

DRAFT

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## Acronyms

CRM	Customer Relationship Management
CEB	Ceylon Electricity Board
IPP	Independent Power Producers
PUCSL	Public Utilities Commission of Sri Lanka
T&D	Transmission and Distribution
LECO	Lanka Electricity Company
GP	General Purpose
IP	Industrial Purpose
ICT	Information and Communication Technology
CMC	Colombo Municipal Council
DSM	Demand Side Management
SMS	Short Message Service
IVR	Interactive Voice Recording
CoC	Certificate of Conformity
SAIDI	Systems Average Interruption Duration Index
SAIFI	Systems Average Interruption Frequency Index

**Executive summary**

<Will be completed in the final version>

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## **Introduction**

### **Study Objectives**

The past decade has seen unprecedented, rapid growth in electronic connectivity in the form of voice in the developing world. Access to the Internet and to more-than-voice services is quite uneven with those at the BOP being excluded from the benefits of the rich potential of applications and services associated with the Internet. The report is a part of LIRNEasia's research into the exploration of how to bring about an increase the inclusivity of the currently marginalized BOP by providing more useful services and applications on mobile platforms. In terms of providing useful services, the research will focus on three sectors; telecom, electricity and government services. How can these services be more useful to particularly to the micro-entrepreneurs at the Bottom of the Pyramid? The key is in how the suppliers of these services manage their consumer relationships.

Despite its growing subscriber base, the mobile operators have managed to maintained customer relations to a high standard without substantial increases in service personnel and costs. Can some of the learnings and best practices from the mobile sector be adopted be transferred to the electricity sector? In order to answer this question, LIRNEasia will study the current customer service relationship management (CRM) practices of electricity sectors. The study is done from a supplier perspective. Senior level personnel from operators and other industry and subject experts were interviewed as a part of the research process. A part from the interviews, the research team also conducted desk research to look at the existing literature on CRM practices from the electricity sector followed in other countries. The objective of the research is to ascertain the following

1. How effective are the current customer relationship management practices followed by the operators?
  - a. Are there good measures for efficacy?
2. Can the CRM processes be made more effective with further use of ICTs?

The learnings from the telecom study will be examined to ascertain which of the practices and processes can be introduced to the electricity sector.

Further to this supply side report, LIRNEasia is conducting a survey of urban poor micro-entrepreneurs to determine the following from a demand side perspective:

1. What design elements are appreciated by customers and what are not offered but demanded?
2. What design elements are disliked?

The research is being conducted in three countries; Bangladesh, India and Sri Lanka. Given the geographical size of India, the study will concentrate in the Delhi, Mumbai and Hyderabad. This report will focus on the Sri Lankan electricity sector.

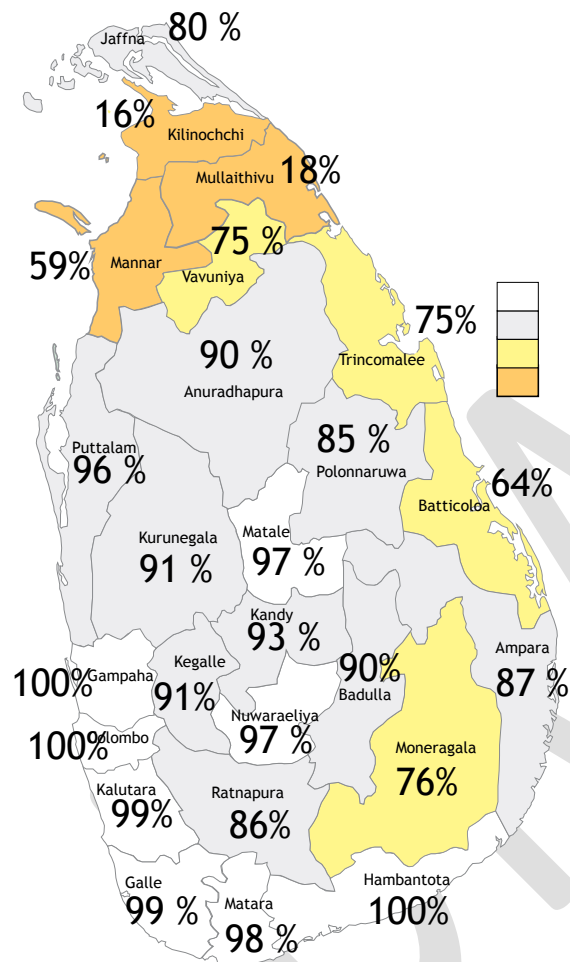
### **Country Profile and Sector Overview**

