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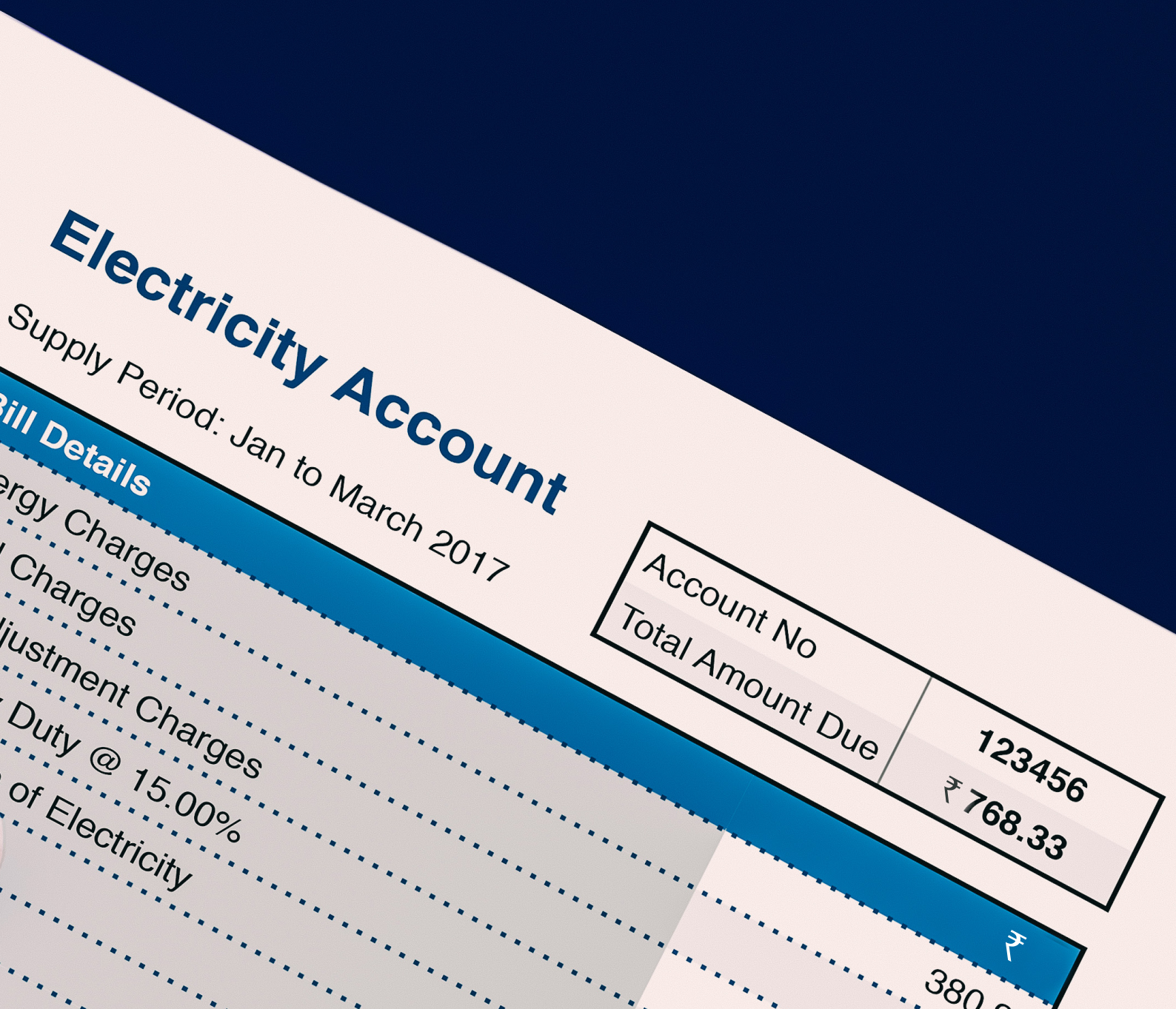
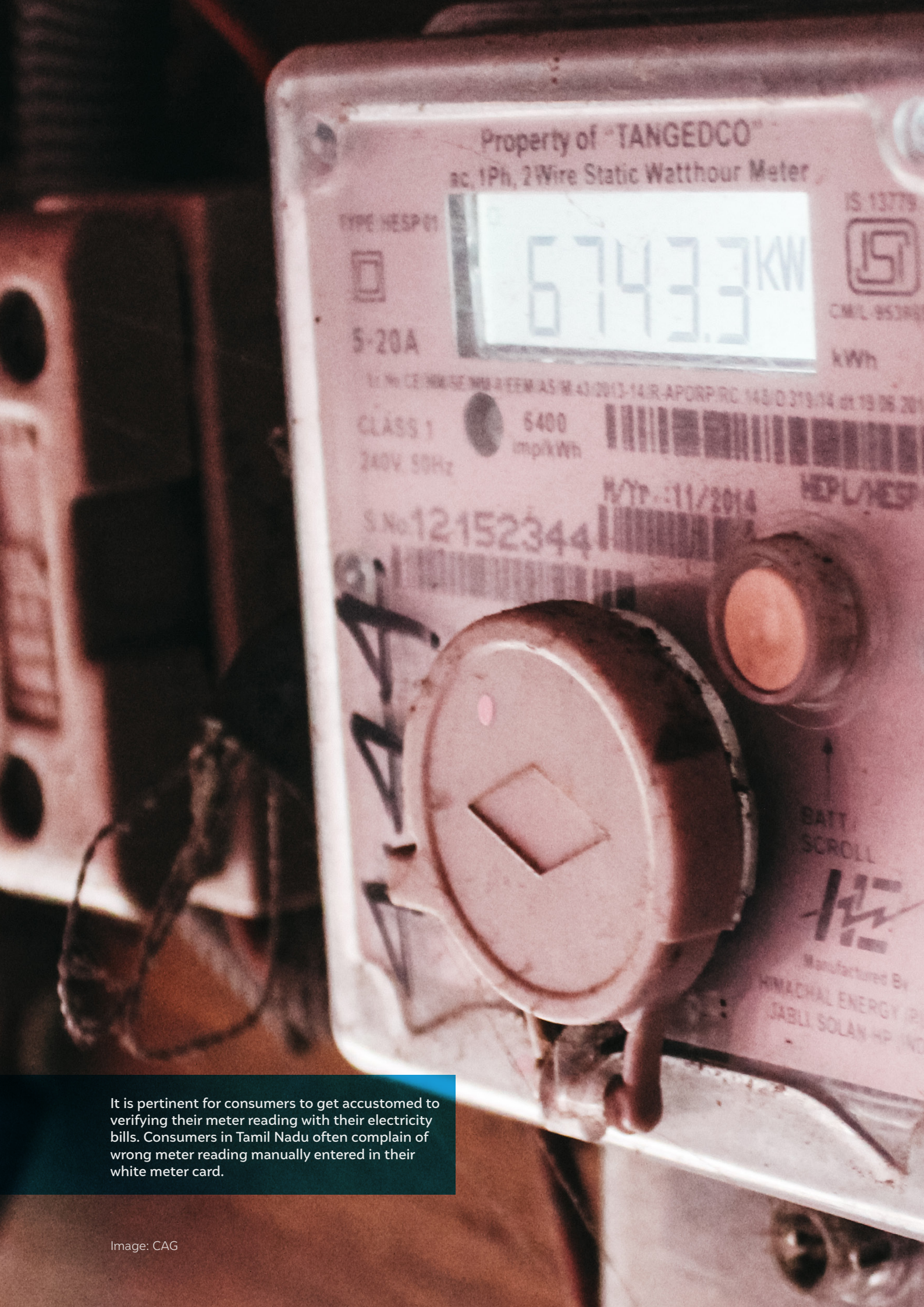
Making Electricity Bills Consumer Friendly

A Tamil Nadu Case Study

Kanika Balani, Pavithra Ramesh, and Prateek Aggarwal

Report | March 2021





It is pertinent for consumers to get accustomed to verifying their meter reading with their electricity bills. Consumers in Tamil Nadu often complain of wrong meter reading manually entered in their white meter card.

Image: CAG

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Organisations: **Citizen consumer and civic Action Group (**CAG), a 35-year-old non-profit organisation that works towards protecting citizens' rights in consumer and environmental issues and promoting good governance processes including transparency, accountability and participatory decision-making. The focus of the organisation is to ensure effective citizen representation in good governance.

Beginning 1985, CAG has kept pace with the new challenges arising for consumers – from basic problems relating to defective goods and services, to investor protection, power and telecom sector reforms and monitoring the growth of e-commerce. Given the increased role in consumer protection, CAG's central focus has been to make critical interventions to create consumer awareness, to ensure better policies for consumers, to protect our natural environment and to function as an effective citizens' monitoring group.

The **Council on Energy, Environment and Water** (CEEW) is one of Asia's leading not-for-profit policy research institutions. The Council uses data, integrated analysis, and strategic outreach to explain – and change – the use, reuse, and misuse of resources. It prides itself on the independence of its high-quality research, develops partnerships with public and private institutions, and engages with wider public. In 2021, CEEW once again featured extensively across ten categories in the *2020 Global Go To Think Tank Index Report*. The Council has also been consistently ranked among the world's top climate change think tanks. Follow us on Twitter @CEEWIndia for the latest updates.

Shakti Sustainable Energy Foundation seeks to facilitate India's transition to a sustainable energy future by aiding the design and implementation of policies in the following areas: clean power, energy efficiency, sustainable urban transport, climate change mitigation and clean energy finance.

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About CAG

Citizen consumer and civic Action Group (CAG), formerly known as Consumer Action Group (CAG) came into existence on 7 October 1985 as a non-profit, non-political, non-religious, voluntary and professional citizens group based in Chennai, India. S. Govind Swaminadhan, legal practitioner and former Advocate General of the State of Tamil Nadu, was the founding trustee. Initial trustees included S. Guhan (former Finance Secretary, Government of Tamil Nadu), S.L.Rao (former Chairman, Central Electricity Regulatory Commission), Shyamala Nataraj (development journalist with the South India Aids Action Program) and Sriram Panchu (Senior Advocate).

CAG has over 25 staff working on energy and environment, consumer protection, urban governance, water, sanitation, solid waste management, and transport governance. CAG's strengths are in the areas of policy and action research, information dissemination, training and capacity building, data analysis and ICT tools, stakeholder engagement, network building, advocacy, and outreach programmes.

The group was responsible for the establishment of a fully functional Electricity Regulatory Commission in Tamil Nadu. Further, with regard to improving quality of consumer participation in the electricity sector in Tamil Nadu, CAG is the only organisation in Tamil Nadu engaged in promoting the quality and quantity of consumer participation in the electricity space in Tamil Nadu through a series of policy and research analysis, information dissemination, training and capacity building, stakeholder engagement, network building, advocacy and outreach programmes. The organisation has also made particular efforts on behalf of electricity consumers in the state, including partnering with national advocacy organisations to improve the governance of electricity in the state and to regulate thermal power plants. The group has been represented in the Tamil Nadu Electricity Regulatory Commission - State Advisory Committee between 2002 -2012. Since 2014, representatives of CAG have been members of the Consumer Grievance Redressal Forum (CGRF) set up by the Tamil Nadu Electricity Generation and Distribution Corporation (TANGEDCO).

Since CAG's inception, qualified legal professionals have provided free counseling to consumers seeking redress; CAG staff have organised and led seminars and workshops on consumer rights. For its efforts, the Ministry of Consumer Affairs awarded CAG the National Award for Consumer Protection in 1989 (Second Prize) and 1992 (First Prize).

The group is best known for important public interest litigations it filed in the Madras High Court and the Supreme Court, especially on issues affecting public health and the environment. For example, after founding the Joint Action Forum for Safety on Roads in 1989, CAG successfully filed a case against dangerous road obstructions. CAG also filed a number of seminal cases against environmental degradation in the city, including successful stay in preventing the construction of the Madras to Kanyakumari Highway (East Coast Road) till receipt of environmental clearance from the Ministry of Environment and Forest (MoEF); illegal construction in the delicate estuary of the Adyar River; protection of Chennai's wetland spread over 358 acres. Following a successful court intervention on the regularisation scheme of the government on building violations, the Madras High Court appointed CAG as a member of the Chennai Metropolitan Development Authority (CMDA) Monitoring Committee to monitor regularisation.

The group has also taken action on key urban planning issues in the city. It released studies on decentralisation, fire safety in cinemas, water management, and much more. The group trained councilors in master planning and submitted detailed critiques of Chennai's Second Master Plan. As a result, CAG was invited to serve on a government committee to analyse public comments received on development control rules. The organisation's focus on urban planning and governance has continued into today with improved capacities in data management and data-driven decision-making. CAG's extensive engagement with the city corporation for a zero waste policy was rewarded with the government introducing the single use plastic ban in the state. The group strives for the improvement of livelihoods of the informal workers in the solid waste management sector.

About CEEW

The Council on Energy, Environment and Water (CEEW) is one of Asia's leading not-for-profit policy research institutions. **The Council uses data, integrated analysis, and strategic outreach to explain — and change — the use, reuse, and misuse of resources.** The Council addresses pressing global challenges through an integrated and internationally focused approach. It prides itself on the independence of its high-quality research, develops partnerships with public and private institutions, and engages with the wider public.

The Council's illustrious Board comprises Mr Jamshyd Godrej (Chairperson), Mr Tarun Das, Dr Anil Kakodkar, Mr S. Ramadorai, Mr Montek Singh Ahluwalia, Dr Naushad Forbes, Ambassador Nengcha Lhouvum Mukhopadhaya, and Dr Janmejaya Sinha. The 100 plus executive team is led by Dr Arunabha Ghosh. CEEW is certified as a **Great Place To Work®**.

In 2021, CEEW once again featured extensively across ten categories in the *2020 Global Go To Think Tank Index Report*, including being ranked as **South Asia's top think tank (15th globally) in our category for the eighth year in a row**. CEEW has also been ranked as South Asia's top energy and resource policy think tank for the third year running. It has consistently featured among the world's best managed and independent think tanks, and twice among the world's 20 best climate think tanks.

In ten years of operations, The Council has engaged in 278 research projects, published 212 peer-reviewed books, policy reports and papers, created 100+ new databases or improved access to data, advised governments around the world nearly 700 times, promoted bilateral and multilateral initiatives on 80+ occasions, and organised 350+ seminars and conferences. In July 2019, Minister Dharmendra Pradhan and Dr Fatih Birol (IEA) launched the CEEW Centre for Energy Finance. In August 2020, Powering Livelihoods — a CEEW and Villgro initiative for rural start-ups — was launched by Minister Mr Piyush Goyal, Dr Rajiv Kumar (NITI Aayog), and H.E. Ms Damilola Ogunbiyi (SEforAll).

The Council's major contributions include: The 584-page *National Water Resources Framework Study* for India's 12th Five Year Plan; the first independent evaluation of the *National Solar Mission*; India's first report on global governance, submitted to the National Security Adviser; irrigation reform for Bihar; the birth of the Clean Energy Access Network; work for the PMO on accelerated targets for renewables, power sector reforms, environmental clearances, Swachh Bharat; pathbreaking work for the Paris Agreement, the HFC deal, the aviation emissions agreement, and international climate technology cooperation; the concept and strategy for the International Solar Alliance (ISA); the Common Risk Mitigation Mechanism (CRMM); critical minerals for *Make in India*; modelling uncertainties across 200+ scenarios for India's low-carbon pathways; India's largest multidimensional energy access survey (ACCESS); climate geoengineering governance; circular economy of water and waste; and the flagship event, Energy Horizons. It recently published *Jobs, Growth and Sustainability: A New Social Contract for India's Recovery*.

The Council's current initiatives include: A go-to-market programme for decentralised renewable energy-powered livelihood appliances; examining country-wide residential energy consumption patterns; raising consumer engagement on power issues; piloting business models for solar rooftop adoption; developing a renewable energy project performance dashboard; green hydrogen for industry decarbonisation; state-level modelling for energy and climate policy; reallocating water for faster economic growth; creating a democratic demand for clean air; raising consumer awareness on sustainable cooling; and supporting India's electric vehicle and battery ambitions. It also analyses the energy transition in emerging economies, including Indonesia, South Africa, Sri Lanka and Viet Nam.

The Council has a footprint in 21 Indian states, working extensively with state governments and grassroots NGOs. It is supporting power sector reforms in Uttar Pradesh and Tamil Nadu, scaling up solar-powered irrigation in Chhattisgarh, supporting climate action plans in Gujarat and Madhya Pradesh, evaluating community-based natural farming in Andhra Pradesh, examining crop residue burning in Punjab, and promoting solar rooftops in Delhi and Bihar.

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Kanika, a Programme Associate at CEEW, has been leading the work on improving discoms' revenue recovery operations in Uttar Pradesh. She holds a master's degree in regulatory governance from the Tata Institute of Social Sciences (TISS), Mumbai.

"An electricity bill isn't just a piece of billing information to consumers. It's potential as a mode to enhance transparency in the sector and make consumers more responsive is yet to be realised."

Kanika Balani designed the survey strategy and survey instrument, authored the executive summary, co-authored all the chapters of the report, and contributed to the data analysis and design of the model bills.

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Pavithra, a researcher contributing to the energy governance team at CAG, has been working with the organisation's initiative to improve consumer awareness and participation in the electricity sector in Tamil Nadu. She holds a master's degree in international economics and political studies from the Charles University in Prague, Czech Republic.

"Electricity bills help consumers understand their energy consumption and usage behaviour. But electricity bills can do more than the above by providing more granular details and engagement opportunities to enable consumers to interact with the utility and various stakeholders in a more informed and transparent manner."

Pavithra Ramesh has co-led the execution of the project, contributed to the survey strategy, the Tamil translation of survey instrument; conducted the data collection, data cleaning, and co-authored all the chapters of the report, in addition to contributing to the data analysis and model bill designs.

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Prateek, a Programme Associate, is engaged in The Council's power programme in Uttar Pradesh. He has been engaging with the discoms and State Electricity Regulatory Commissions to understand the governance and reforms processes of the sector. He holds a B.Tech in power system engineering and an MBA in power management from the University of Petroleum and Energy Studies, Dehradun.

"The electricity bill is the only instrument of regular communication between discom and consumer. For publicly owned discoms, consumer service and consumer satisfaction has gained traction in recent years. Providing a detailed electricity bill is well-positioned to play its role in achieving the above objectives."

Prateek Aggarwal has co-led the execution of the project, edited the entire manuscript, and contributed to fine-tuning of all the chapters and model bill designs.

The study captures the perceptions electricity consumers have about electricity bills, across the rural, urban and semi-urban regions of Tamil Nadu.

Image: Unsplash

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Acronyms

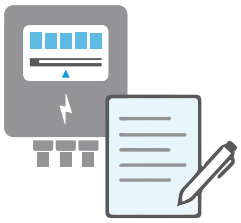
ACCD	additional current consumption deposit
BRPL	BSES Rajdhani Power Limited
BSES	Bombay Suburban Electric Supply
CC charges	current consumption charges
CGRF	Consumer Grievance Redressal Forum
DERC	Delhi Electricity Regulatory Commission
Discoms	distribution companies
EA	Electricity Act
ECC	Electricity Consumer Cells
EO	Electricity Ombudsman
FGD	focus group discussion
FoR	Forum of Regulators
IGRF	Internal Grievance Redressal Forum
MCD	meter caution deposit
PPEM	Participatory Public Expenditure Management
RWA	Resident Welfare Association
SERC	State Electricity Regulatory Commission
TANGEDCO	Tamil Nadu Generation and Distribution Corporation Limited
TNEB	Tamil Nadu Electricity Board
TNERC	Tamil Nadu Electricity Regulatory Commission
WMC	White meter card

Electricity bills have a great potential to enhance energy efficiency by informing consumers of their consumption and how to be more energy efficient.

Image: iStock

Executive summary

Information is necessary for both policymakers and consumers of goods and services to arrive at key decisions. In the context of the study, electricity consumers need to receive adequate and transparent information on electricity pricing, consumption, and complaint redressal procedures from their power distribution companies (discoms). Improved transparency from discoms and improved consumer feedback through grievance redressal can help build trust between both parties and enhance service delivery.



The billing information is recorded manually in Tamil Nadu's white meter card, and it does not provide the breakup of all charges in the bill

Sharing information about consumption patterns, energy conservation, and energy efficiency can benefit the consumers by helping them manage power demand optimally. In this effort, the electricity bill that the discoms send out to its consumers becomes a powerful tool of communication. While consumption and tariff details in a bill enable consumers to be informed about the utility, details about the energy-mix, grievance redressal, and energy efficiency tips create space for greater consumer engagement on these details.

A basic premise for participation by consumers lies in the amount of information that a discom can or will be able to disclose in the electricity bill. For example, Tamil Nadu, which is the focus of this study, has a unique bill format known as the white meter card (WMC). It is a white foldable card used by Tamil Nadu's discom to inform the domestic consumers of their electricity charges. The billing information is recorded manually in the WMC by the meter-reader/assessor on a bimonthly basis, unlike the billing system in other states. However, the WMC is short on information as it does not show the break-up of all the charges in the bill, tariff slabs, and the detail on the subsidy provided to consumers. The Tamil Nadu discom's website provides an online account summary, in which some details are available, but it is accessed by only a fourth of consumers. Taken together, information provided to consumers is not sufficient for them to make an informed decision about their consumption and understand what they have pay for.

