

What drives customers to engage with the electricity industry?



What drives customers to engage with the electricity industry?

Contents

- **What do customers want?**
- **How do electricity businesses engage with their customers?**
- **Improving customer engagement through technology and psychology**
 - Energy management tools and capabilities
 - Empowering customers to participate in the market

What do customers want?

What drives customers to engage with the electricity industry?

What do customers want

- **Improved service: price, quality and reliability of supply**
 - Affordable access to supply
- **Participation?**
 - At individual and collective level
 - Active individual participation
 - Or “set and forget”?
- **Innovation?**
 - Billing?
 - Tariffs?
 - Presentation of information
- **Efficient and effective competition**
 - Where appropriate

What drives customers to engage with the electricity industry?

Customer engagement – information and education

- **Understand energy**
 - What are generation, transmission, distribution and retailing?
 - Sustainability
 - Energy efficiency
- **Understand retail market and choice**
 - Choice of tariff (and choice of retailer where applicable)
 - How do consumers make good choices?
- **Understand technology as it affects them**
 - What is a smart meter?
 - What is a smart grid?
 - Why are things changing?
- **Understand the policy objectives and the anticipated consumer benefits**
 - Societal cost-benefit analysis

What drives customers to engage with the electricity industry?

What do customers want – information on personal impacts

- **Understand my consumption**
 - What are the major components of my usage?
 - What impacts does my usage have on the system?
- **How can I save money?**
 - Am I on the right tariff?
 - What are time of use prices and will they be good for me or not?
- **How can I improve my energy efficiency?**
- **Demand side management**
- **Load control**
- **Solar PV panels**
- **Smart appliances**
- **Plug-in electric vehicles**
- **Etc!**

What drives customers to engage with the electricity industry?

What do customers want – flow-through

- **Operational efficiencies should benefit the customer, and not just the industry**
- **Should customers bear the cost of industry inefficiency?**
- **User pays?**
- **Remove cross subsidies?**

What drives customers to engage with the electricity industry?

What do customers want – protections

- **Electricity is an essential service**
- **Clear policy and regulatory framework**
- **Protection against disconnection**
- **Protection of vulnerable customers**
- **Fair and equitable impacts**

How do electricity businesses engage with their customers?

Charges for electricity services

Cost of net electricity

Basic service charge	\$7.38
Delivery service charge	\$80.58
Environmental benefits surcharge	\$8.20
Federal environmental improvement surcharge	\$0.46
Competition rules compliance charge	\$0.97
System benefits charge	\$6.05
Power supply adjustment*	-\$12.94
Metering*	\$5.77
Meter reading*	\$1.92
Billing*	\$2.17
Generation of electricity on-peak*	\$149.85
Generation of electricity off-peak*	\$41.30
Transmission and ancillary services*	\$14.99
Transmission cost adjustment*	\$6.18
Cost of electricity you used	\$312.88

Taxes and fees

Regulatory assessment	\$0.93
State sales tax	\$21.13
County sales tax	\$2.24
City sales tax	\$0.00
Franchise fee	\$6.28
Cost of electricity with taxes and fees	\$343.46

Total charges for electricity services **\$343.46**

What drives customers to engage with the electricity industry?

How do electricity businesses engage with their customers?

- **Send bills!**
- **Reminders!**
- **Second reminders!**
- **Disconnection notices!**
- **“By the way, prices have gone up since the last bill”**
- **“It was published in the Government Gazette”**
- **“It was published on our website”**
- **“No we don’t have to tell you in advance”**
- **“I’m the distributor, I don’t communicate with the customer on commercial matters”**

What drives customers to engage with the electricity industry?

How do electricity businesses engage with their customers?

Soaring power bills spark fears of more deaths during heatwaves

Karen Collier | Herald Sun | January 05, 2010 12:00AM



SOARING power bills have sparked fears of more deaths during heatwaves as battlers turn off fans and air-conditioners.

Welfare agencies want more financial aid for hundreds of thousands of Victoria's poorest households to cope with crippling price rises.

Struggling pensioners, singles and families are telling emergency relief services they will have to cut back on food and children's education costs.

Some households face being slugged \$400 extra for electricity this year unless they shop around.

Even more financial pain is predicted amid proposed federal climate change policies and an industry push to upgrade electricity poles and wires.

