93936

MENA ENERGY SERIES | REPORT NO. 93936-EG

Transparency and Social Accountability in the Egyptian Power Sector

WORLD BANK GROUP
Energy & Extractives

MIDDLE EAST AND NORTH AFRICA
ENERGY AND EXTRACTIVES GLOBAL PRACTICE
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ESMAP
Energy Sector Management Assistance Program

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Written for the Energy Unit of the World Bank Middle East and North Africa Region, Energy and Extractives Global Practice, The World Bank Group.

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Production Editor: Marjorie K. Araya, ESMAP
Designer: Studio Grafik
Typesetting: vPrompt eServices
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Contents

Acronyms and Abbreviations

AMR	Automatic Meter Reading
BoD	Board of Directors
BOOT	Buy, Own, Operate, Transfer
CBD	Central Business District
CEO	Consumer and Energy Organization
CRC	Citizen Report Card
CRM	Customer Relationship Management
DC	Distribution Company
DOS	Distribution Systems Operators
EDG	Environment & Development Group
EEA	Egyptian Electricity Authority
EEHC	Egyptian Electricity Holding Company
EETC	Egyptian Electricity Transmission Company
EgyptERA	Egyptian Electric Utility and Consumer Protection Regulatory Agency
EHV	Extra High Voltage
ERGEG	European Regulators' Group for Electricity and Gas
EU	European Union
GIZ	German Society for International Cooperation
HV	High Voltage
IPP	Independent Power Producer
IT	Information Technology
MIS	Management Information System
MoEE	Ministry of Electricity and Energy
NG	Natural Gas
NGO	Non-Governmental Organization
NREA	New and Renewable Energy Authority
RAE	Regulator Authority for Energy for Greece
RFP	Request for Proposal
RMT	Roundtable Meeting
SMS	Short Message Service
TCI Sanmar	Chemical Manufacturer
TM	Task Manager
ToR	Terms of Reference
TSO	Transmission System Operator
WB	The World Bank

Acknowledgments

This study was led by Ms. Fowzia Hassan, Energy Specialist, The World Bank Group, and Evangelos Penglis and George N. Seferiadis of Kantor Management Consultants. Marjorie K. Araya of ESMAP assisted in the final production of this Report. The team would like to acknowledge Dr. Hafez El Salmawy, Director EgyptERA and his team for the extended cooperation and valuable contributions, data and information used to enrich this report.

The team would also like to extend its gratitude to the many stakeholders with whom several roundtables were held over a period of one year to be able to bring a set of recommendations and conclusions to the table.

The financial and technical support by the Energy Sector Management Assistance Program (ESMAP) is gratefully acknowledged. ESMAP—a global knowledge and technical assistance program administered by the World Bank—assists low- and middle-income countries to increase their knowhow and institutional capacity to achieve environmentally sustainable energy solutions for poverty reduction and economic growth. ESMAP is funded by Australia, Austria, Denmark, Finland, France, Germany, Iceland, Lithuania, the Netherlands, Norway, Sweden, the United Kingdom, and the World Bank Group.

Executive Summary

Egypt's electricity sector has the potential to benefit from better social accountability and transparency. The sector is suffering precarious financial situation, shortage in electricity supply, increasing frequent electricity interruptions, lower quality of electricity supply, and increasing consumer discontent and frustration. In order to address these issues, it is vital to ensure that Egypt's electricity sector provides quality service, and that the various stakeholders–consumers, investors, and the public at large–are properly informed and allowed to voice their views and concerns.

From the perspective of social accountability, the state has to be responsive to the needs of its citizens. A prerequisite for that is the transparency which entails accessibility of information to citizens, communities, and businesses. This study aims to assess four key areas influencing transparency and social accountability in the electricity sector, namely: institutional analysis; performance benchmarking; customer interface; and consumer surveys. The electricity regulator, the Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptERA), is taking the lead in addressing shortcomings in these areas in coordination with the respective stakeholders in the sector.

The recommendations are based on the following description for each of these areas:

- *Institutional analysis*: Examining the institutional and governance arrangements in Egypt's power sector with regards to its transparency and social accountability.
- *Performance benchmarking*: Reviewing the operational and financial performance indicators used by EgyptERA and electricity companies to gauge the quality and resource efficiency of their service, and identifying potential improvements based on international practice and certain specifics of the Egyptian power sector.
- *Customer interface, transparency, and public information systems*: Reviewing and assessing communication and information dissemination between EgyptERA, the regulated companies, and the wider public.
- *Consumer surveys*: Strengthening the design, execution, data analysis, and dissemination of the customer survey ("the Citizen Report Cards"), this was initiated by EgyptERA in 2010.

Findings

This study provided valuable insights on the potential for transforming the Egyptian electricity sector into a more transparent and socially accountable sector. The following is a highlight of the key findings for each of the four areas of study.

INSTITUTIONAL ANALYSIS

EgyptERA's mandate is consistent in many aspects with other national electric utilities, conferring many of the same responsibilities, such as issuing licenses

for construction and operation of power generators, ensuring compliance with national laws and regulations, publishing reports apprising consumers of their rights and responsibilities, and answering consumer complaints.

In contrast to international practice, however, EgyptERA has very limited rule to advise or pass opinion on tariff structures to the respective ministries. Nor it is formally involved in approving transfer pricing between the electricity companies). These are important limitations to EgyptERA's mandate, especially in light of the planned liberalization of Egypt's electricity sector.

The ability of EgyptERA to oversee the electricity sector is partly compromised by its limited authority to oversee and regulate licensed regulated public companies. Lines of responsibility for the management and regulation of Egypt's electricity companies are thus blurred, as is their accountability to either EgyptERA or the public at large.

Transparency of distribution companies is a broadly defined obligation whose rules and regulations specify only in broad terms the exact information to be provided or the mediums through which it is to be conveyed. The draft *Supply Code*, which has been recently developed with the aim to govern these obligations in greater detail, is deemed as a positive development.

Transparency and social accountability in Egypt's electricity sector is also limited due to its underdeveloped communication policy towards consumers and the general public. This partly stems from the Egyptian Electric Holding Company (EEHC) subsidiaries' lack of legal obligations to oversee or safeguard its customers' satisfaction. And while it is standard practice for distribution system operators and electricity supply companies in the EU (European Union) to monitor and publish their findings on customer services (for example, response times for customer claims and complaints), distribution companies in Egypt do not currently monitor such indicators. The transparency of Egypt's electricity sector also suffers for lack of staff dedicated to communications.

Shortcomings can be mitigated in the short run by incorporating a more customer-focused outlook in the responsibilities of these subsidiaries (as outlined in their Articles of Association); and by obliging the EEHC board of Directors to oversee the periodical reports on the commercial and customer satisfaction performance of subsidiary companies. Such amendments can be designed and prepared under the support of EgyptERA in order to moderate EEHC's burden of required time and resources.

Both EEHC and the regulated licensed companies lack the capacity and organization to provide EgyptERA with timely, accurate, and comprehensive information. This shortcoming can be significantly addressed by revising the existing arrangement at EEHC to strengthen the effectiveness of cooperation with EgyptERA. In addition, capacity building as well as revisions of the Supply Code and Articles of Association may be considered to complement the other efforts to improve the efficiency of information exchange of licensed companies and EgyptERA.

PERFORMANCE BENCHMARKING

Performance benchmarking in Egypt currently involves three sets of stakeholders: Electricity companies, EEHC, and EgyptERA. Electricity companies monitor certain performance indicators for internal purposes, while they are also required to provide to EgyptERA and EEHC the underlying benchmark data for monitoring. Effective monitoring and dissemination of performance indicators in the electricity sector is critically important for ensuring transparency and social accountability. The following is a summary of the role for each of these three stakeholders.

EgyptERA

The year-to-year performance of each department or unit is analysed by EgyptERA by examining historic trends in indicators and benchmarks. The

benchmarking analysis is presented and discussed in joint meetings between EgyptERA and the electricity companies to validate their results and conclusions, which are in turn documented by EgyptERA in annual performance reports for each company and are circulated to the Ministry of Electricity and Energy and to EEHC.

Despite such thorough benchmarking analysis, transparency and social accountability are somewhat thwarted by the fact that these reports are not currently made available to the wider public.

International best practice shows that a key to monitoring and benchmarking performance resides in the underlying dataset's accuracy. Many regulators verify such data via external auditors or comptrollers. EgyptERA does not yet commission external audits, but verifies the validity of data provided by its companies via trend analysis of historical data on 30 to 40 indicators recorded in EgyptERA's database over the past decade.

The value of this is to some degree diminished due to the grouping of some benchmarking indicators into units and departments, thus precluding a comparative assessment of performance at company level. The use of a management information system (MIS) for monitoring benchmarks among different companies is relevant and can be deployed to simplify the aggregation and analysis of data by EgyptERA and EEHC, while improving the accuracy of benchmarking indicators.

Electricity Companies

Electricity companies monitor performance indicators against their individual targets in cooperation with their holding company, EEHC, without carrying out a benchmarking analysis per se. Performance indicators are monitored, discussed, and reported monthly within company departments, sectors, and boards of directors.

Though EEHC mostly dictates performance monitoring requirements for benchmarking analyses between companies, it is not uncommon for electricity companies to deploy somewhat different metrics to monitor their own performance. The companies' absence of uniformity in monitoring performance could undermine the benefits of benchmarking and weakens the level of transparency regarding in reporting their performance. Internal auditing of benchmarking data could thus serve to ensure that electricity companies adhere uniformly to the guidelines issued by EgyptERA, and to verify consistency among companies in monitoring performance indicators.

Consistency of performance benchmarking is also hindered by the lack of effective data management platforms, such as MIS, at EgyptERA and its regulated companies to unify data and monitor their benchmarks. Though EEHC has made steps towards developing such a MIS, it has not yet been implemented due to financial constraints. A well-functioning MIS would also enable EgyptERA to monitor and the results of the annual consumer-awareness survey.

Load shedding, which interrupts electricity service to customers, is currently a major issue in Egypt's electricity sector. Though significantly affecting the quality of service, it is not explicitly monitored, as it is aggregated with planned outages due to maintenance work, for which consumers are informed in advance. A number of distribution companies have recently started to utilize a software system which facilitates the management of load shedding and aims to distribute the power cuts based on priority or merit. If such system is fully utilized, it would allow EgyptERA to maintain a database of all power cuts and to build a clear accounting on the number and frequency of power cuts experienced by each type of consumer. It will also serve as a valuable tool for monitoring performance in relation to planned power outages due to load shedding.

In contrast to standard international practice, distribution companies in Egypt do not currently monitor certain indicators of customer service such

as response times to complaints or requests for new connections. Nor do they conduct customer satisfaction surveys that would allow them to gauge their performance in these fields. As mentioned previously, such responsibilities are not embedded in the responsibilities of EEHC subsidiaries. Introducing commercial performance indicators to the distribution companies' subsidiaries, and establishing incentive or performance contracts between EgyptERA and the distribution companies can significantly improve benchmarking of customer service practices. Nonetheless, distribution companies face a significant obstacle in monitoring their provision of customer services, as they do not currently have access to proper customer account management systems, such as customer relation management (CRM), to efficiently track and address customer complaints, queries and feedback. However, Cairo South has started the development of a CRM system in coordination with EgyptERA. When fully implemented, this system could serve as the practice for monitoring interfaces with customers throughout all distribution companies.

EEHC

There is limited interaction between EEHC and EgyptERA during the benchmarking process. Data is collected separately, while benchmarking indicators are monitored at different institutional levels and thus are not directly comparable. The performance of electricity companies is also being monitored by EEHC which monitors both relative performance of companies, and historic performance of each company. Such benchmarking reports and analyses carried out by EEHC are not currently made available to the public.

CUSTOMER INTERFACE, TRANSPARENCY, AND PUBLIC INFORMATION SYSTEMS

Transparency and social accountability in Egypt's electricity sector relies to a significant extent on effective communication and information dissemination between the sector's main stakeholders, in particular EgyptERA, electricity companies, and the public.

Sector Companies

Regulated electricity companies are obliged by their licenses to provide to EgyptERA and EEHC a variety of financial, operational, and technical data, along with periodic reports on their past and projected performance to ensure that all stakeholders are adequately informed. The most important of these requirements is an annual statement on the quality of customer service. In the event that a regulated company does not comply with the requirements, EgyptERA has a number of sanctions at its disposal.

In practice, however, neither EEHC nor regulated companies have sufficient capacity or organization to provide the information required by EgyptERA. To address this issue, EgyptERA has organized a number of internal capacity building sessions, and regularly invites staff from coordination departments to attend but this shortcoming is still unresolved.

Distribution Companies

Distribution companies face an important task in communicating with their consumers, especially those in rural and remote parts of the country who remain largely uninformed of the companies' roles and functions. This could further hamper the companies' attempts to engage the public on important challenges facing the sector such as power shortages due to lack of investments, fuel shortages, and subsidies.

Distribution companies licensed by EgyptERA are obliged to provide information to their customers and to the wider public, either as part of their statutory obligations, or upon their customers' request. The distribution companies' most important requirements are to inform the wider public and tax payers on their activities and financial performance, as well as availing them of all application forms, procedures, terms and conditions for establishing a new connection and a supply agreement. The companies are also obliged to inform their customers on how they can file a

query or complaint, as well as how their complaint will be handled and eventually resolved.

Complaints are being tracked by distribution companies as specified in the Distribution Code. The majority of these companies, however, do not have computerized systems (except for Cairo South where a CRM system has been developed). EEHC and EgyptERA rely on each subsidiary to send the information via FAX or email, to be manually analyzed and aggregated. Nevertheless, EEHC has made steps towards mitigating this issue. It has developed a blueprint of an MIS for aggregating data and monitoring benchmarks among different companies, which unfortunately has yet been implemented due to financial constraints. A well-functioning MIS will also be required by EgyptERA for monitoring the results of the annual consumer-awareness survey mentioned above.

Electricity bills can be a particularly effective tool for distribution companies to disseminate information to consumers, given that they reach every consumer. Yet various stakeholders—including consumer groups—find their layout and information confusing and unclear. Though they all provide identical information, electricity bills issued by each distribution company in Egypt do not adhere to a uniform format. An assessment of Egypt's electricity bills and addition of clarifying information may substantially improve the sector's information flows.

Meter readers are another important medium of communication between distribution companies and consumers, with potential to play a significant role in disseminating information and collecting customer feedback, queries, and complaints. However, distribution companies report that meter readers are unable to take on extra responsibilities such as providing customer information or feedback. Time constraints notwithstanding, they lack the training to undertake such responsibilities.

Finally, planned power outages due to load shedding are not being properly communicated to consumers, with the exception of a few companies that inform priority customers such as hospitals and industries. Adding to the confusion, these planned outages—for which no warning is given to consumers—are not being measured separately from those due to maintenance work—for which customers are informed in advance.

EgyptERA

The most significant publication of EgyptERA by which it communicates with the wider public, is the Annual Report, which provides extensive information on a wide range of pertinent topics for Egypt's electricity sector. Although a consumer-protection element is included in the 2010–11 Annual Report, EgyptERA does not currently provide annual reports dedicated to consumer service of regulated distribution companies. Such information will be especially important once the market becomes liberalized, whereby consumers will need to evaluate for themselves the services offered by each supplier.

EgyptERA's regulatory mandate is further hindered by its limited visibility. Consumers and the wider public are not aware of its existence and role. EgyptERA, however, has made significant efforts to address this issue, most recently by helping organize a two-day public consultation on current challenges in Egypt's electricity sector. The event will be streamed live over the Internet and the audience will be able to pose questions to the panelists. The purpose of the event is for the public voice to be heard, and for the sector to be fully transparent concerning the challenges it is facing.

Data collection by EgyptERA does not always run smoothly, as delays in receiving the required information from regulated companies are common. These delays pose a significant obstacle to the oversight by EgyptERA.

Since 2010, EgyptERA has been cooperating with the Consumers and Energy Organization (CEO), a civil society network with nationwide outreach. The

mandate of CEO is to represent energy consumers, and to raise awareness about consumer rights and responsibilities. It has limited capacity to be proactive, however, as most of its funding for services to EgyptERA is provided by the German Society for International Cooperation and is conditional upon EgyptERA's approval.

Finally, EgyptERA has been developing a number of communications to improve their visibility and to raise consumer awareness about pertinent issues in the electricity sector. These include a public opinion survey on the quality of electricity services, informative circulars on Egypt's electricity sector, and EgyptERA's website and social media pages providing videos and messages on energy conservation.

CONSUMER SURVEYS

This objective sought to strengthen the design and execution, data analysis, and dissemination of the customer survey ("citizen report cards") that was initiated by EgyptERA in 2010.

Distribution companies face a major hurdle preventing them from effectively communicating with consumers and the wider public, stemming from their failure to conduct customer satisfaction surveys or to gauge customer feedback. Consumers can now file complaints mainly through dedicated call centers and service outlets; some are offered the option to file complaints through their respective distribution companies' websites. EgyptERA is attempting to upgrade these communications by preparing templates for distribution companies to undertake customer satisfaction questionnaires regarding their handling of complaints and the quality of information they provide. A consumer-awareness survey conducted by EgyptERA in 2010, derived solely on telephone interviews, was able to reach only part of the population. To bolster these efforts, the Bank assisted EgyptERA to develop more direct data-collection techniques, as well as more detailed questionnaire forms, which will enable them to more thoroughly measure the public's perception on the quality, cost, and evolution of the services they provide. Finally, EgyptERA is monitoring closely the complaints it received regarding service by distribution companies and publishes them in its annual report.

Recommendations

It is necessary to establish systems and procedures that: a) proactively disclose information about the power sector's quality of service, operational and financial performance, and development plans and policies; b) seek customer and public feedback; and c) further engage customers in monitoring sector performance.

These recommendations, which include comments and actions already taken by EgyptERA, as well as comments gathered during a roundtable meeting of stakeholders to discuss the findings of this study, fall under three main actions:

A. Incorporating the consumer engagement into the goals/objectives and operational culture of the electricity sector

1. Revise goals of EEHC subsidiary to incorporate more responsibilities towards customers.
2. Oblige EEHC to oversee periodical reports of its subsidiary companies on the satisfaction of their customers.
3. Request companies to make explicit reference in their articles of association to obligations arising from their licenses, while EEHC's responsibility is to verify the companies' compliance to these obligations.

4. Urge EgyptERA to adopt more advanced data collection techniques for their Consumer Awareness Survey, and revise the licensing obligations of electricity companies to undertake regular consumer satisfaction surveys and devise action plans based on feedback.
5. Include in the licenses of each distribution company an explicit obligation to draw up and publicize a customer charter.
6. Edit the new supply code to include effective information exchange between distribution companies and consumers.
7. Represent consumers and civil society in the companies' boards and in regional committees of electricity consumers.
8. EgyptERA should develop a Code of Conduct that will define more clearly its responsibilities, and highlight commitment to transparency and social accountability.

B. Sector Reform Via Organizational, Staffing, and Information Technology (IT) Enhancements

9. Distribution companies should set up departments dedicated to communications, staffed with qualified personnel to develop appropriate communication policies.
10. Create a single, appropriately staffed EEHC liaison department.
11. EgyptERA, EEHC and electricity companies should undertake periodic internal audits of electricity companies to validate performance benchmarking data.
12. EEHC and EgyptERA should combine efforts to produce a unified annual company performance report, and to set a system for incentives and penalties.
13. Consider implementing a unified MIS for monitoring benchmarks among different companies.
14. Increase distribution companies' investment in handheld Automatic Meter Reading (AMR) devices and smart meters.
15. Distribution companies to disclose their reporting.
16. Distribution companies should produce detailed job descriptions and required skill sets for the personnel that staff the liaison offices.

C. Improving communications to enhance transparency and promote trust between the sector and the public

17. Update EgyptERA's mandate to reflect the new Electricity Law and upcoming reforms in the electricity market.
18. Consider implementing a unified CRM system for logging and tracking complaints.
19. Revise benchmarking reports produced by EgyptERA and EEHC to be more reader friendly, and publish them on company websites and service outlets.
20. EgyptERA and EEHC should establish a new benchmark separating planned power outages due to maintenance, from power outages due to load shedding.
21. Distribution companies, EEHC and EgyptERA should adopt commercial indicators related to customer satisfaction and ensure all relevant metrics are unified.
22. Distribution companies should timely submit to EgyptERA their network rehabilitation plans.
23. Distribution companies should inform consumers of planned power outages due to load shedding.
24. EgyptERA should implement a communication strategy to raise awareness about its role and activities.
25. Distribution companies should adopt EU recommendations in reformatting their electricity bills.
26. EgyptERA should provide annual reports tailored to consumer service.

CHAPTER ONE:

Introduction

The World Bank's initiatives of Social Accountability and Transparency over the past two decades are increasingly founded on the notion that transparency and social accountability of public institutions are essential for stimulating economic growth.

Social accountability refers to the responsiveness of the state to the needs of its citizens, and encompasses a broad range of actions and mechanisms such as tracking of public expenditures, monitoring of public service delivery, and working with citizen advisory boards. These citizen-driven measures complement and reinforce conventional mechanisms of accountability such as political checks and balances, accounting and auditing systems, and administrative rules and legal procedures.

Transparency is closely linked to, and is in fact a prerequisite for, social accountability. Transparency entails access to and effective use of information by citizens, civil society organizations, non-governmental organizations (NGOs), local communities, and the private sector. It is exemplified by such activities as disclosure and dissemination of information, participation and consultation with beneficiaries and users, and effective handling of complaints.

In line with this approach, EgyptERA considers it vital to ensure that Egypt's electricity sector provides quality service, and that the various stakeholders–consumers, investors, and the public at large–are properly informed and allowed to voice their views and concerns.

To achieve this objective, the World Bank and EgyptERA—in consultation with Kantor Management Consultants—finds it necessary to establish systems and procedures for: a) proactively disclosing information about the power sector's quality of service, operational and financial performance, and development plans and policies; b) seeking customer and public feedback; and c) engaging customers in monitoring sector performance. Such a system, by helping to improve both the performance of the sector and the public acceptance of its policies and plans, ultimately can raise the sector's efficiency, quality, and sustainability.

CHAPTER TWO:

Objectives and Methods

This study covers four interlocking areas (institutional analysis; performance benchmarking; customer interface-transparency and public information systems; and consumer surveys). After analyzing and identifying weaknesses in each area separately, corrections are then suggested that encompass the interlocking whole.

The key findings and recommendations of this analysis were presented to a Roundtable Meeting (RTM), inviting all the stakeholders from the Scoping Workshop at the beginning of the project.

The main objective was to include the opinions and comments of all stakeholders to ensure that our recommendations reflect a complete picture for correcting the sector's weaknesses in transparency and social accountability.

The delegates of the RTM ultimately accepted the findings and recommendations of the study. The delegates particularly emphasized the problem of subsidies and the public perception that electricity is something that should be provided for free. Educating the public on the problems of the sector—and how everyone could help with simple behavioral changes—is paramount to tackling power outages.

2.1 Institutional Analysis

The objective was to examine the existing institutional and governance arrangements in Egypt's power sector with regards to its transparency and social accountability. This entailed reviewing the institutional mandates of EgyptERA, EEHC, the Egyptian Electric Transmission Company (EETC), and distribution companies, and identifying shortcomings and opportunities to enhance service delivery, customer feedback, public information dissemination and civil society participation. Recommendations are made for specific changes in the institutional and governance framework, aiming for several outcomes: To reinforce the obligation of electricity companies to deliver a standard level of service; to develop further mechanisms for receiving and utilizing feedback from customers; to improve the content and effectiveness of public information; and to enhance the public's involvement in making decisions.

This can be done through the following steps:

1. Analyzing and comparing EgyptERA's mandate to that of other international peers so as to set the limits of obligations and authority.
2. Identifying the reporting requirements, both towards EgyptERA and the public domain.
3. Identifying the type of information that is made available in Europe or other identified countries via the regulators and the electricity sector companies (focusing only on the ones that have a direct impact with the consumer such as

distribution and supply); and the case in Egypt, and how this information is channeled to the end consumer.

4. Finalizing the findings and comparisons with a paragraph on consumer participation in the sector and how this is implemented in the United Kingdom (which is probably the best example of participatory mechanics in Europe).
5. Recommending a set of actions and interventions that could improve institutional reporting and transparency. These recommendations are provisional, given that there are two more reports on benchmarking and customer satisfaction that work in a complimentary fashion to this report.

2.2 Performance Benchmarking

The objective was to review the operational and financial performance indicators used by EgyptERA and electricity companies to benchmark the quality and resource efficiency of their service. These indicators include the generation, transmission, and distribution of electricity, as well as customer services. Potential improvements were identified based on international practice and certain specifics of the Egyptian power sector, including the following: a) The range of indicators being monitored by electricity companies and EgyptERA; b) the technical and organizational capacity of electricity companies to effectively monitor and report their performance; c) mechanisms utilized by EgyptERA to audit and monitor the performance of regulated companies against proposed indicators; and d) the way by which performance indicators are communicated to the public (in terms of presentation, content, channels and frequency). The current benchmarking regime in Egypt's power sector was mapped and examined to reveal how EgyptERA is collecting and composing the sector indicators. The findings are contrasted vis-à-vis with what is currently the status in the EU[1] and recommendations are made on the specifics and limitations of the local context. Limitations are mostly centered on the capacity of the licensed companies to accurately collect the necessary data as well as the communication of the performance to the wider public. EgyptERA is making significant efforts to mitigate these problems.

2.3 Customer Interface, Transparency, and Public Information Systems

This objective reviewed and assessed communication and information dissemination between EgyptERA, the regulated companies, and the wider public. The tasks included examining the content of information provided, the governing framework of regulations, rules and procedures, and the information technology (IT) tools that are used for this purpose. In addition, this review examined the handling of consumer requests, feedback, and complaints, as well as the effectiveness of citizen participation. Also considered was the dissemination of consumer charters and other information through electricity bills. Recommendations are made for potential changes in the processes, communications, and IT or other systems and operations of regulated companies and of EgyptERA to improve the flow and quality of the information provided.

[1] In consultations with EgyptERA, it was decided to use EU as the benchmark.

2.4 Consumer Surveys

This objective sought to strengthen the design and execution, data analysis, and dissemination of the customer survey ("citizen report cards"), which was initiated by EgyptERA in 2010. In particular, our immediate goals were as follows: a) to redraft the customer survey form, to better classify data by gender and regions, and to better target relevant policies; b) to implement a workshop to build the capacity of EgyptERA's consumer protection team, on how to use the new survey, covering its content, methodology, implementation, analysis, and policy formulation; and c) to support EgyptERA in drafting the request for proposal (RFP) for conducting the annual customer survey.

CHAPTER THREE:

Current Situation and Key Findings

Egypt has a largely monopolistic electricity market, with EEHC owning the transmission system and almost all of its distribution. EEHC comprises 16 affiliated electricity companies, including six generation companies, one transmission company (Egyptian Electricity Transmission Company (EETC)) and nine distribution companies. EEHC is the successor of the Egyptian Electricity Authority (EEA), which in 2000 was restructured as a shareholder cooperative. EETC, which is the only company licensed for extra high voltage (EHV) and high voltage (HV) electricity transmission, purchases electrical energy from all generation companies and in turn sells the electrical energy to the nine distribution companies and eleven private distribution companies. EETC also directly contracts approximately 100 consumers connected to the EHV and HV networks. Furthermore, EETC is responsible for power exchanges with neighboring countries over the present interconnections. The majority of Egypt's electricity is provided by the EEHC's nine distribution companies, whereas private distribution companies provide no more than 1 percent of the market. The current single buyer model will perhaps be gradually replaced by a competitive market based on bilateral contracts together with spot, balancing and ancillary services markets.

The electrification level is almost universal, covering 99 percent of the country's populated area and serving the following numbers and types of consumers:

- 24 million residential consumers
- 2.5 million shops
- 165 thousand small and medium enterprises
- 100 large industries
- 27 thousand public lights (municipalities and districts)

The sector is overseen by the Egyptian Electricity Utility and Consumer Protection Regulatory Agency (EgyptERA), which was established by Presidential Decree 329 in the year 2000 as independent from the Ministry of Electricity and Energy and the service providers. EgyptERA is responsible for granting licenses for generating, transmitting and distributing electricity, and for overseeing the sector's compliance to its rules and regulations. EgyptERA is currently redrafting its licensing agreements, which are expected to be effective early in 2014.

Egypt's electricity sector is now facing serious shortfalls of cash, created in part by billing tariffs that do not accurately reflect the costs to produce, transmit, and distribute electricity. It suffers as well from problems of bill collection and consumer theft. These shortfalls in turn hinder payments for fuel, further increasing the sector's debt and lowering its credit and attractiveness to potential private investors.

The system also operates under a huge subsidy. In 2011 the subsidy reached about 30 billion Egyptian pounds (EGP) (19 billion EGP in fuel consumed by the power plants in addition to 11 billion EGP in electricity bills). The resulting lack of cash has hindered attempts to finance new projects and to pay for the fuel and repay debt. Moreover, electricity generation is also hampered for lack of available natural gas, stemming in part from congestions in the gas network. These fuel shortages are exacerbated by shortfalls in generation capacity during peak demand, making the need for investments in generation and transmission capacities crucial. This situation, compounded by limited public awareness of energy management and conservation, has led to electricity shortages

during the peak demand times (especially during the summer months), causing great inconvenience to residential customers and serious loss of productivity and efficiency for large industrial consumers.

3.1 Institutional Analysis

As specified in Presidential Decree 329, EgyptERA's mandate is consistent in many aspects with what is observed in other national electric utilities, conferring the following main responsibilities:

- Issuing licenses for constructing, managing, operating and maintaining electric power generation, transmission, distribution, and sales
- Ensuring compliance with national laws and regulations
- Reviewing plans for power consumption, production, transmission and distribution, including necessary investments related to such plans
- Verifying that electric utilities receive a fair return, sufficient to ensure their financial viability
- Safeguarding the quality of the technical and administrative services provided by the electric utilities to consumers
- Publishing such information, reports, and recommendations that assist the electric utilities and consumers to be fully aware of their rights and responsibilities, and of the role played by EgyptERA
- Investigating consumer's complaints to protect their interests and to settle any disputes that may arise

In contrast to international practice, however, EgyptERA has very limited rule to advise or pass opinion on tariff structures to the respective ministries. Nor is it formally involved in approving or commenting on transfer pricing between the electricity companies, which is instead set by the state monopoly EEHC. These are important limitations to EgyptERA's mandate, especially in light of the planned liberalization of Egypt's electricity sector.

The authority of EgyptERA to oversee the electricity sector is partly compromised by its limited authority to oversee and regulate licensed regulated public companies, which are in many aspects otherwise managed by the holding company, EEHC. Lines of responsibility for the management and regulation of Egypt's electricity companies are thus blurred, as is their accountability to either EgyptERA or the public at large.

