



ECOTAGIOUS
Energy conservation. Worth spreading.

Delight your customers. Get the conservation you need.

3rd International Workshop on NILM

Bruce Townsend

May 2016



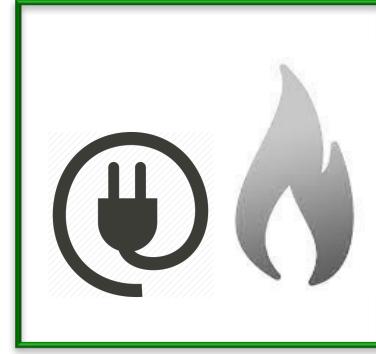
The destinations From helping individuals to governments



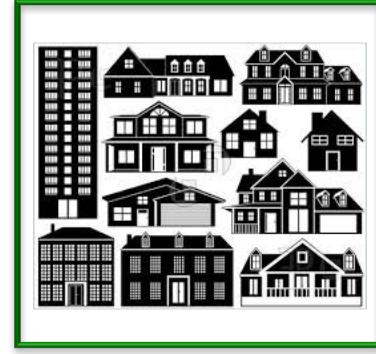
CONSUMERS



BUSINESSES



UTILITIES



GOVERNMENT

Reduce energy
use & costs?

Size alternative
power sources?

Reduce energy
use & costs?

Deliver
personalized
marketing to their
consumers?

Meet their energy
efficiency goals?

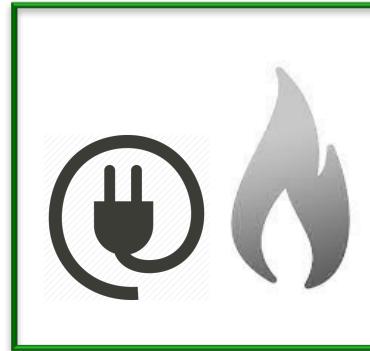
Drive customer
satisfaction?

Drive customer
retention?

Inform public
policy?

Cross-sell?

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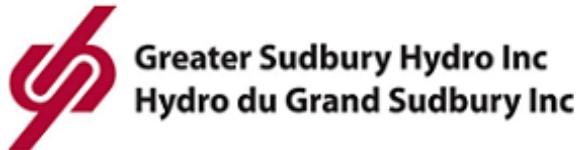
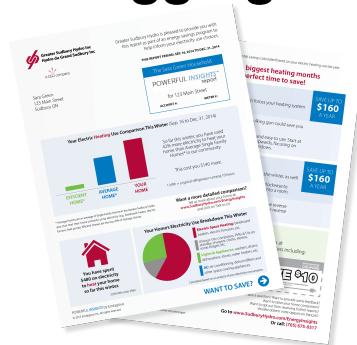
Cross-sell?

Inform public
policy?

Ecotagious

- Ecotagious uses smart meter data analytics and disaggregation to offer utilities:

- ✓ Residential energy savings
- ✓ Increased participation in other programs
- ✓ Increased customer satisfaction
- ✓ Customer segmentation for energy efficiency program planning



Powerful Insights™ platform helps utilities meet their residential energy efficiency targets