As per the figures released by the Census and Statistics Department of Sri Lanka, 92% of Sri Lanka is electrified. The official figures state that 5,336,980 accounts or consumers are active within the electricity sector as of 2013. This includes 5,188,047 households. A majority of these households are connected to the national grid. The figures issued by the Public Utilities Commission of Sri Lanka (PUCSL) state that the annual demand for electricity in Sri Lanka (from the grid) is 11,500 GWh with daily peak demand at 2,146 Mw on average. The households that are not

connected to the national grid rely upon solar power, kerosene and bio gas as alternative sources for generating electricity.

As per the targets set, Sri Lanka is expected to reach 100% electrification by the end of 2013. Figure 1 shows the current level of electrification within Sri Lanka, at district level. The lowest areas of coverage are Kilinochchi and Mullaitivu districts.

**Figure 1: Electrification in Sri Lanka as at 2012**



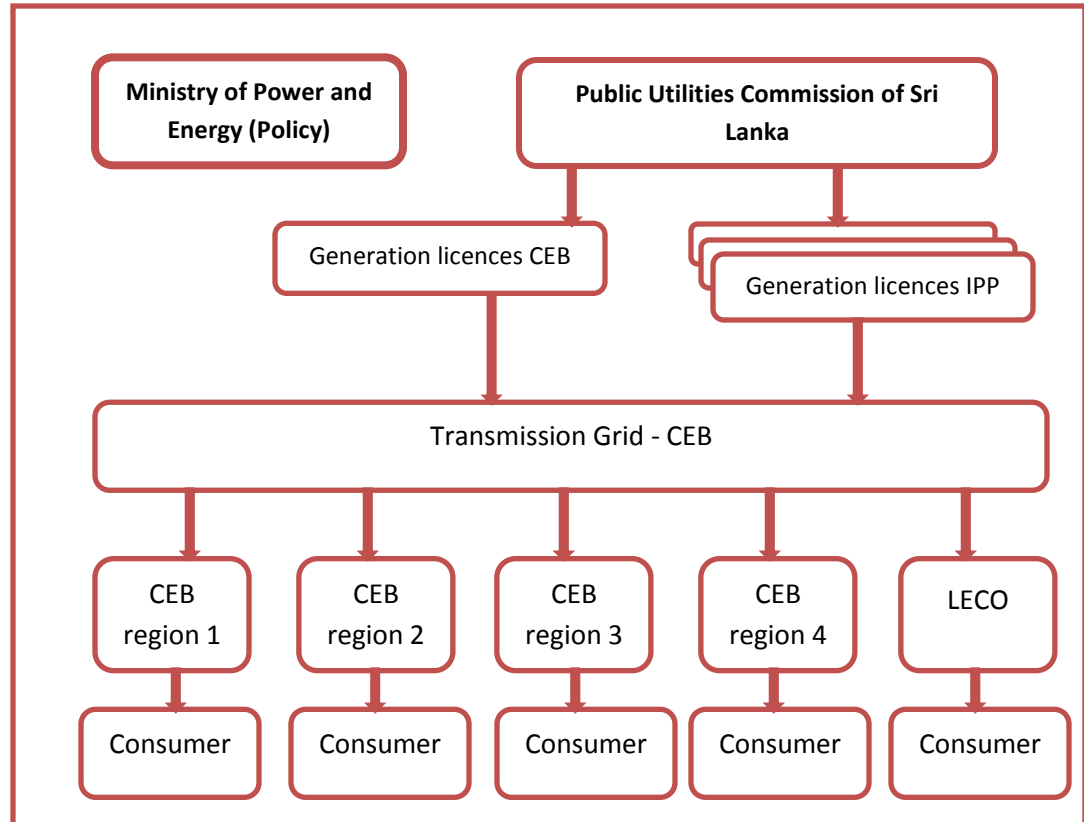
Source: Ceylon Electricity Board

Figure 2 gives an overview of the Sri Lankan electricity sector subsequent to Sri Lanka Electricity Act 2009<sup>1</sup>. The Ministry of Power and Energy and PUCSL are responsible for setting the policies and regulating the sector.