Transparency of distribution companies towards EgyptERA, consumers, and the wider public is a broadly defined obligation whose rules and regulations are outlined in several documents, namely the *Distribution Code*, *Distribution Licenses* and *Distribution Companies' Commercial Regulations*. Although these rules and regulations obligate distribution companies to be transparent on a wide range of topics, they specify only in broad terms the exact information that should be provided or the means and procedures through which this should be done. The draft *Supply Code*, which has been recently developed with the aim to govern the obligations of electricity suppliers, traders, distribution companies and customers vis-à-vis each other, specifies in greater detail the type of information that distribution companies are obliged to provide to consumers and to the wider public. It also explicitly names the means through which this should be done and bestows more authority upon EgyptERA to regulate oversight. This is deemed as a positive development, in contrast to de-regulated markets wherein distribution and supply companies compete to attract customers; and govern themselves with regard to such matters as informing their consumers. In markets lacking competition, regulations often need more detail to prevent loose interpretation and ineffective implementation.

Transparency and social accountability in Egypt's electricity sector is also limited due to the sector's

underdeveloped communication policy towards consumers and the general public, which partly stems from the fact that EEHC subsidiaries are not legally obliged to oversee or safeguard the satisfaction of its customers. In contrast to standard practice of distribution system operators (DSOs) and electricity supply companies in the EU, which provide publicly available data and indicators monitoring their customer services (for example, response times for customer claims and complaints), distribution companies in Egypt do not currently monitor such indicators. Another factor in the sector's limited transparency is its distribution companies' lack of staff dedicated to marketing or communications.

3.1.1 CURRENT EGYPTIAN POWER SECTOR CONTEXT

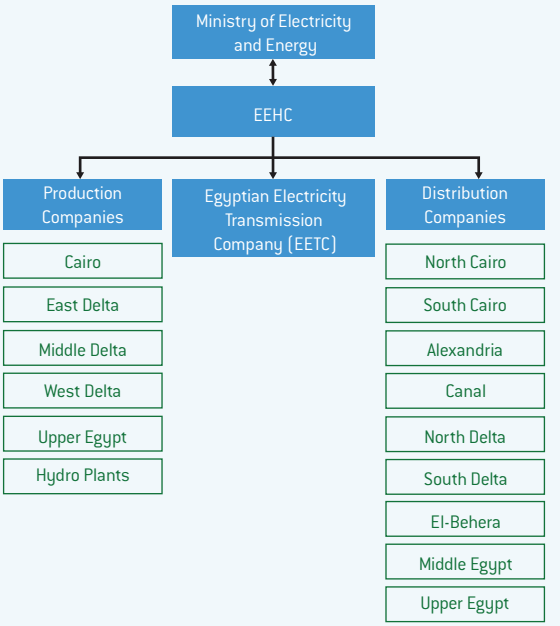
Egypt has legally unbundled its former vertically integrated EEA in phases. The major phase was in 2000, when EEA was restructured in the form of a shareholder cooperative, according to law 159/1981, thus becoming the Egyptian Electricity Holding Company (EEHC). In turn, EEHC established 16 affiliated electricity companies, including six generation companies, one transmission company (EETC) and nine distribution companies. All electricity companies are owned by EEHC, which remains state-owned (Figure 3.1). At present, EEHC owns 90 percent of the installed generation capacity in Egypt, 100 percent of transmission (EETC) and approximately 99 percent of distribution.

There are also three private companies, which were established based on buy, own, operate and transfer (BOOT) contracts, comprising nine percent of the installed generation capacity. These companies are contracted by EETC as a sole off taker for their full dependable capacity, through power purchasing agreements for 20 years. Currently, around half of the agreements' lifespan has elapsed. The remaining one percent of installed capacity is accounted for by wind farms.

The electricity market in Egypt is organized along the single buyer model. The EETC, which is the only company licensed for EHV and HV electricity transmission, purchases electrical energy from all generation companies. EETC in turn sells the electrical energy to the nine distribution companies, and other 11 private distribution companies (Figure 3.2). EETC also directly contracts with approximately 100 consumers connected to the EHV and HV networks. Furthermore, EETC is responsible for power exchanges with neighboring countries over the present interconnections. The electrical energy is sold to more than 23 million consumers on both the medium and low voltages by distribution companies and with Egypt having successfully managed to provide electrification to 99 percent of the country's population. At present, the majority of the sales are accounted for by the nine EEHC owned distribution companies, whereas the share of the private distribution companies does not exceed 1 percent of the market.

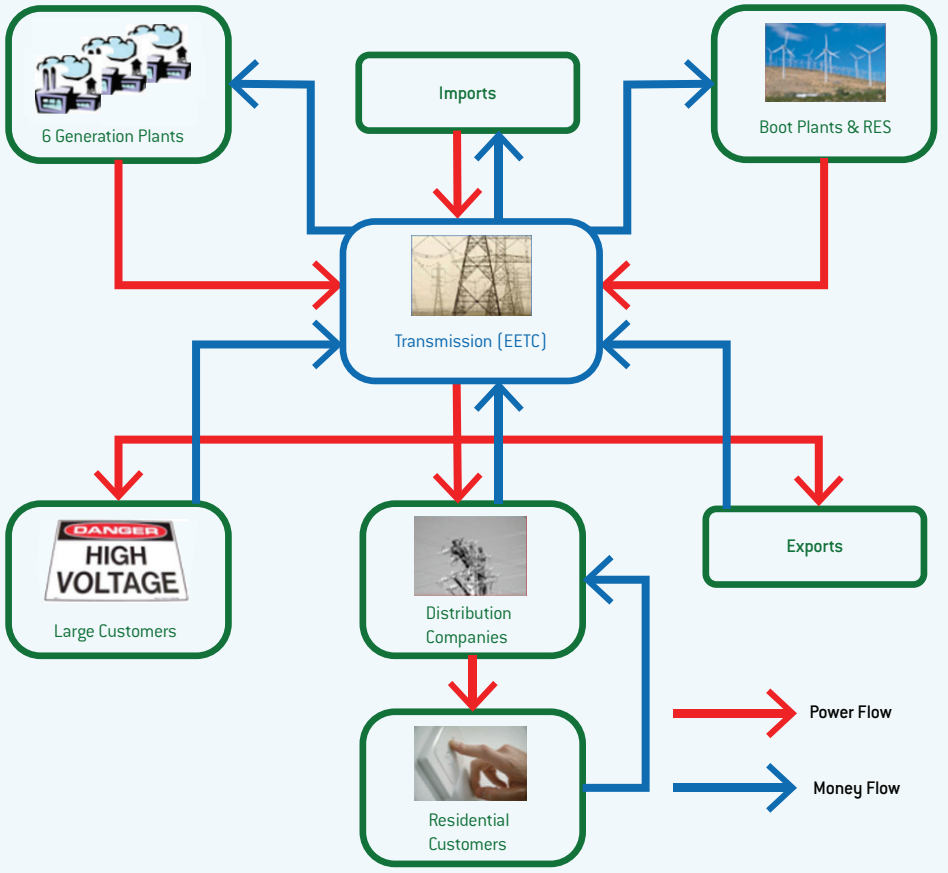
The sector is overseen by a regulator, the Egyptian Electricity Utility and Consumer Protection Regulatory Agency (EgyptERA) established by Presidential Decree 329 in the year 2000 as an independent legal

Figure 3.1 | Structure of EEHC and Affiliated Companies



Source: Authors.

Figure 3.2 | Egypt's Power Sector Operation



Source: Authors.

entity from the Ministry of Electricity and Energy and the service providers.

3.1.2 MAIN CHALLENGES AND UPCOMING CHANGES

The electricity sector in Egypt is facing great challenges, with most issues having to do with heavily subsidized tariffs.

- Given that billing tariffs do not reflect the true costs incurred to produce, transmit and distribute electricity to customers (compounded by collection and theft problems), serious cash flow deficits have been created due to reduced revenues. This in turn makes payments for fuel difficult, increasing sector debt, lowering its credit, and hampering its attractiveness to private investors.
- Fuel generation shortages stem not only from non-payment of fuel but also from lack of natural gas (NG) and congestions in the gas network.
- Shortfalls of installed gross maximum capacity make the need for generation investment a priority. The preceding situation has led to forced load shedding during the year's peak demand days, which greatly inconveniences residential customers and causes serious productivity and efficiency issues for the large industrial consumers.
- Limited energy-saving practices exacerbate the aforementioned problem. It has proven difficult to convince the consuming public to reduce consumption when their tariffs are low and

their knowledge of the sector's main issues is apparently lacking.

Considering these problems, the Arab Republic of Egypt needs to bring significant changes and interventions to its electricity sector.

These changes become even more pressing considering the need for private investment in the sector, particularly with regard to electricity generation, as well as to the planned change from a monopolistic electricity market to a more competitive, liberalized market. EETC has already taken steps in this direction, asking for EgyptERA's assistance to promote third party access with the first such effort to be launched soon.

Removing the aforementioned subsidies goes hand in hand with developing an intense communication campaign and an elaborate social safety net for the large number of vulnerable customers.

3.1.3 REPORTING LINES AND RESPONSIBILITIES: EGYPTERA'S MANDATE

EgyptERA—the power sector regulator—was established by Presidential Decree 329 in the year 2000 as a legal entity independent from the Ministry of Electricity and Energy and the service providers. The agency has been given the following mandate:

- Ensuring that all activities of electric power generation, transmission, distribution, and supply comply with the laws and regulations of the Arab Republic of Egypt, especially those relating to environmental protection.
- Reviewing regularly the plans and investments necessary for the production, transmission, distribution, and consumption of electric power for various usages in conformity with government policy.
- Setting regulations that ensure lawful competition in the field of electric power production and distribution in the best interests of the consumer.
- Making sure that the costs of power production, transmission, and distribution guarantee the interests of all parties involved.
- Ensuring a fair return for electric utilities to ensure their financial viability.
- Reviewing the policies and procedures of the National Electricity Control Center to ensure their compliance with the optimum operation standards and technical performance levels in coordination with the Egyptian Electricity Holding Company and in the best interest of all parties.
- Following up on the availability of technical, financial, and economic resources for the electric utilities.
- Ensuring the quality of the technical and administrative services provided by the electric utilities.
- Publishing information and recommendations that raise awareness for electric utilities and consumers of their rights and responsibilities, as well as the role played by EgyptERA.
- Investigating consumer's complaints to ensure protection of their interests and to settle disputes.
- Issuing licenses for the construction, management, operation, and maintenance of electric power generation, transmission, distribution, and sales projects.

EgyptERA's board of directors is chaired by the Minister of Electricity and Energy and has 10 members (three represent the electric utilities, three from other public sector companies, four representing consumers). The Minister of Electricity and Energy (MoEE) recommends board members to the Prime Minister, and the board is established by Prime Minister's Decree.

The overall mandate of EgyptERA resembles in many aspects the mandates of other national regulators, with some noticeable differences. Those differences relate not only with the mandate itself, but also with its enforcement by EgyptERA.

The mandates of European regulators are driven by Directive 2009/72/EC, whereby the duties and obligations are detailed and specified concerning the

domestic as well as the whole EU electricity market. The duties of each regulator are very much linked to market maturity and hence it would be unrealistic to expect a full reflection of the Directive on markets like Egypt's, which is still more or less a state owned monopoly. However, given the drive to liberalize the regime, the mandate of EgyptERA will need to be enhanced.

Part of this study compared EgyptERA mandates to those of two EU countries regulatory agencies (Greece's RAE and France's CRE), based on the criterion that they operate in market structures that are not highly competitive and still dominated by ex-state monopolies. EgyptERA's mandate was compared as well to those of the regulatory agency AERS of Serbia (Serbia being a country under accession to the EU, a member of the Energy Community Treaty and hence in a more transitional state during the process of harmonizing with EU Aquis).

The mandates of EgyptERA and those of regulators in the selected countries, differ mainly concerning tariff setting and monitoring practices (Figure 3.3).

In all cases except EgyptERA, the regulator is responsible for both the electricity as well as the gas sectors. More importantly, RAE, CRE and AERS are responsible to advise and pass opinion on tariff structures to their respective ministries. Their role is that of an honest broker balancing on one hand the need for cost reflective tariffs that guarantee a sustainable energy market, and on the other hand the need for affordable prices for the greater public. Tariff-setting is missing from EgyptERA's mandate. This is an important difference hindering EgyptERA's move towards a more liberalized market.

Additionally, EgyptERA is not formally involved in approving or even commenting on transfer pricing between the electricity companies, which is otherwise set by EEHC. This links to the next difference, which is the approval of accounts unbundling and transparency between sectors.

Despite such differences, the overall mandate of EgyptERA is relatively similar to that which applies in the aforementioned countries. Issues remain, however, as to how effectively this mandate is exercised given the current structure of the Egyptian electricity market and the direction in which it is desired to go. Figure 3.4 outlines the mandate of EgyptERA and the degree to which it is implementing that mandate.

The general governance rules of the Egyptian power sector largely determine the level of effective leverage and power that EgyptERA can exercise. Since transmission and the distribution companies are under the control of EEHC, these affiliates (which are also the licensed regulated companies) do not have control to manage many aspects of their operations that should be reported to EgyptERA. EEHC subsidiary companies have some interesting characteristic limitations concerning their Board of Directors' (BoD) responsibilities. Their mandate includes the following responsibilities:

- Ratify the organizational chart of the company
- Set the internal organizing regulations, except for those of the Personnel and Purchasing regulations, which must be approved by the Board of Directors of EEHC and issued by a resolution of the Head of the General Assembly

Figure 3.3 | Mandated Responsibilities of EgyptERA versus European Regulators

	EERA	RAE	CRE	AERS
Electricity & Gas	No	Yes	Yes	Yes
Tariffs	No	Yes	Yes	Yes
Monitoring of Accounting Separation & Practices	No	Yes	Yes	Yes

Source: Authors.

Figure 3.4 | EgyptERA's Mandated Responsibilities and Degree of Implementation

Source: Authors.

- Propose the ratification of loan agreements, financing, and mortgage deeds (the exceptional General Assembly (EEHC) approving the decisions of the Board concerning these matters)
- Propose and participate in the establishment of companies that have a related activity, or to share in the capital of such companies whether they are inside or outside the country (the General Assembly (EEHC) approving the decision)
- Set a system for control and for performance monitoring and evaluation in accordance with the technical, financial and economic measures
- Oversee the periodical reports, connected with the operation and the financial position of the company
- Accept gifts, donations, and awards provided to the company but without opposing its goals

The above illustrates that, according to this structure, the governance of the electricity companies in planning, tariffs, cash management, and policies are under the control of EEHC. The companies have no independence on their financing and budgets.

Furthermore, and relevant to the scope of our project, are the following points:

- The consumers or the civil society are not represented in any form in the regulated companies' boards
- Customer satisfaction is not written clearly as part of the purpose of the distribution companies and the board
- The company's purpose does not mention that the company operates in accordance with the license issued by EgyptERA, and the board has to assure that the company is fulfilling its license requirement

3.1.4 STAKEHOLDERS' REPORTING OBLIGATIONS TOWARDS EGYPTERA

As part of its mandate, EgyptERA is responsible for issuing licenses for generation, transmission, and distribution. The regulated licensed companies' obligations, in terms of reporting to EgyptERA, stem from their licensing conditions and from the Distribution Code. A number of reporting requirements imposed on licensees include:

- Annual report, including the audited financial statement and data
- Semi-annual environmental report
- Human resource development plan
- Annual load forecasts
- Annual total cost of service report
- A total quality management plan and associated annual progress reporting
- Reporting on electricity supply quality and customer service including complaints

EgyptERA can penalize the licensee (producer, transmitter, and distributor) for failing to submit the required data and reports. There are three levels of penalties: Warning, suspension of license, and revocation or cancellation of license. Such is clearly stated in Circular 1 for the year 2006, "Concerning Penalties Due To Delay in Licensees Application for Renewing Licenses Validity."

The licensee is obliged to submit to the Egyptian Electric Utility and Consumer Protection Regulatory Agency all the data and information stated in the General Conditions for Licenses and the required data to accomplish all the procedures required for renewing licenses validity, no later than three months by the end of the licensee's fiscal year (June 30 and December 31 for public and private companies of each year). All the financial statements and the financial data to be excluded as it should be submitted to The Egyptian Electric Utility and Consumer Protection Regulatory Agency no later than one month from the date of ratification of the Company's General Assembly of it. In case the licensee **trespassed** any of the aforementioned time frames **the licensee shall bear 1% increase over the total fees for renewing the licenses validity** for each overdue month or part of it. The Egyptian Electric Utility and Consumer Protection Regulatory Agency has to inform the licensee before the end of this grace period in writing by minimally one week,

this article shall be applied starting from the upcoming fiscal year starting July 1, 2007."

Two warning notices are scheduled to follow this circular. The first is issued one month after the ratification of the financial statement the second is issued one month later, after which the penalty applies. The penalties that have been applied so far for a delay of about two months have been levied on the New and Renewable Energy Authority (NREA), the West Delta Production Company, and two private companies licensed for distribution and generation. The penalty was also assessed two years ago to EETC for a three-month delay, but then cancelled.

This year the penalty will be applied on EETC for the period of four to five months, and for one year on TCI Sanmar, a private distribution company. Additionally, a construction license has recently been suspended for one private generation company for failure to progress as planned towards the construction of the power plant.

From international experience, license suspension and revocation should be assessed only for serious violations that raise concerns as to the licensee's suitability, technical or financial capacity, or ethics to lawfully and adequately perform their licensed activities.

A recent example of this has been the revocation of the licenses of two private electricity supply companies in Greece charged with financial mismanagement. They were clearly in breach of their licensing.

3.1.5 INTERFACING CHANNEL BETWEEN LICENSEES AND EGYPTERA

The main interfacing channels between licensed companies and EgyptERA are the EgyptERA coordination departments. The main role of the departments is to prepare and provide the necessary information required by the regulator.

Figures 3.5 and 3.6 show the responsibilities of the interfacing that all sector companies have with EgyptERA. Interviews revealed that the companies are mostly staffed with engineers (who are also heads of such departments), while only three public DC's are headed by accountants. Private companies also have lawyers as department heads. Staff from other backgrounds, such as economists or financial analysts that possess skills necessary for such reporting are lacking.

Three departments in EEHC are mandated to liaise with EgyptERA. Two of them are referred to as general departments of cooperation with EgyptERA but report to the Sector Head of the electricity companies performance monitoring and to the Executive Director for Electricity Company Affairs, respectively. The third department is referred to as the general department for economic studies and cooperation with EgyptERA, and reports directly to the Executive Director for Strategic Planning and Power Plant Projects. None of the three departments is fully liaising at the moment with EgyptERA.

The planning, tariff structure, and transfer pricing between the companies are the sole responsibilities of the holding company, and since the three departments within the holding company are not active with EgyptERA, their activities are not coordinated.

3.1.6 RECOMMENDATIONS ON REPORTING LINES AND RESPONSIBILITIES

EgyptERA

1. EgyptERA's mandate has limited or no authority concerning tariffs and tariff setting. This is probably the most important difference from other regulators in Europe. The new electricity law, which has not yet passed through parliament, focuses on six main actions:
   a. Establishing a competitive electricity market that is based on bilateral contracts and adoption of the concept of eligible customers
   b. Third Party Access

Figure 3.5 | Responsibilities of EgyptERA Coordination Departments

Company	Responsibilities According to the Job Description of EgyptERA Coordination Departments
Egyptian Electricity Holding Company (EEHC)	• Prepairing all studies requested by EgyptERA in relation to tariff and cost of service. • Oversee the implementation of Egypt Era's recommendations by the Electricity Companies in all areas relating to technical, economic, social and environmental. • Coordinating with the ECs for Customer complaints and any clarifications requested by EgyptERA. • Coordinating with the electricity companies in preparing all studies, reports and any clarifications requested by the EgyptERA and foresee the companies to implement EgyptERA recommendations. • Coordinating the implementation of the Tariff by the ECs. • Coordinating the implementation of the performance measures set by the EgyptERA.
Egyptian Electricity Generation Companies	• Prepare all documents required for license renewal. • Follow up the implementation of the regulations set by EgyptERA. • Supervise the reparation of all studies requested by the EgyptERA. • Especially cost of service studies. • Oversee that the power plants comply with environmental and Industrial safty and health regulations.
Egyptian Electricity Transmission Company	• Ensure fair competition in the electricity market and prevent any monopoly act according to current laws and regulations. • Coordinating with EgyptERA for dispute resolution of large consumers. • Coordinating with EgyptERA for setting the necessary regulations, follow up and monitoring all activities related to electric utilities. • Coordinating with EgyptERA in setting the transmission access charges. • Coordinating with EgyptERA to ensure high quality of service. • Coordinating with EgyptERA to review the operating procedure of the NCC.
Egyptian Electricity Distribution Companies	• Prepare in cooperation with EgyptERA a joint working plan renewed annually. • Follow up the implementation of the approved tariffs and any modifications. • Supervise the preparation of all studies requested by the EgyptERA. • Especially cost of service studies. • Supervise the replies to customer complaint clarifications requested by the EgyptERA. • Oversee the implementation of EgyptERA regulation concerning the sale of electricity on different voltage level. • Coordinate with other DPTs to fulfill any requests by the EgyptERA.

Source: Authors.

c. Establishing a Transmission System Operator (TSO) and providing assurances for its independence and full unbundling from other sector participants
d. Ratifying tariffs by the regulatory agency
e. Supporting renewable energies, cogeneration, and power generated from secondary resources
f. Supporting energy efficiency and demand-side management

Given that the new law will address this issue, it seems more appropriate to focus on the existing mandate and its enforcement. It will become a more important issue if and when Egypt moves into a more liberalized electricity market.

Sector Companies

2. EEHC should incorporate into the responsibilities of their subsidiaries a more customer focused outlook (as dictated by the Law 164 and Law 195 and the Articles of Association of EEHC and the Electricity Companies concerning governance structures for the Power Sector (Annex A)). This means that they should ask for the companies to put as part of their purpose to set targets

Figure 3.6 | Assessment of EgyptERA Coordination Departments

Company	Department Head	Reporting Line	Level of Engagement
Egyptian Electricity Holding Company (EEHC)	• The person in charge is Engineer	Under the supervision of the Sector Head of EC's Performance monitoring, the sector head reports directly to the EEHC Chairman	Just started to be involved
Egyptian Electricity Generation Companies	• The person in charge is Engineer	Reporting directly to the Chairman	Fully Active
Egyptian Electricity Transmission Company	• The person in charge is Engineer	The sector head reports directly to the EETC Chairman	Fully Active
Egyptian Electricity Distribution Companies	• The persons in charge are 7 Engineers in (Delta North and South, Alexandria, Beheira, Canal and Upper Egypt) and 3 Accountants in (Cairo North and South and Middle Egypt)	Reporting directly to the Chairman	Fully Active

Source: Authors.

and measure their performance towards the consumer's satisfaction and needs.

3. The Board of EEHC itself should add to its responsibilities, to oversee the periodical reports connected with the commercial and customer satisfaction performance of the company.
4. The Article of Association for the licensed companies should mention in its purpose that "It will operate within the licensing obligations as set and agreed with the Regulator."
5. The Board of EEHC for their subsidiaries should also mention that "The company operates in accordance with the license issued by EgyptERA and the board has to assure that the company is fulfilling its license requirement."
6. The three departments of EEHC that have been set up to cooperate with EgyptERA have to be consolidated under a single department. As it stands one is not active at all and the other two only partially carry out their mandate. Their isolation serves to fragment their information. A detailed diagnostic concerning the responsibilities of the department and the skills of its staff to realize those responsibilities (especially when it comes to studies preparation and reporting) is the first step to understanding of the department's needs and limitations. The next step involves an organizational restructuring that will link skills and individual responsibilities to specific job descriptions. Finally, the department's proper functioning will need new internal processes and procedures.

3.1.7 INFORMATION TRANSPARENCY AND DISCLOSURE OBLIGATIONS

Of course, no market is alike and it takes great effort to standardize them. It has taken over 17 years of continuous efforts in Europe to harmonize the electricity market and yet significant differences remain, especially on implementation of certain rules and regulations. Therefore whatever comparisons are made here between Egypt's and certain international practices has always to take into account very different market structures, market dynamics and societies as a whole.

Transparency is at the heart of market operation. A pillar prerequisite for a properly functioning market is to make information available to all market participants, including potential and prospective entrants. Lack of transparency can lead to unfair pricing and the subsequent decay of public confidence.

Transparency of information and reporting obligations cascades the full value chain of the electricity sector, from generation to transmission to distribution to supply. A great part of information transparency in developed competitive markets has to do with reporting detailed financial information so that sector stakeholders understand the profitability of the different components of the gas and electricity markets. The same conditions are not necessarily transferable to a market that is still under development, or dominated by a single electricity company. Additionally, annual reports of listed companies are require by law to provide different sets of data, something that doesn't apply in Egypt's case, given that none of the companies involved in the Egyptian sector are listed.

However, given Egypt's outlook for developing a more open and competitive market, elements of reporting requirements in liberalized markets can be relevant.

Additionally, a significant element of reporting in liberalized markets relates to tariffs on natural monopoly structures, such as the transmission and distribution networks. EgyptERA has no authority on prices or tariffs. Hence, some of the requirements for transparency in more liberalized markets are not applicable in Egypt. Additionally, the ease on switching suppliers is another issue that is more relevant to markets where a choice is available.

A More Detailed Understanding

The next step is to move from the "headline" reports that the licensees are obliged to submit, into the actual content of the reports as depicted in the license agreement. The main documents that specify the content of the reports are the country's distribution license and draft supply code. The supply code is still in draft format and not yet active.

As mentioned, the distribution licensing obligations and the draft supply code to be adopted by EgyptERA are very alike indeed. The main shortcomings seem to involve the enforcement of obligations, the capacity of licensees to honour their obligations, and the quality of the data provided.

A good example involves the reporting on customer service and quality by various electricity stakeholders. All EU members and their NRA's try to conform to the main axes of the European Regulators' Group for Electricity and Gas (ERGEG) on the classification of complaints and analysis. The adoption of this classification system has been optional but highly recommended by the European Commission, which had set a target of adoption (70 percent of recommendations) until the end of 2011 for each member state.

Under this framework, the regulator collects complaints data under a structured format from the sector stakeholders as well as from consumers that contacted the regulator directly. These data underlie an annual comparative report. The structure and main elements of such a report can be seen under Annex B.

EgyptERA states that such reporting is not possible given current limitations on the capacities of licensed companies. In this respect, although the draft supply

code is very specific as to the data and handling of complaints required by the supplier, there is no mention of the supplier needing the proper resources to fulfill its task.

In most EU supply codes, as well as Greece's, there is an explicit obligation stipulated for the licensee to "have the appropriate financial and human resources for the effective handling of consumer complaints."

Article 32 of the Greek Supply Code on the Principle of Complaints Handling reads as follows:

> The Supplier shall have the appropriate organization and the necessary resources (financial, human, technical) to manage the requests and customer complaints. For this purpose, the supplier establishes a "Code of requests handling for customer complaints" which describes the process and resolution timing of the request.

In Egypt, there is an opportunity to include in the draft supply code such an explicit obligation as this.

3.1.8 ANNUAL REPORT INFORMATION BENCHMARKING

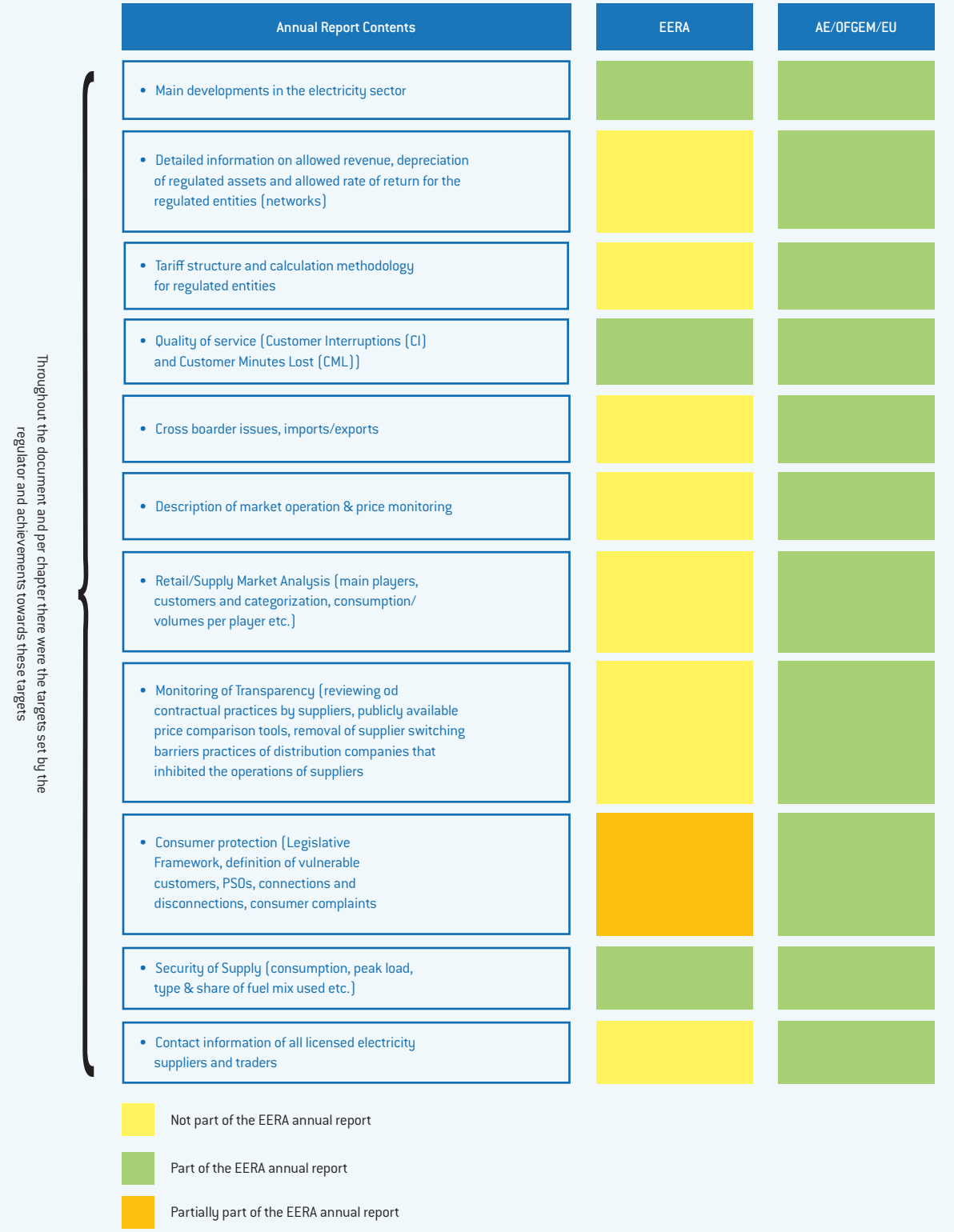
The annual report published every year by the country's regulator is an important piece of information. A comparative analysis between the annual reports published by EgyptERA and Regulator Authority for Energy for Greece (RAE) were made. Much of the content for the latter is dictated by EU directives and the domestic Energy Law that incorporates the directives of the third liberalization package. Also included in the comparisons are the annual reports prepared by the UK regulator Ofgem, as they are probably the benchmark in terms of EU information transparency. Figure 3.7 illustrates some messages as to the potential enhancements that are required by EgyptERA toward obliging their licensees to report certain information.

