

Case Study

**How BEworks Reduced Energy
Consumption and Improved Bill
Comprehension**

The Challenge

The Ontario government wanted to find a way to reduce energy consumption by motivating customers to use energy during off-peak times.

Initially, the Ontario government invested \$1.9 billion dollars to reduce on-peak consumption, but these efforts only led to a 2.8% reduction in energy consumption.

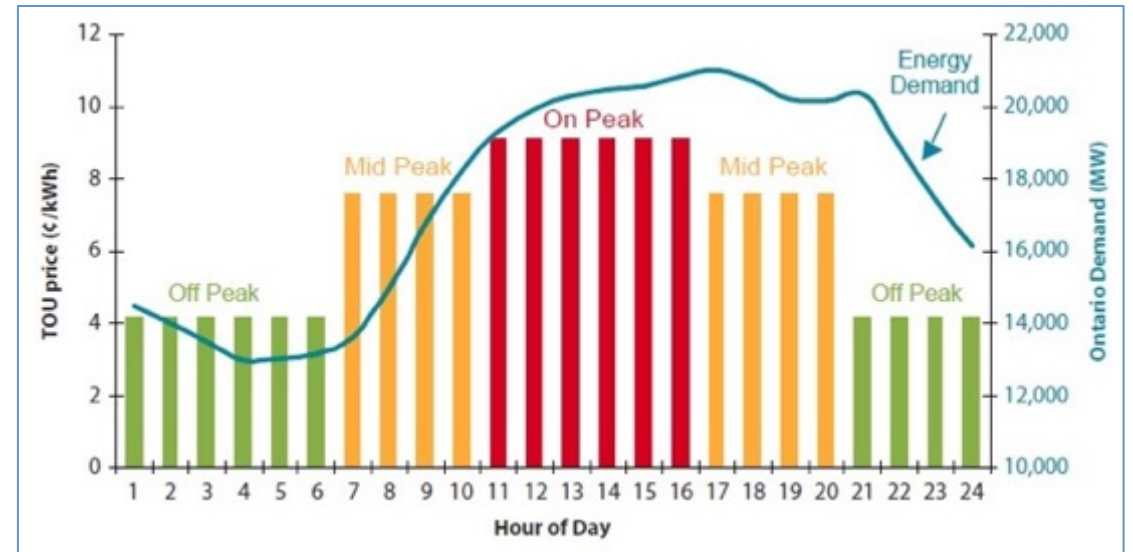
Given the minimal impact of previous efforts, the Ontario government retained BEworks to provide an effective solution to increase customer comprehension of time of use pricing and reduce on-peak energy consumption.

Step 1: *Discovery*

Gather baseline levels of bill comprehension

We began by administering a survey to 800 Ontario electricity bill payers to measure baseline comprehension and attitudes regarding time of use (TOU) pricing , and found that:

- ☑ Only **23%** of Ontarians correctly understand TOU pricing
- ☑ **82%** of Ontarians feel that they have shifted their behavior in response to TOU
- ☑ **83%** of Ontarians believe that their electricity consumption is about the same or less than other households of their size



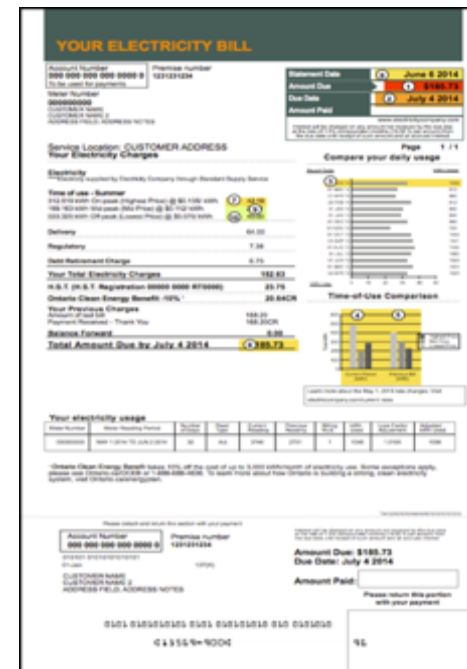
Step 2: Behavioral Diagnostics

When looking at a bill statement, what grabs customers attention?

Using an eye-tracking paradigm, we identified where on the bill customers attention is drawn to the most. We discovered that customer attention was drawn more to the top-left of the page and toward graphs and tables. This allowed us to position the most important information in areas where customers are more likely to look.



Attention is drawn more to the **top-left** of pages



Attention is drawn more to **graphs** than **tables**

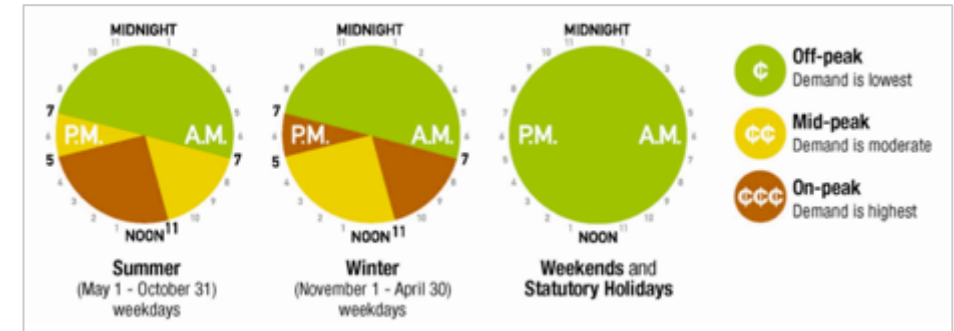
Step 3: Ideation & Design Lab

How do we apply Behavioral Economics to create a bill that increases comprehension of Time-of-Use?

