

# Smart Meters & You

M. Allen Casto Washington Electric Cooperative, Inc. Marietta, Ohio

## **About Washington Electric**



- Established 1940
- Member Owned
- ▶ 10,500 Meters
- Southeast Ohio









### No RF!

- Meters only send data upon request.
- Use present voltage on the lines to transmit signal.
- Servers are located at substation.
- Substation is connected to Washington Electric's private computer network.



### **Smart Meter Benefits**

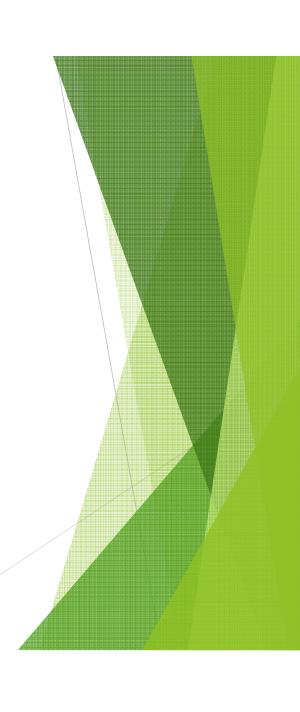
#### Utility

- Data Collection
- Outage Detection
- Troubleshooting
- Accuracy
- Daily Reads

#### Member

- Digital Easier to Read
- ► Faster Outage Restoration
- Accuracy
- Access to Data
  - ► More than Billing

