



In-Home Energy Displays Project Planning

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What's the 1st Thing to Consider?

- Do we NEED a Pilot?
 - Are our customers that different from those where pilots have already occurred?
 - Is our utility considering AMI/SMI and if so, is the information from 1st generation IHDs transferrable to 2nd generation devices?
 - Is our utility ready to deliver IHDs in a mass market deployment or will we target specific customer groups or target areas?

What is the Inventory of available Literature?

- ACEEE
- Journal of Applied Behavior Analysis
- Journal of Consumer Research
- Journal of Environmental Systems
- IEPEC Library
- Journal of Consumer Research
- Hydro One Pilot Summary, March 2006
- Pilot Studies at NV Energy, Dominion Resources, Seattle City Light
- Minnesota Department of Commerce, Behavior Change Pilot

What does the Research Indicate?

- Do Customers using IHDs save energy?
 - Ranging from 3% - 15%
 - Customers with “controllable” equipment save more
- Are the Savings Sustainable?
 - Over the pilot test periods – generally: *Yes*
 - Over the life of the device – today: *Unknown*
- *Do Customers using IHDs believe they are savings energy?*
 - *Based upon market research in the pilots - YES*

*OK, so You Want Your Own
Pilot*

Now What?????

Defining Project Objectives

- Decide “*EXACTLY*” What you Want to Know before you make any other decisions
- Decide how statistically significant you want the Results to be
- Decide if you want a *Product* or a *Market* Test
- Decide Roles & Responsibilities

Then Implement

Deciding “What You Want to Know”

- How will we define Value?
 - To our Customer
 - To our Utility
 - To our Stakeholders
- Do we need to M&V energy savings or will we Stipulate the Value based upon past research?
- Are we interested in Customer opinions regarding:
 - The installation process
 - The installation materials supplied by the manufacturer
 - The programming process
- Will we Educate our participants or Not?

Education: The Key to Success

- IHD use or lack thereof can be directly compared to a programmable thermostat
- If customers find the instructions difficult, they will most likely “GIVE UP” and never use the device again
- Education is not a One-Time effort
- Review the Darby Report: Environmental Change Institute, University of Oxford

Other Want to Knows

- Do we want to determine which customer segments will best respond to information from Home Energy Displays?
- Any technical issues associated with installation of the devices, i.e. permitting issues, equipment compatibility issues, code issues, etc?
- How about compatibility with AMI/SMI?

Product versus Market Test

- In a Product Test you *COMPARE* a variety of products and determine which product best suites your customers.
 - *Caveat: Customer opinions are just that and if you are selecting based on a sampling, the higher the reliability the better*
 - *Requires the sample to cover not only energy use tiers but also stratification across other areas*
 - *For each product tested, the sample has to be as close to identical as possible*

Product versus Market Test

- In a Market Test you *IDENTIFY* product features and relate the features to customer segments
 - *This type of test is more suited to the development of requirements for an RFP and rarely will any one manufacturer's equipment represent all preferred features*
 - *Requires a lower number of sample participants but has to include as many product features as the market provides.*
 - *Do not attempt to extrapolate the results of a market test to select a preferred device*

Statistical Significance

- This issue relates to the reliability of the findings and the transferability of the data to your entire customer population
- Confidence and Precision
 - 80/20
 - 90/10
 - 95/5
- The increase in confidence and precision result in increasing number of participants and costs

Roles & Responsibilities

- Will the project be managed Internally or Externally?
- Regardless, identify an internal Project Manager that has overall and ultimate responsibility and to whom all other entities report
- Equipment Installation – an licensed electrician, the utility metering department, the utility conservation reps, the manufacturer's installer?????
- Customer Acquisition – How will you identify potential participants, how many do you need in order to gain the sample required and who will do the recruitment?
- Scheduling the installations – who calls the participants and schedules the installation?
- Market Research – what vehicle will you use, telephone surveys, paper surveys, personal in-home interviews, focus groups??? And who will conduct the research?
- Final Report – who will be responsible for the drafting, review and comment and final report?