A lot of information in the annual reports of European regulators has to do with regulating tariffs, which is an area outside the mandate and scope of EgyptERA. However, there are elements such as monitoring and transparency, as well as consumer protection, which should be considered for incorporation in the EgyptERA annual report. The fact that the market is not liberalized yet reduces some of the monitored indicators, but others remain relevant, given the partial liberalization now envisioned for the Egyptian electricity market.

Monitoring and transparency focus mostly on issues of bad practices that can affect the consumer, and what the regulator did to amend them. For example in Greece's RAE of 2011, there were four categories of transparency and market monitoring addressed by the agency:

1. Monitoring of electricity supplier practices: the regulators describe the obligations of the suppliers to him to provide detailed information concerning practices, activities and financial data. The report mentions what actions the regulator undertook in the period regarding the specific area. For example, in 2011, RAE sent letters to the three largest suppliers recommending specific changes to the terms offered, to the benefit of the final consumer, as well as to fully comply with the Energy Law and the Supply Code.
2. Price comparison tool: the regulator describes on its website the tool it has developed that provides pricing information to all types of consumers and makes comparisons between different suppliers.
3. Removal of barriers for supplier switching: the regulator describes the main barriers that existed or appeared concerning the normal operation of the supply market and how it intervened to tackle them.
4. Practices of the DSO that did not support the market: main complaints by suppliers against the DSO are presented, as well as the subsequent actions taken by the regulator. In 2011, RAE penalized the DSO with a €900,000 penalty for partial compliance with the relevant Distribution Code and Manuals.

Figure 3.7 | Annual Reports of EgyptERA and Greece's RAE



Source: Authors.

EgyptERA includes a "Consumer Protection" element in its 2010–11 Annual Report. However, the reported data could be expanded to include statistics and results related to complaints per supplier, and categorization of complaints and performance indicators such as response times and resolution. This is particularly important given that when the market is liberalized, the consumer will be able to better evaluate the value each supplier provides, which in part includes the type and level of services they offer. However, even in situations where there is no option to choose different suppliers, the consumers have to know how their supplier fairs in respect to its sector peers.

Below are indicators for comparing the levels of service:

- Types of customer groups served
- Total number of complaints submitted to the supplier per customer group
- Total number of complaints that were responded to in one day
- Total number of complaints that were responded to between one and 10 days
- Total number of complaints that were responded to beyond 10 days
- Total number of complaints that were resolved in less than two working days
- Total number of complaints that were resolved between two and 5 working days
- Total number of complaints that were resolved after five working days

A more detailed analysis of the actual indicators to be used and the structure of a relevant report on customer complaints and handling are to be described in this project's analyses of benchmarking indicators and customer interface and information transparency.

3.1.9 PUBLIC INFORMATION AND CHANNELLING

Public information tops this project's priority list as the first step in improving transparency and accountability. Quality and content are also important, but the foundation rests on regulations requiring information to be published.

Information that Should be Made Public

Throughout the EU and Australia, the licensees are obliged to provide information to the regulator on all the aspects mentioned earlier. EU regulators, suppliers, and stakeholders are obliged to publicize their data on their website. The UK regulator Ofgem has gone to the extent of demanding that suppliers' data be no more than two clicks away from the home page and easily searchable.

Table 3.1 summarizes the data that should be easily accessible for consumers in the website of each regulated company. These data have been compiled from reviews of regulatory regimes in Greece, France, and the UK, although slight differences might exist between countries. Regulators require the information listed below to be available to customers in paper format as well, accompanied by all the standardized documentation, in the regulated companies' service outlets.

The published information is required to be updated when changes occur, unless otherwise specified, as is the case with financial and consumption data. Of course in the case of Egypt, information concerning the switching of supplier is irrelevant.

All of the information shown in Table 3.1 (except for supplier switching) should be made available to the public. Table 3.2 shows which of this information is made available by the licensees. Though some of this information might be indeed available in the service outlets, a detailed description of the information offered through the service outlets will be highlighted in the customer interface and information transparency analysis.

3.1.10 CHANNELS TO CONVEY INFORMATION

Although a large part of this specified information is available in service outlets, most distribution

Table 3.1 | Public Reporting Requirements Set by European Regulators

Public Reporting Requirements

Company Profile

- Number of customers
- Contact details and customer complaint references telephone number
- Services offered and coverage
- Payment methods in place
- Annual Reports and financial statements as demanded by the local legislation
- Services offered

Tariffs

- Description of customer groups and the categorization criteria
- Tariffs per customer group and special groups
- Detailed and simplified examples of tariff calculation separating different charges embedded in the bill as well as seperating the regulated from the non-regulated charges
- Detailed explanation of the charging periods and the calculation of the final charge

Standardized documentation to download

- Application form to supplier for supply of electricity
- General terms and conditions
- 3rd party authorization form
- Service complaints form
- Disconnection application form
- Form to file billing complaints

Descriptions of processes for the consumer that should be both on the website but also part of the information documentation provided to the customers prior to signing a contract

- Description of services offered
- Role of networks and generators in the provision of the service and their liability towards the consumers
- Description of the criteria requirements to have a supply contract
- The process of renewal and or stoppage of the contract
- The way the consumer will be informed on potential service changes
- Process if the consumer wants to change supplier
- Detailed process for the consumer to file complaints and the process thereafter for resolution
- Code of Conduct
- Process if the consumer wants and qualifies to change category (entering a special category)

Ex post information data (annually)

- Annual report on activity including customer base and energy consumption
- Information on the fuel consumed for the energy sold (oil, gas, lignite, RES etc.)
- Complaints Report that included:
  - Total number of applications/complaints submitted to the supplier per category
  - # of applications/complaints that were responded to in a day
  - # of applications/complaints that were responded to within 10 days
  - # of applications/complaints that were resolved successfully

Source: Authors.

companies use their websites to channel such information (Table 3.3).

According to the information collected on-site and through documentation provided to the Consultant, licensed companies in Egypt (as is the case in most European countries) dispense information and collect feedback via websites and service outlets.

Websites should not be the only channel for providing information. As in most EU countries this information is also available in the service outlets and could also be requested to be sent as hard copy via mail. This is of particular importance given that large parts of the Egyptian population have no access to the internet.

Meter readers constitute an additional channel between consumers and the Egyptian electricity sector. Over most of the EU, meter readers have no interaction with the consumers. In Egypt, however, they are employed to collect the payments. Their

Table 3.2 | Assessment of Reporting by Licensed Regulated Companies

Information reported on websites or other channels	Information not reported on websites or other channels
Company Profile	
	• Number of customers • Contact details and customer complaint references telephone number • Services offered and coverage
• Financial statements	
Tariffs	
• Description of customer groups and the categorization criteria • Detailed and simplified examples of tariff calculation separating different charges embedded in the bill as well as separating the regulated from the non-regulated charges • Detailed explanation of the charging periods and the calculation of the final charge	• Tariffs per customer group and special groups
Descriptions of processes for the consumer that should be both on the website but also part of the information documentation provided to the customers prior to signing a contract	
• Role of networks and generators in the provision of the service and their liability towards the consumers • Description of the criteria requirements to have a supply contract • The process of renewal and or stoppage of the contract • The way the consumer will be informed on potential service changes • Process if the consumer wants to change supplier • Code of Conduct • Process if the consumer wants and qualifies to change category (entering a special category)	• Detailed process for the consumer to file complaints and the process thereafter for resolution
Standardized documentation to download	
	• General terms and conditions • Service complaints form • Application form to supplier for supply of electricity • 3rd party authorization form • Disconnection application form
Ex post information data (annually)	

• Information on the fuel consumed for the energy sold (oil, gas, lignite, RES etc.)
• Complaints Report that included:
  • Total number of applications/complaints submitted to the supplier per category
  • # of applications/complaints that were responded to in a day
  • # of applications/complaints that were responded to within 10 days
  • # of applications/complaints that were resolved successfully
	• Annual report on activity including customer base and energy consumption

Source: Authors.

Table 3.3 | Use of Websites to Convey Information by Distribution Companies

Distribution Company	Website
• North Cairo Electricity Distribution Company	• No
• South Cairo Electricity Distribution Company	• Yes
• Alexandria Electricity Distribution Company	• Yes
• El-Behera Electricity Distribution Company	• No
• North Delta Electricity Distribution Company	• Yes (doesn't work March 2013)
• South Delta Electricity Distribution Company	• Yes
• Canal Egypt Electricity Distribution Company	• Yes
• Middle Egypt Electricity Distribution Company	• Yes
• Upper Egypt Electricity Distribution Company	• Yes (doesn't work March 2013)

Source: Authors.

interaction with consumers is an untapped potential for both collecting and providing information. For such potential to be realized, special training will be needed on specialty subjects such as billing calculations, complaints processing, energy-and bill-saving techniques, and so forth.

As it stands, distribution companies are not obliged to publicize this information. Most distribution companies focus on providing information on their websites that is limited to:

- Summaries of the services provided
- Contact information
- Engineering activities
- Consumer actions to reduce energy consumption
- Safety guidelines
- Surveys on services provided
- Contact numbers for electricity supply problems

In Europe, where the market is liberalized, suppliers focus mostly on pricing and price comparisons, product sales, safety, and energy-saving techniques. Almost all suppliers mention that the distribution companies are responsible for running the network and hence any power quality issues. A true benchmark of information transparency on websites can be found with UK suppliers, who display their performance in detail. For example, the British gas electricity supply business offers extensive information on their customer service, including the number and speed of calls and emails answered, homes visited for service, and customer contacts resolved.[2] Distributors, on the other hand, focus on details of their engineering activities and projects, calculations of their required revenue, operational performance, customer performance, sustainability performance, shareholders information and financials. EDF in France is a good example of information provision and transparency, both through its website but also through its annual report.[3]

Details on the indicators that they use to benchmark supply and distribution performance is the main engagement topic of this project's performance benchmarking, which analyses the indices used in Egypt, their international practice, and how information transparency towards consumers and investors can be improved.

In conclusion, EgyptERA has been at the forefront utilizing the Internet, with a renovated website, social media interventions and reports. However, the information it provides is very much dictated by

[2] (http://www.britishgas.co.uk/about-us/about-British-Gas/customer-service-performance.html?bglink_id=imm10097).
[3] (http://www.edfenergy.com/sustainability/performance-report/2009/files/publication.pdf).

its licensees. Thus there is limited opportunity for improving content without the support of the licensed companies.

It is important that EgyptERA has a Cooperation Agreement with the Consumers and Energy Organization (CEO). CEO is an umbrella organization representing an extensive network of 40 NGOs targeting mostly SME's throughout Egypt, including rural areas where providing or receiving information can be particularly hard.

3.1.11 COMMUNICATION

Communication is usually driven by marketing departments, especially those in distribution and supply companies that have a direct interaction with the majority of consumers. There is a clear distinction between customer service and communications. Customer service catalogues and deals with consumer queries and issues, whereas communications deals with promoting the company's image, and marketing. Communication departments are also responsible for interacting with consumer groups and peer pressure groups, and consulting on issues of great importance to the consumers. They are mandated with designing and executing the long-term communication strategy and feeding information to the decision makers of the company, as well as ensuring that customer service is always up to date with the messages that the company wants to convey to their customers. See Box 3.1 for a model example of a communication campaign by a European utility.

In Egypt, the only communication department currently active is one represented by the spokesman of the Ministry. In most distribution companies, there is no marketing and communications department, but rather a public relations department which reports directly to the company chairman. Such departments deal mostly with administrative and logistical issues concerning receptions, board

Box 3.1 | Indicative Communication Campaign by ScottishPower

Creating campaigns to connect with new and existing customers
At ScottishPower there's more to marketing than meets the eye. We're involved in everything from creating high profile national TV campaigns to developing our consumer website www.scottishpower.co.uk and devising activities to ensure that our most valuable customers stay loyal. Responsible for delivering consistent, interesting, innovative and relevant communications, we work across all customer touch points and channels, including TV, radio, outdoor, PR, Direct Marketing and online.

No two days are ever the same as we also maintain our competitive edge by delivering pricing strategies and developing new energy products and propositions to meet changing customer needs and market conditions.

Our responsibilities
As well as promoting our many benefits and an engaging corporate brand, we also keep a very close eye on the activities of our competitors and facilitate customer surveys to tell us how customers rate their ScottishPower experience. This includes commissioning, interpreting and communicating "Voice of the Customer," "Voice of the Business" and competitor research. These activities enable us to drive improvements and develop strategies to maximize customer value, drive the retention of high value customers and set the pace in a constantly-changing market.

Major challenges
In a world where energy costs fluctuate and there are strong regulatory and political pressures, against the backdrop of today's unstable economic climate—the need for effective campaign planning, reporting and analysis is more important than ever. It will enable us to continue to innovate, target the right audience with the right message and develop new energy products and propositions to meet changing customer needs.

meetings, workshops, and so forth. The distribution companies of Alexandria and Cairo South provide information on their websites that describes the company's activities and news. However, these departments are not staffed with people possessing skills in marketing and communications.

Although the Egyptian market is not yet competitive, the thrust is to become so in the future. Hence, people with skills relating to market analytics, media, communications, public relations, and IT will be needed to staff communication departments of distribution companies.

Note, however, that unlike the sector companies, EgyptERA has been very active in terms of developing communications. EgyptERA has a constant dialogue with the Investment Authority, the Ministry of Electricity, and the Ministry of Social Solidarity, with whom it comprises a working group. Through the signing of memoranda of understanding, this institutional coordination lays grounds for further collaboration and cooperation in the process of market reform and communications. There is also communication and meetings with a number of agencies and entities and civil society, particularly with the CEO.

As it stands, EgyptERA staff working on communication consists of a team of seven experienced professionals in the Awareness and Consumer Protection Department. Their strategy is to set communication priorities, since the market reform will lead to an escalation of complaints and renewed media pressure.

Some useful communication activities that have already been implemented by EgyptERA are:

- Assessing public opinion on the quality of electricity services
- Issuing circulars by the Egyptian Electric Utilities and Consumer Protection Agency
- Applying an automated system for assessing the quality of service in distribution companies (as in the Cairo South Electricity Distribution Company)
- Publishing awareness flyers
- Publishing ERA Annual Report and periodicals
- Establishing rules for connecting the power supply to the residential facilities in the villages and cities
- Developing ERA website and social media presence with videos and messages on energy saving
- Form a cooperation agreement between the Egyptian Electric Utility and Consumer Protection Regulatory Agency and the Consumers and Energy Organization.

3.1.12 CONCLUSION

In light of the above, it is recommended that EgyptERA's mandate is updated ahead of the enactment of the New Electricity Law and the upcoming reforms in the electricity market. Such amendment to EgyptERA's mandate, in order to be effective, will need to be accompanied by structural changes in Egypt's electricity sector, to include the financial unbundling of companies, the definition of a clear structure for sector governance, and the development of a sector-strategic plan and a tariff reform plan. These institutional changes will need some time to be agreed upon, designed, and implemented, and can only take place in the medium-term via close cooperation of all stakeholders including EgyptERA, EEHC, EETC, and distribution companies.

Transparency and accountability in Egypt's electricity sector is limited from the fact that EEHC subsidiaries are not held responsible–as specified in the companies' Articles of Association and their licensing agreements–to focus on their customers. Nor is it the EEHC's Board's responsibilities to oversee the periodical reports connected with the commercial and customer satisfaction performance of the companies. As a result of this institutional gap, the communication policy of distribution companies towards consumers and the wider public is underdeveloped. For example, despite their daily interactions with thousands customers, distribution companies do not currently have marketing and communication departments, nor a mandate to

include them. This situation is further manifested in the limited emphasis on commercial indicators, which are marked as customer satisfaction benchmarks (e.g., response time to customer complaints or requests for new connections) are not currently being monitored by distribution companies. These shortcomings can be significantly mitigated in the short term by incorporating a more customer-focused outlook in the responsibilities of EEHC subsidiaries, as outlined in their Articles of Association; and by obliging EEHC's Board of Directors to oversee the periodical reports on the commercial and customer satisfaction of subsidiary companies. Such amendments can be designed and prepared under the support of EgyptERA to moderate EEHC's burden of required time and resources. In addition, in order to maximize the effects of such amendments, it is recommended that EEHC coordinate with EgyptERA to set commercial and customer performance indices of subsidiary companies, and against which they can be held accountable by EEHC.

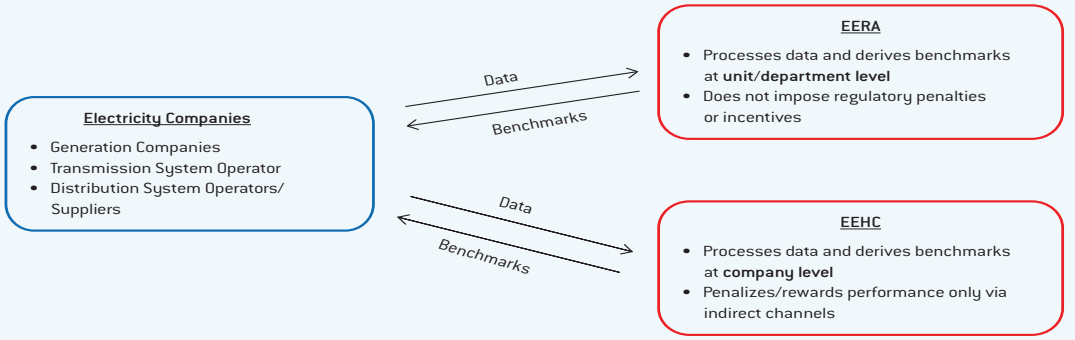
Neither EEHC nor regulated companies (generation, transmission, and distribution) have sufficient capacity, resources or the organization to effectively provide EgyptERA with timely, accurate, and comprehensive information and data. Dedicated coordination departments have been established in regulated companies to liaise with EgyptERA. They are, however, often staffed by personnel who lack suitable training and qualifications. Similarly, three departments of EEHC are dedicated to cooperating with EgyptERA, yet one is inactive and the other two only partially fulfill their mandate. This issue is further exacerbated by the lack of monitoring of the technical and financial capacity of the licensed companies to collect, aggregate, and disseminate information. Even in the draft Supply Code, which mitigates several regulatory limitations (and is yet to be adopted), no specification is made for the resources (financial, human, technical) that the regulated companies need to fulfil their reporting obligations. For lack of such resources, regulated electricity companies and EEHC are often unable to meet their reporting obligations, thereby precluding EgyptERA from exercising its mandate of overseeing the sector. The above can be significantly mitigated by consolidation three existing departments of EEHC to create a single department dedicated to cooperating with EgyptERA. EgyptERA can assist in this task by helping to attract qualified personnel, and by arranging training courses, including twinning activities. In addition, an explicit remark can be added in the Supply Code, stating that suppliers are required to have the capacity needed to fulfil their reporting obligations. This change will need to be accompanied by training courses and meetings with distribution companies, to be held by EgyptERA, to highlight the importance of the Supply Code. In addition, given the licensees' somewhat loose observance of reporting obligations arising from the limited sanctioning authority of EgyptERA, the Articles of Association of licensed companies can be amended to make explicit reference to these obligations. EEHC can further complement EgyptERA's oversight by verifying the compliance of licensed companies with these obligations.

3.2 Performance Benchmarking

Performance benchmarking in Egypt currently involves three sets of stakeholders: Electricity companies, EEHC, and EgyptERA (Figure 3.8). Electricity companies monitor certain performance indicators for internal purposes, while they are also required to provide to EgyptERA and EEHC the underlying data for monitoring performance benchmarks.

There is limited interaction between EEHC and EgyptERA during the benchmarking process. Data is collected separately, while benchmarking indicators are monitored at different levels: EEHC monitors performance benchmarks only at the company level, while EgyptERA monitors benchmarks at the department level. The two sets of benchmarks are not directly comparable.

Figure 3.8 | Main Stakeholders in Performance Benchmarking of Egypt's Electricity Sector



Source: Authors.

3.2.1 BENCHMARKS AND BENCHMARKING PROCESSES USED BY ELECTRICITY COMPANIES

Electricity companies monitor a number of different indicators. As to the indicators monitored by distribution companies, there are uniformity issues. For example, the minimum duration of power cuts or interruptions that is recorded ranges from two minutes in Alexandria to five minutes in Upper Egypt and Middle Egypt. This inconsistency of indicators complicates any comparison of interruptions.

In addition, distribution companies seem to be using different methods to estimate the number of affected customers by each power interruption. For example, the distribution company of Alexandria uses differences in the load between elements of the network to estimate which areas—and hence, how many consumers—are affected. Upper Egypt and Middle Egypt use the geographic information of phone calls they receive reporting interruptions to estimate areas and populations affected. Again, the absence of uniformity of methods between distribution companies poses problems in comparing benchmarks.

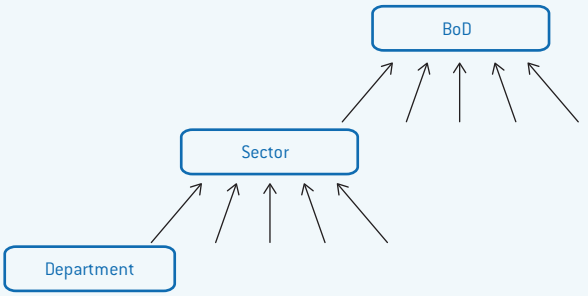
Moreover, note that planned outages include those due to maintenance work–for which consumers are informed in advance–as well those due to load shedding–for which no prior warning is given to consumers. Therefore this benchmark evidently underestimates the number and frequency of unplanned power cuts experienced by consumers. However, EgyptERA is currently developing and testing a new process, to be employed by all distribution companies in the future, by which customers will be informed by SMS a day in advance of planned power cuts due to load shedding.

Limited emphasis is placed on commercial indicators. Customer satisfaction benchmarks (through surveys or other means) are not currently monitored by distribution companies. This is a significant limitation of the benchmarking system in the sector.

Nevertheless, all distribution companies seem to have a classification system that categorizes broadly the complaints and tracks the time taken to resolve them. In addition, they all produce daily reports. However, Cairo South is the only distribution company currently using a CRM system for logging and tracking complaints. All other distribution companies do not have computerised systems. This makes the tracking of complaint-handling benchmarks burdensome and prone to errors.

The process by which distribution companies collect all the benchmarking data is shown below in Figure 3.9. Departments report to sectors and

Figure 3.9 | Information Flow and Reporting Lines in Egypt's Distribution Companies



Source: Authors.

sectors report to higher management and their respective Board of Directors. Each department is obligated by their license to collect all necessary data and to compose a monthly report that is given to the sector head. At sector level, data is aggregated from each department and a report is presented monthly to the Board of each company.

Before submission of each report, departments and sectors have monthly meetings to discuss any gaps or other problems with the data. The validity and accuracy of the data is tested against historical deviations. If a set of data is significantly divergent from the previous measurement, a re-check is requested of the company. As it stands–and unlike practices employed in the EU–no third-party audit is taking place to validate the accuracy of these data.

In a recent development, distribution companies are establishing new departments dedicated to monitoring their quality of service in terms of technical specifications, e.g., voltage fluctuations, frequency, harmonics.

3.2.2 BENCHMARKS AND BENCHMARKING PROCESSES USED BY EGYPTERA

As part of their annual renewal of licenses, electricity companies are required to provide to EgyptERA a set of data, which it uses for benchmarking and monitoring the performance of the companies.

EgyptERA issues a request for data from all companies at the fiscal year end (June). Companies are allowed approximately one month to provide technical data and three months to provide financial data. A penalty can be issued (and has been issued in the past) in the event of delays. Distribution companies have liaison offices dedicated to dealing with such requests for data and information. EgyptERA reports, however, that liaison offices are often staffed by personnel who lack suitable training and qualifications, a problem that was mentioned in the Institutional Analysis as well.

EgyptERA processes these data and drafts an annual benchmarking report for each company. EgyptERA then holds meetings with all electricity companies to receive and discuss their feedback, before finalizing the report and sending it to the Ministry of Electricity and Energy and to EEHC. Note, however, that EgyptERA tracks benchmarks only at the department and unit level of distribution and generation companies, respectively, without aggregating at the company level.

Annexes C1-C4 outline all performance benchmarks currently monitored and categorized by EgyptERA.

As mentioned above, benchmarking for generation and distribution companies takes place at the unit and department levels, respectively. Units are categorized in groups according to their type and size, while departments are categorized according to function. For each group the weighted average of the indicator is calculated and each unit or department is graded with reference to the weighted average value of the group, to the best performance in the group, and to the standard deviation from the weighted average.

In addition, yearly improvements or deteriorations in the performance of the unit or department are monitored to analyze trends. Benchmarking is analyzed using an automated technique that has been developed by EgyptERA to ensure accuracy.

EgyptERA does not commission audits. Data quality is validated by EgyptERA, based mostly on trend

analysis of historical data stored in EgyptERA's database (which contains data since 2002 on thirty to 40 indicators). EgyptERA believes that the companies have limited capacity to provide accurate data, so its objective has been to focus on a small number of simple indicators that can be readily cross-checked. When EgyptERA spots gaps or outliers in the data, it requests explanations from the companies. Although companies are formally allowed a period of five to 10 working days to address the query, rarely do they adhere to this. EgyptERA staff is typically required to follow up the initial query several times until obtaining a response.

EgyptERA stressed that the quality of higher management in electricity companies is pivotal towards ensuring the punctuality and accuracy of the data it receives. Licensees with very competent and active management are shown to be much more responsive and cooperative in liaising with EgyptERA.

EgyptERA does not currently publicize the annual benchmarking reports, but they expect that that they will be able to do this in about a year, following the publication of the "Cost-of-service/supply" report.

3.2.3 BENCHMARKS AND BENCHMARKING PROCESSES USED BY EEHC

EEHC collects data from all companies (generation, transmission, and distribution) each month, through templates provided by EEHC. EEHC processes the data and produces monthly, quarterly, and yearly benchmarking reports at company level. An indicative quarterly benchmarking report includes information at company level as shown in annexes D1-D3.

From this information, two main observations emerge. Most importantly, very limited attention is paid to quality-of-service indicators (for example, response time to customer complaints, enquiries, and orders for new connections), especially as these could be applied to distribution companies, which are directly dealing with consumers. Secondly, most indicators are followed or presented only in absolute values, not in per unit values (for example, arrears per customer).

Performance by EEHC is benchmarked between and within companies over time to monitor the change in company performance and analyze trends.

EEHC, in cooperation with subsidiary companies, sets annual performance targets. As part of the yearly budgeting, electricity companies draft specific performance targets (for example, on commercial and technical losses) which are subsequently approved by EEHC. If EEHC does not approve the targets, the subsidiaries have to accept the targets set by the holding company.

EEHC has not set up automatic incentives or sanctions to reward or penalise performance. However, in the annual meetings of EEHC's Board, the subsidiary companies' attainment of the previous year's targets is discussed in detail, and explanations are requested for poor performance. If companies consistently under perform, EEHC may take appropriate actions to replace personnel at key management positions.

EEHC and subsidiary companies might also address poor performance by setting up working teams to analyze and address the problems and draft an action plan for review by EEHC's BoD. The BoD could assess the action plan and subsequently assign a manager to monitor the timing and implementation of the plan. A more detailed roadmap of such actions can be seen in Annex E.

Based on these indicators, regulation of commercial quality, as currently practiced by European regulators can take either of four forms. The following two are most commonly used:

- **Guaranteed Standards (GS):** service quality levels must be met in each individual case. If the company fails to provide the level of service required by the GS, it must compensate the customer affected, subject to certain exemptions.

- **Other Available Requirements (OAR):** regulator sets service quality requirements either at the individual or aggregate level and imposes sanctions (e.g., financial penalties) for those not met.

In addition, the following two indicators are used less often:

- **Overall Standards (OS):** minimum performance in terms of service quality levels (usually a percentage) must be met on aggregate over a defined period (e.g., 90 percent of cases over a one-year period should be connected within 20 working days).
- **Only Monitoring (OM):** regulators monitor only the performance of electricity companies and publish the actual data on services provided to the customers for informative purposes, without setting explicit service quality requirements/levels.

The percent frequency by which each type of requirement is used for commercial quality standards by European regulators in 17 European countries[4] is as follows:

- GS: 38
- OAR: 37
- OS: 15
- OM: 6

EU regulators also tend to make greater use of pro-active regulatory mechanisms to promote improvements in commercial quality. For example, Ofgem in Great Britain has in place a Discretionary Reward Scheme, which is designed to acknowledge outstanding customer service of companies and can award up to £1m annually. This encourages companies to identify customer priorities and shape their company strategy accordingly.

Moreover, in areas where Ofgem has concerns regarding distribution companies' performance, it may explore stakeholder feedback. Companies are then monitored closely to ensure that service issues put forward by stakeholders are addressed.

Indicative benchmarks of financial and operational performance for DSO's and distribution companies are listed in Table 3.4.

The main difference between benchmarking in Egypt and in the EU is in their respective coverage of commercial quality indicators. DSO's and suppliers in the EU provide detailed data on quality-of-service

Table 3.4 | Benchmarks of Financial and Operational Performance for DSO's and Distribution Companies

INDICATOR	DEFINITION
Cost recovery index	Operating revenues/Costs (excluding capital expenses)
Capital reinvestment rate	Average annual capital expenditure/net book value of transmission assets
Transmission cost per GWh	Costs/total GWh of transmitted power
Employees per km of transmission line	Total no. of employees/total length of distribution line (km)
Labor cost per km of transmission line	Total labor cost/total length of distribution line (km)

Source: Authors.

[4] The countries are: Austria, Czech Republic, Estonia, Finland, France, Great Britain, Greece, Hungary, Ireland, Italy, The Netherlands, Norway, Portugal, Slovak Republic, Slovenia, Spain, and Sweden.

