



**FINAL REPORT  
ELECTRICITY SUPPLY INDUSTRY**

# **Consultancy Services for FRS Electricity Supply Industry Institutional Structure Study**

(Contract Ref: 7198039)

Prepared for:

**The World Bank Group**

Prepared by:



In association with:



Submission contact:

**Philip Asante, Vice President (West Africa)**

Tel: +1-613-237 2500 Ext 304

Email: [pasante@cpcs.ca](mailto:pasante@cpcs.ca)

### **Somalia Electricity Supply Industry Institutional Structure Study**

The objective of the assignment is to review the existing electricity sector institutional arrangements in Somalia, define responsibilities of the government and private sector stakeholders and make recommendations on alternate institutional arrangement options, to ensure an efficient electricity supply industry.

### **Final Report: Somalia Electricity Supply Industry Institutional Structure Study**

The objective of this Report is to develop options on structuring of the ESI in Somalia, to select the best option based on the context within the country, and to lay out a roadmap to develop the option by 2040. The report recommends an optimal structure and highlights the rationale and actions behind the recommendation.

### **Acknowledgements**

The CPCS Team acknowledges and is thankful for the input of those consulted as well as the guidance and the input of representatives in Somalia – Ministry of Energy and Water Resources (MoEWR). Additionally, for the guidance and direction from the World Bank team

### **Opinions and Limitations**

Unless otherwise indicated, the opinions herein are those of the authors and do not necessarily reflect the views of stakeholders within Somalia. CPCS makes efforts to validate data obtained from third parties, but CPCS cannot warrant the accuracy of these data.

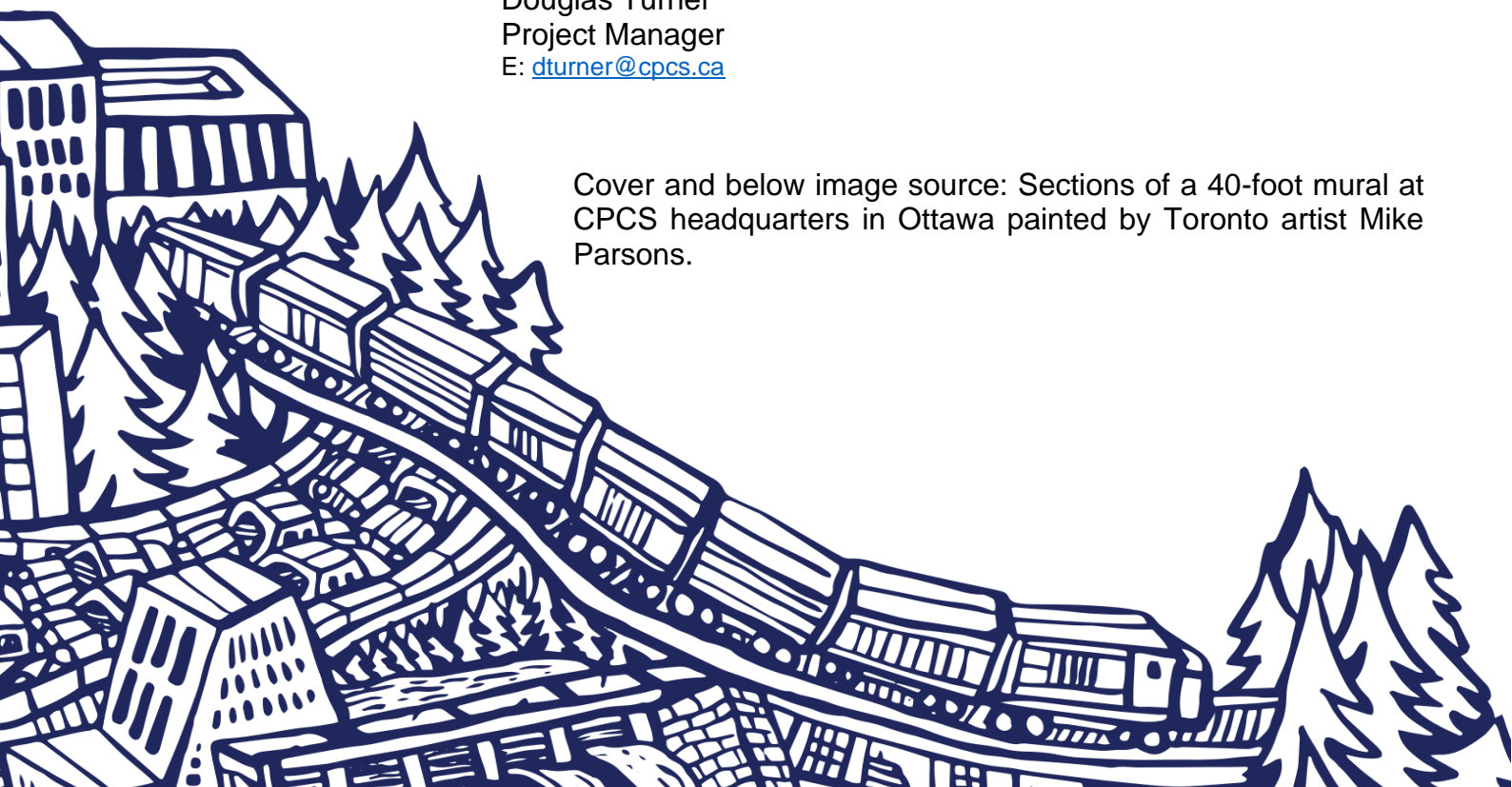
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### **Contact**

Questions and comments on this report can be directed to:  
Douglas Turner  
Project Manager  
E: [dturner@cpcs.ca](mailto:dturner@cpcs.ca)

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## Acronyms / Abbreviations

WB	World Bank
BAU	Business as Usual
DG	Director General
ESI	Electricity Supply Industry
ESP	Electricity Service Provider
IPP	Independent Power Producers
kWh	Kilo-Watt-hour
MoEWR	Ministry of Energy and Water Resources
PPA	Power Purchase Agreements
PPP	Public Private Partnerships

### Quality Assurance

Consultancy Services for Federal Republic of Somalia Electricity Supply Industry  
Institutional Structure Study –

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**FINAL REPORT**  
**CONSULTANCY SERVICES FOR FEDERAL REPUBLIC OF SOMALIA ELECTRICITY**  
**SUPPLY INDUSTRY INSTITUTIONAL STRUCTURE STUDY**

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# 1 Introduction

## 1.1 Authority of the Assignment

This report was prepared under the authority of the contract signed between the World Bank (“WB”) and CPCS Transcom Limited (“CPCS”) on November 01, 2020 (Selection# 7198039). CPCS carries out this mandate in association with Somlegal Services (“CPCS Team”). The CPCS Team is providing consultancy services for “Somali Electricity Supply Industry Institutional Structure Study”.

## 1.2 Project background, objectives and scope of services

### 1.2.1 Project background and context

The energy sector in the Federal Republic of Somalia (“Somalia”) has high investment costs and limited power supply. In the aftermath of the civil war, the local private sector has been the main supplier of electricity in the country. Local private companies supply close to 90% of electricity in urban areas through private mini grids.

Access to electricity in FRS is one of the lowest in Africa, with less than a third of the population connected to the private and public grids.

Annual electricity consumption per capita in FRS remains one of the lowest in Africa, while electricity prices for households are eight times higher than the regional average and amongst the highest in the world<sup>1</sup>.

In that context and in order to improve the institutional structure and operations efficiency of the electricity sector in FRS, the World Bank procured CPCS as the consultant for this project.

### 1.2.2 Project objectives

The stated objective of the Consultant’s Project (the “Project”) is to:

***“Review the existing electricity sector institutional arrangements in Somalia, define responsibilities of the government and private stakeholders and make recommendations on alternate institutional arrangement options, to ensure an efficient electricity supply industry.”***

### 1.2.3 Purpose of the report

The objective of this Final Report is to develop the options on structuring of the Electricity Supply Industry (ESI) in FRS, determine the ideal option, and present a roadmap for the long-term development of the sector. As the first step, the report assesses the current structure through key elements of a typical ESI value chain. This includes policy and strategy, legal, regulatory, planning and delivery. The second step presents an approach to formulate options using a sectoral and operational analysis framework. The framework covers relationships between various entities in the ESI and electricity value

<sup>1</sup> AfDB, 2015, Somalia Energy Sector Needs Assessment and Investment Programme.



chain – generation, transmission and distribution functions. Based on a certain list of criteria identified, the final step presents the options, their benefits, and their challenges in order to identify the best option for FRS. The selected option is then expanded in a chronological way in the final chapter to lay out the necessary actions for the short, medium, and long term development of the sector.

#### **1.2.4 Structure of the Report**

The remainder of this report is structured as follows:

- **Chapter 2: Vision for the future and policy objectives for the FRS Electricity Sector** describes policy and sector priorities of the government that have been determined through research, stakeholder consultations, and review of the current frameworks and legislation;
- **Chapter 3: ESI Institutional Assessment** presents the current ESI structure in FRS as observed in previous reports submitted as part of this assignment and suggests possible ways to improve governance of the sector;
- **Chapter 4: Approach to develop options to reinforce Electricity Supply Industry Institutional Structure** lays out the methodological framework to define and analyze each option;
- **Chapter 5: Presentation of options to reinforce Electricity Supply Industry Institutional Structure** presents the analysis of each option based on the ESI institutional framework for analysis and proposes recommendations based on the findings;
- **Chapter 6: Assessment of options to reinforce Electricity Supply Industry Institutional Structure** analyses the options using the criteria in the methodological framework laid out in Chapter 4 in order to determine the most suitable option for the development of the ESI;
- **Chapter 7: Legal review** presents the extent to which the current legal framework can accommodate the recommended ESI option and underline the required changes to the current legal framework to ensure implementation of the recommended ESI option;
- **Chapter 8: Roadmap to implement the recommended option to reinforce the Electricity Supply Industry Institutional Structure** presents a series of recommended actions in the short-, medium-, and long-terms between 2021 and 2040 in order to reform the sector.

# 2 Vision for the Future and Policy Objectives – FRS Electricity Sector

## 2.1 Somalia Energy Policy

### Energy Policy 2018 of FRS

The Federal Government of Somalia (“FRS”) developed an Energy Policy<sup>2</sup> in 2018 which clearly defines the long-term vision for the sector, which is to:

*“Provide all Somalians with adequate, affordable and sustainable access to efficient energy, with commitment to environmental stewardship, while also improving quality of life, promoting socio-economic growth, developing clear policies, regulations, building strong institutions, and unlocking the country’s renewable energy potential.”*

The policy outlines clear objectives to meet this vision. These objectives revolve around the following pillars:

- Access to electrical energy
- Energy security and sustainability
- Regulatory framework
- Energy governance and institutional development
- Capacity building
- Develop renewable energy potential

Furthermore, and in line with best practices internationally in policy development, the policy document clarifies the strategies to achieve these pillars. Among these strategies, two appear to be most relevant to the present assignment:

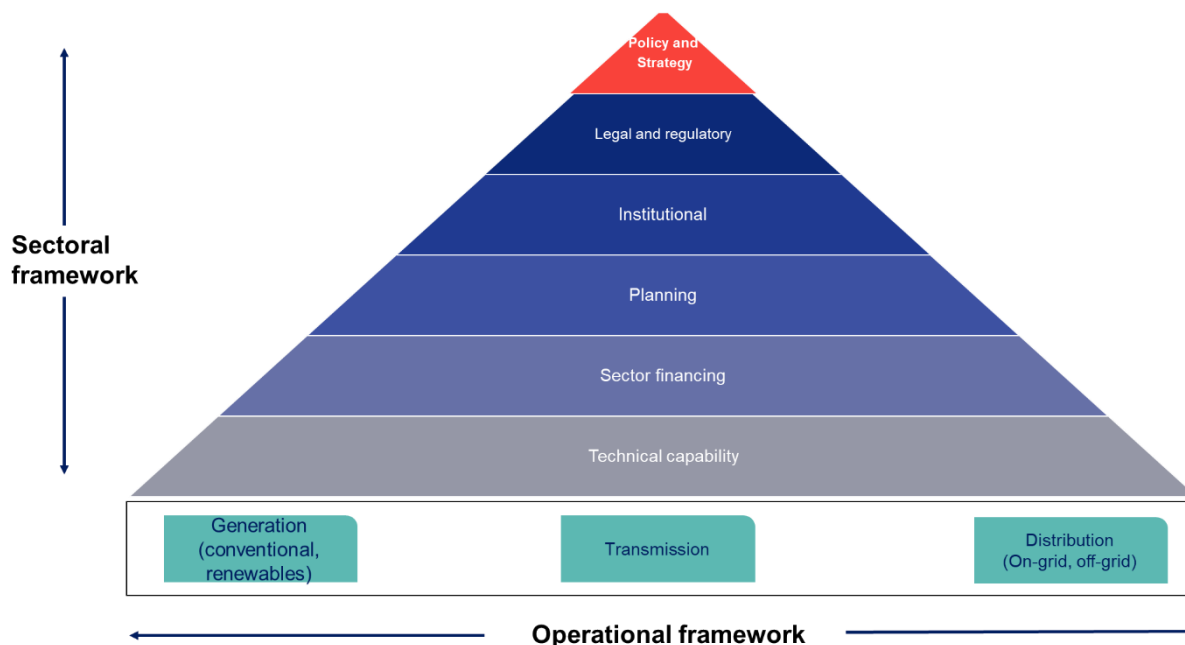
- Reinforcing the institutional sector, i.e. “Strengthening government institutions at federal and regional levels and a strong and clear energy regulatory framework”
- Integration over the long term of the various off-grid active systems, i.e. “Establishing plans to integrate and unify the current distribution systems in order to enhance supply and reduce productivity cost”.

### Critical review of the policy document

Successful electricity sector policy hinges on identifying and developing a **sectoral and operational framework** that reflects the Government’s long-term visions for the sector. The figure below illustrates the accepted general framework for the development of policy documents.

<sup>2</sup> The document made available to the Consultant at inception stage is a version dated September 2018 and seems to still be at draft stage. It was not clear through the data identification and review of documents that a Final version is available.

Figure 2-1: Electricity Supply Industry Policy Pillars



The **sectoral framework** enables the realization and optimization of the sector’s organizational structure while identifying the functions to support the operational framework. It consists of the sectoral policy and strategy, the legislative and regulatory frameworks, the sectoral planning, and the process for delivery of electricity.

The **operational framework** is based on the segmented functions of the electricity sector, which are generation, transmission, distribution & sales, and rural electrification.

While the segments can be further divided, for the purpose of framework analysis within this report, they will not be divided any further. For example, the segment of distribution and sales is, in some countries, divided between those two component parts and further divided between connection services, ongoing billing services, and other functions. However, the range of options and recommendations in this report do not subdivide these segments further, and it is recommended to maintain this segmentation, as it is outlined this way in the Energy Policy.

### The FRS sectoral framework

- **Policy and strategy**
  - The Energy Policy of FRS defines the policy objectives and identifies the specific issues facing the energy sector in FRS. The overarching policy goal is clearly stated, which is *to facilitate the provision of clean, sustainable, affordable, and reliable energy for its citizens*. However, while some strategies are defined as well, there isn’t a proper implementation plan that would map the activities to be undertaken to reinforce the sectoral and/or operational frameworks.
- **Legal framework**
  - While the policy document acknowledges that *“regulation of the energy sector, particularly of the electricity sub-sectors, generation, transmission and distribution, is limited or not in place at all in Somalia,”* it does not

provide avenues for the development and implementation of a legal framework, but rather indicates only the efforts which will be undertaken to “*enact the regulatory framework required to ensure clarity, predictability, standards, best practices and quality assurance in the energy sector, while safeguarding financial investment, economic growth, social wellbeing, access, and population safety.*”

- **Institutional framework**

- As per the legal framework, the FRS Policy document clearly mentions the need for a proper institutional framework that is in line with the policy objectives. Moreover, the policy document clearly outlines this specific aspect as a priority objective of the FRS: “*At this point, building and consolidating strong institutional capability to properly manage all the processes involved in the regulation of the private sector and to proper implement this policy is a federal government priority.*”
- However, the document does neither outlines, nor provides the necessary information on the features of the desired institutional frameworks.

- **Planning**

- The policy acknowledges the importance of planning when developing an electricity sector in FRS. It lays out the reasons why planning is crucial to development and is an important endeavor to undertake. However, the policy document does not provide any clear institutional responsibilities to any given entity to conduct the planning activities for electricity infrastructure and services.

- **Financing**

- The policy acknowledges the importance of financing and investments when developing the electricity sector in FRS. The policy also provides some avenues in terms of sources of funding and financing mechanisms, such as “*improving current borrowing power and promoting innovative financing schemes.*”
- It appears that the policy document also indicates a preference for bilateral and multilateral aid as one of the primary sources of financing: “*It is the Government of Somalia’s intention to include energy financing as a thematic priority in the bilateral and multilateral development agenda.*”
- The Policy document is regarding allocating the institutional role of structuring the funding and financing of energy projects in FRS.

- **Technical Capacity**

- The policy establishes the need to develop strategic partnerships with the public and private sectors, investors, and universities, that are located within Somalia and abroad. This is crucial to boosting the technical capacity in the energy sector by building a solid community-based workforce. For the other items of the sectoral framework, the policy document does not allocate any specific roles to any specific institution to take charge of the responsibility for reinforcing the existing technical capacity in the electricity sector.

## FRS Operational framework

- **Generation**
  - Electricity generation in FRS is almost entirely privately owned and managed, with only some instances of partially-public electricity supply. The energy policy provides strategies to achieve the objective of increasing the generation of safe, reliable, and efficient electricity in order to meet economic and social development needs. It does specify how these objectives will serve demand, but neither establishes the expected sources of development for generation capacity, nor develops a plan to achieve the set targets.
- **Transmission and Distribution**
  - The policy states that the overall objective is to enhance transmission, while simultaneously planning for the introduction of a country-wide transmission network: *“planning for the introduction of country-wide transmission networks to interconnect large urban areas, rural areas and regions in Somalia”*.
  - The policy defines a clear, specific objective which is expanding the grid coverage through *“installation of a well-planned, strategic, fair, efficient, reliable and safe distribution network across rural and urban areas in Somalia”*.
  - The policy is not clear on the approach to incentivize the development of generation capacity, such as through public investment or supporting the private sector. In addition, the policy document is unclear regarding the institutional responsibility for the oversight and direction of the sector, since it only specifies that regulatory functions will be dealt with through the Regulatory Authority, but does not specify responsibility for grid operations, coordination, or other operational functions.

### 2.1.1 Member states

At the level of member states, the institutions remain undeveloped. For instance, the current government of Puntland came to office in February 2019, and has recently established the new PMEMW. As a result, the development of the policies and regulations are still underway. PEDAs Policy is currently at the draft stage, and will be enacted once it is approved by the relevant institutions in the coming months.

## 2.2 Vision as per stakeholder consultations

Beyond the analysis of the Energy Policy Document published by the FRS, the consultations undertaken under this assignment with the main stakeholders in the sector have allowed a broader understanding of the long term vision for the electricity sector in FRS.

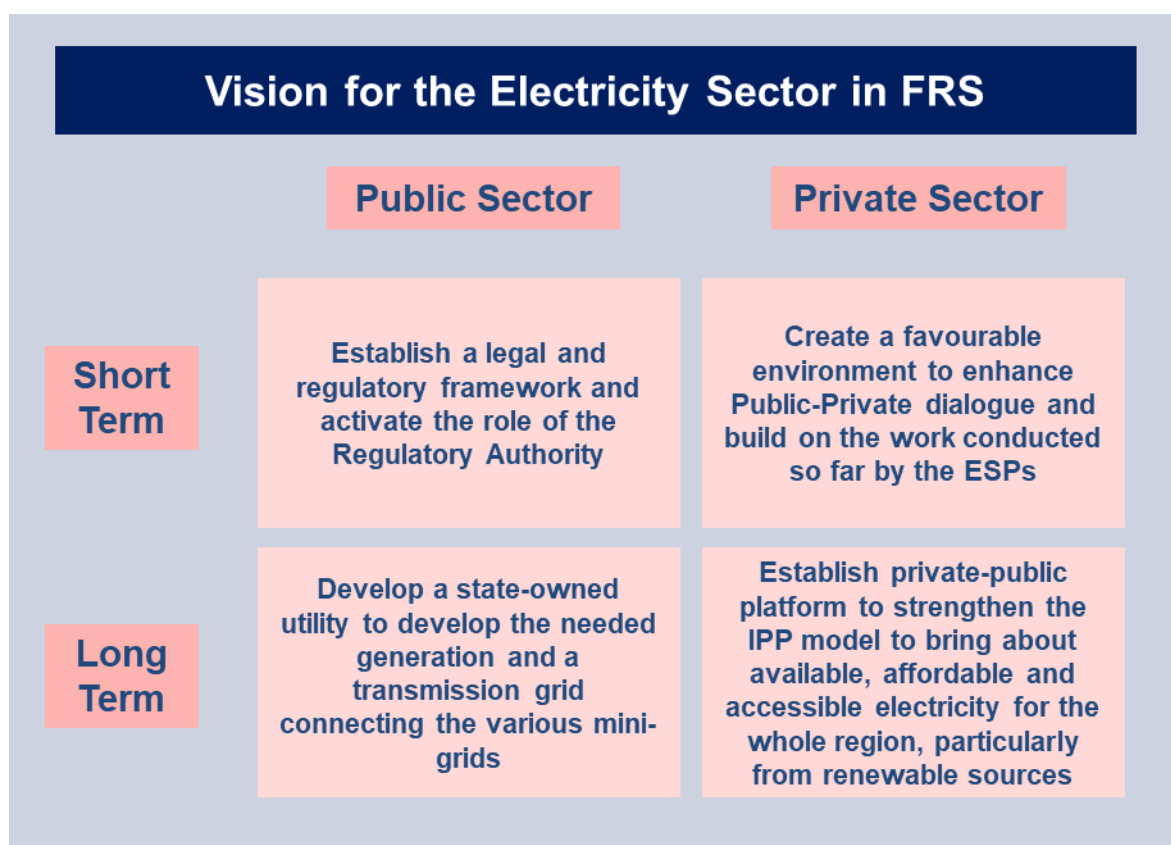
Consultations at the Federal level with MoEWR and at the State level with PEDAs have confirmed the approaches outlined and analyzed in the policy documents. Visions that are shared by officials from the electricity sector have also provided an additional level of clarity on the features of the electricity sector for the FRS, including its member states.

At the level of the Federal Government, the goal shared by the MoEWR was to have an electricity sector that provides reliable and affordable electricity to all users (Commercial, Industrial and Residential) by considering two aspects:

- On the public sector side:
  - Short term: increase the role of the public sector by reinforcing the legal and regulatory framework and creating the Regulatory Authority
  - Long term: develop a state-owned utility to develop additional generation capacity and a transmission grid connecting the various isolated ESPs
- On the private sector side:
  - Short term: creating a favorable environment to enhance Public-Private Dialogue and build on the work conducted so far by the ESPs.
  - Long term: to establish the private-public platform to strengthen the Independent Power Producer (IPP) model to bring available, affordable and accessible electricity for the whole region, especially from renewable energy sources.

The graph below illustrates the various dimensions of the stakeholders’ vision for the electricity sector of FRS.

**Figure 2-2: Summary of the Vision for the Electricity Sector in FRS as expressed by Stakeholders**



Source: Stakeholders’ Consultations.

Thus, when merging the vision for the sector as outlined in the National Energy Policy 2018 and the vision expressed by FRS officials in 2020, the main features are:

- **The need in the short term** to leverage private sector actors in providing electricity to the users. The approach, therefore, is to build on the existing ESP model, while adjusting it through (i) developing a regulation that would control tariffs to favor affordable electricity and (ii) providing a legal framework to limit risks for ESPs in term of geographical and operational scope.
- **The need in the long term** to respond to the growing demand in electricity by increasing generation and connecting the country through a proper transmission grid that would connect the various cities and existing mini-grids managed by ESPs. Given the financial significance of this initiative, the Government will play a key role in developing and financing the associated infrastructure

Both aspects of the vision call for the articulation of a proper legal, regulatory and institutional framework that will undertake the various activities to meet this vision.

The following chapter explores the extent to which the current institutional framework is aligned to the vision expressed in this chapter, and what type of changes would be required to ensure that the overall vision and policy objective are met.