Figure 2: Current structure of the Sri Lankan electricity sector

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[http://documents.gov.lk/Acts/2009/Sri%20Lanka%20Electricity%20Act%20No.%2020/Act%20No.%2020%20\(E\).pdf](http://documents.gov.lk/Acts/2009/Sri%20Lanka%20Electricity%20Act%20No.%2020/Act%20No.%2020%20(E).pdf)



Source: authors based on information from PUCSL, CEB and LECO

The generation of electricity in Sri Lanka, that is provided through the national grid is done both by the Ceylon Electricity Board (CEB) and Independent Power Producers (IPPs). Of this CEB produces 57% of the total production. A cap of 25MW per plant has been imposed on the IPPs. A mix of energy sources is utilised for power generation. Hydro and thermal are the two main sources for both CEB and IPPs. The percentage of utilization of each of the sources depends upon the rainfall received. At the time of monsoon and high rainfall, the utilization of hydro increases and vice versa. Apart from hydro and thermal, Sri Lanka also utilizes coal and wind to a much lesser extent. Of the energy sources, hydro and coal are the cheapest energy sources. Generation cost is the largest single cost component in the electricity value chain in Sri Lanka.

The CEB owns and operates the entire transmission system at 220kV and 132kV. The figures reported by PUCSL state that transmission losses stand at 4% and the distribution losses at 10%. The CEB figures report a combined Transmission and Distribution (T&D) losses at around 10.42% on generation.

As indicated in figure 2, five Distribution licences have been issued. Four of these have been given to the CEB and the other issued to the Lanka Electricity Company (LECO). The ownership of LECO lies with the Treasury, the CEB, local authorities and the urban development authority (Ram Ratings, 2010). All five distribution licencees operate within a geographical monopoly. Although CEB regarded as a single entity, the four regional licencees operate independent of each other. As table 1 shows, the four CEB regional licencees hold 90% of the accounts.

Table 1: Percentage of accounts by distribution licencees

Licencee	Number of accounts/consumers	% Distribution of accounts
CEB region 1	1,265,463	24%

<b>CEB region 2</b>	1,488,745	29%
<b>CEB region 3</b>	1,116,039	21%
<b>CEB region 4</b>	847,199	16%
<b>LECO</b>	490,017	9%

Source: CEB, LECO

The consumers or account holders are divided into five main categories; domestic, general purpose, industrial purpose, religious and hotel. Of this, the general purpose (GP) and industrial purpose (IP) are further divided into three sub categories each. The technical requirements of the IP categorisation for being classified into these categories are given in table 2.

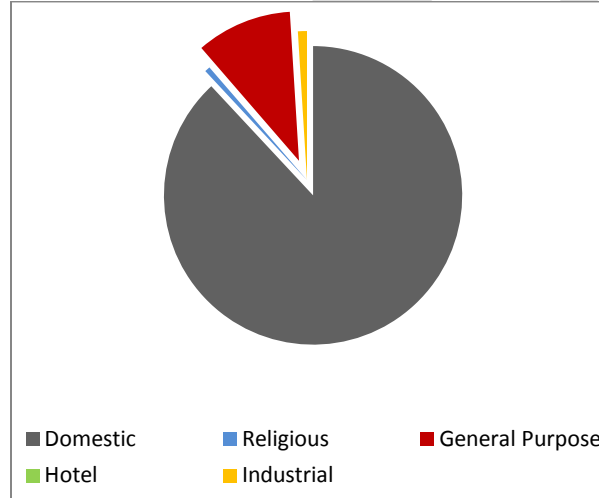
Table 2: Sub categories of GP and IP tariff