We defined psychological barriers responsible for lack of customer comprehension and Behavioural shifts. For example, we noticed that a circular depiction of time is incongruent with how most people perceive time (as linear). To increase comprehension, we designed linear TOU schedules and integrated time and price information.

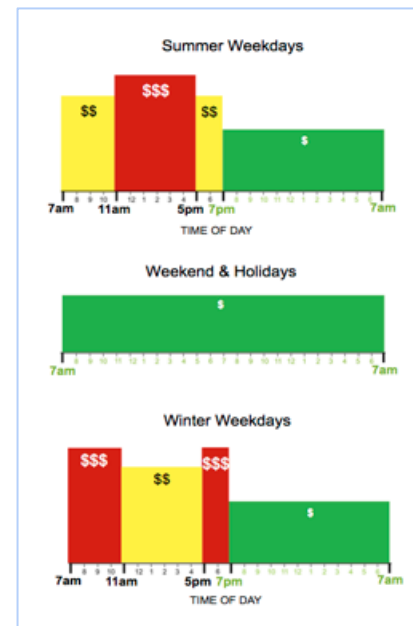
Control

Past TOU Schedule

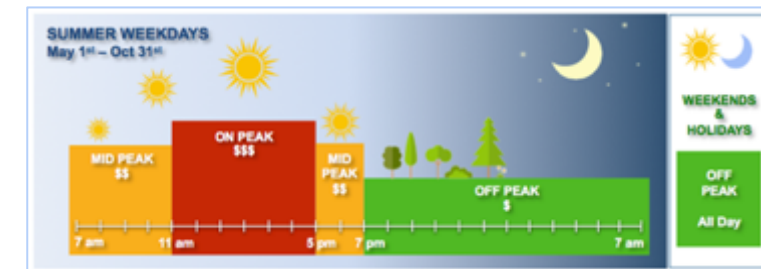


BE Designs

Linear



Enhanced Linear



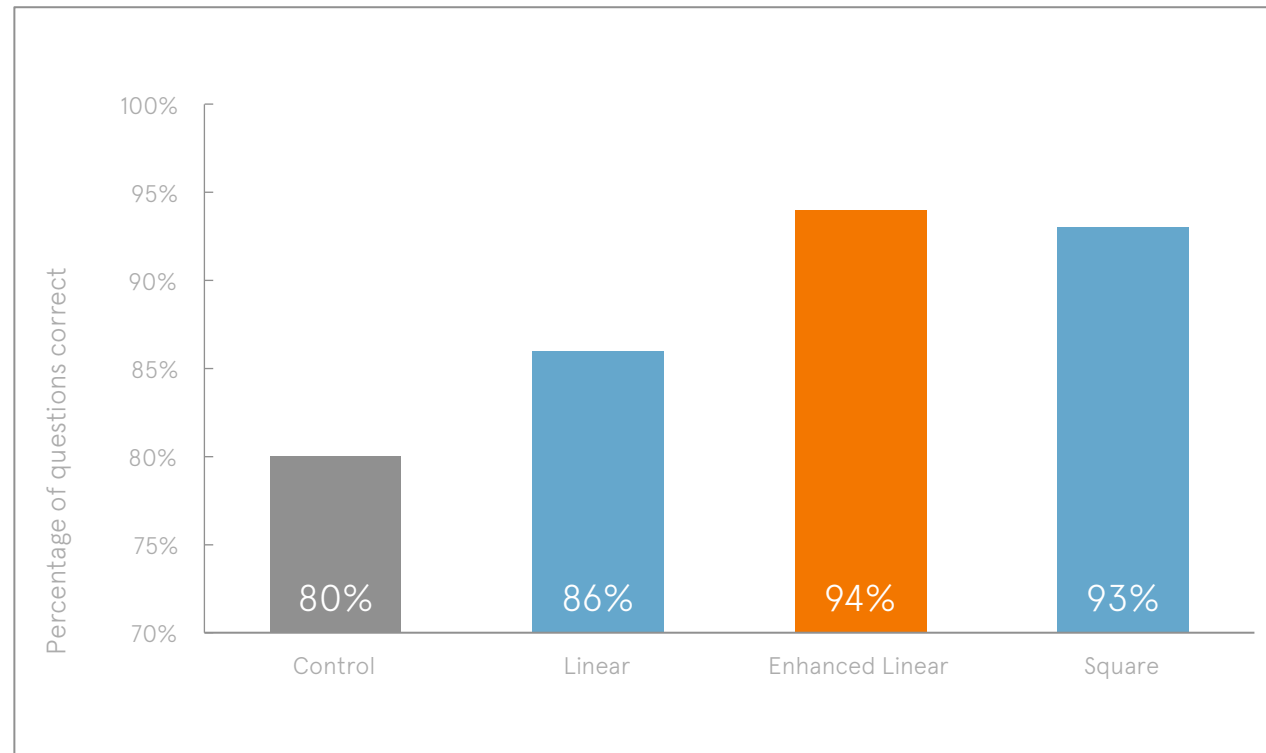
Squares



Step 4: Experimentation

Tests of Time-of-Use bill visuals led to improved comprehension

Comprehension of linear TOU schedules were significantly better than control on measures of understanding which times are best to run appliances such as a