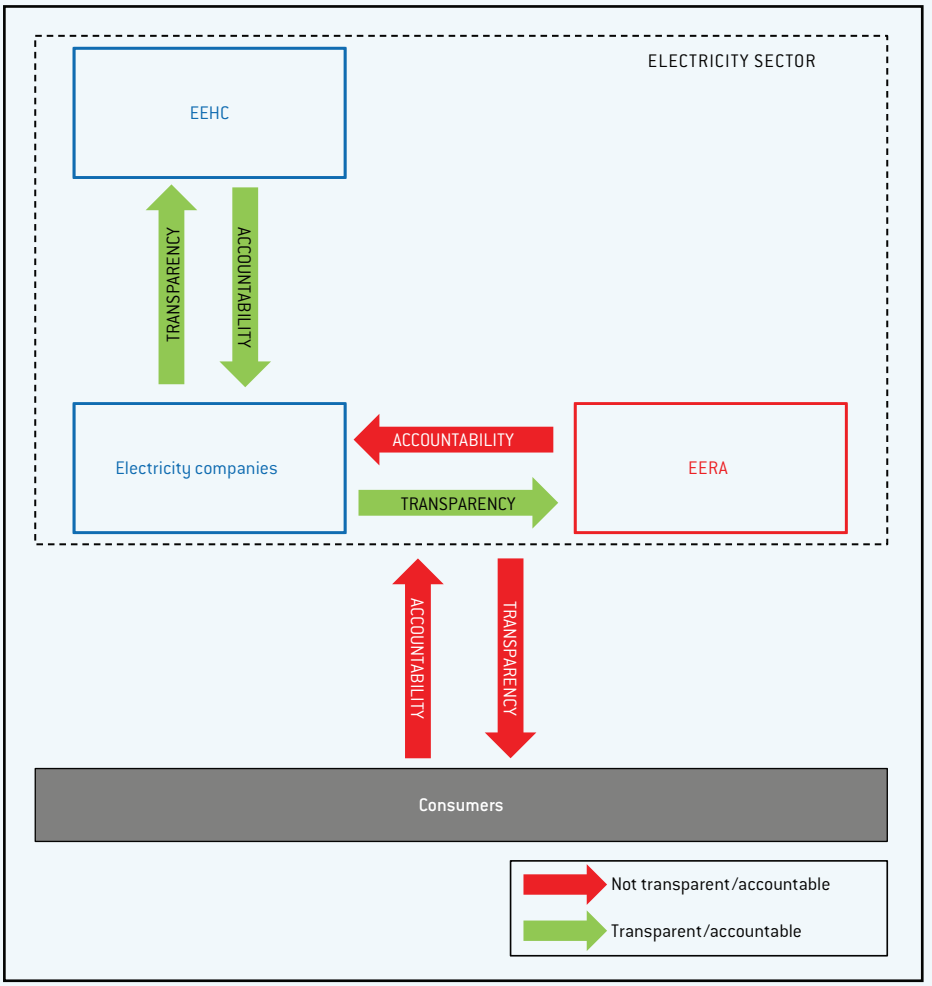
indicators to energy regulatory authorities, which monitor them closely and publicize detailed benchmarking reports. In addition, EU regulatory authorities have mechanisms that penalize and reward DSO's and suppliers for their quality of service. (However, such mechanisms are more likely to be effective in markets where the management of companies is accountable to shareholders, who ultimately stand to gain or lose on their dividends or share value due to regulatory rewards and penalties).

Figure 3.10 illustrates the degree to which Egyptian benchmarking contributes towards transparency and accountability, as compared to such practices in the EU.

Electricity companies seem to be transparent and efficient in providing information top both EEHC and EgyptERA, regularly providing detailed technical and financial data and thus allowing both EEHC and EgyptERA to monitor their performance through appropriate indicators. EEHC holds the electricity companies accountable for these indicators, through informal sanctions to their management.

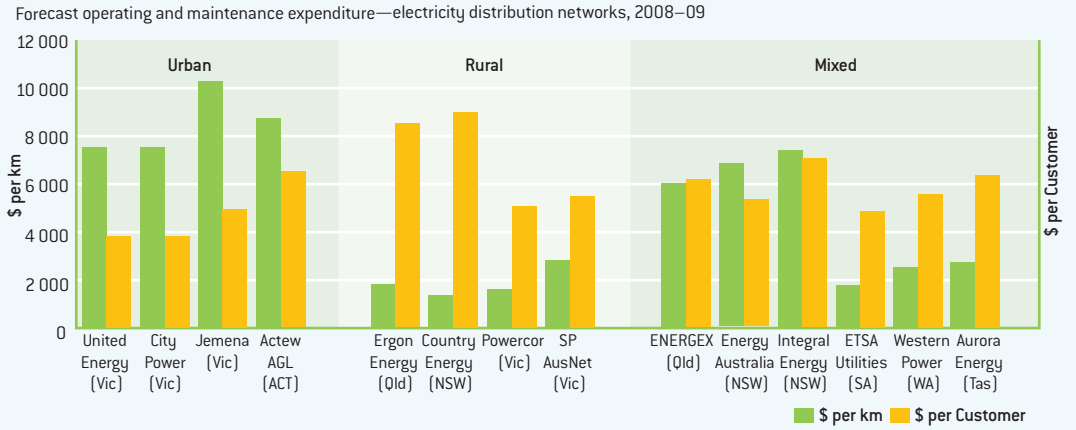
There is, however, limited transparency afforded consumers, especially with regards to indicators service quality. In the absence of such standards, consumers are not in position to accurately judge the performance of the sector's companies.

Figure 3.10 | Benchmarks and Benchmarking System in Egypt's Electricity Sector – How They Contribute to Transparency and Accountability



Source: Authors.

Figure 3.11 | Forecast Operating and Maintenance Expenditure in Australia – Electricity Distribution Networks 2008–09



Source: Authors.

3.2.4 NORMALIZATION OF BENCHMARKING INDICATORS

There is a noticeable difference between the way an urban network operates versus a rural network, in terms of capital needs, staffing, response times, and so forth. In Australia for example a higher reliability standard is usually required for a central business district (CBD) network with a large customer base and a concentrated load density than for a highly dispersed rural network with a small customer base and a low load density. While the unit costs of improving reliability in a dispersed rural network are relatively high, an outage is likely to affect few customers. Conversely, the unit costs of improving reliability in a high density urban network are relatively low, and an outage is likely to affect many customers. This is therefore reflected in the regulatory allowances for each network to cover efficient operating and maintenance expenditure. As shown in Figure 3.11 below from the ***State of the Energy Market 2009 in Australia on Distribution Networks***, Australians cluster and benchmark the distribution companies based on the areas they serve (urban, rural or mixed) so as to ensure a "fairer" comparison.

Under this mindset, the same principle of clustering should take place in Egypt as well. Another example of a regulatory agency from a country with wide variations between rural and urban population is ANEEL, The Brazilian Electricity Regulatory Agency. When they set Commercial Quality indicators, they clearly distinguish between rural and urban networks as shown in Annex I.

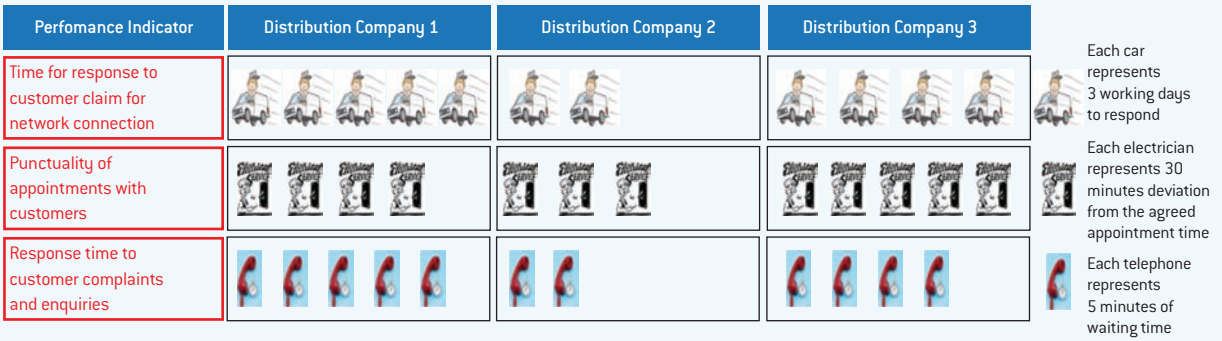
3.2.5 COMMUNICATING BENCHMARKING INDICATORS TO THE WIDER PUBLIC

A number of technical terminologies might seem alien to the average consumer making whatever information is publicized irrelevant. Therefore an analysis should take place in order to identify the information that is directly relevant to the consumer and decide how to communicate it with the simplest and most effective way.

The main principles behind how to communicate complex information and passing the message across are:

1. Clarity by using clear wording and examples
2. Associate the information provided with everyday "common" experience
3. Use of stories or analogies that link to everyday experience since messages conveyed through

Figure 3.12 | Illustration of Performance Benchmarks



Source: Authors.

stories tend to be understood and remembered for longer compared to facts and statistics

4. Do not underestimate the intelligence of the audience

Although a communications strategy and design of communications material is outside the scope of this work, it demonstrates an indicative table in the following page of how benchmarking information and metrics could be easily communicated without using many numbers of facts.

Information communicated to the wider public should be the one that relates to their everyday lives and business. Indicatively (not exhaustively):

- Time for response to customer claim for network connection
- Time for connecting new customers to the network
- Time for disconnection upon customer's request
- Punctuality of appointments with customers
- Response time to customer complaints and enquiries
- Time between the date of the answer to the complaint and the elimination of the problem
- Time for giving information in advance of a planned interruption
- Time until the restoration of supply in case of unplanned interruption
- Time from notice to pay until disconnection
- Time for restoration of power supply following disconnection due to non-payment

This information should be presented in a contrasting manner with the less possible facts and statistics and the maximum possible illustrative demonstrations as shown in Figure 3.12.

Only selective information from the benchmarking report should be referred to the annual report of EEHC. There is no need for EEHC to make their annual report too focused on benchmarking subsidiaries. Whoever is interested to find out in detail the technical, operational and commercial relative performance of the subsidiary companies could review the annual benchmarking report which will also be publicized on EEHC's website.

3.2.6 CONCLUSION

Electricity companies, EEHC, and EgyptERA monitor and disseminate the operational and financial performance indicators used to benchmark the quality and efficiency of electricity generation, transmission and distribution in Egypt. These indicators are critically important for ensuring transparency and social accountability.

EgyptERA

EgyptERA, as part of its annual renewal of licenses, collects an extensive set of data, mainly of technical and financial nature, which form the core of the dataset it uses to monitor and benchmark the performance of regulated licensed companies. Companies renewing their licenses are allowed a specific period of time

to provide such data (approximately. one month for technical data and three months for financial data) following a request by EgyptERA at the fiscal year end. EgyptERA is authorised to issue a financial penalty to companies that fail to comply with this requirement.

Performance of generation companies is monitored and benchmarked at the organizational level of "units," which are grouped according to their type and size. The performance of distribution companies, however, is measure at the organizational level of "departments," which are in turn grouped according to function. For each unit or department, EgyptERA calculates the weighted average of each indicator and grades it in reference to the weighted average value of the group, the best performance in the group, and the standard deviation from the weighted average, in order to rank each unit's or department's performance relative to its peer group. The year-to-year performance of each department or unit is analysed by EgyptERA by examining historic trends in indicators and benchmarks. The benchmarking analysis is presented and discussed in joint meetings between EgyptERA and the electricity companies to validate their results and conclusions, which are in turn documented by EgyptERA in annual performance reports for each company and are circulated to the Ministry of Electricity and Energy and to EEHC.

Despite such thorough benchmarking analysis, transparency and social accountability are somewhat thwarted by the fact that these reports are not currently made available to the wider public. It is recommended that EgyptERA publicizes these benchmarking reports on its website and on service outlets of electricity companies, and that it coordinates with electricity companies to review and re-design report templates and presentation formats to make them accessible to the wider public.

The value of the analysis is also to some degree diminished due to the fact that monitoring and benchmarking are restricted to units and departments, thus preventing comparisons of performance to companies. This limits the transparency of each company's aggregate performance and the degree to which company management can be held accountable. It also complicates comparisons of performance indicators produced by EgyptERA with those carried out internally by licensed regulated companies and EEHC, as these takes place at the company level only. The use of an MIS system for logging and monitoring company benchmarks would greatly simplify the analysis and aggregation of data by EgyptERA and EEHC. It would also reduce the resource burden of data processing and would improve the accuracy of benchmarking. EgyptERA will also require an efficient MIS system for monitoring and logging the results of the annual "consumer awareness survey," which aims to track and extract public perception trends on quality, cost, and evolution of services provided in the electricity sector.

International best practice shows that a key to monitoring and benchmarking performance resides in the underlying dataset's accuracy. Many regulators verify such data via external auditors or comptrollers. EgyptERA does not yet commission external audits, but verifies the validity of data provided by its companies via trend analysis of historical data on 30 to 40 indicators recorded in EgyptERA's database over the past decade. To rectify errors in the data, EgyptERA requests clarifications from the companies, which are allowed five to 10 days to address the query. This procedure is commonly hindered by companies ignoring this requirement, and responding only after several follow ups by EgyptERA. To mitigate this issue, EgyptERA, EEHC, and electricity companies can undertake periodic internal audits at electricity companies to improve accuracy and validate data. One prerequisite to implementing this recommendation requires personnel who now lack the qualifications required for undertaking audits and data validation receive appropriate training.

Electricity Companies

Electricity companies monitor performance indicators against their individual targets as set in cooperation

with holding company EEHC, without carrying out a benchmarking analysis per se. Performance indicators are monitored, discussed and reported on monthly within company departments, sectors, and boards of directors.

Though performance monitoring requirements are mostly dictated by the holding company for benchmarking between companies, it is not uncommon for electricity companies to deploy somewhat different metrics to monitor their performance. Internal auditing of benchmarking data, as discussed above, could thus serve to ensure that electricity companies adhere uniformly to EgyptERA guidelines, and to standardize measurements of company performance.

Performance comparisons are also hindered by the lack of MIS available to either EgyptERA or electricity companies to unify their monitoring data. EEHC and EgyptERA rely on each subsidiary to send the information via FAX or email, and the subsequently aggregate and analyze the data manually. Nevertheless, EEHC has made steps towards mitigating this issue, developing a blueprint for an MIS system which, however, has not yet been implemented due to financing constraints. A well-functioning MIS system will be also required by EgyptERA for logging and monitoring the results of the annual consumer awareness survey, to track and extract public perception trends on issues concerning quality, cost, and evolution of services provided in the electricity sector.

Load shedding, which interrupts electricity service to customers, is currently a major issue in Egypt. It affects significantly the quality of service yet is not being explicitly monitored, as it is aggregated with planned outages due to maintenance work, for which consumers are informed in advance. EgyptERA and EEHC can thus establish a new benchmark for monitoring planned power outages due to load shedding. A number of distribution companies have recently started to use a software system that helps manage load shedding and distributes the power cuts based on a priority or merit sequence. Full roll-out of the software will allow EgyptERA to maintain a database and build a clear picture on the number and frequency of power cuts experienced by each type of consumer. It will also serve as a valuable tool for monitoring performance related to planned power outages due to load shedding.

Distribution System Operators and electricity supply companies in the EU typically monitor their performance against specific targets concerning the provision of customer services, e.g., response times to customer complaints and claims for new connections). In contrast, distribution companies in Egypt do not currently monitor such indicators and do not conduct customer satisfaction surveys that would provide them valuable feedback to gauge their performance in this field. As mentioned previously, the distribution companies' limited emphasis on commercial indicators could be addressed by adding such responsibilities to their licensing agreements. These responsibilities could be further enforced by establishing performance incentive contracts between EgyptERA and the distribution companies. Nonetheless, distribution companies face a significant obstacle in monitoring their provision of customer services, as they do not currently have available CRM systems for logging and tracking customer complaints, queries, and feedback. Such systems would enable them to monitor such benchmarks in an effective and cost-efficient manner. The exception is Cairo South, where a CRM system has been developed in coordination with EgyptERA. When fully developed and implemented, such a system will centralize complaints and enquiries from all distribution companies. This recommendation will first require that distribution companies and EgyptERA secure required funding.

EEHC

The performance of electricity companies is also being monitored by the EEHC, which collects data by all companies and analyzes benchmarks on a monthly, quarterly and yearly basis at company level. As part of their yearly budgeting, each subsidiary electricity

company, in cooperation with EEHC, sets annual performance targets against which their performance is evaluated and discussed in annual meetings between EEHC's Board of Directors and electricity company managers. Although formal incentives or sanctions are not in place, each company's performance is scrutinized in these meetings, and where systematically poor performance may lead to the replacement of its management. Transparency and social accountability with regards to the performance of electricity companies is again, as with EgyptERA, hindered by the failure of EEHC to make its benchmarking reports available to the wider public. It is thus recommended again that EEHC publicizes these benchmarking reports on its website and on the service outlets of subsidiary companies.

EEHC does not commission external audits to validate the accuracy of data provided by subsidiary companies, and verifies only the quality of this data via trend analysis of historical data. As in the case of EgyptERA, in order to rectify any inaccuracies identified in the data, EEHC requests clarifications from the companies. To mitigate this issue, EgyptERA, EEHC, and electricity companies can undertake periodic internal audits at electricity companies and require that personnel receive training appropriate to the task.

3.3 Customer Interface, Transparency, and Public Information Systems

Transparency and social accountability in Egypt's electricity sector relies significantly on effective communication between the sector's main stakeholders, namely EgyptERA, electricity companies, and the wider public.

3.3.1 REPORTING AND INFORMATION FLOWS BETWEEN STAKEHOLDERS AND THE PUBLIC AT LARGE

The main stakeholders involved in exchange of information and feedback in Egypt's electricity sector are the regulated companies (generation, transmission, and distribution), EgyptERA, and consumers, including the general public. All regulated companies are obliged by their licenses–and the distributors' distribution code–to provide certain information to EgyptERA. EgyptERA in turn–in accordance with its mandate–informs consumers and allows them to provide feedback through specific channels (e.g., service outlets, telephones, emails). In addition, distribution companies also communicate directly with consumers, providing information and receiving feedback from them. The same applies for the approximately one hundred very large consumers powered directly from the TSO, who account for approximately 16 percent of total consumption. Figure 3.13 illustrates the bilateral flow of information between each set of stakeholders.

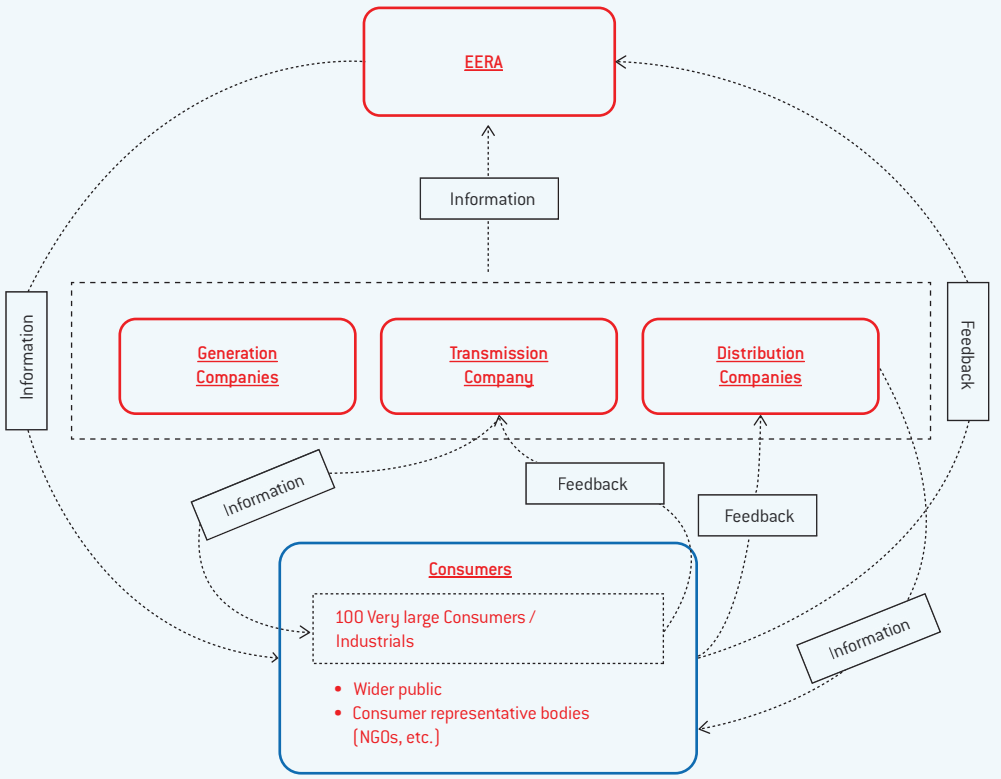
3.3.2 REPORTING OBLIGATIONS

As previously discussed, in the Institutional Analysis, the main obligations of licensed regulated companies to provide information and data to EgyptERA stem from their licenses and the distribution code (Table 3.5).

Licenses and the distribution code oblige electricity companies to provide EgyptERA with financial and operational data and reports on the previous year's performance, as well as projections for future performance.

However, not all of the reporting obligations are fulfilled. With regards to future performance, each company is supposed to submit to EgyptERA their estimated budget for every fiscal year as well as their development plans for generation units, the transmission network, and the distribution network. In addition, upon renewal of their licenses, these companies submit to EgyptERA annual reports,

Figure 3.13 | Flows of Information in Egypt's Electricity Sector



Source: Authors.

detailing their plans for meeting performance criteria approved by EgyptERA, and for attaining specific goals on quality standards. However, this practice is rarely followed. Hence it is impossible for EgyptERA to either review or monitor any of the plans.

A major document that has a significant impact on the reporting obligations concerning all distribution companies, including those in Egypt, is the Supply Code.

3.3.3 SUPPLY CODE

The draft Supply Code–whose aim is to govern the obligations of electricity suppliers, traders, distributors and customers vis-à-vis each other–will be able to mitigate some of the current regulatory issues, as it specifies the information that distribution companies are obliged to provide to consumers and to the wider public. It is explicit in terms of the mediums through which this should be done, and bestows more authority upon EgyptERA in order to oversee regulations.

The distribution license already specifies that distribution companies are obliged to develop a customer service system providing a complete description of the services available, as well as efficient procedures for answering inquiries and for dealing with requests. These need to be submitted to EgyptERA for approval. However, this specification seems to lack precision, as it bundles a number of obligations and leaves significant room for interpretation and variation of standards and obligations between regulated distribution companies.

The Supply Code obliges distribution companies to draft and submit to EgyptERA a manual on the

Table 3.5 | Reporting Obligations of Regulated Companies Towards EgyptERA

INFORMATION ITEM	OBLIGATION APPLIES TO:		
	DISTRIBUTION COMPANIES	GENERATION COMPANIES	TRANSMISSION COMPANY
Certified financial statements for each fiscal year *Including the certified account comptroller's report and his remarks on such accounts.*	•	•	•
Estimated budget for each successive fiscal year *Including targeted revenues, expected expenses in the light of expected demand, price of sale, expected cost and the regulated company's investment and cash flow (capital and operating) budgets.*	•	•	•
Quarterly reports on the Licensee's commercial and financial performance	•	•	•
Detailed annual study cost of service study *Provided that such study includes elements of the cost and revenues according to the approved annual budget.*	•	•	•
Annual environmental report *Including all relevant environmental information regarding operations, according to applicable environmental laws. The report should also include corrective measures taken in regard to complaints in this matter.*		•	
Studies of power and load forecasts[5] *For short term (one year), medium term (three years) and long term (ten years) classified according to indications of energy demand and future loads increase*	•	•	•
Annual report detailing its licensed activities *The report shall encompass all financial, technical and commercial aspects as well as consumer service.*	•	•	•
Annual human resources development plan *To be submitted to the Agency along with his annual report.*	•	•	•
Contracts concluded with other Licensees and consumers contract forms and templates *All for review and approval by EgyptERA*	•	•	•
Report detailing his plan to meet performance criteria and indicators approved by the Agency *Provided within 90 days of the date of issuing the license.*	•	•	•

(Continued)

[5] See Annex 1 describing the main elements of information item.

Table 3.5 | Continued

INFORMATION ITEM	OBLIGATION APPLIES TO:		
	DISTRIBUTION COMPANIES	GENERATION COMPANIES	TRANSMISSION COMPANY
Plan to achieve total quality management pertaining to the activities set forth in the license. *Provided within 90 days of the date of issuing the license. It shall incorporate specific goals for developing quality standards and methods to follow up on these goals. Annual report on implementation of plan should also be provided.*	•	•	•
Report on planning the distribution network *Plan for at least three years which should address ways to support the rehabilitation/ renewal, maintenance and operation of the DCs' distribution network. The report should also include demand projections as well as an evaluation of alternative options for supplying this expected demand.*	•		
Quarterly report on electrical supply approvals[6] *Provided no later than one month after the end of period. It should include objectives and plans for the following fiscal year with regard to improving approvals of electrical supply.*	•		•
Studies, expansion and development plans *For generation units, transmission network and distribution network as applicable. Provided two months prior to the beginning of each year for review and approval by EgyptERA.*	•	•	•
Annual statement on the Quality of Customer Service *The Statement indicatively includes the following:* • *Number of consumers categorized by various criteria* • *Number of connections categorized by consumer class* • *Number of meter outages categorized by consumer class* • *Number of disconnection's according to consumer class* • *Complaints categorized by consumer class.* • *Outages during the last five years either forced or planned* • *Voltage quality data by consumer class.*	•		•

Source: Authors.

[6] See Annex 1 describing the main elements of information item.

Table 3.6 | Supply Code Specification of Information to be Included in Supply Agreements

Information to be Included in Agreements with Non-eligible Consumers
The duration of the contract and its amendment or renewal procedures
The terms on the termination of the Agreement by each party
The means of calculating the amount to be paid
The rules applicable on the terms of metering and information on how the customer access them
The terms on disconnection of supply and interruption whether scheduled or not
The guaranteed and other customer service standards
The standard quality of electricity
The method of initiating procedures for settlement of disputes
Information relating to consumer rights, including complaint handling
Information relating EERA's authorities for consumer protection
Specific rights of Vulnerable Customers

Source: Authors.

detailed procedure for new connections and transfer of connections and the conclusion of an agreement for the supply of electricity. The manual should be made available through the company's website and the distribution company's offices or service outlets. The manual shall refer to:

- the complete list of documents required, along with an application for the supply of electricity and the connection to the network
- the documentation required for the classification or reclassification of a customer as vulnerable, including the criteria applicable for such (re) classification
- the amount of security to be deposited by the applicant for the supply of electricity

The draft Supply Code also specifies the contents of supply agreements with eligible and non-eligible consumers. These shall include at least the information presented in Table 3.6.

- Distribution companies shall prominently display at all offices where applications for new connections are received and on their websites, the manual application forms for the conclusion of an agreement for the supply of electricity and the connection of the customer. In order for the tariff and other charges for the electricity to take effect, the distribution company shall announce them after they are approved by EgyptERA, and shall published them in at least two daily newspapers having wide circulation in the area of supply. Immediately after EgyptERA' approval, the distribution company shall publish the tariff schedule on its web site and make it available to consumers free of charge. In addition, EgyptERA is given the authority to oblige regulated companies to maintain a waiting list of applicants seeking new connections and area-wide information about new connections released. An update of the waiting list shall be displayed on the distribution company's website. The distribution company

shall inform the customer on the billing period, date of meter reading, and due date for payment. Any subsequent change in the schedule shall be brought to the notice of the customer sufficiently in advance. Several provisions are also made for communicating with customers with visual and hearing impairments, as well as "vulnerable" customers. Finally, the Supply Code specifies that each distribution company shall handle complaints via mechanisms for facilities that: a) operate continuously to receive notice of urgent faults and difficulties with the electricity supply; and b) that operate during business hours to receive queries and give information concerning the customer's electricity accounts and connection services.

The draft Supply Code, when implemented, will significantly upgrade the quality of information flows between distribution companies and consumers and the wider public as it will provide a clearer framework for exchanging information by specifying the information to be provided by distribution companies as well as the mediums and procedures through which this should be done.

3.3.4 INFORMATION FLOW BETWEEN SECTOR STAKEHOLDERS

EEHC demands to be informed each quarter about their financial performance, in addition to an annual report validated and audited by certified comptrollers. Both EEHC and EgyptERA can view the operational costs of each licensee, who is required to submit an annual cost-of-service study. Such data are depicted in annual reports of each company, which include financial, technical, and commercial aspects of their performance. These obligations are common to all regulated licensed companies, but a small number of requirements pertain only to distribution companies. The most important of these requires submitting an annual statement on the quality of customer service, which should include information on voltage quality data categorized by consumer class and the number of outages (forced or planned) during the last five years.

Detailed information on technical performance of electricity companies is collected by EgyptERA in a less direct way through the obligation of companies to provide a specific data package prior to the annual renewal of their licenses. The contents of these packages are shown in Annex J1, Annex J2, and Annex J3-K.

Overall, all companies are required (via the license, the distribution code, and license renewal obligations) to periodically provide comprehensive information to EgyptERA on financial, technical, and operational performance. Such institutionally established obligations are certainly important for ensuring adequate flow of information from regulated licensed companies to EgyptERA.

In addition, EgyptERA is authorized to penalise companies if they do not provide the above requirements. In the event of non-compliance, EgyptERA can Issue a warning, or suspend or revoke the company's license. EgyptERA has yet to exercise either of the latter options. Even in mature markets, when there is a monopolist in the market or when it is deemed that the impact would be significant, it is rare for the regulator to revoke a license. Or, as recently happened in Greece, where two suppliers had their licenses revoked, the market was designed to accommodate for such eventuality by having a third supplier "of last resort."

Data collection by EgyptERA does not always run smoothly, as delays in receiving the required information from regulated companies are common. These delays pose a significant obstacle to the oversight by EgyptERA.

In particular, EgyptERA feels that the dedicated liaison offices, or coordination departments, of regulated companies, whose role is to prepare and provide the information required by the regulator, are often staffed by personnel who lack suitable training and qualifications. As the role of coordination departments is pivotal in liaising with EgyptERA, this not only causes delays in the data collection

procedure but may also affect the quality of provided data. For example, a period of five to ten working days is formally allowed the companies when addressing an EgyptERA request for clarification. However, in most cases EgyptERA staff has to follow up the initial query several times until a response is obtained.

EgyptERA has stressed that the quality of higher management is equally critical towards improving the punctuality and accuracy of received data and other materials. Licensees with competent and active management have been much more cooperative in liaising with EgyptERA.

Despite the significant breadth and depth of obligations placed on regulated companies for providing information to EgyptERA, the quality and flow of this information seems very much dependent on the capabilities and commitment of key personnel. This indicates an organizational problem in the flow of information from regulated companies to EgyptERA.

Finally, EgyptERA has limited capacity to validate much of the information as it can not commission external audits to the regulated companies. The checking of data quality by EgyptERA is mostly based on trend analysis of historical data stored in EgyptERA's database.

3.3.5 INFORMATION FLOWS BETWEEN DISTRIBUTION COMPANIES AND CONSUMERS

Distribution companies are obligated to provide information to their customers and to the wider public either as mandated or upon the customers' request. These obligations are specified in their distribution codes and licenses, and in EEHC's commercial regulations.