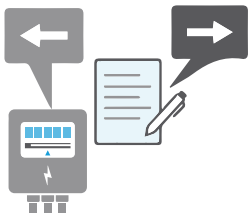
To ascertain the effect of this information gap, a study was conducted based on the following research questions:

1. What is the consumers' perception of the current electricity billing formats used in Tamil Nadu?
2. How significant is the need to provide more information to consumers through their bills vis-à-vis their level of awareness around the bill elements?
3. What elements could be added in the bills to improve information disclosure by the utility and enhance consumers' interest in public participation in the sectoral decision making?

Methodology

The State Electricity Regulatory Commissions define the elements to be provided in electricity bills in *State Electricity Supply Codes*. Elements in the bills of 26 discoms (operating across 21 states) were mapped to ascertain how Tamil Nadu compares with other states in billing practices. The mapping exercise revealed that discoms such as Bombay Suburban Electric Supply (BSES) in Delhi, and Adani Electricity in Mumbai, follow some good practices of information disclosure. As *Tamil Nadu Electricity Supply Code* has not defined a comprehensive list of bill elements, only limited information is provided in the WMC.

A combination of surveys and focus group discussions (FGDs) were administered across nine districts in Tamil Nadu, to assess consumers' perception towards electricity bills and their awareness levels. The data collection was done between June and August 2019, and 250 respondents participated in the exercise. The surveys with individual respondents provided an insight into the perception of respondents on bill formats and awareness levels regarding various bill elements. The FGDs with the same set of respondents, involving constructive discussions, revealed consumers' expectations from a model bill.



47% of respondents found inconsistencies between the manual entry by meter-reader in the White Meter Card and the actual meter reading

Consumers' perception of Tamil Nadu bill formats

Respondents were asked if they faced any difficulties in understanding the information in WMC; 47 per cent of them found inconsistencies between the manual entry by meter-reader/ assessor and actual meter reading. Further, they also pointed out that information on consumption, slab-wise tariffs, and break-up of other charges is not available.

Further, respondents were asked to rate the WMC and the online account summary along six parameters on a scale of 1 to 5 (1 being the lowest and 5 being the highest). The respondents' average scores are shown as a bar chart in Figure ES1. Most respondents find the online account summary easy to understand and informative, but it is also criticised for being cluttered. As the online summary provides information only in English, it poses a barrier to those who do not know English. The WMC is preferred by respondents for its ease of access in a physical form. The WMC is also rated on par with online summary on the flow of information due to its simple presentation, but it scores low on all other counts.

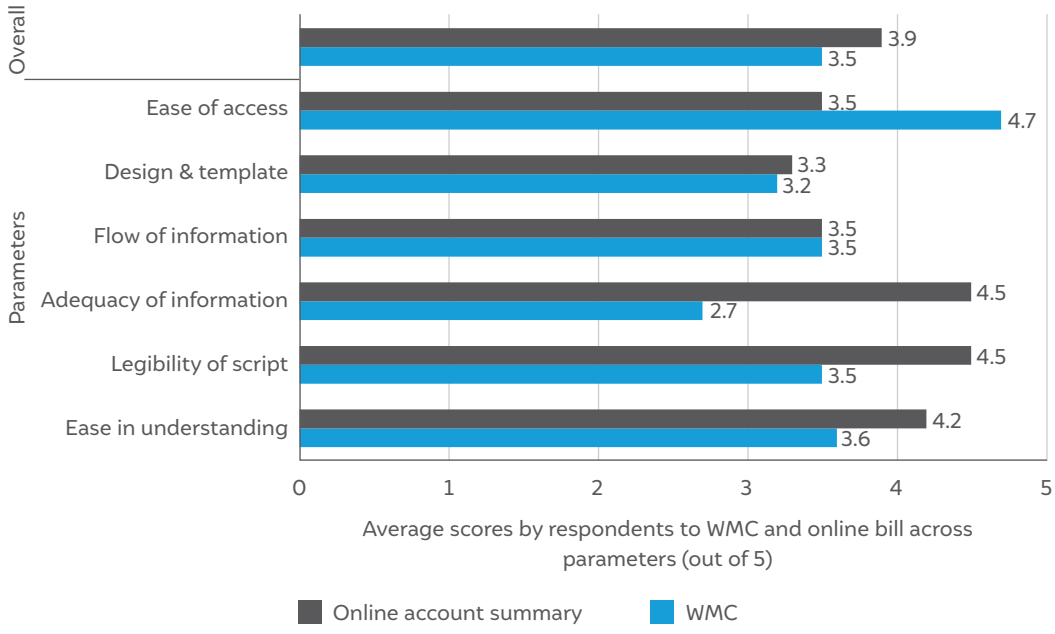


Figure ES1
Respondents find online account summary easier to understand and informative over WMC

Source: Authors' analysis

Consumers' awareness of billing elements and electricity tariff

When the respondents were provided a list of various charges applicable in the bill to ascertain if they were aware of the significance of these charges, more than half of them stated that they understand the significance of current consumption charges. But they were not aware why electricity tax, wielding charges, and additional deposits are levied. Consumers who access the online account summary had a better awareness of the components of the bill than those who only rely on WMC and/or SMS.

66% of the respondents were not sure how the slab-wise tariffs apply after subsidy deduction

As regards subsidy, 96 per cent of respondents knew that the state government provides them the first 100 units free on a bimonthly basis. However, 66 per cent of the respondents were not sure how the slab-wise tariffs apply after subsidy deduction. Interestingly, 77 per cent of the respondents could distinguish how the tariffs for domestic consumers in the state broadly compare with the other categories.

As regards consumers' knowledge of grievance redressal mechanisms, 57 per cent of the respondents claimed to be aware of the complaint redressal mechanisms for filing complaints related to service. However, they were mostly unaware of mechanisms other than reaching out to local discom officials. Nearly half the respondents reported that they would reach the discom's helpline number in case of complaints, but only 13 per cent of the respondents could recall the number correctly. Similarly, only 8 per cent were aware of the Consumer Grievance Redressal Forum (CGRF) and only 5 per cent of respondents knew about all the three tiers of the grievance redressal mechanism.

Consumers' awareness regarding tariff determination procedure was also probed. Overall, 49 per cent of the respondents reported that they had either seen or read a public notice on electricity tariff or subsidy order and one-fourth of the respondents had heard of public hearings on tariff determination. However, only 11 per cent of the respondents correctly identified Tamil Nadu Energy Regulatory Commission (TNERC) as the agency that determines the electricity tariffs in the state.

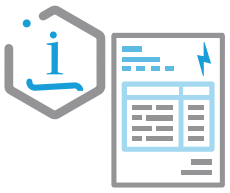
Only 8% of respondents were aware of the Consumer Grievance Redressal Forum and only 5% of respondents knew about all the three tiers of the grievance redressal mechanism

The findings from this study clearly point to the need for enhancing consumers' awareness in Tamil Nadu at three broad levels: (i) components of the electricity bill and the various charges that add up to the final bill amount, (ii) grievance redressal mechanisms, and (iii) electricity tariff and its determination process. Information disclosure to consumers can be vastly improved by redesigning the bill format by incorporating the attributes deemed essential by them.

Redesigning the bill format

The respondents were queried on the attributes to be included in a model bill format. A majority of them wished the bill carries more information than that provided in the WMC and the online account summary. As much as 79 per cent of the consumers wanted the electronic and physical versions of the electricity bills to be similar in format and information. Interestingly, semi-urban and rural consumers (27 per cent) attach a sentimental value to WMC and desired to retain the same form permanently.

Some consumers (35 per cent) felt that the bill should carry information in a bilingual format (Tamil and English) and 60 per cent of the consumers opined that the bill should be reader-friendly and have a comprehensive visual representation.



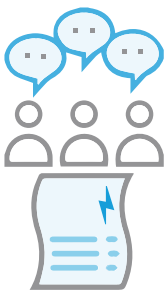
79% of the consumers wanted the electronic and physical versions of the electricity bills to be similar in format and information

Based on inputs from consumers, three sample bills were designed, incorporating their preferences and adding more information. The formats have been currently designed in English for wider dissemination of the study. The discom needs to provide a choice for consumers between English or Tamil for gleaning information. Also, both physical and digital copies of the bill need to have a common format.

Two of the designs spread the bill on an A4 sheet, and the third design consists of a combination of a meter card and a supplementary A4 sheet. The third design satisfies the preferences of semi-urban and rural respondents and observation of the discom officials that the meter card is bound to stay in Tamil Nadu at least in the foreseeable future.

In the bill design, additional information preferred by consumers is provided such as the tips for energy conservation, which would enable consumers to use electricity responsibly, and disclosure on discom's energy mix, which shows the contribution from renewable sources. Two of the formats also include columns for the calculation of net consumption by solar rooftop consumers. These elements have been selectively adopted from innovative bill formats issued by utilities in India and abroad.

The information included in the three designs is mostly the same, but the placement of elements varies between them. Most elements placed on the front side of Design 1 (A4 sheet) are positioned on the flip side of Design 2 (A4 sheet) and vice versa, taking into consideration a mixed input from consumers on placing certain elements on either side. In Design 3, the elements have been split between the permanent meter card and the supplementary A4-sized printed document. Consumer details, slab-wise applicable tariffs, payment modes, grievance redressal mechanisms, and so on are printed in the meter card as these elements are likely to remain the same for one year. In the supplementary sheet, variable information is captured, such as consumption details, and break-up of bill amount, along with the slab-wise consumption charges, and consumer helpline number which are repeated in the interest of consumers.



Sample design 1 (two-sided A4-sized printed document)

- Front side mainly includes consumer details, consumption details, break-up of total payable bill, consumption slab-wise charges, and consumer helpline number.
- Flip side mainly includes additional charges imposed, consumer grievance redressal mechanisms, various expenses of discom in consumer tariff, energy mix in power procured by the discom, and various payment modes available for consumers.

Sample design 2 (two-sided A4-sized printed document)

- Front side mainly includes consumer details, consumption details, break-up of total payable bill, consumer helpline number, and consumer grievance redressal mechanisms.
- Flip side mainly includes consumption slab-wise charges, additional charges imposed, various expenses of discom in consumer tariff, energy mix in power procured by the discom, and various payment modes available for consumers.

Sample design 3 (Permanent meter card with a supplementary A-4 sized printed document)

- Permanent meter card mainly includes:
  - Front side with consumer details, consumer helpline number, and various payment modes available for consumers
  - Flip side with consumption slab-wise charges, additional charges imposed, and consumer grievance redressal mechanisms
- Supplementary A4 sheet mainly includes:
  - Front side: consumer details, consumption details, break-up of total payable bill, slab-wise consumption charges, and consumer helpline number
  - Flip side: various expenses of discom in consumer tariff, and energy mix in power procured by the discom.

Conclusion and the way forward

Electricity consumers in Tamil Nadu are found to have low awareness regarding the significance of various bill elements and the calculation of various charges primarily due to lack of adequate information provided in the electricity bill. Consumers are unhappy with the two bill formats offered by the discom in Tamil Nadu at present. They prefer a model bill that is easy to access in a physical format, easily comprehensible, has a reader-friendly design, and provides detailed billing information.

Using inputs from select consumers in Tamil Nadu and the provisions that will become relevant in the future, three model bill formats have been designed. The findings from this study apply to other discoms as well. The three model bills are planned to be tested by piloting them with select consumers in the next phase of this study to ascertain their preference among the three formats. Bill formats can be changed only through suitable amendments in the *Tamil Nadu Electricity Supply Code*. Both the regulator and discom have to approve the new bill formats. The feasibility and cost effectiveness of printing and modes of distribution of these three formats also need to be worked out.

Bill formats can be changed only through suitable amendments in the Tamil Nadu Electricity Supply Code. Both the regulator and discom have to approve the new bill formats

Consumers' trust in discoms is dependent on their perception of how discoms use their revenues earned from consumers to augment their distribution infrastructure and provide quality and reliable supply to consumers.

Image: CAG

1. Introduction

Access to information is key to ensuring that consumers of goods and services are able to engage in dialogue, negotiation etc with public utilities. The ability of consumers to dialogue and negotiate or in other words participate, using the information will improve the transparency and accountability of public services (Cheng and Moses 2016). India's electricity distribution sector suffers from issues of information asymmetry and consequential trust-gap between the consumers and the utility service provider. As a result, consumers are inhibited to participate in the governance i.e. administrative processes of the utility.

One way to ensure that adequate information is made available to consumers is through the electricity bill which is the primary source of information containing units consumed and amount to be paid by consumers. It is a powerful mechanism to disclose adequate and necessary information for enabling consumers to gain knowledge about the sector. Greater the information disclosure, greater will be the level of accountability of the distribution companies on their operations. The consumers, with the information accessed can better participate in the governance of the utility to enhance efficiency of its operations.

In this regard, a well-designed electricity bill, with adequate information, can be seen as a key mechanism to ensuring greater participation of consumer in the electricity sector. At the simplest level, it ensures a consumer base that is better informed about what they pay for. The focus of this study is on the nature and extent of information that can be shared with consumers through electricity bills. The main objective is to explore the role of electricity bills in enhancing the utility's information disclosure practices and promoting increased consumers' interest in sectoral decision making.

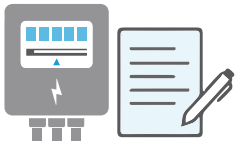
One way to ensure that adequate information is made available to consumers is through the electricity bill which is the primary source of information containing units consumed and amount to be paid by consumers

Mapping the current state of affairs

The Seventh Schedule of the Indian Constitution places electricity in the concurrent list. The Electricity Act (EA) 2003 empowers the State Electricity Regulatory Commissions (SERCs) to formulate regulations for billing. The SERCs issue *Electricity Supply Codes*, in which what an electricity bill contains is defined, and the codes vary between states.

The Forum of Regulators (FoR) came up with the *Model Supply Code* guidelines, providing a broad framework for SERCs to draft *Electricity Supply Code* regulations (Forum of Regulators 2011). To standardise the billing format, the guidelines recommend what elements are to be included in the bill. Many SERCs adopted these guidelines with some modifications by

incorporating state-specific practices. Tamil Nadu is among the states that did not adopt the FoR's guidelines. In 2015, the FoR proposed a model electricity bill based on its study to standardise electricity bill formats. Tamil Nadu did not embrace this model either.



The meter-reader/ assessor visits the consumer's location and manually records consumption units and charges in the WMC

Understanding the Tamil Nadu context

In Tamil Nadu, domestic consumers are issued a white meter card (WMC) that contains consumption units and electricity charges. They can also access an online account summary, and are given a receipt on bill payment. The WMC is a foldable card kept by consumers near the meter box. The meter-reader/assessor visits the consumer's location and manually records consumption units and charges in the WMC. The assessor also records the billing information on a handheld device, based on which the consumers' online account summary is generated. The online account summary, containing more bill details, can be accessed through the Tamil Nadu Generation and Distribution Corporation Limited's (TANGEDCO) website using login credentials. However, currently only 22.5 per cent of consumers in the state access the online summary.[1]

Inferences drawn from the capacity building and outreach sessions on electricity organised by CAG and its partners indicate that consumers in Tamil Nadu have a limited understanding of the various charges levied in their electricity bills. They complain that the WMC doesn't provide a break-up of all applicable charges. Interactions with a member of Consumer Grievance Redressal Forum (CGRF), Chennai Central, reveal that most complaints registered with the CGRFs are related to consumers' lack of clarity around billing information, especially the break-up of charges. Simply by sharing adequate information with consumers in the bill, the discom can resolve most of the issues. Thus, transparency on pricing and billing information needs to be achieved through the electricity bill in the state.

Image: CAG

1. Information received from TANGEDCO in response to a RTI petition filed is attached as Annexure 1.

Study objectives

This study explores how structured and informative electricity bills can disseminate adequate and critical information to electricity consumers and increase their interest in the sectoral decision making. To understand how bills need to be structured, bill formats of other states are reviewed, consumer preferences for information in bills are assessed, and sample bills are designed to fill the current gaps.

The study thus focuses on answering the following key research questions:

1. **What is the consumers' perception of the current electricity billing formats used in Tamil Nadu?**
2. **How significant is the need to provide more information to consumers through bills vis-à-vis their level of awareness of the bill elements?**
3. **What bill elements could be added to improve information disclosure practices and increase consumer interest in public participation?**

The theoretical premise of the study is outlined in the next chapter. The bill formats adopted by other electricity utilities in India and abroad are discussed in Chapter 3 to lay the ground for designing a new bill format for Tamil Nadu. The methodology adopted for the study in Tamil Nadu is explained in Chapter 4. The survey findings on consumer perception of the bill formats used in Tamil Nadu and their level of awareness around the billing information are elaborated in Chapter 5. Consumers' preferences for elements in a bill are revealed in Chapter 6, in addition to suggesting various possible bill formats that could be adopted by the state.

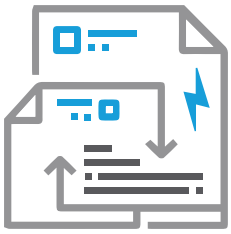
This study explores how structured and informative electricity bills can disseminate adequate and critical information to electricity consumers and increase public participation

The extensive transmission lines in Tamil Nadu have ably supported the supply of electricity to all parts of the state.

Image: iStock

2. Theory behind the use of electricity bills for public participation

The theoretical premise of the study is grounded in the concept of public participation and information disclosure. Public participation is encouraged in decision making to ensure an equitable representation of different interests and social groups. As regards electricity services, consumer participation could provide effective solutions, as consumer inputs can be used in decisions and processes that most directly affect them. Consumer participation could also help increase accountability and improved service delivery. But these goals can be achieved only if consumers are capable and empowered to participate through (i) information, (ii) consultation, and (iii) placation (Arnstein 1969).



A transparent information disclosure can (i) promote accountability, (ii) empower consumers to participate, and (iii) strengthen the relationship between public utilities and its consumers

Public utilities need to disclose information to make their processes transparent and simultaneously create awareness, which would enable the public to be more participative (United Nations and Global Forum on Reinventing Government 2007). A transparent information disclosure can (i) promote accountability, (ii) empower consumers to participate, and (iii) strengthen the relationship between public utilities and its consumers (World Bank 2003; Ackerman 2004; Shah 2007; Coghlan and Brydon-Miller 2014).

Two primary methods are effective to facilitate disclosure of information in the electricity sector (Piotrowski 2007):

- *Proactive dissemination*, when the utility is releasing information: This refers to information made available in the form of (i) citizen charter, annual reports, relevant acts, rules, and regulations, (ii) public announcements or interviews in newspapers and other media, (iii) general consumer information in the utility's web portal, and (iv) the electricity bill.
- *Reactive dissemination*, when information is released upon request: In such instances, consumers, consumer representatives, or other non-state actors reach out to the relevant local authorities to seek information. This could be (i) by way of following rules and procedures outlined by the *Right to Information Act*, 2005, which mandates timely response to requests for public information and (ii) by making formal and informal requests at the local office of the discom.

Electricity bill as a tool to improve information disclosure

The utility issues an electricity bill on a regular basis to all its consumers, which acts as the primary line of communication between the utility and its consumers. Therefore,

the electricity bill could be used as a powerful tool to disseminate information and ensure effective consumer participation. Due to improved information sharing in the bill, transparency could be enhanced in the decision-making process, thus building trust between the consumers and their utilities (Zhou 2012; Praetorius et al. 2008). Electricity bills have proven to be useful in nudging consumers to adopt energy conservation behaviour (Eryilmaz and Gafford 2018; Dromacque 2013). The study, therefore, explores the utility of electricity bills as a tool to inform and empower consumers.

The next chapter presents lessons for Tamil Nadu based on a detailed review of information made available in electricity bill formats used by utilities in various Indian states and countries.

3. Electricity bills in Tamil Nadu and lessons from other states

Most households in Tamil Nadu pay their bills in cash through discom payment counters.

In this chapter, the focus rests on information-sharing practices and the amount of information shared through the electricity bill by utilities in India and the world to understand how customer participation can be ensured by effective communication through electricity bills.

3.1 Information disclosure in bill formats used in Tamil Nadu

Tamil Nadu's white meter card (WMC) is a foldable card where two out of four sides are used for filling billing information regularly. The online account summary accessed by logging into TANGEDCO's website provides more information than that in WMC. Table 1 provides a summary of information disseminated to consumers in Tamil Nadu through WMC and online summary. As already mentioned, the break-up various charges in the bill is not provided in the WMC. Although the online account summary provides detailed billing information, it does not carry essential consumer information such as grievance redressal mechanisms, among others. TANGEDCO's receipt (Annexure 2), which is provided upon bill payment at the collection counter, also carries billing information and the receipt tends to vary across distribution circles. In most instances, receipts capture bill elements largely similar to the WMC. Additional elements in the receipt may include a break-up of charges and arrears.