# 3 ESI Institutional Assessment

## 3.1 Framework of reference

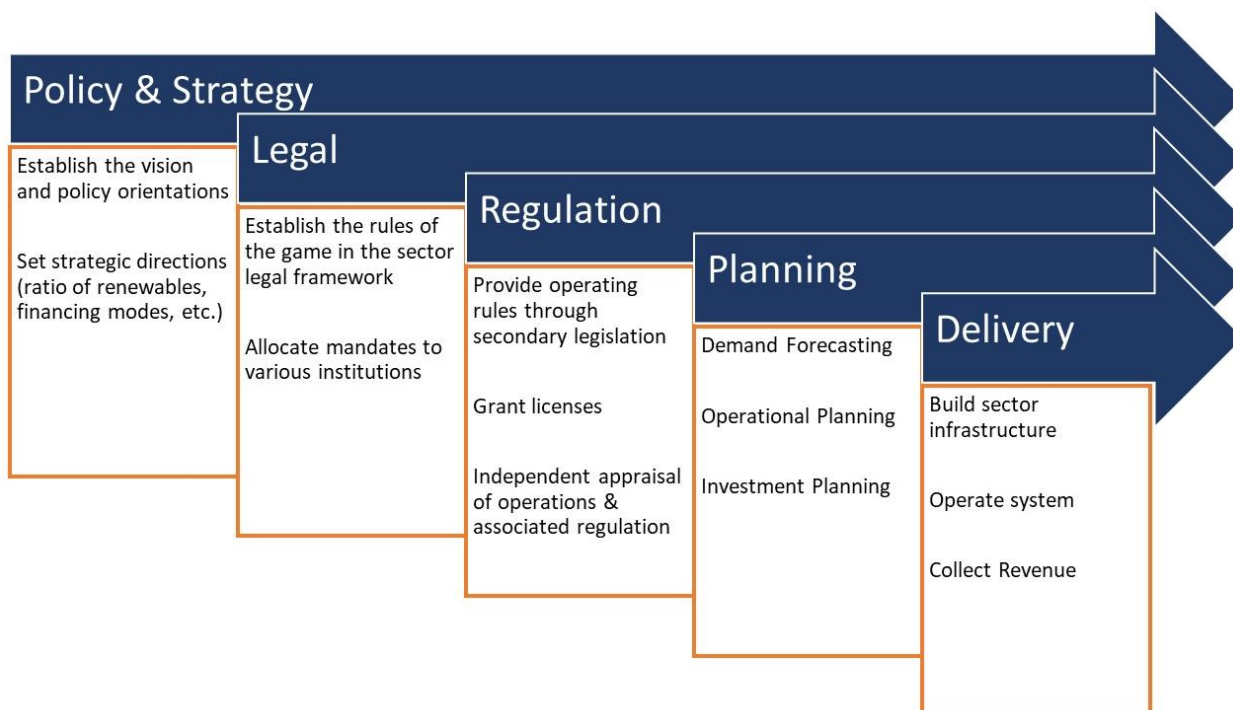
In many countries in Sub-Sahara Africa, the supply side of electricity is generally composed of three types of institutions:

- **Public Operating Institutions:** The Ministry and a Public Utility
- Public Regulatory Institutions: The Regulator
- **Private Operators:** IPPs, distributors with a distribution concession or independent distributors, and potentially transmission operators.

Whether fully integrated or unbundled, each of these institutions has a clear role to play with specific functions and missions comprising the sectoral framework (policy & strategy, legal, regulation, planning, and delivery framework) as well as the operational framework (generation, transmission, distribution, rural electrification).

The figure below illustrates these missions of the ESI value chain.

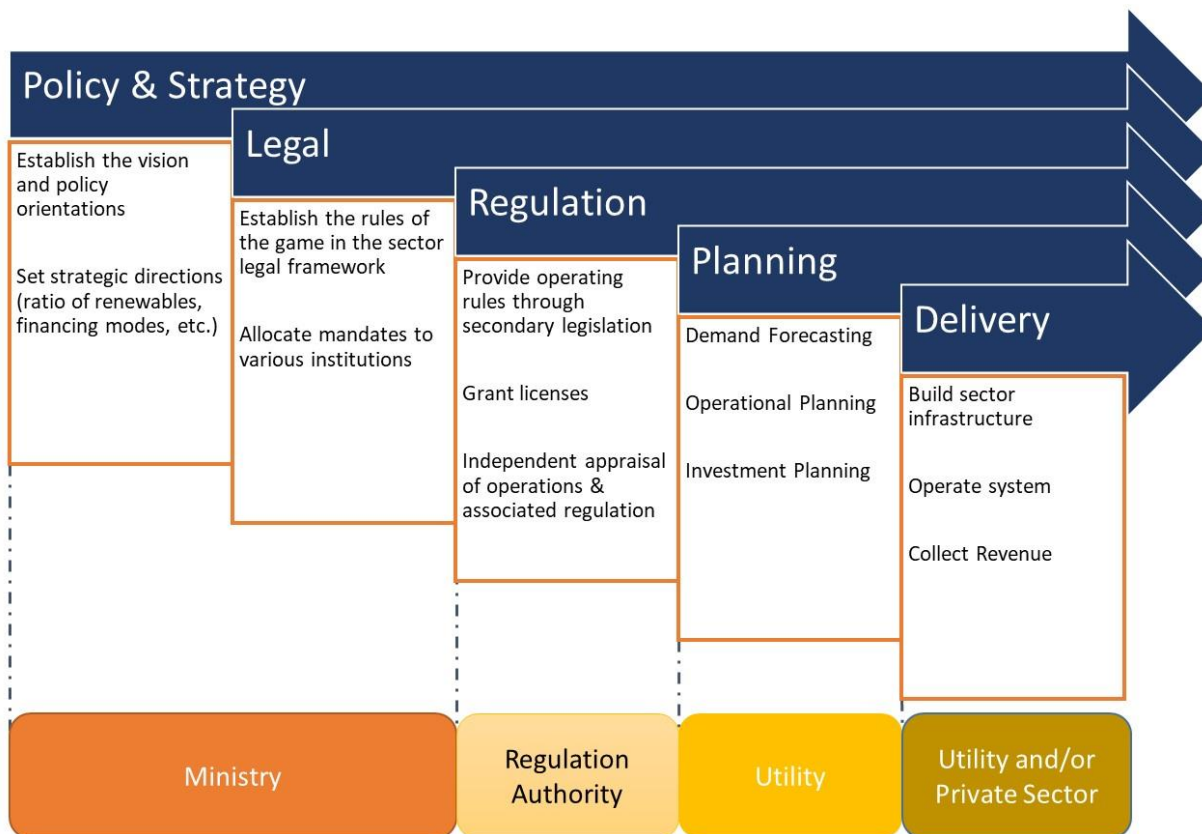
Figure 3-1: Key elements of a typical ESI value chain



Source: CPCS analysis

The figure below then identifies and includes the institutions most commonly<sup>3</sup> responsible for these activities in the electricity sectors of a variety of countries throughout Africa.

**Figure 3-2: Simplified structure of Institutional Frameworks in the Electricity Sector**



Source: CPCS analysis

### 3.2 Analysis of current institutional framework in FRS

Somalia’s electricity sector institutional arrangements are unique. The only public institution in charge of the sector in FRS is the Ministry of Energy and Water Resources (MoEWR). The MoEWR is the highest authority and policy making body for the Federal Republic of Somalia and has the responsibility to oversee operations in the electricity sector. On the private side, ESPs play a key role on the delivery of electricity services, being in charge of building the generation capacity and the associated mini-grid to serve users.

As observed, the current institutional framework is not aligned with the vision for the sector as expressed by stakeholders and reported in Chapter 2. Furthermore, the current institutional framework does not respond fully to the policy objectives aiming to develop an electricity sector structured in such a way that the services provided to users are efficient and affordable.

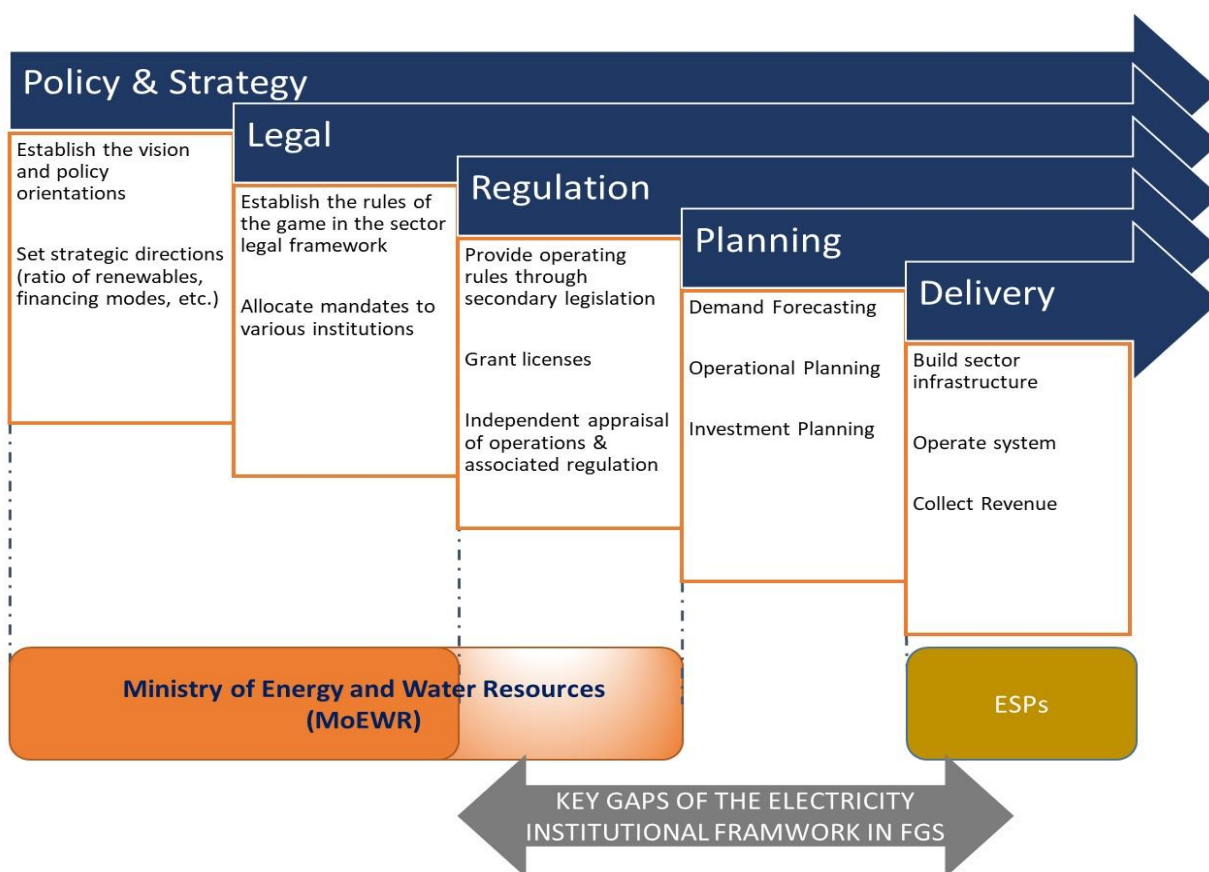
Finally, the features of the current institutional framework in FRS is not aligned with the strategies outlined in the sector policy document and expressed during consultations,

<sup>3</sup> This may vary depending of the level of unbundling in the sector

i.e. to structure the institutional framework of the sector according to best practices, notably by setting up the institutions that could plan and develop generation, ensure transmission, manage distribution (in complement or coordination with the current ESPs), and undertake the necessary regulatory actions.

Therefore, based on these policy orientations and when comparing the existing institutional framework in FRS with the framework of reference developed in section 4.1, several gaps appears in the Electricity Supply Industry in FRS. The following figure illustrate these gaps. Analysis of these key gaps is provided in the subsequent sub-sections. The following figure illustrate these gaps.

**Figure 3-3: Institutional gaps in the Electricity Supply Industry in FRS**



Source: CPCS analysis

### **Embedded mandates in the Ministry**

A primary gap in the institutional framework of the electricity sector in FRS is the integration within the Ministry of multiple functions that are typically distributed between multiple institutions. The Ministry, in addition to primary function of setting policy and strategy, also deals with issuing licenses, monitoring and evaluation of the sector, and project and sectoral planning.

According to best practices, the accumulation of these functions makes the institutional framework of the electricity sector less efficient. Each of these functions requires unique expertise and specific mandates. Distributing these functions between different institutions allows a focus on the core mission of the organization, which all align together to achieve the mission of the full system.

Currently the Ministry carries out a range of activities, which draws resources away from actively completing the primary functions of the Ministry. For example, the Ministry's efforts should focus on developing an action plan to implement the sectoral policy and incorporating key elements of the sector policy into a revised Electricity Bill, 2020 reflecting the vision for the sector and structure through a new institutional framework.

### **Absence of an independent institution to cover regulatory functions of the electricity sector**

Best practice shows that establishing a regulator in the energy sector allows efficient monitoring of the rules enacted for the sector, transparency in the issuance of licenses, and more appropriate regulation of tariffs. Currently, in the institutional landscape of the FRS, no such institution exists.

As shown in chapter 2, the lack of a regulatory entity creates uncertainty in the sector. Whether a question of issuing licenses (including the concern of geographical boundaries), controlling tariffs, or setting standards, the absence of a regulatory authority limits the current system.

As a consequence, the industry lacks standards and regulation. It has been observed that ESP provider's set tariffs according to their own discreet models and that their calculation structure is not monitored, reviewed, nor regulated.

Similarly, the limits of the system of licensing has led to inefficiency. Any supplier can provide electricity to a prospective customer outside of the allotted territory, which can cause disputes in cities between large customers.

### **Absence of institutions to cover planning and development activities for electricity infrastructure**

In order to meet the electricity needs of the different user groups (Commercial, Industrial and Residential), a study must be undertaken to determine the long-term electricity demand. This will be used to plan generation capacity and associated transmission and distribution grids for the sector to meet the long-term demand. Demand forecasting and least-cost planning are essential to coordinate an electricity sector, but they do not appear to be implemented in FRS today.

It appears indeed that these major planning functions are currently left to the discretion of the ESPs who are building and operating their generation facilities to meet their isolated demand. This approach is limited because it does not value the global vision of the system and therefore the overall demand and associated needs in the country.

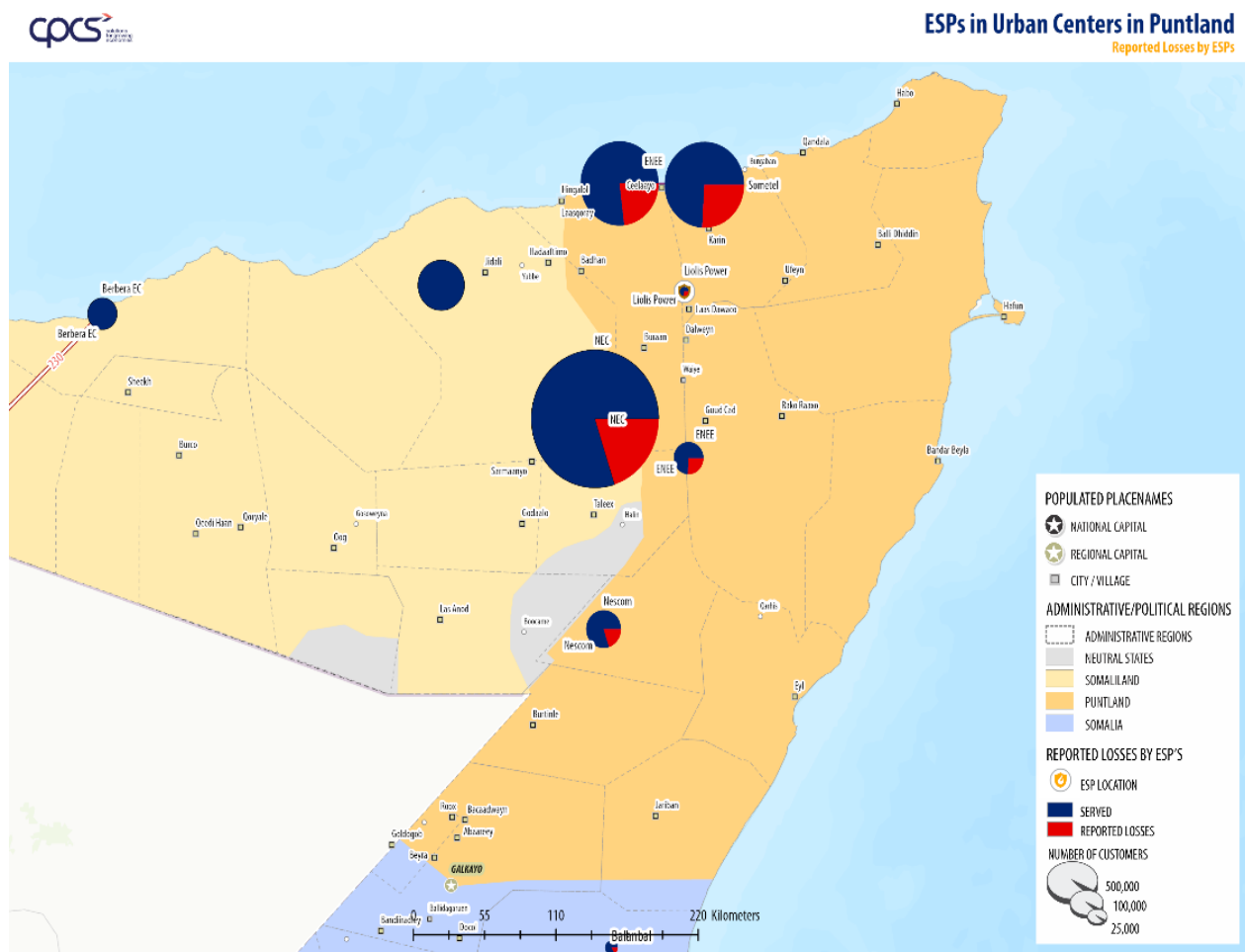
Moreover, as private economic actors, the rationality of the ESPs will be first to serve the demand emanating from the most densely populated areas in order to generate the maximum possible revenue. This approach limits the function of the electricity sector, which also has a public service scope. Such an approach is therefore partly in contradiction with the objectives of the sectoral policy that aims to provide electricity to all citizens.

The function of estimating demand and low-cost planning must therefore be clearly institutionally anchored. It could possibly be integrated into the Ministry, but would eventually benefit from being housed in a utility.

### Prevalence of ESPs in the electricity service delivery

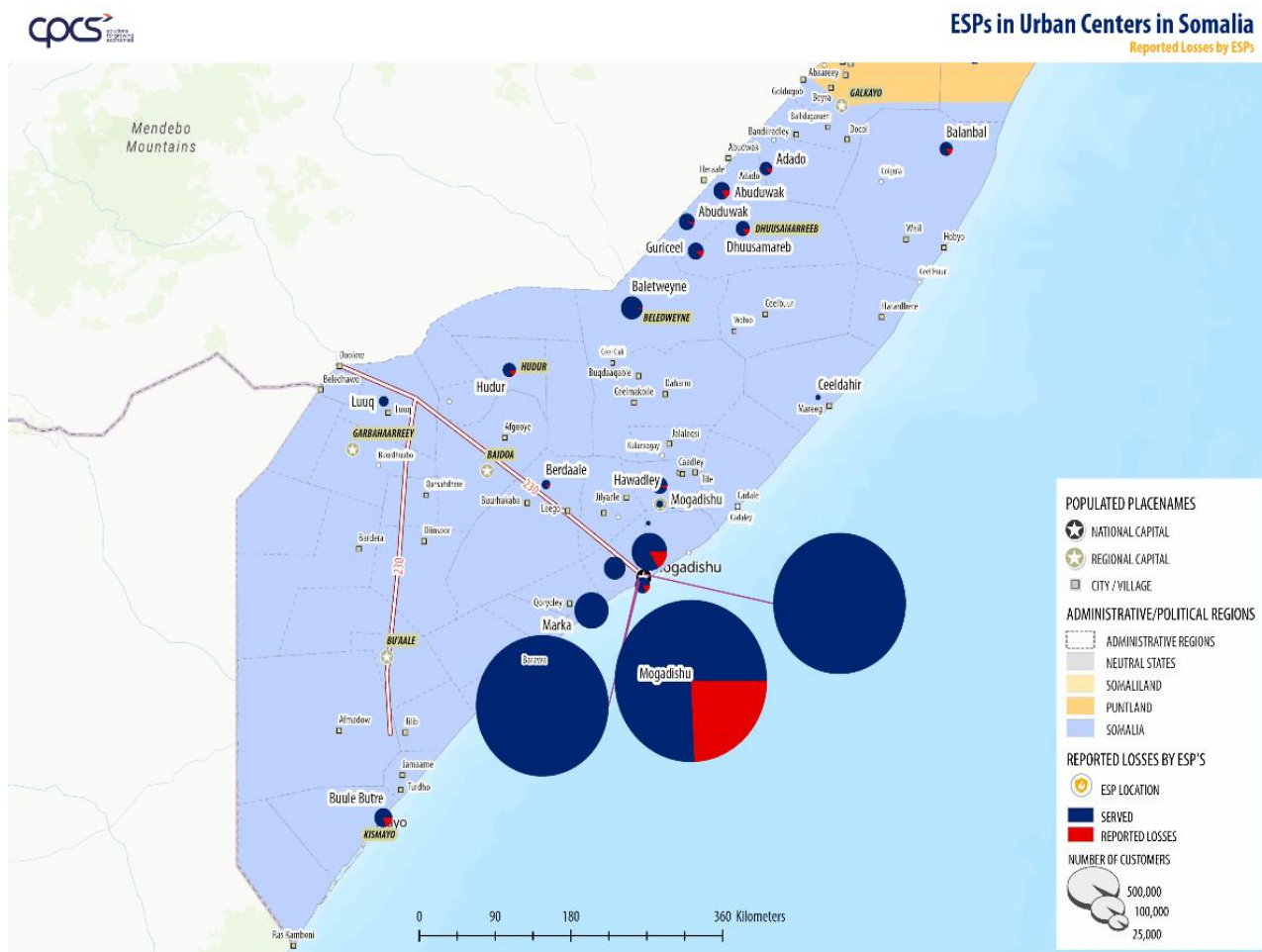
The provision of electricity services, as it is currently observed in FRS, is ensured by the ESPs. As represented in **Appendix A**, they set up generation capacity and distribution infrastructure to meet a specific portion of the demand.

Figure 3-4: ESPs in Urban Centres in Puntland



Source: CPCS Analysis

Figure 3-5: ESPs in Urban Centres in Central and South Somalia



Source: CPCS Analysis

While models of private sector participation in construction and operation of electricity infrastructure are increasingly being used around the world, it should be noted that they are usually leveraged to complement a public electricity utility. Historically, governments have used public financing to deploy the generation, transmission, and distribution infrastructure, with the private sector intervening within the frameworks of PPP contracts. However, it would appear that FRS does not fit this model due in part to the country's recent history and the destruction of electricity infrastructure during the civil war.

To meet the objectives of the sector policy, consideration should be given to the deployment of electricity supply services by public entities. This could complement a model based on regulated ESPs and would thus make up for the country's electricity production, transmission and distribution deficits.



### 3.3 Avenues to improve the governance and operations efficiency of the electricity sector through a reinforced institutional sector

#### 3.3.1 A spectrum of options

These institutional limitations may represent an obstacle to the proper development of the sector and to the achievement of objectives targeted by decision-makers. Thus, a series of institutional improvements should be carried out to (i) fill the gaps in the institutional framework and (ii) distribute mandates in order to fulfill all the functions of the electricity sector.

To achieve this, several options are possible, from the most complex to the most pragmatic. For example, it could be considered to create *ex-nihilo* all the institutions missing in the sector, clarify their mandates and ensure that the associated human resources are in place. In a more practical way, it could alternatively be envisaged to ensure that the functions necessary for the proper functioning of the current sector are implemented by existing institutions.

In theory, these two solutions constitute the two ends of a spectrum of possible options, each of which should be analyzed in terms of the capacity of the sector to be implemented and their degree of contribution in strengthening of the sector. This is the objective of the following chapter.



# 4 Approach to Develop Options to Reinforce the Electricity Supply Industry Institutional Structure

## 4.1 General approach and methodology for the formulation of options

The general approach to forming options for the future of the institutional structure of the electricity sector should consider a structured way to articulate the operational aspects (generation, transmission, distribution, and rural electrification segments) and the sectoral aspects (policy and strategy, legal, regulation, planning, and delivery).

Therefore, an “ESI option” could be defined as a strategic institutional and operational structure to achieve the vision laid out in the policy documents and the associated objectives.