dishwasher or dryer. BEworks enhanced linear visual performed best – yielding a 14% lift in comprehension relative to the control

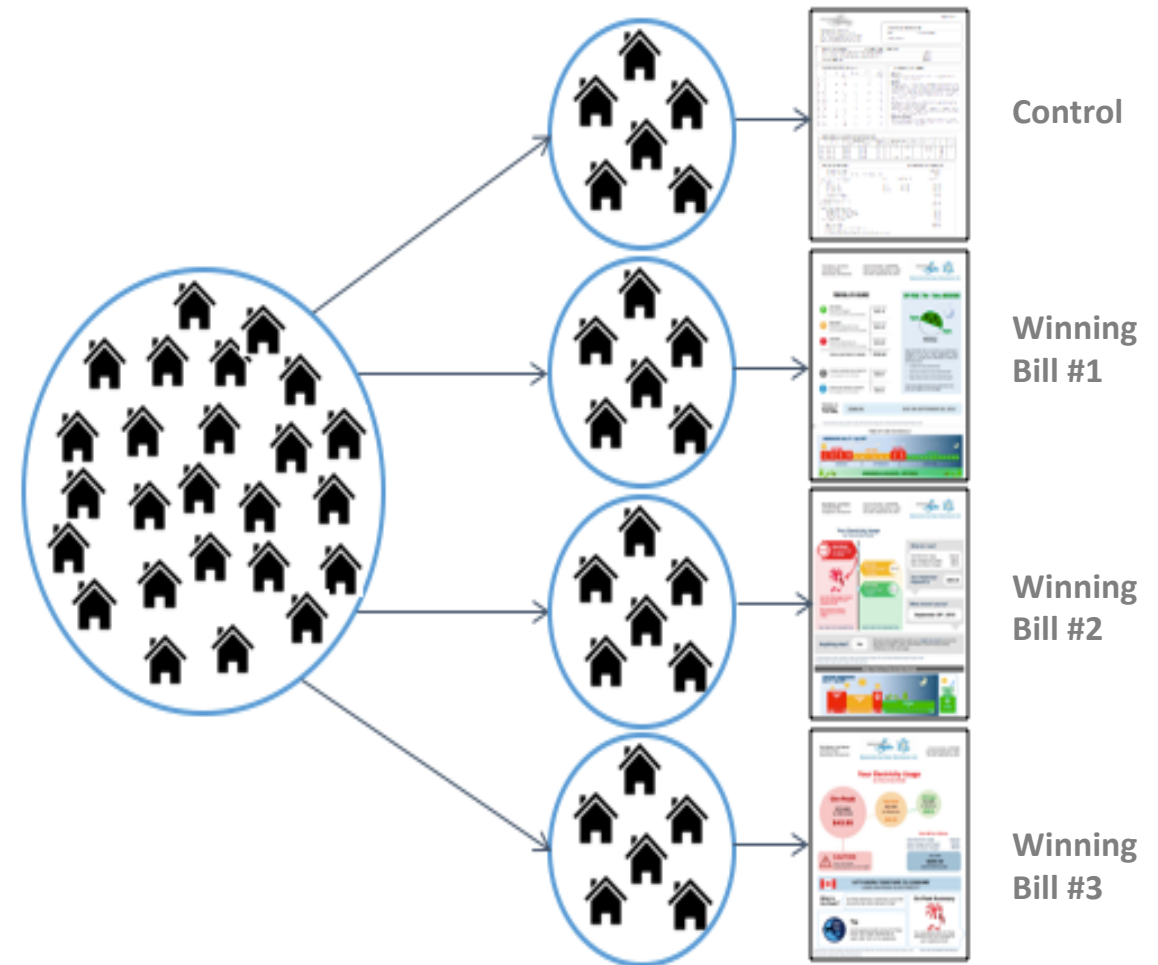


Step 5: *Field Study*

Components were used to build and test 3 new bills in-field

We conducted a field trial in the towns of Newmarket and Tay with 33,000 residential and commercial customers.

We did bi-weekly analyses looking at demand-shifting, conservation and number of calls to the call center for each bill.



Step 6: Results

What did we find?

Bill 3 was the best performing bill resulting in an overall on-peak savings of 0.8% and a 1.5-2% savings in winter on-peak.

Our bill performed better than the control in reducing energy consumption, at a fraction of the cost of the initial \$1.9B initiative.