Groups	Bill elements	TN's white meter card	TN's online account summary
Consumer information	Consumer's name	●	●
	Consumer address	●	●
	Service/Consumer/Account number or ID	●	●
	Type of supply/phase	●	●
Connection details	Meter number	●	●
	Consumer/Tariff category/Code	●	●
	Capacity/Load (kW/kVA)	●	
	Meter details (Status/Make/Type/Ownership/ Category/Location)		●
	Additional current consumption deposit/ Security deposit for refund or adjustment		●
	Meter caution deposit (MCD)/MCD for refund or adjustment		●
	Power factor		●
Utility information	Utility name	●	
	Distribution circle/Division number/Division name	●	
	Region/Zone	●	
	Distribution number		●
Billing information	Bill period/Month	●	
	Assessment date/Bill Date	●	
	Date of reading	●	
	Bill number	●	
	Reading	●	
	Units consumed (kWh/kVAh)	●	

Table 1
The white meter card (WMC) does not provide key billing information[2]

Source: Authors' compilation from TANGEDCO's bill formats

2. Annexures 3 and 4 include pictures of the WMC and the online account summary used in Tamil Nadu.

Table 1 contd...

Groups	Bill elements	TN's white meter card	TN's online account summary
Billing information	Govt subsidy (INR)/Discount	●	
	Current consumption charges (INR)/Energy charges	●	●
	Amount to be paid	●	●
	Due date	●	●
	Fixed cost/Minimum charge		●
	Calculation for different slabs		●
	MD penalty/Charge		●
	PF penalty/Surcharge		●
	E-tax		●
	Arrears		●
	Credits and adjustments		●
	Late Payment Surcharge (LPS)		●
Payment options	Accepted methods of payment—Cash counters/Details of online payment/Cheque	●	
	Working hours for payment collection	●	
Call centre details	24×7 Call Centre/Customer Care	●	
Grievance redressal	CGRF (About)	●	
	CGRF point of contact	●	
	CGRF address	●	
	Electricity ombudsman	●	
	Ombudsman (About)	●	
Additional information	Handling of the meter card	●	
	Fine for loss of meter card	●	
	Mandatory collection of receipt	●	
	Deposit fund	●	
	Contact information to complaint about power theft	●	
	Signature of the representative	●	
	Consumption pattern		●
	Tariff slab		●
	Power status		●
	Previous payment details (Date and amount/ Receipt number)		●
	Meter change details, if any		●
	Tariff change details, if any		●
	Miscellaneous/Sundry collection details		●
Energy conservation	Remarks: switch off appliances when not in use; Use energy-efficient lights	●	
	Appeal/Slogan about saving energy	●	

3.2 Electricity bill formats in other Indian states

Discoms issue both physical and online bills and bill formats vary by discoms across the country. A majority of India's consumers are issued bills physically in either of the two commonly used formats—spot bill[3] and a mailed bill (an elaborate A4 size format)—by the discom. A spot bill, printed on a thin slip of paper, is issued by discoms in Andhra Pradesh, Bihar, Odisha, Gujarat, and Himachal Pradesh. Discoms in Delhi, Rajasthan, and Maharashtra issue an A4-sized bill.

The electricity bill formats for 26 discoms operating across 20 states were reviewed to compare Tamil Nadu's bill format with other discoms. It is obvious that the detailed break-up of various charges (significant information) forming the total payable amount and consumption-wise tariff slabs (energy charge and fixed charge) is not provided in the WMC. TANGEDCO and TNERC have to necessarily improve their information disclosure practices through electricity bills. A comparison of reviewed bill formats vis-à-vis Tamil Nadu's bill format is shown in Table 2.

Theme	Additional information provided in electricity bills in other Indian states vis-à-vis that provided in Tamil Nadu's bills
Consumer information	Email id
	Remark: To update your mobile no. and email id call us on _____
	Service status
Connection details	Meter cost/rent
Billing information	Fuel surcharge adjustment/Power purchase adjustment
	Rebate
	Late payment bill amount (after due date)
	Bill basis
	Maximum demand
	Consumption pattern/Track your consumption
	Disconnection date
Grievance redressal	24×7 Call Centre/Customer Care number of the discoms
	About Internal Grievance Redressal Forum (IGRF) of the discom
	Point of contact, address, and phone number of the discom's IGRF
	Phone number of CGRF
	Electricity ombudsman phone number
Additional information	Per unit cost of electricity to discoms and cost-wise break-up
	Previous payment details (date and amount/receipt number)
	Tariff change details, if any

Table 2
Most Indian discoms detail the bill break-up and grievance redressal mechanisms in their bills

Source: Authors' collation based on a review of bill formats across discoms in India

3. Spot billing refers to the billing style in which a discom representative visits the consumer household and gives a bill on the spot based on the reading obtained from meter using a handheld billing machine.

3.2.1 State Electricity Supply Codes on the electricity billing information

As mentioned in Chapter 1, *State Electricity Supply Codes* prescribe the bill formats used in various states specifying information to be included. The *Supply Codes* in states such as Delhi, Madhya Pradesh, West Bengal, Maharashtra, Punjab, and Andhra Pradesh clearly lay down details that are to be included in the bill. *Tamil Nadu's Supply Code* does not specify what information has to be necessarily added in the electricity bill issued by the state's discom. Spot bills issued by the discoms in Uttar Pradesh do not contain information, such as contact details of CGRF, indicated as mandatory in the state supply code.

Tamil Nadu's Supply Code does not specify what information has to be necessarily added in the electricity bill issued by the state's discom

The Delhi Electricity Regulatory Commission (DERC) prescribed a standard electricity bill format to be used by all discoms in Delhi, in consultation with them. As a result, Delhi discoms provide more information to consumers in comparison to utility bills from other states. In addition to a detailed bill, select consumers in Delhi also receive more information through periodic reports.

Further, information shared with consumers may or may not be limited to electricity bills. Some discoms provide annexures to the bills or share information as separate documents. In Delhi, BSES Rajdhani Power Limited (BRPL) sends newsletters, reports, and bills to consumers to create awareness of energy conservation measures and other relevant information. BRPL sends Home Energy Reports to consumers, prepared in collaboration with Oracle's O-Power platform, containing a comparison of their consumption with a comparable household and tips to save energy. The report is shared with consumers on a bimonthly basis and is one of its kind initiatives.

3.3 Observations from innovative practices used internationally

The Office of Energy Regulation, Hague, introduced guidelines on consumer energy bills in 2010, suggesting (but not limited to) the following:

- Various explanations and definitions used in the energy bills need to be standardised across the nation.
- Utilities may give either a summarised or a detailed bill to consumers. If a summarised bill is the standard issue, utilities should then provide the detailed energy bill to consumers on request.
- The bill can be in physical or electronic form based on the agreement between the consumer and the utility.

In Delhi, BSES Rajdhani Power Limited (BRPL) sends newsletters, reports, and bills to consumers to create awareness of energy conservation measures and other relevant information

Zhou (2012) states that apart from ordinary and necessary information, such as consumer details, bill amount, and payment options, consumers must also be apprised of the history of consumption, benchmarking for consumption, tips for energy saving, climate change, and energy mix along with the share of renewable energies. Zhou (2012) further recommends that utilities must draw from behavioural sciences to achieve energy conservation objectives and clean energy uptake. He states that energy bills comparing consumption with neighbouring households, motivate consumers to optimise their consumption. This premise is proved by

practices adopted by AGL in Australia. Incorporating the cost breakdown of consumers' bills across the electricity supply chain—generation, transmission, distribution, and retail— is recommended as well (The Energyst- Feb/March 2016 and Glenie 2014).

ComEd, a utility supplying electricity to consumers in Illinois (in the United States), informs consumers about the proportion of power procured from renewable sources in their bills to inculcate a sense of appreciation and promote trust-building among consumers. The utility bills in Ireland[4], Hong Kong[5], and Australia[6] provide data to consumers on the amount of carbon dioxide/greenhouse gas emissions produced as a result of consumers' energy consumption in a particular period and steps to reduce the carbon footprint. These bills, in one way or the other, attempt to inculcate a consciousness about the environment among the consumers.

The lessons drawn from the bill formats used by electricity utilities in India and abroad were shared with consumers and other stakeholders in Tamil Nadu. The methodology adopted for soliciting stakeholders' inputs in Tamil Nadu is explained in the following chapter.

4. Electric Ireland, retail division of Electricity Supply Board, Republic of Ireland.
5. The Hongkong Electric Co., Ltd.
6. The Hongkong Electric Co., Ltd.

4. Methodology and framework

CAG team along with policy researchers from other think tanks discussing the findings from this study.

A case study approach has been used to gather data on domestic consumers in Tamil Nadu who make up to 70 per cent of the state's consumer base (Tamil Nadu Energy Portal 2019). Qualitative and quantitative methods were employed to analyse consumers' perceptions through surveys and FGDs. Additionally, the findings were fine-tuned through researchers' observations and discussions with stakeholders namely SERC and TANGEDCO officials.

4.1 Data collection

This study includes a combination of surveys and FGDs with 250 domestic consumers in Tamil Nadu, conducted between June and August 2019. For data collection, 20 sessions were held across nine districts (Table 3). In each session, participants were asked to fill a survey questionnaire (a semi-structured questionnaire in either English or Tamil), followed by a group discussion moderated by a CAG representative. The average duration of a session was 2.5 hours. In each session, 10 to 20 consumers (both urban and rural) participated.

The respondents were identified using snowball sampling. For instance, CAG's partner organisations (the one managing the Electricity Consumer Cells) helped identify respondents in Tiruvannamalai, Salem, Trichy, Vellore, Cuddalore, Tirunelveli, and Tiruvallur districts. Resident Welfare Associations (RWAs) were sought for participants in Chennai and Kanchipuram districts. Figure 1 identifies the nine surveyed districts in a map.

Consumers' familiarity around various electricity bill elements was assessed. CAG's Pavithra Ramesh moderating an FGD in Chennai, Tamil Nadu.

S.No.	District	No. of sessions conducted	No. of respondents
1.	Chennai	4	19
2.	Cuddalore	2	20
3.	Kanchipuram	1	6
4.	Salem	1	31
5.	Tirunelveli	1	23
6.	Tiruvallur	1	27
7.	Tiruvannamalai	6	58
8.	Trichy	2	22
9.	Vellore	2	44
	Total	20	250

Table 3
Details of FGDs held across Tamil Nadu

Source: Authors' collation

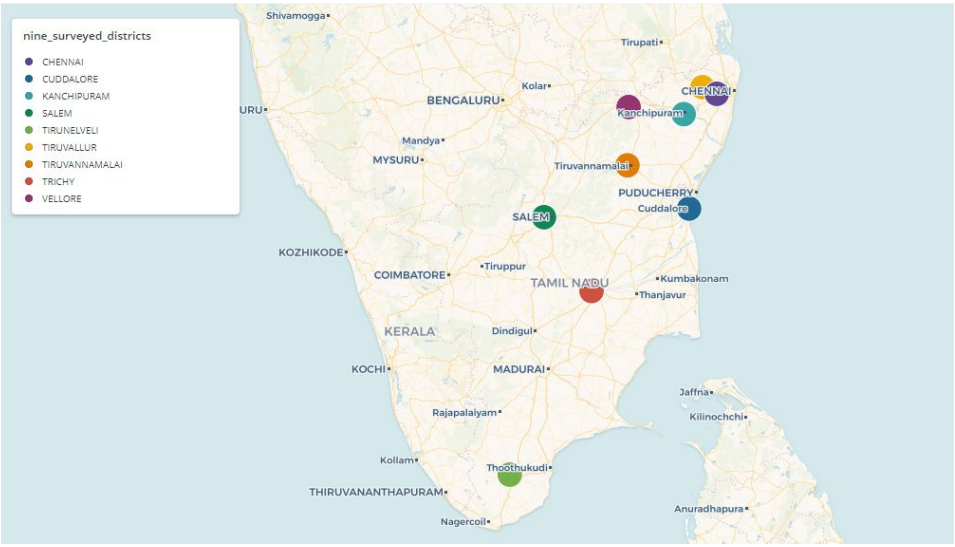


Figure 1
Nine surveyed districts of Tamil Nadu

Source: Authors' collation

Field testing the questionnaires is a critical step of conducting surveys. CAG's representatives testing the questionnaire in Salem, Tamil Nadu.

4.2 Study framework, questionnaire design, and survey administration

Two questionnaires were designed to assess consumers' perception about their existing electricity bill and the changes they desire in the bill format.

- Questionnaire A is a consumer perception survey asking details on:
  1. Socio-economic background
  2. Metering, household electricity consumption, and supply situation
  3. Consumers' understanding of the billing process, various bill elements, bill payment mechanisms, and tariff proceedings
  4. Awareness of grievance redressal mechanisms

- Questionnaire B includes inputs from FGDs on electricity bills and billing elements:
  1. Feedback on the bill formats used in Tamil Nadu
  2. Inputs for designing model electricity bills for Tamil Nadu

During the consumer perception survey (Questionnaire A), the responses were manually filled by the individual consumers in the printed copies of the questionnaire. After the survey, the consumers were shown bill formats used in other states such as Delhi, Maharashtra, Uttar Pradesh, and Haryana to inform them of various elements used in the electricity bills of these states. The the bill formats used in Tamil Nadu, both physical (WMC) and electronic, were discussed in detail. Following this, the FGDs were administered (using Questionnaire B) and consumers' feedback was sought on the bill formats used in Tamil Nadu and the elements that should be included in the redesigned bill. For the FGDs, participants were divided into groups of four or five and written responses were solicited from each group. A CAG representative moderated each FGD. The FGDs enabled the consumers to effectively engage in discussions around billing formats and the model electricity bill. All the data obtained from consumer interactions was recorded digitally and analysed using the Kobo toolbox and MS Excel.

FGDs enabled the consumers to effectively engage in discussions around billing formats. CAG's representatives moderating the FGDs in Trichy.

4.3 Sample characteristics

The participating consumers do not statistically represent all the consumers in the state. Figure 2 depicts the characteristics of the participants based on gender, education, and occupation. The sample predominantly consists of metered residential consumers and largely represents consumers from all age groups and across genders. On average, respondents are from households with three to five permanent family members with diverse academic backgrounds. Private sector employees, self-employed people, and homemakers are prominent in the sample. Further, a few (less than 5 per cent) respondents are current and retired officials and electricians from the Tamil Nadu Electricity Board (TNEB).

In Tamil Nadu, about 2.2 crore domestic consumers receive bills on a bimonthly basis (Tamil Nadu Energy Department 2019). Two-thirds of them need to pay their bills, and the rest consume less than 100 units in two months and receive free, subsidised electricity.[7] Our study focuses on consumers who receive bills and have their bimonthly consumption higher than 100 free units.

Representatives from CAG's electricity consumer cells moderating focus group discussions with consumers in Vellore, Tamil Nadu.

7. As per Government of Tamil Nadu's directives, the unmetered connections, which includes agriculture and hut consumers, are provided free electricity supply. Also, the residential consumers pay a concessional tariff, where the first 100 units consumed in two months are free and subsequent units are charged at a subsidised rate.

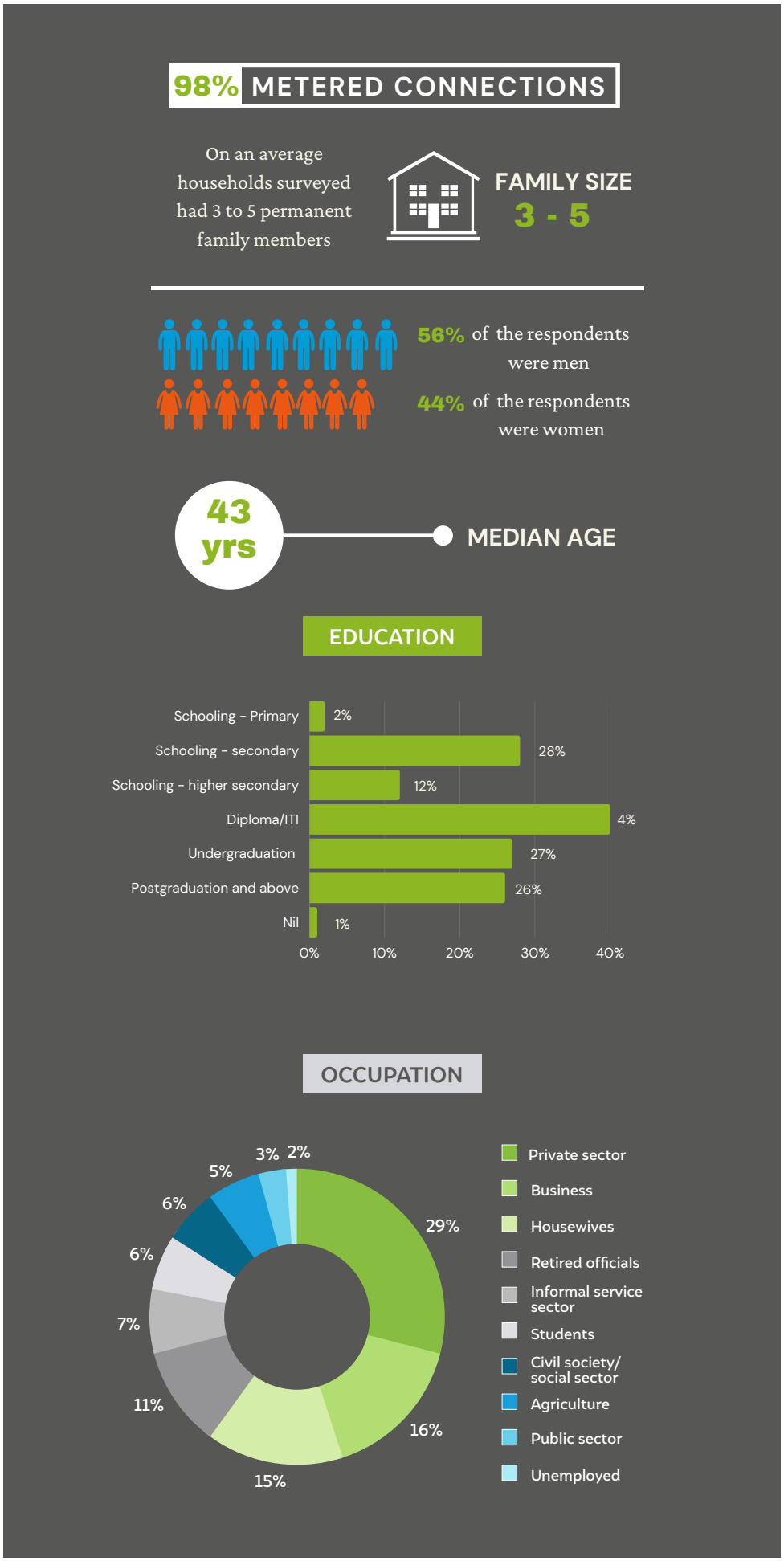
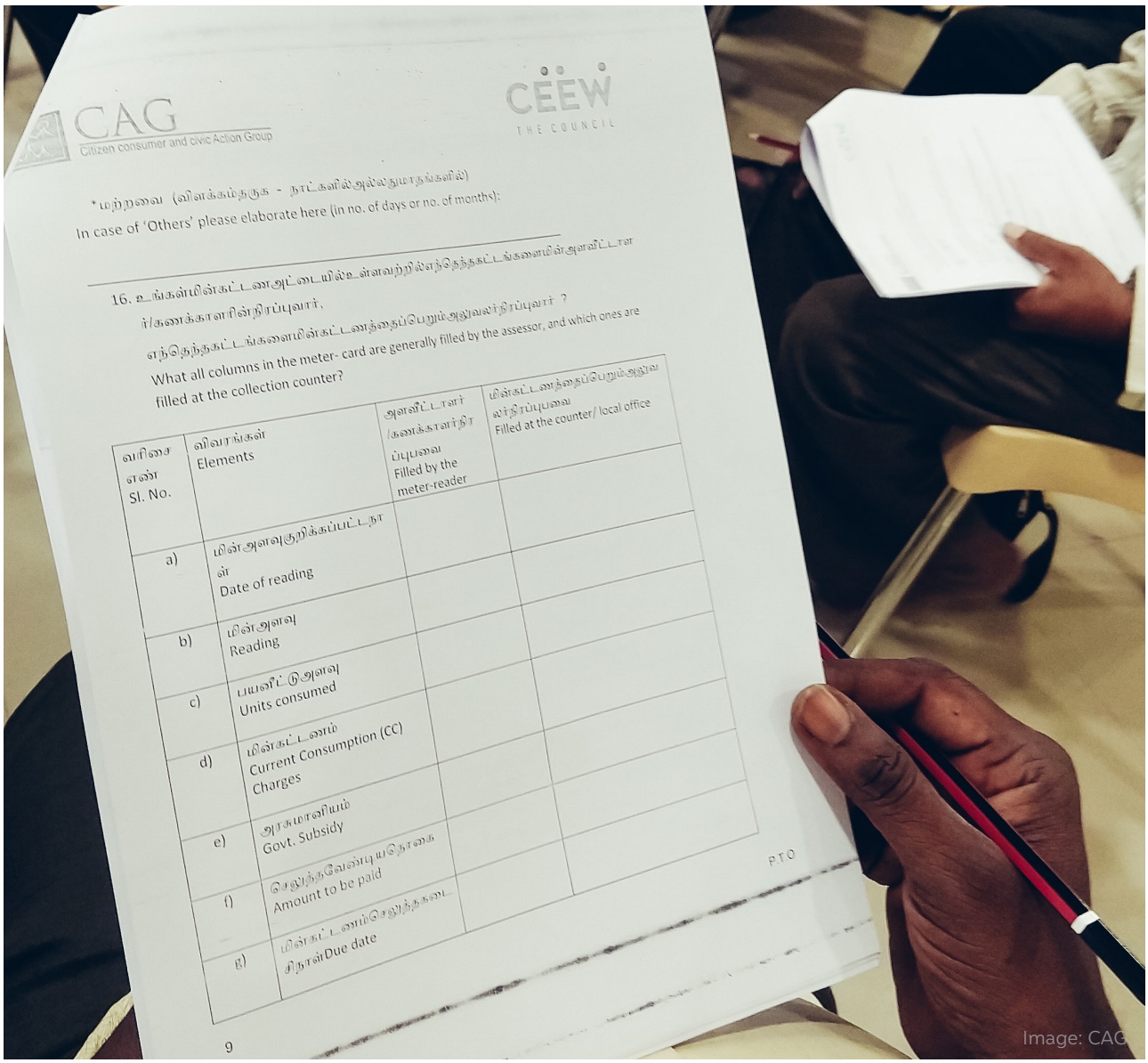


Figure 2
Characteristics of the survey sample

Source: Authors' analysis

5. Findings from the survey



A respondent with the CEEW-CAG consumer perception questionnaire at a focus group meeting.