Table 3.7 summarizes the sources and types of obligations of distribution companies to provide information to their customers and to the wider public.

The obligations of distribution companies to provide information to consumers and to the wider public address a comprehensive range of issues.

Distribution companies are required to inform the wider public and tax payers on their financial performance and activities, while also providing them all application forms, procedures and terms and conditions for establishing a new connection and a supply agreement. In addition, distribution companies are required to be transparent in calculating their tariffs and consumer categories.

Distribution companies inform their customers on how they can reach the company to file a query or a complaint. Upon customer request, distribution companies provide detailed information on the process by which their complaint will be handled and eventually resolved. In addition, they inform customers of open meetings with consumer representatives, in which they can provide feedback. Customers can obtain information on meter reading procedures, as well as energy saving tips and safety guidelines. Customers can also request and receive information on the quality of supply, and obtain copies of the distribution code, commercial regulations, and other official documents detailing their rights as well as the obligations.

However, such obligations do not specify in sufficient detail either the content or the mediums and procedures through which the information should be provided. For example, the requirement to publicize "information on electricity charges and the method of calculating tariffs for all consumer categories" specifies neither the detail or the medium through which such information to be published.

As discussed, in de-regulated markets where distribution and supply companies compete to attract customers, provisions for sufficiently informing consumers are self-regulated. In non-competitive markets, however, regulations often need to be specified to prevent loose interpretations

Table 3.7 | Obligations of Distribution Companies to Provide information to Consumers and Wider Public

	INFORMATION ITEM	SPECIFIED IN:
MANDATORY	**All required documentation related to the provision of commercial services (e.g., meter replacement) and the establishment of new connections** *Includes application forms, procedures, terms and conditions. Must be made available at service outlets and on DC websites.*	Distribution Code
	Company contact details for receiving customer inquiries and complaints *DC shall provide telephone number and email address in a suitable medium of their choice (e.g., newspaper and radio broadcasts)*	Distribution Code
	Information on electricity charges and the method of calculating tariffs for all consumer categories	Distribution Code
	Annual financial reports *Should be published in a "well-known" newspaper and on their website*	Distribution Code
	Announcement of periodic meetings with consumer representatives *The aim of such meetings should be to facilitate exchange of views between stakeholders*	Distribution License
	Commercial regulations as well as systems and regulations in place for readings of electric meters *Should be published in a "well-known" newspaper*	Commercial Regulations
	Information about the company *Including activities undertaken, services provided, etc.*	Distribution License
	Guidelines on safety and Electrical Installations in buildings	Part of the Egyptian Building Code , referenced in Chap 16 of Distribution Code
UPON REQUEST	**Copies of the supply code, the company statutes, and the commercial regulations**	Distribution Code
	Information concerning the quality of electrical supply *Including explanation for any incident/failure*	Distribution Code
	Detailed process for filing and resolving complaints	At the back of the bill, on the company's web sites, and on the outlets

Source: Authors.

and ineffective implementations. For example, most of the companies' information is not required to be on their websites. Hence the Internet is not yet utilized by all distribution companies. (Even as of March 2013, four companies did not have an operating website).

3.3.6 COMMUNICATION CHANNELS AND CUSTOMER FEEDBACK

In practice, the most common medium through which distribution companies channel the above information is service outlets (though several

distribution companies do use their websites, and occasionally also broadcast through local TV channels and through flyers inside the bill.

Distribution companies do not currently have departments dedicated to marketing and communications. Their public relations departments report directly to the company chairmen, focused mostly on administrative and logistical issues concerning receptions, board meetings, workshops, and so forth.

Distribution companies do, however, see a need to create a separate department of communications tailored to consumers. This is especially important in light of the public's difficulties in comprehending concepts such as fuel shortages and subsidies. In addition, distribution companies report that the remoteness and cultural characteristics of certain rural areas makes local population suspicious towards distribution companies.

Distribution companies further limit their toward consumer communicationsby failing to conduct either customer satisfaction surveys or any organized efforts to gauge their feedback. Nor do they inform them of planned power outages (outside those related to planned maintenance) with the exception of a few distribution companies that inform "priority" customers such as hospitals and industries. However, as mentioned in the benchmarking analysis, EgyptERA is currently developing and testing, along with the Cairo South distributor, a new process to be employed by all distribution companies in the near future, by which an SMS will inform customers of planned power cuts due to load shedding a day in advance.

Consumers can now file complaints mainly through dedicated call centers and service outlets. (Some distribution companies offer the option to file complaints through their websites, but as discussed, not all of these websites are now working). However, no regulations yet specify the response time allowed for customer complaints. The complainant is entitled to address EgyptERA directly about their distributions company's decision. Distribution companies track all complaints and related information as specified in the distribution code, but most of them (except Cairo South) lack computerised systems. When fully developed and implemented by all distribution companies, such a system will centralize complaints and enquiries with a universal call-in number. The system will also handle payments and receive meter readings from mobile phones.

Consumer representatives or other civil society organizations—which are few in Egypt—are not providing feedback to distribution companies. (The companies report that it is rare for them to receive complaints from their consumers). This disconnect is further exacerbated by the absence of consumers or civil society on the companies' boards. Only on EEHC's board are industry representatives participating. Therefore, although limited participation of civil society organizations in Egypt's electricity sector is partly a cultural trait, their participation should nonetheless be encouraged.

There was an idea to utilize further Egypt's meter readers to also provide information and receive feedback, and so on. However, distribution companies report that meter readers are already overloaded with work, and that they lack the qualifications to undertake such extra responsibilities. At the moment, Upper Egypt is the only distribution company employing meter readers to also collect consumer complaints, mostly in remote areas.

3.3.7 INFORMATION ON ELECTRICITY BILLS

Electricity bills issued by distribution companies in Egypt do not adhere to a uniform format, though in broad terms they all provide identical information. The common items include meter readings (in kWh), total cost (EGP), and the amount and date to be paid.

Best international practice for providing information on electricity bills is well captured in the publication

Table 3.8 | Information Currently Provided on Electricity Bills versus Information Specified by Egypt's Supply Code and the EU's Good Practice Guidance for Billing

INFORMATION ITEM	CURRENT BILL	SUPPLY CODE	EU GUIDE
Customer account reference number/meter number, and date of the bill	✓	✓	✓
Meter readings and consumption (in kWh) during the billing period	✓	✓	✓
Amount to be paid, for which billing period, by when	✓	✓	✓
Total cost and total consumption (kWh)	✓	✓	✓
Meter readings at the beginning and end of the billing period	✓	✓	✓
Balance premiums[7]		✓	
Dates of meter readings	-	-	✓
Means of payment	-	-	✓
Supplier's contact details (including helpline and emergency number)	-	-	✓
Contract duration	-	-	✓
Description of premises supplied with electricity at the point of delivery	-	-	✓
Base price of energy unit (kWh) and breakdown of applicable tariff	-	-	✓
How amount has been calculated (including whether it is based on actual meter reading or estimation)	-	-	✓
Information on how to obtain the bill in alternative formats (e.g., in large print) for consumers with disabilities	-	-	✓
Information on how to get tips on saving energy (e.g., a link to a website with tips or the number to call to request a brochure)	-	-	✓
Information on where the energy comes from, how it is generated, how environment friendly it is ("the fuel mix")	-	-	✓
Deadline for informing supplier if consumer wants to switch supplier	n/a	n/a	✓
Switching code (needed to switch suppliers)	n/a	n/a	✓

Source: Authors.

of the European Regulators' Group for Electricity and Gas, *Implementation of EC Good Practice Guidance for Billing*. This publication was the outcome of extensive consultations between the European Commission, national consumer organizations, industry representatives, national regulators, and government authorities. Table 3.8 provides a comparison between current practice in Egypt, EU recommendations, and the provisions of Egypt's draft Supply Code, which specifies the exact items that should be included in each bill.

EU Guidelines also recommend a number of additional information items. These could be included either in the monthly bill, or they could be provided via an extra annual reconciliation bill. Examples of the recommended information items are the following:

- Total amount paid so far during the year, and the history of payments
- The debit/credit balance
- Clear information on whether the regular (e.g., monthly) installments need to be recalculated, and, if so, how to change the amount which is paid regularly in installments

[7] If there are is Debt/Credit balance, it is added in the rescheduled amount and the balance on the bill.

- Meter reading details: history of readings during the year
- Bill payment methods and facilities for consumers experiencing payment difficulties (e.g., a help line)
- In the case of second or warning bill, a description of late payment or possible disconnection processes
- A clear visual presentation of how the annual consumption compares to previous years
- A clear visual presentation of energy use over the year

Electricity bills, given that they reach every consumer, are a particularly effective tool for disseminating information to consumers. However, stakeholders in Egypt's electricity sector report that the layout of bills and information contained therein are confusing and unclear. An evaluation of current bills and selective inclusion of additional information in Egypt's electricity bills may contribute substantially to improved information flows in the sector. An indicative bill format as proposed in EU guidelines is provided in Annex K.

3.3.8 CUSTOMER CHARTER

A customer charter is a document composed voluntarily by each company, which sets forth the commitments and obligations of each company towards their customers and specifies minimum standards of service. These obligations could simply be the collection of various statutory obligations contained in regulatory documents. It could also include self-imposed pledges that highlight a company's commitment to high standards. This is important for prospective customers as it sets clear expectations of service prior to any agreement. It also acts as a point of reference for existing customers. Customer charters are tools through which companies raise levels of transparency regarding their obligations, while allowing customers to hold companies accountable for fulfilling them. Customer charters are always part of the supplier's web site as well as in the supplier's outlets (in the form of information leaflets).

Customer charters should be designed to provide information clearly and simply. The consumer should be able to quickly understand the content without prior knowledge of the sector or issues of electricity distribution. The composer of the charter should develop messages that almost anyone can comprehend with confidence.

Given that distribution companies in Egypt do not yet publish customer charters, EgyptERA would propose an indicative customer charter, drawing from international experience and existing regulations in Egypt, for future adoption by distribution companies. Below is such a customer charter. Note that certain elements from international experience don't necessarily fit the Egyptian reality. For example, showing the supplier's profit from the bill doesn't apply in Egypt. However, this could be edited to read how much subsidy has been given to the consumer. On the other hand there are special support schemes for the vulnerable that are vary by country (not all countries have the capacity to address the needs of the energy poor).

No country or market is alike, and customization that addresses the particular financial and cultural structure of each country and subsequent market should be taken into account. Figure 3.14 is an indicative example of a customer charter for other countries.

3.3.9 INFORMATION FLOWS BETWEEN EGYPTERA AND THE CONSUMING PUBLIC

As discussed in the Institutional Analysis, part of EgyptERA's mandate is to "***publish such information, reports, and recommendations that assist the Electric Utilities and consumers to be aware of their rights and responsibilities and of the role played by EgyptERA with full transparency.***" This is reflected in EgyptERA's organization, which includes two departments dedicated to liaising with consumers, one named the Awareness and Mass Communication Department, which manages various

Figure 3.14 | Indicative Customer Charter

1. Sales Commitments

- We are committed to making sure our sales process is professional and transparent
- We are committed to compensate any resulting financial loss caused if you were given inaccurate or misleading information about our products and services

2. Outline of available channels to contact the company and of customer services provided

Telephone service
- Our call centers numbers are ..... and are open between: ....AM and ....PM

Internet service
- You'll find clear contact details on our website, at ....
- There's also a Frequently Asked Questions (FAQ) area to answer your questions.
- We're also launching a customer feedback form – where you can tell us when we're doing something right / wrong, and give us your ideas and recommendations where we could improve things

Mail service
- You can write to us at ....

Other service
- Our Team (phone ...) can tell you about assistance for vulnerable customer and any government help available
- Our Team (phone ...) can help if you're struggling with your energy bills – through special tariffs and applications for funding and grants (this applies to EU countries with special benefits schemes for the most vulnerable)
- If you have hearing or speech difficulties you can contact us on textphone at ...

3. Quality of customer service commitments

- We will answer your call as quickly as possible – most calls are answered within 20 seconds.
- We always aim to respond to letters or emails within 24 hours
- If we need to contact you about your letter, we'll call you within five days of receiving it
- Dedicated team guarantees to explore the situation fully, and to provide a written response

4. Billing and pricing commitments

- We will give you 30 days' notice of a change in the price you pay
- We help you understand how much energy you've used, how much you need to pay, when you need to pay.
- Your bill will clearly show any changes to our prices
- If there is a delay in sending you an energy bill we can extend the time available for your prompt payment discount at your request
- If you receive a bill which is significantly higher than normal, we will ask you to contact us to carry out a review of your account
- We'll update any changes to your personal details as soon as you let us know
- We'll resolve the majority of billing queries immediately (although some complex queries may take a little longer to reach a solution)
- We will send you an annual energy statement
- We will provide a clear breakdown on your bills and your annual statement of how your energy costs are calculated, including how much profit/subsidy we have made from your bill
- If we have been at fault by significantly underestimating the amount of energy you use or by not sending your bills, we will accept responsibility for this

5. Metering commitments

- We will aim to visit your property every month to read your meters or upon request if demanded by you
- We will give you a variety of ways to give us up-to-date readings yourself –leaving the reading at the door of your property, by phone or online
- If we have to use estimated readings, we will base our estimate on the amount of energy you have used; in the past; on average usage patterns; and on the time of year
- If you provide an actual reading within five days of receiving an estimated bill, we can usually send a revised bill the following month
- To keep your bills as accurate as possible, you can submit meter readings either online at …

(Continued)

Figure 3.14 | Continued

6. Outline of payment methods and customer service assistance

- We give you three ways to pay for your energy: By Direct Debit, Online or by phone when you receive your bill, 'Pay as you go' using one of our pre-payment meters.
- We will offer you an Annual Energy Review to check you are on the best payment method for your needs. Call … to get your review now.
- We'll tell you all you need to know about the latest government assistance programmes and grants, and give you information on home improvement programmes and support
- We will process valid refund requests within fifteen working days.

7. Complaint-handling commitments

- If you are logging a complaint, our adviser will give you their name and extension number so you can contact them again if you need to
- If the adviser cannot resolve your query, they will pass you to a manager to find a way forward
- You can ask to speak to a manager at any point
- If we have still not solved your problem you can contact our Head of Customer Services. Call … or email …
- If you're still unhappy, you can contact the Consumer and Energy Organization service which provides free, confidential and impartial advice on … or visit …
- You can contact EgyptERA at … for help if our Head of Customer Services hasn't resolved your complaint within five working days, or if it has been eight weeks since you first contacted us to make a complaint and we haven't resolved it

8. Commitments to vulnerable customers

- We will take your ability to pay into consideration
- We will check if you are eligible for any assistance or government benefits
- We will never knowingly disconnect the energy supply of a vulnerable customer, except for essential maintenance, safety or criminal reasons.
- We will add you to our Priority Services Register at your request, so that the energy network operators in your area are aware that you may be affected by a disruption to supply. It's especially important that you tell us if you depend on electricity for essential medical equipment.

9. Outline of other commitments

- Environment – we're committed to help our customers reduce their costs and their carbon footprint
- New technology – we invest in new technologies to improve our service to our customers
- Community investment – we're dedicated to investing in the communities around us

Source: Authors.

communication activities, and the other named the Consumer Protection Department, which receives and resolves consumer complaints in cooperation with the relevant distribution companies.

EgyptERA undertakes a number of communications, providing substantial information on Egypt's electricity sector to consumers and to the wider public. The most significant of these activities is the publication of the Annual Report which includes the following information:

- Main developments in the electricity sector
- Detailed data on customer interruptions and customer minutes lost
- Information on consumer protection (legislative framework, definition of vulnerable customers, PSOs, connections and disconnections, consumer complaints)
- Information on security of supply issues (consumption, peak load, type, percent share of fuel mix used)

The Annual Report is a comprehensive publication on a wide range of pertinent topics. EgyptERA is currently working to make it more accessible to the wider public.

EgyptERA has also been very active in organising and implementing a number of communications including:

- Public opinion survey on quality of electricity services
- Dissemination of informative circulars on Egypt's electricity sector
- Development of guidebook for obtaining investment projects and residential consumers power supply in cities and villages
- Development of EgyptERA website and social media pages with videos and messages on energy conservation

EgyptERA in cooperation with the Ministry of Electricity and Energy plans to organise a two-day public consultation on current challenges in Egypt's electricity sector. The participants include electricity sector stakeholders, consumer groups, universities, and representatives of industry and women associations as well as the electricity and oil sector representatives. The two events will be streamed live over the Internet, and people will have the option to pose questions to the panellists. The main objective of the event is for the public to be heard and for the sector be fully transparent concerning the significant challenges it faces.

Since 2010, EgyptERA has cooperated with the Consumers and Energy Organization (CEO), a national civil society network of 200 NGOs. CEO's mandate is to represent energy consumers, and to raise awareness about consumer rights and responsibilities. In effect, CEO acts as EgyptERA's partner for public outreach. CEO organizes capacity building events for civil organization groups concerning the rules and regulations that govern the electricity sector in Egypt. It also organizes public hearings and consultations with energy sector stakeholders, and awareness-raising campaigns to inform the public on issues such as energy efficiency and demand-side management. However, although CEO does not rely on license fees (as is the case with some EU consumer groups), most of its funding for the services provided to EgyptERA is provided by GIZ and is conditional upon EgyptERA's approval. The CEO is not empowered to be proactive, which means that it reacts to the requests put forth by EgyptERA. This limits the potential role that the CEO could have.

EgyptERA collects and responds to customer queries and complaints through various channels (on-line, telephone, formal letter, email, and so forth). Consumers are entitled to file complaints to EgyptERA when a distribution company has failed to properly respond their requests. The Consumer Protection General Department within EgyptERA resolves such complaints in cooperation with the relevant distribution companies. Following a customer complaint to EgyptERA, a response is requested from the company within five to ten days, and two subsequent warnings are issued in case of delay. In the event that the distribution company fails to respond to these queries, the CEO of the company is invited to the Board of EgyptERA to explain. However, companies usually respond at an earlier stage. Detailed data on complaints are included in EgyptERA's Annual Report.

The main barrier EgyptERA is facing in communicating information to the greater public is its own brand and role, which are mostly unknown to the average consumer. Limited awareness makes it difficult to reach people and to convey messages effectively. For example, when asked about their sources of information on the electricity sector, none of the interviewed stakeholders reported ever referring to EgyptERA's website, in spite of its clear and comprehensive presentation of information. To this end, EgyptERA is currently developing a detailed communication strategy promoting its role and activities.

3.3.10 PUBLIC DISCLOSURE CONCERNING STRATEGIC SECTOR PLANS AND PROJECTS

The Supreme Energy Council (SEC) is a ministerial committee guiding and overseeing the energy sector in Egypt. The SEC was established by decree of the Prime Minister in 1979 and amended in 2006. The

SEC's main charter is to develop energy strategies in support of Egypt's economic, social development, and energy efficiency policies. Strategies cover management of energy resources and patterns of energy production and consumption patterns, as well as providing guidance to energy reform activities, and handling market emerging issues.

The SEC is headed by the Prime Minister and has 12 ministers as members specializing in defence, finance, petroleum, electricity, economic, development, environment, housing, trade and industry, and foreign affairs. The decisions of the SEC are distributed to the relevant ministerial offices.

Some of the decisions are issued by Prime Minister decrees, which are announced on the press, newspapers and the official paper, ElWakaa, for example. There is no official public website for SEC or EEU.

The MoEE was established in 1964 to oversee all the electricity activities and strategies in Egypt. The MoEE ultimately decides nearly all aspects of the electricity sector. Information disclosure usually covers main sector events such as the opening of a new project, the fiscal year activities and changes on the boards of electric companies and EEHC, and so forth.

Information disclosed to the wider public is published on the MoEE website (www.moee.gov.eg), and in the press and newspapers nationwide.

The MoEE has an active communication department, represented by the spokesman of the Ministry. It also includes a unit that deals with complaints in the same way as EgyptERA.

The NREA was established in 1986. Its main charter was to assess renewable energy potential within Egypt, execute electricity generation projects from renewable sources, set specifications and codes, and consult and training on national and international issues. The NREA's activity has since expanded to include managing R&D laboratories for renewable energy, and issuing certificates for energy labelling of electric appliances.

The NREA issues an excellent annual report that covers renewable energy statistics, its national strategy and R&D programs and projects, training and other activities. It has a well-developed website at www.nrea.gov.eg.

3.3.11 ISSUES

As part of this investigation into the electricity sector's processes, operations, and information flows—as well as the problems that hamper them–a comprehensive questionnaire was provided to all distribution companies, EETC, and generation companies throughout Egypt (Annexes G and H). This was deemed necessary given the complexity of relationships, as well as the potential differences in viewpoints and understanding of the situation between different regions in the country (urban versus rural).

The questionnaires, in conjunction with the information collected in interviews with sector stakeholders, revealed four categories of issues currently preventing a more effective flow of information in Egypt's electricity sector:

- Processes
- Transparency/Communication
- IT or other systems
- Operations

Table 3.9 categorically summarizes the main issues and their effects.

3.3.12 CONCLUSION

Transparency and social accountability in Egypt's electricity sector relies significantly on effective communication and information dissemination between the sector's main stakeholders, namely EgyptERA, electricity companies, and the wider public.

Table 3.9 | Summary of Main Issues and Effects in Relation to Information Flows and Customer Interfacing in Egypt's Electricity Sector

	ISSUE	EFFECTS
PROCESSES	**Regulatory documents do not sufficiently specify the information that should be provided by distribution companies to their customers and to the wider public, or the mediums or procedures through which this should be done.**	• In markets lacking competition, this may lead to loose interpretation and ineffective implementation of specifications
	Planned power outages for maintenance are communicated via local media or even via door to door contact. However, planned power outages due to load shedding are not always communicated to consumers *(Planned outages include those due to maintenance work, for which customers are informed in advance, as well those due to load shedding, for which no prior warning is given to consumers apart from "priority" customers in certain cases)*	• Load shedding is a major issue in Egypt's electricity sector, significantly affecting the quality of service • Poor service; customers are unable to plan their commercial and domestic activities
	Limited representation of consumers or the civil society in the sector *(Consumers or the civil society are not represented by the regulated companies' boards; official communication channels are not used)*	• Poor flow of information and feedback from consumers towards electricity companies and EgyptERA
	Limited use of surveys or other channels by distribution companies to gauge consumer satisfaction and feedback *(Customer satisfaction seems not to be an issue for them and is not currently surveyed)*	• Poor flow of information and feedback from consumers towards electricity companies and EgyptERA
TRANSPERENCY/ COMMUNICATION	**Communication policy of distribution companies is underdeveloped** *(DC's have no departments dedicated to marketing and communications. Their public relations departments deal mostly with administrative and logistical issues concerning receptions, board meetings, workshops, etc.)*	• Consumers receive only generic information through limited channels (mainly service outlets) • Communication barriers related to cultural traits and geographic isolation are not addressed
	Consumers and the wider public are not aware of EgyptERA's role in the electricity sector *(EgyptERA is not a recognizable institution; consumers do not know of the regulator's existence and mandate)*	• EgyptERA's mandate and pivotal role in raising consumers' awareness of their rights and responsibilities is not fully realized
	Customer Charters are not a common practice in the sector *(DC's do not publicize any customer charters outlining their consumer obligations and minimum standards of service)*	• Consumers are poorly informed of their rights and of distribution companies' obligations, both before agreeing to contracts with distribution companies and during the provision of the service • Limited transparency and accountability may lead to poor service

(Continued)

Table 3.9 | Continued

	ISSUE	EFFECTS
	Information currently provided on the electricity bill is limited *(As compared to EU guidelines, there are several information items not currently included in the electricity bill)*	• Poor flow of information and feedback between consumers and electricity companies
IT SYSTEMS	**CRM systems are unavailable in distribution companies for logging and tracking complaints** *(Only DC Cairo South is currently using a CRM system for logging and tracking complaints. All other DC's have no computerized systems)*	• Tracking of complaints is significantly burdensome and prone to errors • Information flows are slowed • The lack of a unified system by distribution companies also creates uneven service between consumers served by different distribution companies
OPERATIONS	**Personnel of distribution companies' liaison offices with EgyptERA do not always meet their role specifications** *(DC liaison offices with EgyptERA are not always staffed by personnel with suitable training and qualifications)*	• Information quality and accuracy may suffer • Delays may be caused in gathering required data and responding to EgyptERA's queries
	Understaffing and overloading of meter readers *(Limited number of meter readers with significant overload and occasionally poor qualifications)*	• As meter readers often act as the only contact point of consumers with distribution companies, this may lead to poor information flow

Source: Authors.

Sector Companies

Regulated electricity companies are obliged by their licenses to provide to EgyptERA and EEHC a variety of financial, operational and technical data and periodical reports on their past and projected performance, to ensure that all stakeholders are adequately informed about sector performance and developments.

Licensed regulated companies in Egypt inform EEHC about their financial performance through quarterly and annual reports, the latter of which are audited and validated by certified comptrollers. EEHC and EgyptERA are informed about the operational costs of electricity companies via annual cost-of-service studies submitted by each licensee. This information is also exhibited in annual reports detailing the licensed activities of each company, including financial, technical and commercial aspects of their performance. These obligations are common to all regulated licensed companies but there are a small number of requirements pertaining only to distribution companies. The most important of these is the requirement to submit an annual statement on the quality of customer service, which should include among others, information on voltage quality categorized by consumer class and the number of outages (either forced or planned) during the previous five years. In the event that a regulated company does not comply with the requirements, EgyptERA has a number of sanctions at its disposal.

In practice, however, compliance with the above requirements is subject to certain barriers, most significantly the fact that neither EEHC nor regulated companies have sufficient capacity or the organization

to provide the timely, accurate and comprehensive information required by EgyptERA. Although regulated companies have dedicated "coordination departments" to liaise with EgyptERA, they are often staffed by personnel who lack suitable training and qualifications. Likewise, although three departments of EEHC are at the moment dedicated to cooperating with EgyptERA, they are hardly able to carry out their mandate. This issue is further exacerbated by the fact that the abilities of the companies to collect and disseminate information are not being verified at any stage of the licensing process. Due to their limited resources, regulated electricity companies and EEHC are often unable to meet their reporting obligations, hampering EgyptERA's ability to fully oversee its regulations. To address this issue, EgyptERA has made it a regular practice to invite staff of coordination departments to all capacity building events in the organization, while it has also organized a number of internal capacity building sessions.

Distribution Companies (Licensed by EgyptERA)

Distribution companies are obliged to provide information to their customers and to the wider public either as part of their statutory obligations, or upon the customers' request. These obligations are specified in their distribution code and licenses and EEHC's commercial regulations, and address a wide range of issues. The distribution companies' most important requirements are to inform the wider public and tax payers on their activities and financial performance, as well as availing them of all application forms, procedures, and terms and conditions for establishing a new connection and a supply agreement. The companies are also obliged to inform their customers on how they can file a query or complaint, as well as how their complaint will be handled and eventually resolved.

Complaints and all related information (subject of complaint, procedures of its investigation, decision taken, and its date) are being tracked by distribution companies as specified in the Distribution Code. The majority of these companies, however, do not have computerised systems (except for Cairo South where a CRM system has been developed in coordination with EgyptERA). When fully developed and implemented, this system will log, integrate and analyse complaints and inquiries from all distribution companies. In addition, no management information system (MIS) is available to EgyptERA or licensed regulated companies to unify data and monitor benchmarks among different companies. EEHC and EgyptERA rely on each subsidiary to send the information via FAX or email, to be manually analyzed and aggregated. Nevertheless, it is important that EEHC has made steps towards mitigating this issue. It has developed a blueprint of an MIS system for aggregating data and monitoring benchmarks among different companies which unfortunately has not yet been implemented due to financing constraints. A well-functioning MIS system will be also required by EgyptERA for logging and monitoring the results of the annual consumer awareness survey mentioned above, aiming to track public perception trends on issues concerning quality, cost and evolution of services provided in the electricity sector.

Distribution companies face an important task in communicating with their consumers, especially those in rural and remote parts of the country who remain largely uninformed of the companies' roles and functions. This disconnect creates uncertainty, which further hampers the companies' attempts to engage the public on important challenges facing the sector such as power shortages due to lack of investments, fuel shortages, and subsidies.

Electricity bills can be a particularly effective tool for distribution companies to disseminate information to consumers, given that they reach every consumer. Various stakeholders (including consumer groups), report difficulties in understanding electricity bills, finding their layout and information confusing and unclear. Though they all provide identical information, electricity bills issued by each distribution company in Egypt do not adhere to a uniform format. The main items are meter readings and consumption during the billing period (in kWh), total cost (EGP), the amount owed (EGP), and date due. Most distribution companies also promote the importance of energy conservation and the use of compact fluorescent

lamps (CFLs) through messages at the back of the bill. An assessment of Egypt's electricity bills and addition of clarifying information may substantially improve the sector's information flows.

Meter readers are another important medium of communication between distribution companies and consumers. They are responsible for monitoring and logging electricity meters and for collecting payments. Meter readers often act as the single point of contact between consumers and their distribution company, and can play a significant role in disseminating information and collecting customer feedback, queries and complaints. However, distribution companies report that meter readers are already overloaded with work and unable to take on extra responsibilities such as providing customer information or feedback. Time constraints notwithstanding, they lack the training to undertake such responsibilities.

Finally, planned power outages (due to load shedding) are not being properly communicated to consumers (with the exception of a few companies that inform priority customers such as hospitals and industries). Adding to the confusion, these planned outages (for which no warning is given to consumers) are not being measured separately from those due to maintenance work (for which customers are informed in advance).

EgyptERA

The most significant publication of EgyptERA, by which it communicates with the wider public, is the Annual Report, which provides extensive information on a wide range of pertinent topics for Egypt's electricity sector. Although a "Consumer Protection" element is included in the 2010–11 Annual Report, EgyptERA—in contrast to many European regulators—does not currently provide any annual reports dedicated to consumer service of regulated distribution companies. Such information will be especially important to provide once the market becomes liberalized, whereby consumers will need to evaluate for themselves the services offered by each supplier.

EgyptERA's regulatory mandate is further hindered by its limited visibility. Consumers and the wider public are not aware of its existence and role. EgyptERA, however, has made significant efforts to address this issue, most recently by organizing in cooperation with the Ministry of Electricity and Energy, energy-sector stakeholders, and civil society organizations–a two-day public consultation on current challenges in Egypt's electricity sector. The event will be streamed live over the Internet and the audience will be able pose questions to the panellists. The purpose of the event is for the public to be heard, and for the sector to be fully transparent concerning the challenges it is facing.