A Victorian Council of Social Service report has called for a boost to winter energy concessions, as well as cash to help pay for the installation of new smart meters.

"Prices are rising so dramatically that concession payments are simply not keeping energy



Ceiling fans are being switched off as power costs soar and budgets tighten. Source: Herald Sun

What drives customers to engage with the electricity industry?

How do electricity businesses engage with their customers?

Consumers to pay for smart meters early

February 16, 2010

AAP

Victorian households will this year be hit with charges for "smart" electricity meters that could take up to three years to be installed.

Billed as an important tool to tackle climate change and control energy use, smart meters will give consumers more immediate information about their electricity consumption, allowing them to manage costs better.

The meters have been mandated by the state government for installation in all homes and businesses by 2013 in one of the biggest changes to energy infrastructure in the state's history.

Victoria is the first state to make such a move, with the meters to be installed in 2.4 million homes and 300,000 businesses.

What drives customers to engage with the electricity industry?

How do electricity businesses engage with their customers?

50

The Australian Financial Review
Monday 15 March 2010 • www.afr.com

Information

Edited by: boortjan@af.com.au

Breaking news at www.afr.com

Smart meter data a threat to privacy

Brian Corrigan

Federal Privacy Commissioner Karen Curtis has warned that privacy protections must be "built in rather than bolted on" to smart infrastructure projects to avoid information about our daily habits falling into the wrong hands.

Addressing a smart infrastructure conference at Parliament House on Friday, Ms Curtis said addressing privacy concerns at the outset would reduce costs for government and business alike while ensuring that the public was protected.

"There's a temptation to use this rich new data source for more than it was originally intended. In the privacy world, that's called function creep," she said.

In one scenario, information col-

KEY POINTS

- Smart infrastructure is the use of technology to build intelligence into projects, increasing efficiency.
- Experts warn that the information gathered can be used illegally.

lected by smart meters in our homes for electricity billing purposes could be sold on to appliance vendors so they know when you might be in the market for a new fridge, insurers that wanted to know whether or not alarms were turned on, or law enforcement agencies.

It could also be used by nosy neighbours, jealous lovers or burglars that wanted to know who was home, she added.

An information security lawyer in

the United States has predicted the rise of a whole new industry as smart meter data is sold by utilities, vendors and third-party brokers just as credit reporting agencies do today.

"Most of us think of what we do in our home as sacrosanct. It's where we unwind," Ms Curtis said. "We don't want to live in a surveillance society."

Infrastructure Minister Anthony Albanese told the conference that advances in information technology had enormous potential to tackle urban congestion. As an example he pointed to a \$700,000 technology trial being conducted by National ICT Australia in conjunction with the NSW Roads and Traffic Authority, which had delayed a \$20 million investment by up to a decade after increasing the capacity of an intersec-

tion where the M6 freeway meets the old Illawarra Highway.

Another technology project in Perth would introduce variable speed limits and lane management systems on the Kwinana Freeway to provide road users with real-time traffic information and give freight vehicles priority when needed.

"Smart infrastructure is central to the economic debate in this country, it's central to the employment debate, it's central to the debate that we had to have about our cities," Mr Albanese said.

IBM Australia managing director Glen Borham called on government to ensure that infrastructure projects announced in response to the global financial crisis used technology to build intelligence into transport, communication, health care, energy

and water systems. He said burst pipes cost Melbourne 50 billion litres of water every year, enough to supply the city for a month, before repair crews could fix them.

"Many of those systems are dumb ... They were built using the technology of the time and are now outdated," Mr Borham said. "The parts are disconnected, they don't know what's going on. The system can't respond as a whole and we cannot see it failing."

Mr Albanese also used the conference to announce new project and research awards for infrastructure initiatives that tackle one of infrastructure Australia's seven priority areas, including the creation of a national rail freight network, energy, water and public transport. Nominations close on May 14.

What drives customers to engage with the electricity industry?

How do electricity businesses engage with their customers? (Melbourne, March 2012)

Meter couple living in car

A MELBOURNE couple who have slept in their car for almost six months say they have been forced from their home because of debilitating health problems suffered since the installation of their new electricity meter.

But, as the State Government stands by the controversial electricity monitoring devices, reports continue to emerge linking smart meters with new health scares including heart palpitations, chest pains, dizziness and lethargy.