The survey findings on consumers' perception of Tamil Nadu's electricity bill formats are summarised in this chapter. Consumers' familiarity around various electricity bill elements and the challenges they face in understanding the billing information are also discussed at length.

5.1 Consumer perception of Tamil Nadu's electricity bills

The survey finds that the respondents have a fair understanding of the bill assessment process. Most respondents described their practice of keeping the WMC in the meter board so that the assessors can make entries in it at the time of their visit. Nearly 96 per cent of the surveyed respondents had seen a WMC. Among the respondents, only one-third of urban consumers and 15 per cent of rural consumers have accessed TANGEDCO's online account summary to view their bills. Nearly two-thirds of surveyed consumers received bill information via SMS, and less than 10 per cent received billing information via email. Although several respondents receive their bills on more than one platform, most of them identify the WMC and SMS as their primary source of billing information. Figure 3 depicts the various sources of receiving billing information popular in rural and urban areas.

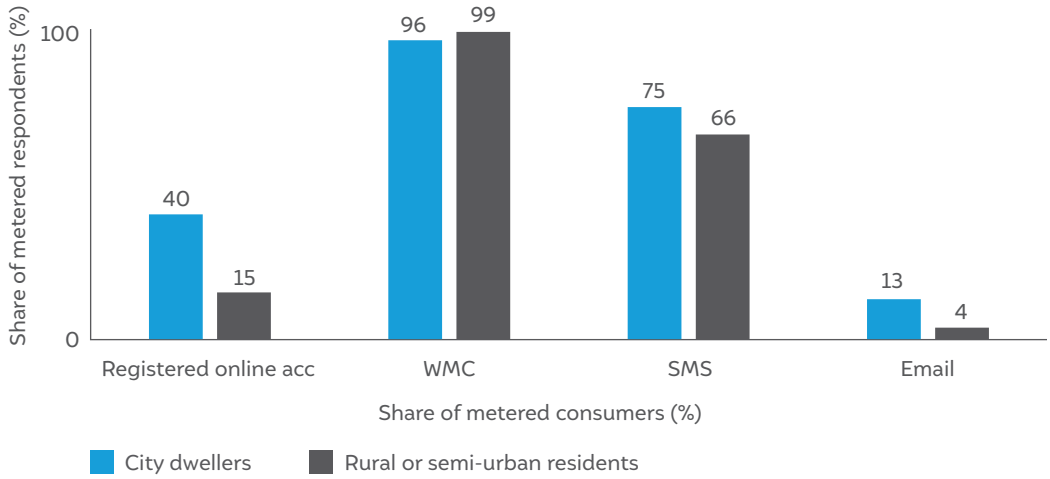


Figure 3
WMC and SMS are the most popular sources of billing information

Source: Authors' analysis

Consultations with the stakeholders hinted at the WMC growing obsolete with the introduction of SMS and online services. But respondents, especially in rural and semi-urban areas, identified WMC as their primary source of billing information.

5.1.1 Consumers' familiarity with their electricity bill

The respondents were asked to recall elements from the WMC to assess their familiarity with the billing components. Although a majority of the respondents were able to recollect only three or four elements, they reflected a sense of familiarity while doing so (Figure 4). About one-fourth of respondents were unable to recall WMC elements claiming that they have not seen it in the recent past or they were dependent on SMS/online services.

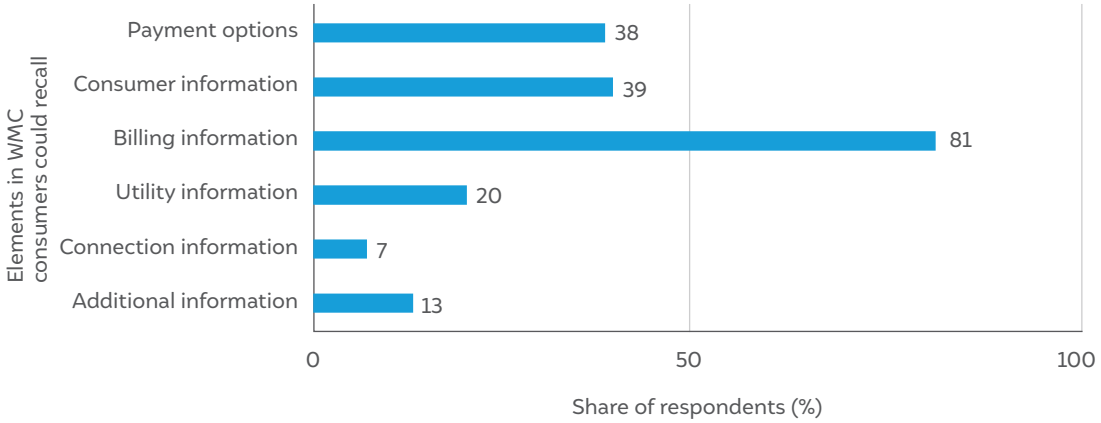


Figure 4
Most respondents could recall WMC elements related to billing information

Source: Authors' analysis

Respondents commonly recollected (i) billing information such as bill amount, consumed units, due date and (ii) consumer information such as name, contact information, and service ID. A few respondents also highlighted the clause around disconnection on account of failure to make a payment, payment methods, and working hours of payment collection centres.

To further understand if respondents were aware of how information in the WMC is filled, the respondents were provided with the list of columns (information points) in the card and asked to highlight the responsible personnel who would fill them. As stipulated, a meter-reader/assessor is supposed to fill in all the columns except the 'payment receipt number', which is filled at the collection counter after the payment. But several respondents claimed that pertinent columns such as government subsidy, due date, and even the amount to be paid, in some instances, remain unfilled (Figure 5). The responses are indicative of respondents' recall value. The perpetual blank columns were also identified as a cause for respondents' lack of awareness around the said bill elements.

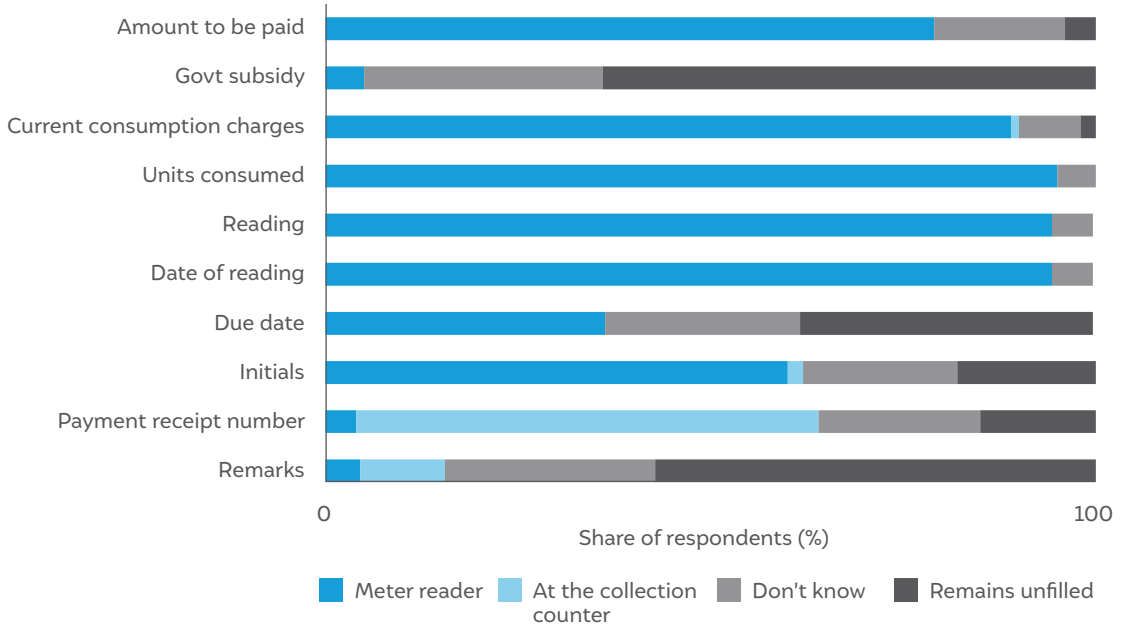


Figure 5
Several columns remain unfilled in the WMC for a significant share of respondents

Source: Authors' analysis

Respondents were also asked if they/their family members felt the need for more information to be filled in by the meter-reader/assessor in the WMC. In response, 38 per cent indicated that they asked the assessor for more details either when they have a cordial relationship with them or when there are specific problems. But 62 per cent of the respondents expressed a lack of trust in discom, or the belief that their questions will not be answered often dissuades them from seeking more information. Overall, the respondents want assessors to fill in all relevant information without leaving any column blank.

5.1.2 Challenges with understanding the electricity bill

Respondents were asked if they face any difficulty in understanding the electricity bills, to which 47 per cent of the respondents said yes. More rural respondents (54 per cent) faced this problem than urban respondents (42 per cent). Figure 6 illustrates the prominent gaps highlighted by the respondents.

Figure 6
Challenges highlighted by respondents in understanding the billing information in WMC

Source: Authors' analysis

During the discussions, respondents were concerned with the lack of intimation from discom when additional security deposit or any other charges relevant for the particular billing period are charged. They wanted the discom to provide a detailed calculation on how the bill amount was arrived at, especially after the deduction of the free subsidy of 100 units. Some respondents in semi-urban areas pointed out that the WMC does not have the contact information of the CGRF, and remarked that it should offer more details for the complaint filing procedures.

Surprisingly, 30 per cent of the respondents complained of incorrect recording of consumption by the assessor, with a higher proportion of city dwellers (36 per cent) than semi-urban and rural respondents (25 per cent) facing the issue. It is clear that manual entry of consumption and bill details in the WMC is prone to error. Hence, automating the billing can significantly reduce the chances of such errors. More than one-fourth of the respondents were not sure if the assessor records the consumption accurately. Hence, consumer awareness around the billing information irregularities/deviations also need to be enhanced.

5.1.3 Consumers' evaluation of WMC and online account summary

When respondents were asked if more information needs to be added to the WMC and the online summary, 76 and 65 per cent of respondents, wanted more details to be added in the WMC and online account summary.

Respondents were also asked to score the WMC and the online account summary on a scale of 1 to 5 (1 being the lowest and 5 being the highest) across six criteria: (i) ease in understanding, (ii) legibility of script, (iii) adequacy of information, (iv) flow of information, (v) design and template, and (vi) ease of access.

Figure 7 shows that a majority of the respondents find the online account summary easy to understand and generally appreciate the information it provides. In fact, it fares well on all parameters over WMC, except the ease of access and the flow of information.

Consumers reckon that an ideal bill format should combine WMC's simplicity and ease of accessing it in a physical form, with the comprehensiveness and ease of understanding that the online account summary offers. Respondents also felt that the flow of information, that is, the sequence in which information is presented, should be improved.

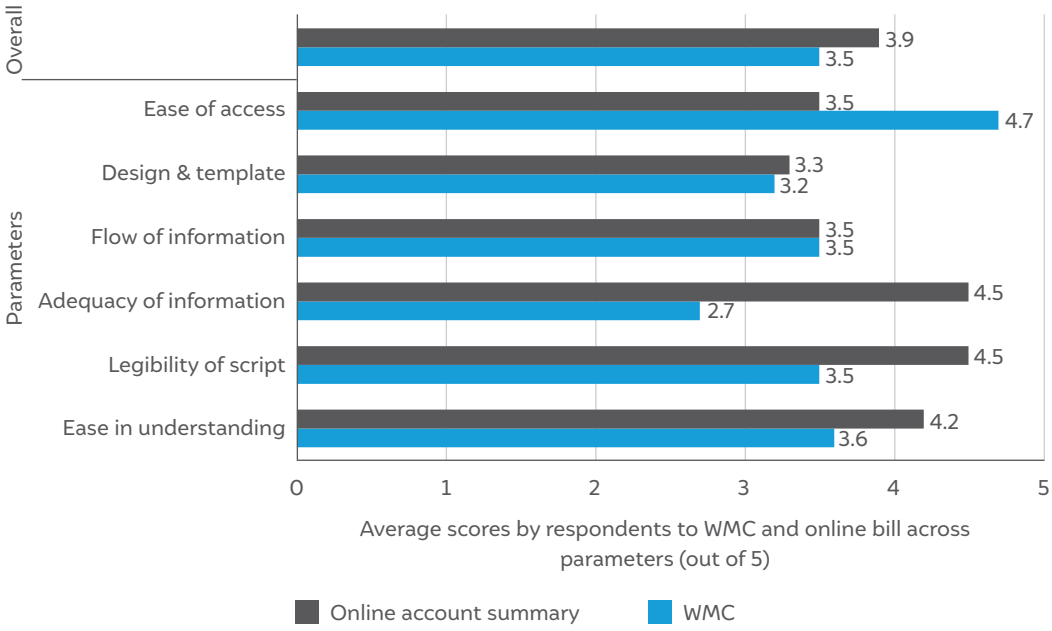


Figure 7
Respondents find online account summary easier to understand and informative over WMC

Source: Authors' analysis

In conclusion, it is observed that the WMC is the primary source of billing information for the consumers in Tamil Nadu, but it doesn't provide adequate information. As a result, consumers are less aware of the bill's components, thereby leading to their distrust in the discom. Although the online account summary provides more details, it is criticised for the difficulty of accessing it over the internet through the discom's website. Further, consumers feel it has a complicated structure. Consumer feedback on both the bill formats clearly points to the need for a new bill format that provides adequate information with an improved design, greater accessibility, and a simple flow of information. Overall, our engagement with the consumers shows that the discom can win consumer trust by improving transparency and increasing information disclosure through bills.

5.2 Need to enhance consumer awareness through electricity bills

Consumers' awareness level was assessed with a view to enhancing their awareness through the electricity bills. This section presents our findings on consumers' awareness of various elements in the bill, grievance redressal mechanisms, and electricity tariffs.

5.2.1 Awareness around bill elements

Consumers need to know and understand the slab-wise energy charges and the break-up of various other charges that add up to the final bill amount. As reflected in Chapter 3, the online account summary provides detailed billing information on both counts, whereas the information in the WMC is limited. As consumers rely primarily on WMC for billing information, most of them have low awareness of their billing information.

To ascertain their level of understanding, the respondents were provided with a list of various applicable charges in the bill and asked if they know what the charges are for. More than half the surveyed respondents said that they know of the current consumption charges (Figure 8). But they were unaware of electricity tax, wielding charges, and additional deposits. The respondents who access online account summary seem to have a better understanding of various charges.

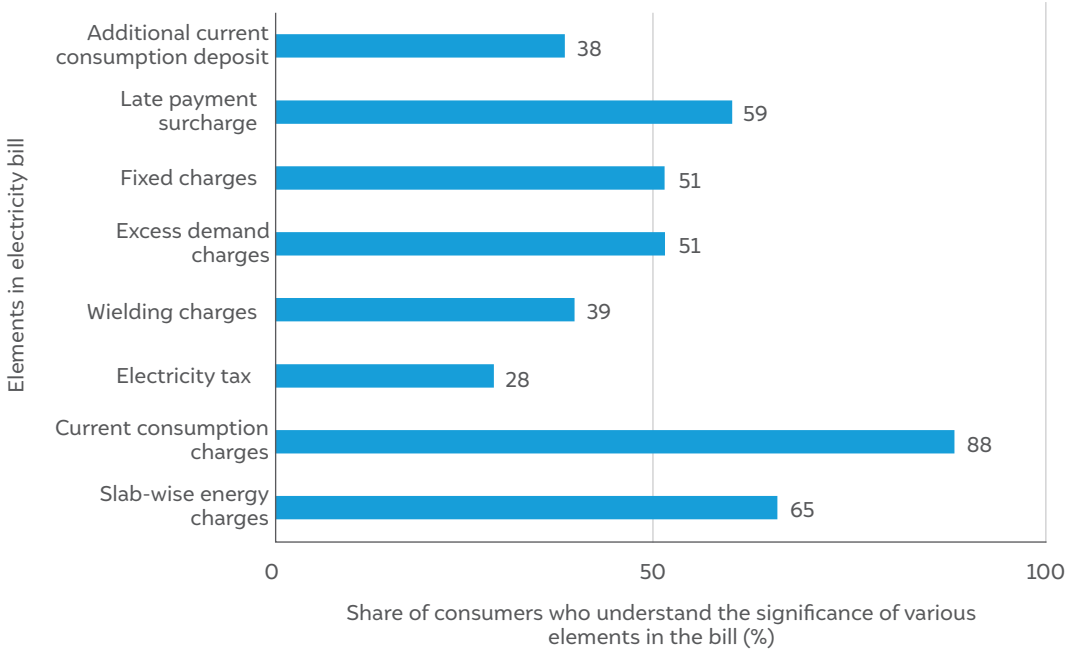


Figure 8
Most respondents do not understand the significance of bill elements other than consumption and demand-related charges

Source: Authors' analysis

Almost all respondents (96 per cent) were aware of the state government's subsidy of 100 free units on a bimonthly basis and also broadly knew that energy charges increase with the increasing consumption (slab-wise charges). However, nearly one-third of the respondents did not know how slab-wise charges are applied. Those who understood slab-wise energy charges were either graduates or postgraduates. Most of our respondents attained education above higher secondary school, which is reflected in their higher awareness of slab-wise charges.

Our findings clearly show the consumers need to know the various components of the bill and they need to understand how their bill is calculated. Of the respondents who displayed awareness of the break-up of charges, 87 per cent of them had access to the online account summary. Also, respondents with a higher propensity to consume were more likely to access the online account summary.[8] Other well-informed respondents predominantly had knowledge of the electricity services by nature of their occupation, such as the retired discom officials, government officials/representatives, consumer representatives, and journalists. Therefore, it is inferred that consumers' awareness and understanding of the electricity bills is associate to their socio-economic background and access to more granular information.

Over 95% of respondents contact the local discom office for their complaints/ issues, rather than the discom's helpline or consumer-complaints page

5.2.2 Awareness of consumer grievance redressal mechanisms

To seek a resolution of their electricity service-related complaints, consumers can file a complaint with the discom officials at the concerned section offices or subdivision offices. In case a consumer is not satisfied with the disposal of the complaint or has not received a response on his/her complaint, they may approach the CGRF constituted at every electricity distribution circle of TANGEDCO in the state. In case they are still aggrieved by the order issued by the CGRF, they may file an appeal to the Tamil Nadu Electricity Ombudsman. These constitute the three tiers of complaint redressal mechanism for electricity consumers in Tamil Nadu. The other avenue available for consumers to file their supply-related complaints is the 24 × 7 helpline number 1912.

To gauge consumers' level of awareness of the three tiers of complaint redressal mechanism, respondents were asked to highlight their point of contact for quality, reliability, metering, and billing issues. Over 95 per cent of respondents contact the local discom office regarding quality, reliability, metering, and billing issues, rather than the discom's helpline or consumer-complaints page on TANGEDCO website. Most respondents tend to approach the personnel they have known for quite a while such as the area lineman or a Junior Engineer/Assistant Engineer at TANGEDCO or the meter reader/assessor. It is observed that metropolitan and urban respondents[9] use grievance redressal mechanisms such as the complaints page on TANGEDCO website or TANGEDCO's CGRF website.

Of all the respondents, 57 per cent claimed that they were aware of the complaint redressal mechanisms for filing their electricity complaints (Figure 9). But consumer responses show that they were largely unaware of grievance redressal procedures other than reaching out to local discom officials.

I. **TANGEDCO's helpline number**: Nearly half the respondents stated that they would call up the helpline number in case of complaints. About 13 per cent of the respondents were able to accurately recall the helpline number (Figure 9). Most respondents who knew about TANGEDCOs helpline number and a contact person at the discom's local office said that they have a cordial relationship with the discom staff.

II. **Consumer Grievance Redressal Forum (CGRF)**: Only 8 per cent were able to recognise that TANGEDCO has a CGRF, and only a fraction of them had filed a complaint with their respective CGRFs. Respondents who exhibit awareness of CGRF were predominantly those who were associated with electricity services in the state by profession. The average respondents were not even aware of the existence of the CGRF.