These options represent evolutions of the ESI starting from a Reference Situation, which corresponds to the maintenance of the current organization and functioning of Somalia’s electricity sector ("Status Quo" or "Business as Usual" - BAU) to a set of possibilities in the way to organize the sector, institutionally and operationally.

## 4.2 Approach to identify the most suitable option

To provide the decision-makers with the tools to select a specific long-term institutional configuration for the sector, the following sections present a set of possible ESI options.

Each of these options is a working hypothesis reflecting the possible configuration in the medium- to long-term horizons. Each option entails a specific configuration of the main functions of the sector, both for the sector framework (policy & strategy, legal, regulation, planning, and delivery) and the operational framework (generation, transmission, distribution, and rural electrification).

Each of these options is then evaluated based on the shared analytical framework. The objective is to be able to compare the expected impacts of each options on the efficiency of the sector. Four criteria have been developed to evaluate the options considered.

- **Institutional feasibility**

Under these criteria, we evaluate:

- The extent to which the existing institutional framework could be leveraged with a limited number of changes when implementing the option
- Knowledge, skills, and expertise of stakeholders and their capacity to implement the proposed changes
- The extent of coordination required between entities in the sector structure

- **Acceptability by institutions**

Under these criteria, we evaluate:

- Acceptability of changes to existing public institutions
- Acceptability of changes to electricity sector stakeholders (public and private)
- **Improvement to sector governance and transparency**  
Under these criteria, we evaluate the extent to which the following exists:
  - Clear roles and responsibilities for each institution and clear relationships between stakeholders within the proposed structure
  - Accountability for each institution and stakeholder within the proposed structure;
  - Independence of the regulator and reduction of potential for conflicts of interest
- **Policy priorities of the Government of the Federal Republic of Somalia**  
Under these criteria, we assess whether:
  - The option improves competition within the electricity sector through private sector participation
  - The option favours access to electricity for urban and rural customers
  - The option allows for cost reduction for electricity that results in reduced tariffs
  - The option promotes deployment of renewable energy

The following Chapter 5 presents a detailed overview of each of the options considered, while Chapter 6 evaluates these options using the criteria outlined above.

# 5 Presentation of Options to Reinforce the Electricity Supply Industry Institutional Structure

## 5.1 Introduction of options

Three options are presented in the following sections, starting with the baseline, called “Option 0”. The alternative options (Options 1 and 2) have been developed on a spectrum and are presented in the order of the complexity of the structure. Option 1 presents an operational framework that presents a simple structure for the electricity sector, where the grid is serviced by a single public utility and rural customers are serviced through isolated grid ESPs; IPPs are allowed under this option to sell to the public utility. Option 2 presents the more advanced structure for the electricity sector.

The following section focuses on the structure of each option, providing details on the main players, regulations, and relationships for each component of the sectoral and operational frameworks. Each option begins by presenting the overall option structure and the underlying rationale. This is followed by a discussion on each segment of generation, transmission, distribution and retail, and rural electrification, followed by the five sectoral framework components, which are policy and strategy, legal, regulation, planning, and delivery.

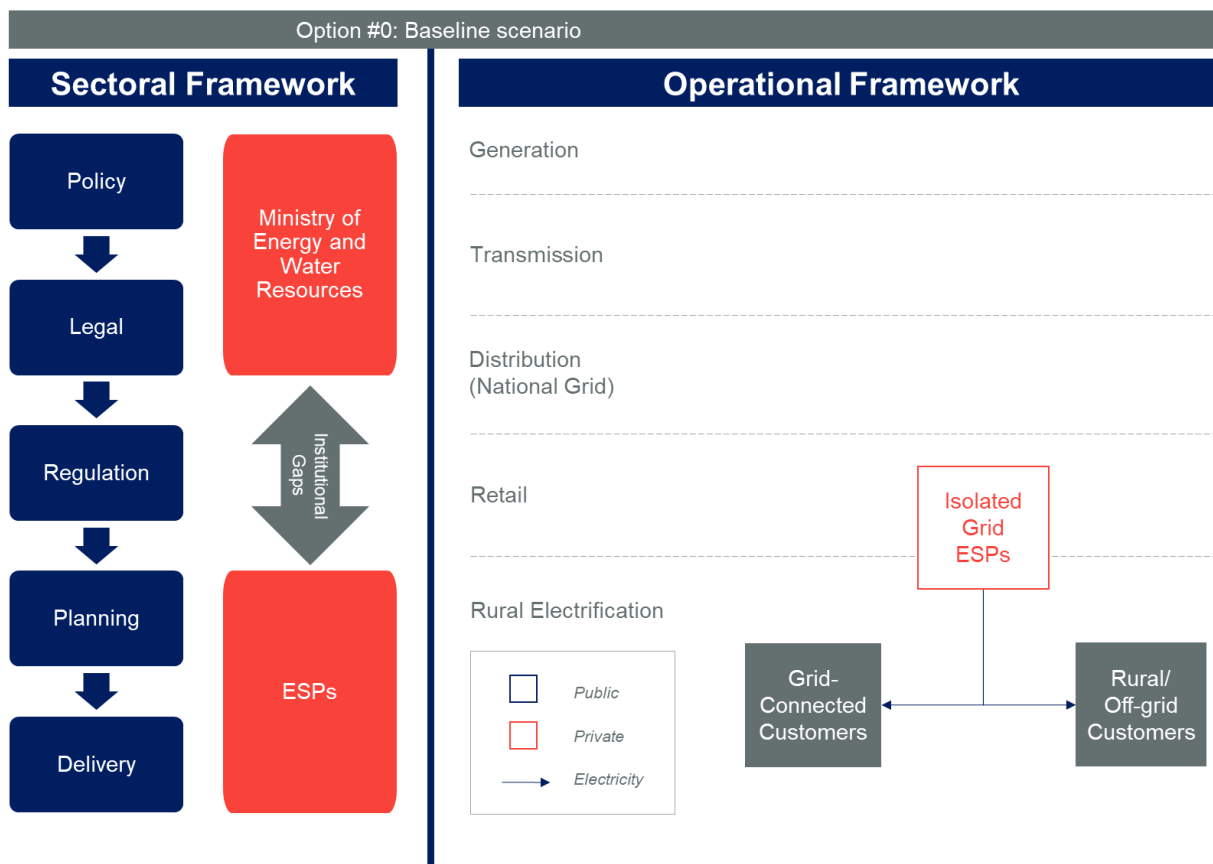
## 5.2 Option #0: Baseline scenario

### 5.2.1 Overall structure

The current situation in FRS is of limited institutional participation in the electricity sector. Private ESPs generate and distribute electricity to isolated grids, which are predominantly within major urban areas. These grids operate independently and do not meet current demand. While the Ministry of Energy and Water Resources (“MoEWR” or “the Ministry”) sets the national policy and provides legislative guidance, there is little actual regulatory oversight of the ESPs that conduct limited planning and delivery. The FRS Energy Regulatory Authority (SEA or “the Regulatory Authority”) has not yet been established, and it is not clear if any licensing and oversight regulations have been implemented by the Ministry in its place. Thus, this description of the current situation considers the enacted policy and only provides the current structural situation, but does not assume that all structural policies for the sector have been implemented.

The figure below displays the structure of the current baseline scenario.

Figure 5-1: Structure of Option #0: Baseline scenario



### 5.2.2 Operational framework

#### Generation segment

Electricity generation in FRS is mostly privately owned, operated, and maintained, though some semi-public generation exists. ESPs typically operate in a distinct geographic area, delivering electricity through medium- and low-voltage networks. Under the current legislation, the Regulatory Authority is responsible for licensing all generation sources within FRS, but it has not been implemented yet because the Regulatory Authority does not yet exist.

#### Transmission segment

High-voltage electricity transmission in FRS does not exist to date, as electricity generation and distribution occurs on isolated grids. According to the Electrical Energy Policy, ESPs own and maintain generation and distribution assets within their urban service areas. There are no interconnections for imports from other countries. Under the current legislation, the Regulatory Authority is responsible for transmission licenses, but since it does not yet exist, it is not clear if any transmission licenses have been granted.

#### Distribution and retail segment

Electricity distribution is mostly privately owned, operated, and maintained. ESPs usually operate in distinct geographic areas, but do not have an exclusive right to operate in that area; in urban areas, ESPs can compete in the same geographic areas, causing overhead power line and electric pole congestion, although this remains limited to

higher-density urban areas. Under the current legislation, ESPs must apply for distribution licenses from the Regulatory Authority, but it does not yet exist.

### **Rural electrification segment**

Rural electrification falls under the policy oversight of the Ministry, as it is a part of the broader development policy of the Government of the Federal Republic of Somalia. In practice, isolated grid infrastructure that is developed by ESPs is focused in the most urban, economically viable areas.

## **5.2.3 Sectoral framework**

### **Policy and strategy**

The role of policy-setting and oversight of the electricity sector in FRS is set by the Ministry of Electricity and Water Resources (MoEWR). The Ministry is responsible for preparing, publishing, and revising the policies, plans, and strategies for the electricity sector, including directing the organization and structure of the sector.

### **Legal**

Legal authority over the electricity sector is set at the highest level by the Ministry and by the Government of the Federal Republic of Somalia. Secondary legislation that would come from the Regulatory Authority is neither enacted nor implemented.

### **Regulation**

There is no substantial regulatory oversight of the electricity sector. The Ministry has responsibility for the policy and legal oversight of the sector, but secondary legislation remains significantly limited. Regulations such as tariffs, standards, licensing, zoning, and renewable energy regulations do not exist. The Ministry currently regulates ESPs only so far as requiring a license. Consequently, tariffs are high through some ESPs, as there is no regulation to encourage energy access or affordability, creating significant suppressed demand.

### **Planning**

Planning for the electricity sector and geographic areas is largely left to the ESPs, as they are not required to provide data or information to support planning exercises at the national level in the Ministry. It is also not clear if planning occurs between ESPs, though as private operators that are often concentrated in similar geographic areas, it is likely that this occurs informally.

While the Ministry, with the support of the World Bank, has developed a Power Master Plan in 2018, it is not clear to what extent this plan has been embedded within the Ministry and if it serves today as to introduce and establish reliable electricity supply systems over the 20-year planning period envisaged by the document made available.

### **Delivery**

Currently, ESPs are responsible for the delivery of electricity. Each ESP owns and operates their complete generation-distribution-customer-revenue chain using a radial distribution island network. Generation is primarily, close to 100%, by high-speed diesel fuel powered generators.

ESPs are isolated grids that do not interconnect with each other, and often occupy the same geographic area within high-density urban zones. There is no policy to promote or plan for delivery areas, so there is no guarantee of access to the isolated electricity grids within cities.

Finally, all of the ESPs operate independently and, as a consequence, there is significant duplication of generation, distribution, technical, maintenance and human capability infrastructure.

## **5.3 Option #1: Vertically integrated utility with IPPs and ESPs off-grid**

### **5.3.1 Overall structure**

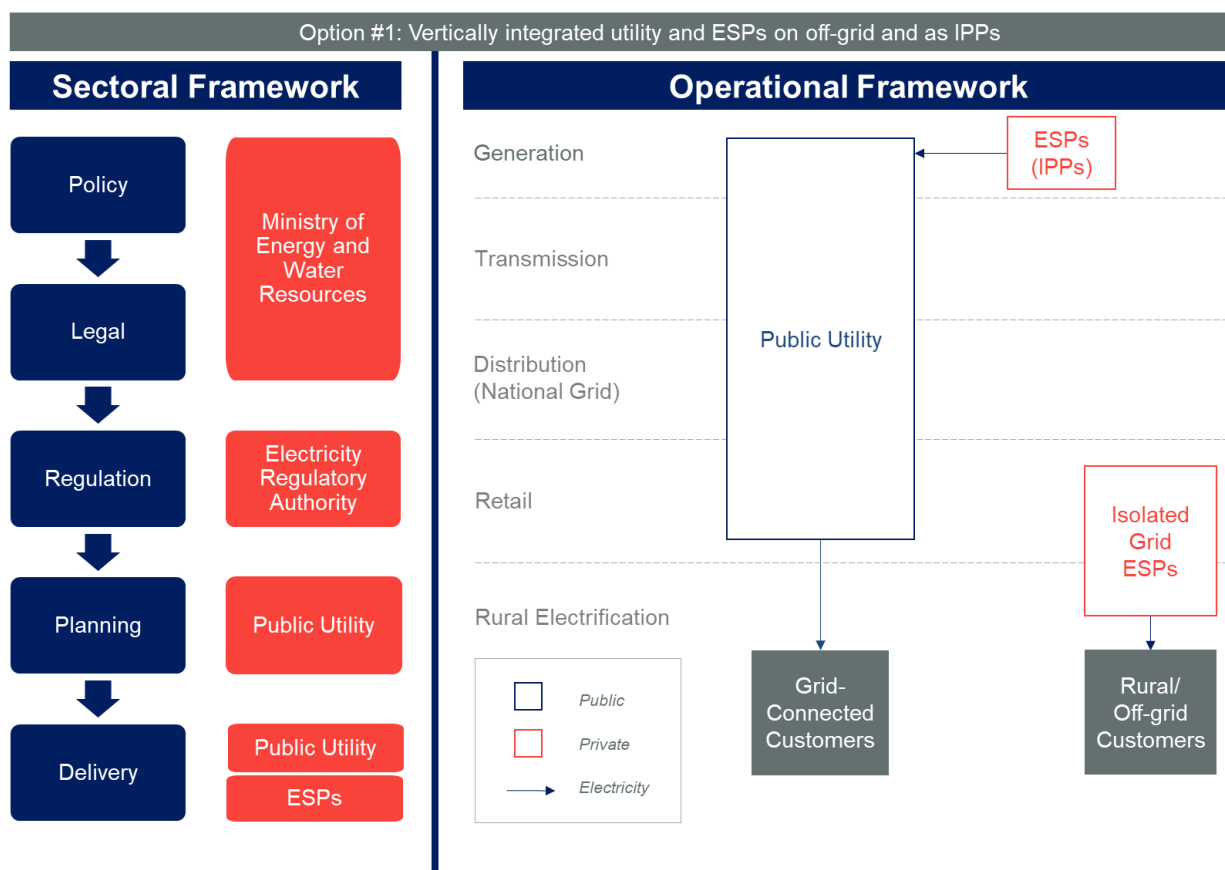
This option would establish the Electricity Regulatory Authority (Regulatory Authority) under the Regulation component of the sectoral framework and will establish a single public utility under the operational framework. The Regulatory Authority has legal authority outlined in the Electricity Act 2019, but it is not yet in force, and this is the first critical step to make improvements to the electricity supply industry.

This Public Utility will be the sole source of transmission, distribution, and retail for grid-connected customers, and will meet demand through (i) its own generation sources or (ii) large ESPs that would act as IPPs. Isolated grid ESPs will continue to operate for off-grid purposes. There are no interconnections between the Public Utility and the isolated grid ESPs, which will be regulated by the Regulatory Authority.

While the Ministry sets the national policy and provides legislative guidance, the Regulatory Authority would have oversight of the Public Utility, IPPs and ESPs and would collect data for planning and regulatory purposes within the sector.

The figure below presents the structure of this option.

Figure 5-2: Structure of Option #1: Vertically Integrated Utility with IPPs and ESPs Off-Grid



### 5.3.2 Operational framework

#### Generation segment

The public utility will have the mandate to meet demand for electricity, either through the public utility’s generation units or through electricity generated by large ESPs that would act as IPPs and for which the public utility will be the sole off-taker. IPPs would sell to the public utility and would not engage in the transmission or distribution of electricity. The main source of generation would be through building national generation capacity that is owned, operated, and maintained by the public utility, but this option still allows IPPs to operate independently, and the licensing system for IPPs would be determined by the Regulatory Authority rather than by the public utility, to ensure competition, fairness, and independence.

Isolated off-grid ESPs would supply electricity for off-grid customers within defined geographic areas but would not be able to sell to transmission or distribution networks connected to the main grid and would not engage in the transmission of electricity. Licenses for off-grid ESPs would be granted by the Regulatory Authority rather than by the public utility, to ensure competition, fairness, and independence.

#### Transmission segment

The public utility will be the sole source of electricity transmission in FRS. IPPs will not be permitted to build their own intervening high-voltage transmission infrastructure, except where it is required to connect their generation plants to the grid.



The public utility could also hold responsibility for developing interconnections with other countries to import electricity from neighboring countries. After some time, the public utility will be able to attract additional grants, subsidies, and concessional financing to support more cost-effective development, since it should be able to better demonstrate effective management, investments, and structures to potential financing institutions. The public utility will benefit from the monopoly on electricity transmission in FRS, while having the sole responsibility for constructing, operating, and maintaining the electricity transmission grid. It will thus be required to optimize its resources to develop the country-wide grid in order to prioritize public development objectives, while also avoiding redundancy and improving grid flexibility.

### **Distribution segment**

The public utility will be the sole source of electricity distribution in FRS. IPPs will not be permitted to build their own medium- or low-voltage infrastructure, except where it is required to connect to the grid, but they will not be able to sell electricity directly to customers.

The public utility will benefit from the monopoly on electricity distribution in FRS, while having the sole responsibility for constructing, operating, and maintaining the electricity distribution grid. As the sole electricity distributor within the Federal Republic of Somalia, it will have a clearly defined geographic area into which it must expand service, which will be based on an assessment of potential customers proximity to existing grid infrastructure.

### **Rural electrification segment**

Isolated off-grid ESPs would supply electricity for off-grid users within defined geographic areas, but would not be able to sell to transmission or distribution networks of the Public Utility, and would not engage in the transmission or distribution of electricity.

The Regulatory Authority and Ministry will be responsible for the coordination of rural electrification activities, and the Regulatory Authority will have the authority to grant licenses to mini-grids, with specific regulations and agreements for coverage area, standards, and tariffs. Granting of these licenses by the Regulatory Authority will ensure competition, fairness, and independence.

Since the Regulatory Authority will also set the service area boundaries for the public utility, based on geographic proximity to the grid, the licensing process for off-grid ESPs will intend to cover the areas that are not serviceable by the public utility. Exclusivity of service territories with regard to the distribution and off-grid operations will be ensured by the Regulatory Authority.

## **5.3.3 Sectoral framework**

### **Policy and strategy**

The role of policy-setting and oversight of the electricity sector in FRS is set by the MoEWR. The Ministry will remain responsible for preparing, publishing, and revising the policies and strategies for the electricity sector, including directing the organization and structure of the sector. The Ministry has final authority over the National Electrification Plan and Strategy, but the Electricity Authority maintains responsibility for collection of data and/or development of the national planning and strategy.

## **Legal**

Legal authority over the electricity sector is set at the highest level by the Ministry and by the Government of the Federal Republic of Somalia. A specific framework for IPPs is put in place. Secondary legislation may be set by Ministry or the Electricity Authority, but the Ministry must approve and enact the legislation for it to come into force.

## **Regulation**

The Regulatory Authority has authority over the regulation of, generation, transmission, distribution, supply, and use of electrical energy. Furthermore, it has the authority and responsibility for oversight and monitoring of any legislation passed by the government or Ministry relating to the electricity sector. The Regulatory Authority will have responsibility for secondary legislation that will provide licensing and permits, technical and market standards, geographic zoning and planning, and tariffs, meter installation and connection costs, and other ancillary costs for customers. Electricity prices are set by the Regulatory Authority, and licensees are directly overseen by the Regulatory Authority. Within this option, the Regulatory Commission will need to work closely with the public utility in establishing a system operations unit within the public utility that will be responsible for the efficient dispatch within the system. The Regulatory Authority will also have oversight and responsibility for data collection from the public utility, IPPs and isolated-grid ESPs to support sector planning at the levels of the Regulatory Authority and the Ministry. Under this option, The Regulatory Authority will also have oversight on IPPs and will establish connection standards, oversight of PPAs, tariff setting, etc.

## **Planning**

Coordination of the sector is undertaken between the Ministry and the Regulatory Authority, and while the Ministry retains final direction over policy and planning, a significant amount of planning power will be transferred to the Public Utility with an oversight from the Electricity Authority. The Regulatory Authority collects also the data necessary for developing the national electrification plan, including data on IPPs.

## **Delivery**

Delivery of electricity will fall under the responsibility of the Public Utility on the grid and of ESPs for off-grid rural electrification. IPPs operating in the sector will only supply electricity to the public utility and will not be able to directly sell to consumers. System operations will occur within the public utility, so it will not be a fully independent system operator, and the delivery of electricity is overseen and regulated by the Regulatory Authority. Delivery under this option will be from a single source, simplifying the delivery options, process, and oversight.

## **5.4 Option #2: Open market and third-party access**

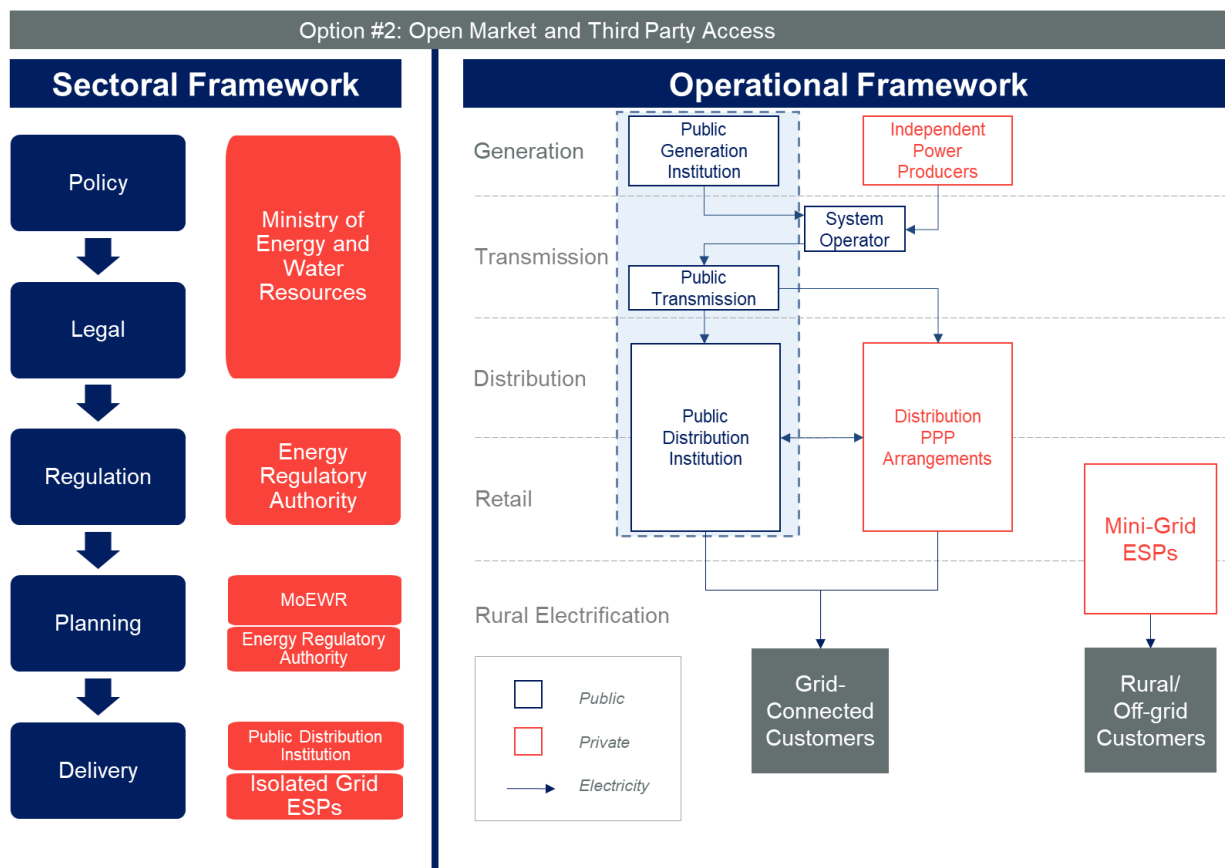
### **5.4.1 Overall structure**

This option represents the vision laid out in the Electricity Act of 2019 through the MoEWR. It seeks to improve competition and participation in the sector through better delineation of roles and clear licensing of generation, transmission, and distribution

providers, which will be permitted to obtain licenses for multiple segments which are granted for fixed terms by the Regulatory Commission.

The graphic below illustrates the features of Option #2.

**Figure 5-3: Structure of Option #2: Open Market and Third Party Access**



The main purpose of this Act is to “consolidate the laws relating to Electricity, to provide for the establishment, powers, and functions of the National Electricity Regulatory Authority.” The Ministry will need to take responsibility for setting sectoral policies and undertaking the least cost planning development, implementation, and monitoring for all segments of the sector, including generation, transmission, grid expansion, and rural electrification.

