

Energy Usage Spreadsheet Lesson

Name:
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District:
Oconto Falls, WI

2017

Overview:

Students will be using real-life energy use data to learn how to use spreadsheets and create graphs to better organize and view data. Discussions can then follow to analyze the data and explain the usage. Real rates are then provided, and students can use the electricity consumed data to create a utility bill for the consumer and compare the standard Residential Service charges to if the member were instead billed by the "Time of Use" rate.

Featured Externship Business:

[Oconto Electric Cooperative](#)

Subject:

Math, Technology

Grade Level:

Middle School (6-8)

Learning objectives:

After doing this activity, students should be able to:

- Use spreadsheets to organize data accurately and efficiently
- Use graphs to explain the data
- Explain what times of day electricity use tends to be higher
- Calculate electric bills
- Brainstorm ideas to reduce electric bills

Workplace Readiness Skills:

- | | |
|-------------------------------|-----------------------------|
| X Social Skills | X Communication |
| X Teamwork (if collaborating) | X Critical Thinking |
| X Media Etiquette | X Planning and Organization |

Type of Activity: (varies based on teacher options)

- X Individual
- X Small Group
- X Whole Class

Wisconsin General Standards for Mathematical Practice :

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
4. Model with mathematics.
5. Use appropriate tools strategically.
7. Look for and make use of structure.

Common Core Math Content Standards:

CCSS.MATH.CONTENT.6.EE.C.9

Represent and analyze quantitative relationships between dependent and independent variables

CCSS.MATH.CONTENT.6.SP.B.5

Summarize numerical data sets in relation to their context

CCSS.MATH.CONTENT.7.RP.A.1, 2 and 3

Analyze proportional relationships and use them to solve real-world and mathematical problems.

CCSS.MATH.CONTENT.8.SP.A.1, 2, 3, and 4

Investigate patterns of association in bivariate data.

Wisconsin Model Academic Standards for Information and Technology Literacy

A.8.3 Use a computer and productivity software to organize and create information.

B.8.5 Record and organize information.

B.8.6 Interpret and use information to solve the problem or answer the question.

B.8.7 Communicate the results of research and inquiry in an appropriate format.

Time:

Several days in math class, depending on how much collaboration amongst students is allowed and how much outside of class work is required. This lesson could be varied, and the time and pacing depends upon teacher choices.

Materials:

- Access to spreadsheet software for all students, such as Google sheets (preferred for collaboration) or Microsoft Excel
- One month worth of hourly kWh used for a household (provided.....)

- Billing rate options- at end of lesson document or can be viewed here: <http://ocontolectric.com/rates/> (Residential service listed first) and here: <http://ocontolectric.com/the-time-of-use-rate-is-it-right-for-you/> (for time of use)
- OR use your own local electric company rates and options
- Sample graphs (provided at end of document)

Directions:

- 1. Hand students a paper copy of the raw data showing the kilowatt hours used each hour for the entire month of June for a household. (provided at end of lesson- WITH actual utility bill but do NOT give students this- they will be calculating it later!)**

Discuss with students what the data represents, how it is organized, and how best to analyze it. This should lead into a discussion of the data being overwhelming as is and that there is a tool that can be used to organize and present the data in a user-friendly way.

- 2. Have students type the June 2017 Energy Use data for a household into spreadsheet software. (Note: there are lots of options and ways for students to do this.)**

First, decide which spreadsheet software you will have students use. (Note: directions were created using Google sheets, but Excel will also work.) Also decide whether you are going to have students collaboratively type in the data OR if they each need to type all of the data into their own spreadsheet. (It took this teacher about a half hour to accurately type in the data.) Either way should lead into discussions of efficiency, precision, and shortcuts. Some shortcuts in Google sheets include: clicking and dragging to copy and paste a cell when a value is duplicated. (This will also work to copy formulas later.) If needed, the teacher should properly train themselves and experiment with the spreadsheet software first to become comfortable. (A sample completed spreadsheet is provided.)

- 3. Have students use formulas (sums) to find the total number of kilowatt hours used for the month of June and to discuss the data and create graphs for user-friendly views.**

Students will start to notice what hours of the day more energy is being consumed and begin to discuss why. They should also discuss other trends that they notice. Where are they using the MOST electricity? The least? What days of the week? What is the average kWH consumed in a day? (Formulas can assist with these questions.)

Students can copy a day's use of data (such as June 1st) and paste it into a new spreadsheet and then create a graph of that day's data. They can discuss which types of graph make the data most friendly to quickly analyze (such as a bar graph). This is a good teacher-check to have students turn in graphs created from their spreadsheet to ensure that they typed in their data correctly. (For example, having all students graph and turn in the June 15th data to verify that all graphs look the same.) You could also have each student graph a different day and then compare. (Sample graphs of some of the daily data are provided at end of document – you can compare these graphs to the students. You can even show these graphs to the

students after and discuss the black line, which is the temperature line, and how that corresponds to electricity being used and why.)

