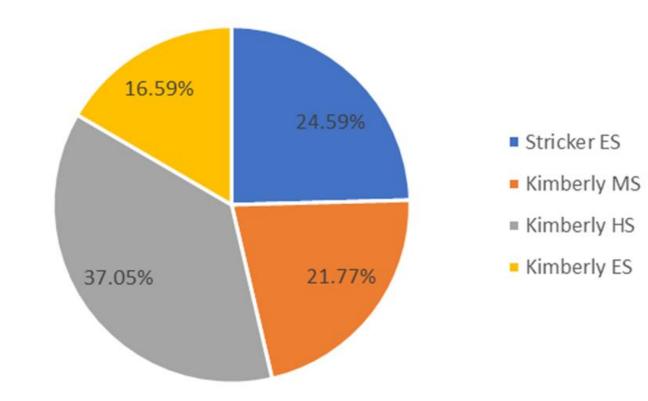








Electric Consumption



Energy Savings \$18,799 @ \$0.08/kWh Plus Idaho Power CEI incentive of \$5,614

Total Savings \$24,413

		Year 1	Year 2
		kWh	kWh
Stricker ES	4/13/2021	-18032	10,217
Kimberly MS	4/13/2021	14,009	127,813
Kimberly HS	4/13/2021	-16,655	76,691
Kimberly ES	4/13/2021	0.00%	20,275
Total		-20,679	234,996

Noted: Negative kWH is increased usage Positive number is kWh savings

Energy Awareness and Occupant Engagement



Have a great Spring Break!!







Blackout Dayl

An energy saving experiment on Earth Day!

Monday, April 22, 2019 - All Day



#BSDEarthDay2019

- non-essential electrical equipment. Plan a low-tech / no-tech

How can I participate? Turn off AND unplug all

Eat lunch in the



lesson for the day! Go outside for class!





Who can participate? ALL District Faculty, Staff, and Students!





Kimterly School District Winter, Spring, or Summer Break Classroom/Office/Work

Area Shutdown Checklist

NAME OF STAFF:			
hermostats turned OFF		Yes	No_
Lights OFF		Yes	No_
Computers & Monitors OFF-LEAVE PLUG	GED IN!	Yes	No_
Copying machines-OFF and UNPLUGGED	•	Yes	No_
PA systems/Stage and Sound Systems — OFF		Yes	No_
Power Staps —OFF		Yes	No_
Ceiling fans-OFF-UNPLUGGED		Yes	No_
TVs, DVDs and VCRs-OFF-UNPLUGGED		Yes	No_
Speakers-Radios-OFF-UNPLUGGED		Yes	No_
Clocks-Stereo's-OFF-UNPLUGGED		Yes	No_
Lamps-Single Lights—OFF-UNPLUGGED		Yes	No_
Power Strips-Carts OFF & UNPLUGGED		Yes	No_
Microwaves-OFF		Yes	No_
All refrigerators turned OFF & EMPTIED &	DOORS OPEN	Yes	No_
Scanners-FAXes-SMART Boards OFF-UNPL	UGGED	Yes	No
Printers OFF-UNPLUGGED		Yes	No_
Shades CLOSED/SHUT		Yes	No_
Windows CLOSED/SHUT/LOCKED		Yes	No_
SMART Boards OFF-UNPLUGGED		Yes	No_
OVERHEAD AV EQUIPMENT OFF-UNPL	UGGED	Yes	No_
FACULTY ROOMS: Refingerators/Microwaves	-Off-Emptied-Opened	Yes	No_
"efrigerators) Unplugged (Microwaves & F	Refrigerators)		
all unnecessary equipment OFF and UNPLUC	GGED	Yes	No_
ALL HEATERS/FANs/PERSONAL ITEMS	TAKEN HOME	Yes	No_
Performed by:			

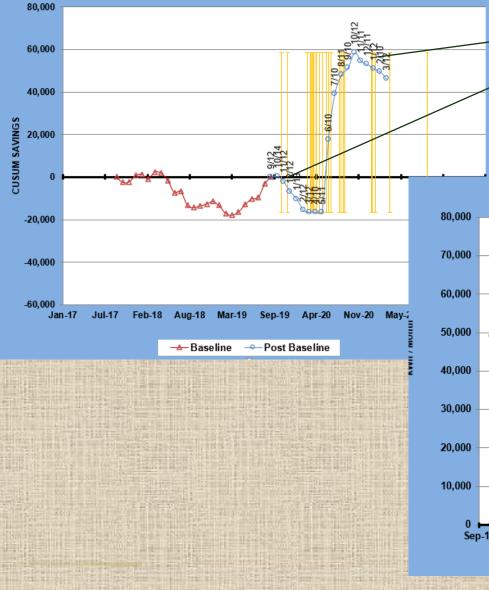
Signed off by Principal/Supervisor_

Safety, Comfort, Energy Savings and Sustainability!!