<b>Category</b>	<b>Requirement</b>
<b>IP1</b>	contract demand is less than or equal to 42 kVA
<b>IP2</b>	contract demand exceeds 42 kVA
<b>IP3</b>	supply delivered and metered at 11,000 Volt

Source: CEB and LECO

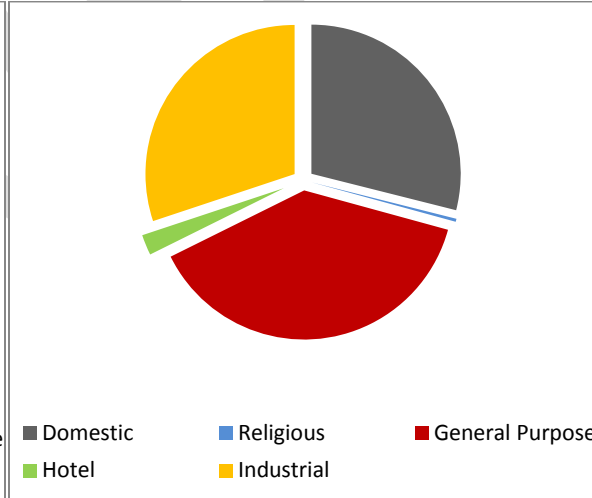
A majority of the accounts belong to the domestic category. However, given the differentials in the tariffs for the categories, a majority of the revenue is received from the general purpose category.

Figure 3: Share of accounts by category



Source: CEB

Figure 4: Share of revenue by category



Source: CEB

As mentioned above, the PUCSL is responsible for regulating the industry. The current mandate of the PUCSL is set up to regulate all areas of the electricity sector (generation, transmission and distribution) in accordance with the enactment of the Sri Lanka Electricity Act No. 20 of 2009<sup>2</sup>. As per the guidelines issued<sup>3</sup>, PUCSL mandate, among others, include the protection of the interests of consumers, regulation of tariffs and charges, assurances of

<sup>2</sup> [http://www.pucsl.gov.lk/english/wp-content/themes/pucsl/pdfs/electricity\\_act\\_2009.pdf](http://www.pucsl.gov.lk/english/wp-content/themes/pucsl/pdfs/electricity_act_2009.pdf)

<sup>3</sup> [http://www.pucsl.gov.lk/english/wp-content/themes/pucsl/pdfs/general\\_policy\\_guidelines\\_eng.pdf](http://www.pucsl.gov.lk/english/wp-content/themes/pucsl/pdfs/general_policy_guidelines_eng.pdf)



quality, continuity and safety of electricity supply and energy conservation. It is also responsible for conducting public consultations as well as engaging in non-binding dispute resolution.

PUCSL has also been active in conducting demand side surveys as well as collecting supply side indicators. However, these indicators are largely limited to the generation and transmission data and little on distribution. This will be discussed in greater detail, later in the report.

### **Theoretical Discussion**

Given the level of investment required and the associated sunk costs the electricity sector is considered a natural monopoly. Most power sector reforms often begin with the introduction of competition or private participation in generation (Jamansb, 2001). As mentioned above, electricity generation in Sri Lanka has private participation, while transmission is in the hands of the CEB.

With regards to distribution or retail, total of five distribution licenses have been issued to two companies to provide electricity to Sri Lankan consumers. All of these licensees operate within a specified geographical monopoly. Figure 5 illustrates this further. This ensures that there is no competition among the distribution companies. Given that electricity is deemed a necessity, it puts consumers in a situation where they will have no choice about the electricity distribution company they will be obtaining the services from. This however is not uncommon. Among examples of competition in the electricity retail sector are US (selected States such as Texas and New York) a majority of the countries in Europe, Australia and New Zealand (Vaasaett, 2012). However, even with competition, the rate of switching between operators, differ. According to the above report, more than 15% consumers in New Zealand, Australia and Britain switched however, markets such as Poland, Greece and Luxembourg were considered dormant with less than 1% of the customers interested in switching their operator. The reasons for switching has been analysed in greater detail in the study by Vaasaett.