4. **Explain to students that Oconto Electric Cooperative has other rate options, such as their time of use billing option (or customize this to your local energy company with their options). See websites listed above for rate information and sample bills posted at end of lesson document.**

This means that they charge more for electricity used during peak times. Ask students when they think that would be. Have them color-code on their spreadsheets what is during peak times (M-F 8:00AM - 8:00PM- [see completed pdf of spreadsheet for visual.](#)) Then have them total the number of kWh used during peak times that will be billed at a higher rate. (Copy and pasting the color-coded peak time of use data into a new spreadsheet and then using the sum formulas to total may be helpful. They can then use their first calculation of total kWh used for the month and subtract their peak time kWh use from that to get the non-peak kWh use calculation.)

Answers: Total kWh used in June: 575 kWh
 Total Peak kWh used: 167
 Total Non-peak used: 408

5. **Show students sample utility bills and have them calculate and compare the bills under both rate calculations. See wrap-up for further class discussion.**

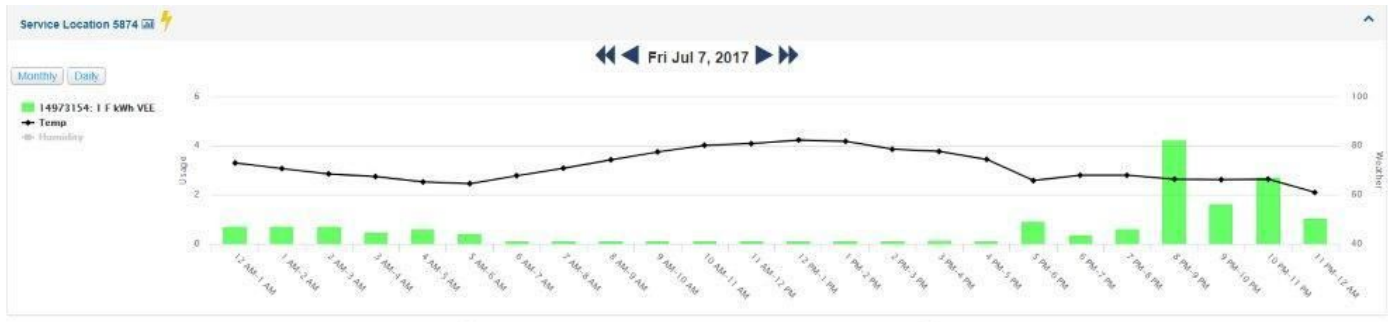
Answers:

Farm and Residential Service:			Farm and Residential Service Time of Use:		
Facility Charge: 21.95		21.95	Facility Charge:	22.45	22.45
Wholesale Power Cost (varies monthly):	0.1003 per kWh	57.67	On-peak (8:00AM-8:00PM M-F)	0.1780 per kWh	29.73
State of WI Public Benefits Fee		1.33	Off-peak	0.0370 per kWh	15.1
OEC Operating Cost:	0.034 per kWh	19.55	State of WI Public Benefits Fee		1.33
	5% State Sales Tax	4.96		State Sales Tax	3.36
	0.50% County Sales Tax	0.5		County Sales Tax	0.33
	Total Monthly Bill:	105.96		Total Monthly Bill	72.3

Wrap-Up:

In the example provided, students should see that this particular household would save themselves money if they moved from the standard billing rate to the time of use rate. Toward the end of the discussion, show the students the kWh usage graph of a “time of use pro”!

Time of Use Pro Actual Daily kWh Use Graph: (feel free to copy/paste and enlarge)



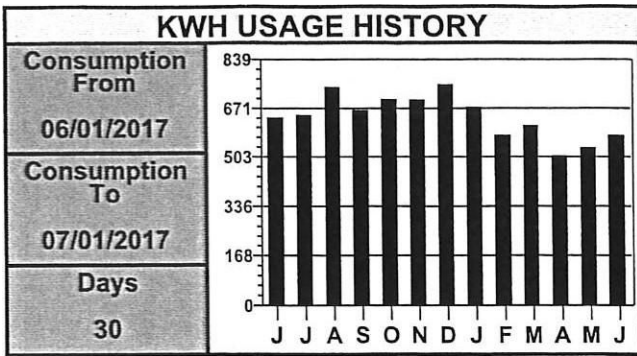
Extension Activity:

Students can collect their own household utility bills to analyze their usage and rates. Some electric companies have software and programs that households can use to track their own usage (Oconto Electric’s is called Smarthub). Students can also research different billing options their electric company may have or incentives they provide for reducing their usage and bills. Can they become a “time of use pro” as well?!

