Building Monitoring

Research and Rural Development
Alaska Housing Finance Corporation

BMON is
Hardware & software
...to measure

- Weather
- Utilities
- Lighting
- HVAC Equipment
- Pumps, fans, boilers...
- Occupancy
- 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
Visualization tools

Dashboard

Current Sensor Values

- **Utilities/Fuel**
  - Gas Meter
    - 232,300 Btu/hour
    - 44.4 minutes ago
  - Electric Meter
    - 108.6 kW
    - 32.8 minutes ago

Plot Sensor Values over time

Built in Charts

- **Hourly Profile**
- **Heat Map**
- **Histogram**
- **X-Y plot**
Heating Fuel vs Outside Temp

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

BMON identifies patterns

Lights accidentally left on
Warm-up on a Saturday

Usage Examples
Back-up heat overriding boiler

Exhaust back-drafting from wind
Nome freeze-up monitoring

Outdoor antennae at the AHFC public maintenance office in Nome

Building Monitoring Training Opportunity

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 BM202? It’s an open-source web application that allows users to track energy usage and equipment (heaters, 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 (BM202) application and wireless monitoring technology. The Tribal Relations Consortium will lead the trainings hosted by the University of Alaska.

What’s included? Travel expenses may be covered for the 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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