As mentioned above, competitive electricity retailing (or distribution) is not present in any of the markets LIRNEasia studied. The reasons for not having competition may be political or economic. Among reasons cited for possible lack of competition in electricity retail is as follows. Generation and transmission together makes up a large percentage of the cost of electricity as opposed to distribution or retail (Defeuilley, 2009). This is true even in the case of Sri Lanka<sup>4</sup>. Therefore the revenue generated by the potential demand might not be sufficient to bring about competition in the retail sector. In addition, given the homogeneity of the product in question differentiation becomes difficult and as shown above, consumers may not be amenable to switching due to the transaction costs and learning costs (Defeuilley, 2009).

In the absence of competition at the retail level, what other options are available to ensure that the consumers receive a better service? What are the steps that the regulator can take to ensure better service to the consumers? These will be discussed further in the next sections.

### **State of the play (descriptive stats)**

The data for the study was gathered through both secondary sources as well as primary research. The primary research involved in depth interviews with industry stakeholders. These included the regulatory body (PUCSL), the representatives from the 2 main distribution licencees (LECO and CEB), members of the consumer consultative committees (formed by the PUCSL) and industry and subject experts.

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<sup>4</sup> [http://lirneasia.net/wp-content/uploads/2013/03/SAFIR-2013\\_Tilakasena.pdf](http://lirneasia.net/wp-content/uploads/2013/03/SAFIR-2013_Tilakasena.pdf)

The in-depth interviews were done based on a semi-structured questionnaire. The questionnaire was formed based on the consumer life-cycle model.

Figure 5: Life cycle model



As the above diagram shows, the life-cycle model has seven stages. Given that electricity distribution licencees operate as geographical monopolies and electricity is a basic necessity, the stages of “targetting” and “winback” have no significance. Therefore the questionnaire was based upon the remaining five stages. The consumer management practices of the two companies will be discussed in detail in the following sections. The instances where the distribution companies employed the use of Information and Communication Technology (ICT) will be highlighted where applicable.

### **Inquiry management and welcoming**

The first inquiry often made is about the procedure of obtaining an electricity connection and documents associated with it. The applications for obtaining a connection in the LECO serviced areas can be obtained from the area engineers’ office. The applications are also available online on the LECO website however it is only available in the English language. The applications for the CEB service area can be obtained from the area engineers’ office or customer centers. Applications are also available online but it is limited to the consumers within the Colombo Municipal Council (CMC) area. This area is referred to as the Colombo Metro area by the CEB. The distinction is made through the operation of two different websites. [www.ceb.lk](http://www.ceb.lk) is the website representing all of CEB. This gives details of generation, transmission and distribution. [www.metroceb.lk](http://www.metroceb.lk) is the website dedicated to giving out information relevant to consumers in the CMC administrative area. The application is trilingual in English, Sinhala and Tamil.

Upon completion, the application and other relevant documents have to be submitted in person to the area engineers’ office. The other documents required are:

- A letter from Grama Sevaka (local administrative officer of government) of the division confirming the ownership/residence of the building, certified by the divisional secretary
- Title deed or lease agreement confirming the ownership or residence
- Any document to prove the residence is a crown grant land/home
- A sketch of the road map to the location the electricity supply connection is applied for
- The Certificate of Conformity issued from Local Government institute
- A Photocopy of the National Identity Card of the applicant

In comparison to the telecom sector, the process of obtaining an electricity connection is much more cumbersome. The representatives from the electricity distribution licensee will also visit the location for which the connection has been applied for in order to verify the information provided by the applicant as well as to inspect and ensure the technical specifications are met prior to approving the connection.

Upon verifying the information given by the applicant, the electricity connection is approved and the applicant is given a cost estimate. The estimate indicates the cost of obtaining the electricity connection. According to information supplied by LECO and stated on their website, the estimate is given within 14 working days of the submission of the application and relevant documents. The connection is then given within 14 days after making necessary payments. The CEB indicated both on website and in person interviews that the estimated time for the first cost estimate will be around two weeks.