Materials and Samples Follow



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Actual Bill for June 2017 Data Provided Below:

Account No.	Cycle 1	Rate 1	Service Location	Map Location
Meter Number	Pres Read 6176	Prev Read 5601	Mult 1.0000	KWH Used 575
		Reference REGULAR		
Activi Since Last Bill	S Amount	Current Bill Information		\$ Amount
Previous Balance	100.93	BALANCE PRIOR TO THIS BILLING		0.00
Payment	-100.93	WHOLESALE POWER COST 575 KWH @ .100300		57.67
Other Adjustments	0.00	STATE OF WI PUBLIC BENEFITS FEE		1.33
Balance Prior to this Billing	0.00	OEC OPERATING COST 575 KWH @ .034000		19.55
OEC IS RETIRING CAPITAL CREDIT MONEY THAT WAS ACCRUED IN 1997. IF you HAVE MONEY THAT ACCRUED FROM 1997 AND IT IS LESS THAN \$25, THERE WILL BE A CREDIT ON THIS BILL AMOUNTS OF \$25 OR MORE, WILL BE AVAILABLE AT THE MEMBER APPRECIATION PICNIC WHICH IS ON SATURDAY, AUGUST 5 FROM 10 AM-2 PM. CHECKS NOT PICKED UP WILL BE MAILED.		FACILITY CHARGE		21.95
		STATE SALES TAX		4.96
		COUNTY TAX		0.50
		YOUR PAYMENT WILL BE AUTOMATICALLY WITHDRAWN FROM YOUR BANK ON 08/03/2017		
		If Paid By	08/0612017	Amount Due \$105.96
		If Paid After	08/06/2017	Late Amt Due \$105.96

Return This Portion With Your Payment

Amount Due By 08/06/2017	Amount Due After 08/06/2017
\$105.96	\$105.96
Account Number	Amount Paid

MAILING ADDRESS	
CITY	STATE
LOCATION PHONE NUMBER	OTHER PHONE
SERVICE ADDRESS	

Secure payment by phone 1-855-356-6335

YOUR PAYMENT WILL BE AUTOMATICALLY
WITHDRAWN FROM YOUR BANK ON 08/03/2017

Please check this box if you would like to sign up for
"Community Change." For more
information, please call our office.

OCONTO ELECTRIC COOPERATIVE PO
BOX 168 1
OCONTO FALLS WI 54154-0168

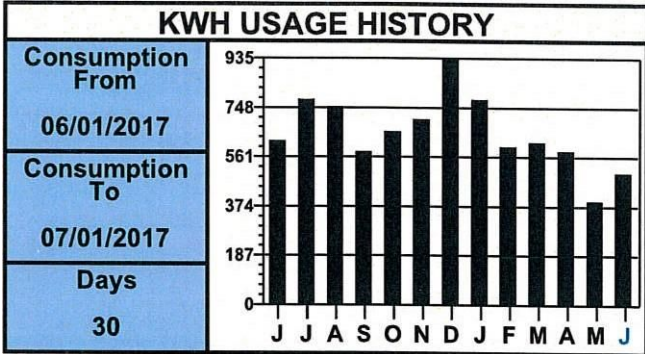
June 2017 Data to copy (next two
pages):

Date	5:00	7:00	8:00
Thursday, 2017 June 01 00:00:00 Central Daylight	0	0	0
Friday, 2017 June 02 00:00:00 Central Daylight TIR	0	0	0
Saturday, 2017 June 03 00:00:00 Central Daylight	0	0	0
Sunday, 2017 June 04 00:00:00 Central Daylight TIR	0	0	0
Monday, 2017 June 05 00:00:00 Central Daylight TIR	0	0	0
Tuesday, 2017 June 06 00:00:00 Central Daylight TIR	0	0	0
Wednesday, 2017 June 07 00:00:00 Central Daylight	0	0	0
Thursday, 2017 June 08 00:00:00 Central Daylight	0	0	0
Friday, 2017 June 09 00:00:00 Central Daylight TIR	0	0	0
Saturday, 2017 June 10 00:00:00 Central Daylight TIR	0	0	0
Sunday, 2017 June 11 00:00:00 Central Daylight TIR	0	0	0
Monday, 2017 June 12 00:00:00 Central Daylight TIR	0	0	0
Tuesday, 2017 June 13 00:00:00 Central Daylight TIR	0	0	0
Wednesday, 2017 June 14 00:00:00 Central Daylight	0	0	0
Thursday, 2017 June 15 00:00:00 Central Daylight	0	0	0
Friday, 2017 June 16 00:00:00 Central Daylight TIR	0	0	0
Saturday, 2017 June 17 00:00:00 Central Daylight	0	0	0
Sunday, 2017 June 18 00:00:00 Central Daylight TIR	0	0	0
Monday, 2017 June 19 00:00:00 Central Daylight TIR	0	0	0
Tuesday, 2017 June 20 00:00:00 Central Daylight TIR	0	0	0
Wednesday, 2017 June 21 00:00:00 Central Daylight	0	0	0
Thursday, 2017 June 22 00:00:00 Central Daylight	0	0	0
Friday, 2017 June 23 00:00:00 Central Daylight TIR	0	0	0
Saturday, 2017 June 24 00:00:00 Central Daylight	0	0	0
Sunday, 2017 June 25 00:00:00 Central Daylight TIR	0	0	0
Monday, 2017 June 26 00:00:00 Central Daylight TIR	0	0	0
Tuesday, 2017 June 27 00:00:00 Central Daylight TIR	0	0	0
Wednesday, 2017 June 28 00:00:00 Central Daylight	0	0	0
Thursday, 2017 June 29 00:00:00 Central Daylight	0	0	0
Friday, 2017 June 30 00:00:00 Central Daylight TIR	0	0	0