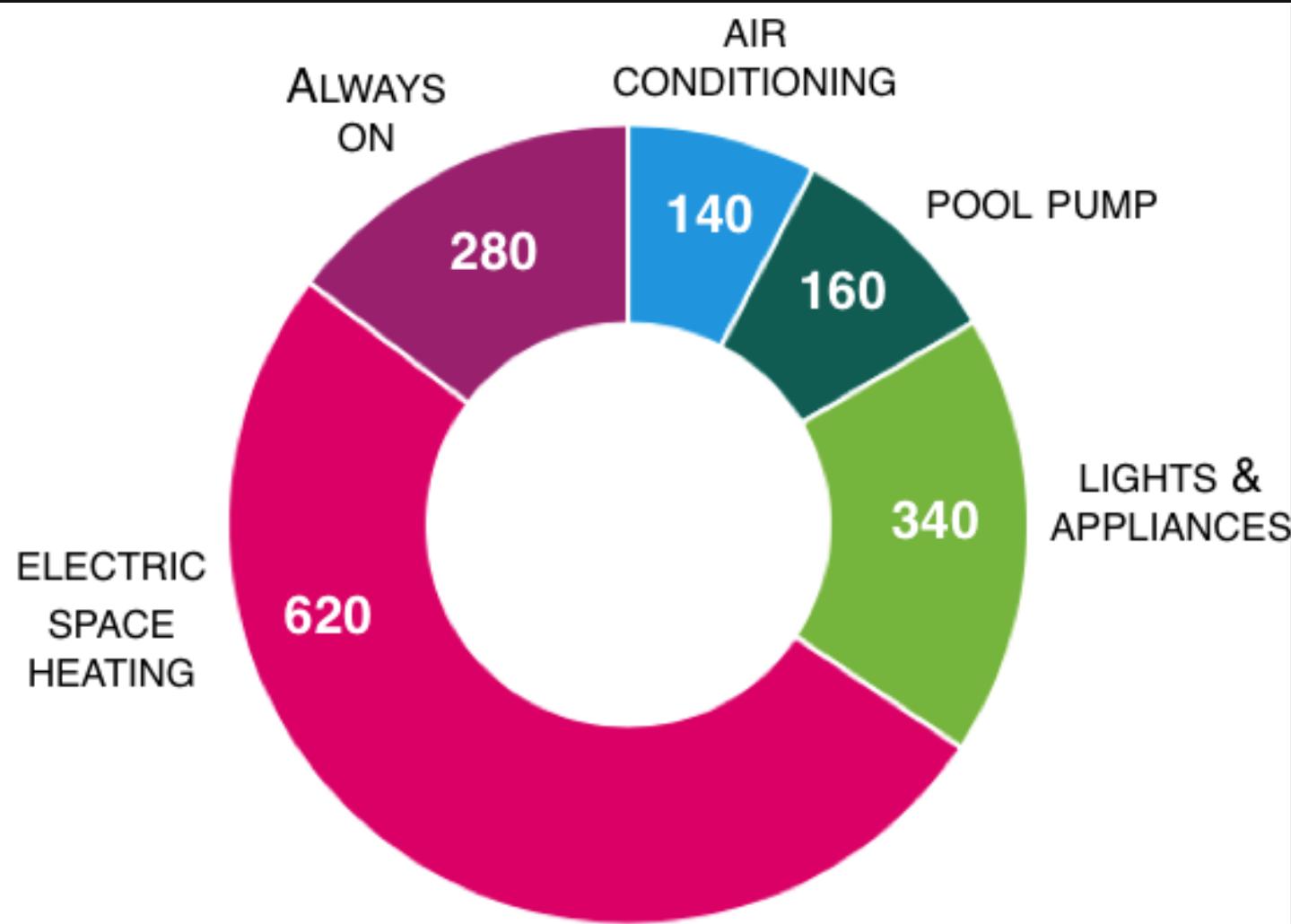
POWERFUL
insights™



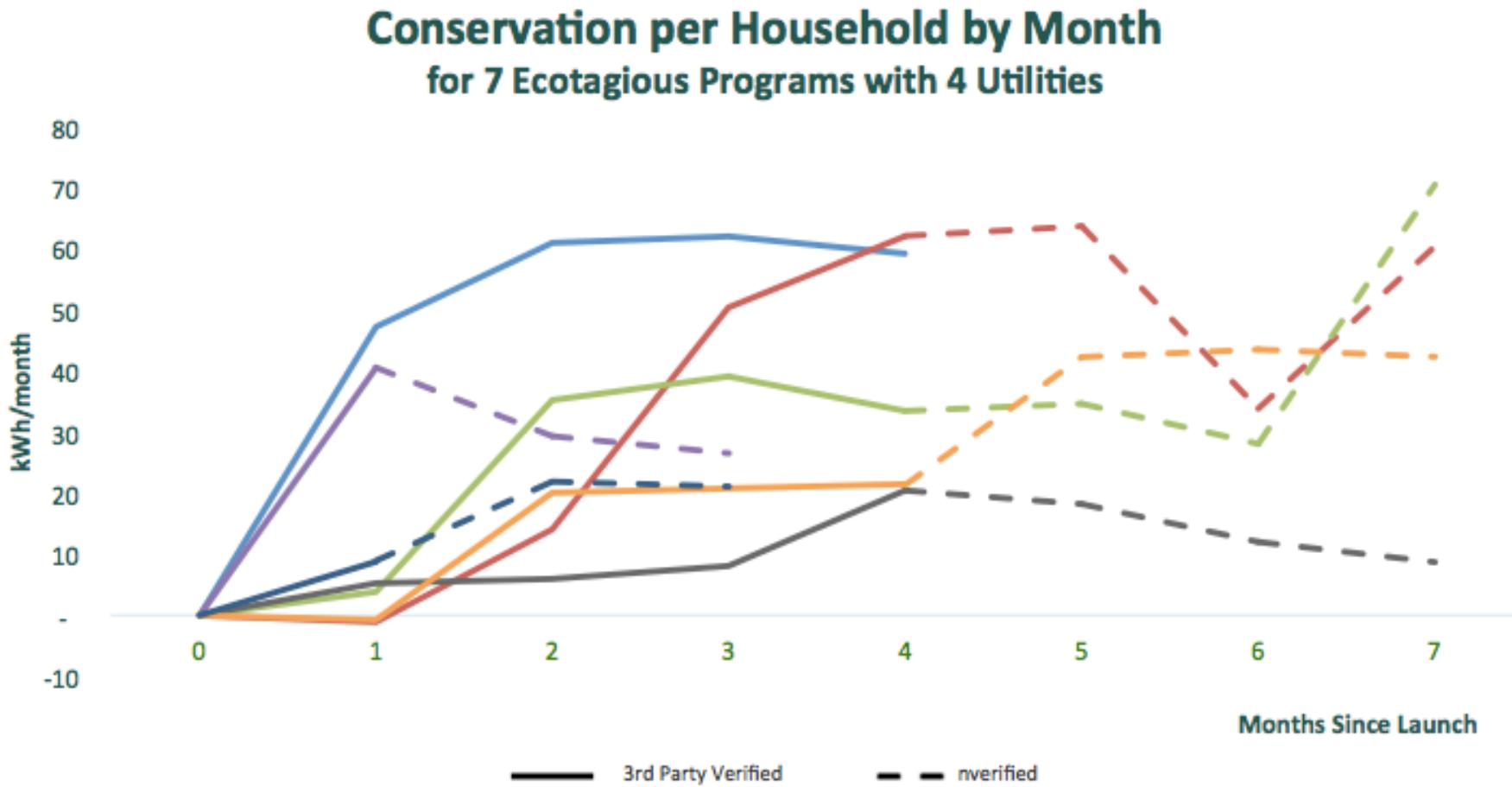
Customer Portals - Reports

- No additional hardware required – *hourly* smart meter data is all that is needed
- Turnkey – limited resources required by utility company
- Fast launch - contract signing to conservation in less than 2 months

Proprietary Smart Meter Data Analytics At Core Of Powerful Insights™ Platform



Verified savings average 3.2% in opt-out programs



Delivered to ~10-40% of utility's residential customers

Perhaps obvious, but cannot be understated:

Breadth & depth are both necessary for utilities to meet energy efficiency targets