### **Getting to know your customers**

In the telecom sector operators invest time and effort to study the usage and call patterns to push more services towards their customers. Both LECO and CEB do make efforts to get to know their customers to a limited extent. However it is for a different purpose in comparison to the telecom (mobile) sector. The electricity distribution companies often scrutinize any fluctuations or changes to customer usage levels. This is done to identify any possible theft of electricity. The distribution losses in Sri Lanka are much lower in comparison to India or Bangladesh. However, meter readers are required to observe any changes and report them to the company. In the case of LECO, if any mal practices are identified, a percentage of the recovered revenue is given to the meter reader as an incentive.

Apart from that both companies engage in identifying consumers who repeatedly receive disconnection notices. In Sri Lanka both LECO and CEB operate only post-paid meters.

The Sri Lankan electricity tariff structure for domestic, general purpose and religious consumer categories is not based on a time of day (or peak/off peak) pricing. Due to this reason, consumers in these categories often have no incentive to reduce the consumption of electricity during peak demand. The situation poses problems for the sector at the times of reduced rainfall due to the sector's dependency on hydro based power generation. As a possible solution to this problem, the CEB is currently looking at the possibility of installing equipment to enable remote monitoring of electric appliances to manage demand for electricity in some selected areas of distribution.

### **Customer Development**

In terms of customer development, both LECO and CEB have developed some schemes. Demand Side Management (DSM) is important for the electricity sector. DSM is used to describe the actions of a utility, beyond the customer's meter, with the objective of altering the end-use of electricity. This may be to increase demand,

decrease it, shift it between high and low peak periods, or manage it when there are load demands. This is in the overall interests of reducing utility costs<sup>5</sup>. As mentioned above, Sri Lanka does not have peak/off peak pricing. However LECO has made efforts to inform its consumers of DSM methods through their website. However the methods stated may need to be customized to fit local needs. The fact that it is only on the website reduces its reach to the consumers. A more effective method may be to print DSM methods on the electricity bill. In addition an energy calculator is also available on the LECO website. However, the calculator does not account for the variations in energy consumption of the same type of appliance. For an example an LED television utilizes lesser amount of kilo watt hours in comparison to LCD or Plasma televisions. Therefore the energy calculator may not give an accurate prediction of the monthly electricity consumption.

A successful DSM technique promoted by both CEB and LECO over the last decade was the use of energy efficient or CFL light bulbs. A majority of consumers in Sri Lanka uses these in favour of normal light bulbs.

CEB at one point utilized the method of offering an opportunity for a bill wipe out through, for those who consumed less electricity in the current month in comparison to the previous month. However, this was a short lived campaign and the bill wipe out was through a raffle draw. Therefore the method proved to be of little consequence.

Currently, in Sri Lanka, the DSM is in the hands of the Sustainable Energy Authority. In spite of having the mandate, the Authority lacks the ability to reach the consumer on the ground level. Keeping it in the hands of the distribution companies may prove to be more effective.

Both LECO and CEB have made provision to get bill verification through Short Message Service (SMS). However, this is limited to the previous month's bill as meters installed in Sri Lanka (except for Industrial users) cannot take remote readings. Furthermore, only consumers who are registered are able to get this service. Consumers are able to calculate their current bills through applications available on LECO, PUCSL and CEB websites. LECO has also made an android mobile application available for download for this purpose.

Customers of both CEB and LECO are also given access to a range of payment points. These include the local office of the distributor, banks, post offices and selected super markets. However, according to the distributors, their consumers still prefer to pay at the local office or at the bank. The reasons for these being the lack of extra cost incurred and the quick reconciliation of the payment.

### **Managing Problems**

The most common problems faced by the electricity distributors can be broadly categorized into two sections; short terms and longer term. The most frequent short term complaint is interruption to power or power outtages. The most common longer term complaints include problems with the billing, malfunctioning meters and voltage fluctuations.

Both LECO and CEB have a centralised (regional licensee level) and decentralised (local level) complaint systems where consumers can call in or walk in. Having two complaint systems may appear to be a redundant process. However, CEB and LECO representatives spoke about the pros and cons of having two systems. While the centralized system made it easy to collate information and coordinate, a decentralized system gave more ownership to the local area engineers and impetus to manage their areas better. Complaints coming into the

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<sup>5</sup> [http://powermin.nic.in/distribution/demand\\_side\\_management.htm](http://powermin.nic.in/distribution/demand_side_management.htm)

centralized systems are logged and reference numbers are issued. However, often reference numbers are not issued for the complaints made to the local office.