7479 REA Road
PO Box 168

Oconto Falls WI 54154-0168 www.ocontoelectric.com



Sample Time of Use Bill

Meter Number	Pres Read	Prev Read	Mult	KWH Used	Reference	
	50448	49951	1.0000	498	REGULAR	
Activi Since Last Bill	Amount		Current Bill Information		Amount	
Previous Balance	14.00		BALANCE PRIOR TO THIS BILLING		0.00	
Payment	-14.00		ENERGY CHARGE 100 KWH @ .178000 ENERGY CHARGE 398 KWH .037000		17.80 14.73	
Other Adjustments	0.00		WHOLESALE PWR COST ADJ 100 KWH8 .031200		3.12	
Balance Prior to this Billing	0.00		STATE OF WI PUBLIC BENEFITS FEE		1.33	
<p>OEC IS RETIRING CAPITAL CREDIT MONEY THAT WAS ACCRUED IN 1997. IF YOU HAVE MONEY THAT ACCRUED FROM 1997 AND IT IS LESS THAN \$25, THERE WILL BE A CREDIT ON THIS BILL. AMOUNTS OF \$25 OR MORE, WILL BE AVAILABLE AT THE MEMBER APPRECIATION PICNIC WHICH IS ON SATURDAY, AUGUST 5 FROM 10 AM-2 PM. CHECKS NOT PICKED UP WILL BE MAILED.</p> <p>You saved approximately \$31.22 using the time-of-use rate.</p>			FACILITY CHARGE		22.45	
			PERSONAL CELL-LOAD CONTROL		45.00	
			COMMUNITY "CHANGE" DONATION		0.37	
			STATE SALES TAX		2.91	
			COUNTY TAX		0.29	
			YOUR CREDIT CARD WILL BE CHARGED ON 08/03/2017			
			If Paid By	08/0612017	Amount Due	\$18.00
						\$18.00
			If Paid After	08/0612017	Late Amt Due	

Return This Portion With Your Payment

PLEASE INDICATE CHANGE OF ADDRESS/PHONE NUMBER HERE.

Amount Due By 08/06/2017	Amount 08/06/2017
\$18.00	
Account Number	A
1033600	

MAILING ADDRESS		
CITY	STATE	ZIP
LOCATION PHONE NUMBER	OTHER PHONE	
SERVICE ADDRESS		

Secure payment by phone 1-855-356-6335

YOUR CREDIT CARD WILL BE CHARGED ON
08/03/2017

Please check this box if you would like to sign up for "Community Change." For more information, please call our office.

OCONTO ELECTRIC COOPERATIVE
PO BOX 168 1
OCONTO FALLS WI 54154-0168



OCONTO ELECTRIC



Effective Date: July 1, 2014

FARM & RESIDENTIAL SERVICE

(Rate Code 1)

AVAILABILITY

Farm and residential consumers where demand is less than 50 kW, for use including lighting, heating, and power.

TYPE OF SERVICE

Single phase or three phase, 60 cycles, at available voltages.

RATE

Facility Charge: \$21.95 per month, single phase
\$45.00 per month, three phase

Energy Charges: Wholesale Power Cost (varies monthly), applied per kWh -plus-
OEC Operating Cost = \$0.034 per kWh

MINIMUM MONTHLY CHARGE

The minimum annual charge shall be the Facility Charge, plus an additional transformer charge if applicable.

TRANSFORMER CHARGE

The minimum monthly charge is equal to the facility charge when 15kVA or less of transformer capacity is required. For members requiring additional transformer capacity, the minimum monthly charge will increase by \$0.50 for each additional kVA.