8. Households with the monthly expenditure range above INR 20,000, and bimonthly electricity consumption above 200 units.

9. Six per cent of the total surveyed consumers from metropolitan and urban areas of Chennai and Tirunelveli.

III. **The three tiers of consumer complaint redressal mechanism**: Only 5 per cent of the respondents were aware of the three tiers of consumer complaint redressal mechanism and they were either discom officials, retired discom officials, or consumer representatives.

IV. **Sources of information**: Nearly one-fourth of the respondents stated that they prefer reaching out to the local discom office for any information regarding the complaint redressal mechanism. Respondents were also found to rely on online search engines, TNEB's website, newspapers, and their pre-existing relationships with discom officials and local representatives for redressal of their grievances.

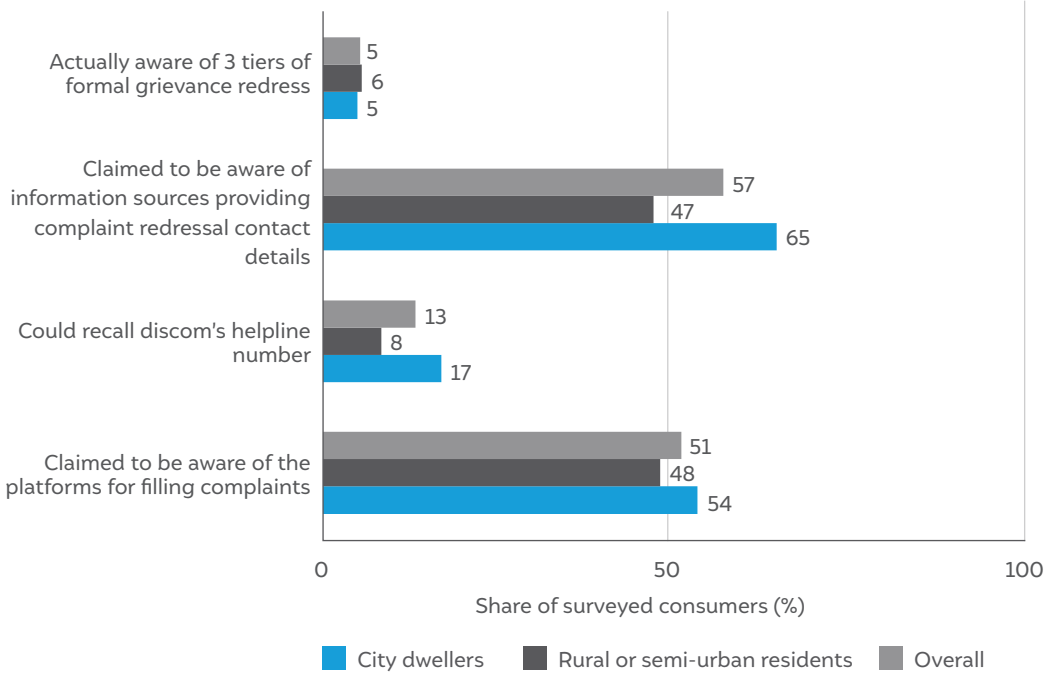


Figure 9
Most respondents are unaware of the three tiers of grievance redressal mechanism

Source: Authors' analysis

The three tiers of complaint redressal mechanism provide consumers with access to justice as outlined in the statutory provisions drafted to protect consumer interests. But the mere existence of complaint redressal mechanisms cannot ensure the protection of consumer interests. More than creating grievance redressal avenues, consumers need to be made aware of steps to take in case they do not receive a satisfactory response to their electricity complaints. This information should be incorporated into the primary source of communication between the utility and the consumer—the electricity bill.

5.2.3 Awareness of electricity tariffs

This section sheds light on the extent of consumer awareness of electricity tariffs and the procedure for tariff determination.

I. **Tariff determining agency**: Among the surveyed consumers, 49 per cent stated that they had either seen or read a public notice on electricity tariff or subsidy order in the newspaper/internet. Only 11 per cent of the respondents were able to correctly identify TNERC as the agency determining the electricity tariff in the state. Most respondents thought TNEB is the agency responsible for tariff determination (Figure 10).

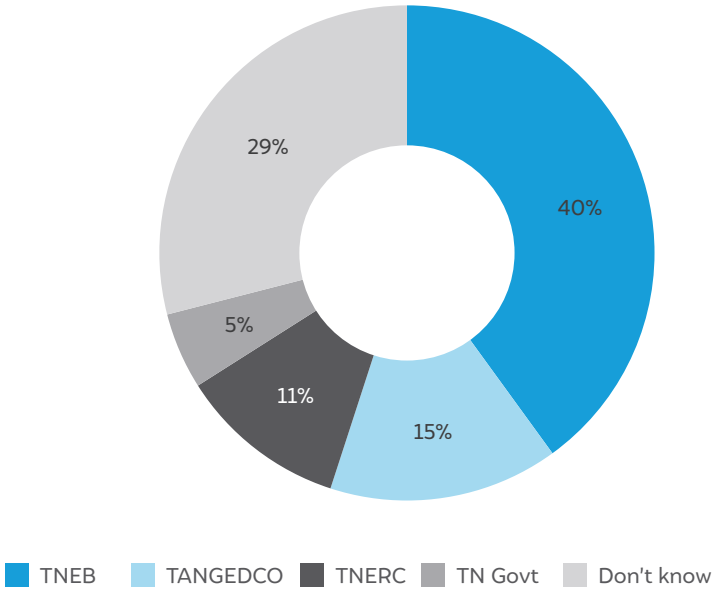


Figure 10
Only 11 per cent of respondents correctly identified the agency for tariff determination

Source: Authors' analysis

II. **Electricity tariff**: Most respondents are aware how the tariffs for domestic consumers in Tamil Nadu compare with the other consumer categories (Figure 11). But they did not know how the domestic tariffs in Tamil Nadu compare with other states. Above all, many consumers did not know how the electricity tariffs are calculated.

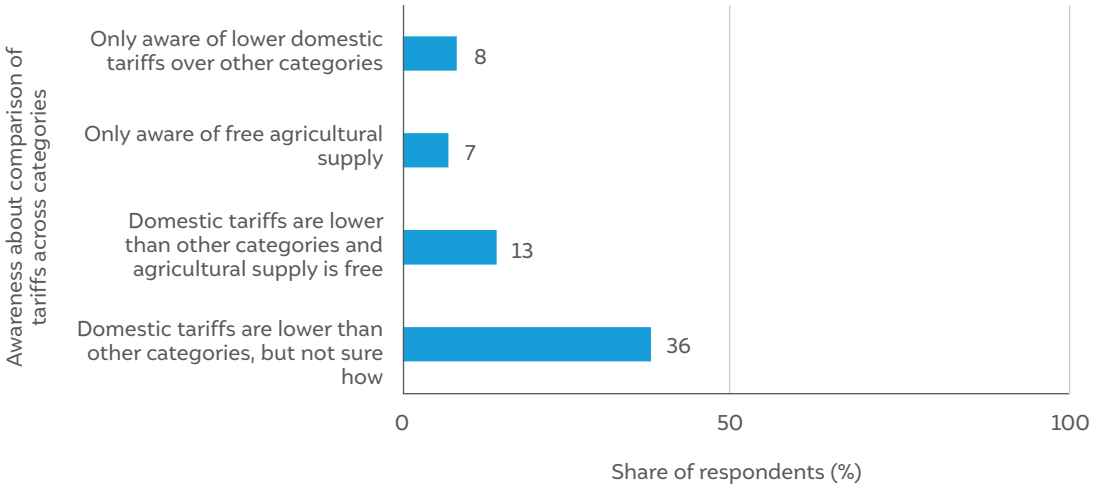


Figure 11
Most respondents are not aware of how domestic consumer tariffs compare to other categories

Source: Authors' analysis

Among the respondents who stated that they knew how Tamil Nadu's domestic tariffs compare with other states, a majority (69 per cent) believe that the state's domestic tariffs are either on par or higher than the average rate across the country. In reality, however, the tariffs in Tamil Nadu for domestic consumers are among the lowest in the country.

III. **Tariff determination process**: In Tamil Nadu, tariff proceedings have not been organised in recent years, and no tariff revisions have taken place. But, from a forward-looking perspective, consumers' awareness of tariff determination needs to be ascertained. Only 25 per cent of respondents had heard of public hearings on tariff determination. Consumers have to be informed of the important processes around tariff determination through sources that are equally accessible by all, such as the electricity bill.

Summarising, the low level of consumer awareness and understanding of electricity bills, grievance redressal mechanisms, and electricity tariffs needs to be improved in Tamil Nadu. The information on all three counts is scattered and needs to be sourced from different platforms. The sources providing complete information such as (i) online account summary, (ii) online search engines, and (iii) TANGEDCOs Web portal are not equally accessible for all consumers alike. In contrast, the most accessible information source, that is, the WMC, lacks adequate information. This builds the case for designing a more structured and informative electricity bill that provides adequate and equal information to all.

Further, a widespread lack of consumers' awareness lowers their participation in decision making and in providing inputs to the discom. To ascertain consumers' interest in participation and explore the electricity bill's role in promoting the same, respondents in focus groups were asked if providing more information via electricity bills can improve their level of participation. In response, close to 80 per cent of the groups unanimously remarked that informative electricity bills would certainly encourage consumers to take interest or participate in the electricity sector. Overall, consumer feedback clearly indicates that a redesigned electricity bill would increase consumer awareness and promote consumers' interest in participation.

A widespread lack of consumers' awareness lowers their participation in decision making and in providing inputs to the discom

6. Redesigning electricity bill formats for Tamil Nadu

Electricity bills is a key visualising tool for enabling consumers to interact with the utility in a more informed and transparent manner.

This chapter elaborates on the consumers' views on the format and the elements that a model electricity bill must contain. As highlighted in Chapter 5, consumers' inputs on model bills were gathered through FGDs. Respondents were shown the bill formats used by discoms in Mumbai, Delhi, and Uttar Pradesh to inform them of various bill formats used across states. A comprehensive list of bill elements collated from bill formats used by 26 discoms across the country was provided to the FGD participants. The groups were asked to choose the elements from the list that they would like to include in their model bill. Also, they were encouraged to include any additional elements that they would like to suggest for the model bill.

6.1 Consumer preferences for an ideal bill format

A majority of the respondents would like to see more information in the WMC (77% of respondents) and the online account summary (64%)

The focus groups were asked about the attributes they would like to include in an ideal bill format and their responses are summarised below.

a. **More informative**: A majority of the respondents would like to see more information in the WMC (77 per cent of respondents) and the online account summary (64 per cent).

b. **Uniform**: As many as 79 per cent of the respondents would not want to see any distinguishing features between the electronic and physical versions of the bill. A common format for both versions is their preference.

c. **Bilingual**: Semi-urban and rural respondents stressed the necessity to also include the information/explanations in Tamil, their local language.

d. **Clear and reader-friendly**: Over 60 per cent of the respondents who do not find the online account summary easy to understand, claim that it (i) appears cluttered and (ii) takes time and effort to understand the bill. These respondents suggested that the ideal bill format should have a reader-friendly text and comprehensive visual representation. Also, adequate spacing and simple design were recommended for better readability.

6.2 Elements of the model electricity bill formats for Tamil Nadu consumers

Based on the findings from our engagement with consumers and review of the bill formats used by discoms in India and elsewhere, three model electricity bills that could be adopted by Tamil Nadu's discom are proposed. The respondents were presented with a list of 74 bill elements collated from bill formats used by other discoms (Annexure 5). The additional bill elements and key changes to be included in the model bills are summarised below.

- *Detailed bill-related information*, such as various charges comprising the bill amount, slab-wise energy charges, units imported/exported for solar rooftop consumers, break-up of charges forming the bill amount, and subsidy details
- *Past consumption trends and energy-saving tips* to help consumers track their consumption pattern and motivate them to adopt energy-efficient practices
- *Information about grievance redressal mechanisms*, including a visual emphasis on TANGEDCO's consumer helpline number (1912)
- *Messages to promote online bill payment* and their strategic placement
- *A general notice section* to allow discoms to share regular updates, such as advertisements inviting public participation in tariff hearings

Two of the model bills are based on a paper bill format, and the third one is a combination of a permanent card with a supplementary paper bill. The format has been decided based on the preferences of focus groups (Table 4).

Bill format	Share of consumer groups with preferences (%)
An A4-sized paper bill	49
Foldable card	27
Passbook	8
Combination of card and paper bill	3
Digital bill via WhatsApp/email/app	12

Table 4
An A4-sized paper bill and a foldable card are the most preferred bill formats

Source: Authors' collation

Despite the respondents choosing card as the second most preferred format, it has not been developed into a sample design. Largely, the respondents have expressed dissatisfaction with the method of manual entry in the card as the assessor leaves some elements unfilled. It is also observed that semi-urban and rural respondents (27 per cent) attach sentimental value to WMC. Further, discom officials express the view that the meter card is here to stay in Tamil Nadu only in the short to medium term. Therefore, to avoid the manual entry of billing information and retain a permanent card, a combination has been chosen. The features of a card and a paper bill are combined in this format.

The formats have been currently designed in English for wider dissemination of the study, but it is recommended that the discom must allow consumers to choose between English or Tamil as the language of communication. A common format for both physical and electronic copies of the bill is also proposed in this study.

The formats have been currently designed in English for wider dissemination of the study, but it is recommended that the discom must allow consumers to choose between English or Tamil as the language of communication

Table 5 outlines the three sample bill designs, with the corresponding information and placement of the elements. The bill designs essentially have similar elements, but only the position of such information is different. For instance, most elements placed on the front side of Design 1 (A4 sheet) are positioned on the flip side of Design 2 (A4 sheet) and vice versa. The designs are developed based on consumer preferences for placing these elements on either the front or the flip side. On the other hand, in Design 3, elements have been split between the permanent meter card and the supplementary A4-sized printed document. The elements that will largely remain unchanged for consumers for at least around a year have been included in the meter card, such as consumer details, slab-wise charges, payment modes, and information on grievance redressal mechanism. Details that are prone to frequent variations, such as consumption details, the break-up of bill amount, and consumption slab-wise charges have been included in the supplementary sheet.

Elements like consumer helpline number and additional charges have been included in both the formats in the interest of consumers.

Formats/ Bill side	Bill elements/ Groups	Sample design 1 (two-sided A-4 size paper bill)	Sample design 2 (two-sided A-4 size paper bill)	Sample design 3 (permanent consumer card with a supplementary A-4 size paper bill)	
				Permanent consumer card	Supplementary A-4 size paper bill
Front side includes	Consumer details	✓	✓	✓	✓
	Consumption details	✓	✓		✓
	Break-up of the total payable bill	✓	✓		✓
	Consumption slab-wise charges	✓			✓
	Consumer helpline number	✓	✓	✓	✓
	Consumer grievance redressal mechanisms		✓		
	Different payment modes available for consumers			✓	
Flip side includes	Additional charges imposed	✓	✓	✓	✓
	Consumer grievance redressal mechanisms	✓	✓	✓	
	Various expenses of discom in consumer tariff	✓	✓		✓
	Energy mix in power procured by the discom	✓	✓		✓
	Different payment modes available for consumers	✓	✓		
	Consumption slab-wise charges		✓	✓	

Table 5
Format of sample designs

Source: Authors' analysis

Note: The permanent consumer card will need to be periodically changed on the revision of tariffs by discoms

6.3 Sample bill designs

Based on consumer feedback, three model bill designs are developed using which the discom can provide adequate information to all consumers in Tamil Nadu. Though the sample bills are designed in both Tamil and English, the English versions of the bills alone have been included in this report.

Design 1 | A-4 size paper bill, front side—1/2

Bill Number : 1254855785	Reading Date : 18/02/2020	Bill Date : 28/02/2020

CONSUMER NAME :	xxxxxxxxxx
CONSUMER NUMBER/ID :	xxxxxxxxxx
BILLING ADDRESS :	NO 3, BILLING STREET, PAYMENT ADDRESS, CHENNAI - 6000XX
MOBILE NUMBER :	91XXXXXXXXX
EMAIL ID :	XXXX.XXXX@XXXMAIL.COM

Distribution circle: Chennai-North
Region/Zone: xxx
Section: xxx
Distribution Number: xxx-North

CONNECTION DETAILS

Meter Number	xxxx
Type of Supply/Phase	1
Service Status	LIVE
Tariff Category/Code	LA1A
Load (kW/kVA)	3 KW
Security Deposit (SD) Available	xxxx
SD Refund Adj.	xxxx
Meter caution deposit (MCD) Available	XXX
MCD Refund	0

Bill Month : XXXXXXX
Bill Amount :
1250

Due date
XXXXXXXXXX
Disconnection Date
XXXXXXXXXX

Pay your bill ONLINE

SWITCH OFF APPLIANCES WHEN NOT IN USE

Billing information

Units Imported		Units Exported (for Solar Rooftop Consumer)	
Present reading	**Previous reading**	**Present reading**	**Previous reading**
XXX kWh	**XXX kWh**	**XXX kWh**	**XXX kWh**
A: Total units imported	**XXX kWh**	**B: Total units exported**	**XXX kWh**

C: Total billed units (A-B)	XXX kWh
D: Consumption charges (CC) without subsidy	Rs.xxx
E: CC charges with subsidy	Rs.xxx
F: Fixed charges without subsidy	Rs.xxx
G:Fixed charges with subsidy	Rs.xxx
H:Other charges (explained below)	Rs.xxx
I: Bill amount without subsidy (D + F + H)	**Rs.xxx**
J: Bill amount with subsidy (E+ G + H)	**Rs.xxx**
K: Advance amount	Rs.xxx
L: Adjusted amount	Rs.xxx
M: Outstanding Amount	Rs.xxx
N: Total Payable Amount (J-K+L+M)	Rs.xxx

TRACK YOUR CONSUMPTION

Bar Graph	Units (kWh)	Month/Yr.
	664	May-18
	590	Apr-18
	482	Mar-18
	372	Feb-18
	310	Jan-18
	304	Dec-17
	332	Nov-17
	337	Oct-17
	416	Sep-17
	377	Aug-17
	436	Jul-17

PREVIOUS MONTH PAYMENT

Units consumed (kWh / kVAh):	xxx
Bill amount:	xxx

OTHER CHARGES

Minimum charge:	0
Welding charges:	15% of CC
E-Tax:	0
Belated Payment Surcharge (BPSC):	0

KNOW ABOUT YOUR BILL

SLAB RATE

Bi-monthly consumption	Slab range (unit)	Consumption charges (Rs./unit)	Consumption charges after govt subsidy (Rs./unit)	Fixed charges for 2 months (Rs./service)	Fixed charges for 2 months after govt subsidy (Rs./service)
Upto 100 units	1-100	2.5	0.0	30	0
Above 100 units and upto 200 units	1-100 101-200	2.5 2.5	0.0 1.5	30	20
Above 200 units and upto 500 units	1-100 101-200 201-500	2.5 2.5 3.0	0.0 2.0 3.0	40	30
Above 500 units	1-100 101-200 201-500 Above 500	2.5 3.5 4.6 6.6	0.0 3.5 4.6 6.6	50	50

24X7 HELPLINE
1912

"CONSERVE ELECTRICITY TODAY, FOR A BETTER TOMORROW SAVE ENERGY. SAVE MONEY. SAVE THE PLANET"

Design 1 | A-4 size paper bill, flipside—2/2

MISCELLANEOUS/SUNDRY DETAILS

Number	Date	Description	Amount	Due date	Collection date	Install amt / Pending amt.
		Arrears				
		Fuel surcharge				
		CC deposit				
		Rebate				
		BPSC				

METER CHANGE DETAILS, IF ANY

Meter no	Meter make	Meter type	Multiplication factor	Initial reading
8460xxx	Capital	Static electronic meter	1	0

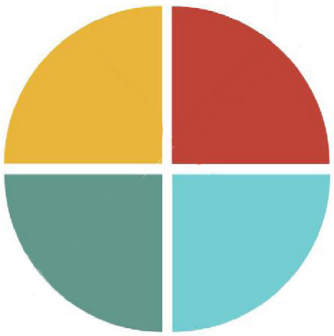
TARIFF CHANGE DETAILS, IF ANY

- NIL-

GENERAL NOTICE

Per unit cost of electricity to TANGEDCO & cost-wise breakup

Tamil Nadu's Energy Mix



REPORT POWER THEFT

Power theft causes hike in power charges. If you spot electrical theft, please report on 9445857591.

WORKING HOURS FOR COLLECTION OF PAYMENT

Morning - 8:30am to 12:30pm
Noon - 1:30pm to 2:30pm

PAYMENT OPTIONS

Methods & instructions for payment

1. Remember to collect the receipt for your electricity bill payment. TANGEDCO will not be responsible for payment made without a receipt.
2. Electricity bill amount can be paid via cash, cheque, DD or post. While sending a cheque through the post, it should be addressed to Superintending Engineer/... Distribution circle with two lines crossed at the corner mentioning "ACCOUNT PAYEE". For payment above INR 2000/- pay via cheque/DD.
3. Consumers can also pay online via https://www.tnebnet.org/awp/login, or at the post office or through ATP machine.
4. Ensure that you include information about your connection number, month of bill payment and bill amount when you send cheque/DD via post. Make sure that the post reaches the division office before the due date.