As such, the National Electricity Regulatory Authority (“the Regulatory Authority”) is set to be an independent authority from the MoEWR that will regulate the licensing of generation, transmission, distribution, retail, electrical works and installation, and system operations licenses, as well as regulating tariffs and technical standards. The Ministry will set the regulations and provisions for licensing, but the Regulatory Authority will have responsibility for implementation, enforcement, and monitoring.

The Ministry maintains oversight, regulation, and control of rural electrification planning and coordination. The Ministry will be primarily responsible for the strategic planning in the sector, despite the fact that planning of the electricity sector appears to fall under the authority of both the Ministry and the Regulatory Authority, as “Article 7: Powers of the Minister” and “Article 11: Powers of the Authority” both indicate responsibility and authority for national electricity sector planning for the respective entities.

The Regulatory Authority takes the sole responsibility for the granting and regulation of licenses for generation, transmission, distribution, retail, or supply. These licenses are not exclusive to the public sector, and a core objective of this Act is to encourage private sector participation in the electricity sector.

Thus, while it appears that there is dual-responsibility and overlap between the Ministry and the Regulatory Authority, it will in fact be delineated between the two entities. The Ministry will set policy and legislation, conduct planning, and direct the sector, while the Regulatory Authority will be beholden to the regulations set by the Ministry and will have the responsibility for implementation, enforcement, data collection, and monitoring.

## **5.4.2 Operational framework**

### **Generation segment**

Public or private entities that are seeking to construct, own, or operate a generation plant must be granted a transmission license by the Regulatory Authority. A generation license is required for any generation plant with a capacity over 500 kW and in order to connect the generation plant to a transmission or distribution network. A generation license can only be granted by the Regulatory Authority. A permit is not required for the construction and operation of a generation plant under 500 kW and where it is not connected to a transmission or distribution system, thus exempting isolated grid development for rural electrification from the generation license scheme. These isolated grids, including their generation sources, will fall under the authority of the Ministry directly, under their oversight of rural electrification planning.

The public generation utility will take the primary role in developing the generation capacity of the sector in the medium-term under the public utility holding company, while new public and private entities will be gradually phased into the sector. Frequent monitoring and evaluation of the generation capacity by the Ministry and Regulatory Authority, once established, will allow responsive allocation of public and private resources and investment in order to meet demand. The generation utilities and the existing private ESPs will have mandates from the Ministry to better integrate renewable energy into their existing generation. With a more reliable off-taker (the system operator and transmission company), there will be more certainty and reliability

### **Transmission segment**

Only the public utility holding company, which will be seeking to construct, own, or operate a transmission network, will be granted a transmission license by the Regulatory Authority; this license will be for a utility that is overseen by the overall public utility. A transmission license is required to connect the transmission network of the licensee to other transmission or distribution networks and is required to maintain and operate its network in coordination with any other transmission or distribution networks, within or outside of FRS. In the long-term, it is envisioned that only the public utility will hold any transmission licenses; since no ESPs currently operate high- or medium-voltage transmission networks, there is no reason for the private sector to apply for licenses for *existing* transmission assets, and the only presumed reason that any existing ESPs may request a transmission license is to operate a medium- or high-voltage network to connect to the main grid, if their distribution area is far removed from the public grid.

The public utility will be able to attract additional grants, subsidies, and concessional financing to support more cost-effective development, since it should be able to better demonstrate effective management, investments, and structures to potential financing institutions. This assumes in the short-term that system operation will occur under the supervision of the licensees, but in the long term an independent system operator must be established to better coordinate the grid. System operations will also first occur within the public transmission company, but will be phased into an independent system operator in the longer-term.

### **Distribution and retail segment**

As outlined by the Act, public or private entities that are seeking to construct, own, or operate a distribution network or a retail or supply network must be granted the appropriate license by the Regulatory Authority.

A distribution license is required to operate a distribution grid that transmits electricity to customers either directly from generating plants or from a transmission system. Distribution licenses can be granted conditional on integration and optimization of the existing grids within the major urban areas, as part of the Somali Electricity Sector Recovery Project. Distribution licenses are granted with the requirements that they meet the capacity of the system and extend distribution coverage to any customers within their coverage area. Distribution licenses are granted for a specific geographic area, but are not exclusive to that distribution licensee; the licensing procedure determined by the Regulatory Authority allows existing licensees or stakeholders to lodge an objection.

In some cases, public or private entities can apply to hold a retail or supply license, which will be granted in order to conduct metering, selling, billing, and revenue collection. Any customer wanting to establish a connection must first approach the retail or supply licensee, but in areas where no retail or supply licensee exists, the distribution licensee will have the responsibility to establish a connection. Regulations apply to all distribution, retail, or supply licensees equally relating to the retail and supply of electricity to customers, including dealing with revenue collection and recovery, theft, and metering installation and standards. Despite the increased participation by a wider range of actors in the sector, the Regulatory Authority's oversight will still allow it to set the geographic expansion requirements for distribution entities, which will obligate any distribution licensee to extend coverage to any customers that are within a certain proximity of the grid. Exclusivity of service territories with regard to the distribution and off-grid operations will be ensured by the Regulatory Authority.

### **Rural electrification segment**

Under the Electricity Act, authority over rural electrification will remain with the Ministry, which is responsible for supporting and promoting rural electrification. The Ministry has the sole authority to direct provision of rural electrification programs through public and private sector participation. Isolated grid development is not overseen by the Regulatory Authority as part of the generation licensing, as generation licenses are granted only for generation plants connecting to the grid and have capacity of 500 kW or more. Since the Ministry has the overall responsibility for sector planning and direction, rural electrification should remain under the Ministry's responsibility. Implementation of rural electrification programs and investment will be primarily undertaken within the Ministry through targeted and direct public-private partnerships in the long-term. As part of the Somali Electricity Sector Recovery Project, the Ministry will direct rural electrification



efforts to cover electricity needs for public sector services so that they may serve as a reliable off-taker and to improve public confidence in the electricity supply industry.

### **5.4.3 Sectoral framework**

#### **Policy and strategy**

Under this option, the role of policy-setting and oversight of the electricity sector in FRS remains in the MoEWR. The Ministry is responsible for preparing, publishing, and revising the policies and strategies for the electricity sector, including directing the organization and structure of the sector. The Ministry has final authority over the National Electrification Plan and Strategy, but the Electricity Authority maintains responsibility for collection of data and development of the national planning and strategy.

#### **Legal**

Legal authority over the electricity sector is set at the highest level by the MoEWR and by the Government of the FRS. Secondary legislation may be set by the Regulatory Authority, which oversees and implements the legal requirements for licensees.

#### **Regulation**

The National Electricity Regulation Authority has authority over the regulation of “importation, exportation, generation, transmission, distribution, supply, and use of electrical energy and the production, distribution, supply and use of renewable and other forms of electrical energy.” Furthermore, the Authority has the power and responsibility for oversight and monitoring of any legislation passed by the government or Ministry relating to the electricity sector.

#### **Planning**

Aligned with the current Electrical Energy Act, the coordination of the sector is undertaken between the Ministry and the Regulatory Authority; while the Ministry retains final direction over policy and planning, a significant amount of planning power and authority has been devolved to the Regulatory Authority as part of its role in collecting data.

The Regulatory Authority collects the data necessary for developing the national electrification plan, as it is significantly better placed to conduct this function of the planning process. The Regulatory Authority also has the authority to grant licenses for Regional System Operators, responsible for matching supply to demand, maintaining system security, and for the dispatch process, within a specific geographic area. However, the Ministry will have the final decision-making power over these functions; what data to collect and from whom, and the licensing process. Thus, the planning process can be characterized as directed by the Ministry and implemented by the Regulatory Authority.

#### **Delivery**

Delivery of electricity is overseen and regulated by the Regulatory Authority, but delivery will ultimately fall only under the responsibility of licensees for distribution, retail, and supply. Holders of distribution licenses may also be active in generation and transmission of electricity, but these business units will not have responsibility for electricity delivery direct to consumers. Since the Regulatory Authority has the direct

oversight over the delivery, it will be able to more efficiently allocate geographic service areas between entities.



# 6

## Assessment of Options to Reinforce Electricity Supply Industry Institutional Structure

### 6.1 Description of the criteria

As described in **Chapter 4**, four criteria have been developed to evaluate the options presented in the previous section. These are the following:

- **Institutional feasibility**

Under these criteria, we evaluate:

- The extent to which the existing institutional framework could be leveraged with a limited number of changes when implementing the option
- Knowledge, skills, and expertise of stakeholders and their capacity to implement the proposed changes
- The extent of coordination required between entities in the sector structure

- **Acceptability by institutions**

Under these criteria, we evaluate:

- Acceptability of changes to existing public institutions
- Acceptability of changes to electricity sector stakeholders (public and private)

- **Improvement to sector governance and transparency**

Under these criteria, we evaluate the extent to which the following exists:

- Clear roles and responsibilities for each institution and clear relationships between stakeholders within the proposed structure
- Accountability for each institution and stakeholder within the proposed structure
- Independence of the regulator and reduction of potential for conflicts of interest

- **Policy priorities of the Government of the Federal Republic of Somalia**

Under these criteria, we assess whether:

- The option improves competition within the electricity sector through private sector participation
- The option favours access to electricity for urban and rural customers
- The option allows for cost reduction for electricity that results in reduced tariffs
- The option promotes deployment of renewable energy

Applying these criteria make it possible to compare the characteristics of each of the alternatives in the medium to long terms, which will offer decision-makers of the sector the tools to choose the suitable alternative for their ESI institutional structure.

The following table provides an entire breakdown of the scoring criteria, the weighting by criteria and the associated indicators.

Table 6-1: Evaluation criteria overview

Evaluation	Weight	Evaluation Criteria
1	Institutional Feasibility 30%	<ul style="list-style-type: none"> <li>➔ Existing institutional framework could be leveraged with a limited number of changes when implementing the option</li> <li>➔ Knowledge, skills, and expertise of stakeholders and their capacity to implement the proposed changes</li> <li>➔ The sector structure entails high levels of coordination between entities</li> </ul>
<b>Scoring Scale</b>		
<p><b>5: Very high feasibility:</b> proposed changes will have no barriers to implementation, drawing on the existing institutional framework and human resources.</p> <p><b>4: High feasibility:</b> proposed changes would have few, limited barriers to implementation, drawing mostly on the existing institutional framework and human resources.</p> <p><b>3: Moderate feasibility:</b> proposed changes would have some barriers to implementation and would need support to the existing institutional framework and human resources.</p> <p><b>2: Low feasibility:</b> proposed changes would have significant barriers to implementation, requiring strong support to the existing institutional framework and human resources.</p> <p><b>1: Very low feasibility:</b> proposed changes would have significant barriers to implementation, and existing institutional framework and human resources would not support implementation.</p>		
2	Acceptability by institutions 30%	<ul style="list-style-type: none"> <li>➔ Acceptability of changes to existing public institutions</li> <li>➔ Acceptability of changes to electricity sector stakeholders (public and private – notably ESPs)</li> </ul>
<p><b>5: Very high acceptability:</b> proposed changes would be highly acceptable to all existing institutions and stakeholders.</p> <p><b>4: High acceptability:</b> proposed changes would be mostly acceptable to all existing institutions and stakeholders, with some limited reservations that can be considered through limited changes.</p> <p><b>3: Moderate acceptability:</b> proposed changes would be acceptable to a majority of existing institutions and stakeholders, but some institutions will resist or object.</p> <p><b>2: Low acceptability:</b> proposed changes would be acceptable to few institutions and stakeholders and would receive significant objection.</p> <p><b>1: Very low acceptability:</b> proposed changes would not be acceptable to existing institutions and stakeholders, and implementation is unlikely to succeed.</p>		
3	Improvement to Sector Governance and Transparency 20%	<ul style="list-style-type: none"> <li>➔ Clear roles and responsibilities for each institution and clear relationships between stakeholders within the proposed structure</li> <li>➔ Accountability for each institution and stakeholder within the proposed structure</li> <li>➔ Independence of the regulator is promoted and potential for conflicts of interest is reduced within the proposed structure</li> </ul>
<p><b>5: Significant improvement to sector governance:</b> proposed changes would totally clarify sector governance, improve transparency, and make stakeholders accountable.</p> <p><b>4: Improved sector governance:</b> proposed changes would clarify and improve sector governance, transparency, and accountability.</p>		

<p><b>3: Moderate improvement to sector governance:</b> proposed changes would make some improvements to sector governance, transparency, and accountability.</p> <p><b>2: Limited improvement to sector governance:</b> proposed changes would make limited improvements to sector governance, transparency, and accountability.</p> <p><b>1: No improvement or weakened sector governance:</b> proposed changes would make no improvements to sector governance, transparency, and accountability.</p>			
4	Policy Priorities of Government of the Federal Republic of Somalia	20%	<ul style="list-style-type: none"> <li>→ The option <i>improves competition within the electricity sector through private sector participation</i></li> <li>→ The option <i>favours access to electricity for urban and rural customers</i></li> <li>→ The option allows for <i>cost reduction</i> for electricity that results in reduced tariffs</li> <li>→ The option promotes <i>deployment of renewable energy</i></li> </ul>
<p><b>5: Very high:</b> proposed changes would address all policy priorities of the government.</p> <p><b>4: High:</b> proposed changes would address most of policy priorities of the government.</p> <p><b>3: Moderate:</b> proposed changes would address the majority of policy priorities of the government.</p> <p><b>2: Low:</b> proposed changes would address limited number of policy priorities of the government.</p> <p><b>1: Very low:</b> proposed changes would not meet the policy priorities of the government.</p>			
<b>Total</b>		<b>100%</b>	

### Rationale behind the weight of the evaluation criteria

The four criteria identified for evaluating the ESI options against each other are determined by (i) the capacity of a given option to meet the objectives and strengthen the sector, and (ii) the capacity of a given option to be implemented.

While the achievement of objectives is a key element in the strengthening measures that will be taken, the capacity of an option to be implemented is essential to achieving these objectives.

Indeed, the acceptance by stakeholders and the degree of feasibility of a given option determines the practical implementation of this option and therefore its ability to meet the objectives in terms of strengthening the overall governance of the sector and meeting sectoral policies.

It is with this in mind that a slightly greater weighting was given to criteria reflecting the option's ability to be implemented (30%) than to criteria reflecting the option's capacity to meet the targeted objectives (20%).

In other words, an ESI option could have a high degree of success in meeting its objectives, but if its acceptability by stakeholders and its feasibility on the ground are compromised, then the objectives cannot be met.

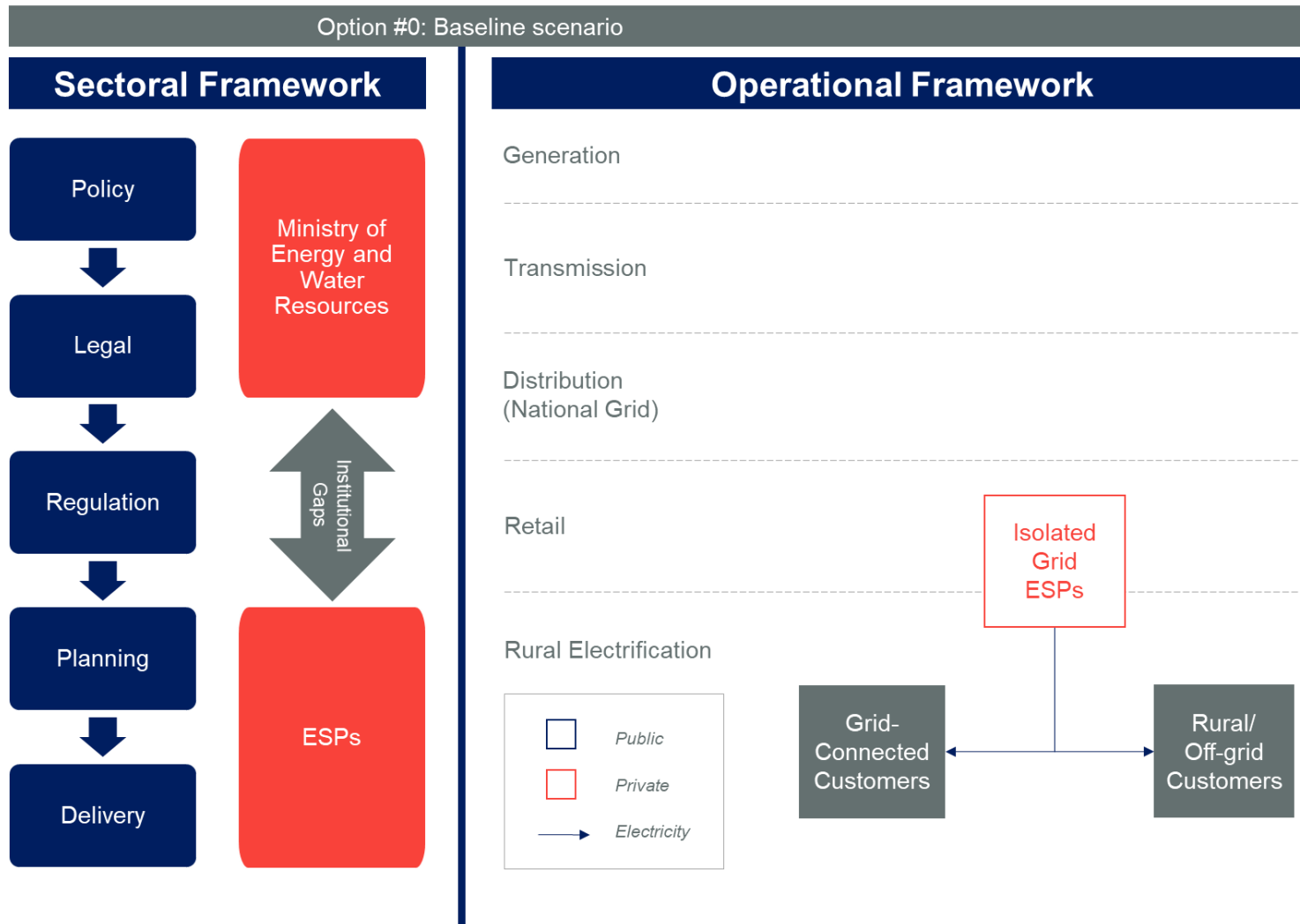
## 6.2 Analysis of Option #0: Baseline scenario

### 6.2.1 Summary of baseline scenario

The current situation in the Federal Republic of Somalia is of limited regulatory oversight and little participation in the electricity sector of public institutions. Private ESP's generate and distribute electricity to isolated grids within major urban areas, but are not rigorously overseen or regulated by the Ministry. These grids operate independently and do not meet current demand. While the Ministry sets the national policy and provides legislative guidance, there is little actual regulatory oversight of the ESPs that conduct limited planning and delivery; the major sectoral gap is the lack of a regulatory authority.

The figure on the following page displays the structure of the current baseline scenario.

Figure 6-2: Structure of Option #0: Baseline scenario



### 6.2.2 Analysis of baseline scenario

To analyze the current sector structure in this section, each evaluation criteria includes an explanation that identifies how the criteria is being evaluated as the reference situation. A score is assigned to provide a reference point of comparison for all other options.

Table 6-3: Analysis summary table of Option #0

Evaluation Criteria	Analysis of the Baseline	Scoring
<b>Institutional Feasibility</b>	<p>This evaluation criterion is to <b>determine the feasibility of maintaining the current baseline scenario</b> in the long-term rather than determining the feasibility of implementing any proposed changes. The baseline score for this evaluation criteria assumes that the sector generally wants improvements, though any improvements are also assumed to be increasing regulation of the sector.</p> <ul style="list-style-type: none"> <li>Keeping the baseline entails no changes. This translates to a high score of institutional feasibility as maintaining the status quo does not require any institutional change. However, in the long term, maintaining this baseline scenario will lead to very low levels of institutional development in the sector, negatively impacting the institutional framework over time.</li> </ul>	<p>4</p> <p>High feasibility</p>
<b>Acceptability by institutions</b>	<p>This evaluation criterion is to <b>determine the acceptability from the existing institutions to maintain the status quo</b>. In other words, how satisfied are institutions and stakeholders in the sector with the current structure of the electricity sector.</p> <ul style="list-style-type: none"> <li>Institutions will not want to maintain the status quo. The Ministry is willing to implement its policy priorities within the sector to increase oversight, direction and regulation. The basic first step to install a regulator will respond in part to this issue and the Ministry will be able to pass off regulatory responsibilities to ensure greater oversight.</li> <li>According to discussions held with ESPs, acceptability of the status quo by the private sector will also be very limited. High costs and a lack of regulatory oversight makes it an unattractive investment for private sector players. Installing a regulator in the sector would be the first step to increase acceptability to the private sector players. Interviews conducted at earlier stages of this assignment show that isolated grid ESPs will see regulation as a positive development.</li> </ul>	<p>1</p> <p>Very low acceptability</p>
<b>Improvement to Sector Governance</b>	<p>This evaluation criterion is to <b>determine the current quality of sector governance and transparency</b> and if it has room to improve under the current framework.</p>	<p>1</p>

<p><b>and Transparency</b></p>	<ul style="list-style-type: none"> <li>Under the baseline scenario, the institutional analysis previously conducted for this assignment shows that the current allocation of roles and responsibilities has room for improvement. Several functions of both the sectoral and operational frameworks are not fully covered or not covered at all in some cases such as regulation. Without the establishment and significantly expanded capabilities of the Regulatory Authority, including more funding, clear regulatory roles, and independence from the Ministry, there will be very limited improvements to the current sector governance and transparency.</li> </ul>	<p>No improvement or weakened sector governance</p>
<p><b>Policy Priorities of Government of Federal Republic of Somalia</b></p>	<p>This evaluation criterion is to <b>determine the ability of the current structure to favor the implementation of policy priorities</b> as stated in the Energy Policy 2018.</p> <ul style="list-style-type: none"> <li><b>Competition:</b> The current structure encourages competition in the sector to a small extent since it allows private sector participants to establish their businesses wherever they wish; however, it also encourages local or regional monopolies, which will discourage further private sector investment. Overall, Private Sector Participation is only marginally encouraged, since there is limited regulation over the system.</li> <li><b>Access:</b> The baseline scenario does not encourage access to the grid. Private sector isolated grid ESPs are incentivized only to operate in the highest-density areas of the country where it is most economically feasible, while overlooking rural electrification.</li> <li><b>Prices:</b> A lack of any regulatory oversight prevents effective cost and price controls on the sector. The Ministry has little recourse to decrease prices in the sector through cost-reduction mandates.</li> <li><b>Renewable energy:</b> The promotion of a greater share of renewable energy in the generation mix is limited as the current framework does not provide incentives for the development of renewable energy, especially in the absence of secondary regulation that would incentivize electricity providers from RE sources.</li> </ul>	<p>1 Very low</p>
<p><b>Weighted Total</b></p>	<p>Criteria 1: 30% * 4 = 1.2 Criteria 2: 30% * 1 = 0.3 Criteria 3: 20% * 1 = 0.2 Criteria 4: 20% * 1 = 0.2</p>	<p>1.9 / 5</p>



## 6.3 Analysis of Option #1: Vertically integrated utility with IPPs and ESPs off-grid

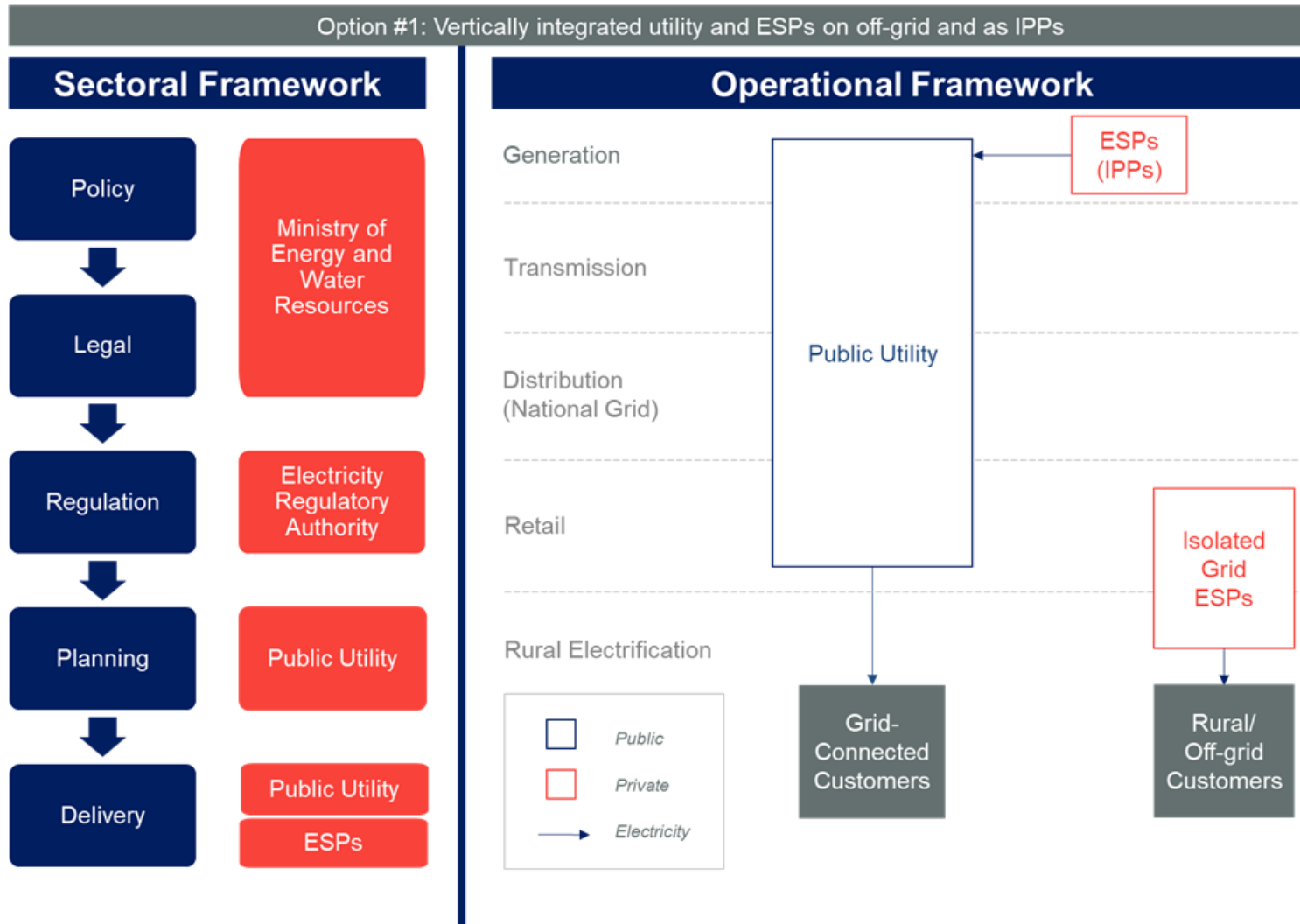
### 6.3.1 Summary of Option #1

This option would start with including the establishment of the Electricity Regulatory Authority (Regulatory Authority) under the regulatory component of the sectoral framework to oversee secondary legislation implementation and planning in the Federal Republic of Somalia, and will establish a single public utility under the operational framework. The main difference is while the Public Utility will be the sole source of transmission, distribution, and retail for grid-connected customers, it will be able to supply demand through its own generation sources or through IPPs. These IPPs could be represented by larger ESPs who would sell the electricity to the single buyer, the utility.

