



## Utility Programs of the Future

Kelly Sanders  
Senior Product Manager  
Emerging Technologies Group

NORTHWEST ENERGY EFFICIENCY ALLIANCE

# An Industry in change

*Insanity: doing the same thing over and over again and expecting different results.*

Albert Einstein

## Current program considerations:

- Diminishing energy savings returns
- Program Incentives moving up stream
- SSL Long Life could reduce customer touches
- Program goals tend to be near term
- Program overhead challenges
- Technology changes at break-neck pace...

2



Lighting efficiency programs are challenged from a number of fronts. From diminishing energy savings to expected less frequent customer contacts from SSL product life. Program goals focus on the near term while industry innovations speak to a need for radical customer relationship changes.

# Disruptive Trends in the News

*“A Strategic Inflection Point is that which causes you to make a fundamental change in business strategy. Nothing less is sufficient.”*

Andrew Grove - Intel

Getting Innovation Right: How Leaders  
Leverage Inflection Points to Drive  
Success

Seth Kahan

*2014 will be an inflection point for Big Data  
and the Internet of Things: Srinivas  
Tadigadapa, Intel*

by Srinivas Tadigadapa, Intel, January 2, 2014

**Gartner.**

WHY GARTNER ANALYSTS RESEARCH EVENTS CONSULTING ABOUT

**Market Insight: LED Lighting Reaches an  
Inflection Point**

06 January 2014 G00259192

Downstream players will have the greatest  
potential to generate value, particularly  
when demand for distributed generation hits  
an inflection point after 2015. **McKinsey**

**The Internet of Things' inflection point**  
The convergence of six factors is creating a climate for  
mainstream IoT adoption.  
by Barb Edson | Comment | June 24, 2014

3



Five primary trends - LED Lighting, The Internet of things (IoT), Big Data, Distributed Energy Resources (DERS), and growth in Organizational Maturity are forcing us to look at program design differently. By watching when the Strategic Inflection Point (SIP) occurs, for each, we can leverage them for accelerated customer adoption, and therefore increased energy savings. This could also pave the way to stronger, more permanent energy programs based on services.

# Coming Challenges

*If you aren't in over your head, how do you know how tall you are?*

-T.S. Eliot

## Trend Challenges:

- LED - Controllability, interoperability, color
- IoT - Standards, protocols, retirement
- Data - Productive analytics, formats
- DER's – Every building an electrical resource?

4



Mixed blessings? With each trend comes a bit of work to build a path to value within our programs. LED's bring better light controllability with energy savings, IoT better reporting, Data deeper views into usage, but standardization and interoperability pose very large hurdles. Not to mention a need for more sophisticated user skills to assimilate this new value.

# Coming Opportunities

“I was seldom able to see an opportunity until it had ceased to be one.”

Mark Twain

## Leverage Points:

- Increasing system life + data = proven persistence
- Communicating widgets = 'Energy Speak' ... maybe...
- Increased attention on education and training
- IoT brings Building-2-Grid connectivity
- Microzone control deepens energy savings

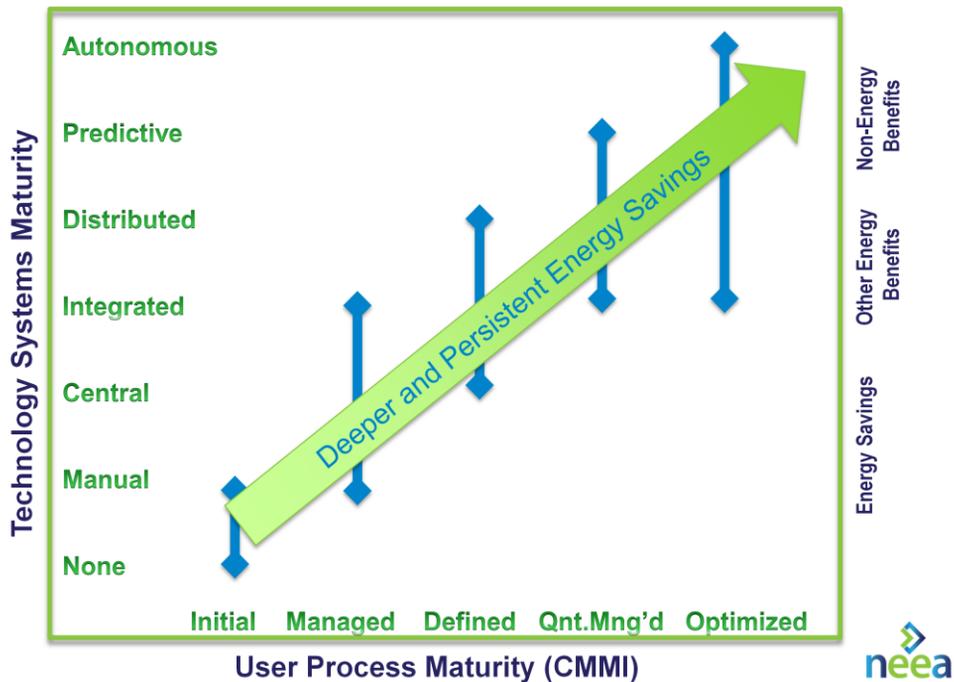
*...but greater system complexity requires a more sophisticated user!*

5



Understanding how to leverage the many opportunities coming with these trends is critical for future program design. Increased LED life, when added to the possibility of remote M&V, can confirm persistence to a level that will increase actual savings numbers. De-rating could become a thing of the past! Utilities could also help guide adoption of data/reporting standards, via program incentives, to open doors to enhanced services-based programs (like pay for performance).

# Systems Maturity Matrix



6

Let's compare the various process maturity levels of different users and the growing complexity of building systems.

At various intersections of user maturity and system complexity programs could be offered to increase energy savings and persistence. As an example, future programs could focus on raising process maturity levels (through training) of users to support and leverage the sophistication of newer complex systems with their many benefits. This is in stark contrast to the widget-based offerings of current prescriptive programs. Again, these are services-base approaches that build on existing business concepts readily understood but not always implemented.

You can use this 'Systems Maturity Matrix' to evaluate your programs for effectiveness. Are you supporting the process maturity growth of your customer to support the systems you're incenting?

Is it possible to quantify increased energy savings based on process innovations of our customers?

# Maturity Model Observations

“Quality is much better than quantity. One home run is much better than two doubles.”

Steve Jobs

*Systems/Services Focus =  
A home run in the long  
run!*

## Observations:

- As user’s capability to consume features and data grows, system persistence increases.
- Smart systems (IoT) can increase energy savings, monitoring, and verification.
- Utility programs, in the form of services, could bloom!

7



Is this a path to *permanent* utility programs? Is there a direct, but little understood, correlation between the potential energy savings of an incented system and the ability to maintain and leverage the benefits of that system by the users? The belief, at this point, is that the culmination of the previously mentioned five trends can provide a future foundation to look holistically at our programs with regard to the ‘products’ we incent and the ‘processes’ needed to ensure ongoing energy savings.

# Programs of the Future?

The ~~Internet~~ **Energy** of Things: the real-time capability of electrical devices to converse with us about their energy use and needs.



8



...and who better to provide those 'trusted' energy services than the local utility? The success of all these services depend on a good understanding of the users process maturity level and the complexity of the systems being implemented.

“Never miss a good chance to shut up.”  
— Will Rogers

END

Kelly Sanders, Product Manager  
Emerging Technology Group  
Northwest Energy Efficiency Alliance  
[ksanders@neea.org](mailto:ksanders@neea.org)  
503-688-5400