



Delight your customers. Get the conservation you need.

3rd International Workshop on NILM

Bruce Townson

May 2016



The destinations

From helping individuals to governments



CONSUMERS

Reduce energy use & costs?

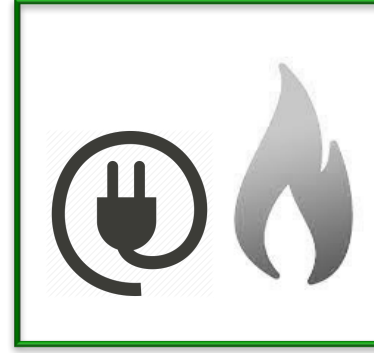
Size alternative power sources?



BUSINESSES

Reduce energy use & costs?

Deliver personalized marketing to their consumers?



UTILITIES

Meet their energy efficiency goals?

Drive customer satisfaction?

Drive customer retention?

Cross-sell?

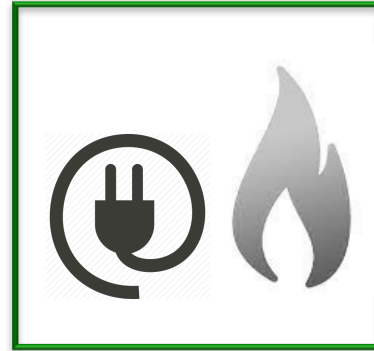


GOVERNMENT

Inform public policy?

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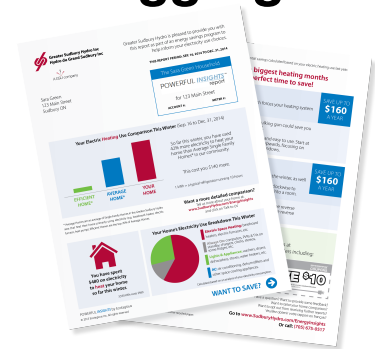


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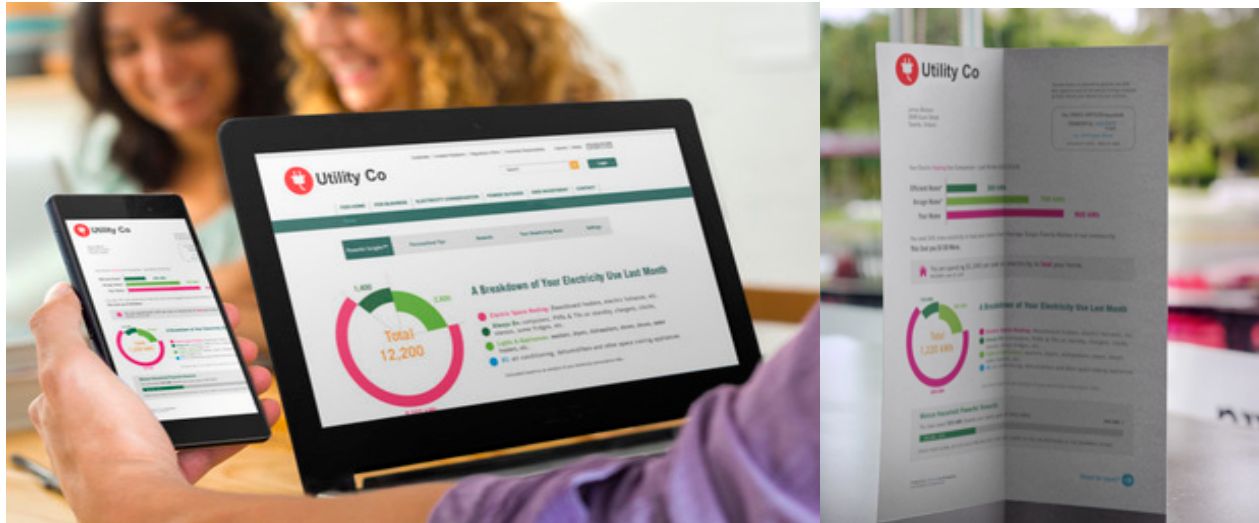
Ecotagious