Rosemary and Vic Trudeau said they had abandoned their Mt Eliza home of 22 years since the device was installed in October, causing them nausea, chest pains, tinnitus and insomnia.

"Scientists are saying we have to reduce our exposure to radio frequencies and now they're putting them on our houses," Ms Trudeau said. "I've had two people from (energy company)



Timebomb: Rosemary and Vic Trudeau are ill from smart meters.

Jemena admit to me that about 5-6 per cent of the population are very sensitive to radio frequency, but if you are it's just bad luck." After five months of fighting,

Jemena last week agreed to replace the device.

Meanwhile, Melbourne GP Federica Lamech is moving her family to South Australia after experiencing chest pain, heart palpitations and lethargy since meters were installed in her street in February.

Although Dr Lamech's home does not yet have a device, she said her existing sensitivity to electro-radiation had been exacerbated by the roll-out.

"I felt like I was going crazy," she said.

"I was perfectly healthy the day before with just a mild sensitivity to wi-fi and cordless phones, which I could manage. Suddenly I'm disabled."

A spokeswoman for Energy Minister Michael O'Brien said a government-commissioned review had found the meters were safe.

BRIGID O'CONNELL

What drives customers to engage with the electricity industry?

Smart meters could be the spy in the home (Daily Telegraph, UK, October 2009)

- Smart meters could become a 'spy in the home' by allowing social workers and health authorities to monitor households, adding to concern at Britain's surveillance society.
- The devices, which the government plans to install in every home by 2020, will also tell energy firms what sort of appliances are being used, allowing companies to target customers who do not reduce their energy consumption.
- Privacy campaigners have expressed horror at the proposals, which come as two million homes have 'spy' devices fitted to their rubbish bins by councils who record how much residents are recycling.
- The government wants every home in Britain to have smart meters, which give users information on how to save energy and send real-time data direct to utility companies, eliminating the need for customers to stay at home for meter readings or to receive estimated bills.
- In its impact assessment, the Department for Energy and Climate Change (DECC) says there "is theoretically scope... for using the smart metering communications infrastructure to enable a variety of other services, such as monitoring of vulnerable householders by health authorities or social services departments."

How do electricity businesses deliver a bill?



What drives customers to engage with the electricity industry?

How should electricity businesses engage with their customers?

- **In home displays (computers, TV screens, what else?)**
- **Mobile displays (laptops, net books, tablets, smart phones, what else?)**
- **SMS and email?**
- **Facebook and Twitter?**

Improving customer engagement

What drives customers to engage with the electricity industry?

In Home Display

- **Millennium Intelligy System gives the consumer complete control to manage every appliance within the home. The Intelligy Display features a large touch screen with an easy to read GUI, displaying pictorially the usage and consumption costs of all appliances that are connected wirelessly to the display. The user can view information from one centralised position and make informed decisions about appliance consumption and use. The light ring around the display illuminates to warn consumers of a significant energy pricing change.**



What drives customers to engage with the electricity industry?

Google PowerMeter (discontinued)

Google powermeter

[Google.org](#) » [PowerMeter](#) » Overview Already have Google PowerMeter? [Sign in](#)

[Home](#) [Overview](#) [Public Policy](#) [FAQ](#) [Get PowerMeter](#) [Partnerships](#)

What is Google PowerMeter?

Google PowerMeter is a free energy monitoring tool that helps you save energy and money. Using energy information provided by utility smart meters and energy monitoring devices, Google PowerMeter enables you to view your home's energy consumption from anywhere online. Find out [what people are saying](#) about Google PowerMeter.

Get Google PowerMeter

Learn how to [partner with us](#).

Track energy over time

See how much energy you have used by the day, week or month.

Always on power

The darker shaded portion of the graph shows power that is always on, such as any appliance that goes on standby mode. Many appliances are always on;

Predict your costs

Google PowerMeter helps you to predict your annual energy bill so

Google PowerMeter: Energy User's Home

Electricity used Sep 30-Oct 1

Day [Week](#) [Month](#)

electricity in KW

12a 6a 12p 6p 12a 6a 12p 6p 12a

← Previous day

What drives customers to engage with the electricity industry?