LOAD MANAGEMENT

A load management system is available by request of the member for their electric water heater or central air conditioning unit. (See additional Load Management sheets for more information.)

OCONTO ELECTRIC



Effective Date: July 1, 2014

FARM & RESIDENTIAL TIME OF USE SERVICE

(Rate Code 10 off peak / 11 on peak)

AVAILABILITY

Year round farm, residential and small commercial consumers where demand is less than 50 kW, for use including lighting, heating and power.

TYPE OF SERVICE

Single phase or three phase, 60 cycles, at available voltages.

RATE

Facility Charge: \$22.45 per month, single phase.
\$45.00 per month, three phase

Energy Charges: \$.1780 per kilowatt-hour (kWh) on peak (8:00 AM to 8:00PM M-F)
\$.0370 per Kilowatt-hour (kWh) off peak (all hours not included in on peak)

POWER COST ADJUSTMENT CHARGE

Any adjustment in the Cooperative's energy cost per kWh in accordance with changes in the Cooperative's wholesale power cost will be added to or deducted from the member's current bill for electric service as appropriate. This charge is only applied to the kWh used during on peak hours.

MINIMUM MONTHLY CHARGE

The minimum monthly charge shall be the Facility Charge, plus an additional transformer charge, if applicable.

TRANSFORMER CHARGE

The minimum monthly charge is equal to the facility charge when 15 kVA or less of transformer capacity is required. For members requiring additional transformer capacity, the minimum monthly charge will increase by \$0.50 for each additional kVA.

LOAD MANAGEMENT

A load management system is available by request of the member for their central air conditioning unit. (See additional Load Management sheets for more information.)

ON PEAK PERIODS

8:00 AM to 8 PM, Monday through Friday, excluding holidays.

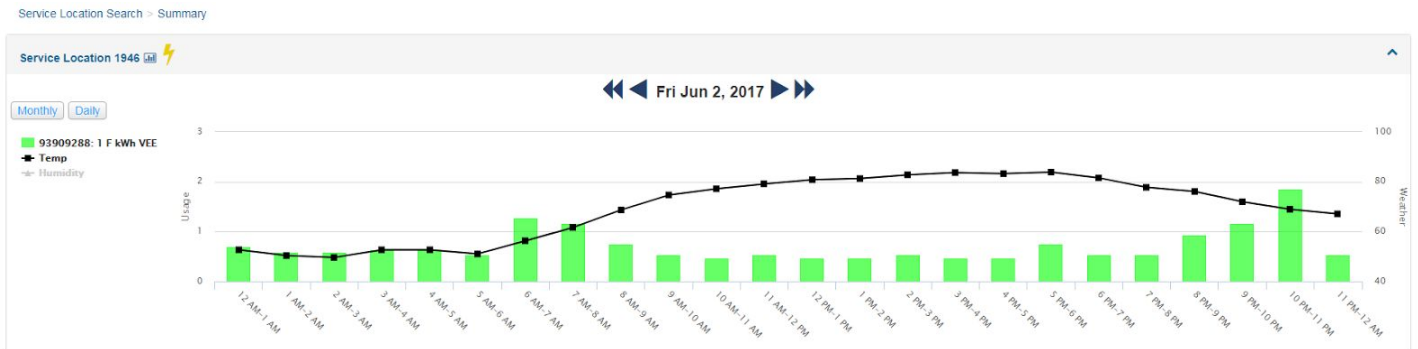
OFF PEAK PERIODS

All hours not included as on peak. Holidays: Holidays that are off peak are: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. If a holiday falls on Sunday, Monday will be considered the holiday and will be entirely off peak.