- **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

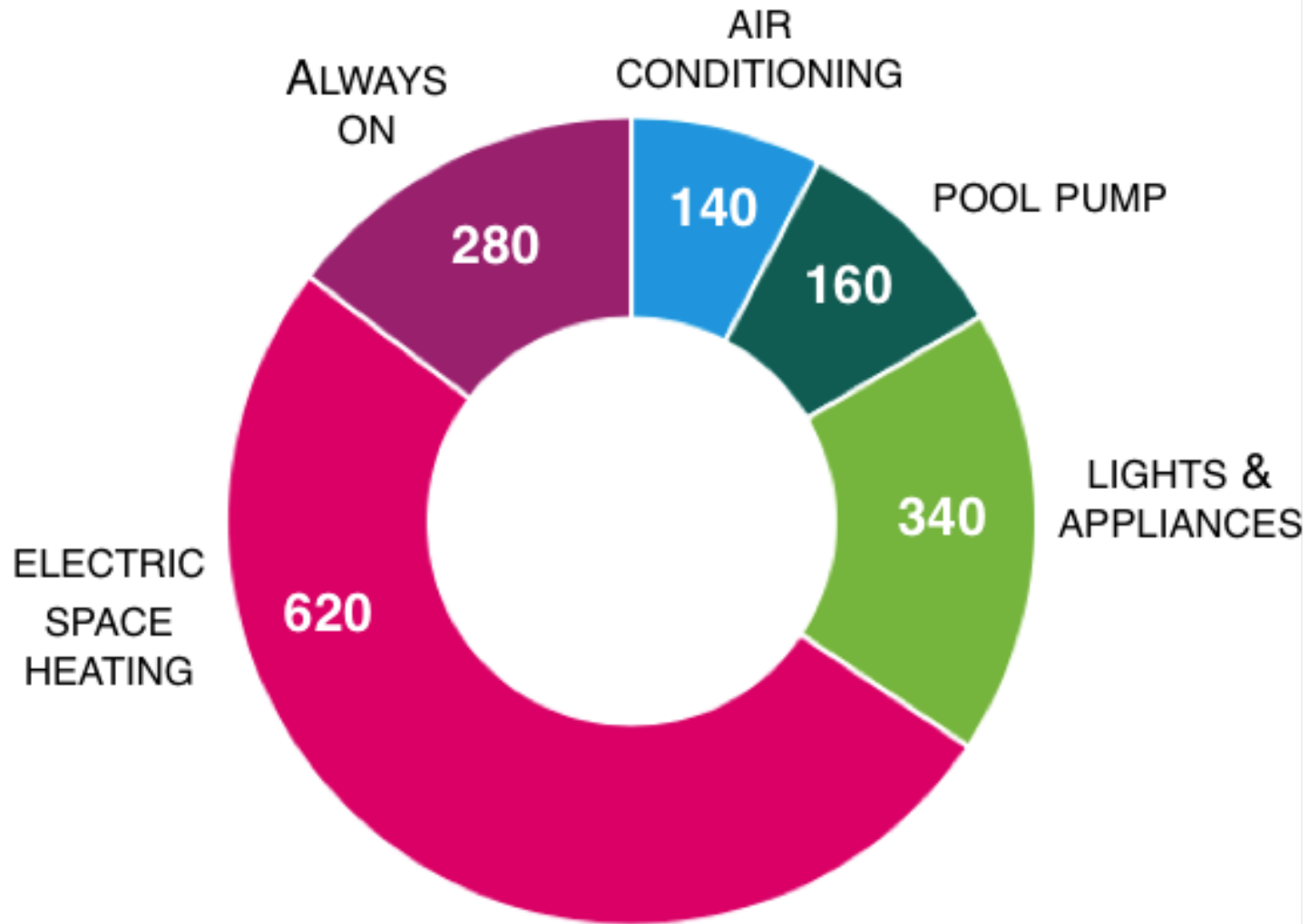
POWERFUL
insights™



Customer Portals - Reports

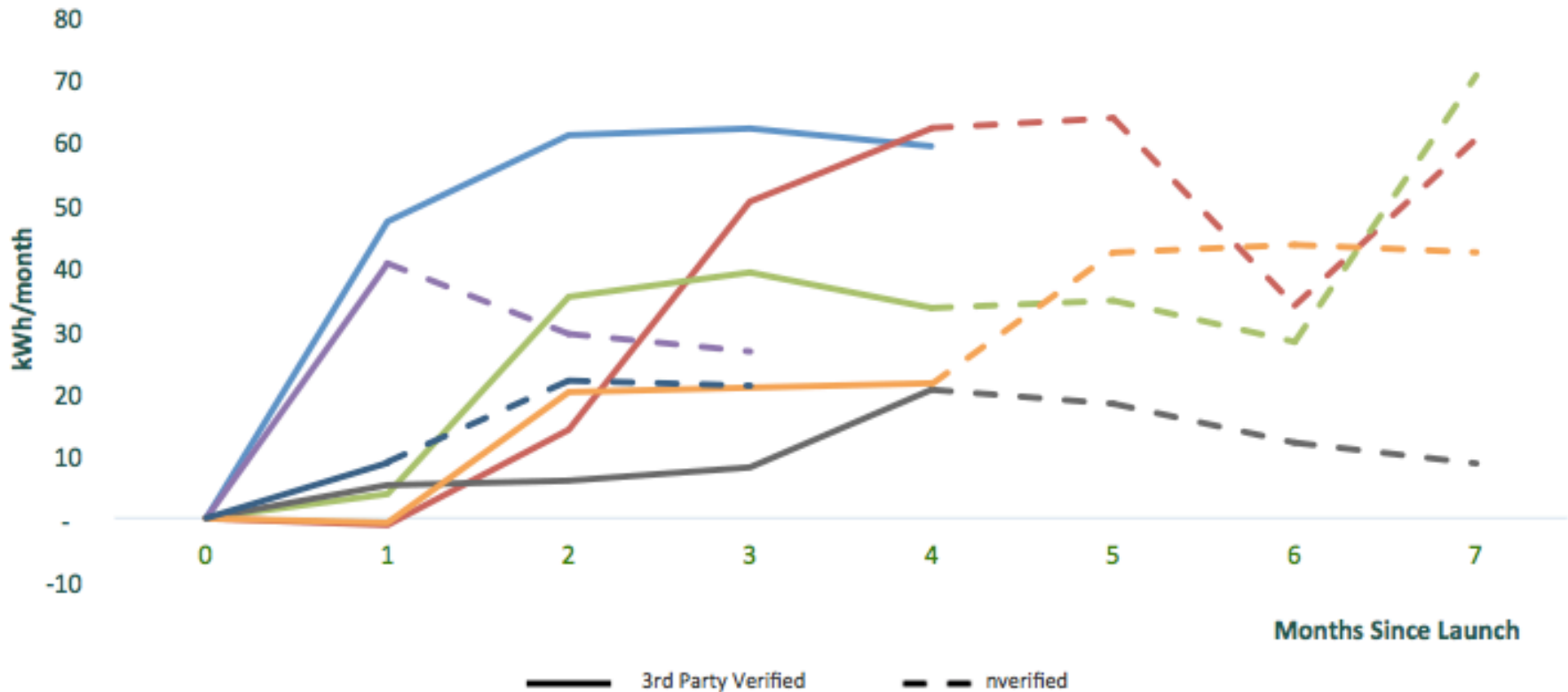
- No additional hardware required – *hourly* smart meter data is all that is needed
- Turnkey – limited resources required by utility company
- Fast launch - contract signing to conservation in less than 2 months

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



Verified savings average 3.2% in opt-out programs

**Conservation per Household by Month
for 7 Ecotagious Programs with 4 Utilities**



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



ECOTAGIOUS

Energy conservation. Worth spreading.