Microsoft Hohm (discontinued)

The screenshot displays the Microsoft Hohm website interface. At the top left is the Microsoft Hohm logo, with 'Microsoft' in a small font above 'hohm' in a large, orange, lowercase font, and 'beta' in a smaller font below it. To the right of the logo is a green button with white text that reads 'Free! Get started here >'. Below the logo and button is the heading 'Your Hohm Energy Report'. Underneath this heading is a paragraph of text explaining the service: 'Once you sign up for Hohm, we'll ask you to answer a short set of questions about your home and your energy use. From just a few key facts- such as the zip code where you live, the size of your home, and the year it was built- we create a personalized Hohm energy report for you. As you can see below, the Hohm Center provides you with an overview of your annual energy usage and how your home energy costs match up to other homes in your area. In addition, from the Hohm Center you can enter your actual electricity usage- either by connecting automatically to your energy provider (currently available to the more than four million customers served by Xcel Energy, Seattle City Light and the Sacramento Municipal Utility District) or by manually entering in your usage.'

Below the text is a preview of the 'My Hohm Center' dashboard. The dashboard has a header with the Microsoft Hohm logo and 'My Hohm Center |'. Below the header is a navigation bar with four tabs: 'Home', 'Recommendations', 'Energy Data', and 'Community'. Underneath the navigation bar is a sub-navigation bar with four links: 'my hohm center', 'home profile', 'my news', and 'my account'. The main content area of the dashboard is titled 'My Hohm Center' and features a large orange-bordered box with the heading 'How does your energy usage compare to others in your area?'. Below this heading is a bar chart titled 'Electricity Comparison' comparing 2011 and 2012 usage. The y-axis represents cost in dollars, ranging from \$0 to \$100 in increments of \$20. The x-axis shows four categories of comparison. The 2011 usage is represented by dark orange bars and the 2012 usage by light orange bars. The data points are approximately: Category 1 (2011: \$100, 2012: \$100), Category 2 (2011: \$80, 2012: \$80), Category 3 (2011: \$100, 2012: \$100), and Category 4 (2011: \$80, 2012: \$80).

What drives customers to engage with the electricity industry?

Origin announces Australia's first large-scale pilot of a 'smart home' solution

- **Origin to partner with Tendril on smart world development in Australia (announced May 2011)**
- Origin will pilot world-class customer engagement technology for the energy sector in thousands of Origin customer homes in the second half of 2011.
- In an Australian first, Origin will deploy Tendril Energize™, an application suite that provides energy retailers with a solution to deliver simple, easy-to-use tools to engage customers in energy efficiency and accelerate consumer participation in new programs, pricing and active home energy management.
- Through deployment of this technology, Origin will have the potential to better engage with our customers and deliver a range of new, more targeted products and services to help customers better manage their energy consumption and power bills. We believe Origin's online product will be class leading and look forward to offering this solution to our customers.

What drives customers to engage with the electricity industry?

Tendril Energize (1)



What drives customers to engage with the electricity industry?

Tendrill Energize (2)

The screenshot displays the Tendrill Energize user interface. At the top, the logo 'TENDRILL Energize' is on the left, and navigation links 'Welcome | account', 'MESSAGES', 'PROFILE', 'SETTINGS', 'HELP', and 'SIGN OUT' are on the right. A dark green banner shows 'ENERGY USED YESTERDAY 7.2 kWh approx. \$1.40 at current Peak RATE until Friday 7 PM' and 'OUTSIDE TEMPERATURE 73°'. Below this is a green navigation bar with 'Dashboard', 'Your Energy Use', 'Find Ways to Save', 'Your Pricing Plan', and 'Ask an Expert'. The main content area features a search bar 'Find ways to save in' with 'Hot Water' selected. To the right is a 'Go' button. The 'Find Ways to Save' section lists five items, each with an icon, a description, a savings amount, and an '+ Add' button:

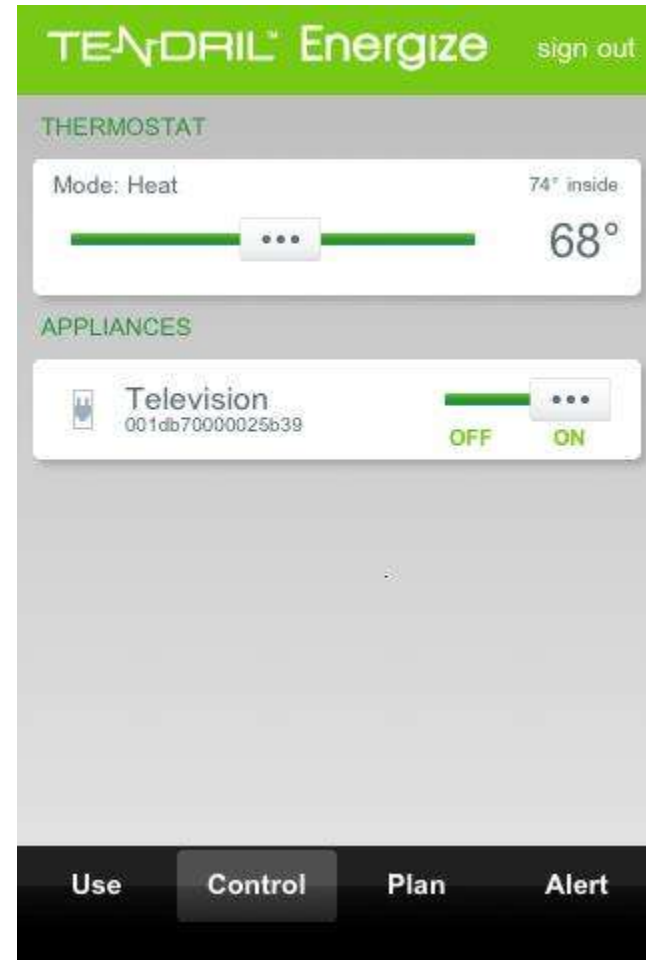
- Install a low flow showerhead (Save about \$149 a year)
- Install aerators on all of your faucets (Save about \$2 a year)
- Choose an ENERGY STAR washing machine (Save about \$4 a year)
- Buy an ENERGY STAR dishwasher (Save about \$45 a year)
- Replace your old hot water heater (Save about \$23 a year)

To the right of this list is a 'Your Checklist' section with a '+' icon, containing four items, each with a checked 'X' icon, a description, and a cost:

- Enable energy management on your computer (\$33)
- Store coffee in a thermos/carafe (\$3)
- Turn off that ice maker (\$8)
- Weatherize your home (\$16)

What drives customers to engage with the electricity industry?

Tendrill Energize (3)



What drives customers to engage with the electricity industry?

Tendril Energize (4)

TENDRIL Energize sign out

ENERGY SAVINGS PLAN

Buy an ENERGY STAR dishwasher
Choose a model with ENERGY STAR label when shopping for a new dishwasher.

Use your hair dryer on the cool setting
Consider using the cool setting when you use your hair dryer. A hair dryer set on cool uses about half the amount of energy as one on the hot setting, and it's better for your hair!

Use Control Plan Alert

Carrier 5:35 PM

TENDRIL

DASHBOARD

Current price per kWh	\$0.10
Estimated bill	\$126.54
Today's cost	\$0.95
Yesterday's cost	\$1.30
Last hour usage	0.36 kWh

Dashboard Control Settings

TENDRIL Energize sign out

ENERGY ALERTS

17 hours ago
Starting Monday May 16 Energy Rates will change to the new Spring rate structure. Please see the insert in your April Bill for more information.

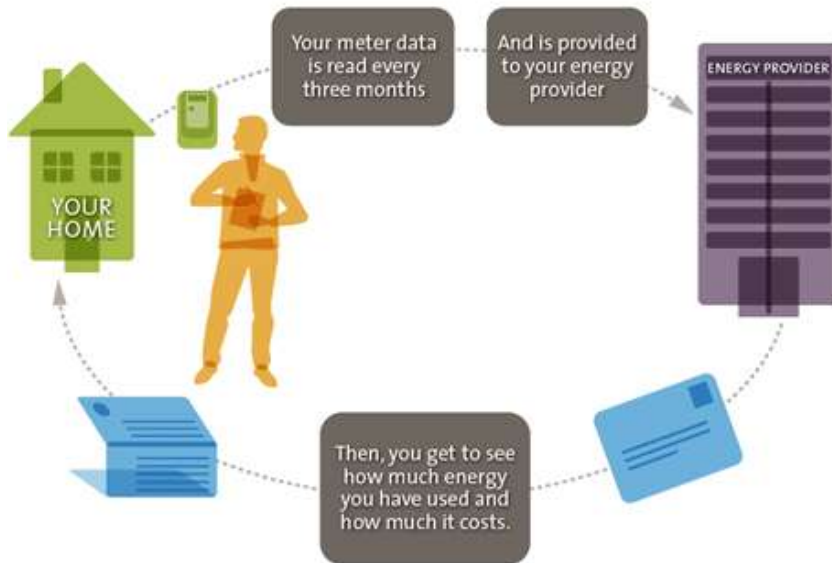
17 hours ago
Due to the forecasted high temperatures in the region you may be asked to participate in one or more Demand Response events this week. Please make sure your Insight is powered on, and keep your eye out for multiple ways to save on your bill.