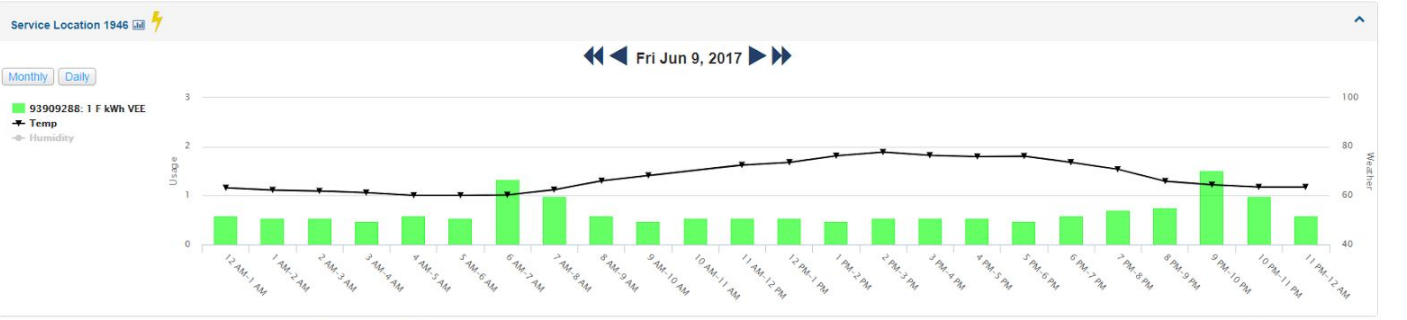
TERMS & CONDITIONS

This rate will apply until the member notifies OEC and requests a change to a different rate. Upon terminating service under this rate, a member will be ineligible to renew this rate for a minimum period of one year. Members served by this rate waive all rights to billing adjustments based on comparisons to other rates. This rate cannot be combined with the Controlled Water Heating Credit.

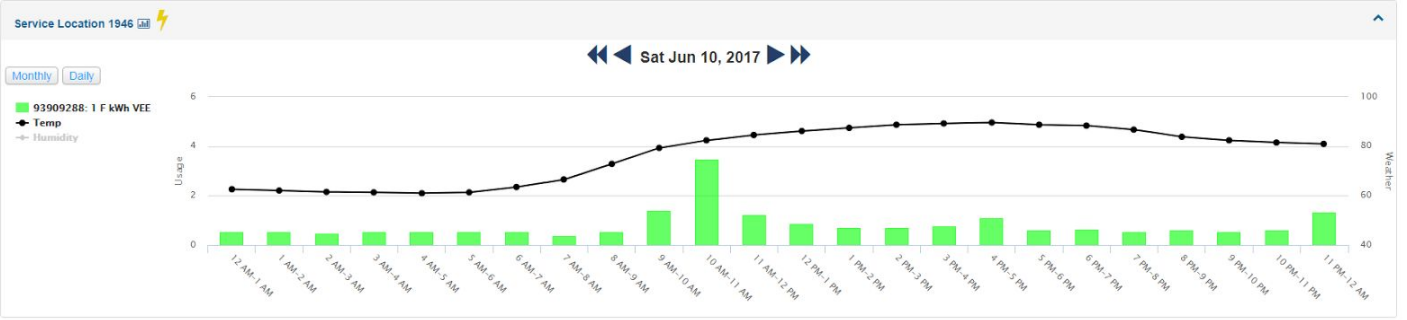
Sample Daily Usage Graphs for Data:



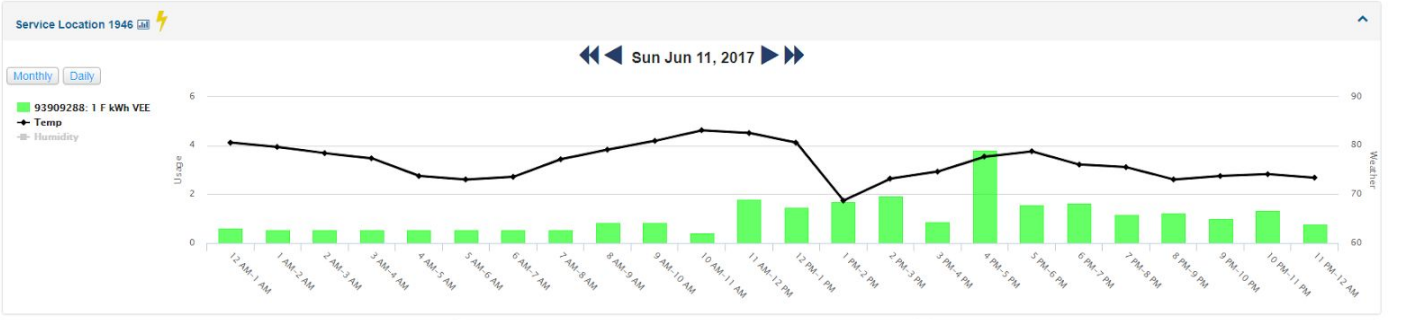




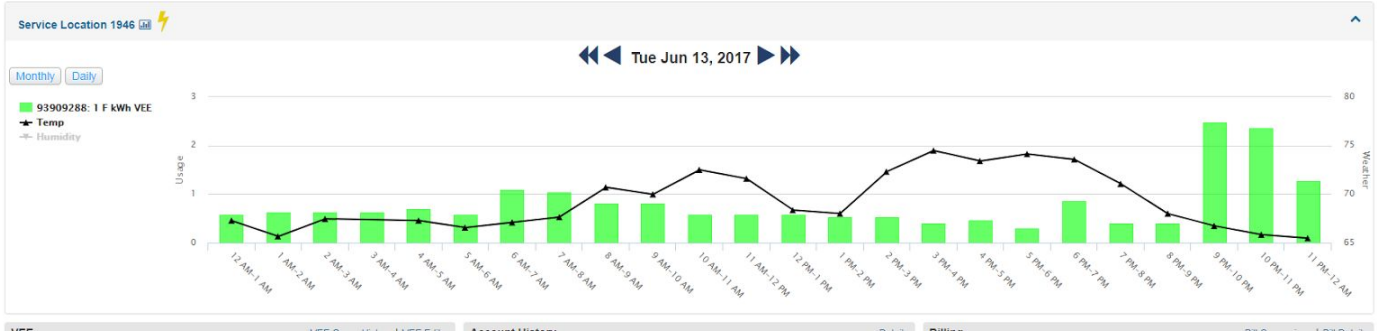
VEE VEE Group History | VEE Editor Account History Details Billing Bill Comparison | Bill Details