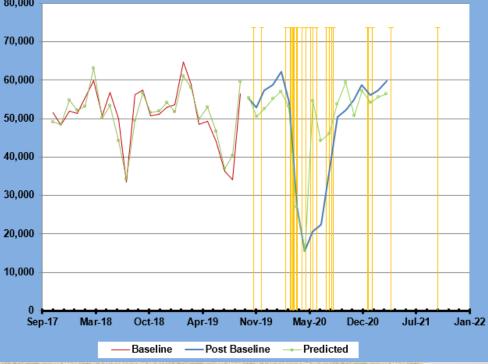
High School Energy Usage

kWh CUMULATIVE SAVINGS



An unexplained Seasonal increase in electric usage

Predicted & Actual kWh Time Series



SE

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Should be green

Heat Maps

Should be green

SE

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Kimberly High School		Service Poin 5	252789057																						
Date Range	3/1/2020	То	2/28/2021																						
Meter	50502588																								
Date	TOSA	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM	12:00 AM
Monday, March 1, 2021	32.7	53.1	54.4	51.1	54.4	66.2	74	108.1	124.5	137	132.4	129.1	121.9	122.5	122.5	117.3	108.8	81.3	86.5	82.6	76.7	73.4	81.9	77.3	72.1
Tuesday, March 2, 2021	35.3	59	48.5	49.2	51.8	58.3	70.8	85.2	108.8	133	129.8	133	126.5	122.5	116	116	103.5	78	85.8	78	74	73.4	68.1	60.9	57
Wednesday, March 3, 2021	37.7	49.2	43.2	67.5	45.9	53.7	66.8	100.9	123.2	135.6	130.4	129.1	123.9	119.3	118.6	104.8	102.9	78.6	86.5	80.6	69.5	64.2	60.9	62.9	61.6
Thursday, March 4, 2021	41.1	48.5	44.6	45.9	47.8	58.3	66.2	81.9	108.1	125.8	125.8	127.1	120.6	118	114	112.7	100.9	76	82.6	76	66.8	70.1	78.6	73.4	66.8
Friday, March 5, 2021	47	50.4	44.6	45.2	46.5	54.4	61.6	72.1	73.4	65.5	64.2	60.9	59	62.3	69.5	73.4	63.6	50.4	59	48.5	38.7	38.7	39.3	41.3	43.9
Saturday, March 6, 2021	44.9	45.9	44.6	44.6	45.9	45.2	49.2	45.2	46.5	40.6	33.4	28.8	29.5	29.5	30.8	29.5	30.1	32.8	40	38.7	43.9	42.6	42.6	41.3	43.9
Sunday, March 7, 2021	40.3	43.9	44.6	49.2	45.9	49.8	53.7	53.1	53.7	41.9	37.3	37.3	28.8	30.1	24.9	27.5	26.2	24.9	34.1	35.4	41.9	39.3	40.6	41.3	42.6
Monday, March 8, 2021	37.4	44.6	43.9	45.2	48.5	60.3	62.9	83.2	113.4	134.3	134.3	131.1	123.2	117.3	116	116.6	106.2	79.3	86.5	81.9	72.1	74.7	71.4	72.7	58.3
Tuesday, March 9, 2021	35.2	47.2	43.2	45.2	48.5	62.9	69.5	87.2	105.5	125.8	128.4	133	124.5	121.2	117.3	115.3	107.5	81.3	85.8	82.6	73.4	78	78	74	70.8
Wednesday, March 10, 2021	35.6	51.1	43.2	46.5	49.2	59.6	64.2	89.1	119.9	137	134.3	128.4	125.2	123.9	121.9	121.2	110.1	80	85.2	78.6	73.4	75.4	73.4	74	78.6
Thursday, March 11, 2021	32.4	56.4	50.4	52.4	51.1	60.9	66.2	91.1	109.4	132.4	137.6	138.3	125.2	123.2	117.3	116.6	103.5	78.6	86.5	82.6	74.7	74.7	76	74.7	74.7
Friday, March 12, 2021	34.3	60.9	45.9	47.2	50.4	62.3	66.8	87.2	92.4	118.6	119.3	119.3	115.3	110.1	108.8	103.5	90.4	74.7	81.3	75.4	68.1	68.8	71.4	72.7	73.4
Saturday, March 13, 2021	38	74	73.4	74	73.4	76.7	80	80.6	78	66.8	62.9	63.6	60.9	60.3	60.3	59	57	41.9	64.2	50.4	48.5	47.2	43.2	42.6	44.6