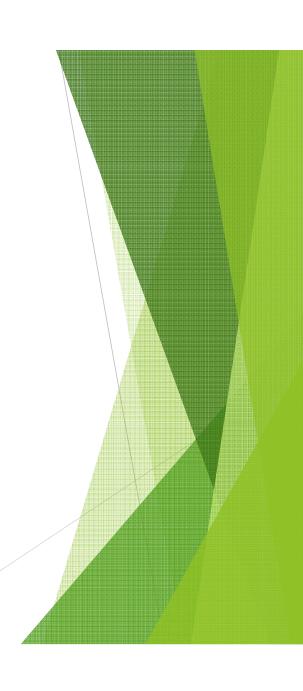


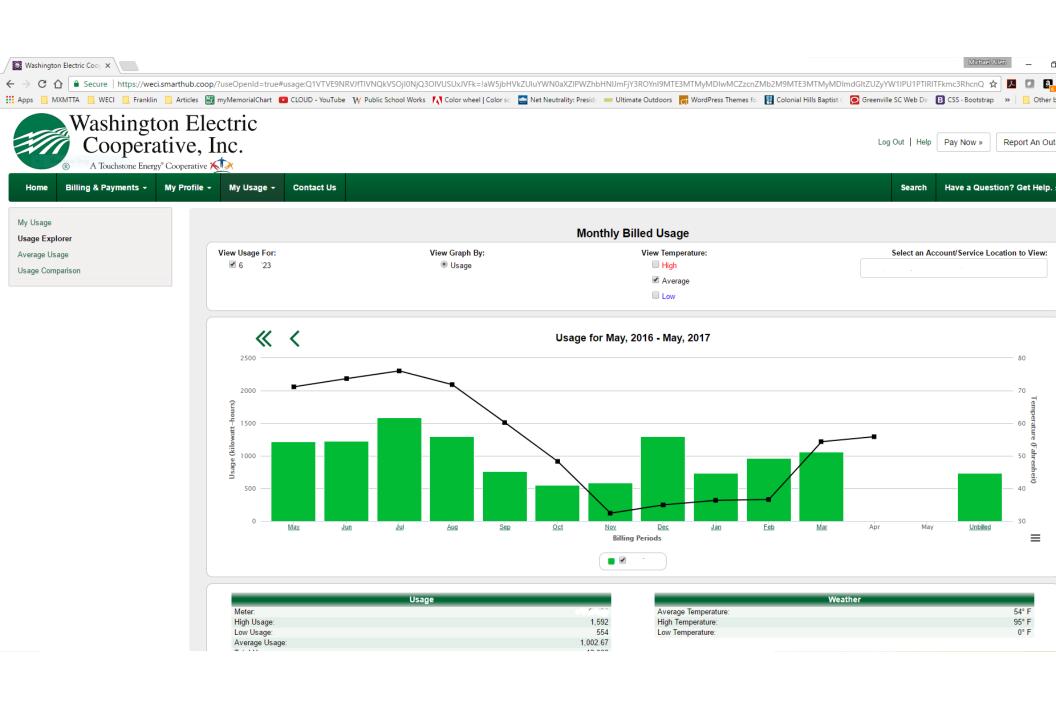


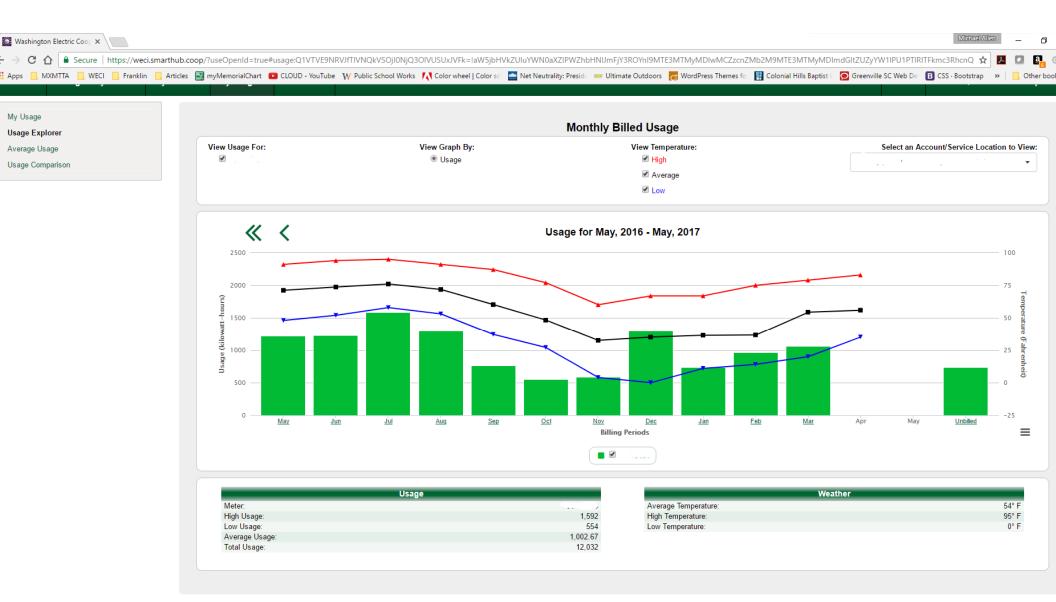
Date	<u>1</u> 0.51	<b>2</b> 0.58	3 4 0.51 0.58	<u>5</u> 0.51	<u>6</u> 0.58	<u>7</u> 0.77	<u>8</u>	<b>9</b> 0.32	10 0.51	<u>11</u> 0.45	12 1.15	13 0.83	<b>14</b>	15 3.20	16 3.14	17 1.79	18 2.56	19 0.83	20 0.32	21 22 1,34 2,94	23 0.83	24 0.58	<u>Total</u> 27,33
04/14/2017	0.51	0.58	0.51 0.58 0.58 NA	0.51	0.58	0.77	1.02	0.32	0.31	1.22	1.15	2.88	3.84	0.576	1.60	3.84	2.43	1.15	1.15	1.34 2.94	3.07	0.56	33.73
04/15/2017	0.64	0.64	0.58 0.64	0.58	0.56	0.58	0.64	0.77	0.52	1.15	0.58	1.22	1.02	2.944	2.62	1.66	2.43	0.70	0.64	0.58 0.90		0.77	23.87
04/10/2017	0.64	0.64	0.64 0.64	0.58	1.41	2.50	1.92	0.45	0.31	2.24	3.65	5.18	6.21	6.208	5.25	3.46	1.54	0.45	0.45	0.30 0.30	0.77	0.70	47.36
04/17/2017	0.77	0.70	0.64 0.70	0.64	0.70	0.70	0.51	0.32	0.26	2.56	4.48	5.63	6.27	6.464	6.02	5.38	4.35	1.86	0.43	2.18 1.28		0.70	54.46
04/19/2017	0.70	0.70	0.64 0.78	1.86	1.54	0.64	0.38	0.13	0.58	1.34	1.54	2.82	2.11	1.088	1.47	2.69	1.92	0.45	0.38	0.83 1.02		0.70	27.20
04/19/2017	0.70	0.70	0.70 0.64	0.51	0.64	0.04	0.30	0.19	0.58	2.30	3.71	3.26	4.35	3.712	2.62	3.33	2.88	1.34	0.70	0.70 0.83	0.83	0.77	37.57
04/20/2017	0.77	0.77	0.77 0.77	0.70	0.58	0.83	0.70	0.58	0.70	2.69	4.22	5.63	6.21	6.464	5.95	2.88	2.05	0.96	0.45	0.58 0.64	0.58	0.58	47.04
04/21/2017	0.51	0.58	0.58 0.58	0.51	0.58	0.64	0.45	0.26	0.90	1.79	1.79	1.02	2.30	0.704	1.86	1.73	2.05	0.58	0.38	0.58 0.51	0.64	0.51	22.02