It should also be noted that since 2010 EgyptERA has been in a cooperation agreement with the Consumers and Energy Organization (CEO), a civil society network with nationwide outreach. (As of December 2012, the network included 40 NGOs, with a target to expand its membership to 5000 NGOs by the end of 2013). The mandate of CEO is to represent energy consumers, and to raise awareness about consumer rights and responsibilities. CEO acts as EgyptERA's partner for reaching out to the public and organizing capacity-building events for civil organization groups to learn the regulations governing the electricity sector in Egypt. It also organizes public hearings with energy-sector stakeholders and awareness-raising campaigns to inform the public on issues such as energy efficiency and demand-side management. In contrast to some EU consumer representation groups, CEO does not rely on license fees. It has limited capacity to be pro-active, however, due to the fact that most of its funding for services to EgyptERA is provided by the German Society for International Cooperation (GIZ) and is conditional upon EgyptERA's approval.

Finally, EgyptERA has been developing a number of communications to improve their visibility and to raise consumer awareness about pertinent issues in the electricity sector. These include a public opinion survey on the quality of electricity services, informative circulars on Egypt's electricity sector, and EgyptERA's website and social media pages with videos and messages on energy conservation.

3.4 Consumer Surveys

An analysis was done on the following perspectives:

- The challenges facing the electricity sector.
- The role of EgyptERA and its challenges in assessing the performance of the electricity service from the consumer's perspective.
- EgyptERA's method for testing consumer awareness with regards to the role of the organization as regulator of the electricity sector.
- Consumers' awareness of the electricity subsidies and the extent of their equity.
- Comments from the first survey commissioned in 2010 (designed and conducted by the Information and Decision Support Center (IDSC)), identifying strengths and weaknesses from the survey and gaps to be addressed.

The main challenges facing the sector:

- Damaged financial structures of the licensed companies, and the related cash problem they are suffering, hindering their ability to invest in the company's performance or to spread awareness.
- The lack of investment in the companies also has led to inefficiency and waste that burden the consumer.
- The need for increased client awareness to enhance energy efficiency and to make them aware of the amount of subsidy currently provided.
- Cost of production is also higher than international averages, and is expected to rise further due to: 1) declining credit worthiness of the government (used to give sovereign guarantee for currently used soft loans); 2) higher interest rates (in case financing needs give rise to seeking commercial loans as opposed to currently used soft loans); 3) higher wages (according to social justice demands of the revolution); and 4) expected rise in subsidized input prices of natural gas and oil (due to removal of the subsidy).

The suggested solution for the above challenges focused on reforming tariffs and subsidies, and encouraging private investment in the sector. These reforms could be addressed as follows:

Business Clients: trials to take big customers to free market practices, by fully releasing the subsidy.

Household Clients: tariff reform, especially the huge middle tranche.

Wholesale Public Trader System: studying the introduction of such a system, coupled with a safety net targeting the poorest of the poor.

Increasing Private Investment in the Sector: by liberalizing the market and relying on a competitive market environment—especially with the potential rise in demand and expected profits—the entire sector's performance and customer satisfaction will be enhanced. In addition to improving the performance of the existing distribution companies, it is imperative that the government work towards creating an attractive investment environment for the private sector.

- *Client segmentation and monitoring tools*: household clients (40 percent) divided into three tranches, with the middle tranche representing the largest bulk.
- Business, services, and government clients (60 percent), with the 100 large clients representing 20 percent of consumption.
- Client satisfaction monitoring tools should differ in both content and channels between the two main segments.
- The survey can serve to enhance awareness tool, as well as monitor client satisfaction. The survey could easily include questions on energy conservation. It can also be used to assess or predict client reactions to certain policies—such as price hikes—before announcing them.

Awareness:

- The main challenge assessed by EgyptERA is financing the awareness campaigns.
- Reference was also made to the white paper assessing effectiveness of communication channels.
- Simple, low-cost awareness tools were suggested, such as TV interviews of EgyptERA senior staff explaining to the general public how much electricity is subsidized, and how they can practice more efficient energy consumption.

Survey:

- Form and content: needs to include some fixed questions for monitoring and benchmarking from year to year, as well as certain questions reflecting on the new/conditions in the market. Content should also match the characteristics of each client segment (household/business).
- Methods: sampling needs to reflect all of Egypt (urban, rural, upper, lower), and either a specialist in sample design or CAPMAS should design the sample. Data also needs to be collected via face-to-face interviews, rather than phone calls.
- An independent survey is recommended for the 100 large business clients, and could be administered by hosting a one-day event to capture their feedback and test their knowledge of the energy sector.
- The need was also discussed for a comprehensive plan to annually administer the survey and benchmark feedback.
- The issue of checking the relevance of the World Bank Consumer Card system, to the Egyptian case, was also discussed.

Design of the Survey

Sampling Methodology: the need for a sampling expert to draw a random, nationally representative sample (based on CAPMAS latest population census), of the entire Egyptian population.

Data Collection: Face-to-face interviews are recommended, as opposed to data collection through the phone, as the former will allow respondents a better understanding of the various questions, while also including those segments of the population not reached through telephone calls.

Workshop

The objective of this workshop was to present the amendments introduced to the survey form, and discuss the suggested methods for implementing it, and using it as a tool for making policy decisions.

Usage: the survey can be used as a tool to assess the level of awareness among the target population (relying on the sample results), in order to design responsive awareness campaigns. However, the survey tool cannot be used as an awareness raising mechanism, as it only reaches a sample of the population.

Awareness: the backside of the bill might be used as an awareness raising platform, as well as for sending positive messages and incentives to save energy. Thus, redesigning the electricity bill, which reaches the largest customer base, is highly recommended.

Implementation: EgyptERA's communication team does not have the capacity (human or financial) to carry out this task. Thus the implementation will need to be outsourced. EgyptERA asked for help in assessing the budget, drafting the scope of work for outsourcing this task, and recommending a list of public and private organizations capable of undertaking the survey.

Methodology: the sampling needs to be carried out by a sampling expert to reflect the entire society (urban and rural). The proper sample size would range between 1500 and 2500 households. It is recommended that the form be filled out in full, via face-to -face interviews (which should not take more than twenty minutes each). The survey should be conducted annually or biannually.

The main elements of any survey are as follows:

- Setting the objective and main policy issues to be addressed
- Defining the target group
- Phrasing the questions
- Developing the methodology
- Deciding on the sampling approach
- Determining the data collection means (i.e., questionnaire or interview guide)
- Implementation
- Analysis of the results
- Recommendations and suggested policy actions

To develop an index for comparing subsequent surveys, the sample should be divided into segments according to wealth level, and then the correlation between this index and awareness level (for example) can be compared between various rounds of the survey.

3.4.1 FINDINGS

1. EgyptERA conducted a consumer's awareness survey in 2010.
2. The survey was telephone-based and thus could not reach the different segments of the society.
3. Discussions took place on the objectives of EgyptERA, from conducting the survey, its degree of regularity, and its sample frame and implementation possibilities.
4. The questionnaire form needed re-drafting to include new questions and variables, and to exclude irrelevant questions or issues.
5. The sample frame has to be changed to accommodate EgyptERA requirements.

Steps Taken

1. Through lengthy discussions, the questionnaire form was twice amended and restructured before reaching the final version. A copy of the updated new survey is attached. (Annexes G and H).
2. The survey needs a new sample designed by a sampling expert and drawn from the Population Census 2006 (CAPMAS).
3. The survey needs to be conducted through face-to-face interviews.
4. Several indicators could be derived from the questions and the data available. These indicators will be useful for implementing the surveys, as they will answer several relevant questions on the quality of electricity service, consumer satisfaction and their use of electricity saving techniques, and the general quality of the service. Below are several examples of such indicators:

    - Index of household wealth (which could be linked to electricity usage, public awareness with Egypt Era, public acceptance of the electricity bill as a value of service, etc.);
    - Index of total household expenditures (which could be linked to electricity usage, public awareness with EgyptERA, public acceptance of the electricity bill as a value of service, etc);
    - Trend of public acceptance of electricity bill;
    - Trends of electricity cuts over time;
    - Trends of efficiency in solving electricity problems; and
    - Trends in using electricity saving techniques.

3.4.2 RECOMMENDATIONS RELATED TO THE METHODOLOGY OF IMPLEMENTING THE SURVEY

The primary objective of the Egypt-ERA survey is to provide estimates on the national scale and four major administrative regions: Metropolitan areas, Lower Egypt, Upper Egypt and Borders governorates. Two governorates could randomly be selected to represent each of these regions. The randomly selected primary sampling units (PSUs) should include shiakha/towns in urban areas and villages in rural areas.

A stratified random sample of 1500 to 2500 households will be selected. The strata could include

representation of the regions as well as the areas' household incomes.

Several procedures have to be undertaken for the accurate completion of the survey: The training of data collectors; the pilot study to fine tune the survey; the conduction of the survey; entry, cleaning, validation, and tabulation of the data; and final report preparation.

Regular surveys will enable EgyptERA to monitor and evaluate trends, and thus help in recommending the appropriate policies.

3.4.3 ASSESSMENT OF THE WORLD BANK CRC AND ITS RELEVANCE TO THE EGYPTIAN CASE

In discussions of the assessment techniques of public awareness and satisfaction, the Citizen Report Cards (CRCs) widely used by the World Bank were mentioned.

The EDG Consultant reviewed the CRC and suggested that there is a substantial difference between a nationally representative survey and a CRC. While the former provides an overall assessment of electricity service quality and cost, and response to various consumer problems, the CRC could serve as a means of assessing service of certain distribution companies on the local level, either over time, or in comparison to other public services such as water, sewage, and garbage collection.

If the objective of assessing the performance of distribution companies is a target in itself, each assessment technique complements the other.

4.4.4 CONCLUSION

Distribution companies face a major hurdle preventing them from effectively communicating with consumers and the wider public, stemming from their failure to conduct customer satisfaction surveys or to gauge customer feedback. As it stands, consumers can file complaints mainly through dedicated call centres and service outlets; some are offered the option to file complaints through their respective distribution companies' websites. Nevertheless, EgyptERA is attempting to address this issue by preparing templates for distribution companies to undertake customer satisfaction questionnaires regarding their handling of complaints and the quality of information they provide. A consumer-awareness survey was also conducted by EgyptERA in 2010, though being derived solely on telephone interviews was able to reach only part of the population. To bolster these efforts, the Bank assisted EgyptERA to develop more direct data-collection techniques, as well as more detailed questionnaire forms, which will enable them to more thoroughly measure the public's perception on the quality, cost and evolution of the services they provide. Finally, EgyptERA is monitoring closely the complaints addressed directly to it regarding service by distribution companies and preparing and publicizing annual reports.

CHAPTER FOUR:

Recommendations

Our recommendations, which include comments and actions already taken by EgyptERA, as well as comments by the delegates, fall under three main actions, as follows main actions:

1. Incorporating the consumer into the goals and operational culture of the electricity sector.
2. Adding staff and enhancing information technologies to achieve reform objectives.
3. Improving communications to enhance transparency and advance trust between the sector and the consuming public.

There is a logical sequence between those three categories, namely: (1) accepting and endorsing the need to reform, (2) addressing underlying weaknesses, and, (3) introducing a new culture and capacity towards achieving the targeted goals.

Note that culture is a key parameter influencing people's willingness to change. The implementation of almost all of the recommendations and changes assumes acceptance and a sense of ownership by the main players. This acceptance should come from the top management, along with proper training, education, effective process, and practice. EgyptERA has shown the willingness to drive change, having already started to tackle a number of these recommendations.

4.1 Incorporating the Consumer Engagement into the Sector's Goals and Operational Culture

The following set of recommendations touches all aspects and necessary interventions for the electricity sector to become more consumer oriented. These recommendations range from instituting changes in formal documentation (articles of association, performance reports, annual reports, and so on), to adopting benchmarking metrics that measure consumer satisfaction, to better representing consumers in the electricity sector's decisions.

1. **Revise Goals of EEHC subsidiaries to incorporate more responsibilities towards customers**

Transparency and social accountability in Egypt's electricity sector is limited due to its underdeveloped communication policy towards consumers and the wider public in general. The customer focus is in fact absent from the articles of association and licensing agreements of EEHC subsidiaries. Such an omission could be corrected by simply adding an article to the companies' goals and objectives, as per the following example: *"The goals and objectives of the Company are to operate with a customer-focused*

approach, strengthen corporate governance, pursue stable and sustainable development, and provide high-quality services."

2. **Oblige EEHC to oversee periodical reports of its subsidiary companies on the satisfaction of their customers**

Overseeing customer satisfaction of subsidiary companies is not at the moment embedded in the responsibilities of the EEHC. Such responsibilities could be added to those of the EEHC's board of director's. Implementing this recommendation would first require EEHC to coordinate with EgyptERA to set indices that reflect the performance of subsidiary companies toward satisfying their customers–indices currently lacking for such companies in Egypt.

3. **Request companies to make explicit reference in their articles of association to obligations arising from their licenses, while assigning EEHC the responsibility to verify the companies' compliance to these obligations**

The authority of EgyptERA to oversee and regulate the electricity sector is hindered by the authority of the EEHC, which maintains significant control over the operations of licensed companies. With lines of responsibility thus blurred, public companies remain unaccountable for their operations by EgyptERA or the public at large. To correct this flaw it is recommend that EEHC secures the time and human resources to review and amend relevant parts of the electricity companies' and its subsidiaries' articles of association. Electricity companies should explicitly add to the written purpose of the companies: "The Company operates in accordance with the license issued by EgyptERA, and the company board is responsible for assuring that its license requirements are fulfilled."

4. **Urge EgyptERA to adopt more advanced data collection techniques for their Consumer Awareness Survey, and revise the licensing obligations of electricity companies to undertake regular consumer satisfaction surveys and devise action plans based on feedback**

Distribution companies do not conduct customer satisfaction surveys nor undertake any organized efforts to gauge customer feedback, creating a major obstacle for achieving effective communication with consumers and the wider public. It is thus recommended that EgyptERA includes in the licensing terms of the electricity distribution companies the stipulation that the distribution company is obliged to undertake regular customer surveys and to devise action plans based on the feedback."

By enhancing the flow of information and feedback, these steps would improve the responsiveness of electricity companies to consumer needs and improve their social accountability, enabling consumers to hold electricity companies accountable against measurable targets.

To implement recommendation, EgyptERA will first need to secure sufficient funds for periodically executing the survey, as well as for developing the software systems necessary for logging and monitoring survey results. EgyptERA will also need to provide training to data collectors and launch a pilot program to fine-tune the survey.

5. **Include in the licenses of each distribution company an explicit obligation to draw up and publicize a customer charter**

A customer charter is a tool used internationally—though not yet a standard practice in Egypt—through which supply companies elevate trust between supplier and consumer. Such charters increase transparency regarding the supplier's obligations, and allow customers to hold companies accountable. Following a request by EgyptERA, and based on international experience and existing regulations in Egypt, an indicative customer charter was drawn up. The licenses of distribution companies should

include an obligation specifying the channels through which the customer's charter will be provided, such as web sites and service outlets. EgyptERA already supports distribution companies in such an initiative by providing to them a draft consumer charter and holding meetings with consumer representatives to collect feedback.

6. Edit the new supply code to include effective information exchange between distribution companies and consumers

The draft supply code, when implemented, could significantly upgrade the quality of information flowing between distribution companies and consumers. The supply code could contain a clear-cut framework for specifying in detail the content of the information and the procedures through which the distribution companies should provide it to consumers. To achieve this, it was recommended that EgyptERA and each distribution company set up working teams to discuss the details of the draft supply code and agree on the provisions for such information exchange, followed by a roundtable meeting with sector stakeholders to convey the importance of implementing it. It is especially encouraging that EgyptERA's board of directors is already in the process of the ratifying their supply code.

7. Represent consumers and civil society in the companies' boards and in regional committees of electricity consumers

Consumer and other civil society organizations are relatively few in Egypt, and not particularly powerful in shaping public policy, or active in providing feedback to distribution companies. Consumers are thus unrepresented in the companies' decisions (except in EEHC's board of directors, where a large-industry consumer representative is participating.

Many other countries have addressed this issue by developing public engagement models. For example, in the UK, electricity consumers' committees represent the public for each regional distribution company. However, every country, market and culture is different, and no one size fits all. Hence, for Egypt it was recommended that EgyptERA, in association with the distribution companies, establishes a pilot representation model in the form of regional electricity consumers' committees (ECCs), to be housed under EgyptERA, in one or two areas mirroring the boundaries of the distribution companies. In advance of the pilot, EgyptERA should: a) set criteria for selecting consumer representatives by reviewing international experience and practice; b) specify internal mechanics of ECCs and high-level communications with distribution companies; c) secure adequate financing (perhaps via license fees); and d) ensure access of information to all parties to raises public awareness of ECCs. The pilot should be reviewed and adjusted after at least two years of operation to inform a nation-wide roll-out plan. If the pilot is deemed successful, it can be extended over the longer term by adjusting the companies' licensing obligations.

8. EgyptERA should develop a Code of Conduct that will define more clearly their responsibilities, and highlight commitment to transparency and social accountability

As specified in Presidential Decree 329, EgyptERA's mandate is consistent in many aspects with other nation utilities, assuming a number of responsibilities including "publishing such information, reports, and recommendations that assist the Electric Utilities and consumers to be aware of their rights and responsibilities and of the role played by EgyptERA with full transparency." However, the mandate does not adequately articulate the EgyptERA's obligations toward consumer rights or commitments to transparency and social accountability. It was thus recommended that EgyptERA's mandate be supplemented by a Code of Conduct which will clearly state such obligations and commitments. EgyptERA has already drafted such a Code of Conduct, and intends to ratify it soon.

4.2 Sector Reform via Organizational, Staffing, and IT Enhancements

The following set of recommendations focuses on improving the sector's service to consumers via information technology, systems, processes, and organizational structures.

1. **Distribution companies should set-up departments dedicated to communications, staffed with qualified personnel to develop appropriate communication policies**

Distribution companies, despite serving as the sector's direct interface with consumers and the wider public, lack staff dedicated to marketing or communications. Distribution companies would thus be well served by adding such staff, focused on improving the quality of customer information and tailoring it to specific consumer categories. To address these needs, EgyptERA intends to hold a roundtable discussion with distribution companies and consumer groups. It is recommended that EgyptERA further this goal by introducing a section in its annual report comparing companies in terms of their public information and their customer-service performance. To better assess companies' performances, EgyptERA could also propose certain minimum standards against which the companies would be evaluated, and sharing these comparisons with consumers through websites, reports, leaflets and other forms of media. The distribution companies should also ensure proper staffing of their marketing and communications departments by providing appropriate training and tools for the tasks.

2. **Create a single, appropriately staffed EEHC liaison department**

EEHC is neither properly organized nor staffed to provide EgyptERA with timely, accurate and comprehensive information and data. Three dedicated "coordination" departments in EEHC have been set up to liaise with EgyptERA, staffed by personnel lacking suitable training or qualifications. These departments are thus limited in their ability to carry out their mandate. It is recommended to create a single department in EEHC with the proper capacity to liaise with EgyptERA. To implement these recommendations, the following actions were suggested:

- Conduct a study diagnosing the responsibilities of the department and the required skills of the staff
- Add specific skills to job descriptions and responsibilities
- Draft new processes and procedures concerning the department's functioning and cooperation with EgyptERA
- Design a program to build capacity and to train EEHC staff

3. **EgyptERA, EEHC and electricity companies should undertake periodic internal audits of electricity companies to validate performance benchmarking data**

International best practice shows that the quality of performance monitoring and benchmarking largely depends on the accuracy of the underlying data. Such accuracy is commonly validated by external auditors and comptrollers. At the moment, neither EgyptERA nor EEHC commission external audits of Egypt's electricity companies. Rather they verify the companies' data via historical trend analysis, or request clarifications from the companies themselves, which unfortunately lack the qualifications for undertaking such audits.

Implementing this recommendation first requires that all parties agree on a particular set of indicators, and a common method for measuring them. They also need to ensure sufficient staff, with appropriate training and background, dedicated to auditing these specific sets of data. As an alternative, EgyptERA is considering the services of external auditors as part of their annual renewal of licenses.

4. **EEHC and EgyptERA should combine efforts to produce a unified annual company performance report and to set a system for incentives and penalties**

EgyptERA monitors and benchmarks the performance of generation companies in groups, or "units," according to their type and size, while the performance of distribution companies are organized as "departments" which are in turn grouped according to function. The performance of electricity companies is also being monitored by the EEHC, which collects monthly data and analyzes benchmarking data at the company level. Such inconsistencies in the metrics used to monitor performance of companies complicate comparisons and obstructs transparency. To implement this recommendation, working groups from each party need to map their respective reporting differences, design their unified performance report, along with a roadmap for implementing new report guidelines. Performance could be measured at different levels, ranging from systems to individual customers (for example, the number of unplanned interruptions, or the response time per complaint). There could be a financial reward or penalty for performance, based on a percentage of the company's revenue or profit, similarly to the framework already in place in the UK.

5. **Consider implementing a unified MIS for monitoring benchmarks among different companies**

An MIS system would significantly simplify the task of EgyptERA and EEHC to accurately log and monitor company benchmarks. EEHC and EgyptERA currently rely on each subsidiary to send the information via FAX or email, to be manually analyzed and aggregated. An efficient MIS system will be also required by EgyptERA for logging and monitoring the results of the annual "consumer awareness survey," with its aim to closely track and extract public perception trends on quality, cost and evolution of services provided in the electricity sector. Before implementing this recommendation, EEHC and EgyptERA must secure funding to implement the MIS blueprint already developed by EEHC.

6. **Increase distribution companies' investment in handheld Automatic Meter Reading (AMR) devices and smart meters**

Meter readers are an important medium of communication between distribution companies and consumers. They are responsible for monitoring and logging electricity meters and for collecting payments. However, distribution companies report that meter readers are already overloaded with work and unable to take on extra responsibilities such as providing customer service or feedback. In response, certain distribution companies have already taken steps to invest in handheld Automatic Meter Reading (AMR) devices that not only read meters, but also produce meter-reading statistics and log customer complaints. Such devices could allow meter readers the time to gather customer feedback, thus becoming front-line customer service agents that facilitate transparency between consumers and the electricity companies. To implement this recommendation, distribution companies would first need to secure funding.

7. **Distribution companies to disclose reporting**

Distribution companies are hindered in complying with their reporting requirements to EgyptERA, in that neither they nor the EEHC have sufficient capacity, resources, or organization to provide timely, accurate and comprehensive information. The companies' technical and financial capacity to collect, aggregate and disseminate information is not being verified at any stage of the licensing process. Lacking such information, EgyptERA is unable to properly oversee and regulate the companies. In order to begin closing this information gap, EgyptERA could hold meetings with distribution companies to highlight the importance of the Supply Code in general, and to stress specifications for accurately reporting and validating data.

8. **Distribution companies should produce detailed job descriptions and required skill sets for the personnel that staff the liaison offices**

Although distribution companies now have dedicated "coordination departments" to liaise with EgyptERA, they are often staffed by personnel who lack suitable training and qualifications. Recognizing that distribution companies may have limited capacity to restructure their liaison offices, EgyptERA can help by cooperating with their personnel managers to prepare detailed mandates for change. For example, EgyptERA has already commenced drafting organization charts, job descriptions and minimum qualification requirements for the personnel that staff the liaison offices.

4.3 Improving Information Flow to Enhance Transparency and Advance Trust Between the Sector and the Public

1. **Update EgyptERA's mandate to reflect the new Electricity Law and upcoming reforms in the electricity market**

The overall mandate of EgyptERA confers them limited authority to advise or pass opinion on tariff structures to the respective ministries. Regulators in other countries have mandates for setting, monitoring, and regulating prices, and for approving tariffs. To ensure a more balanced protection of regulated companies and consumer interests, EgyptERA's authority should be strengthened, especially in the unbundling and reform of the electricity sector.

For any proposed amendment to EgyptERA's mandate to be effective, it will have to be accompanied by wider structural changes in Egypt's electricity sector as a whole, including financial unbundling of companies, defining a clear structure for sector governance, and developing strategic plans for sector and tariff reform. These institutional changes will need time to be agreed upon, designed, and implemented, requiring close cooperation of all stakeholders including EgyptERA, EEHC, EETC and distribution companies. It is also recommended that these mandates are communicated by EgyptERA to the public via a comprehensive communication strategy aiming to raise awareness about the regulator's role and activities. Despite its limited authority, EgyptERA has already made significant progress in this direction. It has published a "Cost of Service" report on its website, plans to publish a comprehensive report on electricity subsidies within the first quarter of 2014, and intends to hold a series of public hearings concerning a planned tariff reform.

2. **Consider implementing a unified CRM system for logging and tracking complaints**

Most distribution companies do not have computerized systems (except for Cairo South) developed in coordination with EgyptERA to track complaints. It is recommended that developing a customer relation management system, which, when fully implemented by all Distribution Companies, will centralize complaints and enquiries. A pre-requisite to the implementation of this recommendation is that Distribution Companies and EgyptERA secure required funding.

3. **Revise benchmarking reports produced by EgyptERA and EEHC to be more reader friendly, and publish them on company websites and service outlets**

Despite the thorough benchmarking analyses carried out and reported by EgyptERA and EEHC (focusing mostly on technical, financial and operational indicators), their contributions to transparency and social accountability are somewhat thwarted by their

lack of public availability. To correct this shortcoming, it is recommended that EEHC allocates sufficient time and human resources to re-design and publish these reports, and that EgyptERA cooperates with electricity companies to complete their design of report templates that are "accessible" to the wider public. EgyptERA has already communicated to electricity companies the need to activate and update their websites, and has started developing a benchmarking system to assess the functionality and content of each website.

4. **EgyptERA and EEHC should establish a new benchmark separating planned power outages due to maintenance, from power outages due to load shedding**

Load shedding is a major issue in Egypt's electricity sector. It affects significantly the quality of service, yet is not being explicitly monitored as it is aggregated together with planned outages due to maintenance work, for which consumers are informed in advance. A number of distribution companies have recently started to utilize a software system that helps manage load shedding and aims to distribute the power cuts based on priority and merit. Full roll-out of the software will allow EgyptERA to maintain a database of all power cuts, and thereby build a clear picture of the number and frequency of power cuts experienced by each type of consumer. The software will also serve as a valuable tool for monitoring and reporting performance on benchmarks in relation to planned power outages due to load shedding. A pre-requisite to the implementation of this recommendation is that distribution companies and EgyptERA secure the required funding.

5. **Distribution companies should inform consumers of planned power outages due to load shedding**

The consuming public is concerned over their electric companies' failure to warn them of planned power outages due to load shedding. A few Distribution Companies do, however, inform priority customers such as hospitals and industries. To address these concerns, EgyptERA—along with Cairo South DC—is currently developing and testing a new process to be employed by all distribution companies in the future, by which Short Message Service (SMS) will inform customers of planned power cuts due to load shedding a day in advance. To implement this scheme, mobile phone companies will have to give their consent for such a service, and agree to provide EgyptERA their customers' contact details.

6. **EgyptERA should implement a communication strategy to raise awareness about its role and activities**

EgyptERA's mandate can be facilitated by raising their visibility among their consumers and the wider public. Awareness of EgyptERA's existence and regulatory role is low, thus hindering efforts to inform and educate the public on important challenges facing the sector, such as shortages due to lack of investments, fuel, and subsidies. Implementing this recommendation would require either that EgyptERA increase staff and training focused on communications, or that the task is outsourced to specialized companies. EgyptERA intends to take immediate actions to intensify its use of new communication tools such as its new website, and social media (Facebook, Twitter, YouTube channel) and to expand the distribution of its newsletter (EgyptERA Magazine). Mass media (TV, radio, newspapers, and so on) is also critical, for reaching the majority of consumers that do not have access to the Internet.

7. **Distribution companies should adopt EU recommendations in reformatting their electricity bills**

Electricity bills can be a particularly effective tool for distribution companies to disseminate information to every consumer. Various stakeholders in Egypt report difficulties in understanding their electricity bills, citing their lack of information and confusing layouts. An assessment of current bills and inclusion of additional information may substantially improve communications while fostering greater transparency and social accountability of the sector. EgyptERA is designing a provisional template for a new bill

Table 4.1 | Recommendations for Improving Transparency and Social Accountability in the Egyptian Power Sector

Recommendation	Time of implementation (short/long)	Orientation (strategic vs action)	Financing requirement (Yes/No)	Capacity building requirement (Yes/No)	Primary responsibility
Incorporating the Consumer Engagement into the Sector's Goals and Operational Culture					
1. Revise Goals of EEHC subsidiaries to incorporate more responsibilities towards customers	Short	Action	No	No	EEHC
2. Oblige EEHC to oversee periodical reports of its subsidiary companies on the satisfaction of their customers	Short	Strategic	No	Yes	EEHC
3. Request companies to make explicit reference in their articles of association to obligations arising from their licenses, while assigning EEHC the responsibility to verify the companies' compliance to these obligations	Short	Action	No	No	EEHC
4. Urge EgyptERA to adopt more advanced data collection techniques for their Consumer Awareness Survey, and revise the licensing obligations of electricity companies to undertake regular consumer satisfaction surveys and devise action plans based on feedback	Short	Strategic	Yes	Yes	EgyptERA
5. Include in the licenses of each distribution company an explicit obligation to draw up and publicize a customer charter	Short	Action	No	No	EgyptERA
6. Edit the new supply code to include effective information exchange between distribution companies and consumers	Short	Strategic	No	No	EgyptERA
7. Represent consumers and civil society in the companies' boards and in regional committees of electricity consumers	Long	Strategic	Yes	No	EgyptERA
8. EgyptERA should develop a Code of Conduct that will define more clearly their responsibilities, and highlight commitment to transparency and social accountability	Short	Action	No	No	EgyptERA
Sector Reform Via Organizational, Staffing, and IT Enhancements					
1. Distribution companies should set-up departments dedicated to communications, staffed with qualified personnel to develop appropriate communication policies	Long	Strategic	Yes	Yes	Electricity companies
2. Create a single, appropriately staffed EEHC liaison department	Long	Strategic	No	Yes	EEHC
3. EgyptERA, EEHC and electricity companies should undertake periodic internal audits of electricity companies to validate performance benchmarking data	Short	Strategic	Yes	Yes	EgyptERA & EEHC
4. EEHC and EgyptERA should combine efforts to produce a unified annual company performance report and to set a system for incentives and penalties	Short	Strategic	No	No	EgyptERA & EEHC
5. Consider implementing a unified MIS for monitoring benchmarks among different companies	Long	Action	Yes	Yes	EEHC
6. Increase distribution companies' investment in handheld Automatic Meter Reading (AMR) devices and smart meters	Long	Action	Yes	No	Electricity companies
7. Distribution companies to disclose reporting	Long	Strategic	No	No	EgyptERA
8. Distribution companies should produce detailed job descriptions and required skill sets for the personnel that staff the liaison offices	Short	Action	No	No	EgyptERA
Improving Information Flow to Enhance Transparency and Advance Trust Between the Sector and the Public					
1. Update EgyptERA's mandate to reflect the new Electricity Law and upcoming reforms in the electricity market	Long	Strategic	No	Yes	EgyptERA
2. Consider implementing a unified CRM system for logging and tracking complaints	Long	Action	Yes	Yes	Electricity companies

(Continued)

Table 4.1 | Continued

Recommendation	Time of implementation (short/long)	Orientation (strategic vs action)	Financing requirement (Yes/No)	Capacity building requirement (Yes/No)	Primary responsibility
3. Revise benchmarking reports produced by EgyptERA and EEHC to be more reader friendly, and publish them on company websites and service outlets	Short	Action	No	No	EgyptERA
4. EgyptERA and EEHC should establish a new benchmark separating planned power outages due to maintenance, from power outages due to load shedding	Short	Action	Yes	No	EgyptERA
5. Distribution companies should inform consumers of planned power outages due to load shedding	Short	Action	No	No	Electricity companies
6. EgyptERA should implement a communication strategy to raise awareness about its role and activities	Short	Action	No	No	EgyptERA
7. Distribution companies should adopt EU recommendations in reformatting their electricity bills	Long	Action	Yes	No	Electricity companies
8. EgyptERA should provide annual reports tailored to consumer service	Long	Strategic	Yes	Yes	EgyptERA

Source: Authors.

format, in cooperation with distribution companies and consumer representatives. To this end, the Bank assisted EgyptERA in providing best practices on the format and content of EC countries' electricity bills. The eventual revision and adoption of electricity bills by the distribution companies will require investments in existing software and printing infrastructure.

