Case study: Chile

Chilectra’s residential electricity bill

Context

Chile is the first of the South American countries to reach developed status and to have joined the OECD, a club of mostly rich countries. It has quietly been addressing poverty over the past few decades to bring it to the lowest levels in all of Latin and South America. (OECD 2012: 5.) Chile grew at a rate of 5.4% between 1986 and 2010 and is expected to keep growing at a healthy rate in the coming years. This can partly be explained by favorable developments in trade (copper represents 60% of exports) whose proceeds were spent soundly. Energy consumption is projected to grow at a rate of 6-7% annually between 2012 and 2020. (Ministry of Energy 2012: 8.) Because Chile has limited sources of fossil fuels itself, it heavily depends on imports to power its economy. This mainly comes in the form of gas from Argentina, where prices have increased over the past few years leading to increasing marginal costs of electricity. The roughly 5.1 million households in Chile have a relatively low average annual electricity consumption of 2,400 kWh. Regardless, Chileans have been plagued with steadily increasing electricity prices in the past decade (+75% over the past six years alone for households) and spend a rather high share of their annual disposable income to pay for electricity (6% in 2011). The government is attempting to tackle the issue of energy security and has to that effect specifically designated energy efficiency as part of its national energy strategy for the horizon 2030. Distributed generation, smart grids and smart metering technologies focusing on net metering are clearly identified as part of this strategy and a roadmap for their implementation is currently under discussion.

Objectives

Decree N° 327 - Article 127 passed in 1997 lists the information that must be shown on the bill, however none qualify as elements of smart bills. Chilectra voluntarily decided to add “smart” features to residential electricity bills as part of its strategy to maintain or improve customer satisfaction at a time of soaring prices by helping them manage electricity costs.

Case Study

Main characteristics

Below are shown the most interesting abstracts of the electricity bill sent by Chilectra to its residential customers. “Smart” features include graphical representations of the past year’s comparison of monthly consumption (see Figure 21) and tips and advice on how to reduce usage on the reverse page of the bill (see Figure 22).

35 http://ciperchile.cl/pdfs/04-2013/chilquinta/DOC5_DS327.pdf
36 Largest Chilean distribution company with approximately 1.6 million customers serving the capital city Santiago and its vicinities
37 The bill is shown in appendix 7 in its entirety.
Figure 21: Historical monthly consumption for the last 13 months. (Source: Chilectra 2013)

Figure 22: Energy saving tips and advice included on the reverse. (Source: Chilectra 2013)

Supporting policies

Smart metering policies

There is currently no regulatory mandate to install residential smart meters in Chile. Smart meters potentially enable provision of timely consumption data to consumers. Nevertheless, the development of distributed generation, smart grids and smart metering technologies focusing on net metering are parts of the government's energy strategy as clearly stated by the Ministry of Energy in the National Energy Strategy 2012 - 2030 document (2012: 34). In addition, regulation has recently been introduced that can be seen as precursors or complementary to smart meters:

- Congress approved a law in March 2012 allowing distributed generation up to 100 kW and mandating net-metering for residential customers;
- ToU rates must be offered to residential customers since 2008.

Impact/Evaluation

Improvement in customer relationship

Chilectra constitutes a good example of a utility who decided to go further than just complying with elementary billing rules. It voluntarily enriches household customers’ electricity bills with additional information about their consumption and how to manage it. This case study shows that company policy can in some cases compensate for light regulation even without retail competition. Although we are not aware of any ex post evaluation of the bill, it is likely that providing tips and

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38 The text reads “I have a brilliant idea! The best idea is to care about the environment! Find more information on reverse.”
advice as to how to reduce usage and an easy way to track consumption is seen positively by customers, especially at a time of soaring end-user prices. Nevertheless, there is currently a debate in Chile following customer complaints’ on the understandability of the different charges. The authorities and the utilities are therefore discussing the best way to reach a balance between price transparency and understandability of the bill. The Swedish case study could provide some ideas.

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The Chilean electric sector is very dynamic and in the last decades the yearly national consumption growth rate has been around 6%. As Chile imports most of the fossil fuel it needs to generate power, the government is well aware of the challenges arising from increasing energy consumption on its energy security. It has specifically designated energy efficiency as part of its national energy strategy for the horizon 2030 with distributed generation, smart metering technologies focusing on net metering and smart grids seen as part of the solution. Utilities are already trialing residential AMI systems and feedback programs in several pilots around the country\(^\text{39}\). The details of a smart grid roadmap are currently being discussed and decisions likely to be taken in the coming years. The regulatory authorities should ensure that minimum requirements and billing rules allow for households to have access to their consumption data. This would provide ways that allow them to better understand and reduce their usage and bills so as to ensure that they not only bear the costs of the investment but are also able to benefit financially and otherwise.

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\(^{39}\) Chilectra is currently running a project with 100 households where smart meters were installed. As part of this pilot the utility is sending personalized printed consumption reports showing households’ consumption levels and patterns in comparison to their neighbors’ as well as tips to reduce usage. The impact has not yet been calculated but feedback from customers has been very positive so far. A dedicated web portal is to be developed this year as a next stage in the pilot.