04/23/2017	0.51	0.58	0.51 0.58	0.51	0.58	0.58	0.45	0.32	0.26	2.62	2.94	4.48	5.89	3.008	2.24	0.96	1.22	0.26	0.38	0.83 0.77	0.70	0.64	31.81
04/24/2017	0.70	0.70	0.64 0.70	0.64	0.70	1.28	1.73	0.19	1.09	1.28	1.02	1.22	0.96	0.256	1.22	0.70	0.90	0.26	0.38	0.90 0.83	0.70	0.64	19.65
04/25/2017	0.70	0.70	0.51 0.77	2.43	0.64	0.64	0.32	0.19	1.34	1.86	2.11	4.35	2.30	2.944	2.88	3.97	1.73	0.45	0.32	0.64 0.70	0.64	0.70	33.86
04/26/2017	0.70	0.70	0.70 0.70	0.70	0.70	0.70	0.77	0.58	0.26	NA	4.22	4.61	5.31	5.504	5.50	4.29	4.16	1.22	1.47	0.70 0.77	0.70	0.77	45.76
04/27/2017	0.70	0.77	0.64 0.70	0.70	0.64	0.77	1.66	2.30	0.96	1.86	2.18	2.50	1.34	3.584	4.67	3.26	1.28	0.90	0.45	0.70 0.77	0.83	0.58	34.75
04/28/2017	0.64	0.58	0.64 0.58	0.58	0.51	0.70	0.32	0.19	0.32	2.56	3.78	5.31	5.70	4.352	3.26	3.33	2.82	0.58	0.90	1.47 1.28	0.90	0.64	41.92
04/29/2017	0.70	0.58	0.58 0.64	0.58	0.58	0.64	0.83	1.47	2.18	1.66	1.47	0.64	1.09	2.624	4.74	4.35	3.07	1.15	0.83	1.02 1.02	1.02	1.02	34.50
04/30/2017	0.96	1.02	0.96 0.90	0.90	0.83	0.96	0.96	NA	0.45	1.79	3.46	3.52	4.35	5.76	5.82	4.54	3.52	1.09	0.38	1.09 1.34	0.96	0.58	46.14
05/01/2017	0.58	0.58	0.51 0.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA NA	0.96	0.83	4.16
05/02/2017	0.90	0.90	0.83 0.77	0.77	0.64	0.77	0.83	0.32	0.58	1.73	3.84	4.74	4.86	2.88	1.54	0.70	1.02	0.45	0.70	0.96 0.90	0.96	0.77	33.34
05/03/2017	0.70	0.70	0.64 1.73	1.66	0.70	0.70	0.26	0.45	0.77	1.15	1.86	0.64	2.05	2.88	2.37	2.75	4.35	0.90	0.38	0.96 1.60	0.70	0.70	31.62
05/04/2017	0.64	0.70	0.64 0.64	0.58	0.64	0.58	0.32	0.45	1.09	1.66	1.22	0.90	0.19	0.832	0.77	0.13	0.19	0.38	0.51	0.58 0.77	0.70	0.64	15.74