Use Control Plan Alert

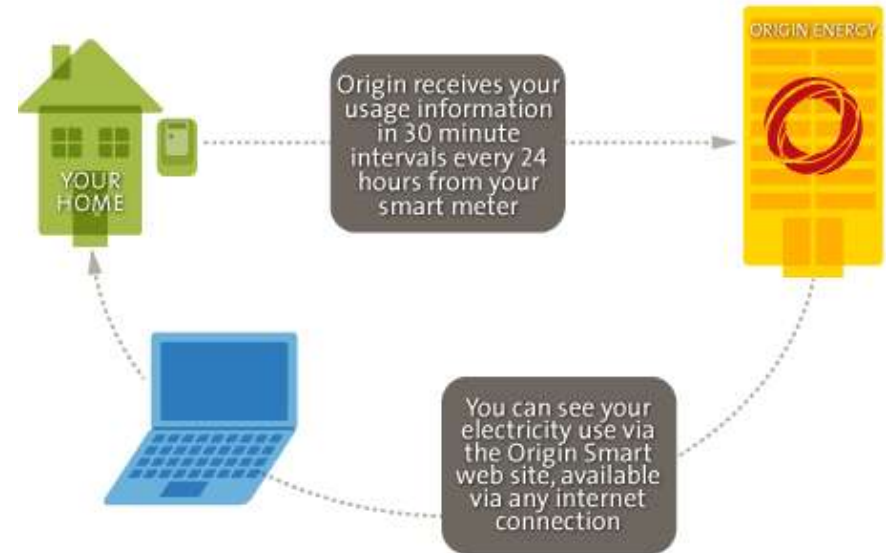
What drives customers to engage with the electricity industry?

Origin Smart (1)

Currently you wait months to see your energy usage



With Origin Smart you wait hours



Your Energy Costs



What drives customers to engage with the electricity industry?

Origin Smart (2)

- **Studies in psychology, health and education have proven that people change when they set a goal, know how to reach the goal, and have feedback on their progress toward their goal**
- **Studies also show that social support and feedback from others is key to change. Many health and educational programs, such as weight loss and smoking cessation, have adopted this basic approach to learning and change**
- **People want to save energy and keep costs down, but have little idea of where their energy dollars are going in their homes. Energy is invisible. We only think about it when, say, the light switch doesn't work**
- **Our job is to make learning and saving easy, convenient and part of everyday life. We do this by encouraging people to set a goal, then providing a number of easy ways to get started**
- **Getting started can be the hardest part to change, so we encourage realistic goals and small steps. Energy use feedback is the key, just as scales are key when you are trying to lose weight**

Summary

What drives customers to engage with the electricity industry?

Summary

- **What have we covered?**
 - What do customers want?
 - How do electricity businesses engage with their customers?
 - Improving customer engagement through technology and psychology
- **What might we also talk about in the following knowledge sharing session table?**
 - **Table 1: Enhancing the customer experience and overcoming the challenge of customer acceptance and adoption**
 - **Hosted by: Etrog Consulting**
 - All the above
 - Smart appliances, homes and buildings
 - Innovative tariffs
 - Using the information from smart meters
 - Get better understanding of customers and of their needs
 - Target marketing to customers and create innovative products



David Prins
Director

Etrog Consulting Pty Ltd

Melbourne, Australia

+61 403 444141

etrogconsulting@gmail.com