As per the previous option, isolated grid ESPs will continue to operate for the sole purpose of rural electrification.

The figure on the following page displays the structure of option 1.

Figure 6-4: Structure of Option #1



### 6.3.2 Analysis of Option #1

The following table presents the assessment of the option as per the analytical framework described in Section 3.

**Table 6-5: Analysis summary table of Option #1**

Evaluation Criteria	Analysis of the Option	Scoring
<b>Institutional Feasibility</b>	<ul style="list-style-type: none"> <li>• This option is creating two new institutions: the Regulatory Authority and the Public Utility.</li> <li>• As a new institution, the skills and expertise necessary for the Public Utility to function will likely be built from scratch or from a limited number of available skills in the country. Another option to fill the skills and expertise gap could rely on the existing ESPs since these are currently the only source of generation and distribution within FRS and thus the main source of human capital talent. This would require a buy-out by the new Public Utility. However, since the existing ESPs are likely to transition to the role of IPPs in this new structure, the skills and expertise at the ESPs are more likely to remain in their hands.</li> <li>• Additional skills will be required, especially in terms of negotiating PPAs with IPPs or dispatch of privately generated electricity versus public generated electricity.</li> <li>• The Regulatory Authority will be established using existing expertise within the Ministry and the sector. Some external support will be needed to support the Regulatory Authority and the Ministry, especially in comparison with the previous option as the regulation of PPAs will fall under the responsibility of the Regulatory Authority. This is important in particular because it is not clear that the skills and capacity currently exist in the sector.</li> <li>• This option does not offer a gradual lead-in to the long-term option, taking into account the likelihood of legal action by ESPs.</li> </ul>	<p style="text-align: center;">2</p> <p style="text-align: center;">Low feasibility</p>
<b>Acceptability by institutions</b>	<ul style="list-style-type: none"> <li>• As per the previous option, the creation of a Utility, if not associated with additional generation sources for the grid-connected system, will receive significant pushback from the existing ESPs, since it is likely that this will remove their business within higher-density urban, grid-connected areas. However, by transforming a share of these ESPs into IPPs that sell electricity to the Public Utility, it would mitigate the lack of acceptability by ESPs. The reliability of the off-taker (the utility) compared to individual users might even reinforce their positions. However, the existing ESPs still stand to gain little from this proposed structure even when they consider taking on a new role as IPPs.</li> </ul>	<p style="text-align: center;">2</p> <p style="text-align: center;">Low Acceptability</p>

	<ul style="list-style-type: none"> <li>On the public side, this option is creating two new institutions, while significantly reducing the role of isolated grid ESPs. The public sector, which will include the Ministry, the Regulatory Authority, and the Public Utility, will likely accept this option since main responsibilities would be allocated to them, and even under the IPP model, the role of the utility is still major.</li> </ul>	
<p><b>Improvement to Sector Governance and Transparency</b></p>	<ul style="list-style-type: none"> <li>The sectoral framework is only modestly improved within this option through a better allocation of roles for the policy, generation and delivery, and regulatory functions. However, the limited number of new sectoral players will result in a high potential for additional conflicts of interest.</li> <li>The Regulatory Authority will struggle to better coordinate the roles and responsibilities of the five sector stakeholder groups: the Ministry, the Regulatory Authority, the Public Utility, IPPs and the isolated grid ESPs. The current legal and regulatory framework sets out generic guidelines for a licensee system, but with the introduction of a single large public utility, there should be significant additional legislation to govern the relationship with the public utility that would not apply to other licensees, like isolated grid ESPs.</li> <li>The Public Utility will hold an outsized role in regulatory oversight and governance due to the low number of newly introduced players in the sector. Developing and implementing the regulations necessary to oversee the Public Utility and its contracts with IPPs will be necessary to ensure proper governance under a single-buyer model as the only player within the operational framework for grid-connected customers. The public utility will be directly responsible for grid system operations, meaning it will not have a fully independent system operator, which increases the likelihood of conflicts of interest.</li> <li>Specific regulatory oversight over the isolated grid ESPs will be ensured to guarantee fairness, transparency, and good governance to encourage investment in this sector promoting rural electrification.</li> </ul>	<p>2</p> <p>Limited improvement to sector governance</p>
<p><b>Policy Priorities of Government of Federal Republic of Somalia</b></p>	<ul style="list-style-type: none"> <li>This option makes some steps towards greater <b>competition</b> within the sector. While the Public Utility will have a monopoly over transmission and distribution within the sector, generation can fall to the Public Utility and to private sector IPPs, which will help encourage competition and encourage cost reduction.</li> <li>Priority is placed on increasing <b>access</b> since the establishment of the Public Utility will ensure wider grid access for the population. Private sector IPP competition for generation will help free up resources to provide better access through increased investment in the distribution sector. Moreover, having private sector players focused on rural electrification as isolated grid ESPs will support the access increase through the grid.</li> </ul>	<p>2</p> <p>Low</p>

	<ul style="list-style-type: none"> <li>This option has a high potential to <b>reduce costs</b> which will reduce electricity tariffs. First, competition between IPPs and the utility will likely reduce tariffs. However, the Regulatory Authority will closely oversee the relationships between the Public Utility and the IPPs in order to ensure adequate pricing for electricity generation, translating ultimately in the tariffs.</li> <li>This option will be able to <b>encourage renewable energy</b> since, with proper PPAs, most of the IPPs could be encouraged to generate electricity from renewable sources as these are more competitive.</li> </ul>	
<b>Weighted Total</b>	<p>Criteria 1: 30% * 2 = 0.6                  Criteria 2: 30% * 4 = 1.2                  Criteria 3: 20% * 4 = 0.8                  Criteria 4: 20% * 4 = 0.8</p>	<b>3.4 / 5</b>

## 6.4 Analysis of Option #2: Open market and third-party access

### 6.4.1 Summary of Option #2

The Federal Republic of Somalia approved and enacted the Electricity Act in 2019 through the Ministry of Energy and Water Resources. This Electricity act has been reviewed and key elements of the operational and sectoral frameworks have been translated in this Option #2.

The main purpose of this Act is to “consolidate the laws relating to Electricity, to provide for the establishment, powers, and functions of the National Electricity Regulatory Authority.”

As such, the National Electricity Regulatory Authority (“the Regulatory Authority”) is set to be an independent authority from the Ministry of Energy and Water Resources that will regulate the licensing of generation, transmission, distribution, retail, electrical works and installation, and system operations licenses, as well as regulating tariffs and technical standards.

The Ministry of Energy and Water Resources (“the Ministry”) maintains oversight, regulation, and control of rural electrification planning and coordination.

Planning of the electricity sector appears to fall under the authority of both the Ministry and the Regulatory Authority, as “Article 7: Powers of the Minister” and “Article 11: Powers of the Authority” both indicate responsibility and authority for national electricity sector planning for the respective entities. However, this option will see this authority shift primarily to the Ministry, with the Regulatory

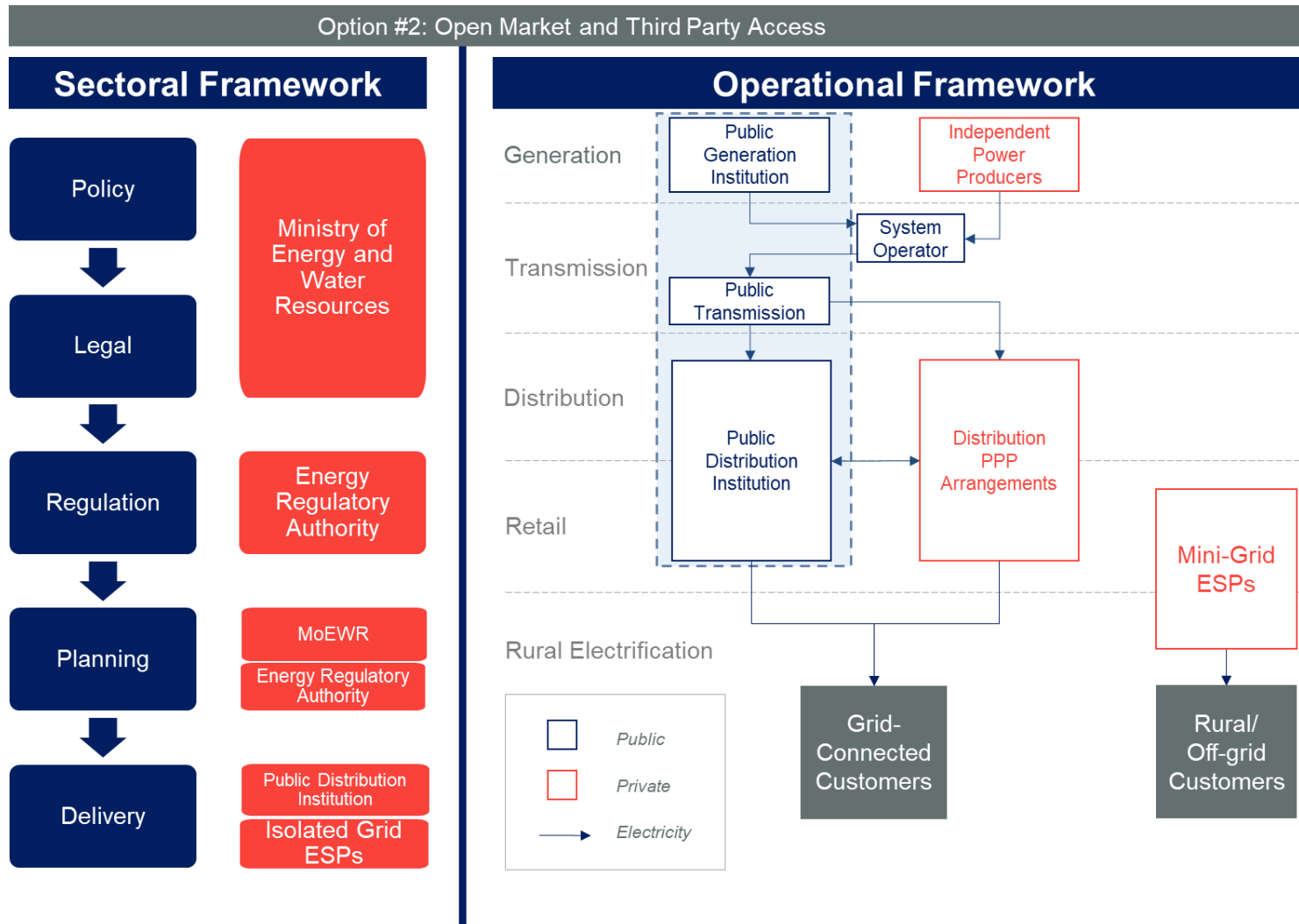
Authority only involved in planning in its role as the main source for energy data collection. The Ministry will direct the data to be collected and from whom, and will also direct the licensing process.

The Regulatory Authority takes the responsibility for the granting and regulation of licenses for generation, transmission, distribution, retail, or supply, though this will be dictated by the planning process undertaken in conjunction with the Ministry. This entails that each segment of the operational framework could be fall under the responsibility of a separate entity, opening the door to have one entity by segment.

Moreover, these licenses are not exclusive to the public sector, and a core objective of this Act is to encourage private sector participation in the electricity sector. This entails that not only the possibility of one entity by segment but also that this entity can be a private sector entity. However, the primary player in the sector will be the Public Utility which will be established, as it will be entirely responsible for transmission, and will have a significant role in generation and distribution. The system operator will be gradually made independent in order to facilitate the national grid.

The figure on the following page displays the structure of Option 2.

Figure 6-6: Structure of Option #2





### 6.4.2 Analysis of Option #2

The following table presents the assessment of the option as per the analytical framework previously described.

**Table 6-7: Analysis summary table of Option #2**

Evaluation Criteria	Analysis of Option #2	Scoring
Institutional Feasibility	<p>This option proposes an operational structure that allows private competition within the generation, transmission, and distribution segments while also establishing a public entity within each segment. This will drastically increase the number of players within the electricity sector from the current situation.</p> <ul style="list-style-type: none"> <li>• The wide range of stakeholders and institutions being developed and implemented within this model will require a high level of specialized skills and knowledge that is likely lacking in FRS today. To develop segmented utilities instead of a single public utility, more external support will need to be brought in to develop the capacity of each institution. However, since these would occur in the longer term, it provides ample time for the sector to develop or import a new, highly skilled workforce.</li> <li>• There will be high coordination requirements for this structure as it involves a large number of players and a significant number of highly complex relationships between players in the sector.</li> <li>• The Regulatory Commission will need to coordinate, regulate, and oversee the relationships between public utilities as well as the relationships of each licensee to each public utility.</li> <li>• However, this option benefits from a strong political and institutional support as it reflects the current Electrical Energy Act of the country. If implemented in the sequence articulated around the short, medium and long terms, this option has a high chance to be institutionally feasible.</li> </ul>	<p>4</p> <p>Highly Feasible</p>
Acceptability by institutions	<ul style="list-style-type: none"> <li>• The Ministry will likely find this option acceptable not only because it reflects the Electrical Energy Act but also because it increases the number of players in the sector, increasing competition and consequently the chances to meet the government’s policy priorities. This option is the only option that allows the full implementation of the Somali Electricity Sector Recovery Project, which is a high priority for the government.</li> <li>• The existing ESPs will accept this option more readily since it is not hindering their current role and provides them wider scope to operate within the sector.</li> </ul>	<p>5</p> <p>High acceptability</p>
Improvement to Sector Governance and Transparency	<ul style="list-style-type: none"> <li>• Theoretically, this option is the one offering the higher degree of governance as each player has a clear role and responsibility in the sector, and relationships between stakeholders within the proposed structure are clear. The degree of accountability is increased for each function. By having the Ministry direct planning functions, while the Regulatory Authority executes much of the planning functions, it removes conflicts of interest.</li> </ul>	<p>4</p> <p>Improved sector governance</p>

Evaluation Criteria	Analysis of Option #2	Scoring
	<ul style="list-style-type: none"> <li>Under this highly unbundled structure, it is also true, theoretically, that the potential for conflicts of interest is reduced as the roles are clearly articulated and regulated. In the longer-term, the system operator will become independent from the transmission company and regulators, further improving sector governance.</li> </ul>	
Policy Priorities of Government of FRS	<ul style="list-style-type: none"> <li><b>Increasing competition:</b> This option does the most to increase competition within the sector. The fully unbundled structure for the operational framework of the sector encourages private sector competition in the generation, transmission, distribution, and retail segments, while also ensuring service delivery through the public utilities that will operate within each segment.</li> <li><b>Increasing electricity access:</b> This option introduces a significant number of players into the sector, which will increase access in urban and rural areas. For grid intensification to increase urban access, the segmenting of each public utility and the additional private sector support will increase coverage and improve the population’s ability to access the grid. For rural electrification, the separation of the grid using isolated grid ESPs will ensure more targeted access for rural customers.</li> <li><b>Reducing costs:</b> The high level of competition associated with this option has a high potential to reduce costs which will reduce electricity tariffs.</li> <li><b>Encourage renewable energy:</b> This option will be able to encourage the public generation utility to deploy renewable energy, and also encourage private sector IPPs to deploy renewable generation sources as it can be sold to multiple entry points in the sector (utility, transmission operator, distribution network).</li> </ul>	<p>5 Very high</p>
Weighted Total	<p>Criteria 1: 30% * 3 = 0.9                      Criteria 2: 30% * 4 = 1.2                      Criteria 3: 20% * 4 = 0.8                      Criteria 4: 20% * 5 = 1.0</p>	<p>3.9/5</p>

## 6.5 Summary Table

Option	Criteria	Score	Weight	Overall Score
<b>Baseline Scenario</b>	Institutional feasibility	4	30%	1.9
	Acceptability by institutions	1	30%	
	Improvement to sector governance and transparency	1	20%	
	Government of FRS policy priorities	1	20%	
<b>Option 1: Vertically integrated Public Utility with IPPs and ESPs Off-Grid</b>	Institutional feasibility	2	30%	1.7
	Acceptability by institutions	2	30%	
	Improvement to sector governance and transparency	2	20%	
	Government of FRS policy priorities	2	20%	
<b>Option 2: Open Market and Third-Party Access</b>	Institutional feasibility	3	30%	3.9
	Acceptability by institutions	4	30%	
	Improvement to sector governance and transparency	4	20%	
	Government of FRS policy priorities	5	20%	

## 6.6 Recommended option

The review of the current institutional framework of the electricity sector in FRS identified a number of limitations that lead to inefficiencies in the system; reducing the Government's ability to meet its sectoral policy objectives.

To address these limitations, several options for strengthening the operational and sectoral framework are possible. The previous sections have presented these possible options, placing them on a spectrum of possibilities ranging from the least to the most complex. Each of these options was then analyzed according to objective criteria and indicators to determine which option appears to offer a better response to the limitations previously identified while allowing for greater acceptability by current stakeholders in the sector.

In light of the analysis conducted, the option involving the strengthening of the Regulatory Commission and the establishment of an open market is the option that seems to offer the most value to the Government of FRS. Indeed, the main positive aspects of this option are:

### **The option is likely to be accepted by the existing institutions and stakeholders.**

- The Regulatory Authority is established and the tools and powers for regulatory oversight are strengthened, to coordinate, regulate, and oversee the relationship between all public and private sector licensees.
- This option proposes an operational structure that allows private competition within the generation, transmission, and distribution segments while also establishing a public entity within each segment. This will drastically increase the number of players within the electricity sector from the current situation, increasing competition and ensuring the continued role of sector player.
- However, the wide range of stakeholders and institutions being developed and implemented within this model will require a high level of specialized skills and knowledge that is likely lacking in FRS today. To develop segmented utilities instead of a single public utility, more external support will need to be brought in to develop the capacity of each institution.

### **This option represents one of the most feasible options on the institutional side as compared to the other options.**

- The Ministry will likely find this option acceptable not only because it reflects the Electricity Act but also because it increases the number of players in the sector, increasing competition and consequently the chances to meet the government's policy priorities. This option is the only option that allows the full implementation of the Somali Electricity Sector Recovery Project, which is a high priority for the government.
- The existing ESPs will accept this option more readily since it is not hindering their current role and provides them wider scope to operate within the sector. In the longer-term, the system operator will become more independent from the transmission company and regulators, further improving sector governance

### **This option contributes to improving the sector governance and transparency.**

- This option offers the highest degree of governance as each player has a clear role and responsibility in the sector, and relationships between stakeholders within the proposed structure are clear. The accountability is increased for each function.
- Under this highly unbundled structure, it is also true, theoretically, that the potential for conflicts of interest is reduced as the roles are clearly articulated and regulated.

**This option contributes the most to supporting the policy priorities of the Government of FRS.**

- **Increasing competition:** This option does the most to increase competition within the sector. The fully unbundled structure for the operational framework of the sector encourages private sector competition in the generation, transmission, distribution, and retail segments, while also ensuring service delivery through the public utilities that will operate within each segment.
- **Increasing electricity access:** This option introduces a significant number of players into the sector, which will increase access in urban and rural areas. For grid intensification to increase urban access, the segmenting of each public utility and the additional private sector support will increase coverage and improve the population's ability to access the grid. For rural electrification, the separation of the grid using isolated grid ESPs will ensure more targeted access for rural customers.
- **Reducing costs:** The high level of competition associated with this option has a high potential to reduce costs which will reduce electricity tariffs.
- **Encourage renewable energy:** This option will be able to encourage the public generation utility to deploy renewable energy, and also encourage private sector IPPs to deploy renewable generation sources as it can be sold to multiple entry points in the sector (utility, transmission operator, distribution network).

## 6.7 Historical case studies

Numerous experiences from around the world provide insight into the benefits and limitations of different power sector development models.

The examples presented below illustrate the relevant strategic directions relevant to the Federal Republic of Somalia, in particular by presenting:

- An example of an ESI built on the basis of private sector development.
- An example of an ESI built from an integrated public sector gradually incorporating private sector involvement.
- The example of an ESI built in a post-conflict context where sectoral infrastructures have been damaged.

### 6.7.1 Texas and ERCOT – the “bottom-up” private-sector approach

The state of Texas in the US provides an instructive example of the early-stage development of an electricity system and eventual reforms to the sector structure that are similar to the case of FRS. The electricity sector was first developed primarily by the private sector, followed then by reforms introducing public entities to support wholesale competition and retail choice for consumers.

In the 1920s, the initial development of the electricity sector was very similar to FRS. The state was largely rural, with a handful of fast-growing urban centers that had a need for small-scale electricity grids.<sup>4</sup> The state government took little interest in developing a state-wide grid or utilities, and cities and communities were served by private sector electricity service providers or community cooperatives that were not connected or integrated.<sup>5</sup> By the 1930s, electricity in urban areas had expanded rapidly, and the major cities of Dallas, Houston, Austin, San Antonio, and El Paso were electrified through initiatives taken by the private sector.<sup>6</sup>

This disaggregated and isolated approach to grid development in higher-density areas continued until the 1940s, but in rural areas, the economics of rural electrification discouraged these private sector electricity service providers from extending their grids or developing mini-grids to service rural farmers. In 1935 when government-led efforts in rural electrification began, only 2.6% of farming households had electricity connections.<sup>7</sup> The federal government, as part of the depression-relief funding, developed a government lending agency to support grid intensification and extension. Texas was the first state to access this funding, developing a nearly 100km line to reach a rural community for 120 customers. Rural electrification continued to be driven by government intervention, filling the gap left by the market, but it paid off: 30 years later, by 1965, more than 98% of rural households were connected to the grid.<sup>8</sup>

By the 1940s, the need became clear for better coordination and integration of the grid, and some of these isolated grids coordinated technical standards and developed interconnections. However, it was only in 1950 that the Texas Interconnected System was first developed to connect all generators.<sup>9</sup> Within 10 years, the generation capacity of Texas was four times larger, signaling that the interconnection within the state had promoted greater development. Throughout this period, while a wide range of players were active in the sector, four large vertically-integrated utilities dominated the sector: Texas Utilities Electric Company; Houston Lighting and Power Company; Central and Southwest Corporation; and Texas-New Mexico Power Company. However, there were still 50 other municipally-owned electricity distribution systems, and 60 municipal cooperatives. During the period between the establishment of the Electric Reliability Council of Texas (ERCOT), a regulatory agency (see below), and the sector reforms starting in the 1990s, generation sources were made more efficient and consolidated, and the number of generating stations reduced, while Texas continued to see the widespread expansion of private sector players in all aspects of the grid.