05/05/2017	0.64	0.70	0.70 0.64	0.64	0.58	0.83	0.70	0.64	0.83	0.83	2.50	2.50	4.22	4.032	2.37	3.39	1.02	0.45	0.32	0.70 2.62	1.09	0.70	33.66
05/06/2017	0.64	0.64	0.77 0.70	0.64	0.64	0.64	0.77	0.51	0.45	1.79	1.41	1.15	0.51	1.472	3.14	1.09	NA	0.77	0.64	0.77 0.90	0.77	0.77	21.57*
05/07/2017	0.77	0.70	0.70 0.64	0.70	0.70	0.70	0.70	0.19	0.77	1.28	3.97	4.74	5.82	5.568	6.34	3.90	1.60	0.64	1.73	0.77 0.70	0.64	0.70	44.99
05/08/2017	0.70	0.70	0.64 0.64	0.70	0.77	0.83	1.09	1.41	0.13	2.11	4.93	6.08	6.72	6.976	6.72	6.08	4.35	1.98	0.51	0.77 0.83	0.77	0.77	57.22
05/09/2017	0.77	0.70	0.77 0.70	0.70	0.90	2.18	0.70	0.19	0.19	2.56	5.06	5.76	6.34	6.08	4.03	1.66	0.26	0.26	0.90	<b>1.54</b> 0.64	0.70	0.64	44.22
05/10/2017	0.70	0.70	NA 0.70	0.90	0.51	0.58	0.26	0.38	0.58	2.05	4.35	5.50	4.67	3.456	5.70	2.88	0.77	0.26	0.51	0.51 0.51	0.51	0.58	37.57
05/11/2017	0.51	0.58	NA 0.51	0.58	0.51	0.58	0.38	0.26	0.32	0.45	1.79	0.64	0.90	1.472	1.73	0.51	0.19	0.32	0.32	0.51 0.58	0.51	0.58	14.72
05/12/2017	0.58	0.51	0.58 0.51	0.58	0.51	0.58	0.32	0.19	0.45	0.45	0.77	1.02	0.77	0.512	0.19	0.13	0.38	0.26	0.45	0.51 0.51	0.58	0.51	11.84
05/13/2017	0.58	0.51	0.51 0.51	0.64	0.58	0.51	0.45	0.26	0.19	1.92	4.22	4.99	5.18	4.288	4.16	5.76	3.07	1.66	0.32	0.51 0.58	0.58	0.51	42.50
05/14/2017	0.58	0.64	0.58 0.51	0.58	0.51	0.58	0.19	0.19	0.38	2.43	3.26	3.46	5.44	3.712	4.03	5.31	4.10	1.54	0.32	0.51 0.58	0.58	0.64	40.64
Average	0.67	0.67	0.64 0.69	0.77	0.68	0.82	0.72	0.49	0.61	1.72	2.76	3.24	3.61	3.45	3.46	2.88	2.15	0.80	0.60	0.86 1.02	0.83	0.68	34.83**