GRIEVANCE REDRESSAL

STEP 1
Assistant Engineer, Perambur, North Chennai Electricity Distribution, TANGEDCO, Chennai
044-25508050, 9445850981
Whatsapp Number: 9445850829

If not satisfied, follow step 2

STEP 2
The Chairman (Superintending Engineer), Consumer Grievance redressal Forum, Chennai EDS, North, TANGEDCO
5A Block, 144 Anna Salai, Chennai- 600002,
Phone: 044-28521833
Email: cgrfhn@tnebnet.org

If not satisfied, follow step 3

STEP 3
Electricity Ombudsman
No 19A, Rukmini Lakshmipathy Salai, Egmore, Chennai- 600 008
Phone: 044-28411376, 28411378,28411379

Design 2 | A-4 size paper bill, front side—1/2

ELECTRICITY BILL

CONSUMER NAME :	xxxxxxxxxx
CONSUMER NUMBER/ID :	xxxxxxxxxx
BILLING ADDRESS :	NO 3, BILLING STREET, PAYMENT ADDRESS, CHENNAI - 6000XX
MOBILE NUMBER :	91XXXXXXXXX
EMAIL ID :	XXXX.XXXX@XXXMAIL.COM

Distribution circle: Chennai-North
Region/Zone: xxx
Section: xxx
Distribution Number: xxx-North

Bill Number : xxxxxxxxxx
Reading Date : xx/xx/xxxx
Bill Date : xx/xx/xx

CONNECTION DETAILS

Meter Number	xxxx
Type of Supply/Phase	1
Service Status	LIVE
Tariff Category/Code	LA1A
Load (kW/kVA)	3 KW
Security Deposit (SD) Available	xxxx
SD Refund Adj.	xxxx
Meter caution deposit (MCD) Available	XXX
MCD Refund	0

Some space for Important Notice OR Advertisment

Bill Month : XXXXXXX
Bill Amount :
1250

Due date
XXXXXXXXXX
Disconnection Date
XXXXXXXXXX

BILLING INFORMATION

Reading Date	Billed Reading (Previous)	Billed Reading (Present)	Units consumed (kWh / kVAh)	CC Charges (INR)/ Energy Charges	Other Charges	Bill amount	Advance amount	Adjusted amount	Total Bill amount

OTHER CHARGES

Minimum charge:	0
Welding charges:	15% of CC
E-Tax:	0
Belated Payment Surcharge (BPSC):	0

PREVIOUS MONTH PAYMENT

Units consumed (kWh / kVAh):	xxx
Bill amount:	xxx

GRIEVANCE REDRESSAL

STEP 1
Assistant Engineer, Perambur,
North Chennai Electricity
Distribution, TANGEDCO, Chennai
044-25508050, 9445850981
Whatsapp Number: 9445850829

If not satisfied, follow step 2

STEP 2
The Chairman (Superintending Engineer),
Consumer Grievance redressal Forum,
Chennai EDS, North, TANGEDCO
5A Block, 144 Anna Salai,
Chennai- 600002,
Phone: 044-28521833
Email: cgrfhn@tnebnet.org

If not satisfied, follow step 3

STEP 3
Electricity Ombudsman
No 19A, Rukmini Lakshmipathy Salai,
Egmore, Chennai- 600 008
Phone: 044-28411376, 28411378,28411379

24X7 HELPLINE 1912

REPORT POWER THEFT

Power theft causes hike in power charges. If you spot electrical theft, please report on 9445857591.

WORKING HOURS FOR COLLECTION OF PAYMENT

Morning:
8:30 am to 12:30pm
Noon:
1:30pm to 2:30pm

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2. Electricity bill amount can be paid via cash, cheque, DD or post. While sending a cheque through the post, it should be addressed to Superintending Engineer/... Distribution circle with two lines crossed at the corner mentioning "ACCOUNT PAYEE". For payment above INR 2000/- pay via cheque/DD.
3. Consumers can also pay online via https://www.tnebnet.org/awp/login, or at the post office or through ATP machine.
4. Ensure that you include information about your connection number, month of bill payment and bill amount when you send cheque/DD via post. Make sure that the post reaches the division office before the due date.

SWITCH OFF APPLIANCES WHEN NOT IN USE

Design 2 | A-4 size paper bill, flipside—2/2

SLAB RATE

Bi-monthly consumption	Slab range (unit)	Consumption charges (Rs./unit)	Consumption charges after govt subsidy (Rs./unit)	Fixed charges for 2 months (Rs./service)	Fixed charges for 2 months after govt subsidy (Rs./service)
Upto 100 units	1-100	2.5	0.0	30	0
Above 100 units and upto 200 units	1-100 101-200	2.5 2.5	0.0 1.5	30	20
Above 200 units and upto 500 units	1-100 101-200 201-500	2.5 2.5 3.0	0.0 2.0 3.0	40	30
Above 500 units	1-100 101-200 201-500 Above 500	2.5 3.5 4.6 6.6	0.0 3.5 4.6 6.6	50	50

TRACK YOUR CONSUMPTION

Bar Graph	Units (kWh)	Month/Yr.
	664	May-18
	590	Apr-18
	482	Mar-18
	372	Feb-18
	310	Jan-18
	304	Dec-17
	332	Nov-17
	337	Oct-17
	416	Sep-17
	377	Aug-17
	436	Jul-17

MISCELLANEOUS/SUNDRY DETAILS

Number	Date	Description	Amount	Due date	Collection date	Install amt / Pending amt.
		Arrears				
		Fuel surcharge				
		CC deposit				
		Rebate				
		BPSC				

METER CHANGE DETAILS, IF ANY

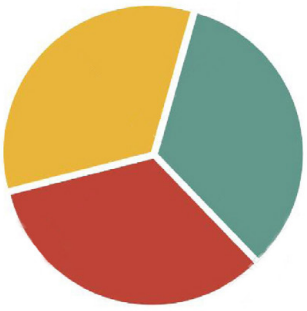
Meter no	Meter make	Meter type	Multiplication factor	Initial reading
8460xxx	Capital	Static electronic meter	1	0

TARIFF CHANGE DETAILS, IF ANY

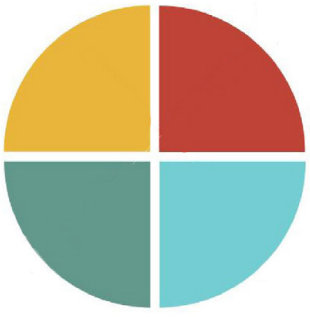
- NIL-

"CONSERVE ELECTRICITY TODAY, FOR A BETTER TOMORROW SAVE ENERGY. SAVE MONEY. SAVE THE PLANET"

Per unit cost of electricity to TANGEDCO & cost-wise breakup

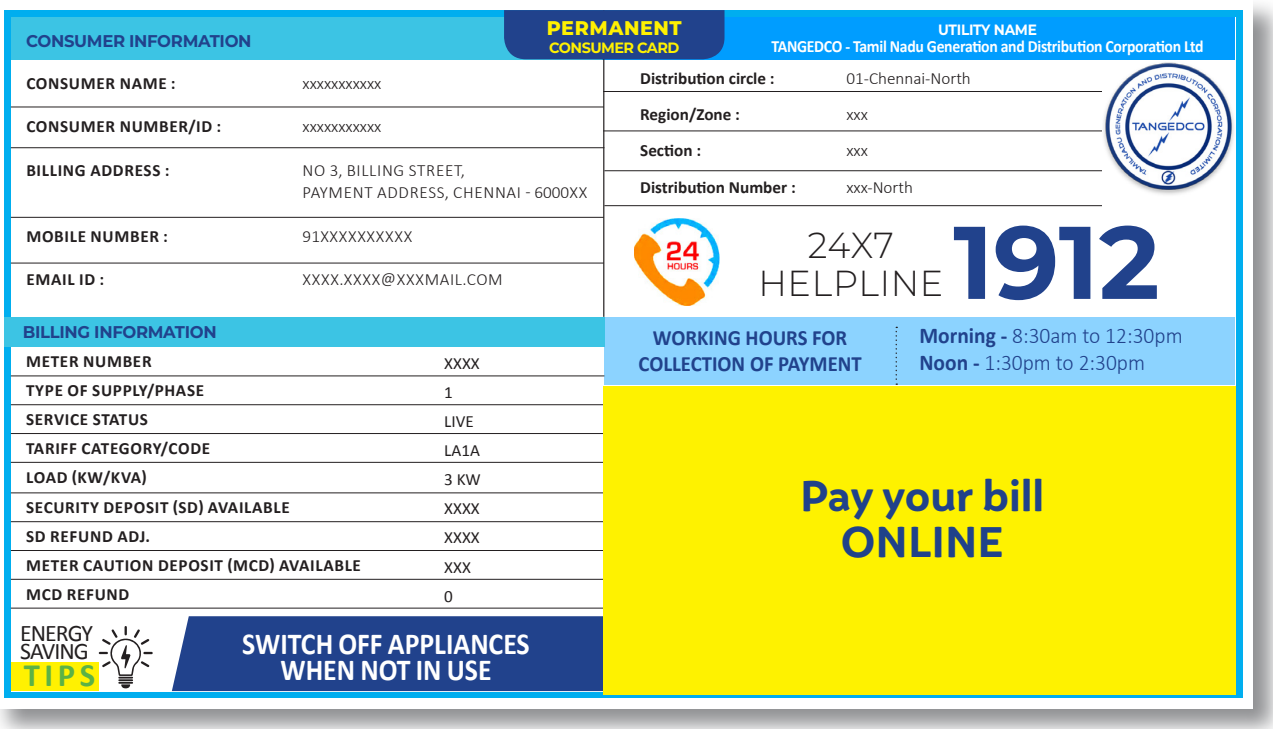


Tamil Nadu's Energy Mix



Design 3 | A combination of permanent consumer card and a supplementary A-4 size paper bill

I. Permanent consumer card: front side—1/2



CONSUMER INFORMATION

PERMANENT CONSUMER CARD

UTILITY NAME
TANGEDCO - Tamil Nadu Generation and Distribution Corporation Ltd

CONSUMER NAME :	xxxxxxxxxx
CONSUMER NUMBER/ID :	xxxxxxxxxx
BILLING ADDRESS :	NO 3, BILLING STREET, PAYMENT ADDRESS, CHENNAI - 6000XX
MOBILE NUMBER :	91XXXXXXXXX
EMAIL ID :	XXXX.XXXX@XXXMAIL.COM

Distribution circle :	01-Chennai-North
Region/Zone :	xxx
Section :	xxx
Distribution Number :	xxx-North

24X7 HELPLINE **1912**

BILLING INFORMATION

METER NUMBER	XXXX
TYPE OF SUPPLY/PHASE	1
SERVICE STATUS	LIVE
TARIFF CATEGORY/CODE	LA1A
LOAD (KW/KVA)	3 KW
SECURITY DEPOSIT (SD) AVAILABLE	XXXX
SD REFUND ADJ.	XXXX
METER CAUTION DEPOSIT (MCD) AVAILABLE	XXX
MCD REFUND	0

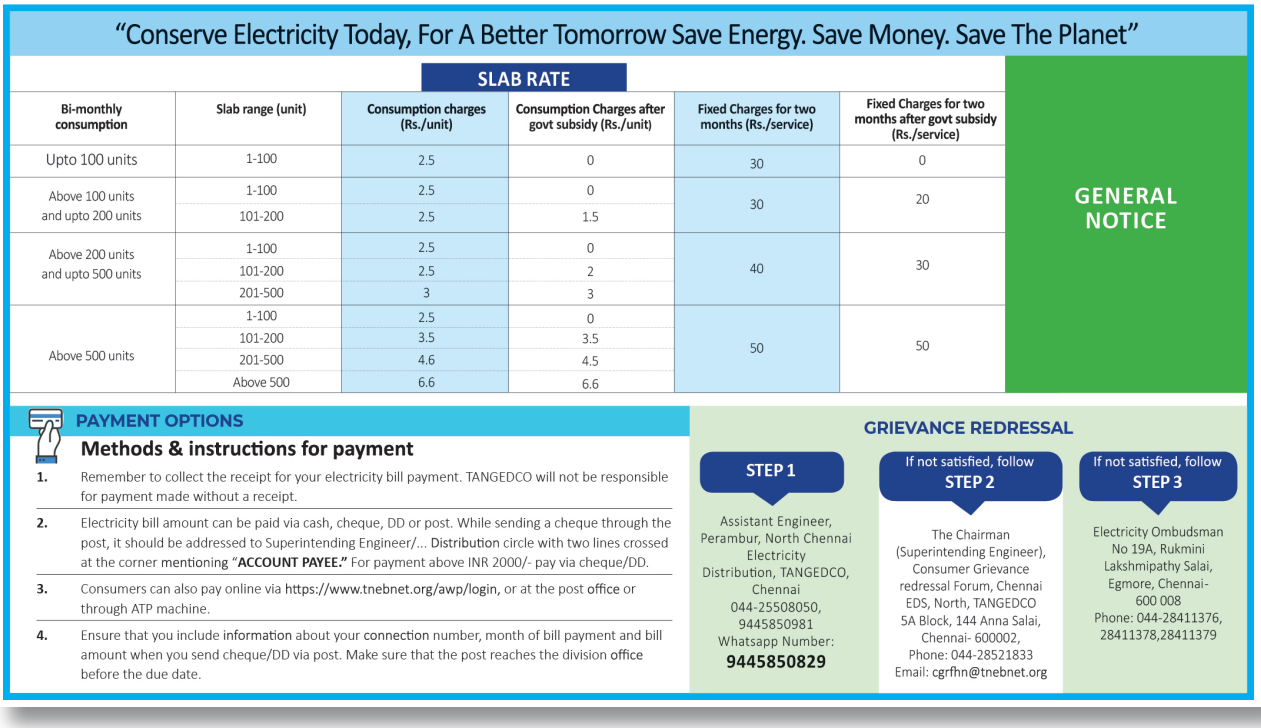
WORKING HOURS FOR COLLECTION OF PAYMENT
Morning - 8:30am to 12:30pm
Noon - 1:30pm to 2:30pm

Pay your bill ONLINE

ENERGY SAVING TIPS

SWITCH OFF APPLIANCES WHEN NOT IN USE

II. Permanent consumer card: flip side—1/2



"Conserve Electricity Today, For A Better Tomorrow Save Energy. Save Money. Save The Planet"

SLAB RATE

Bi-monthly consumption	Slab range (unit)	Consumption charges (Rs./unit)	Consumption Charges after govt subsidy (Rs./unit)	Fixed Charges for two months (Rs./service)	Fixed Charges for two months after govt subsidy (Rs./service)
Upto 100 units	1-100	2.5	0	30	0
Above 100 units and upto 200 units	1-100	2.5	0	30	20
	101-200	2.5	1.5		
Above 200 units and upto 500 units	1-100	2.5	0	40	30
	101-200	2.5	2		
	201-500	3	3		
Above 500 units	1-100	2.5	0	50	50
	101-200	3.5	3.5		
	201-500	4.6	4.5		
	Above 500	6.6	6.6		

GENERAL NOTICE

PAYMENT OPTIONS

Methods & instructions for payment

1. Remember to collect the receipt for your electricity bill payment. TANGEDCO will not be responsible for payment made without a receipt.
2. Electricity bill amount can be paid via cash, cheque, DD or post. While sending a cheque through the post, it should be addressed to Superintending Engineer/... Distribution circle with two lines crossed at the corner mentioning "**ACCOUNT PAYEE.**" For payment above INR 2000/- pay via cheque/DD.
3. Consumers can also pay online via https://www.tnebnet.org/awp/login, or at the post office or through ATP machine.
4. Ensure that you include information about your connection number, month of bill payment and bill amount when you send cheque/DD via post. Make sure that the post reaches the division office before the due date.

GRIEVANCE REDRESSAL

STEP 1
Assistant Engineer, Perambur, North Chennai Electricity Distribution, TANGEDCO, Chennai
044-25508050, 9445850981
Whatsapp Number: **9445850829**

If not satisfied, follow STEP 2
The Chairman (Superintending Engineer), Consumer Grievance redressal Forum, Chennai EDS, North, TANGEDCO
5A Block, 144 Anna Salai, Chennai- 600002,
Phone: 044-28521833
Email: cgrfhn@tnebnet.org

If not satisfied, follow STEP 3
Electricity Ombudsman
No 19A, Rukmini Lakshmipathy Salai, Egmore, Chennai-600 008
Phone: 044-28411376, 28411378,28411379

Design 3 | A combination of permanent consumer card and a supplementary A4-sized paper bill

III. Supplementary A4-sized paper bill—1/1

TAMIL NADU GENERATION AND DISTRIBUTION CORPORATION LTD

DISTRIBUTION CIRCLE: OI-CHENNAI-NORTH

Bill Date : 28/02/2020

Bill Number : 1254855785

CONSUMER NAME :	xxxxxxxxxx
CONSUMER NUMBER/ID :	xxxxxxxxxx
BILLING ADDRESS :	No 3, billing street, payment, Chennai- 6000xx

Due date

XXXX

24X7 HELPLINE

1912

BILLING INFORMATION

UNITS IMPORTED		UNITS EXPORTED (FOR SOLAR ROOFTOP CONSUMER)	
Present reading	xxx kWh	Present Reading	xxx kWh
Previous Reading	xxx kWh	Previous Reading	xxx kWh
A: Total units imported	xxx kWh	**B:** Total units exported	xxx kWh

C: Total Billed Units (A-B)	xxx kWh
D: Consumption Charges (CC) without subsidy	Rs.xxx
E: CC charges with subsidy	Rs.xxx
F: Fixed charges without subsidy	Rs.xxx
G: Fixed charges with subsidy	Rs.xxx
H: Other charges	Rs.xxx
I: Bill amount without subsidy (D + F + H)	**Rs.xxx**
J: Bill amount with subsidy (E+ G + H)	**Rs.xxx**
K: Advance amount	Rs.xxx
L: Adjusted amount	Rs.xxx
M: Outstanding amount	Rs.xxx
N: Total Payable Amount (J - K + L + M)	**Rs.xxx**

Other Charges

Minimum charge:	Rs.xxx
Welding charges:	Rs.xxx
E-Tax:	Rs.xxx
Belated Payment Surcharge (BPSC):	Rs.xxx

PREVIOUS MONTH PAYMENT

Units consumed (kWh / kVAh):	Rs.xxx
Bill amount:	Rs.xxx

Track your consumption

Bar Graph	Units (kWh)	Month/Yr.
	664	May-18
	590	Apr-18
	482	Mar-18
	372	Feb-18
	310	Jan-18
	304	Dec-17
	332	Nov-17
	337	Oct-17
	416	Sep-17
	377	Aug-17
	436	Jul-17

MISCELLANEOUS/SUNDRY DETAILS

Number	Date	Description	Amount	Due Date	Collection Date	Install Amt / Pending Amt.
		Arrears				
		Fuel surcharge				
		CC deposit				
		Rebate				
		BPSC				

Meter Change Details, If Any

Meter no	Make	Meter type	Factor	Initial reading
8460xxx	Capital	Meter	1	0

Tariff Change Details, If Any

NIL

GENERAL NOTICE

SWITCH OFF APPLIANCES WHEN NOT IN USE

6.4 Feasibility and adoption of sample bill designs

Ministry of Power's Electricity (Rights of Consumers) Rules 2020 call for inclusion of information on the authority with whom grievance/complaints pertaining to the bill can be lodged

The model bill incorporates consumer preferences regarding various bill elements. In addition, provisions that will become relevant in the future for Tamil Nadu consumers have also been included. Through the new formats, it has to be ensured that the contents provide ample information for consumers to engage as active stakeholders with the discom. Each format presents a different layout of information.

To test the feasibility of their adoption, a preliminary round of stakeholder consultation was held with select officials from TANGEDCO, retired officials from TNERC, and a few policy researchers working on the Tamil Nadu electricity sector. Feedback from this discussion indicates that it will take time for the discom to replace the WMC and therefore it would stay for a few years to come. But it is certain to grow obsolete given issues like limited information and manual entry errors. Hence, stakeholders hold the view that the third sample bill design, which is modelled around the WMC (a combination of a permanent card and regular supplementary bills), might be relevant in the short to medium term. The stakeholders also feel a strong need to explore digital messaging services (e.g., WhatsApp) as a means to communicate the redesigned bill (sample designs 1 and 2), which is more informative and consumer-friendly. Digital messaging services can prove to be handy in issuing bills, which could be used as a short-term strategy to save printing cost of a detailed bill.