Sunday, March 14, 2021	45.2	45.2	45.9	М	-7.2	45.9	47.8	51.8	51.8	49.8	34.7	28.8	32.1	26.9	24.2	27.5	24.2	22.3	22.9	32.8	34.7	38	39.3	43.9	36.7
Monday, March 15, 2021	48.4	38.7	41.3	42.6	42.6	51.1	53.7	76	108.8	135	127.8	124.5	123.2	118.6	118.6	118	105.5	76.7	72.7	68.1	74	70.8	55.7	47.8	45.9
Tuesday, March 16, 2021	37.7	43.9	38.7	40	43.2	43.2	51.1	82.6	104.2	137.6	137	137	125.8	121.9	119.3	116.6	105.5	80	74.7	66.8	74.7	71.4	70.1	68.8	67.5
Wednesday, March 17, 2021	43.2	50.4	41.9	41.3	43.2	45.9	53.7	83.9	114	128.4	121.9	123.2	119.3	116	118.6	114.7	103.5	76	68.8	64.9	67.5	59.6	57	45.2	47.2
Thursday, March 18, 2021	50.8	45.9	41.3	40.6	41.3	44.6	49.8	76	104.8	124.5	124.5	125.2	119.3	119.9	121.9	121.2	106.8	80	69.5	45.2	53.1	44.6	44.6	47.2	46.5
Friday, March 19, 2021	48.9	38.7	36.7	36.7	36.7	36.7	43.2	64.9	91.1	94.4	94.4	104.2	107.5	101.6	90.4	87.2	77.3	57.7	42.6	36	44.6	40	36.7	36	36.7
Saturday, March 20, 2021	39.7	38	36.7	36.7	36.7	36.7	41.3	45.9	63.6	61.6	59	59	57	56.4	56.4	59.6	61.6	57	57	61.6	64.9	69.5	66.8	67.5	68.1
Sunday, March 21, 2021	36	69.5	68.8	70.1	70.1	68.8	76.7	81.3	80.6	70.8	66.2	62.3	60.9	60.3	41.3	36	28.2	33.4	26.9	31.5	36.7	43.9	41.9	42.6	43.2
Monday, March 22, 2021	36.5	44.6	41.9	46.5	43.9	41.3	51.8	60.3	56.4	59.6	62.9	59	59	60.3	57.7	57	57.7	45.2	39.3	32.1	38.7	35.4	32.1	32.1	32.8
Tuesday, March 23, 2021	32.5	33.4	32.1	33.4	38.7	36	43.9	49.8	52.4	49.8	48.5	62.9	62.3	59.6	50.4	45.2	41.9	38.7	38	32.1	39.3	34.1	32.1	31.5	32.1
Wednesday, March 24, 2021	37.3	32.8	33.4	34.1	38.7	40.6	48.5	47.2	50.4	41.9	40	39.3	39.3	40	38.7	40.6	38	38	38	31.5	39.3	32.8	31.5	31.5	31.5
Thursday, March 25, 2021	35.5	32.8	32.1	31.5	37.3	40.6	41.3	45.9	49.8	41.3	39.3	40	40.6	40	40.6	41.9	41.3	39.3	43.2	34.1	40.6	34.1	34.7	32.8	33.4
Friday, March 26, 2021	38.1	34.7	34.7	38.7	39.3	39.3	46.5	46.5	50.4	42.6	41.9	42.6	41.9	47.8	55	51.1	46.5	43.9	40	33.4	40.6	34.7	34.1	33.4	33.4
Saturday, March 27, 2021	44.7	34.7	32.8	32.8	33.4	35.4	40.6	41.9	40.6	29.5	30.8	26.9	26.2	23.6	26.2	24.2	26.2	22.3	22.3	22.3	30.1	32.1	33.4	31.5	31.5
Sunday, March 28, 2021	56	31.5	32.1	31.5	31.5	34.1	35.4	40.6	40	26.9	28.8	22.9	21.6	21.6	21.6	22.3	21	20.3	20.3	21.6	28.8	31.5	31.5	30.8	30.1
Monday, March 29, 2021	37.5	31.5	30.8	30.8	31.5	33.4	45.2	78	164.4	139.6	129.8	128.4	125.8	119.9	119.9	115.3	109.4	85.2	80	80	70.8	41.9	42.6	41.9	43.9
Tuesday, March 30, 2021	33	43.9	43.9	45.9	46.5	52.4	61.6	83.9	108.8	131.7	133.7	129.8	123.2	121.9	119.3	116.6	99.6	59	54.4	53.1	55	43.2	43.2	44.6	44.6