# Improved Reports/Communication

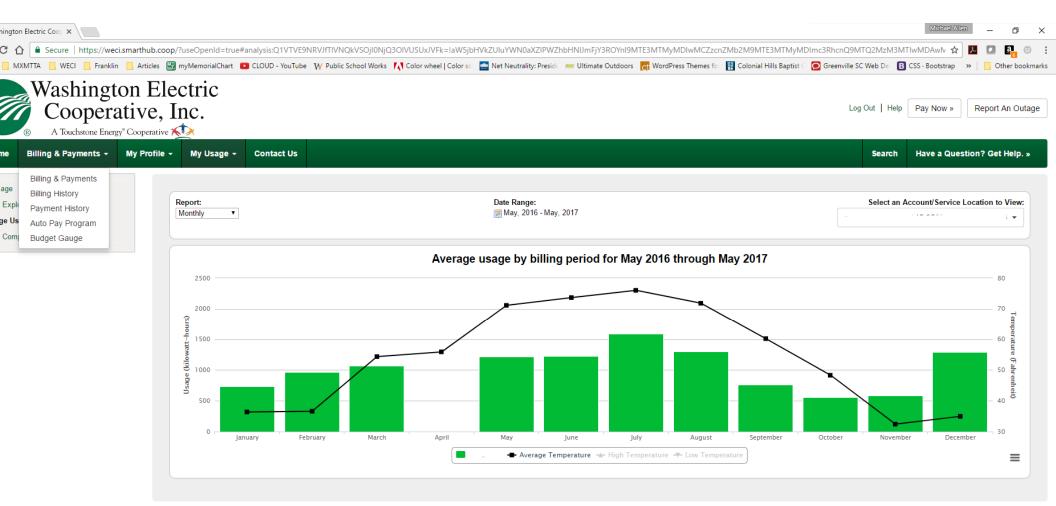
- SmartHub
  - ► September 2017
- ▶ 15 Minute Interval Data
- Update Contact Information
- Billing/Payments
- Outage Reporting/Notifications