Sector reform efforts began in earnest in the 1990s, with two significant sector reforms. The first introduced a wholesale market in 1996, focusing first only on the generation side, while reforms to open retail competition came several years later in 2002. ERCOT was formed as the Independent System Operator to facilitate and act as the broker for the competitive wholesale electricity market, as well as supporting the transition to retail competition. As the single regulatory agency, ERCOT was able to direct a large part of

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<sup>4</sup> Texas: The Most Robust Competitive Market in North America, in *Electricity Market Reform: An International Perspective*, by Parviz Adib and Jay Zarnikau. 2005.

<sup>5</sup> "Electrical Power." Handbook of Texas online. *Texas State Historical Association*. Retrieved May 2021.

<sup>6</sup> "History." *Texas Electric Cooperatives Online*. Retrieved May 2021.

<sup>7</sup> "Rural Electrification." Handbook of Texas online. *Texas State Historical Association*. Retrieved May 2021.

<sup>8</sup> "Rural Electrification." Handbook of Texas online. *Texas State Historical Association*. Retrieved May 2021.

<sup>9</sup> "Electrical Power." Handbook of Texas online. *Texas State Historical Association*. Retrieved May 2021.



the reform that led to the early successful results in the sector. At the time of these reforms, there were a huge variety of market players, which was a direct result of the open competition for private sector participation from the previous half century of development.<sup>10</sup> There were over 550 market participants from a range of regulatory, government, public, private, and community-cooperatives.<sup>11</sup> The range of players within the sector was quite widespread, ensuring competition, access, and lower prices.

Texas started in a similar situation as FRS is currently experiencing: limited regulatory oversight from the government with a focus on encouraging private sector competition; disaggregated, isolated, vertically integrated private utilities that operate in high-density urban areas; little interconnection between isolated grids, with often different technical standards; and low rates of rural electrification. The path proposed in this report certainly acknowledges that there are still significant differences between Texas and FRS and that these nuances must be appreciated, but the case study of Texas shows that an electricity supply industry that is dominated by the private sector has the potential for successful reform.

### **6.7.2 The United Kingdom – the “top-down” approach to unbundling a vertically-integrated public utility**

Unlike the distinct case study of Texas, the United Kingdom presents the most common model for a public electricity supply industry prior to reforms. Historically, most countries around the world had, under their standard model, a single, vertically-integrated, franchised utility that held a monopoly over all segments of their service model. These companies were either distinctly under public ownership or were supported through simple cost-of-service regulation, but investment in the generation, transmission, and distribution capacity was always directed by a strategically-directed government least-cost expansion plan.

The United Kingdom had the entire electricity supply industry held under state ownership, until the late 1980s when reform efforts began.<sup>12</sup> The Central Electricity Generation Board owned, operated, and maintained all generation and transmission assets in England and Wales, and sold bulk power to twelve separate area boards with responsibility for low-voltage distribution and supply to end-use customers. Likewise, in Scotland there were two separate boards – the North of Scotland Hydro-Electric Board (NSHEB) and the South of Scotland Electricity Board (SSEB) – which held fully vertically integrated franchises, covering generation to supply.<sup>13</sup> The government set public borrowing limits and tariffs were regulated between the bulk supply and the end-use, with area boards able to set time of use and peak capacity charges, among others. However, investment and planning were usually considered poor and costly as there was no incentive for cost efficiency within the system.<sup>14</sup>

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<sup>10</sup> Texas: The Most Robust Competitive Market in North America, in *Electricity Market Reform: An International Perspective*, by Parviz Adib and Jay Zarnikau. 2005.

<sup>11</sup> Texas: The Most Robust Competitive Market in North America, in *Electricity Market Reform: An International Perspective*, by Parviz Adib and Jay Zarnikau. 2005.

<sup>12</sup> “Electricity Liberalization in Britain and the Evolution of Market Design” by David Newbery in *Electricity Market Reform: an International Perspective*, 2005

<sup>13</sup> “The Central Electricity Generating Board (CEGB)”, from *Power Stations of the UK*, retrieved from: <https://www.powerstations.uk/history-of-power-generation/>

<sup>14</sup> Newbery, “Electricity Liberalization in Britain and the Evolution of Market Design”



The liberalization and reform efforts in the electricity sector, which began in the late 1980s, sought to unbundle the CEBG into component parts based on the generation assets and gradually privatize the newly formed companies. In Scotland, the vertically integrated companies were privatized, but their structures remained largely unchanged.

After the reforms, the sector regulator allowed the introduction of private generation sources in order to introduce greater competition into the sector. Meanwhile, the 12 distribution area boards were also privatized and held under a holding company, National Grid, which also absorbed the transmission assets.<sup>15</sup> The nuclear generators were to remain separate, within a public company Nuclear Electric, and the system operator also developed their own standing reserves as a backup to ensure sufficient capacity reserves since the originally liberalized system did not sufficiently encourage investment for peaker plants; this was ultimately corrected with the introduction of capacity obligations on large consumers and suppliers.<sup>16</sup> Thus, the eventual structure saw wider competition for generation, but continued monopolies over transmission and distribution.

### **6.7.3 Sierra Leone – Setting up an ESI in a post-conflict context**

Sierra Leone presents a case study that has a highly similar political context to Somalia, in which the country has relatively recently emerged from a devastating civil war that left very little electricity assets and development in the country. Sierra Leone has taken a specific approach to rebuilding its electricity sector, being primarily publicly-run and coordinated institutions. Most of the population does not have access to the main grid; it is estimated that under 10% of the population has access to electricity, and there is nearly three times as much off-grid generation as there is on-grid.<sup>17</sup>

Currently the electricity grid is led and coordinated by the Ministry of Energy, which oversees the Regulator, the Electricity and Water Regulatory Commission, as well as the two public utilities. The Electricity Generation and Transmission Authority is responsible for all generation and transmission of electricity, which is sold in bulk to the Electricity Distribution and Supply Agency, which is responsible for low-voltage distribution and retail supply.<sup>18</sup>

The reform and restructuring process for Sierra Leone was outlined in their 2017-2030 roadmap that has a similar development pathway to that of Somalia. In the near-term, called the “recovery period”, the electricity sector addressed primarily the legal and regulatory reforms necessary to create a viable electricity sector and operationalize the primary issues; this is primarily done through reforms and updates to the Electricity Act and the legislation that establishes the regulator.<sup>19</sup>

In the medium-term, called the “transition period”, the sector focuses on improving the financial stability and beginning to develop the adequate investment flows. During that

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<sup>15</sup> “The Restructuring and Privatisation of Britain’s CEBG – Was it worth it?” by David Newbery, March 27<sup>th</sup>, 2003.

<sup>16</sup> “Market Information”, retrieved from <https://www.nationalgrideso.com/industry-information/balancing-services/reserve-services/short-term-operating-reserve>

<sup>17</sup> “Sector Scan: The Energy Sector in Sierra Leone” by the Netherlands Enterprise Agency, retrieved from: <https://www.rvo.nl/sites/default/files/2018/07/sector-scan-the-energy-sector-in-sierra-leone.pdf>

<sup>18</sup> “Power Africa in Sierra Leone”, published by USAID, 2016, retrieved from: [https://www.usaid.gov/sites/default/files/documents/1860/SierraLeoneCountryFactSheet.2016.09\\_FINAL.pdf](https://www.usaid.gov/sites/default/files/documents/1860/SierraLeoneCountryFactSheet.2016.09_FINAL.pdf)

<sup>19</sup> “Electricity Sector Reform Roadmap” by the Ministry of Energy, 2017, retrieved from: <https://rise.esmap.org/data/files/library/sierra-leone/Energy%20Access/EA%2014.1B.pdf>

same period, the role of the system operator is clarified and consolidated, and there is the expectation that private sector distribution licensees being incorporated into the system. Furthermore, large customers will be able to begin securing their own supply through direct power purchase agreements.<sup>20</sup>

Finally, in the “delivery” period which occurs in both the medium-term (at the time of development, from 2020-2025) and in the long-term (after 2025), the policy and regulatory objectives are firmly set and the organizational structure is maturing into its long-term form. Generation capacity has been built out by this point, with a much wider transmission and distribution network that will provide universal access to electricity by 2030. A core focus of this period is building the institutional and sectoral skills and capacity in order to effectively develop and operate the wide-range of fast-growing institutions that are expected in this period.<sup>21</sup>

This is a major lesson from this post-conflict state that can apply to Somalia: a whole-of-sector approach is needed to bring universal access to electricity, including government, public institutions, the private sector, and international funding donors and institutions.

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<sup>20</sup> “Electricity Sector Reform Roadmap”, Ministry of Energy, 2017

<sup>21</sup> “Electricity Sector Reform Roadmap”, Ministry of Energy, 2017

# 7 Legal Review

The purpose of this Chapter 7 is to assess whether option 2 can be put in place considering the legal framework for electricity in FRS resulting from the Electricity Bill, 2020 (the “**Bill**”) and to identify the adjustments needed to the legal framework to make Option 2 more efficient.

## 7.1 Legal feasibility of Option 2

One of the main objectives of the Bill is to establish an open market for electricity and therefore to open competition in all segments of the market. As developed in Article 2 (PURPOSE & NAME OF THE LAW), “The general purposes of this Act are to [...] establish and open market management of electricity-based electricity services”

In this regard, one of the main principles laid out by the Bill is that all electricity services (Art 28) must be operated under license and that this license is granted by an independent body, the National Electricity Authority (which features, powers and responsibilities are outlined in Chapter 3 of the Bill).

Therefore, any entity, whether private or public, is deemed legally capable of operating within any segment of the electricity market, subject to holding a license. These attributes of the Bill accommodate clearly the ESI option recommended in this report.

The analysis of the Bill shows that despite various recommended adjustments to the legal and regulatory framework (section 7.2 below), the operations of all segments of the electricity market can be operated by an entity, whether public or private, without any monopoly or priority given to any public utility. A regulator is to be put in place, and the missions and powers of the both the Ministry and the National Electricity Authority are defined and delineated. The Ministry is the sectoral policy-maker, and the National Electricity Authority is in charge of implementing the Ministry’s policies, regulating the electricity market, and supervising the electricity market. This reflects therefore the features of the ESI option recommended in section 6.6 above.

While the Bill, in its current state, offers a strong ground for the implementation of the ESI option recommended in this report, it is to be noted that the Bill, as currently drafted, raises various drafting concerns and comments. Those general and specific concerns and comments are presented below.

## 7.2 Recommended adjustments to the legal framework to make Option 2 more efficient

### 7.2.1 General comments

We were provided with the English version of the Bill, which we understand is a non-official translation of the Bill, drafted in Somalia.

- **Drafting/translation issue**

The drafting is questionable in various aspects. However, since we were only provided with a translation, the drafting issue might also be mainly a translation issue.

The translation is very poor and apparently made by an entity not very familiar with the electricity sector and its language.

The poor drafting/translation affects the understanding of some sections or paragraphs which as drafted/translated do not convey a clear message.

- **The text of the Bill needs to be restructured**

Notwithstanding the drafting/translation issue, the structure of the Bill is problematic and various issues are dispersed in the Bill which makes it very difficult not only from a reading standpoint but also understanding of the Bill. For example, while article 15 is deemed dealing with the responsibilities and obligations of the National Electricity Authority (the “**Authority**”), it is not clearly defined and major responsibilities of the Authority are not mentioned. Furthermore, the roles and responsibilities are not clearly expressed in certain areas of the Bill (see articles 28, 29, 57, etc.)

The second issue regarding the structure of the Bill is that it is incomplete on the regulations of electricity services while this should be the very core of the Bill. Indeed, even if the concept “electricity services” is used but not defined, under article 28.1, the operation of any of the following services is subject to a license: “generation, trading, importation, exportation, transmission, distribution, supply, and system operation”. However, the Bill only contains 2 chapters dealing with power generation and transmission. The other electricity services are not regulated.

The third issue regarding the structure of the Bill is that various provisions are usually preferred to be categorized in secondary legislations rather than in the Bill. For example: Articles 16 to 25 deal in detail with the internal organization of the Authority which is not a matter for the law but a matter for secondary legislation. This is of importance since if there is a need to modify the organization of the Authority, the forthcoming act will have to be amended (undergoing parliamentary approval) which is a long and uncertain process compared to the amendment of secondary legislation, which is under the Government’s sole control.

The fourth issue regarding the structure of the Bill relates to the inappropriate and confusing distinction made between the Ministry and the Minister under chapter 4. The Ministry is only an administration with no legal responsibility. From a pure legal perspective, the Ministry cannot make any decision. The Ministry is headed by the Minister who is a member of the government, representing the government which in turn represents the State of Somalia. The Minister has legal responsibility and can make decisions even if such decisions are prepared by the Ministry. Moreover, the distinction made between the responsibility of the Ministry (article 4) and the Minister (article 6); their field being different, must coordinate with each other; is legally incorrect, since the Ministry is headed by the Minister.

- **The enforcement of the Bill depends on various secondary legislation**

The analysis of the Bill teaches that its enforcement is mainly dependent on various secondary legislations which is unclear whether they have been listed and are under preparation.

Regulatory best practice suggests that the scope of secondary legislation should be prepared when drafting the Bill to ensure that once the Act is passed by parliament, there are no legal/regulatory loopholes for the enforcement of the Act.

- **Contradictions to correct**

The Bill, as translated, contains various contradictions.

For clarity, each consultant's recommendation to issue secondary legislation will be numbered below with the letter A, and each consultant's recommendation to amend the Electricity Bill, 2020 will be numbered with the letter B below.

### **The granting of licenses**

Licenses are deemed granted by the Authority (see Section 1, paragraph 7 providing that: *“License: means the licenses issued by the National Electricity Authority, which authorizes the provision of electrical services in accordance with this Act”* and article 1, paragraph 9 providing that: *“Licensee: means any entity with a license issued by the National Electricity Authority”*

However, article 1, paragraph 27 provides that: *“License: is the official letter authorization, issued for the execution of the electricity business service provided by the Ministry or the Electricity Authority”*.

The role of the Ministry, like any ministry in charge of energy in the world, is to design the country's energy / electricity development strategy, policy and plan. The ministry is not and should not be involved in the implementation of the public strategy and the development plan in the granting and monitoring of licenses. The Ministry should not be involved in the day to day management of the functioning of the sector, this is the role of the regulator.

In addition, the Ministry and the Authority should not have competing capacities to grant licenses which is confusing for private investors and might generate discrepancies and conflicts.

- ➔ **Recommendation 1B:** Provide in a revised version of the Bill that the Authority is the granting authority for licenses and that until the Authority is fully operational, licenses may be granted by the Ministry.

### **Tariffs**

Article 56, which is dedicated to tariffs, provides in its paragraph (1) that: *“the Ministry shall issue regulations of tariffs and electricity service charges....”* One may understand

that the role of the Ministry consists, inter alia, in setting the parameters of the tariffs even if in various jurisdictions such role is the one of the duties of the regulator.

Article 46(4) provides that: “*Tariffs and electricity supply requirements shall be consistent with the regulations set by the Authority.*”

It emerges from the two above-mentioned articles (as translated) that the Ministry and the Authority might have competing capacities in terms of tariffs which, once again, would be confusing for private investors and might generate discrepancies and conflicts.

The resolution of this potential could consist, if the Ministry has to take a final decision on tariffs, in the Authority being in charge of the tariff parameters (tariff structure / method of setting tariffs) and the authority proposing to the Ministry to make a decision approving the Authority's proposal.

- **Recommendation 2B:** Clarify in a revised version of the Bill that the Authority is in charge of setting the tariff regime and the Ministry approves the tariffs set up by the Authority.

### **The public general license should be limited to specific cases**

Article 30 provides for the granting of a “public general license” which we understand is one license for generation, transmission and distribution.

The concerned electricity services are different in various aspects (economically, technically, etc.) and are subject to different types of competition; none or minor competitor as regards to transmission, and potentially extensive competition as regards to generation, distribution, importation and exportation. Furthermore, allowing one service provider to operate on each segment of the value chain may introduce distortions into the electricity market. Thus, the concept of general license might conflict with the internal trend providing for unbundling (accounting, legal or ownership unbundling).

However, the general license is very well suited for the regulation of existing Electricity Service Providers (ESP) who operate independent systems with integrated generation and distribution. In other jurisdictions, it is indeed the norm to use concepts similar to the general license for that kind of system.

In order to provide a legal basis for the licensing of existing ESPs, while preserving the possibility to introduce competition on the generation and distribution segments in the future, we recommend to limit the use of general license to smaller, isolated systems.

- **Recommendation 3B:** Provide in a revised version of the Bill that the “public general license” is only applicable for smaller, isolated systems (and notably, the ESPs that exist today). The ceiling could be fixed either in MW of installed capacity, in number or customers, or another metrics that is practical for regulatory purposes. Operations that exceed the ceiling would require one license for every segment of the electricity market (generation, transmission and distribution)..

### **The role of the Ministry/Minister and of the Authority**

Under the Bill, the Ministry/Minister has extensive roles and functions compared to the role and functions of the Authority. In this regard, in various respects, the Authority



appears to be an agency whose role is to implement the decisions of the Ministry rather than to be an independent regulator. The Authority appears to be the technical advisor of the Ministry.

As regards to the independency of the Authority, despite article 14(1) stating that: “*The National Electricity Authority is an independent body in performing its duties in accordance with this law, and other public institutions shall not interfere with the operations of the Authority.*” various articles of the Bill indicate that the Authority is subordinated to the Ministry and therefore is not an independent regulator.

### For example

- Article 25(1) provides that: “*The Budget of the Authority shall be included in the general budget of the Ministry and shall be administered by the Ministry*”
- As regards to licenses, the Authority, which is the licensing authority, must “consult” the Ministry (articles 31 and 32).
  - ➔ **Recommendation 4B:** Provide in a revised version of the Bill that the Authority is an independent body and in a secondary legislation for the Authority’s organization, management and budget.

### Key concepts to be defined or supplemented

Some key concepts in the electricity industry are used in the Bill but not defined:

- **Eligible customer** - Article 49(2) provides that: “The power supplier can supply electricity to a licensed distributor, a retail license holder and an eligible consumer.” but the key concept of eligible customer is not defined and not regulated.
- **Renewable energy and energy efficiency** - Even if the role of the Ministry is defined under articles 63 and 64, no specific regime necessary to promote renewable energy and energy efficiency (in particular tax incentive) is defined in the Bill and no reference is made to any secondary legislation, that needs to be adopted to promote the development of renewable energy and energy efficiency. Moreover, the Authority does not appear as having any role as regards to renewable energy and energy efficiency.
- **Rural electrification:** if the concepts of rural areas, rural infrastructure, and rural grid are mentioned, the Bill does not contain any chapter or article dedicated to rural electrification.
- Article 66 is dedicated to a “Regional Load Dispatch Center” with no explanation or definition of the concept and entity and with no mentioned relationships with either the Ministry or the Authority.
  - ➔ **Recommendation 5B:** Provide in a revised version of the Bill for the definitions of the above mentioned concepts and for provisions relating to rural electrification aspects of the sector.

### Missing sensitive issues



Notwithstanding the foregoing, one may note that that few issues which became very sensitives in most updated electricity legal frameworks are only mentioned and not really regulated such as:

- Exclusivity for the operation of electricity services under licenses
- Rural electrification;
- Mini-grid/off-grid;
- Self-generators;
- Preservation of environment;
- Public private partnerships and unsolicited proposals for PPP;
- Feasibility studies of projects before the granting of licenses or the entry into a PPP agreement.

#### The specific issue of exclusive license

The Bill does not provide for any exclusive right that might be granted for the operation of any electricity service (generation, transmission, distribution, retail or supply).

As mentioned in this Report, the granting of exclusivity to private operators encourages private sector participation. However, since exclusivity also generates a restriction of competition between operators, the granting of exclusive right must be analyzed and justified on a case by case basis taking into account, inter alia, the expected benefits and anticipated constraints resulting from the granting of exclusive right in a certain area and/or for certain electricity service(s).

From a legal point of view, since exclusivity means that one party enjoys an exclusive right in a defined geographical area and / or for certain activities and that, therefore, the others parties are deprived of the benefit of a similar right in the same area and / or for the same activities, the deprivation of a right which results therefrom can only result from the Bill and not from a secondary legislation.

Since in Somalia, licenses to operate electricity services are granted by the Authority, exclusivity for the provision of any electricity service can only be granted by the Authority as long as (i) exclusivity is provided for in the Bill (and thereafter the Act) and (ii) the Bill provides that the right to grant exclusivity is vested in the Authority in its capacity as granting authority for licenses. The Bill does not need to provide details of how exclusivity is granted. The Bill can only provide that the Authority as the right to grant exclusivity for the provision of electricity services (all or part).

However, in order to avoid not only any discretionary power of the Authority in the granting of exclusive rights but also distortion of competition, the criteria for the granting of exclusive right must be provided by a secondary legislation.

- ➔ **Recommendation 6B:** Provide in a revised version of the Bill for general provisions for the above-mentioned issues and if necessary, provide for their detailed regulations in secondary legislations except as regards PPP issues to be dealt in a dedicated PPP legislation. Provide also in a revised version of the Bill for the principle that exclusive licenses can be granted for the operation of all or part of electricity services and that the power to grant exclusive rights is vested in the Authority.

## 7.2.2 Specific comments

- **Article 8** provides: “The Ministry’s Decision Making Process”. However, there is a need for a comprehensive decision-making process, which is lacking in the provisions of the Bill.

Article 8, which is composed of four paragraphs, mentions general principles that include:

- The principle of transparency.
- The principle of participatory approach in consultations.
- Principles of motivation in decision making.
- The principle of compliance with the provisions of the law.

Unfortunately, Article 8 does not address any procedures for decision making. It is evident that there is no coherence between the article and its title.

→ **Recommendation 7B:** Redraft Article 8 and provide for the Ministry’s comprehensive decision making procedure.

- **Article 9** of the Bill, paragraph 1 provides that anyone who is concerned about a decision made by Department of Electricity or an action taken by it may submit a request to the Department of Electricity for a review of its decision. It is also stated in article 9, paragraph 3 that the person who is concerned about the decision of the Ministry may submit an appeal to the competent court.

→ **Recommendation 8A:** We assume that the Department of Electricity forms part of the Ministry. It should be provided in a secondary legislation a detailed procedure of the Ministry’s decision making process and the way the Ministry (Department of Electricity) respond to request against its decision.

- **Article 10** of the Bill, paragraph 2, requires the Ministry to publish records, official and non-confidential documents on its website within a period of "30 days". There is no mention in this article of when this period will begin to hold the Ministry accountable for its implementation.
- **Article 11** stipulates that electricity companies shall transfer their data to the Ministry and the Authority, without limiting the ways of accessing and using such data. The bill must guarantee the protection of any personal information therein.

→ **Recommendation 9A:** Provide in a secondary legislation rules that frame data transfer and use of such data by the Ministry particularly in terms of confidentiality and access by third parties.

- **Article 12** deals with the establishment of the Authority and stipulates that it shall be under the Ministry. However, the article does not include any provision detailing the administrative status of the authority and how it depends on the Ministry.

**For example:** The Electricity Bill does not provide more details on how the National Electricity Authority depends on the Ministry. What will be the relationship between the Authority and the Energy Department? Are they parallel institutions? The article lacks such these details.

Article 12 of the Bill also sets out the procedure for the establishment of the Authority, stating that the Minister of Energy and Water Resources will propose it to the Council of Ministers who, after approval, will present it to the President of the Federal

Republic of Somalia for signature and then it will be published in the Official Bulletin. This process is not an effective way of establishing the autonomous institutions that are required to be enacted by law. Therefore, the procedure set out in this article is contrary to the Provisional Constitution and violates the check and balance of the constitutional authorities. Finally, this article provides 120-day period for the establishment of the Authority. However, the article does not mention a start date for the period.