Service Location Search > Summary



VEE VEE Group History | VEE Editor Account History Details Billing Bill Comparison | Bill Details



Date (June 2017 Day of Week)	1:00 AM	2:00	3:00	4:00	5:00	6:00
1 Thurs	0.634	0.576	0.691	0.576	0.691	0.634
2 Fri	0.691	0.576	0.576	0.634	0.634	0.518
3 Sat	0.518	0.461	0.461	0.461	0.691	0.576
4 Sun	0.576	0.576	0.576	0.576	0.518	0.576
5 Mon	0.518	0.461	0.518	0.634	0.518	0.518
6 Tues	0.461	0.403	0.461	0.403	0.461	0.403
7 Wed	0.518	0.461	0.518	0.461	0.634	0.518
8 Thurs	0.461	0.576	0.518	0.518	0.576	0.461
9 Fri	0.576	0.518	0.518	0.461	0.576	0.518
10 Sat	0.518	0.518	0.461	0.518	0.518	0.518
11 Sun	0.576	0.518	0.518	0.518	0.518	0.518
12 Mon	0.691	0.518	0.634	0.576	0.576	0.634
13 Tues	0.576	0.634	0.634	0.634	0.691	0.576
14 Wed	0.806	0.749	0.806	0.691	0.576	0.576
15 Thurs	0.518	0.518	0.576	0.576	0.691	0.576
16 Fri	0.864	0.691	0.691	0.634	0.576	0.576
17 Sat	0.749	0.691	0.634	0.634	0.634	0.691
18 Sun	0.634	0.518	0.576	0.634	0.576	0.518
19 Mon	0.403	0.461	0.518	0.403	0.461	0.403
20 Tues	0.403	0.403	0.403	0.403	0.461	0.461
21 Wed	0.461	0.346	0.346	0.403	0.403	0.346
22 Thurs	0.403	0.461	0.403	0.403	0.461	0.23
23 Fri	0.634	0.634	0.576	0.518	0.634	0.518
24 Sat	0.691	0.634	0.576	0.576	0.461	0.173
25 Sun	0.518	0.576	0.576	0.576	0.576	0.518
26 Mon	0.403	0.461	0.461	0.518	0.403	0.461
27 Tues	0.403	0.403	0.403	0.403	0.461	0.403
28 Wed	0.403	0.403	0.461	0.403	0.461	0.518
29 Thurs	1.197	1.211	1.225	1.239	0.576	0.403
30 Fri	0.461	0.461	0.518	0.461	0.461	0.576
Total Hourly kWh (for time of us	17.265	16.417	16.833	16.445	16.474	14.915

7:00	8:00	9:00	10:00	11:00	12:00	1:00 PM	14:00
1.555	1.152	0.806	1.498	1.901	1.786	1.325	0.922
1.267	1.152	0.749	0.518	0.461	0.518	0.461	0.461
0.461	0.518	0.461	1.094	1.037	1.325	1.498	1.958
0.518	1.67	0.518	0.518	0.461	1.21	1.958	1.44
1.152	0.749	0.518	0.461	0.518	0.576	0.806	1.037
1.44	0.864	0.864	0.518	0.403	0.518	0.461	0.346
1.44	1.094	0.806	0.518	0.461	0.461	0.518	0.461
1.152	1.037	0.691	0.461	0.518	0.346	0.23	0.23
1.325	0.979	0.576	0.461	0.518	0.518	0.518	0.461
0.518	0.346	0.518	1.382	3.456	1.21	0.864	0.691
0.518	0.518	0.806	0.806	0.403	1.786	1.44	1.67
1.267	0.922	0.864	0.461	0.461	0.403	0.518	0.403
1.094	1.037	0.806	0.806	0.576	0.576	0.576	0.518
1.21	1.094	0.691	0.691	0.576	0.403	0.288	0.23
1.267	1.267	0.691	0.518	0.461	0.518	0.518	0.461
1.152	1.152	0.691	0.518	0.461	0.576	0.518	0.23
0.634	0.576	0.576	1.382	0.518	0.576	1.786	2.765
0.576	0.634	1.789	0.979	0.864	1.21	0.403	0.403
0.806	1.21	0.518	0.461	0.403	0.403	0.346	0.403
1.037	0.749	0.518	0.576	0.346	0.346	0.346	0.403
1.037	1.037	0.806	0.576	0.576	0.634	0.691	0.634
0.864	0.634	0.288	0.23	0.749	0.691	0.749	0.979
1.267	1.094	0.518	0.461	0.461	0.461	0.461	0.403
0.288	0.749	1.152	0.288	0.23	0.23	0.23	0.23
0.518	0.864	0.922	1.382	2.131	2.304	2.016	0.576
1.44	0.864	0.461	0.403	0.979	1.325	0.979	0.864
1.152	1.152	1.728	1.843	1.037	0.461	0.806	1.152
0.922	1.152	0.461	0.403	0.403	0.403	0.403	0.403
1.037	1.152	0.691	0.461	0.518	0.403	0.403	0.403
1.498	0.518	0.576	0.461	0.461	0.461	0.518	0.461
30.412	27.936	22.06	21.135	22.348	22.638	22.634	21.598