Power outages are often informed verbally either by calling in or in person. The distribution licencees classify power outages as planned and unplanned (or scheduled and unscheduled). Planned outages take place when there is maintenance work on the distribution or transmission network. In the event of a planned outage, the licencees inform the consumers through the newspapers, radio, television and public announcement systems. As of early this year the distributors have also started sending SMSs. However, in order to receive the SMSs the consumers need to register for the service. Currently the number of registered consumers on LECO is less than 1% of their total consumer base. For CEB, the service is only available for consumers in the Colombo Municipal Council area. In both cases, awareness of the service is extremely low as the distributors have not made much effort to publicise the service. In the case of CEB, sign up for the service is more complicated than that of LECO. CEB customers can also call the central call centre and obtain information on the planned outages through an Interactive Voice Recording (IVR).

In terms of unplanned outages, the consumers often call the local office or the central call centre. A common complaint is that the line is often busy. The distribution companies themselves acknowledge that this situation does arise when an unplanned outage occurs and it does cause problems, especially if an unplanned outage occurs in another area.

The longer term complaints such as billing issues, malfunctioning meters and voltage fluctuations have to be made in written form to the licencee. The CEB Online system allows consumers to track the progress of their written complaints. All efforts are due to be made to sort out the issue between the licencee and the consumer. In the event this fails, the complaint can be made to the PUCSL for non-binding mediation. If consumers are not satisfied with the proposed solutions, they can seek the support of the courts.

Another issue faced by the utilities is the non-payment of bills. In this case, “red notices” are sent to the consumers who haven’t paid last month’s bill. Teams are sent for disconnections after two months. Consumers are charged LKR 800 per trip. This is sometimes due to delays in reconciliation of payments

The section above illustrated the common issues faced by electricity distributors and consumers and the ways in which some of the problems are addressed by the distributors. The following section will discuss some additional solutions for the above problems faced by the consumers and the distributors.

## Discussion

As it can be seen the use of ICTs is considerably lower than in the telecom sectors. The table below summarises the use of ICTs in electricity

Table 3: Use of ICTs by distributors

Services	CEB		LECO	
	Use of ICT	Type of technology	Use of ICT	Type of Technology
Availability of applications	Yes	Through website	Yes	Through website
Information about planned outages	Yes	SMS, IVR	Yes	SMS
Information about unplanned outages			Yes	SMS
Checking on account	Yes	SMS	Yes	SMS

balance				
Calculating current bill	Yes	Online through website	Yes	Through website, mobile app
A centralized call centre	Yes		Yes	
Bill payment			Yes	Through website

Source: Authors

Even in the cases where ICTs have been used to make information available, the uptake has been low. A predominant reason for this is low awareness. Considering the financial investments and the cross sector logistics that goes into putting some of these services into place, it would be prudent to create awareness of the services. The awareness can be created through the distribution of leaflets through the meter readers who visit the consumers each month or the monthly electricity bill.

Furthermore attention should be paid to the way the services are designed. For an example the registration system in place for the sign up for checking account balances for both LECO and CEB is complicated. This too causes low uptake.

As mentioned in the previous section, DSM is not actively pursued by the distribution licencees. However, given that the cost of producing electricity in Sri Lanka is among the highest in the region and the marginal cost of producing electricity during the peak demand period is XX%, it is an area that the sector should look at closely. The objective of DSM is to ensure efficient use of electricity. This can be done through the promotion of energy efficient appliances. Sri Lanka has done this in the past successfully with energy efficient bulbs. Conversely, another method of managing demand will be to introduce peak/off peak pricing. This will incentivize consumers to switch their consumption patterns thereby reducing the stress on the grid. However, smart meters are required in order to move to peak/off peak pricing. It cannot be done with the meters currently utilized in Sri Lanka. Alternatively, as described by in the study by Toh and Low (2011), SP services in Singapore provides information on their electricity bills on the consumption patterns in similar households with the intention of nudging the consumers who are consuming above average to cut down. In the absence of all of the above, the utilities can at a minimum provide consumers with information on reducing the consumption of electricity in terms of their appliances.