- ➔ **Recommendation 10B:** Clarify in a revised version of the Bill that the Authority is an autonomous body established by the law. Provide in a secondary legislation (governing the Authority in details) the relationship between the Authority and the Ministry.
- **Article 14** of the Bill states, in its first paragraph, that the Authority shall be independent in the performance of its duties. As such, this article contradicts article 12 which states that the Authority comes under the Ministry. The article is self-contradictory towards the end when it mentions that the Authority shall come under the Minister
  - ➔ **Recommendation 11B:** Clarify in a revised version the Bill that the Authority does not have ministerial oversight as it is an independent authority.
- **Article 15** of the Bill, paragraph six, stipulates that the Authority has the power to process applications for licenses, but does not clearly state the right to approve or reject granting licenses

Article 15 of the Bill, paragraph seven, stipulates that the Authority shall have the power to work on resolving disputes between companies, by appointing a commission. It appears that this commission will be appointed on an ad hoc basis. However, the Bill does not set up any provision which regulates such a commission and the procedures it shall follow.

  - ➔ **Recommendations 12A:** Provide in a secondary legislation that the entire licensing process is the responsibility of the Authority. Provide also for the criteria justifying the granting by the Authority of an exclusive license for the operation of one or more defined electricity service(s).
  - ➔ **Recommendation 13A:** Provide in a secondary legislation dedicated to the Authority for provisions that regulate the commission established by the Authority which is in charge of resolving disputes between licensees.
- **Article 16** of the Bill deals with the structure of the Authority, stating that the Authority shall have a Board of Directors, a General Manager and a Deputy General Manager. It is unclear about their respective roles and responsibilities how they are interrelated.
- **Article 17** of the Bill deals with the administration of the Authority and states that the administration consists of 9 people including the Director and Deputy Director. It also provides that the management of the Authority shall elect a Chairperson from their members. In addition, there is no provision for the responsibilities and powers of the Chairperson, the Manager and the Deputy Manager of the Authority. Therefore, it can be stated that this article needs to be redrafted in a balanced way.
  - ➔ **Recommendation 14A** (together with recommendation 4A): Provide in secondary legislation dedicated to the Authority in details provisions regarding

the composition, the functioning and the functions of the Authority, its bodies and their relations.

- **Chapter five of the Bill (articles 28-35)** deals with licenses. This chapter does not describe the procedures that shall be followed during the transition period and what to do about the electricity companies who already have valid license.

Articles 30, 31 and 32 of the bill deal with general license, but there no definition of what it is. Also, no special license, as opposed to general license, is provided in the chapter.

- **Recommendation 15A:** Provide in a secondary legislation for details regulation relating to licensing and taking into account a transition period during which the licensing requirements will be less strict, to enable existing licensees progressively comply with the new rules.
- **Article 37** of the Bill, second paragraph, stipulates that electricity service providers have the right to move their equipment's through private lands. This article contradicts Articles 681 and 682 of the Civil Code which gives the landlord the exclusive right of disposal and enjoyment of his or her real estate. According to paragraph 2 of article 682 of the Civil Code, "*the ownership of the soil includes that of the subsoil and of the space above up to the ultimate limit of enjoyment of height and depth*". Therefore, the electricity providers are not allowed to move their equipment's through private lands without the owner's permission.
  - **Recommendation 16B:** Clarify in a revised version of the Bill the land tenure regime for electricity projects. Clarify whether the rules are common regime and ensure that they are aligned with the rules of the civil code or whether a derogatory regime is provided for. In which case specific regulations are needed in this respect.
- **Article 39**, paragraph 2, states that the Ministry shall connect the transmission lines of the various electricity service providers and the "*general transmitter*". Unfortunately, this article does not indicate the definition of "*general transmitter*" and its legal nature.
- **Article 40** provides for an agreement between the electricity service providers and the company that operates the "general transmitter". It is worth to mention here that it is not described the nature of such a company and what are its requirements.
  - **Recommendation 17B:** Provide in a revised version of the Bill for the definition of the "general transmitter" and its nature.
- **Article 41** deals with the network among the electricity service providers. However, the functions of such networks are not specified.
  - **Recommendation 18A:** Provide in a secondary legislation for the rules and procedures governing the network.
- **Chapter 8** of the Bill (Articles 46-49) deals with the distribution and generation of electricity. According to the provisions in this chapter there will be companies involved in the distribution and generation of electricity, but it is not clear whether these companies are different from those that provide electricity service.
  - **Recommendation 19B:** Clarify in a revised version of the Bill whether companies involved in electricity generation and distribution are electricity

service providers in the same way as those involved in the other segments of the electricity value chain.

- **Article 51** of the Bill stipulates that the Ministry is responsible for foreign investment in Energy sector. However, the article does not reflect the existence and functions of the Foreign Investment Board according to articles 3, 4 and 5 of the Foreign Investment Law.
  - **Recommendation 20B:** Clarify in a revised version of the Bill that the Minister in charge of energy is not solely responsible for investment issues, which he shares with the other institutions set up for this purpose, notably by the Foreign Investment Board
- **Article 59** which deals with tariffs and electricity bills contradicts articles 60 and 61 of the Bill which stipulates the provision of electricity service based on the free trade competition. Based on such competition, electricity service prices are determined by the market. Contrarily, these prices are determined on the decision of whether there is a system of tariffs.
  - **Recommendation 21A:** Provide in a secondary legislation for the provisions regarding tariff regime and clarify whether the tariff is a market tariff, a regulated tariff or both.
- Article 68 of the Bill addresses the conflict of laws, stating that if this law and other laws of the country are in conflict, it shall be resolved in accordance with the general principles of the Constitution. Conflicts between two laws are resolved by taking into account two hypotheses:
  - a) the conflict concerns the sectoral law (electricity law) and a law of general law: in this case the sectoral law shall prevail over the general law or
  - b) the conflict concerns two sectoral laws, in which case the more recent law, shall prevail over the previous law
  - **Recommendations 22A:** Provide in a revised version of the Bill that in the case of conflicts of laws the sectoral law prevails over the general law and in case of conflict between two sectoral laws that the most recent law prevails over the previous law.

### 7.2.3 Summary

Table 7-1: Summary table of list of corrective measures

Type of correction	Recommendations
To be Provided in the revised Bill	<p><b>Recommendation 1B:</b> to provide that the Authority is the granting authority for licenses and that until the Electricity Authority is fully operational, licenses may be granted by the Ministry.</p>
	<p><b>Recommendation 2B:</b> Clarify that the Authority is in charge of setting the tariff regime and the Ministry approves the tariffs set up by the Authority.</p>
	<p><b>Recommendation 3B:</b> Provide that the “public general license” is only applicable for smaller, isolated systems (and notably, the ESPs that exist today). The ceiling could be fixed either in MW of installed capacity, in number or customers, or another metrics that is practical for regulatory purposes. Operations that exceed the ceiling would require one license for every segment (generation, transmission and distribution).</p>
	<p><b>Recommendation 4B:</b> Clarify that the Authority is an independent body with its own management autonomy and budget.</p>
	<p><b>Recommendation 5B:</b> Provide for the definitions of the above mentioned concepts and provide for provision relating to rural electrification aspects of the sector.</p>
	<p><b>Recommendation 6B:</b> Provide for general provisions for the issues listed above Recommendation 6B (Rural electrification; Mini-grid/off-grid; Self-generators; Preservation of environment; Public private partnerships and unsolicited proposals for PPP; Feasibility studies of projects before the granting of licenses or the entry into a PPP agreement) and if necessary, provide for their detailed regulations in secondary’s legislations or refer to general legislations (PPP, law on environment...) governing these issues. Provide also for the principle that exclusive licenses can be granted for the operation of all or part of electricity services and that the power to grant exclusive rights is vested in the Authority</p>
	<p><b>Recommendation 7B:</b> Redraft the Article 8 and provide for the Ministry’s comprehensive decision making procedure</p>
	<p><b>Recommendation 10B:</b> Clarify that the Authority is an autonomous body established by the law. Provide in a secondary legislation (governing the Authority in details) the relationship between the Authority and the Ministry.</p>
	<p><b>Recommendation 11B:</b> Clarify that the Authority does not have ministerial oversight as it is an independent administrative authority.</p>
<p><b>Recommendation 16B:</b> Clarify the land tenure regime for electricity projects. Clarify whether the rules are common regime and ensure that they are aligned with the rules of the civil code or whether a derogatory regime is provided for, in which case specific regulations are needed in this respect.</p>	



Type of correction	Recommendations
	<p><b>Recommendation 17B:</b> Provide for the definition of the “<i>general transmitter</i>” and its regime.</p> <p><b>Recommendation 19B:</b> Clarify whether companies involved in electricity generation and distribution are electricity service providers in the same way as those involved in the other segments of the electricity value chain</p> <p><b>Recommendation 20B:</b> Clarify that the Minister in charge of energy is not solely responsible for investment issues, which he shares with the other institutions set up for this purpose, notably by the Foreign Investment Act</p> <p><b>Recommendation 22B:</b> Provide that in the case of conflicts of laws the sectoral law prevails over the general law and the recent law prevails the previous law.</p>
To be provided in Secondary Legislations	<p><b>Recommendation 8A:</b> Provide for a detailed procedure of the Ministry’s decision making and review including deadlines for decisions on grievances or appeals.</p> <p><b>Recommendation 9A:</b> Provide for rules that frame data transfer and using by the Ministry particularly in terms of confidentiality and access by third parties.</p> <p><b>Recommendations 12A:</b> Provide that the entire licensing process is the responsibility of the Authority (subject to the Ministry approval for the final granting of license) as is the case in good international practice. Provide for the criteria justifying the granting by the Authority of an exclusive license for the operation of one or more defined electricity service(s).</p> <p><b>Recommendation 13A:</b> Provide for provisions that regulate the commission established by the Authority and in charge of resolving disputes between licensees.</p> <p><b>Recommendation 14A:</b> Provide for detailed provisions regarding the composition, the functioning and the functions of the Authority, its bodies and their relations.</p> <p><b>Recommendation 15A:</b> Provide for detailed regulation of the issues relating to licensing and taking into account a transition period during which the licensing requirements will be less strict, to let licensees progressively adopt the new rules.</p> <p><b>Recommendation 18A:</b> Provide for the rules and procedures governing the network.</p> <p><b>Recommendation 21A:</b> Provide for the provisions regarding tariff regime and clarify whether the tariff is a market tariff, a regulated tariff or both.</p>



#### 7.2.4 Prioritization

##### A. Recommendations to be taken into account in the revised Bill

To take into account the recommendations outlined above, the entire Electricity Bill should be revised at once and in its entirety.

However, the different recommendations to be taken in the revision of the Bill can be prioritised below according to their degree of relevance as follows:

- Provide that the Electricity Authority is the granting authority for licences and that until the Electricity Authority is fully operational, licences may be granted by the Ministry;
- Clarify that the Electricity Authority is in charge of setting the tariff regime and the Ministry approves the tariffs set up by the Electricity Authority;
- Provide that one license is granting for every segment of the electricity market (generation, transmission and distribution)
- If the “public general license” regime is maintained, provide for the obligation for the beneficiary of the “public general license” to keep separate accounts for each electricity service;
- Provide for provision relating to rural electrification, mini-grid/off-grid, self-generators, and preservation of environment
- Clarify that the Electricity Authority is an independent body with its own management autonomy and budget.
- Provide for provision regarding the relationship between the Electricity Authority and the Ministry.
- Clarify the land tenure regime for electricity projects. Clarify whether the rules are common regime and ensure that they are aligned with the rules of the civil code or whether a derogatory regime is provided for, in which case specific regulations are needed in this respect.

##### B. Recommendations to be drafted in secondary legislations

It results from the analysis of the different issues covered by the above recommendations that the regulation of these issues in a uniform secondary legislation would be very complex from a formal and technical point of view.

The recommendations cover a wide range of issues and most of them are often subject to specific regulations in practice. This is the case for issues related to licensing, tariffs, grid access, etc.

To address this potential complexity, it is aggregated the different issues that can be derived from the above table and five secondary legislations listed below are proposed:

1. Licensing (covering quality and performance related conditions as well as exclusivity)
2. Tariff
3. Grid
4. Electricity Authority

For prioritization, we propose to pass the following four pieces of secondary legislation first:

### **1. Licensing**

Since no operator can validly carry out activities in the electricity sector without first holding a licence, the regulatory framework for licences needs to be completed.

Licensing conditions should cover aspects related to the quality and performance of electricity services. The secondary regulation must take into account, as specified in the table above, the following issues:

- Provide that the entire licensing process is the responsibility of the Electricity Authority subject to the Ministry approval as is the case in good international practice;
- Provide for the criteria justifying the granting by the Authority of an exclusive license for the operation of one or more defined electricity service(s).
- Provide for details regulation of the issues relating to licensing and taking into account a transition period during which the licensing requirements will be less strict, to enable existing licensees progressively to comply with the new rules.

### **2. Tariff**

As the electricity services take place in a commercial market, comprehensive and clear rules governing the tariff of electricity services are a priority. The suggested secondary regulation should take into account, as specified in the table above, the following issues:

- Provide for rules that give the Electricity Authority to set up and regulate tariffs for the supply or use of electricity;
- Provide for an obligation for the licensees to strive for cost-effectiveness through a tariff regulation. To that effect, developing a benchmark of typical costs and other performance indicators to regulate tariff;
- Provide for an obligation for distribution licensees to set clear rules and tariffs for obtaining a connection in their distribution zones and to provide a connection to prospective customers.

### **3. Grid**

As electricity is transmitted and supplied via the transmission and distribution networks, clear and comprehensive rules are needed to allow, inter alia, third party access to the said networks under well-established conditions which provide for:

- Provision to guide and regulate the establishment, management and use of Grid systems/centers;
- Determination of the responsible bodies to coordinate and monitor observance of rights and duties of the companies in regards to the grid systems.

### **4. Electricity Authority**

In charge of the regulation of the electricity sector, the Electricity Authority must be regulated in detail in its organisation, composition and powers regarding in particular licensing and tariff by a secondary legislation.

### 7.2.5 Distribution of Power between FRS and its Members States

In addition to the limits identified above, the distribution of power between the FRS and its Federal Members States (FMS) is key when looking to implement a new ESI structure. This section provides a review on the constitution on the matter related to allocation of powers between the Federal Government and Federal Member States.

The allocation powers between the FGS and the FMS is not very precise in the 2012 provisional federal constitution (the “Constitution”) of Somalia. The allocation of most powers between FGS and FMS is as a result of negotiation and not always clearly laid down legal clauses. For instance, Section 54 of the Constitution states that the allocation of powers and resource between the FGS and FMS shall be negotiated and agreed by the said parties except in matters that are exclusive to FGS, as:

- Foreign Affairs;
- National Defense;
- Citizenship and Immigration;
- Monetary Policy

The Consultant would argue that to the above list, the following other areas of almost exclusivity should be added:

- a) the development of a national land policy since section 43(3) of the Constitution provides that “*The Federal Government shall develop a national land policy that shall be subject to constant review.* » However, section 43(5) of the Constitution states that the development of such national land policy shall be made “*in consultation with the Federal Member States*”.
- b) the development of an environment policy since section 45(4) of the Constitution provides that “*In consultation with the Federal Member States, the Federal Government shall adopt general environmental policies*”.

Negotiation between the FGS and FMS has a substantial importance in the Constitution on many other subjects. For example, section 44 of the Constitution provides that “*The allocation of the natural resources of the Federal Republic of Somalia shall be negotiated by, and agreed upon, by the Federal Government and the Federal Member States in accordance with this Constitution.*”

The Consultant is not aware of any existing agreement on the ground of either section 43, 45 or 54 of the Constitution. Accordingly, the allocation of powers between the FGS and FMS might represent a challenge as matter decided at Federal level can remain open and subject to the outcome of negotiations between FGS and FMS.

This challenge may apply to the Electricity Sector as the energy sector is not clearly a sector over which the FGS has exclusive jurisdiction under section 54 of the Constitution. Similarly, energy sector is not a matter for which the FGS must clearly consult with FMS pursuant to the Constitution.

Furthermore, the Constitution does not say what happens if the parties do not come to an agreement. From a purely legal point of view, in the event that the FGS and FMS do not reach an agreement, each must be considered as having the legal capacity to issue regulations concerning the sectors and for the matters which are not exclusively attributed to a party such as the energy/electricity sector. In other words, in the absence of agreement between the FGS and FMS as regards to the energy sector, the parties shall have joint legal capacity to issue regulations in this sector.

Notwithstanding the foregoing, two sections of the Constitution (sections 50 and 51) should be used as guidelines to anticipate the allocation of powers between the FGS and FMS in the electricity sector which would best comply with the Constitution;

Section 50 of the Constitution, which deals with “*Federalism Principles of the Federal Republic of Somalia*”, states among others that:

- “*Power is given to the level of government where it is likely to be most effectively exercised*”; and
- “*Every part of the Federal Republic of Somalia shall enjoy similar levels of services and a similar level of support from government*”.

Given those principles, it would be reasonable to argue that, considering principle (b), the design of an ESI strategy and, where appropriate, the establishment of an electricity development plan in Somalia should only be done at the FGS (FGS’s competency) to ensure that any Somali citizen can benefit from electricity services in any part of the country.

Based on principle (a), it could also be argued that the implementation of such strategy at the local level should be done only at the level of the FMS (FMS’s competency) which is the level “*where it is likely to be exercised most effectively*”.

This analysis indicates that while the ESI option can be decided at FRS level, its implementation would be better implemented at FMS level. This would entail a close collaboration between the 2 levels of jurisdiction. Indeed, Section 51 of the Constitution lays down the principle of close collaboration between FGS and FMS. It provides, among others, that:

- *Every government shall strive for a cooperative relationship with other governments, whether at the same level or at another level of government.*
- *Every government shall respect and protect the limits of its powers and the powers of other governments, and shall:*
  - a) *Inform governments of other levels of policies and activities it implements within its boundaries which may have an impact on the areas of other levels;*
  - b) *Have policies that facilitate the planning and implementation of joint development projects.*

It emerges from the analysis of section 50 and 51 that in case of absence of any agreement between the FGS and FMS as regards to the energy/electricity sector, the parties shall be bound to cooperate pursuant to the Constitution.

# 8

## Roadmap to Implement the Recommended Option to Reinforce Electricity Supply Industry Institutional Structure

### 8.1 Reminder of the features of the recommended option

The option recommended after the analysis conducted above is the option that represents the vision laid out in the Electricity Act of 2019. It seeks to improve competition and participation in the sector through the licensing of generation, transmission, and distribution providers, which will be permitted to obtain a license granted for fixed terms by the Regulatory Authority.

The graphic below describes the features of Option #2.

Figure 8-1: Structure of Option #2: Open Market and Third Party Access

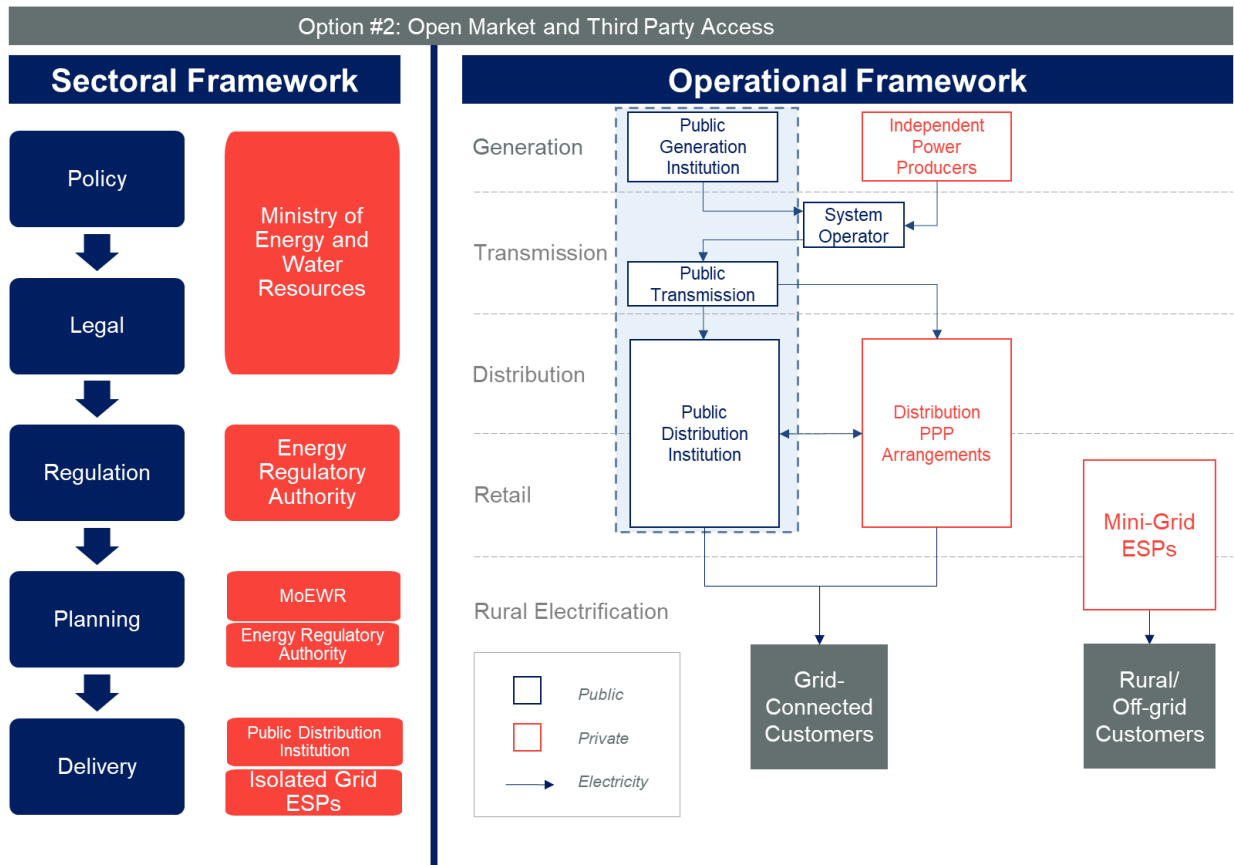


Figure 8-2: Institutional Framework

Institutional Entity	Mandate
Ministry	<p><b>Policy:</b> The Ministry will set the high-level policy for the sector. Policy is set on an infrequent basis, and will be largely informed by planning exercises undertaken by the Ministry and Regulatory Authority on a more frequent basis.</p> <p><b>Legal:</b> The Ministry will be responsible for setting out the legal frameworks under which all entities, including itself, must abide.</p> <p><b>Regulation:</b> The Ministry will set regulations and secondary-legislation that is to be implemented and enforced by the Regulatory Authority.</p> <p><b>Planning:</b> the Ministry will have the authority over planning within the sector, which will be done in coordination with the Regulatory Authority. The Regulatory Authority will be responsible for collecting the data required for planning, but the Ministry will set the longer-term planning goals for the sector.</p>
Regulatory Authority	<p><b>Regulation:</b> the Regulatory Authority, when established, will have responsibility for enforcing regulations set by the Ministry and determining the technical and operational standards for the sector based on the policy, legislation, and regulations set by the Ministry.</p> <p><b>Planning:</b> the Regulatory Authority, when established, will be responsible for data collection from the sector and analysis on sector performance, challenges, and recommendations, which are then passed to the Ministry. While the Regulatory Authority will play a role in sector planning, it will not have final decision-making power or authority over sectoral planning.</p>
Public Generation Institution	<p><b>Delivery:</b> The Public Generation Institution will have a role in large scale generation of electricity to be delivered to end-users</p>
System Operator	<p><b>Planning:</b> the System Operator will play a role in planning, as it is likely to contain highly specialized expertise that can contribute to long-term planning in the sector.</p> <p><b>Delivery:</b> The System Operator will have a role in aggregating the electricity generated from various sources and dispatch it between the various distributors.</p>
Public Transmission	<p><b>Delivery:</b> The Public Transmission Company will have a role in transmitting electricity from generation centers to distribution poles.</p>
Public Distribution	<p><b>Delivery:</b> The Public Distribution Companies will have a role in delivery of electricity to the end-users.</p>

## 8.2 How the selected option meets policy objectives

### 8.2.1 Policy objectives of the Somalia Energy Policy 2018

The Federal Government of Somalia (“FRS”) developed an Energy Policy in 2018 which clearly defines the long-term vision for the sector, which is to:

*“Provide all Somalians with adequate, affordable and sustainable access to efficient energy, with commitment to environmental stewardship, while also improving quality of life, promoting socio-economic growth, developing clear policies, regulations, building strong institutions, and unlocking the country’s renewable energy potential.”*



The policy outlines clear objectives to meet this vision. These objectives revolve around the following pillars:

- Access to electrical energy
- Energy security and sustainability
- Regulatory framework
- Energy governance and institutional development
- Capacity building
- Develop renewable energy potential

Furthermore, and in line with best practices internationally in policy development, the policy document clarifies the strategies to achieve these pillars. Among these strategies, two appear to be most relevant to the present assignment:

Reinforcing the institutional sector, i.e. “Strengthening government institutions at federal and regional levels and a strong and clear energy regulatory framework”

Integration over the long term of the various off-grid active systems, i.e. “Establishing plans to integrate and unify the current distribution systems in order to enhance supply and reduce productivity cost”.