1.152	0.806	1.498	1.901	1.786	1.325	0.922	0.806
1.152	0.749	0.518	0.461	0.518	0.461	0.461	0.518
0.749	0.518	0.461	0.518	0.576	0.806	1.037	0.576
0.864	0.864	0.518	0.403	0.518	0.461	0.346	0.23
1.094	0.806	0.518	0.461	0.461	0.518	0.461	0.461
1.037	0.691	0.461	0.518	0.346	0.23	0.23	0.288
0.979	0.576	0.461	0.518	0.518	0.518	0.461	0.518
0.922	0.864	0.461	0.461	0.403	0.518	0.403	0.461
1.037	0.806	0.806	0.576	0.576	0.576	0.518	0.518
1.094	0.691	0.691	0.576	0.403	0.288	0.23	0.173
1.267	0.691	0.518	0.461	0.518	0.518	0.461	0.518
1.152	0.691	0.518	0.461	0.576	0.518	0.23	0.23
1.21	0.518	0.461	0.403	0.403	0.346	0.403	0.403
0.749	0.518	0.576	0.346	0.346	0.346	0.403	0.346
1.037	0.806	0.576	0.576	0.634	0.691	0.634	0.634
0.634	0.288	0.23	0.749	0.691	0.749	0.979	0.691
1.094	0.518	0.461	0.461	0.461	0.461	0.403	0.461
0.864	0.461	0.403	0.979	1.325	0.979	0.864	0.922
1.152	1.728	1.843	1.037	0.461	0.806	1.152	0.806
1.152	0.461	0.403	0.403	0.403	0.403	0.403	0.403
1.152	0.691	0.461	0.518	0.403	0.403	0.403	0.461
0.518	0.576	0.461	0.461	0.461	0.518	0.461	0.461

22.061	15.318	13.304	13.248	12.787	12.439	11.865	10.885
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Farm and Residential Service:

Facility Charge:	21.95
Wholesale Powe	0.1003 per kWh
State of WI Public Benefits Fee	1.33
OEC Operating C	0.034 per kWh
5% State Sales Tax	4.96
0.50% County Sales Ta	0.5
Total Monthly Bill	105.96

Farm and Residential Service Time of Use:

Facility Charge:	22.45
On-peak (8:00AA	0.1780 per kWh
Off-peak	0.0370 per kWh
State of WI Public Benefits Fee	1.33
State Sales Tax	3.36
County Sales Ta	0.33
Total Monthly Bill	72.3

0.634	0.979	0.518	0.461
0.461	0.461	0.749	0.518
0.518	0.518	0.518	0.576
0.23	0.288	0.23	0.346
0.518	0.518	0.864	0.518
0.23	0.23	0.23	0.634
0.518	0.518	0.461	0.576
0.461	0.576	0.864	1.152
0.403	0.461	0.288	0.864
0.461	1.037	0.634	1.44
0.518	0.518	0.634	0.576
0.173	0.23	0.288	0.634
0.518	0.576	0.518	0.634
0.634	0.461	1.325	0.749
0.576	0.691	0.922	0.979
0.691	0.576	0.691	0.864
0.403	0.518	0.461	0.806
0.806	1.094	0.806	1.152
0.461	0.403	0.806	1.037
0.403	0.403	0.403	0.461
0.403	0.634	0.461	0.461
0.576	0.806	1.958	2.074
10.596	12.496	14.629	17.512
		Total Peak KWh:	167.14
		Peak:	167
		Non-peak:	575-167
			408