8. EgyptERA should provide annual reports tailored to consumer service

The most significant publication of EgyptERA aimed at communicating with the general public, is the Annual Report, which provides extensive information on a wide range of topics relevant to Egypt's electricity sector. In contrast to many European regulators, EgyptERA does not publish annual reports dedicated to its distribution companies' handling of complaints, and other consumer services. To implement this recommendation, electricity companies need to devote more time and resources to collecting and providing EgyptERA with detailed and accurate data on consumer service. As a first step, EgyptERA should introduce a section in its Annual Report devoted to "Transparency and Monitoring," documenting the information that electricity companies disclose to the public via their reports and other media. Full roll-out of the CRM system under development will significantly facilitate this recommendation.

4.4 Categorization of Recommendations

Table 4.1 shows a grouping of the recommendations discussed in Section 4.3 according to:

- the **sector stakeholder** that has the **primary responsibility** for its implementation (EgyptERA, EEHC or electricity companies)
- **estimated time** required for the recommendation implementation (**short/long**)
- **orientation of the recommendation** (strategic vs action), where a **strategic** recommendation is higher level and demand a prequel set of action in order to be implemented and achieved. On the other hand "**action**" type recommendations are implemented via a single or small number of actions
- **financing needs** or not to for implementing the recommendation
- **capacity building** needs that are required **as complimentary measure** for the implementation of the recommendation

Annexes

Annex A | Governance Arrangements of Egypt's Power Sector

Law 164 and Law 195, and the Articles of Association of EEHC, and the Electricity Companies provide the following governance structures for the Power Sector:

- The Holding Company has a General Assembly headed by the Minister of Electricity and appointed by the Prime Minister; a delegate of the General Association of Egypt Labor Unions is among the selected members.
- The Holding Company has a board of directors appointed by the General Assembly, it includes the vice chairmen and representatives of the Ministries of Electricity and Power, Finance, Planning, Petroleum and the Central Bank. Among the members should also be a number of experts not more than three and a representative of the General Association of the labor unions in Egypt.
- The board of the Holding Company is the General Assembly of all its affiliated companies and appoints the board of the Affiliated Companies, which represents mainly EEHC and could include two experts.
- A labor union is represented in Affiliated Company board.
- Holding companies and affiliated companies prepare budgets and financial statements using the Egyptian Accounting Standards.
- The accounts of holding companies and affiliated companies are audited by the Central Audit Agency as the independent auditor. The articles of association include a paragraph under the purpose of the company; that the company is compelled with the rules of the Presidential Decree No. 339, Year 2000, concerning the establishment of EgyptERA and all other issued resolutions."

The distribution companies are in charge of both the wire and supply services. According to its articles of association, the purpose of the company is:

- To sell and distribute the electric power to customers supplied on medium and low voltage which is purchased from Egypt Electricity Transmission Company (EETC) and directly from the Generating Companies. In addition to the surplus electric power purchased from industrial constitution and others and approved by the EEHC Board of Directors.
- To manage, operate and maintain the networks of medium and low voltages according to the instructions of the control centers for the purpose of economic operation.
- To prepare forecasting studies for loads and power of the customers of the company and forecasting of the financial and economic plans of the company.
- To make studies, research, designs and implementing projects of distributing electricity for different usages on low and medium voltage and carrying out all other tasks related or supplementing it.

- To manage, operate and maintain the generating plants owned by the Company, which are not connected to the unified national grid.
- To do any other activities or works connected or related to the goals of the company, in addition to works assigned by EEHC.
- To implement works related to the main activity of the Company and are required by outsiders for the purpose of achieving economic revenue.

The main responsibilities of the Board are:

- To ratify the organizational chart of the company.
- To set the internal organizing regulations, except for those of the Personnel and Purchasing regulations, this must be approved by the Board of Directors of EEHC and issued by a resolution of the Head of the General Assembly.
- To approve the proposed budget, the balance sheet and the final accounts of the company.
- To propose the ratification of loans' agreements, financing and mortgage deeds. The exceptional General Assembly approves the decisions of the Board concerning these matters.
- To propose the establishment or participation in the establishment of companies that have a related activity, or to share in the capital of such companies whether they are inside or outside the country. The exceptional General Assembly approves the decision.
- To set a system for control and for performance monitoring and evaluation in accordance with the technical, financial and economic measures.
- To oversee the periodical reports, connected with the operation and the financial position of the company.
- To accept gifts, donations and awards provided to the company but without apposing its goals.

Annex B | Outline of Greece's RAE Report on Customer Queries and Complaints

REPORT OF ENERGY REGULATORY AUTHORITY ON CUSTOMER QUERIES AND COMPLAINTS 2011

1. Introduction and contents of the report

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2. Categorization of queries – compliance with European Commission Recommendation

- Description of procedure by which queries are monitored and recorded by the Energy Regulatory Authority
- Brief outline of recommendations by the European Commission and the ERGEG on the categorization of queries

3. Summary data of written queries and consumer complaints

Presentation of statistics and information on recent queries and consumer complaints

3.1.1. General statistics of queries submitted to the Authority in 2011

- Description of data and changes compared to previous year, explanation of data and trends observed

3.1.2. Recipients of queries

- Overview of distribution of queries between different organizations (for example, Energy Regulatory Authority, Consumer Ombudsman)
- Identity of query/complaint senders

3.1.3. Market segment

- Distribution of queries between different sectors (for example, electricity, gas, etc.)

3.1.4. Companies related references queries

- Distribution of queries between different companies

3.1.5. Subject matter of queries

3.1.5.a. Sub-categories of queries, 2008–2011

– Categorization of queries in 3 groups: pre-contract, network issues, supply issues

3.1.5.b. Requests for information 2011

– Number of requests for information

3.1.5.c. Complaints 2011

– Number of complaints and outline of content per category:

1. Tariffs and prices (…%) Overview of complaint content
2. Quality of service (…%), Overview of complaint content
3. Billing (…%) Overview of complaint content
4. Network connection (…%). Overview of complaint content

3.1.5.d. Network issues 2011

– Overview of network complaints, requests for information and queries: quantification per subject/category and outline of content

3.1.5.e. Supply issues 2011

– Overview of network complaints, requests for information and queries: quantification per subject/category and outline of content

4. Regulatory actions of RAE for informing and protecting consumers

– Overview of regulatory actions (including directions and sanctions) undertaken during the year by the Energy Regulatory Authority

Annex C1 | Department Level Benchmarks for Distribution Companies Monitored by EgyptERA

INDICATOR	CALCULATION FORMULA
Reliability Indicators	
System Average Interruption Frequency Index (SAIFI)	(total no. of electric power supply interruptions/total no. of customers of different categories) × 1000
System Average Interruption Duration Index (SAIDI)	(total duration of interruptions (min.)/total no. of customers of different categories) × 1000
Customer Average Interruption Duration Index (CAIDI)	total duration of interruptions (min.)/total no. of electric power supply Interruptions
Availability Indicators	
Average Service Availability Index (ASAI)	(8760 × 60 – total time of interruptions (min.))/(8760 × 60)
Network Characteristics Indicators	
LV Underground Cables	length of lv underground cables/(length of lv underground cables + length of lv overhead lines)
MV Underground Cables	length of mv underground cables/(length of mv underground cables + length of mv overhead lines)
Operational Indicators	
Network Utilization Factor	[(total quantity of sold electric energy (gwh) × 1000)/(peak load of electric distribution network (mw) × 8760)] × 100
Distribution Equipment Utilization Factor	[(total quantity of sold electric energy (gwh) × 1000)/(total capacity of electrical distribution transformer (mva) × 8760)] × 100
Efficiency Indicators	
Percentage of Technical and Non-Technical Losses[8]	[(total quantity of available electric energy (gwh) – total quantity of sold electric energy (gwh))/total quantity of available electric energy (gwh)] × 100
Commercial Indicators	
No. of Complaints[9]	no. of complaints/total no. of customers of different categories
No. of Employees	no. of employees/total no. of customers of different categories
	no. of employees/total quantity of sold energy (gwh)

[8] Commercial losses are calculated on the difference between block transformer meter reading and the aggregate of the block's residential meter readings minus any technical losses. Given this methodology there is a timing constraint (as there is a time lag between different meter readings) but adjustments are made to the data to take that into account.

[9] EgyptERA receives a report on the number of complaints by distribution companies, quarterly, and compiles an internal yearly analysis on complaints. This analysis however is not fully published as the accuracy of the data provided is not as yet fully validated.

Annex C2 | Unit Level Benchmarks for Generation Companies Monitored by EgyptERA

INDICATOR	CALCULATION FORMULA
Reliability Indicators	
Starting Reliability	(actual unit starts[1]/attempted unit starts[2]) × 100
Availability Factor	(available hours[3]/period hours[6]) × 100
Forced outage Rate	[forced outage hours[9]/(forced outage hours[9] + service hours[5])] × 100
Scheduled Outage Factor	(scheduled outage hours[10]/period hours[6]) × 100
Forced outage Factor	(forced outage hours[9]/period hours[6]) × 100
Efficiency Indicators	
Self-Consumption	[(generated electricity – sent electricity)/generated electricity] × 100
Fuel Consumption Rate	fuel quantity/generated electricity
Operational Indicators	
Average Run Time	service hours[5]/actual unit starts[1]
Gross Capacity Factor	[gross actual generation[15]/(period hours[6] × gross maximum capacity[14])] × 100
Gross Output Factor	[gross actual generation[15]/(service hours[5] × gross maximum capacity[14])] × 100
Service Factor	(service hours[5]/period hours[6]) × 100
Load Factor	[total mvw generated in the period/(period hours × maximum load)] × 100
Utilization Factor	(maximum load/gross capacity factor) × 100

1 Number of times the unit was synchronized.
2 Number of attempts to synchronize the unit after being shut down. Repeated failures to start for the same cause, without attempting corrective action, are considered a single attempt.
3 Sum of all service hours, reserve shutdown hours or period hours – (planned outage hours + forced outage hours + maintenance outages hours).
4 Total number of hours the unit was available for service but not electrically connected to the transmission system for economic reasons.
5 Total number of hours a unit was electrically connected to the transmission system.
6 Sum of all service hours, reserve shutdown hours, planned outage hours, maintenance outages hours and forced outage hours.
7 Sum of all hours experienced during maintenance outages and maintenance outage extensions.
8 The removal of a unit from service to perform work on specific components that can be deferred beyond the end of the next weekend, but requires the unit be removed from service before the next planned outage. Typically, maintenance outages may occur any time during the year, have flexible start dates, and may or may not have predetermined durations.
9 Sum of all hours experienced during forced outages.
10 Sum of all hours experienced during planned outages and planned outage extensions.
11 The removal of a unit from service to perform work on specific components that is scheduled well in advance and has a predetermined start date and duration (for example, annual overhaul, inspections, testing).
12 Sum of all hours experienced during maintenance outages and maintenance outage extensions.
13 The removal of a unit from service to perform work on specific components that can be deferred beyond the end of the next weekend, but requires the unit be removed from service before the next planned outage. Typically, maintenance outages may occur any time during the year, have flexible start dates, and may or may not have predetermined durations.
14 Maximum capacity a unit can sustain over a specified period of time when not restricted by seasonal or other ratings.
15 Actual number of electrical mega-watt-hours generated by the unit during the period being considered.

Annex C3 | Transmission System Operator Benchmarks Monitored by EgyptERA

INDICATOR	CALCULATION FORMULA
Reliability Indicators	
Transformer Average Interruption Frequency Index (T-AIFI)	
T-AIFI at X kv Level in a zone	Σ no. of forced outages for transformers at X kv level in a zone/Σ no. of transformers at X kv level in a zone
T-AIFI for a zone	Σ no. of forced outages for transformers at all voltage level in a zone/Σ no. of transformers at all voltage levels in a zone
T-AIFI for a company	Σ no. of forced outages for transformers at all voltage levels in all zone/Σ no. of transformers at all voltage levels in all zones
Transformer Average Interruption Duration Index (T-AIDI)	
T-AIDI at X kv Level in a zone	Σ duration of forced outages for transformers at X kv level in a zone/Σ no. of transformers at X kV level in a zone
T-AIDI for a zone	Σ duration of forced outages for transformers at all voltage level in a zone/Σ no. of transformers at all voltage levels in a zone
T-AIDI for a company	Σ duration of forced outages for transformers at all voltage levels in all zones/Σ no. of transformers at all voltage levels in all zones
Transformer Availability (T-A)	
T-A at X kv Level in a zone	(Σ service hours for transformers at X kv level in a zone/Σ Period hours × no. of transformers at X kv level in a zone) × 100
T-A for a zone	(Σ service hours for transformers at all voltage level in a zone/Σ Period hours × no. of transformers at all voltage levels in a zone) × 100
T-A for a company	(Σ service hours for transformers at all voltage levels in all zones/Σ Period hours × no. of transformers at all voltage levels in all zones) × 100
Transformer Forced Unavailability (T-FU)	
T-FU at X kv Level in a zone	(Σ forced outages hours for all transformers at X kv level in a zone/Σ Period hours × no. of transformers at X kv level in a zone) × 100
T-FU for a zone	(Σ forced outages hours for all transformers at all voltage level in a zone/ Σ Period hours × no. of transformers at all voltage levels in a zone) × 100
T-FU for a company	(Σ forced outages hours for all transformers at all voltage levels in all zones/ Σ Period hours × no. of transformers at all voltage levels in all zones) × 100
Transformer Scheduled Unavailability (T-SU)	
T-SU at X kv Level in a zone	(Σ scheduled outages hours for all transformers at X kv level in a zone/ Σ Period hours × Number of transformers at X kv level in a zone) × 100
T-SU for a zone	(Σ scheduled outages hours for all transformers at all voltage level in a zone/ Σ Period hours × no. of transformers at all voltage levels in a zone) × 100
T-SU for a company	(Σ scheduled outages hours for all transformers at all voltage levels in all zones/Σ Period hours × no. of transformers at all voltage levels in all zones) × 100

Annex C4 | Financial Performance Benchmarks Monitored by EgyptERA at Company Level

INDICATOR	CALCULATION FORMULA
Liquidity Indicators	
Quick Ratio (#)	net profit/accounts receivable
Current Ratio (#)	current assets/current liabilities
Leverage Indicators	
Debt to Total Assets (%)	total liabilities/total assets
Profitability Indicators	
Return on Equity (%)	net profit/total owner's equity
Return on Assets (%)	net profit/total assets
Gross Profit Margin (%)	(net sales – cost of goods sold)/net sales
Net Profit Margin (%)	net profit/net sales
Activity Indicators	
Average Collection Period (day)	365 × accounts receivable/net sales

Annex D1 | Technical Indicators at Company Level in EEHC's Quarterly Benchmarking Report

Generation	• Generated electricity (MkWh) • Installed capacity (MW) • Amount of fuel consumed per type of fuel, e.g., NG, HFO, LFO • Self-consumption per source, e.g., auxiliaries, attached buildings, etc. (%) • Load factor (%) • Capacity factor (%) • Availability factor (%) • Usage factor (%) • Average fuel consumption rate (gm/kWh) • Average fuel cost (PT/kWh)
Transmission	• Network components (substations and length of cables and lines per voltage level) • Forced outages (no. per 100 KM of cable and line and 100 MVA of transformers for HV and VHV) • Maintenance outages (no. per 100KM of cable and line and 100 MVA of transformers) • Forced outages (% for cable and line and transformers for HV and VHV) • Scheduled outages (% for cable and line and transformers for HV and VHV) • Losses (%) • Loading (distribution of transformers' loading, for HV and VHV)
Distribution	• Energy purchased and energy sold (MkWh) • Losses (%) • Network components (length of cables and lines for LV and MV; MVA of distribution panels; no. of transformers and kiosks) • Outages per 100 units per DC component (no. per 100 km of cables and lines for LV and MV; no. per 100 distribution panels; no. per 100 transformers) • Disconnected energy due to outages (MkWh) • Disconnected energy per consumed energy (%) • Average disconnected time (min.)

Annex D2 | Commercial Indicators at Company Level in EEHC's Quarterly Benchmarking Report

	ENERGY SALES *Amount (MkWh); Value (000 LE); Av. Price (PT/kWh)*	**ENERGY SALES PER TARIFF BAND** *Amount (MkWh); Value (000 LE); Av. Price (PT/kWh)*	**NO. OF CUSTOMERS**	**ENERGY PURCHASED** *Amount (MkWh); Value (000 LE); Av. Price (PT/kWh)*	**COLLECTIONS AND ARREARS** *Arrears YoY; Arrears in months; Collections per category*	**COLLECTIONS AND ARREARS PER SECTOR** *Arrears YoY; Arrears in months; Collections per category*	**COLLECTION RATE** %
Generation Companies	•				•		
Transmission Company[10]	•		•	•	•		
Distribution Companies	•	•	•		•	•	•

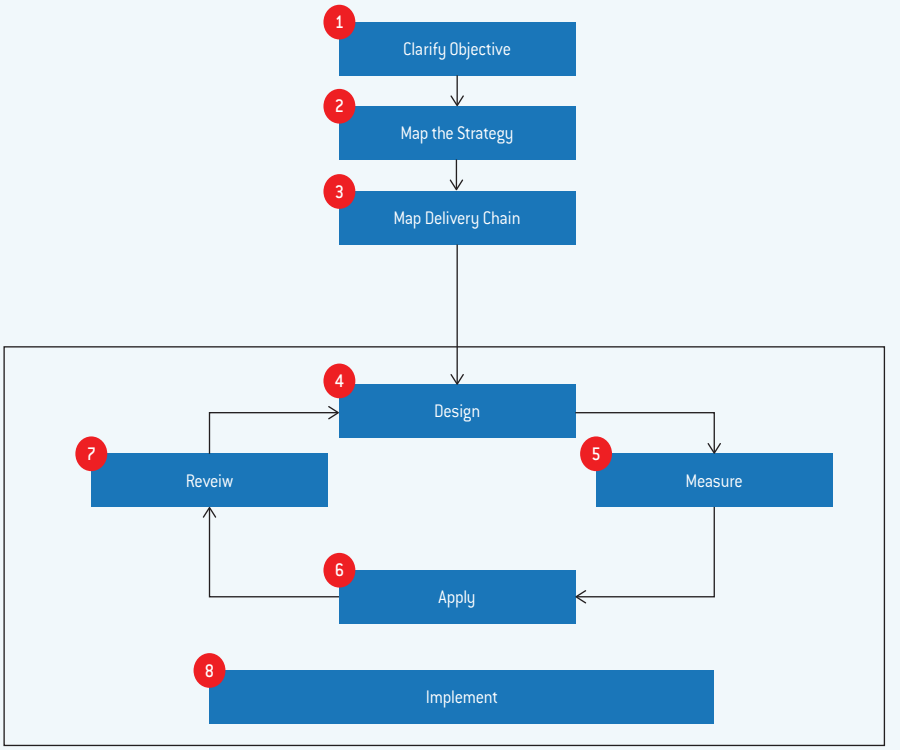
[10] Indicators are produced per voltage level of customer/distribution company connection and for each voltage level, per type of customer/distribution company (e.g. energy intensive industrial, non-energy intensive industrial, metro, other customers).

Annex D3 | Financial Indicators at Company Level in EEHC's Quarterly Benchmarking Report

	P AND L FIGURES (000 LE) *revenue; expenses; profit/ loss; other income;*	**EXPENSES PER ITEM (000 LE)** *for example, fuel; spare parts and maintenance; salaries*	**INVESTMENTS (000 LE) AND SOURCES OF FINANCE (%)**	**AVERAGE UNIT COST AND PRICE (PT/KWH)**	**AVERAGE UNIT COST PER ITEM (PT/KWH)**	**WAREHOUSE STOCKS (000 LE) AND INVENTORY MONTHS**	**CASH FLOW FIGURES** *accounts payable/ receivable; rate of collections to payments*	**DEBT OBLIGATIONS**	**NO. OF STAFF PER DISCIPLINE** *for example, engineering, accounting/ finance, etc.*	**NO. OF EMPLOYEES PER UNIT** *for example, MW; MVA; customer*
Generation Companies	•	•	•	•	•	•	•	•	•	•
Transmission Company[3]	•	•	•	•	•	•	•	•	•	•
Distribution Companies	•	•	•	•	•	•[11]	•			•

[11] Does not include inventory months.

Figure E1 | Procedure for Providing an Incentive Mechanism



Annex E | Procedure for Providing an Incentive Mechanism

Providing the incentive for big (or even smaller) organization to change is a huge task involving carefully structured steps. Starting from defining a clear objective to be achieved, setting the strategy to achieve it, analyzing the necessary resources and barriers (legal and regulatory, organizational, financial, technological, and so forth), to overcome toward a clear implementation roadmap and subsequent monitoring.

1. **Objective:** the first step is to clarify what the objective is and make sure it is measurable. **For example it could be "to increase collection rates from residential consumer by 3 percent in the next 3 years."**

2. **Strategy:** it is important to identify the combination of activities and outputs that should help to achieve it. It should be based on evidence/measurable indicators, or at least consensus, on what drives the outcome. It can then be used to identify the actors and/or other stakeholders that will deliver those outputs in the form of a delivery map. **In our example this could be a simple sequence of: a) designing of new payment packages where consumers could pay with installments; b) investment in potential technology to aid the payment options (web, mobile, pre-paid meters, and so forth); c) detailed identification of the main actors involved in the collection (or lack off) which can be operational (for example, inadequately trained meter readers).**

3. **Delivery Map:** the Delivery Map displays how an organization can take an objective and its strategy, and map the relationships between the stakeholders that are involved. It should then detail which are the performance levers and how they are used to influence those stakeholders, and any sanctions or rewards that are attached to them. **Coming back to the example, it was identified that the main actor involved are the IT and technical departments of the DC that need to install invest in the necessary technology for the new payment methods as well as the meter readers that will inform the consumer of the options given. The main barriers are (inadequate technological infrastructure, lack of investment capital, lack of training for the meter readers, etc.), the performance levers (new legislation or regulation, investment needs, training program dates, etc.), and their associated sanction or reward mechanisms (financial bonus to departments and individuals that achieve their targets).**

   An indicative mapping layout of stakeholders involved in the process along with the key tabs addressing metrics/performance levers as well as proposed sanctions/rewards and recommendations is shown below.

Stakeholder/Actor		Performance Lever	Proposed Sanctions/Rewards			Issues	Recommendations
Name	Level		Financial	Operational	Reputational		
South Cairo	Department						
	Team						
	Individual						

4. **Designing sanction and reward mechanisms:** when designing a penalties/rewards mechanism, the first step is to define the dimensions that are available (financial, reputational, organizational). **This may mean a reduced budget for the DC, financial penalties on the company's higher management, explicit publication of poor performance to the consuming public, or organizational penalties by changing the management. Of course it needs to assess which players have control or significant influence, so as not to penalize individuals or departments that are not part of the loop. When rewards are financial, a balance between the value created and the reward must be ensured. In our example if the target for a 3-percent increase is achieved over three years then the reward should be distributed in a fair way throughout the chain of the involved actors, from higher management down to individual trained meter readers. Finally the assessment of attainment of the objective can only be made by independent parties not by the company (DC) themselves.**

5. **Measure performance:** performance can be measured on the basis of the specific indicators/metrics set during the strategy formation. Data systems and software might be needed to track those metrics. **In our example a regular (monthly) progress on collections throughout the implementation of the "changes" programme will be necessary.**

6. **Apply the sanction or reward**: it is important to apply whatever sanction or reward in a timely, consistent and transparent manner, so as to ensure credibility and gain the trust of everybody involved. Bad application is enough to destroy trust and put the whole process and effort into jeopardy.

7. **Review effectiveness**: it is important to build regular internal and external reviews of the effectiveness of the sanction or reward mechanism into the programme's overall performance management cycle. This could be in the form of meetings and appropriate reporting. **In our example, the working group from the side of EEHC will liaise closely with the working group of the DC, monitor and report in regular intervals to EEHC's higher.**

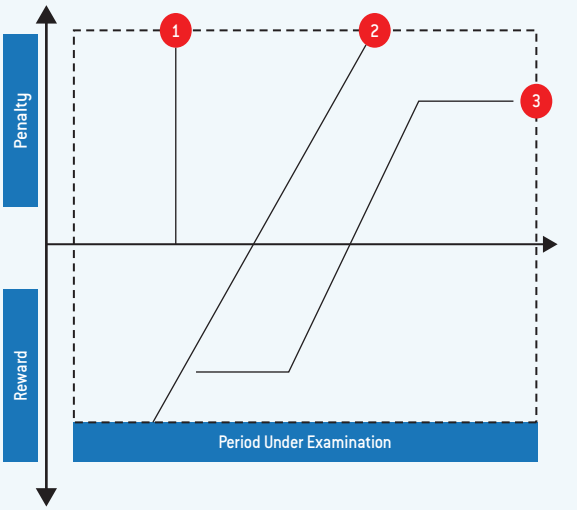
8. **Implementation**: during implementation, it is recommended to phase in the new sanction or reward mechanism gradually, or on a pilot basis, to identify and address any dysfunctional behavior or any strong reservations from the side of the implementing party.

Annex F | Point System of an Incentive Mechanism

Quality and performance incentive schemes link the performance levels of the company to its earnings. The regulator has to first decide the parameters, on which it wishes to determine the current as well as the optimal level of quality. The performance level can be measured at different levels ranging from system level to the performance delivered to the individual customers (for example, number of unplanned interrupts due to distribution network failure or time top response per complaint). Based on company performance against this optimal level, there is a reward or a penalty. The penalties or rewards financial impact can be given as a percentage from the company's allowed/regulated revenue or profit. The exact level of a penalty or reward is a matter of analyzing a multiple of factors and impacts that this could have on the regulated company. It is very much linked to the detailed analysis required as presented in Annex F, where the designing and implementation steps of a reward/penalty scheme are outlined.

Figure F1 presents three formats a financial penalty/ reward scheme could take as is the case in many countries where the distribution networks are regulated. In the case (1) the regulator issues a fixed penalty when a minimum standard is breached. In this case there is no incentive for improvement but only penalty for breaching the standard. In case (2) makes the revenue of the regulated company fully depended on performance in a linear fashion, with both reward in case of better than the standard performance and penalty if otherwise. Finally, in case (3) there is a maximum fixed limit for penalty or a reward in addition to case (2).

Figure F1 | Penalty/Reward Schemes



Annex G | Questionnaire (English)

BASIC DATA OF THE RESPONDENTS:

1. Gender

    - Female
    - Male

2. Age

    - _____

3. Level of education

    - Illiterate
    - Less than primary education
    - Primary - Preparatory
    - Secondary or equivalent
    - Intermediate education (high institute)
    - University
    - Post graduate

4. Employment status

    - unemployed
    - Employed
        - Government
        - Public sector
        - Private sector/Business owner
        - Retired
        - Looking for a job
        - Unemployed and not looking for a job
        - Student
        - Housewife
        - Sick/unable to work
        - Other
        - No answer

QUESTIONS ABOUT FAMILY AND LIVING CONDITIONS

5. Number of family members

    - _____

6. Number of employed family members

    - _____

7. Place of residence

    - An apartment
    - Room(s)
    - Urban house
    - Rural house
    - Other, please state: _____

8. Durable goods owned by the family

    - Stove (natural gas/gas pipes)
    - Stove (electric)
    - Manual washing machine
    - Automatic washing machine
    - Water heater (gas)
    - Water heater (electric)
    - VCR/DVD Player
    - Computer
    - Deep Freezer
    - Air conditioner
    - Dish washer
    - Electric heater
    - Iron
    - Motorcycle
    - Bicycle
    - Car
    - Telephone

9. What is the average monthly expenditure of the family?

    - _____

CONSUMER AWARENESS OF THE ROLE OF THE ELECTRIC FACILITY REGULATION AND CONTROL AUTHORITY

10. Do you know that there is/Have you heard of an authority for electric facility regulation and consumer protection?

    - Yes
    - No (explain the idea and go to question 14)*
    - No answer (explain the idea and go to question 14)*

11. How did you hear about the authority? (More than one choice allowed)

    - Television/Radio/Newspaper
    - Electricity company
    - Acquaintances/friends/family
    - Other, please state: ——————

12. Do you know that the there is a website for the electricity companies and services?

    - Yes
    - No

13. Have you ever used the website?

    - Yes
    - No (I don't have a computer)

QUESTIONS THAT ASSESS THE QUALITY OF ELECTRICITY SERVICES

14. Have you ever issued a complaint?

    - Yes
    - No

15. What was your average consumption (per kilowatt) in the past three months?

    - ——————
    - No answer

16. What was the average rate of your electricity bill in the past three months?

    - ——————
    - No answer

17. What is your average electricity consumption during the summer?

    - ——————

18. What is your average electricity consumption during the winter?

    - ——————

19. Do you think that the amount of money you pay is suitable for your family's electricity consumption?

    - Yes
    - No
    - To some extent
    - No answer

20. If you want to decrease your electricity consumption, do you know what the best method would be?

    - Yes
    - No

21. Out of the following methods, which do you do choose/follow in order to decrease your electricity consumption? (read out the choices, more than one choice allowed)

    - Using saving lamps/florescent instead of normal lamps
        - Does Plan to do
    - Using natural gas water heaters/instant instead of an electric heater
        - Does Plan to do

- Using natural gas ovens instead of an electric oven
    - ○ Does Plan to do
- Not using electronic devices when it is not necessary
    - ○ Does Plan to do
- Not keeping the lights on when it is not necessary
    - ○ Does Plan to do
- Other, please state:
    - ○ Does Plan to do
- No answer

22. Do you know your electricity meter's amperage/ number of phases?
    - Yes
    - No
23. Have you received and kept your electricity service contract?
    - Yes
    - No
24. Do you agree that your contract with the electricity authority states clearly your rights and duties?
    - Yes
    - No
    - I haven't read the contract
    - No answer

Note: if the answer is no, ask again if they mean that it doesn't state the rights and duties or they haven't read it.

