Data and Technology

Breakout Group

Prioritization of Research Needs

By need and Feasibility

1. Individual home heating data

2. Heat Technology research trials

3. District heat feasibility study - other Arctic countries already doing this, how could it work here

Individual home heating data
what data is needed to be generated

- Fuel use by hour
- List of heating appliances in the home, monitor their use (running or not)
- Energy house has to have an concurrent (or very recent) audit

- Daily profile for the use

Individual home heating data

- Strategy to address:
- Heat meters on individual homes (sample size=250 is goal)
        Gwen's monitor work on toyo stoves and boilers
- CCHRC can help with validation of these meters, ACEP has already done that
- Six out around Fairbanks, ideally six more in more rural communities but six in Fairbanks can be moved out to rural community
- Test data transmission system (e.g., cell phone coverage; weak signal).
- Get information back to the owner in real time, give a sense of how much fuel you are using based on behavior

Research Need being addressed here

- Groups to implement:
  - Housing authorities
  - Active weatherization projects for launching pilot study
  - Tom's student's could potentially test them in rural communities
  - Utilities involved – to provide real time electric power use - daily

- Potential Funding Sources
- Components are $200 (not mass produced)
- Unfunded project - can only install six, two students working on this
- ANTHC is maybe buying some
- If funds available, install 20-30 in Fairbanks where you have access
- Still a prototype
- Have money to deploy next fall, have to be for commercial product. Behavior changes/social science study
- Verification can't used the
- NSF Rural campus $$ - under utilized

Other considerations

- As soon as you put something on to someone's system – liability, problems with running informal monitors
- Community meeting – educate, who wants to do this, to test this system, this is what the benefit will be for the user
- Status of home ownership might also be a consideration, more housing authority involvement
- Home owner agreements
- Signoff from client to get utility information from the utility
- Point person in community to train for troubleshooting
- Cellular service ($7 for the month) to send data (GCI), not even in Megabyte range of data

Scenario

- Community with 300 houses, what is the minimum number that should be metered to get useful information
- Pre-post weatherization
- What is the variation