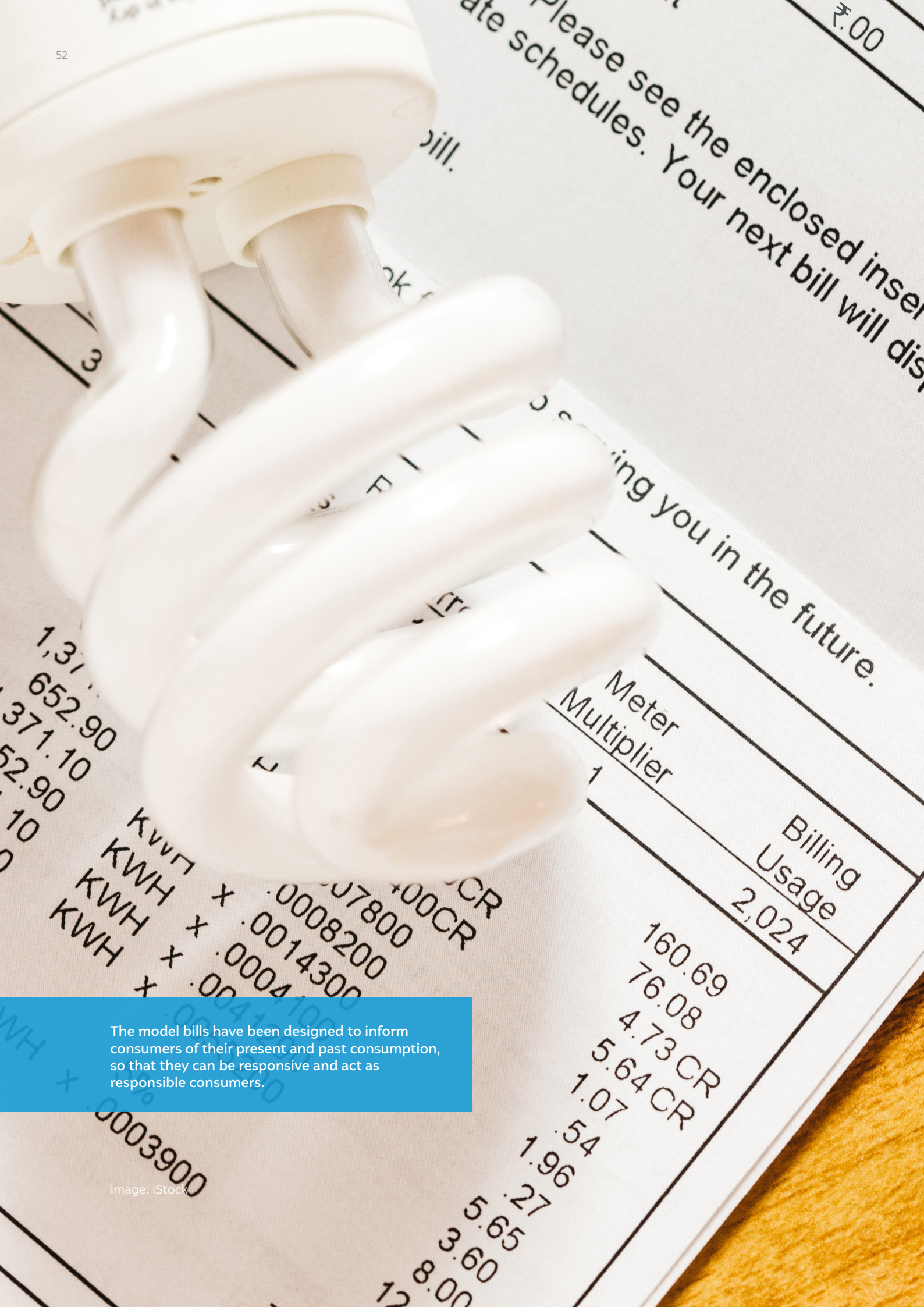
Moving forward, consumer feedback will be sought on the designed samples to arrive at a single format that TANGEDCO can adopt for its use. A detailed feasibility study for adopting the new bill will be conducted by engaging with TANGEDCO and TNERC officials.

Recent developments in the sector and the scope for a redesigned electricity bill in Tamil Nadu

Recent developments in the electricity sector create the need for establishing a new billing system. The FoR, in its *Model Electricity Supply Code 2011* and study on designing model electricity bills, has prescribed key elements to be added to consumers' electricity bills. More recently, the *Ministry of Power's Electricity (Rights of Consumers) Rules 2020* call for inclusion of information on the authority with whom grievance/complaints pertaining to the bill can be lodged.

The increasing deployment of smart meters in the state is sure to transform the billing system in Tamil Nadu. Technology can prove to be useful for information disclosure in the electricity bills and ease the transition from a bimonthly billing cycle to a monthly billing cycle. A recent draft amendment proposed to the *Tamil Nadu Electricity Supply Code* in early 2020[10] included a list of billing details that have to be added to the smart metering system. TANGEDCO is planning to deploy smart meters on a pilot basis in a locality in Chennai and might scale-up its deployment in other parts of the state. *The Tamil Nadu Solar Energy Policy* also prescribes that the billing system should be updated to include the gross solar feed-in and net feed-in units in consumers' bills. The new policies and regulatory provisions would impose an additional list of elements that should be featured in consumer bills. These developments further strengthen the need for a redesigned electricity bill in the state.

10. Draft Notification No. TNERC/SC/7, dated April 2020, accessed from: http://www.tnerc.gov.in/regulation/draft%20regulations/2020/Draft-SC-14A.pdf



The model bills have been designed to inform consumers of their present and past consumption, so that they can be responsive and act as responsible consumers.

Image: iStock

7. Conclusion

Tamil Nadu's foldable white meter card (WMC) provides highly inadequate information to consumers on their consumption and tariffs when compared to bills issued by other discoms in various states.. The WMC, which is the most widely used bill format by consumers in Tamil Nadu, lacks information on the break-up of various charges, the slab-wise tariffs, and information on avenues for consumers to complain/provide feedback to the discom. Only one-fourth of consumers access the online account summary through TANGEDCO's website, which provides more information than the WMC. Since the online account summary is only available in the English, it is widely criticised by consumers for its language barrier. Also, consumers find the information cluttered in the online account summary.online. As the discom provides limited information in the two formats, consumers suffer from low awareness regarding the significance of various bill elements and calculation of various charges that add up to the final bill amount.

Electricity bills can be visualised as a key tool for enabling consumers to interact with the utility and various stakeholders in a more informed and transparent manner

Considering respondents' feedback on the two currently used electricity bill formats, there is a dire need to redesign the electricity bill in Tamil Nadu. Their preferences for a model bill suggest that it should be easily comprehensible, have a reader-friendly design, and provide detailed billing information. The exercise of redesigning the electricity bill based on best practices and inputs from respondents proves that consumers feel a need for discom to improve its information disclosure practices. Findings from this study indicate that the newly designed bill could (i) inform consumers about avenues of participation such as grievance redressal mechanisms and tariff consultation; (ii) create awareness of the significance of energy efficiency and conservation measures and enable demand-side management; and (iii) improve understanding around tariff setting and energy mix, among others. Further, discussions with the respondents clearly confirm the belief that a more informative electricity bill can increase their participation in decision making. Electricity bills can therefore be visualised as a key tool for enabling consumers to interact with the utility and various stakeholders in a more informed and transparent manner.

In conclusion, the study strongly recommends that an alternate electricity bill design should be introduced in Tamil Nadu. It proposes a bilingual sample design (in English and regional language) that can be adopted as an alternative and also calls for the use of digital messaging services to communicate these bills in the short run. From a regulatory standpoint, it is recommended that *Tamil Nadu Electricity Supply Code* includes a comprehensive list of elements that should be added to the electricity bill.[11] Although this study's focus is on Tamil Nadu, the generated insights and the sample electricity bill designs can be extended to other states as well.

11. Annexure 5 provides a list of elements that should be made available in the electricity bill.

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Annexures

Annexure 1

Information received from TANGEDCO in response to a RTI petition filed

TAMILNADU GENERATION AND DISTRIBUTION CORPORATION LIMITED

From

Er.S. Venkatesh,B.E.MIE,
Public Information Officer,
Superintending Engineer/IT - 2,
3rd Floor, Eastern wing,
NPKRR Maaligai,
144, Anna salai /Chennai-2

To

Thiru R. Pavithra,
New #246 (Old #277B),
TTK Road (J.J. Road),
Alwarpet,
Chennai-600018.

Lr. No. PIO/ SE/ IT-2/ EE/ IT/ AEE/ IT/ F.RTI/ D. 132 /19 dt. 11 .11.19.

Sub: IT wing – Reply to Thiru R. Pavithra, Chennai -18- Seeking information under RTI Act- reg.

Ref: 1) Petition of Thiru. R. Pavithra, Chennai -18 dated 31.10.2019 under RTI Act, Received on 04.11.2019.

****

The informations requested in your RTI petition Dt.31.10.2019 received vide on 04.11.2019, are as follows.

Sl. No	The number of residential consumers in Tamil Nadu – as of 30.09.2019	
1	Who pay electricity bills online. Modes of on line payment 1.TANGEDCO's Payment Portal/Mobile App 2.India POST counters 3.Bank Counters. 4.Bank ATM 5.Payment through Mobile(WAP and SMS mode of selected Banks) 5.Tamil Nadu Government e-Seva centers 6.Bharat Bill Payment System (National Payment Corporation of India authorised Agents)	48,99,521 Nos.
2	Who pay electricity bills at the TANGEDCO collection counter.	92,84,345 Nos.
3	Who pay electricity bills through other modes of payment.	Nil
4	Total number of residential electricity consumers in Tamil Nadu.	2,17,04,272 Nos.

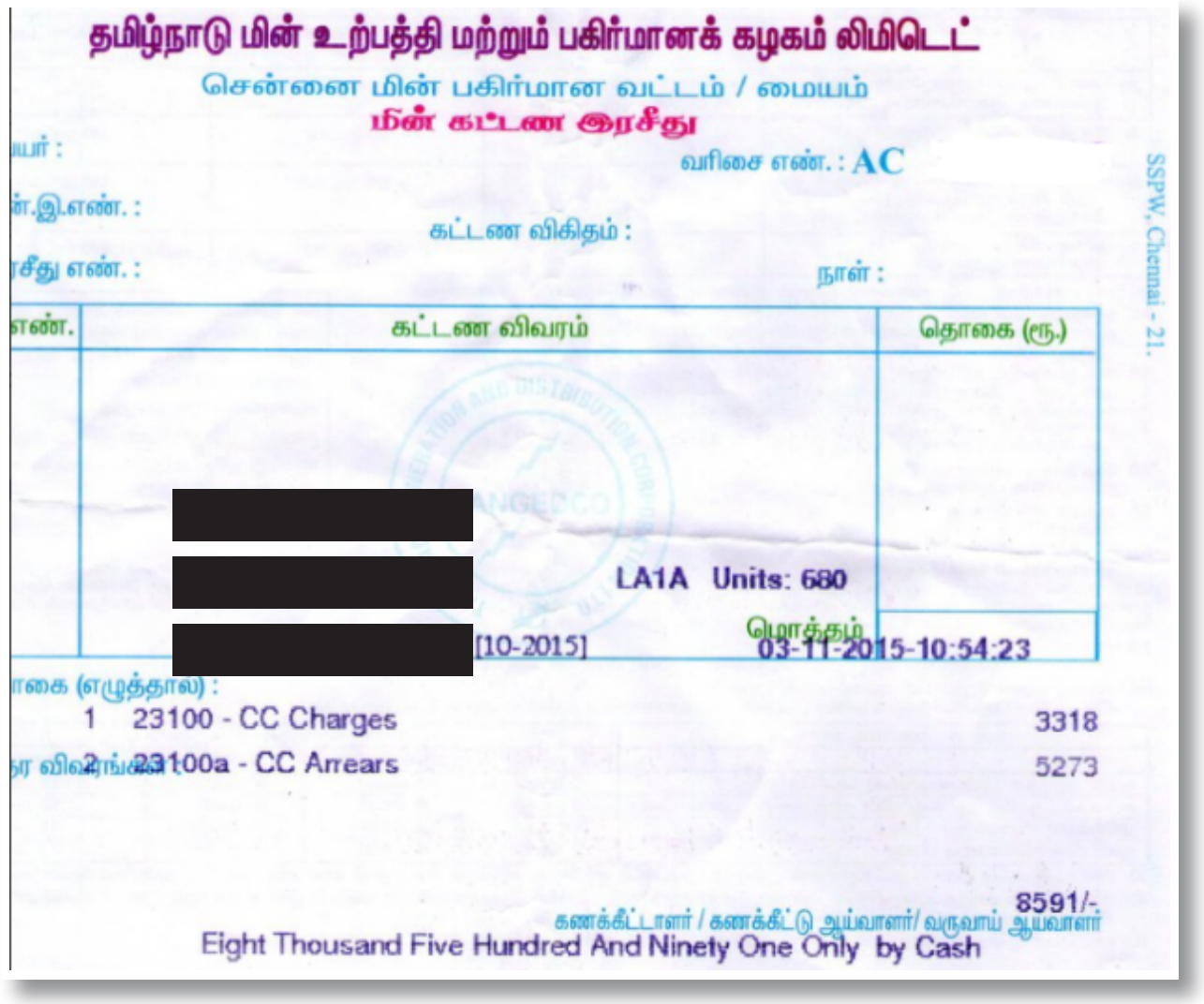
Public Information Officer,
(Superintending Engineer/IT-2)

Encl: RTI Petition dt.31.10.2019 as received.

Copy submitted to the Chief Engineer / IT (Appellate Authority)

Annexure 2

TANGEDCO's receipt, provided upon bill payment at the collection counter



தமிழ்நாடு மின் உற்பத்தி மற்றும் பகிர்மானக் கழகம் லிமிடெட்

சென்னை மின் பகிர்மான வட்டம் / மையம்

மின் கட்டண ரசீது

வரிசை எண். : AC

கட்டண விகிதம் :

நாள் :

SSPW, Chennai - 21.

எண்.	கட்டண விவரம்	தொகை (ரூ.)
	[redacted] LA1A Units: 680 [redacted] [10-2015]	
	மொத்தம்	03-11-2015-10:54:23

தொகை (எழுத்தால்) :

1	23100 - CC Charges	3318
2	23100a - CC Arrears	5273

8591/-

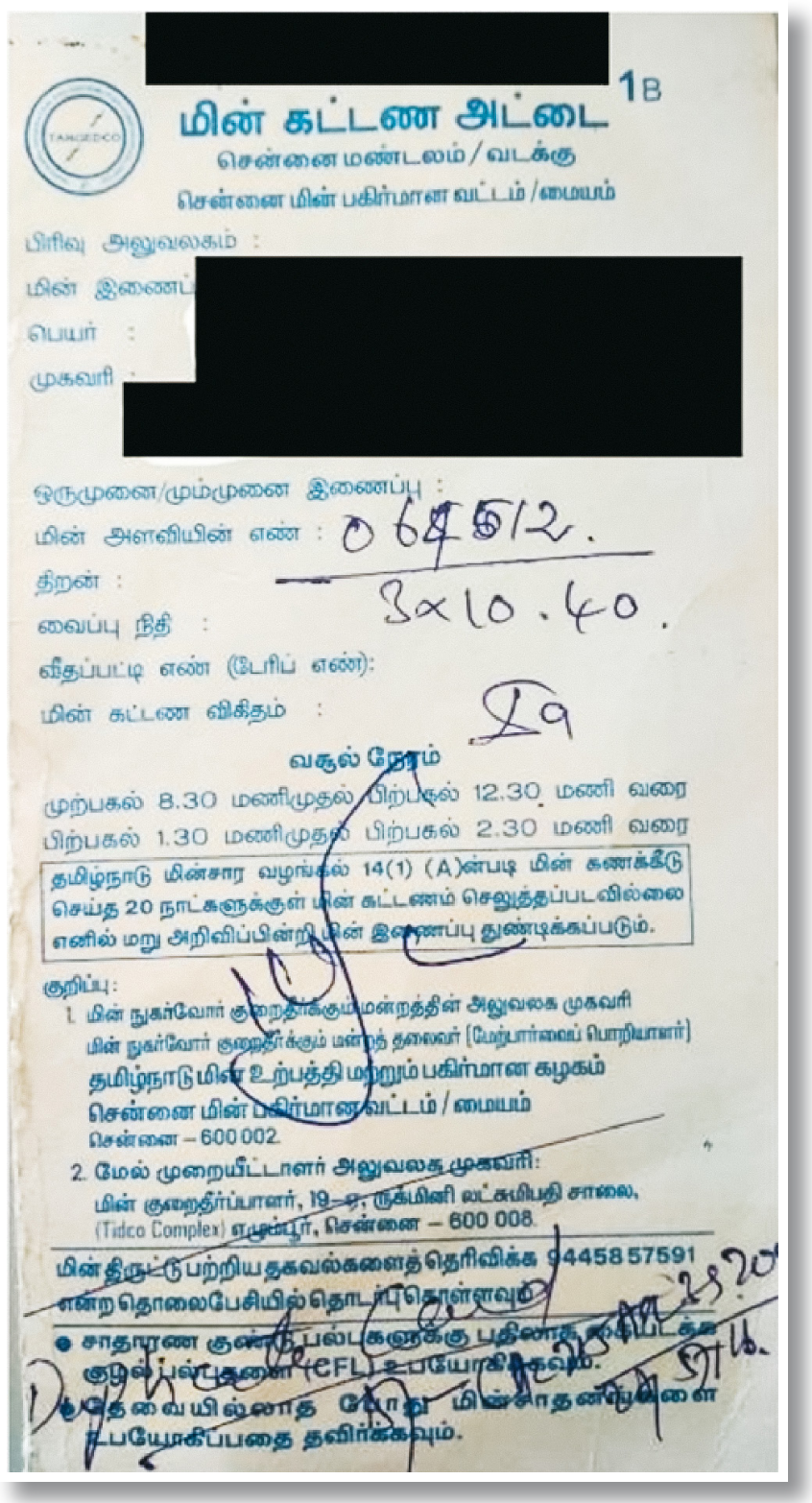
கணக்கீட்டாளர் / கணக்கீட்டு ஆய்வாளர்/ வருவாய் ஆய்வாளர்

Eight Thousand Five Hundred And Ninety One Only by Cash

Annexure 3

TANGEDCO's foldable white meter card (WMC)—1/3

Cover/Front side includes (i) consumer information, (ii) working hours of the collection counter, (iii) address of CGRF and EO, (iv) contact information to make complaints about identified power thefts, and (v) appeal to conserve energy.



[redacted]

1B

மின் கட்டண அட்டை

சென்னை மண்டலம் / வடக்கு

சென்னை மின் பகிர்மான வட்டம் / மையம்

பிரிவு அலுவலகம் :

மின் இணைப்

பெயர் :

முகவரி :

[redacted]

ஒருமுனை/மும்முனை இணைப்பு :

மின் அளவியின் எண் : 0 64512.

திறன் : 3x10.40.

வைப்பு நிதி :

வீதப்பட்டி எண் (டேரிப் எண்):

மின் கட்டண விகிதம் : I9

வசூல் நேரம்

முற்பகல் 8.30 மணிமுதல் பிற்பகல் 12.30 மணி வரை

பிற்பகல் 1.30 மணிமுதல் பிற்பகல் 2.30 மணி வரை

தமிழ்நாடு மின்சார வழங்கல் 14(1) (A)ன்படி மின் கணக்கீடு செய்த 20 நாட்களுக்குள் மின் கட்டணம் செலுத்தப்படவில்லை எனில் மறு அறிவிப்பின்றி மின் இணைப்பு துண்டிக்கப்படும்.

குறிப்பு:

1. மின் நுகர்வோர் குறைதீர்க்கும் மன்றத்தின் அலுவலக முகவரி
மின் நுகர்வோர் குறைதீர்க்கும் மன்றத் தலைவர் (மேற்பார்வைப் பொறியாளர்)
தமிழ்நாடு மின் உற்பத்தி மற்றும் பகிர்மான கழகம்
சென்னை மின் பகிர்மான வட்டம் / மையம்
சென்னை – 600 002.

2. மேல் முறையீட்டாளர் அலுவலக முகவரி:
மின் குறைதீர்ப்பாளர், 19–ஏ, ருக்மினி லட்சுமிபதி சாலை,
(Tidco Complex) எழும்பூர், சென்னை – 600 008.

