

Building Monitoring



Research and Rural Development
Alaska Housing Finance Corporation

BMON is Hardware & software



```
1 # ===== include the user-modifiable settings for the applica
2
3 # ===== Logging
4
5 # The unique ID of this particular logger, which will
6 # identify logs
7 LOGGER_ID = "akachuk_testing"
8
9 # The interval for reading sensors and for logging
10 READ_INTERVAL = 5 # seconds between readings
11 LOG_INTERVAL = 1000 # seconds between logging data
12
13 # ===== Cellular Module Settings
14 # Set following to True if you are using a USB Cellular
15 # module. Or the alternate.
16 USE_CELL modem = False
17
18 # If you are using a cell modem, set the following to
19 # the type of cell modem you are using. This string
20 # "Hologram" sections in the "modem.conf" file found in
21 # folder /etc/modem also containing the manufacturer
22 # Currently, the following value are supported:
23 #
```



...to measure

- 1 Weather
- 2 Utilities
- 3 Lighting
- 4 HVAC Equipment
Pumps, fans, boilers...
- 5 Occupancy
- 6 Indoor conditions
Temperature, humidity, CO2

What is BMON useful for?



VERIFICATION OF ACTUAL ENERGY USE AND INDICATION OF WHERE IT'S GOING

TROUBLESHOOTING SYSTEMS

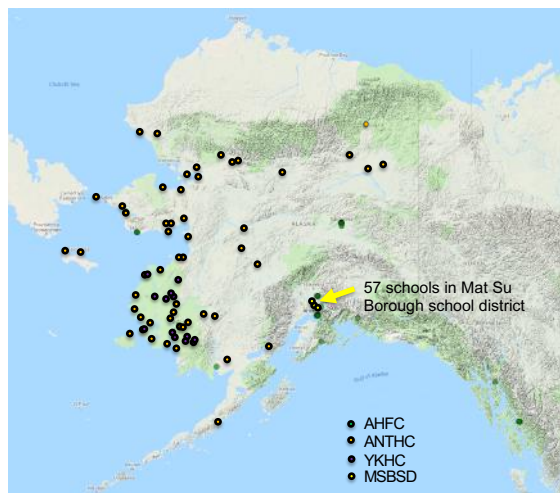
DETECTING ANOMALIES AND FIXING PROBLEMS

FINE TUNING BUILDING OPERATIONS

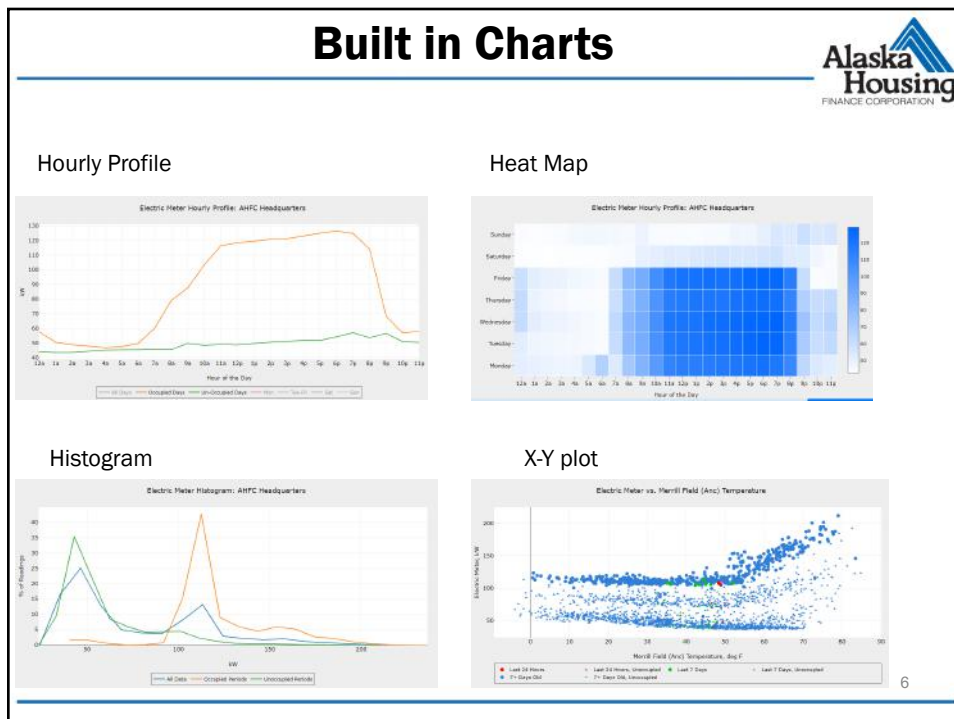
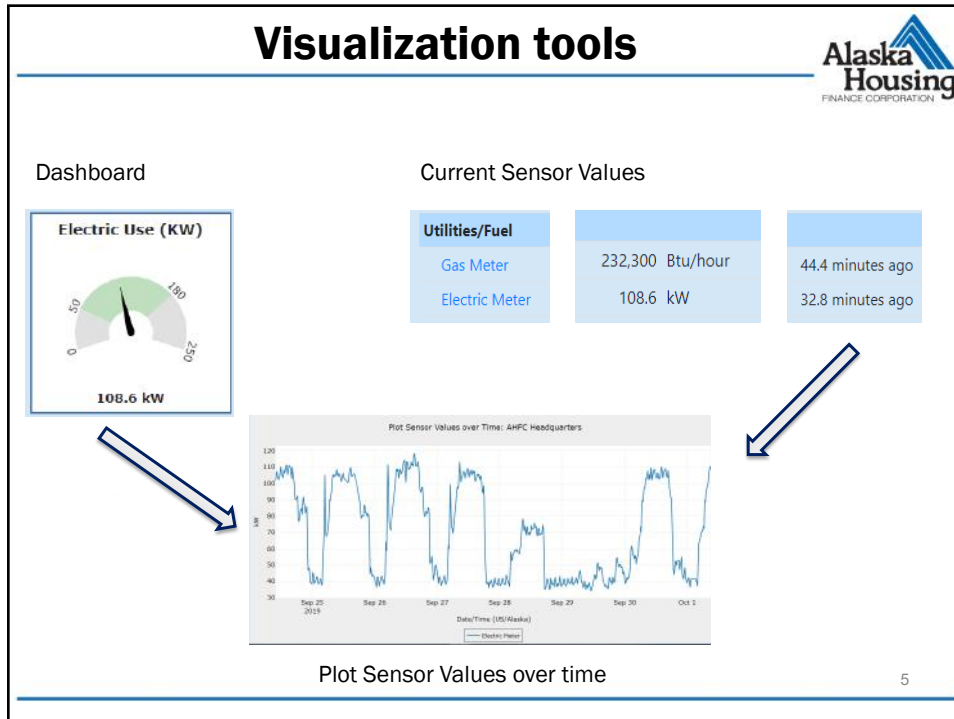
SETTING UNOCCUPIED SCHEDULES

CHECKING SEASONAL/HOLIDAY SCHEDULES ARE IN EFFECT

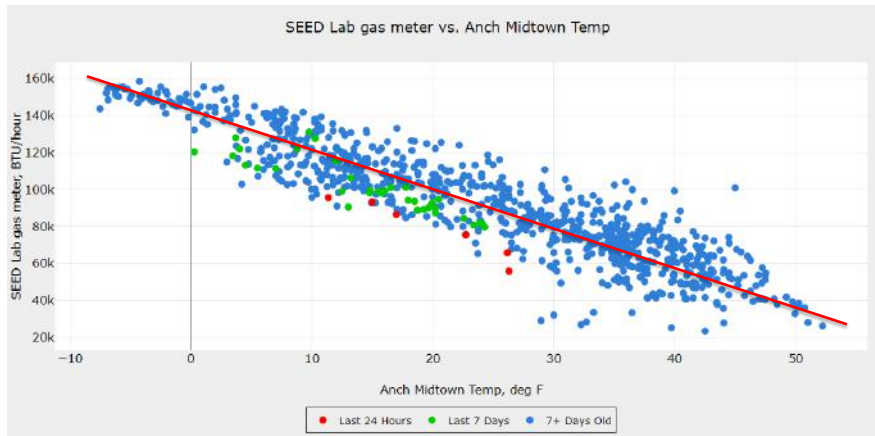
Building Monitoring System



- Nearly 4 million square feet is monitored statewide, through multiple organizations