According to the data made available by the PUCSL, one of the complaints they receive is with regards to problems with billing and metering. The common reason for the bill disputes are the inaccurate reading of the meter and meter malfunctions. Currently a meter reader is dispatched to each of the locations that has an electricity connection to get the monthly reading. Human error too can be a factor in this manual form of bill reading as the bill reader writes down the number of units, calculates the monthly bill which is then entered into the electricity companies system upon his return. This can prove to be inefficient and costly especially with regards to rural areas. A possible solution to avoid the inaccurate reading or extra costs incurred for servicing the rural areas is the use of pre-paid meters. This has been successfully implemented in South Africa. It is also being pilot tested in Bangladesh. The cost of a meter is around USD 50.

As mentioned above, non-payment of electricity bills (or delayed payment) is cited as an issue. This too can be minimized with the use of pre-paid meters instead of post-paid, especially given that the consumer will be charged LKR 800 in the event of a disconnection and a further LKR 800 for reconnection.

Disconnection and the subsequent reconnection of the service requires a team of individuals to go to the location of the consumer. This incurs a cost. However, if a scratch card system can be implemented where consumers can purchase to set off against their bills at the time of disconnection, this will be reduce costs for both the utility and

the consumer. A system similar to a mobile top up card or the mobile payment system Ez-pay can be utilized for this.

The PUCSL has a mandate to regulate the sector. In that capacity they collect indicators and benchmark the 5 licencees against each other in a publically available report. However a majority of the indicators are in relation to generation and transmission. The indicators referring to distribution are limited to network reliability; monthly sales by Distribution Licensees: maximum Demand & number of customers the category and monthly sales by Distribution Licensees: Energy sales to other Distribution Licensees.

However as per the last report made available by the PUCSL data on network reliability is not reported by the 4 CEB licencees. Meetings with the distribution licencees revealed that they in fact collect data on the network reliability through the Systems Average Interruption Duration Index (SAIDI) and the Systems Average Interruption Frequency Index (SAIFI). Therefore PUCSL should gather more data which highlights the consumer practices of the licencees and benchmark them against each other. This may help create a competitive space among the licencees. The CEB regions are run by Deputy General Managers (DGMS), who are often keen on ensuring good performances in their areas. This may provide them with further incentives for better performance.

### **Recommendations**

Given the current condition of the Sri Lankan electricity sector, more can be done to enhance the consumer experience through better management practices. It is understood that some of the solutions discussed above takes time to implement. However, some can be done immediately.

Given the stress on the current grid system during the peak period and the lack of cost reflective pricing, it will be necessary for the utilities to encourage consumers move into more efficient use of energy. This can be done through educating them about energy efficient appliances and the energy efficient methods of using their current appliances. The information dissemination can be done thorough printing information on the electricity bills and leaflets. Given the current climate of high electricity prices and the general unhappiness of the consumers about their electricity bills, may give consumers the incentives to follow these practices.

The use of SMSs to inform consumers is cost efficient. However take up should be increased. This can be done by creating general awareness of the existence of these services. The removing of any existing bottlenecks for the use mobile payment to pay electricity bills should also be looked at.

Furthermore, the regulator should also look at benchmarking the licees against one another particular with indicator reflecting consumer management practices.

The installation of smart meters will require time. However, it is a move which the Sri Lankan electricity sector should take seriously, given that its costs are some of the highest in the region. An alternative will be to bring the overall costs down with the use of more cost effective methods of generation.

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## Annex 1: Stakeholders Interviewed

Name	Institute
Rohan Lucas, PhD	University of Moratuwa, Industry Expert
H. N. Gunasekera	LECO
Narendra de Silva	LECO
Jayavilal Meegoda	CEB
Dharmasiri Subasinghe	CEB
Damitha Kumarasinghe	PUCSL
Asoka Abeygunawardena	Energy Forum
Amarasiri Perera	Ex LECO
Consumer consultative committee - Sabaragamuwa	
Consumer consultative committee – North Central	
Consumer consultative committee – North Western	