25. Have you suffered from electricity cuts in the past three months? (Don't read out the choices, only one choice allowed)
    - Yes
    - No (go to question 28)
    - No answer (go to question 28)
26. How many times have you suffered from electricity cuts in the past three months? (Don't read out the choices, only one choice allowed)
    - Once
    - Twice
    - Three times
    - Four times
    - Five times
    - Six times or more
    - No answer
27. How long was the duration of the electricity cuts in the past three months? (Don't read out the choices, only one choice allowed)
    - Less than 15 minutes
    - Between 15 and 30 minutes
    - Between 30 and 60 minutes
    - Between an hour and two hours
    - Between 2 and 5 hours
    - More than five hours
    - No answer
28. Have you experienced a sudden weakening/ strengthening in the electricity current in the past three months, i.e. It's wasn't stable? (if the answer is yes, ask again if this happened only once or happens constantly) (Read out the choices).
    - Yes, constantly
    - Yes, sometimes
    - No, it doesn't happen
    - No answer

29. Does this change in current have a negative impact?

    - Yes
    - No

30. What impacts you most?

    - The need for electronic devices
    - Water cut
    - Elevator problems
    - Other, please state: ————————

31. Does the person who reads the electricity meter come regularly (monthly)? (don't read out the choices, one choice only allowed)

    - Every month
    - Every two months
    - Every three months
    - The meter is outside
    - No answer

32. Does the person who reads the meter come in times that are convenient for you or your family?

    - Yes (go to question: 34)
    - No

33. What is the convenient time for you and your family for reading the electricity meter? (don't read out the choices, more than one choice allowed)

    - From 9:00 am to 11:00 am
    - From 11:00 am to 1:00 pm
    - From 1:00 pm to 3:00 pm
    - From 3:00 pm to 5:00 pm
    - From 5:00 pm to 7:00 pm
    - From 7:00 pm to 9:00 pm
    - After 9:00 pm
    - Other, please state: ————————
    - No answer

34. Does the bill collector come regularly (every month)?

    - Yes
    - No
    - No answer

35. Is the collector's attitude acceptable for you?

    - Yes
    - No
    - No answer

36. Do you accept paying the bill through banks, post offices, internet like the telephone bill or through a prepaid means like the telephone card?

    - Yes
    - No
    - No answer

37. Did you face a problem regarding electricity in the past year and reported it?

    - Yes
    - No
    - No answer

38. What was the problem? (Don't read out the choices, more than one choice allowed)

    - Regular cuts
    - Long duration of cuts
    - Instability of the current (sudden weakening/ strengthening)
    - Unstable bill value
    - Very high bill (consistently high)
    - Other, please state: ————————

39. Who did you report the problem to? (Don't read out the choices, more than one choice allowed)

    - The electricity company
    - The regulatory authority for the electric facility and consumer protection

- Malfunctions emergency number/unknown source/number written on the back of the receipt
- Other, please state: ————————

40. How did you report your complaint?

- Telephone
- Went to the place
- Fax
- Normal mail
- Website or email
- Other, please state: ————————
- No answer

41. Was the problem fixed?

- Yes
- No
- No answer (go to question 43)

42. How long did it take to fix it? (don't read out the choices, more than one choice allowed)

- Same day of complaint
- Two days
- Three days
- Four days
- Five days
- Six days
- One week
- Other, please state: ————————
- No answer

ELECTRICITY AND SUBSIDIZING

43. Do you know that the electricity bill is subsidized?

- Yes
- No

44. Do you prefer to have the subsidized fraction stated on the bill?

- Yes
- No

45. Do you know that the electricity bill is built on consumption brackets—the higher the consumption, the higher the price?

- Yes
- No

46. Do you agree that the pricing brackets based on the level of consumption achieve social justice?

- Yes
- No

* An authority that regulates and monitors everything that has to do with the electricity's production, transportation and distribution and works on customer satisfaction.

Annex H | Questionnaire (Arabic)

استمارة استطلاع رأى المواطنين
حول
خدمات الكهرباء وتقييمهم لجودة تلك الخدمات

البيانات الفردية سرية بحكم القانون وتستخدم لأغراض البحث العلمي فقط

صباح الخير/مساء الخير أنا ..... أعمل فى مركز استطلاع الرأى العام،
أحنا بنعمل دراسة عن رأى الناس وتقييمهم لخدمات الكهرباء، ممكن نأخذ من وقت حضرتك 5 دقائق.

أولاً : البيانات الأساسية للمبحوث

1. النوع:

❑ (1) ذكر	❑ (2) أنثى

2. السن:

3. المستوى التعليمى:

			(1)		لا يقرأ ولا يكتب	
			(2)		أقل من ابتدائى	
			(3)		ابتدائى - إعدادى	
			(4)		ثانوى وما يعادله	
			(5)		(فوق متوسط (معهد عالى	
			(6)		جامعى	

4. الحالة العملية:

	ب. لا يعمل			أ. يعمل	
	متقاعد على المعاش	(1)		بالحكومة	(1)
	يبحث عن فرصة عمل	(2)		بالقطاع الأعمال العام	(2)
	لا يعمل ولا يبحث عن عمل	(3)		لحسابة الخاص/صاحب عمل	(3)
	طالب	(4)			
	ربة منزل	(5)			
	مريض/غير قادر على العمل	(6)			
	أخرى	(7)			
	رفض الإجابة	(8)			

ثانياً: بيانات خا صة بالأسرة المعيشة

5.	**عدد أفراد الأسرة المعيشة**		
6.	**عدد أفراد الأسرة المعيشة الذين يعملون**		

7.	**مكان السكن**		
	(1) شقة فى منزل		
	(2) حجرة أو أكثر فى شقة		
	(3) منزل ريفى		
	(4) منزل خاص بالحضر		
	(5) أخرى تذكر		

8.	**السلع المعمرة التى تملكها الأسرة**		
	(1) بوتجاز يعمل بالغاز/الأنبوبة		
	(2) بوتجاز يعمل بالكهرباء		
	(3) غسالة يدوى		
	(4) غسالة أتوماتيك		
	(5) سخان بالكهرباء		
	(6) سخان بالغاز/البوتجاز		
	(7) فيديو/دى فى دى		
	(8) كمبيوتر		
	(9) ديب فريزر		
	(10) تكييف		
	(11) غسالة أطباق		

		(12) دفاية كهربائية	
		(13) مكواه	
		(14) موتوسيكل	
		(15) عجلة	
		(16) عربية	
		(17) تليفزيون	

9.	**ما هو متوسط انفاق الأسرة الشهرى**	

ثالثاً: وعى المستهلك بدور جهاز تنظيم ومراقبة مرفق الكهرباء

10. حضرتك تعرف/سمعت إن فيه جهاز تنظيم مرفق الكهرباء وحماية المستهلك بتقوم بتنظيم ومراقبة مرفق الكهرباء[12]؟

❑ نعم	❑ لا (اشرح الفكرة ثم انتقل إلى س3)	❑ لم يحدد (اشرح الفكرة ثم انتقل إلى س3)

11. حضرتك سمعت عن الجهاز منين؟ (لا تقرأ البدائل ويسمح باختيار أكثر من إجابة)

(1) التليفزيون/الردايو/الصحف.
(2) شركات الكهرباء.
(3) الأقارب/المعارف/الأصدقاء.
(4) أخرى. (تذكر .....)

12. حضرتك عارف إن فيه موقع على الإنترنت لشركات وخدمات الكهرباء؟

❑ (1) نعم	❑ (2) لا

15فى حالة الاجابة بلا انتقل للسؤال *

13. عمرك دخلت على الموقع؟

❑ (1) نعم	❑ (2) لا امتلك كمبيوتر (انتقل إلى سؤال 15)

14. عمرك قدمت شكوى؟

❑ (1) نعم	❑ (2) لا

12. .الجهاز: هو جهة بتنظم وتراقب كل ما يتعلق بالكهرباء (إنتاجها/نقلها/توزيعها) ومراعاة مصالح المستهلك

رابعاً: أسئلة تقييم جودة خدمات الكهرباء

15. خلال الـ 3 شهور اللى فاتت ممكن أعرف متوسط قراءة العداد بتبقى كام فى الشهر؟ (عدد الكيلو وات فى الشهر)؟

❑ (1) الاستهلاك/العدد: ..... كيلووات	❑ (2) لا أعرف

16. خلال الـ 3 شهور اللى فاتت ممكن أعرف متوسط قيمة فاتورة الكهرباء اللى بتدفعوها بتبقى كام فى الشهر؟

❑ (1) المبلغ/متوسط الاستهلاك: ..... جنيه	❑ (2) لا أعرف

17. ما هو متوسط قيمة ما تدفعه فى الشهر للكهرباء فى فصل الصيف ؟

18. ما هو متوسط قيمة ما تدفعه فى الشهر للكهرباء فى فصل الشتاء ؟

19. هل حضرتك شايف إن استهلاك أسرتك من الكهرباء متناسب مع اللى بتدفعوه فى الشهر؟

❑ (1) نعم	❑ (2) إلى حد ما	❑ (3) لا	❑ (4) لم يحدد

20. إذا كنت عايز تقلل استهلاك الكهرباء، هل عارف أيه أفضل الطرق؟

❑ (1) نعم	❑ (2) لا

21. من بين الطرق الآتية أيه الذى تعمله أو تختار أن تعمله علشان تخفض استهلاك الكهرباء؟ (متعدد الإختيارات) (تقرأ البدائل، ويسمح باختيار أكثر من إجابة)

مستقبلاً	حالياً		
		استخدام لمبات موفرة أو فلوريسنت بدلاً من اللمبات العادية	(1)
		استخدام سخان غاز/سم سى بدلاً من استخدام سخان كهرباء	(2)
		استخدام فرن غاز بدلاً من استخدام الفرن الكهربائى	(3)
		عدم تشغيل الأجهزة الكهربائية بدون داعى	(4)
		عدم ترك الأنوار مضاءة فى الأماكن غير متواجد بها أحد	(5)
		أخرى (تذكر.....)	(6)
		لا أعرف	(7)

22. هل حضرتك عارف العداد اللى فى البيت كام أمبير/فاز؟

❑ نعم	❑ لا

23. هل استلمت عقد توريد الكهرباء من شركة التوزيع التابع لها ومحتفظ به؟

❑ نعم	❑ لا

24. هل حضرتك شايف إن عقدك مع شركة الكهرباء بيوضح حقوقك والتزاماتك؟

❑ (1) نعم	❑ (2) لا	❑ (3) لم أقرأ العقد	❑ (4) لم يحدد

(ملحوظة: فى حالة إجابة المبحوث بـ "لا" يتم التأكيد العقد بيوضح حقوقك والتزماتك ولا لم تقرأ العقد)

25. خلال الـ3 شهور اللى فاتت يا ترى الكهرباء كانت بتنقطع عندكم فى البيت؟ (تقرأ البدائل، ويجب اختيار إجابة واحدة فقط)

❑ (1) نعم	❑ (2) لا (انتقل إلى س 82)	❑ (3) لم يحدد (انتقل إلى س 82)

26. خلال الـ3 شهور اللى فاتت يا ترى الكهرباء قطعت كام مرة؟ (لا تقرأ البدائل، ويجب اختيار إجابة واحدة فقط)

(1) مرة واحدة	
(2) مرتين	
(3) ثلاث مرات	
(4) أربع مرات	
(5) خمس مرات	
(6) ست مرات فأكثر	
(7) لم يحدد	

27. خلال ال 3 شهور اللى فاتت لما الكهرباء بتنقطع كان طول فترة انقطاع التيار الكهربائى بيستمر قد ايه؟ (لا تقرأ البدائل، ويجب اختيار إجابة واحدة فقط)

(1) أقل من 15 دقيقة	
(2) من 15 دقيقة إلى أقل من 30 دقيقة	
(3) من 30 دقيقة إلى أقل من 60 دقيقة	
(4) من ساعة إلى أقل من ساعتين	
(5) من ساعتين إلى أقل من 5 ساعات	
(6) 5 ساعات فأكثر	
(7) لم يحدد	

28. خلال الـ 3 شهور اللى فاتت هل بيحصل إن تيار الكهرباء بيكون قوى وفجأة يضعف أو العكس يعنى بيبقى مش ثابت؟ (ملحوظة: فى حالة إجابة المبحوث بنعم يتم التأكيد وده باستمرار ولا احياناً) (تقرأ البدائل)

❑ (1) نعم باستمرار	❑ (2) نعم أحيانا	❑ (3) لا يحدث ذلك	❑ (4) لم يحدد

29. هل هناك أثر ضار لهذا التغير فى التيار؟

❑ (1) نعم	❑ (2) لا

30. أيه أكثر الأضرار تأثيرا عليك فى فترة انقطاع الكهرباء؟

(1) تلف الأجهزة الكهربائية	
(2) انقطاع المياه	
(3) انقطاع المصعد	
(4) أخرى (تذكر .....)	

31. يا ترى الكشاف (المسئول عن قراءة العداد) بيجى كل شهر بانتظام؟ (لا تقرأ البدائل، ويجب اختيار إجابة واحدة فقط)

(1) كل شهر	
(2) كل شهرين	
(3) 3 أشهر	
(4) العداد خارج المنزل	
(5) لا اعرف	

32. هل مواعيد حضور الكشاف (المسئول عن قراءة العداد) مناسبة لحضرتك/لأسرتك؟

❑ (1) نعم (انتقل إلى س 34)	❑ (2) لا

33. إيه هو الميعاد المناسب لحضرتك/لأسرتك خلال اليوم لقراءة العداد؟ (لا تقرأ البدائل، ويسمح باختيار أكثر من إجابة)

(1) من الساعة 9 – 11 صباحاً		(2) من الساعة 7 – 9 مساءاً	
(3) من الساعة 11 – 1 ظهر اً		(4) بعد 9 مساءاً	
(5) من الساعة 1 – 3 بعد الظهر		(6) طوال اليوم	
(7) من الساعة 3 – 5 عصراً		(8) أخرى (تذكر .....)	
(9) من الساعة 5 – 7 مسا ءاً		(10) لم يحدد	

34. يا ترى المحصل بيجى كل شهر يحصل فاتورة الكهرباء؟

❑ (1) نعم	❑ (2) لا	❑ (3) لم يحدد

35. هل معاملة المحصل مرضية بالنسبة لك؟

❑ (1) نعم	❑ (2) لا	❑ (3) مش دائماً

36. هل معاملة الكشاف مرضية بالنسبة لك؟

❑ (1) نعم	❑ (2) لا	❑ (3) مش دائماً

37. حضرتك توافق على سداد الفاتورة من خلال البنوك أو مكاتب البريد أو الإنترنت زى فاتورة التليفون أو من خلال عدادات مسبوقة الدفع ذى فاتورة التليفون؟

❑ (1) موافق	❑ (3) غير موافق	❑ (4) لم يحدد

38. خلال السنه اللى فاتت هل قابلتك مشكلة بخصوص الكهرباء وبلغت عنها؟

❑ (1) نعم	❑ (2) لا	❑ (3) لم يحدد

39. وكانت الشكوى من أيه؟ (لا تقرأ البدائل، ويسمح باختيار أكثر من إجابة)

(1)	تكرار مرات انقطاع الكهرباء		
(2)	طول فترات انقطاع الكهرباء		
(3)	(تذبذب التيار الكهرب ائى (يعنى مثلاً يكون قوى وفجأة يضعف أو العكس		
(4)	تفاوت قيمة فاتورة الكهرباء		
(5)	(ارتفاع قيمة فاتورة الكهرباء (باستمرار		
(6)	أخرى (تذكر.....)		

40. إيه هى الجهة اللى بلغت لها الشكوى؟ (لا تقرأ البدائل، ويسمح باختيار أكثر من إجابة)

(1)	شركة الكهرباء التابع لها/شبكة الكهرباء/فرع الكهرباء		
(2)	جهاز تنظيم مرفق الكهرباء وحماية المستهلك		
(3)	رقم أعطال/طوارئ/لا أعرف تابع لأى جهة/الرقم الموجود على ظهر الإيصال		
(4)	أخرى (تذكر.....)		

41. ايه الطريقة/الوسيلة اللى بلغت بها شكوتك ؟ (لا تقرأ البدائل، ويسمح باختيار أكثر من إجابة)

(1)	التليفون		
(2)	الذهاب إلى الجهة		
(3)	إرسال فاكس للجهة		
(4)	باستخدام البريد العادى		
(5)	من خلال الموقع أو البريد الالكترونى		
(6)	أخرى (تذكر.....)		
(7)	لم يحدد		

42. المشكلة اتحلت؟

❑ (1) نعم	❑ (2) لا	❑ (3) لم يحدد (انتقل إلى سؤال 44)

43. ويا ترى المشكلة اتحلت فى أد أيه تقريباً؟ (لا تقرأ البدائل، ويسمح باختيار أكثر من إجابة)

(1)	خلال نفس يوم تقديم الشكوى		
(2)	خلال يومين		
(3)	خلال 3 أيام		
(4)	خلال 4 أيام		
(5)	خلال 5 أيام		
(6)	خلال 6 أيام		
(7)	خلال أسبوع		
(8)	أخرى (تذكر.....)		
(9)	لا يحدد		

خامسا: الكهرباء والدعم

44. هل تعلم ان هناك دعم علي فاتورة الكهرباء؟

❑ (1) نعم	❑ (2) لا

فى حالة الإجابة بنعم نسأل هل فى أعتقادك ان هذا الدعم قليل أم كثير؟*

45. هل تفضل ان يذكر حجم الجزء المدعوم من الكهرباء علي الفاتورة؟

❑ (1) نعم	❑ (2) لا

46. حضرتك عارف إن حساب فواتير الكهرباء بيكون من خلال شرائح بتتقسم حسب الاستهلاك الشريحة الأعلى أغلى والأقل أرخص؟

❑ نعم	❑ لا

47. هل ترى أن التدرج في تسعير شرائح الكهرباء بحسب شريحة الاستهلاك يحقق العدالة الاجتماعية؟

❑ نعم	❑ لا

اشكر المبحوث وانهي المقابلة

Annex I | Commercial Quality Indicators in Brazil

Commercial standards defined in ANEEL Resolution n° 414/2010 (group A refers to consumers connected in voltage equal or above 2.3 kV or by underground circuit, and group B refers to other consumers connected in voltage bellow 2.3 kV)	
Maximum period for inspection of a consumer unit, located in an urban area, after a connection request.	3 working days
Maximum period for inspection of a consumer unit, located in a rural area, after a connection request.	5 working days
Maximum period for connection of a group B consumer, located in an urban area, from the date of approval of installations.	2 working days
Maximum period for connection of a group B consumer, located in a rural area, from the date of approval of installations.	5 working days
Maximum period for connection of a group A consumer from the date of approval of installations.	7 working days
Maximum period to prepare studies, projects and budgets and to inform the consumer when there is a need for improvement in network to allow the connection.	30 days
Maximum period to begin the improvements when the conditions set out in legislation and regulations are fulfilled by the consumer.	45 days
Maximum period to inform consumer the result of the analysis of her/his project, when the improvement of network is due to consumer and it is directly made by her/him (counted after its presentation).	30 days
Maximum period to review the project when there is failure or lack of information from the distribution company in the previous analysis.	10 days
Maximum period for attending requests for the inspection of meters and other measurement equipment.	30 days
Maximum period for reconnection when found improper suspension of supply (with company expenses).	4 hours
Maximum period for attending requests of reconnection to a consumer unit located in an urban area, when ceased the reason for suspension.	24 hours
Maximum period for attending requests of reconnection to a consumer unit located in a rural area, when ceased the reason for suspension.	48 hours
Maximum period for attending urgent requests of reconnection in an urban area, when ceased the reason for suspension.	4 hours
Maximum period for attending urgent requests of reconnection in a rural area, when ceased the reason for suspension.	8 hours
Maximum period to send a written notice to the consumer with a list of all companies' local offices (upon request).	30 days
Maximum period for inspection of a consumer's equipment when there is a complaint about electrical damage (only consumers with nominal voltage below 2.3 kV).	10 days
Maximum period for inspection of a consumer's equipment used to store perishable foods or medicines when there is a complaint about electrical damage.	1 working day
Maximum period to send a written notice to the consumer with the result of the request for reimbursement from electrical damage, counted from the date of the inspection or, in the absence of that, from the date of the request for reimbursement.	15 days
Maximum period to compensate from electrical damage the consumer through payment in cash, or the repair or replacement of damaged equipment, after informing the consumer the result of the request for reimbursement from electrical damage.	20 days

Annex J1 | Information Items in Annual Data Packages Provided to EgyptERA by Distribution Companies

Information Items – Distribution Companies
1. Contracts with customers and other licensees
2. Feasibility study of any project the applicant is planning to implement during the licensed year
3. Expansion studies, plans and the expected developments of the distribution facilities during the licensed year attached the program
4. Distribution license attachments which include the following:
Attachment 1
• Operational Information on the distribution network
• Total components of the transmission network in the fiscal year 2011–2012
• Quantities of energy exchanged in the distribution network (MWh)
• Values of energy exchanged in the distribution network (EGP)
• Number and nominal capacities of distributed generation units owned by the distribution company (isolated generation units)
• Quantities and values of energy sold from distributed generation units
• Malfunctions rates of the distribution network components
• Information about the continuity of supply in MV network
• Information about the quality of supply in MV network
• Reports on replacement and rehabilitation of distribution facilities
• Reports on technical losses
• Reports on measurements of the quality of supply and the power factor improvement studies
Attachment 2
• Number of residential consumers
• Quantities of energy sold to residential sector
• Values of energy sold to residential sector
• Number of commercial consumers
• Quantities of energy sold to commercial sector
• Values of energy sold to commercial sector
• Quantities and values of energy sold to housing companies
• Number of consumers with capacity more than 500 kW
• Quantities of energy sold to consumers with capacity more than 500 kW
• Values of energy sold to consumers with capacity more than 500 kW
• Number of consumers with capacity up to 500 kW
• Quantities of energy sold to consumers with capacity up to 500 kW
• Values of energy sold to consumers with capacity up to 500 kW
• Number of consumers and quantities and values and of energy sold to public lighting
• Information about collection and arrears

	Attachment 3
	• Information about level of the service
	• Information about collection and arrears
	• Distribution of employment on the functional disciplines
7.	Financial statements are required to renew the license and distribution include the following:
	• Final Financial Statements for the fiscal year after the approval of the General Assembly
	• Attachments and disclosures to the financial statements adopted on an annual basis
	• The auditor's report on the financial statements and response to it
	• Approved planning budget
	• Financial planning model (soft copy + hard copy)
	• Technical and financial performance indicator used in the production companies
8.	A detailed study on the cost of electricity distribution
9.	Future plan to achieve the technical and financial performance indicators
10.	Future plan to achieve total quality management
11.	Receipt indicating the payment of the license fee

Annex J2 | Information Items in Annual Data Packages Provided to EgyptERA by Generation Companies

Information Items – Generation Companies
1. Contracts with Customers and Other Licensees
2. Feasibility Study of any Project the Applicant is planning to implement
3. Expansion plans and studies of Generation facilities and implementation programs
4. Environment Agency Approval
5. Generation License Attachments which include the Following
Attachment 1
• Generation Station Basic Information
• Production, Consumption Capacity of the Generation Station, Power Connectors and Units
• Performance and Operation Indicators
• The value and the quantity of consumed fuel
• Sold energy distributed on various voltages
• Distribution of employment on the functional disciplines
• Heat transfer diagram
• Environmental Information
6. Other Financial Attachments
• The final financial statements for the fiscal year is approved by the General Assembly on 06/30/each year
• Attachments and disclosures to the financial statements adopted on 06/30
• The auditor's report on the financial statements and respond to it
• Approved planning budget
• Financial planning model (soft copy + hard copy)
• Depreciation Data
7. Annual report on the activity of the company and includes data on what has been achieved compared to the target and plan includes the following
• The development of human resources
• Periodic and preventive maintenance for the production facilities
• Replacement and rehabilitation of the production facilities
• Technical and financial performance indicator used in the production companies
8. A detailed study on the cost of electricity generation
9. Future Plan to achieve the technical and financial performance indicators
10. Future Plan to achieve total quality management
11. Receipt indicating the payment of the license fee

Annex J3 | Information Items in Annual Data Packages Provided to EgyptERA by Transmission Company

Information Items – Transmission Company
1. Contracts with customers and other licensees
2. Feasibility study of any project the applicant is planning to implement during the licensed year
3. Expansion studies, plans and the expected developments of the transmission facilities during the licensed year attached the program
4. Transmission license attachments which include the following
Attachment 1
• Operational Information on the transmission network
• Total components of the transmission network in the fiscal year 2011/2012
Malfunctions rates of the transmission network components during the fiscal year 2011–2012
• Information about transformers of the transmission network for each region
• Information about transmission lines and cables of the transmission network • For each region
• Information about delivery points of the transmission network for each region
• Purchased energy from generation companies
• Quantities of energy purchased from industrial companies on the ultra, high, and medium voltages
• Energy sold to the distribution companies
• Detailed statement of energy sales to customers
• Distribution of employment on the functional disciplines
Attachment 2
Final balance sheet for the year 2011–2012, after the approval of the general assembly on 30/6/2012
• Attachments and disclosures to the approved financial statements on 306/2012
• Proposed profit distribution
• Cash flow table
• Table of changes in equity share
5. Other financial attachments
• Table of expenditures and revenues
• Depreciation table
• Gains and losses
6. feasibility study of any project the applicant is planning to implement
7. Environment agency approval
8. Previous experience in this field and management
9. Description of land and buildings upon which he shall perform the activity with copies of owner ship documents or his right to use those premises (original documents might be requested for comparisons)
10. Receipt indicating the payment of license fees

Annex K | Indicative Bill Format Proposed by EU

ANY COMPANY

Reference Number: 55443-09-4
Date of Issue: 20 July 2009

CUSTOMER REFERENCE NUMBER	SUPPLY ADDRESS	BILLING ADDRESS
345612	15, Anystreet 1250 Anytown	John Anyname 15, Anystreet 1250 Anytown

YOUR ELECTRICITY CONTRACT INFORMATION

Your supplier	AnyCompany Ltd
Contract period	2 years, expires on 15 September 2010 *(if you wish to switch suppliers, you must inform us at least 30 days before your intended switching date)*
Your switching code (EAN)	541448920708064910
Your tariff	Day&Night Fix (see overleaf for details)
Unit prices	normal rate 6.26 €cent / kWh plus taxes and charges (see overleaf for details) applies Mon to Fri from 6 am to 10 pm reduced rate 3.13 €cent / kWh plus taxes and charges (see overleaf for details) applies Mon to Fri from 10 pm to 6 am and on weekends

CONTACT US

Call our Customer service: 0 800 22 45 45
Lines are open Mon-Fri 8am-9pm, Sat 9am-7pm

Emergencies: 0 800 22 40 40
lines are open 24/7

Visit www.anycompany.eu/billing
Check your account, give us your meter reading, make payments, get information, make a complaint

E-mail: anycompany@service.eu Postal address: AnyCompany Ltd, 17 Any Avenue, 1350 Anytown

YOUR REGULAR ELECTRICITY BILL

Billing period: 15 May – 14 July 2009 (your actual use; see overleaf for details)

Total charges for 15 MAY - 14 JULY 2009	€ 110.21
Amount due before this bill	€ 0.00
TOTAL AMOUNT DUE	**€ 110.21**
DUE BY	**30 JULY 2009**
PAYMENT METHOD	**DIRECT DEBIT** *the amount will be debited from your bank account on 30 Sep*

Payment reference: 55443-09-4

YOUR TARIFF INFORMATION

TARIFF NAME	DAY&NIGHT FIX	
	Week days (Mon-Fri 6 am-10pm)	Nights & Weekends (Mon-Fri 10pm-6am, Sat & Sun)
Base unit price	6.26 €cent / kWh	3.13 €cent / kWh
OTHER CHARGES PER UNIT (KWH)		
Network charge	7.14 €cent / kWh	3.57 €cent / kWh
National levy (the Green Energy Fund)	0.40 €cent / kWh	0.40 €cent / kWh
TOTAL UNIT COST without VAT	13.80 €cent / kWh	7.10 €cent / kWh
+ VAT at 20%	2.76 €cent / kWh	1.42 €cent / kWh
Total unit cost incl. VAT	**16.56 €cent / kWh**	**8.52 €cent / kWh**

Annual charges and discounts (to be included in your annual statement)
Flat annual fee: € 50 per year (+VAT at 20%)
Your discounts: minus € 15 per year for direct-debit payment

YOUR CONSUMPTION 15 MAY - 14 JULY 2009

This is your actual consumption based on the meter reading on 14 July 2009

DATE	DAY METER NO. 75432	NIGHT METER NO. 75455	TOTAL
15 May 2009	34100 kWh	75630 kWh	
14 July 2009	33570 kWh	76010 kWh	
Your consumption **15 May-14 July 2009**	470 kWh	380 kWh	**850 kWh**

DETAILS OF YOUR CHARGES 15 MAY– 14 JULY 2009

DESCRIPTION	UNITS (KWH)	TOTAL COST PER UNIT without VAT (€cent)	AMOUNT (€)
Day Consumption	470 kWh	13.80 €cent /kWh	€ 64.86
Night & Weekend Consumption	380 kWh	7.10 €cent / kWh	€ 26.98
Total cost without VAT			**€ 91.84**
		VAT at 20%	€ 18.37
Total charges incl.VAT			**€ 110.21**

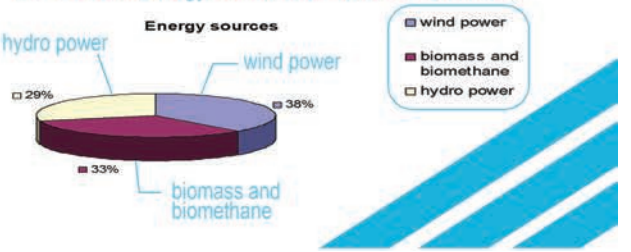
How to save energy?

Visit www.anycompany.eu/greentips
or Call our freephone number: 0 800 22 45 55

Contact us if you need
LARGE PRINT
0 800 22 45 45

Our fuel mix

100 % of our energy comes from renewable sources





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MIDDLE EAST AND NORTH AFRICA
ENERGY AND EXTRACTIVES GLOBAL PRACTICE
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ESMAP
Energy Sector Management Assistance Program

MENA ENERGY SERIES | REPORT NO. 93936-EG

http://www.worldbank.org/en/region/mena | www.esmap.org | http://www.worldbank.org/en/country/egypt