Wednesday, March 31, 2021	39.3	42.6	44.6	46.5	47.2	51.8	65.5	89.1	107.5	131.7	128.4	128.4	122.5	123.2	119.9	118	105.5	68.1	60.9	46.5	38.7	34.1	34.7	34.7	35.4
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Item or System	Recommendation	Recommendation Priority* Incentive				\$ Savings \$0.05/kWh \$0.40/Them	Estimated Idaho Power Incentive	l Estimated Simple Payback	
HVAC System	System Repair broken outside air dampers and actuators at KMS.		No						
Envelope	Install door sweeps on exterior doors & repair window gasket seal at KMS/KHS.	2	No						
HVAC System	Verify proper economizer control operation at KHS/TE. Fix non-functional economizer if required.	3	Yes (Retrofit) \$50 per connected cooling ton. See IPCO HVAC/Controls Worksheet for more info.						
Domestic Hot Water System	Install programmable timeclocks on domestic hot water recirculation pumps at KMS.	4	Maybe (Custom) \$0.18/kWh/yr up to 70% of cost.	\$400	1,916 kWh	\$96	\$345	0.6	
Domestic Hot Water System	Install programmable timeclocks on domestic hot water recirculation pumps at KHS/TE Building.	5	Maybe (Custom) \$0.18/kWh/yr up to 70% of cost.	\$600	1,327 kWh	\$66	\$239	5.4	
Exterior Lighting	Replace exterior lights with lower wattage LED lamps at KHS/TE.	6	Yes (Retrofit) See IPCO Lighting Tool for details.	\$13,200	22,893 kWh 5.6 kW	\$1,145	\$4,121	3.5	
Exterior Lighting	Replace exterior lights with lower wattage LED lamps at KMS.	7	Yes (Retrofit) See IPCO Lighting Tool for details.	\$8,950	7.956 kWh 2.0 kW	\$398	\$1,432	3.4	
Domestic Hot Water System	Replace sinks and lavatory faucet heads with low- flow aerators at KMS/KHS/TE Building.	8	No					il al a	
HVAC - Building Automation	Add digital control system to KHS/TE. (Must be done with #10)	9	Yes (Retrofit) \$10/ton for 2 strategies up to \$200/ton for 5 strategies.	\$228,645	247,603 kWh, 35.8 kW, 14,550 therms	\$20,700	\$37,700	9.2	
HVAC - Building Automation	Add stand-by mode operation at KHS/TE. (must be done with #9)	10	Maybe (Custom) \$0.18/kWh/yr up to 70% of cost.	\$13,058	72,544 kWh	\$3,627	\$13,058	4	
Interior Lighting	Replace interior lights with lower wattage LED lamps at KHS & TE.	11	Yes (Retrofit) See IPCO Lighting Tool for details.	\$114,323	143,333 kWh 61.0 kW	\$7,167	\$25,800	9.7	
Interior Lighting	Replace interior lights with lower wattage LED lamps at KMS.	12	Yes (Retrofit) See IPCO Lighting Tool for details.	\$93,323	101,091 kWh 49.8 kW	\$5,055	\$18,196	11.4	
	Total		\$472,499	Stanks R.	\$38,253	\$100,891	3.40		

Musgrove Engineering Savings Opportuni ties