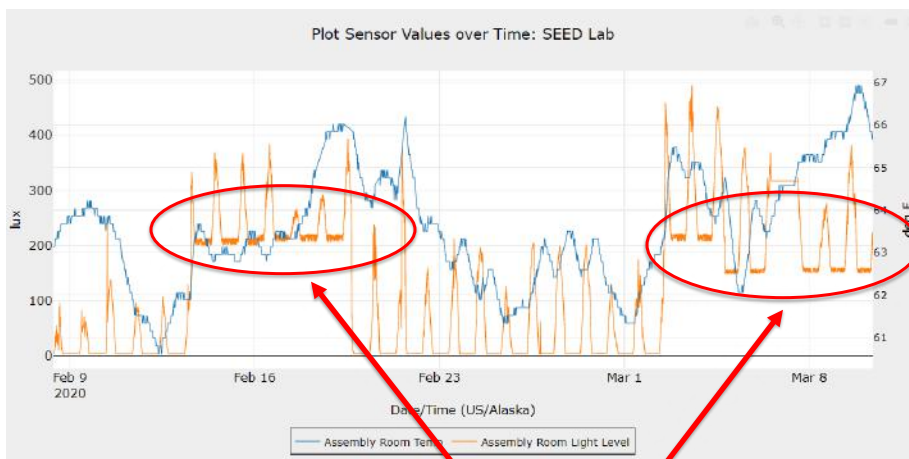
Heating Fuel vs Outside Temp



- Actual heating load measurement!
- Useful for sizing replacement equipment

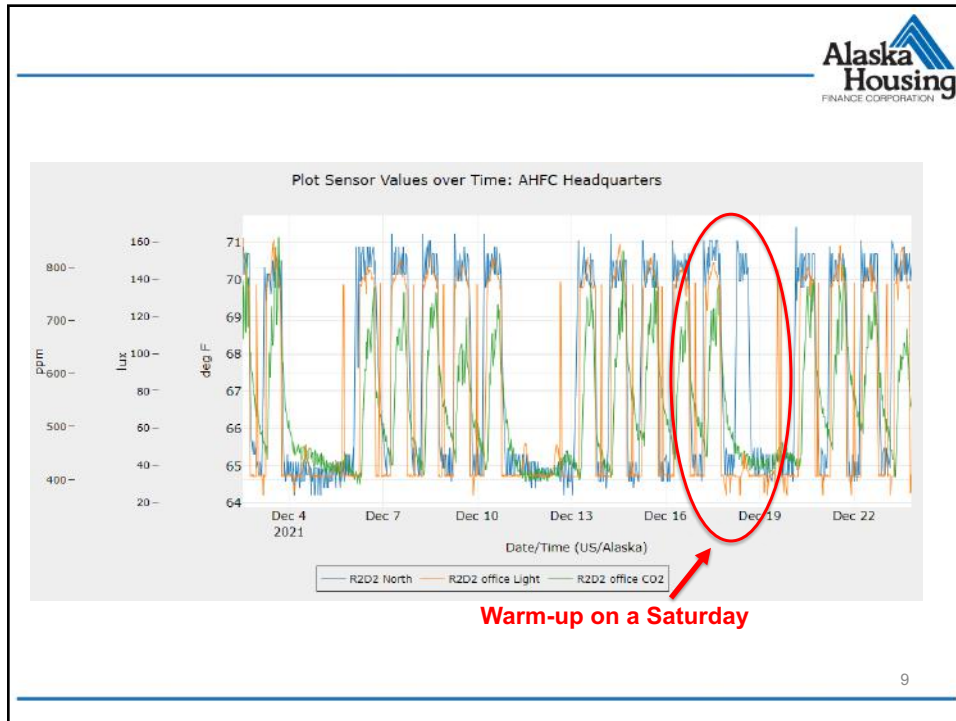
7

BMON identifies patterns



Lights accidentally left on

8



Alaska Housing FINANCE CORPORATION

Usage Examples

10

Back-up heat overriding boiler



11

Exhaust back-drafting from wind



12

Nome freeze-up monitoring



Outdoor antennae at the AHFC public maintenance office in Nome



Are you a facility operator or do you maintain buildings in your community?
Would you like the ability to monitor your building(s) remotely?

What is BMON? It's an open-source web application that allows users to track energy usage and equipment (boilers, pumps, lighting) remotely and helps identify ways to save energy and money.

Who is Involved? Alaska Housing Finance Corporation and Department of Energy are providing training on the Building Monitoring (BMON) application and wireless sensors. Alaska Native Tribal Health Consortium will lead the trainings hosted by University of Alaska.

What's Included? Travel expenses may be covered for this 4 day training program and a remote option is available. A complete set of monitoring sensors will be provided for participants to keep.

Next Training:
February 14 - 17, 2022
Juneau, Alaska



Questions?

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