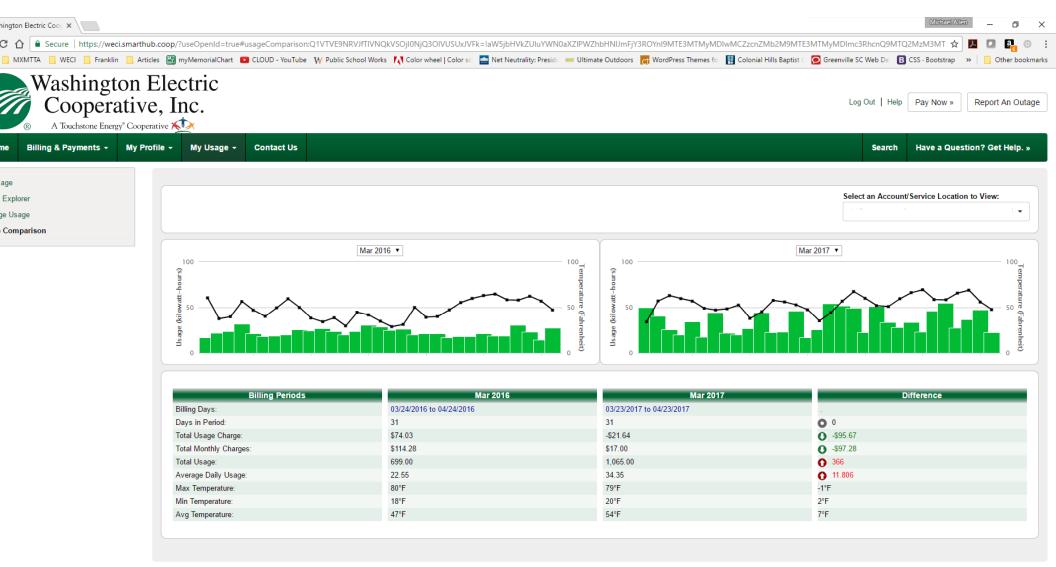


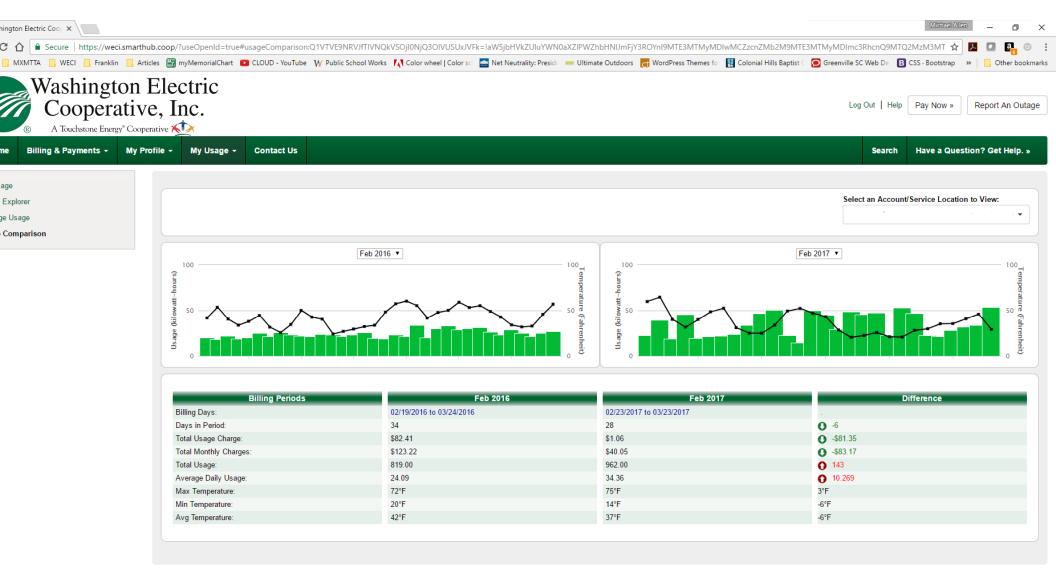


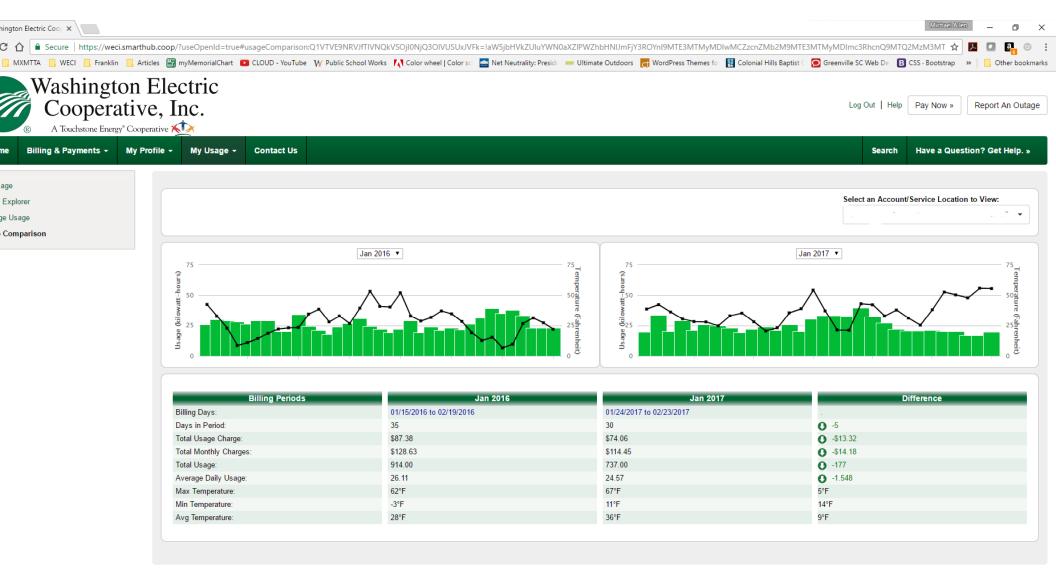


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## **Questions?**

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