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

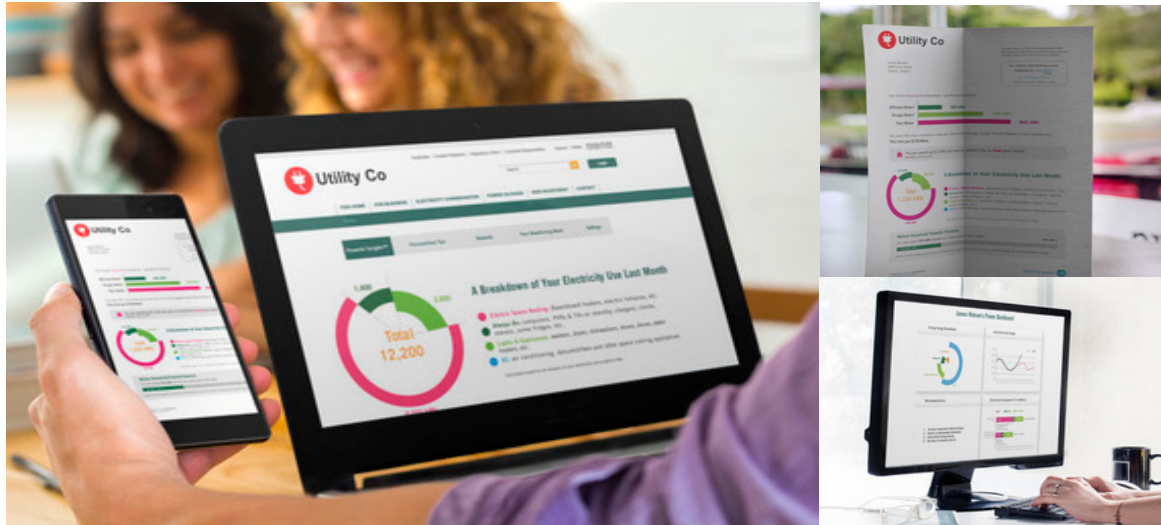
40% x 3.2% = 1.2%

Hardware-
based
solution

5% x 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

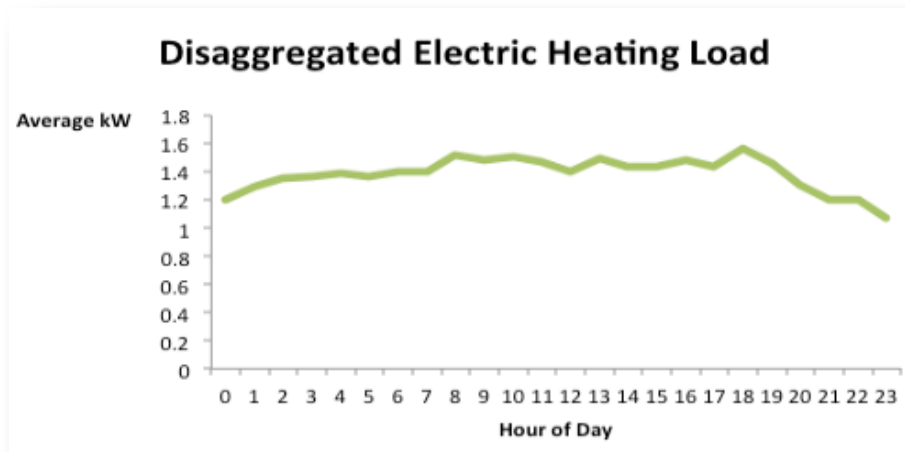
+70%



HVAC Incentive

Example:

A programmable thermostat program benefits from NILM in all stages

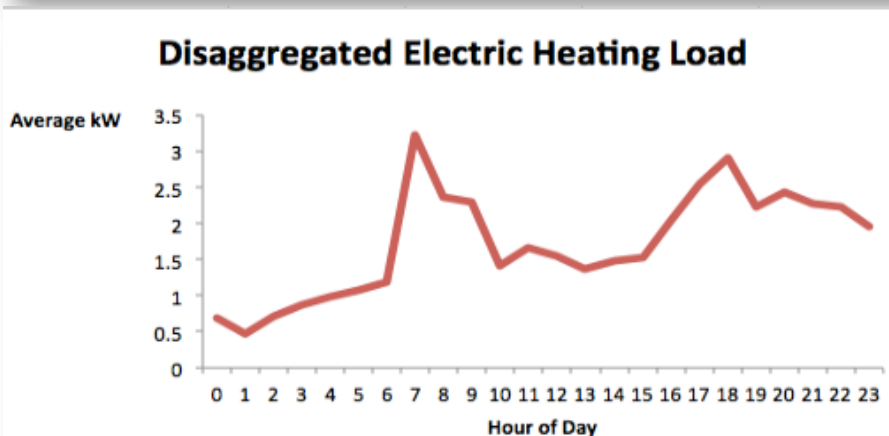


NILM is critical part of:

- 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**



ECOTAGIOUS
Energy conservation. Worth spreading.



3:10pm

Blame politicians for Metro Vancouver's housing price crisis

DOUGLAS TODD, VANCOUVER SUN 03.19.2016 |



Energy conservation. Worth spreading.