மின் திருட்டு பற்றிய தகவல்களைத் தெரிவிக்க 9445857591 என்ற தொலைபேசியில் தொடர்பு கொள்ளவும்

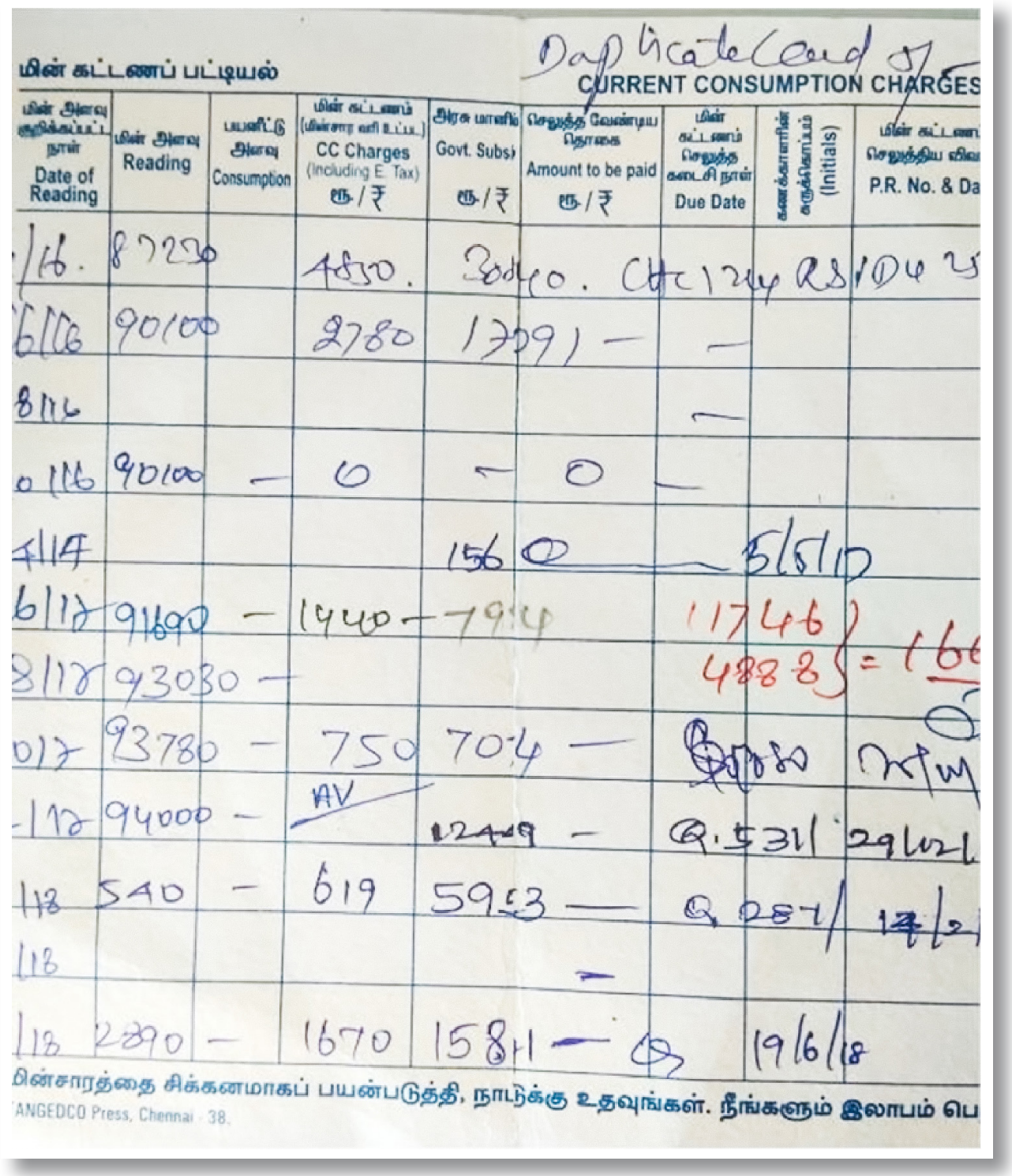
● சாதாரண குண்டு பல்புகளுக்கு பதிலாக சுருள் வடிவ ஒளிரும் விளக்கு (CFL) உபயோகிக்கவும்.

தேவையில்லாத நேரத்தில் மின்சாதனங்களை உபயோகிப்பதை தவிர்க்கவும்.

Annexure -3

TANGEDCO's foldable WMC—2/3

Inside WMC: A tabular column for the meter-reader/assessor to record current consumption information. This page also carries a slogan about energy conservation.



மின் கட்டணப் பட்டியல்

Duplicate Card

CURRENT CONSUMPTION CHARGES

மின் அளவு குறிக்கப்பட்ட நாள் Date of Reading	மின் அளவு Reading	பயனீட்டு அளவு Consumption	மின் கட்டணம் (மின்சார வரி உட்பட) CC Charges (Including E. Tax) ரூ./₹	அரசு மானியம் Govt. Subsi ரூ./₹	செலுத்த வேண்டிய தொகை Amount to be paid ரூ./₹	மின் கட்டணம் செலுத்த கடைசி நாள் Due Date	கணக்காளரின் கருத்தொப்பம் (Initials)	மின் கட்டணம் செலுத்திய விவ P.R. No. & Da
/16.	87230		1550.	3840.	Chc 124	RS	1042	
6/16	90100		2780	1709	—	—		
8/16						—		
0 /16	90100	—	0	—	0	—		
4/17				156	0		5/5/17	
6/17	91690	—	1440	— 794		1174		
8/17	93030	—				4888		= 16
0/17	93780	—	750	704	—			
-/17	94000	—	AV	1249	—	1531		
/18	540	—	619	5953	—	057		
/18					—			
/18	2290	—	1670	1581	—		19/6/18	

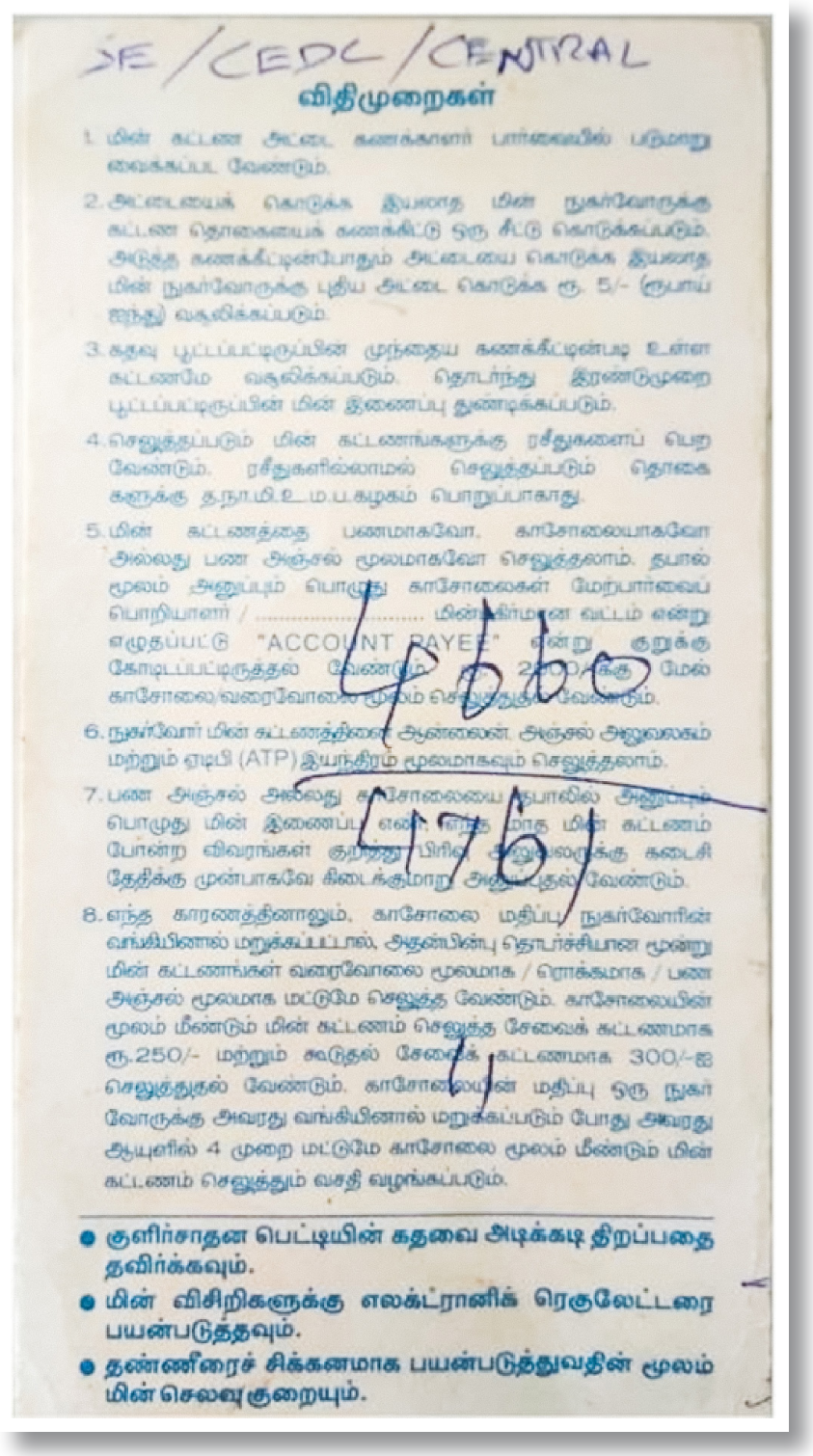
மின்சாரத்தை சிக்கனமாகப் பயன்படுத்தி, நாடுக்கு உதவுங்கள். நீங்களும் இலாபம் பெ

TANGEDCO Press, Chennai - 38.

Annexure-3

TANGEDCO's foldable WMC—3/3

Cover/flip side includes (i) information around accepted methods of bill payment consumer information and (ii) tips to conserve energy.



SE/CEDC/CENTRAL

விதிமுறைகள்

1. மின் கட்டண அட்டை கணக்காளர் பார்வையில் படுமாறு வைக்கப்பட வேண்டும்.

2. அட்டையைக் கொடுக்க இயலாத மின் நுகர்வோருக்கு கட்டண தொகையைக் கணக்கிட்டு ஒரு சீட்டு கொடுக்கப்படும். அடுத்த கணக்கீட்டின்போதும் அட்டையை கொடுக்க இயலாத மின் நுகர்வோருக்கு புதிய அட்டை கொடுக்க ரூ. 5/- (ரூபாய் ஐந்து) வசூலிக்கப்படும்.

3. கதவு பூட்டப்பட்டிருப்பின் முந்தைய கணக்கீட்டின்படி உள்ள கட்டணமே வசூலிக்கப்படும். தொடர்ந்து இரண்டுமுறை பூட்டப்பட்டிருப்பின் மின் இணைப்பு துண்டிக்கப்படும்.

4. செலுத்தப்படும் மின் கட்டணங்களுக்கு ரசீதுகளைப் பெற வேண்டும். ரசீதுகளில்லாமல் செலுத்தப்படும் தொகை களுக்கு த.நா.மி.உ.ம.ப.கழகம் பொறுப்பாகாது.

5. மின் கட்டணத்தை பணமாகவோ, காசோலையாகவோ அல்லது பண அஞ்சல் மூலமாகவோ செலுத்தலாம். தபால் மூலம் அனுப்பும் பொழுது காசோலைகள் மேற்பார்வைய பொறியாளர் / ..... மின் [illegible] வட்டம் என்று எழுதப்பட்டு "ACCOUNT PAYEE" என்று குறுக்கு கோடிடப்பட்டிருத்தல் வேண்டும். ரூ. 2500/-க்கு மேல் காசோலை/வரைவோலை மூலம் செலுத்துதல் வேண்டும்.

6. நுகர்வோர் மின் கட்டணத்தினை ஆன்லைன், அஞ்சல் அலுவலகம் மற்றும் ஏடிபி (ATP) இயந்திரம் மூலமாகவும் செலுத்தலாம்.

7. பண அஞ்சல் அல்லது காசோலையை தபாலில் அனுப்பும் பொழுது மின் இணைப்பு எண், நடப்பு மாத மின் கட்டணம் போன்ற விவரங்கள் குறித்து பிரிவு அலுவலருக்கு கடைசி தேதிக்கு முன்பாகவே கிடைக்குமாறு அனுப்புதல் வேண்டும்.

8. எந்த காரணத்தினாலும், காசோலை மதிப்பு நுகர்வோரின் வங்கியினால் மறுக்கப்பட்டால், அதன்பின்பு தொடர்ச்சியான மூன்று மின் கட்டணங்கள் வரைவோலை மூலமாக / ரொக்கமாக / பண அஞ்சல் மூலமாக மட்டுமே செலுத்த வேண்டும். காசோலையின் மூலம் மீண்டும் மின் கட்டணம் செலுத்த சேவைக் கட்டணமாக ரூ.250/- மற்றும் கூடுதல் சேவைக் கட்டணமாக 300/-ஐ செலுத்துதல் வேண்டும். காசோலையின் மதிப்பு ஒரு நுகர் வோருக்கு அவரது வங்கியினால் மறுக்கப்படும் போது அவரது ஆயுளில் 4 முறை மட்டுமே காசோலை மூலம் மீண்டும் மின் கட்டணம் செலுத்தும் வசதி வழங்கப்படும்.

- குளிர்சாதன பெட்டியின் கதவை அடிக்கடி திறப்பதை தவிர்க்கவும்.
- மின் விசிறிகளுக்கு எலக்ட்ரானிக் ரெகுலேட்டரை பயன்படுத்தவும்.
- தண்ணீரைச் சிக்கனமாக பயன்படுத்துவதின் மூலம் மின் செலவு குறையும்.

Annexure 4

TANGEDCO's online account summary—1/2

Last login : Tue, 12 Jan 2021 15:01:13 **Current login:** Mon, 25 Jan 2021 10:59:58

Welcome ,

Quick Pay | Payment detail | e-receipt archieve | Account summary | ASD Notice | Bill History | Add Number | Delete Number | Change password | Edit profile | Customer Support | General Complaints | Complaint status | Feed Back

Service Details

Name		Consumer No	
Region	09-Chennai-South	Old Consumer Nos	
Circle	400-South1		
Section		Phase	3
Distribution		Load	16.5 KW
		Tariff	LA1A
Number		Meter Number	6542798
Address		SD available(Rs.)	18469
		SD Refund/Adj(Rs.)	
		Service Category	OTHERS
Service Status	LIVE	MCD available (Rs.)	2500
		MCD Refund (Rs.)	0

Slab Rate

From Unit	To Unit	Rate (Rs.)	Max.Unit
1	100	0	100
1	100	0	200
101	200	1.5	200
1	100	0	500
101	200	2	500
201	500	3	500
1	100	0	9999999
101	200	3.5	9999999
201	500	4.6	9999999
501	Above	6.6	9999999

Meter Change Details

Meter No	Meter Make	Meter Type	Multiplication Factor	Intial Reading	Final Reading	Intial KVAH	Final KVAH	MeterInt Date	MeterFin Date	Reason
	HPL ELECTRIC AND POWER	Static Electronic Meter With MD recording Facility	1	0	0	0		07-12-2020	07-12-2020	Defective

Disconnection /Reconnection Details

Date	Reading (KW)	Reading (kVAH)	Status	Reason
12-01-2017	17169		DISCONNECTED	NON-PAYMENT
20-01-2017	17169		RECONNECTED	RC

Electricity Consumption

Consumed units

Zoom reset

Consumption charges

Zoom reset

Electricity Consumption Bill Details

Reading taken Date	Reading	Used Unit	CC Charges (Rs.)	Other Charges (Rs.)	Bill Amount (Rs.)	Adv. Amount (Rs.)	Adj. Amount (Rs.)	Total Bill Amount (Rs.)	Due Date	Bill Paid	Receipt No	Payment Date	Status
26/12/20	30	1242	6627.2	50	6677	0	3193	3484	18/01/21	3484		12/01/21	NORMAL
30/10/20	0	1965	11399	50	11449	6500	4949	0	19/11/20				DEFECTIVE
27/08/20	57670	60	0	0	0	0	0	0	16/09/20				NORMAL
26/06/20	57610	920	2020	0	0	0	0	0	30/07/20				NORMAL
25/04/20	Previous	Assesment	Amount	Billed	10162	0	0	10162	30/07/20	10162		18/05/20	PMC
25/02/20	56690	1770	10112	50	10162	0	0	10162	16/03/20	10162		15/03/20	NORMAL

Miscellaneous Bill Details

Slip Cheque No	Slip Cheque Date	Dishonour Date	Account Description	Amount	Due date	Collection Date	Receipt No	Install Amt/ Cheque Amt/ Pending Amt	Total Installments	Installments Status
	10-11-2020		47605-Advance Cc Charge	6500	10-11-2020	10-11-2020		0	1	1
	26-06-2020		AD004-AUTO DOOR LOCK ADJUSTMENT	8142				0		
	03-05-2019		48100-Cc Deposit	2060	10-06-2019	11-05-2019		2060	1	1
	20-01-2017		23100a-Cc Arrears	2235	21-01-2017	20-01-2017		2252	1	0
	20-01-2017		62250-Bpsc	17	21-01-2017	20-01-2017		2252	1	0
	20-08-2016		61964-Name Transfer Fees(61909c)	200	03-09-2016	20-08-2016				
	22-02-2016		AD004-AUTO DOOR LOCK ADJUSTMENT	5224				0		
	23-02-2015		23100a-Cc Arrears	203	01-04-2015	02-03-2015		203	1	1
	27-07-2013		47604-Meter Caution Deposit	2500	10-08-2013	29-07-2013				
	27-07-2013		48100-Cc Deposit	10200	10-08-2013	29-07-2013				

Outstanding Bill Details

Bill Month	Bill year	Acct. Description	Amount	Due date	Description
-	-	-	0	-	-

Total:0

Balance in advance amount is Rs.0

Amount for future bill adjustment as per consumer's request is Rs.0

Total dues to be paid in Rs.0

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This website is best viewed in IE 8+, Firefox 3+ and Google chrome 3+ @ 1024 x 768 resolution

Annexure 4

TANGEDCO's online account summary—2/2

Electricity Consumption Bill Details

1 2

Reading taken Date	Reading	Used Unit	CC Charges (Rs.)	Other Charges (Rs.)	Bill Amount (Rs.)	Adv. Amount (Rs.)	Adj. Amount (Rs.)	Total Bill Amount (Rs.)	Due Date	Bill Paid	Receipt No	Payment Date	Status
26/12/20	30	1242	6627.2	50	6677	0	3193	3484	18/01/21	3484		12/01/21	NORMAL
30/10/20	0	1965	11399	50	11449	6500	4949	0	19/11/20				DEFECTIVE
27/08/20	57670	60	0	0	0	0	0	0	16/09/20				NORMAL
26/06/20	57610	920	2020	0	0	0	0	0	30/07/20				NORMAL
25/04/20	Previous	Assesment	Amount	Billed	10162	0	0	10162	30/07/20	10162		18/05/20	PMC
25/02/20	56690	1770	10112	50	10162	0	0	10162	16/03/20	10162		15/03/20	NORMAL

1 2

Miscellaneous Bill Details

1 2

Slip Cheque No	Slip Cheque Date	Dishonour Date	Account Description	Amount	Due date	Collection Date	Receipt No	Install Amt/ Cheque Amt/ Pending Amt	Total Installments	Installments Status
	10-11-2020		47605-Advance Cc Charge	6500	10-11-2020	10-11-2020		0	1	1
	26-06-2020		AD004-AUTO DOOR LOCK ADJUSTMENT	8142				0		
	03-05-2019		48100-Cc Deposit	2060	10-06-2019	11-05-2019		2060	1	1
	20-01-2017		23100a-Cc Arrears	2235	21-01-2017	20-01-2017		2252	1	0
	20-01-2017		62250-Bpsc	17	21-01-2017	20-01-2017		2252	1	0
	20-08-2016		61964-Name Transfer Fees(61909c)	200	03-09-2016	20-08-2016				
	22-02-2016		AD004-AUTO DOOR LOCK ADJUSTMENT	5224				0		
	23-02-2015		23100a-Cc Arrears	203	01-04-2015	02-03-2015		203	1	1
	27-07-2013		47604-Meter Caution Deposit	2500	10-08-2013	29-07-2013				
	27-07-2013		48100-Cc Deposit	10200	10-08-2013	29-07-2013				

Annexure 5

List of information points chosen to be provided in the sample electricity bills

I. CONSUMER PERSONAL DETAILS / INFORMATION

1. Consumer name
2. Consumer number/ID
3. Billing address
4. Mobile number
5. Email ID

II. CONNECTION DETAILS

1. Meter number
2. Type of supply/phase
3. Service status
4. Tariff category/code
5. Load (kW/kVA)
6. SD available (INR)
7. SD refund adj. (INR)
8. MCD available (INR)
9. MCD refund (INR)

III. UTILITY INFORMATION

1. Utility name
2. The distribution circle
3. Region/zone
4. Section
5. Distribution number

IV. BILLING INFORMATION

1. Reading date
2. Billed reading (previous)
3. Billed reading (present)
4. Units consumed (kWh/kVAh)
5. CC charges (INR)/Energy charges
6. Other charges
7. Bill amount
8. Advance amount
9. Credits & adjustments
10. Total bill amount
11. Due date

V. OTHER CHARGES

1. Minimum charge
2. Fixed cost
3. Welding charges
4. E-Tax
5. Belated payment surcharge (BPSC)

VI. PREVIOUS MONTH PAYMENT

1. Units consumed (kWh / kVAh)
2. CC Charges (INR)/Energy Charges
3. Other Charges
4. Bill amount
5. Calculations for different slabs
6. Slab rate
7. Consumption trends
8. Consumed units
9. Consumption charges

VII. MISCELLANEOUS/SUNDRY DETAILS

1. Arrears
2. Fuel surcharge
3. CC deposit
4. Rebate
5. Belated payment surcharge
6. Meter change details, if any
7. Tariff change details, if any
8. GRIEVANCE REDRESSAL

   i. Internal grievance redressal forum

   Point of contact
   Address
   Phone Number

   ii. Consumer grievance redressal forum

   Point of contact
   Address
   CGRF phone number

   iii. Electricity ombudsman

   Ombudsman (about)
   Address
   EO phone number

VIII. PAYMENT OPTIONS

1. Methods & instructions for payment
2. Working hours for collection of payment

IX. OTHER INFORMATION - consumer updates, Tamil Nadu energy mix, per unit cost of supply, general notice for public hearing and energy saving tips & slogans

Technology can prove to be useful for information disclosure in the electricity bills and ease the transition from a bimonthly billing cycle to a monthly billing cycle.

Image: iStock

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