Breadth =
Addressable
Utility Residential
Customer Base

Depth =
Savings per
Participant

Impact =
% of Residential
Load

**Hardware-
free
solution**

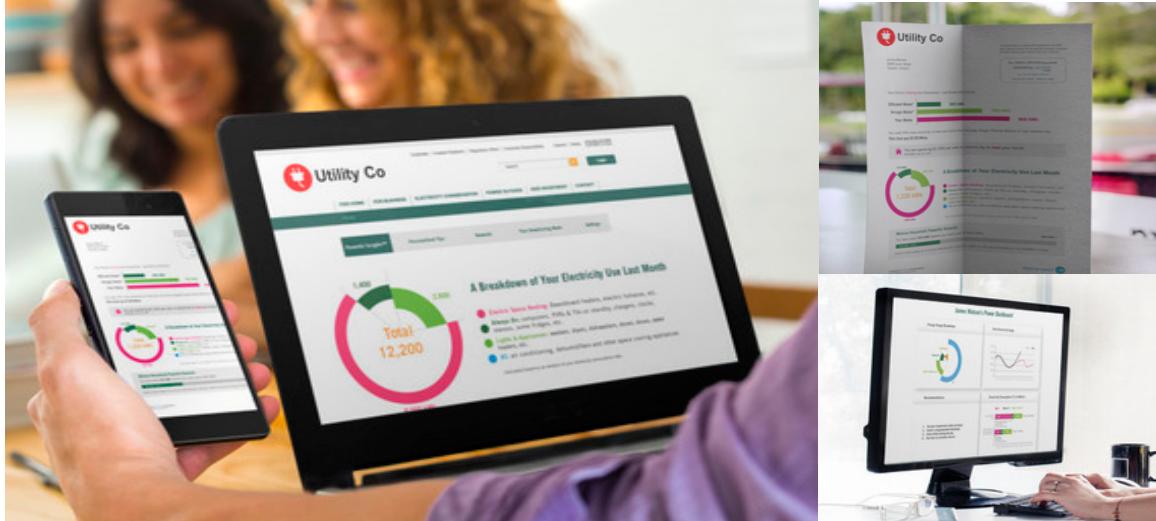
$$40\% \times 3.2\% = 1.2\%$$

**Hardware-
based
solution**

$$5\% \times 10\% = .5\%$$

NILM drives customer satisfaction through diagnosis and prescriptions

POWERFUL
insights™



Actionable High Bill Alerts - Customer Portals - Reports - CSR Tools

- AHBA reduce number of high bill related calls
- CSR tools reduce time CSR teams spend on the phone with customers, and customers leave happier

Customer satisfaction impact

+5% increase in utility
company satisfaction
ratings

+6% increase in agreement
that their ‘smart meter
is working for them’

Cross-selling

Other DSM program participation the month after promotion in Ecotagious reports

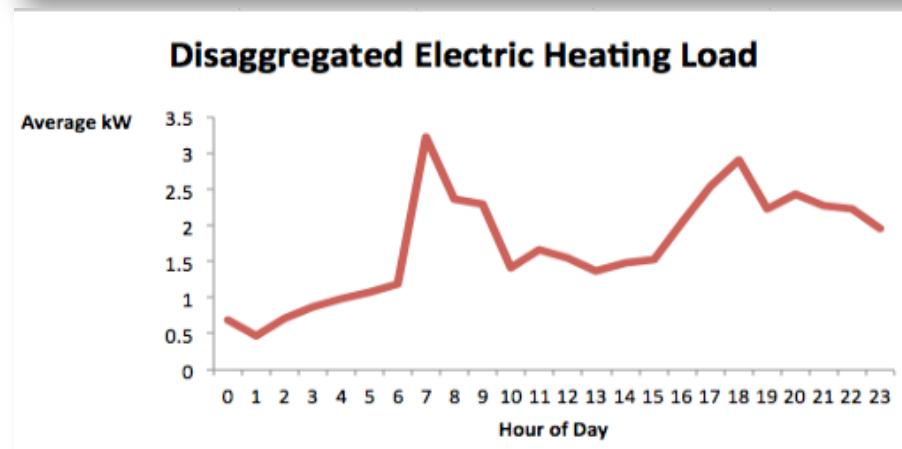
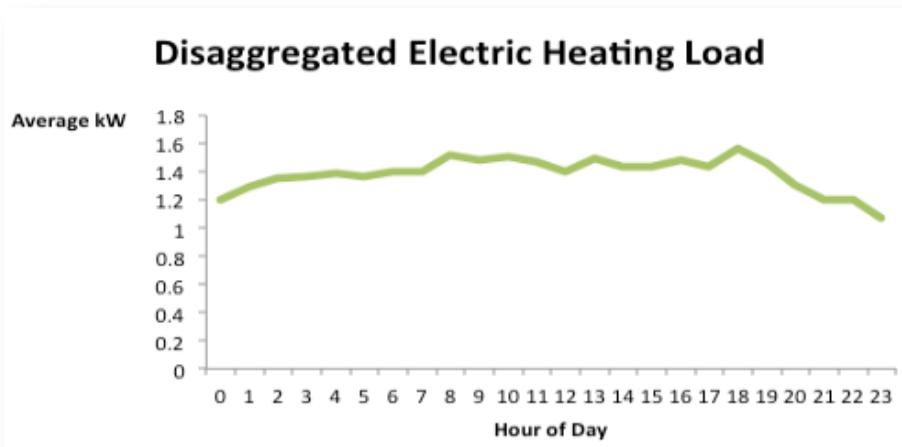
+70%



HVAC Incentive

Example:

A programmable thermostat program benefits from NILM in all stages



NILM is critical part of:

- 1. Identifying potential for programs**
- 2. Identifying high potential candidates for those programs**
- 3. Generating compelling content to recruit participants**

Result:

- High impact**
- Cost effectiveness**





3:10pm

Blame politicians for Metro Vancouver's housing price crisis

DOUGLAS TODD, VANCOUVER SUN 03.19.2016 |



City of Vancouver engaged Ecotagious to inform public policy

Issues behind ‘Vancouver’s housing crisis’