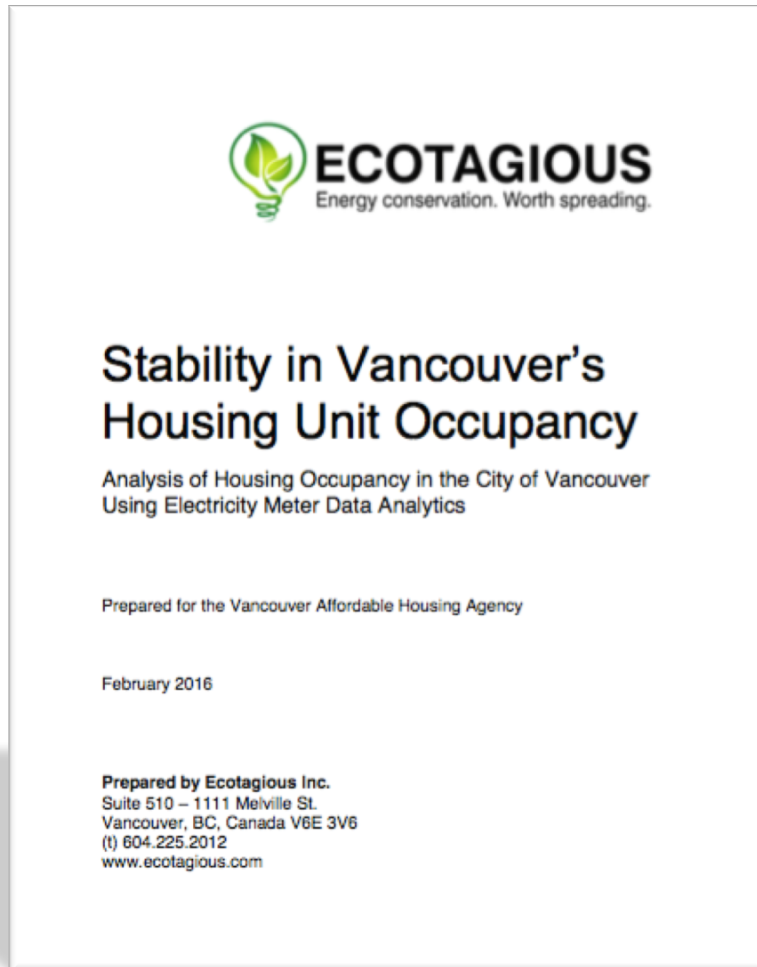
City of Vancouver engaged Ecotagious to inform public policy

Issues behind 'Vancouver's housing crisis'

City of Vancouver wanted to inform public policy on:

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

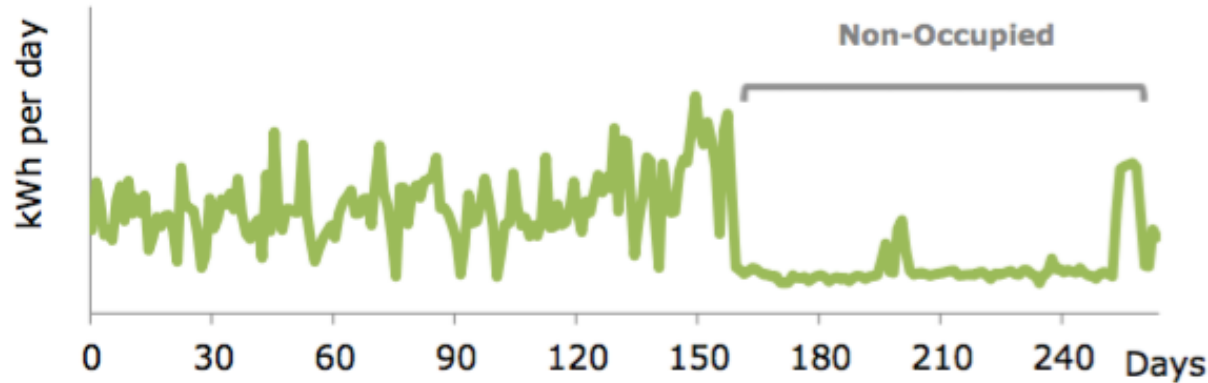
Ecotagious engaged to identify non-occupancy rate in City of Vancouver using data provided by BC Hydro