Manufacturer Information

- Aclara/TWACS IHD - http://www.aclara.com/AclaraPLS/specsheets/TWACS_IHD.pdf
- Aztech Power Systems - www.aztechmeter.com
- Blue Line Innovations – www.bluelineinnovations.com
- Comverge PowerPortal IHD - <http://www.comverge.com/products/ihd.cfm>
- CONTROL4 - <http://www.control4.com/>
- Energy Hub – www.energyhub.net
- EUM -2000 Whole House Energy Monitor – www.energymonitor.com
- Eco-Response Technology - Centameter – <http://www.eco-response.ca/>
- Kill-A-Watt – sales@p3international.com
- TED – The Energy Detective – www.theenergydetective.com
- San Vision Energy Tech - MEA - <http://www.svetinc.com>

Features to Look For

- Integration with Smart Meter Technology
- Incorporating In-Home Display with Demand Response
- Monitoring, reading and displaying natural gas and water usage and cost
 - Aztech Inc. does this now with Itron, Elster, Trilliant, Aclara, etc.
- Expansion into hybrid Payment Predictor model for low income.

What's New on the Horizon

- Energy Hub – www.energyhub.net
 - Can be used with AMI/SMI or as a stand-alone
 - Incorporates strips and sockets to monitor, control and schedule appliance control
 - Central Dashboard used to control HVAC, Sockets and Strips
 - Designed for “Do-It-Yourselfer” installations
 - Currently marketed through utility partners

What's Energy Hub Look Like?