City of Vancouver wanted to inform public policy on:

- Housing affordability
- Low rental unit vacancy rates
- Neighbourhood vibrancy

Ecotagious engaged to identify non-occupancy rate in City of Vancouver using data provided by BC Hydro



Stability in Vancouver's Housing Unit Occupancy

Analysis of Housing Occupancy in the City of Vancouver
Using Electricity Meter Data Analytics

Prepared for the Vancouver Affordable Housing Agency

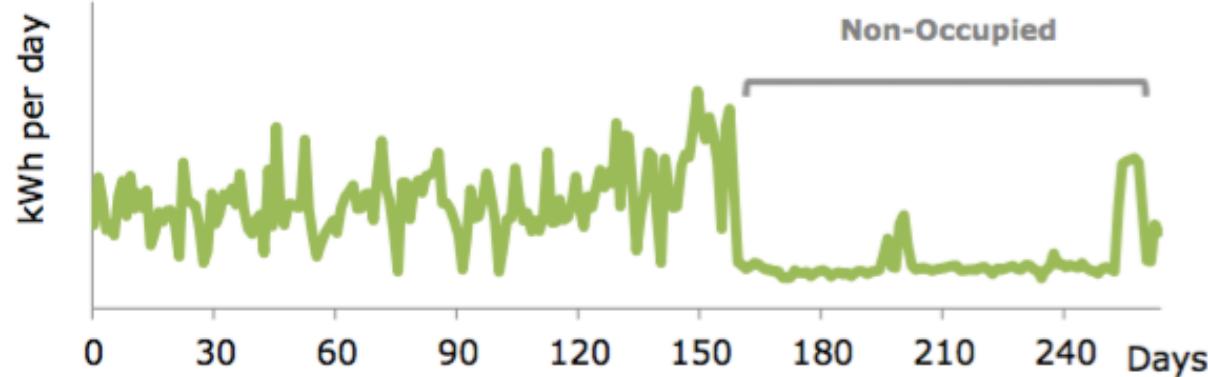
February 2016

Prepared by Ecotagious Inc.
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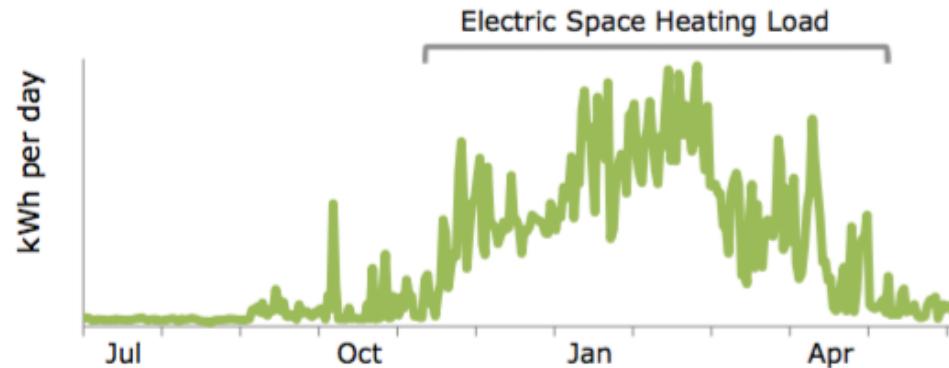
- Anonymized consumption for each household for last 15 years
 - 2 years of daily data
 - 15 years of monthly data
- High electric space heating presence

High electric space heating posed a challenge with daily data

Graph 1: A typical home with extended periods of Occupancy and Non-Occupancy



Graph 2: A typical home with Electric Space Heating



Non-occupancy algorithm used?

- Defined non-occupancy as:
 - 25+ days per year
 - Over 12 month period defined by July, August and following June and July
- Analytics found inter-day volatility in consumption more accurate determinant of non-occupancy than magnitude of consumption

The end result



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- Result:
 - Shift in public and government focus from non-occupancy to other drivers
 - No public backlash on use of data

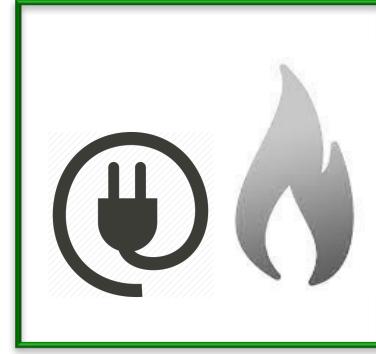
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