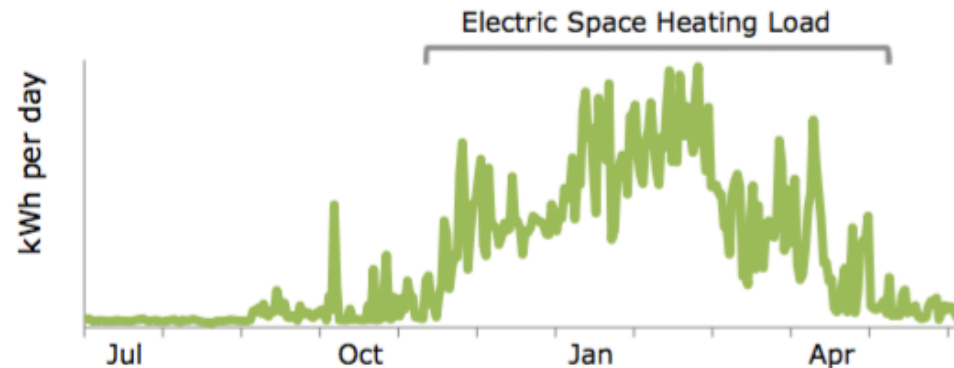
- Anonymized consumption for each household for last 15 years
 - 2 years of daily data
 - 15 years of monthly data
- High electric space heating presence

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



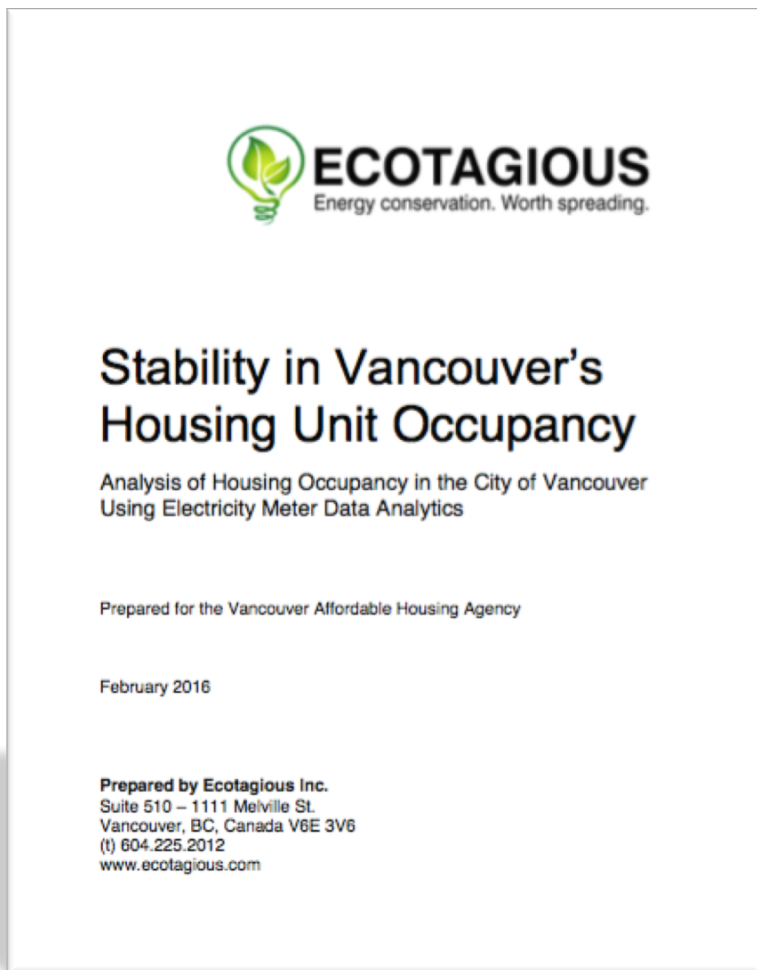
ECOTAGIOUS

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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



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

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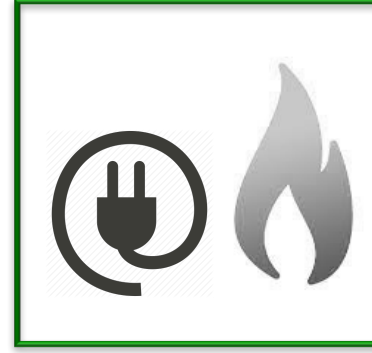
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