Dashboard, Socket and Strip



Heavy Duty Controller

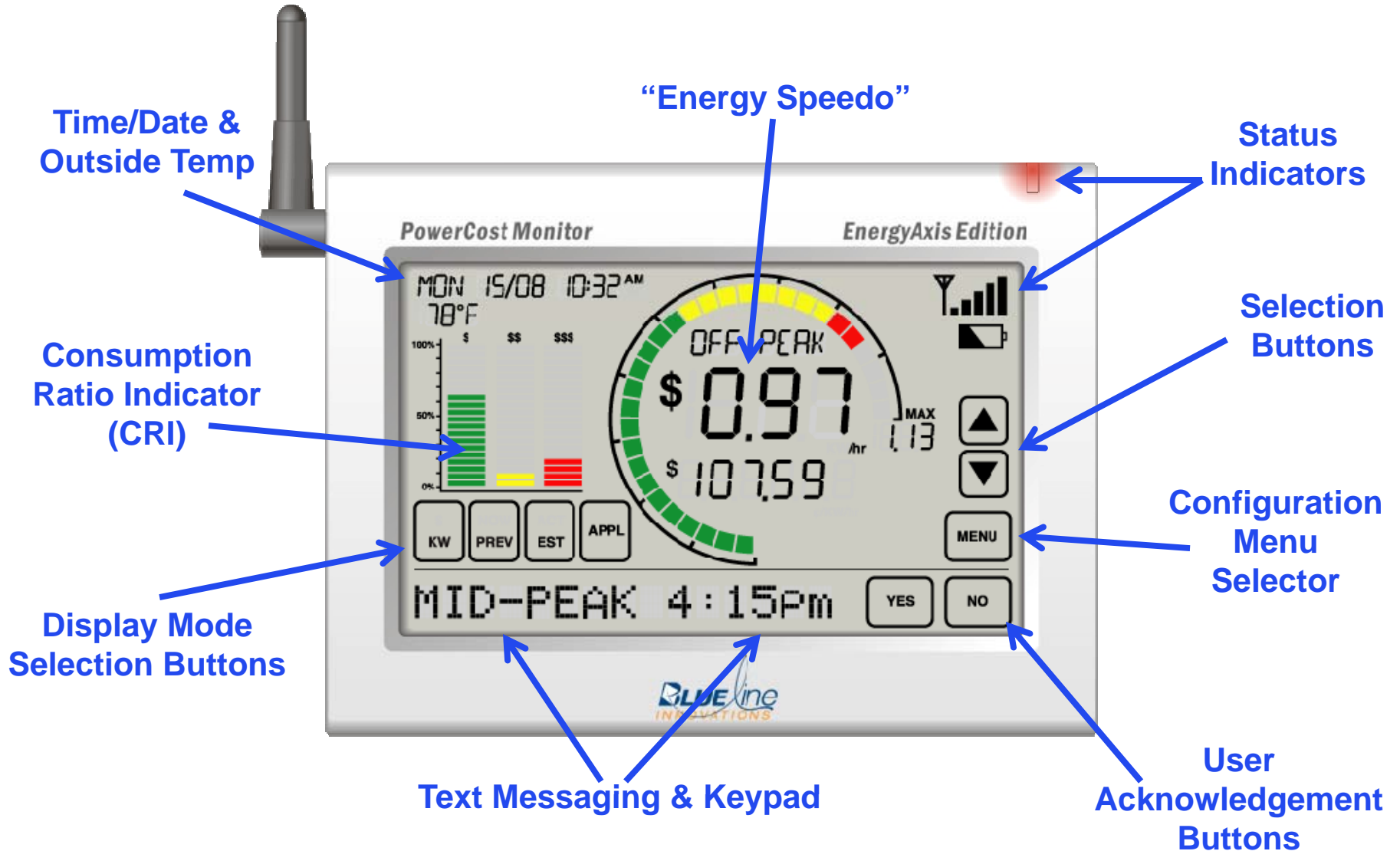


Dashboard Screen

Blueline and Elster Team Up

- On September 18th, Blueline and Elster announced the integration of the EnergyAxis® system with The PowerCost Monitor™
 - Provides Real-time energy feedback usage information
 - Enables the AMI/SMI integration
 - All capabilities are “under-the-glass”
 - Enables the capability of text messaging from the utility to the consumer

Power Cost Monitor™ EnergyAxis Edition – Blueline Innovations



Summary

- In-Home Displays are becoming integrated with AMI/SMI systems to allow critical communications
- The devices are becoming “Twitter-like” and can be used to re-direct consumer attention to utility Web site
- Integrating Demand Response communication allows for greater commitment from consumers

For more information
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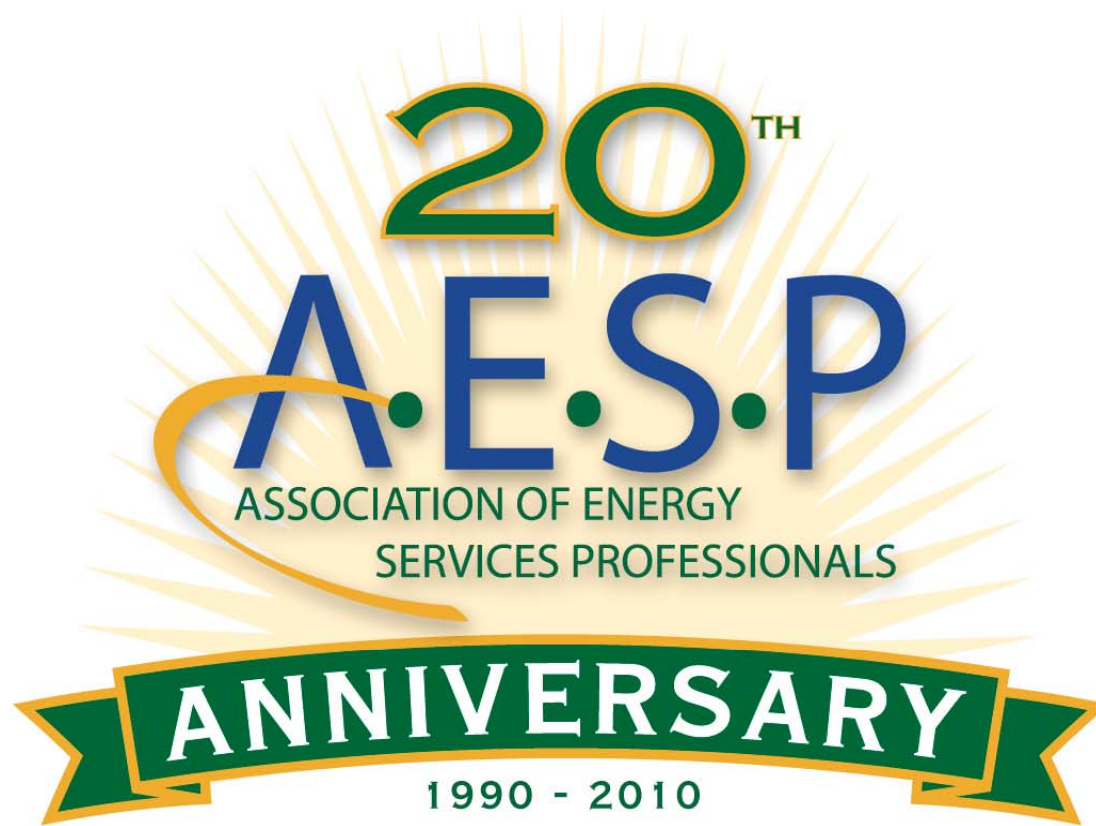
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