### **8.2.2 Policy objectives based on stakeholder consultations**

As outlined in Chapter 2, the stakeholder consultations suggested also a set of short- and long-term goals that were shared by the main stakeholders that can be considered from the angle of the public sector and the private sector. The goal of the electricity sector to provide reliable and affordable electricity to all consumers is compatible within both timeframes and stakeholder interests, and requires:

From the public side:

- **Short Term:** increase the role of the public sector by reinforcing the legal and regulatory framework and creating the Regulatory Authority.
- **Long Term:** develop a state-owned utility to develop additional generation capacity and a transmission grid connecting the various isolated ESPs.

From the private side:

- **Short Term:** creating a favorable environment to enhance Public-Private Dialogue and build on the work conducted so far by the ESPs.
- **Long Term:** to establish the private-public platform to strengthen the Independent Power Producer (IPP) model to bring available, affordable and accessible electricity for the whole region, especially from renewable energy sources.

These policy objectives can also be interpreted in the context of strategic interests of consumers, the private sector, and the public sector, which can be characterized as the following:

- **Consumer side:** improve the affordability of tariffs and increase access to electricity for urban and rural customers.

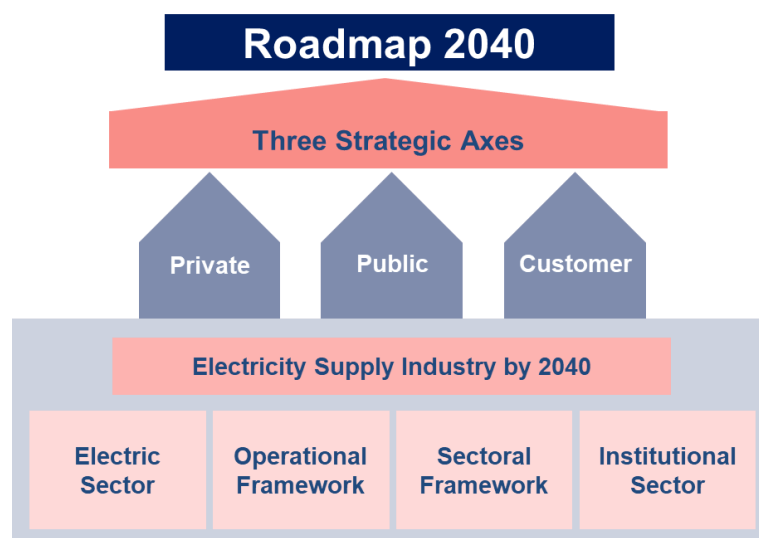


- **Private sector side:** create an enabling environment for increased investment in the sector and to develop a financially sustainable electricity market.
- **Public sector side:** meet the national demand for electricity, promote sustainable development, competition, and financial sustainability of the sector, and to improve the operational efficiency and quality of supply of electricity.

### 8.2.3 Implementation of selected option as a strategy to meet the vision

The graphic below illustrates the relationship between the recommended ESI structure, the extent to which it meets policy objectives, and the direction needed to ensure the effective implementation of the long-term vision for the electricity sector in FRS.

**Figure 8-3: Roadmap Action Plan**



### 8.3 A roadmap for 2040

As described above, these policy objectives lay the ground for a chronological path for the recommended option for the short, medium- and long-term objectives. The proposed roadmap assumes a phased implementation of the selected strategy over the period 2021-2040.

Three milestones are being developed, executed, and evaluated over the short, medium, and long terms:

- Short-term      2021-2024
- Medium-term    2025-2029
- Long-term        2030-2040

This approach allows a progressive implementation of the recommended electricity supply industry, to ensure the expected benefits are met.

The figure on the following page illustrates the proposed phased approach and present the various activities to be undertaken in the short, medium and long terms to realize the proposed ESI and meet the policy objectives.

### 8.3.1 Integration with the Somalia Electricity Sector Recovery Plan

This approach is also chronologically in line with the proposed “Somalia Electricity Sector Recovery Plan” that is seeking project financing as of November 2021. This project seeks to establish the public utility within the short-term time frame, while implementing four major components to sector governance and operations within the short- and medium-term time frames proposed. The components that will be addressed as part of the proposed project will be divided between the two time frames in the following way:

#### Short-Term (2021-2024)

Component of SESRP	How it is integrated in the Roadmap proposed in this report
Establish the public utility and shared public transmission infrastructure	The public utility holding company is established and operationalized in the immediate next steps, to allow for the public utilities to be set up under the holding structure in the medium-term.

#### Medium-Term (2025-2030) (Project component implementation)

Component of SESRP	How it is integrated in the Roadmap proposed in this report
<b>Component 1</b> – Distribution network reconstruction, reinforcement, and operations efficiency in the major load centers	In the short- and medium-terms, distribution licensees will be compelled to consolidate their distribution networks to increase operational efficiency and integration. This will be first conducted primarily with the existing ESPs as they are granted distribution licenses, followed by additional interventions by public sector distribution companies to fill these gaps.
<b>Component 2</b> – Renewable energy generation optimization using hybrid generation models	Throughout the roadmap implementation, hybrid models for generation are introduced in both the public and private sectors through targeted licensing.
<b>Component 3</b> – Electricity services for improved public services delivery in rural and peri-urban areas	Throughout the roadmap implementation, the Ministry which is responsible for rural electrification will focus on developing responsible and reliable off-takers for electricity generated on mini-grids in rural areas
<b>Component 4</b> – Sector capacity enhancement and project implementation capacity support	This component has been integrated throughout all sections of the roadmap in order to build the technical, managerial, and operational capacity of the sector.

Figure 8-4 ESI Roadmap Blueprint for 2040

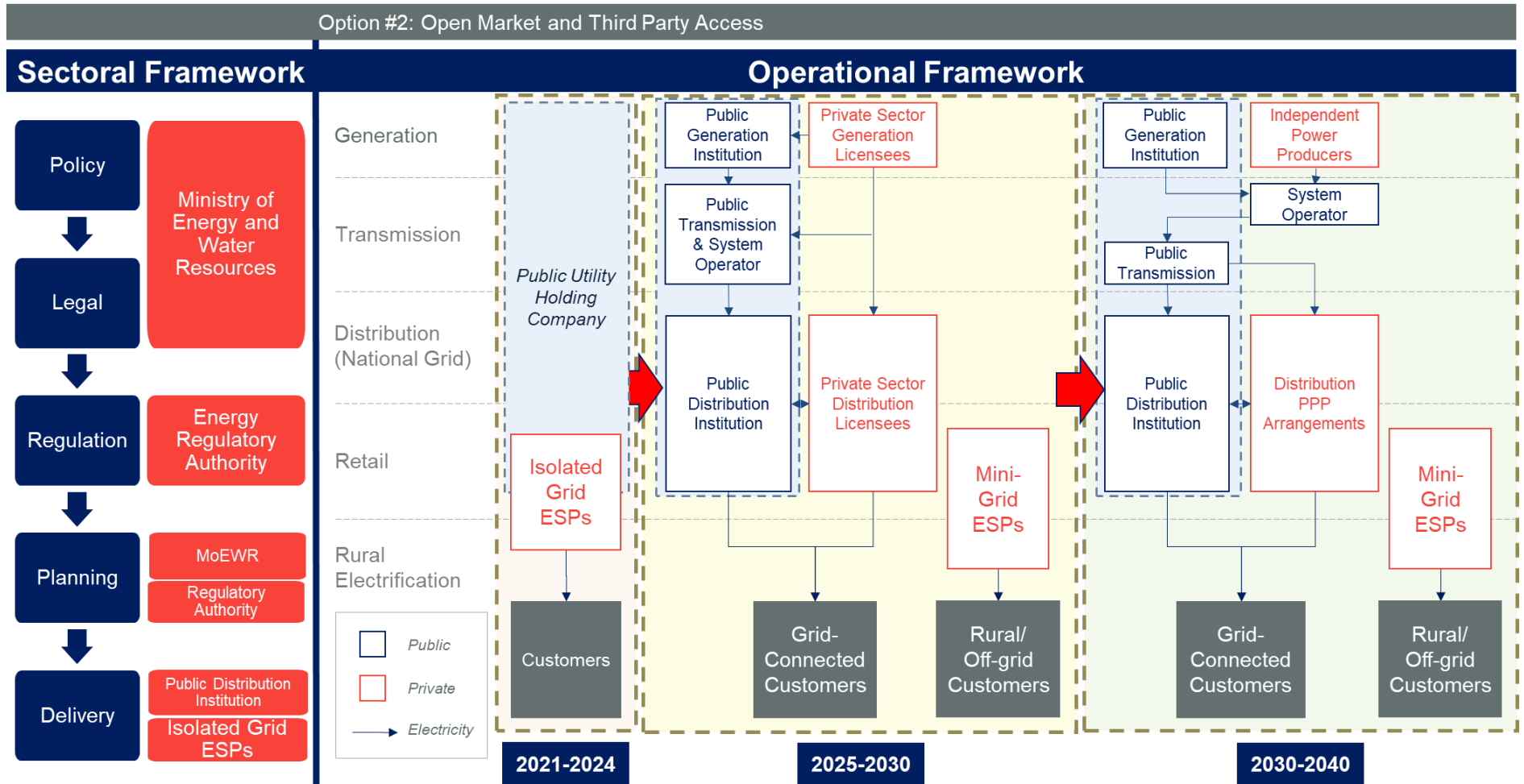
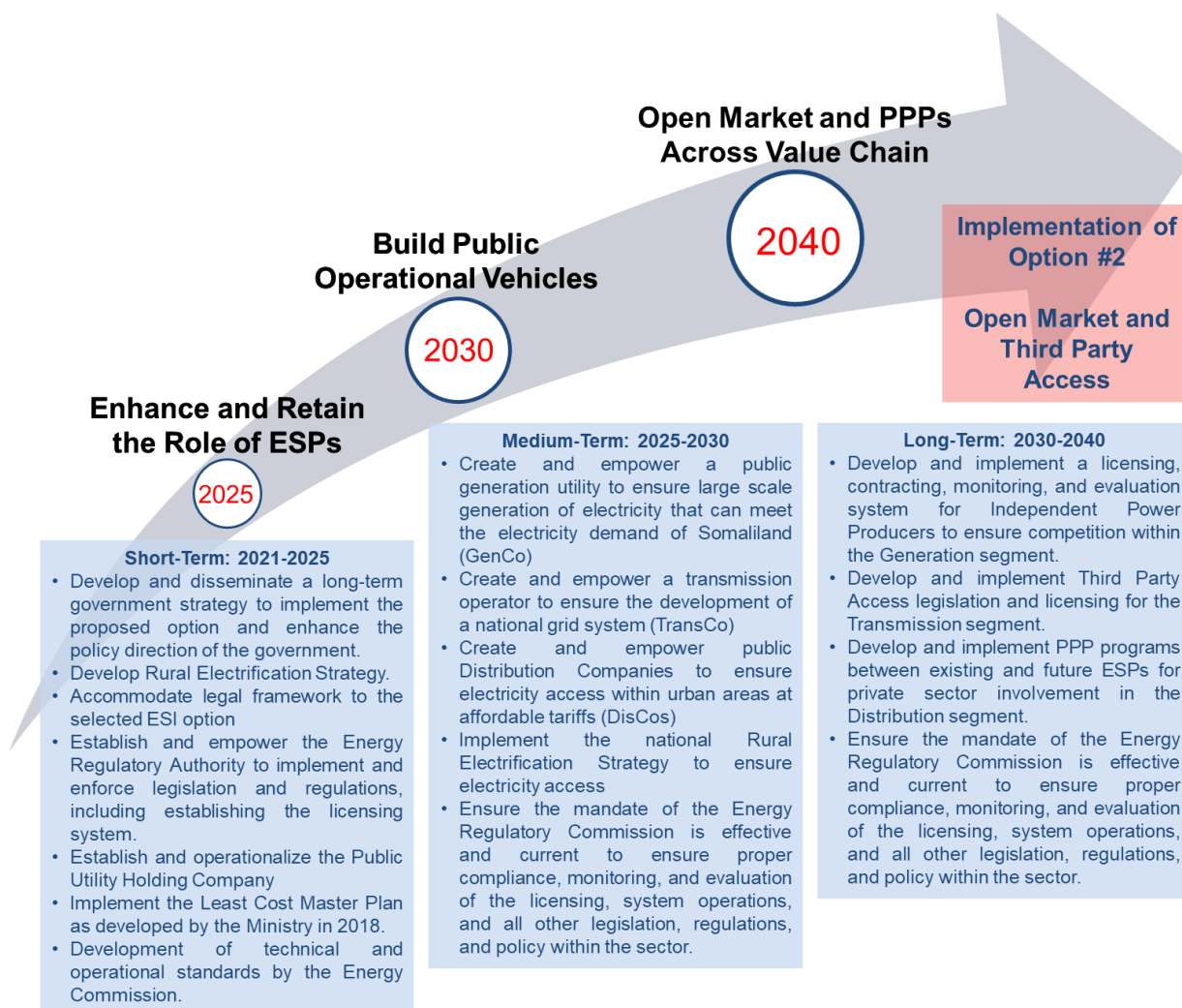
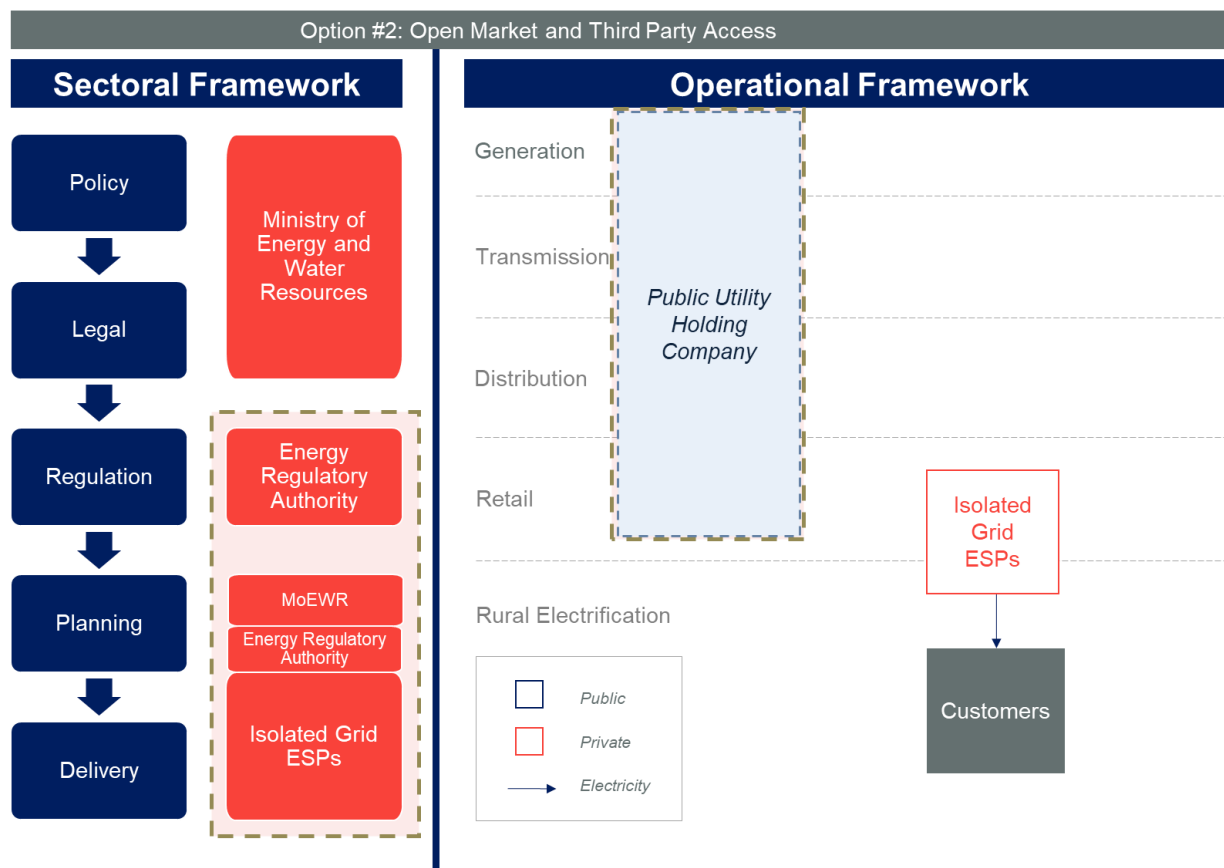


Figure 8-5: Roadmap for 2040



## 8.4 Short term (2021-2025): Retain and Enhance the Role of ESPs

Figure 8-6: Structure and Changes to Support Option #2 in the Short-Term (2021-2025)



Areas highlighted in the orange box indicate the primary focus of this stage.

In light of the policy objectives outlined, the first step of the roadmap to implement the selected ESI structure is to engage in the following activities:

- **On the public-sector side:** increase the role of the public sector by reinforcing the legal and regulatory framework, particularly through the newly formed Energy Regulatory Commission and the Public Utility Holding Company which will begin corporatizing and operationalizing its future role in the sector.
- **On the private-sector side:** create a favorable environment to enhance Public-Private Dialogue and build on the work conducted so far by the ESPs.

This short-term period can therefore be primarily characterized by the changes to the sectoral framework that sees the Regulatory Authority established and empowered and the implementation of additional regulations and legislation to enhance and retain the roles of the existing ESPs. In a similar sense, the creation of the Public Utility Holding Company can be seen as a regulatory and operational action, as it will require the effective modifications, implementation, operationalization, and enforcement of the regulations and legislation needed for a public utility.

In the short term, changes to the legislation, regulations, and oversight of the sector will be primarily enacted and enforced by the Ministry and by the Regulatory Authority and will involve a major revision of the licensing system for ESPs. All ESPs will have more oversight and requirements for quality of service and technical standards but will also benefit from increased clarity over regulation and requirements while retaining their current market share. The Ministry will set minimum technical and quality standards that will be implemented, enforced, and monitored by the Regulatory Authority. The Ministry will also begin the Least-Cost Planning studies and implementation, based on data gathered by the Regulatory Authority, which will inform the planning and expansion of the network.

The underlying rationale of this short-term transition period is to retain and enhance the role of the ESPs in their function as electricity delivery while reinforcing the public sector's regulatory authority. The expected benefits include:

- **From the consumer's perspective:** improve the affordability of tariffs and increase access to electricity for urban and rural customers through:
  - Lower tariffs from ESPs
  - Better quality of electricity supply and service
  - Increased access.
  
- **From the private sector's perspective:** create an enabling environment for increased investment in the sector and to develop a financially sustainable electricity market through:
  - Better clarity on the licensing process and the rules for investment and operations in the electricity sector
  - Retaining and enhancing their business in the electricity market through the reinforcement and operational efficiency improvements to the existing grids.
  
- **From the public sector's perspective:** meet the national demand for electricity, promote sustainable development, competition, and financial sustainability of the sector, and to improve the operational efficiency and quality of supply of electricity through:
  - Reduction of sector costs
  - Implementing processes and tools necessary for long-term planning and strategy and for the operationalization of the public utility
  - Improved quality of supply through the licensing system.

The following sections provide details on the key changes to be undertaken on the sectoral and operational framework during the first phase (short-term) of the Roadmap.

#### **8.4.1 Actions and reforms within the sectoral framework**

##### **Policy and strategy**

**Action 1: Develop and disseminate a long-term government strategy to implement the proposed option and enhance the policy direction of the government.**

In the short term, developing coherent, effective, and strong policy to guide the sector is critical to ensuring the successful rollout of the full roadmap for the development of the electricity sector. Currently, the Energy Policy 2018 is the central document that guides sectoral policy. The government must effectively translate this policy into a government strategy for the sector that would outline the various activities to be undertaken to meet the policy vision. This strategy will notably describe the long-term configuration of the sector and the strategic actions to be taken to move towards the current structure that achieved the desired long-term structure. The development and publication of this strategy will not only offer a roadmap for the sector but also improve the buy-in from a range of stakeholders for the wide-ranging reforms that will take place in the sector.

The proposed recommendations in this roadmap can form the basis for the long-term strategy, but more detailed studies must be undertaken in order to inform the full strategy.

### **Role allocation between FRS and FMS in the implementation of the Strategy**

As part of the development of the sector strategy articulating the recommended option, it will be appropriate to develop an action plan that brings together the different activities that will fall under the FRS and those that will fall under the FMS.

As shown in Chapter 7, the Constitution provides mechanisms for the distribution of power between the federal and MS levels.

Section 50 of the Constitution, which deals with “*Federalism Principles of the Federal Republic of Somalia*”, states among others that:

- a) “*Power is given to the level of government where it is likely to be most effectively exercised*”; and,
- b) “*Every part of the Federal Republic of Somalia shall enjoy similar levels of services and a similar level of support from government*”.

Given those principles, it would be reasonable to argue that:

considering principle (b), the design of an ESI strategy and, where appropriate, the establishment of an ESI Strategy in Somalia should only be done at the FRS (FRS’s competency) to ensure that any Somali citizen can benefit from electricity services in any part of the country.

- Based on principle (a), the implementation of such strategy at the local level should be done only at the level of the FMS (FMS’s competency) which is the level “*where it is likely to be exercised most effectively*”.

This analysis indicates that while the ESI option can be decided at the FRS level, and the implementation would be better implemented at the FMS level. This would entail a close collaboration between the 2 levels of jurisdiction. Indeed, Section 51 of the Constitution lays down the principle of close collaboration between FGS and FMS. It provides, among others, that:

- *Every government shall strive for a cooperative relationship with other governments, whether at the same level or at another level of government.*
- *Every government shall respect and protect the limits of its powers and the powers of other governments, and shall:*

- a) *Inform governments of other levels of policies and activities it implements within its boundaries which may have an impact on the areas of other levels;*



- b) Have policies that facilitate the planning and implementation of joint development projects.*

Therefore, according to the Constitution, FMSs should undertake the implementation of the Strategy developed at the federal level. However, the technical and financial capacities of the FMSs remain disparate and some MS may not have the necessary capacity to implement these activities.

To ensure the effective implementation of the new ESI, it will therefore be important to include two major elements in the strategy document to be developed:

- a) Identify the capacity building needs required for the various FMS to implement the selected new ESI decided at the Federal level.
- b) Ensure that the FRS implements the identified activities in FMS that are not in a position to do so, pending capacity building in those states.

This approach will have the dual advantage of being aligned with the constitutional framework of FRS while ensuring the implementation of the agreed-upon ESI within the targeted timeframe.

### **Action 2: Develop a Rural Electrification Strategy.**

A similar recommendation to Action 1 is to specifically undertake a rural electrification strategy and least-cost planning studies, but this will be on a shorter time horizon and can be used to inform the first phases of the long-term strategy. The long-term strategy must consider the range of possible new players in the electricity sector of FRS and consider the wider context of development for the country as a whole. The long-term strategy can be used to help guide the wide range of public and private sector players along specific policy goals and interests. A Rural Electrification Strategy must ensure that end users have access to a less-costly source of electricity, whether it is through a home-based or mini-grid solution. It will also be important to incorporate private sector participation in later stages. The precise composition of the rural electrification sector will still need to be determined based on the priorities identified and studies undertaken during this phase, but it is expected that it will rely on a wide range of solutions, including public-private partnerships, direct government interventions, and continued reliance on some of the existing ESPs that service rural areas.

Within the rural electrification strategy there will be elements that contain the proposed Somali Electricity Sector Recovery Project, with particular attention to “Component 3: Electricity services for improved public services delivery”. This component focuses on supporting activities that will provide electricity to public services in rural and peri-urban areas and will be underpinned by the least-cost planning program undertaken within Action 5. The primary activities will be developing mini-grids in areas without grid access, that will focus on solar PV systems supported by battery storage, though diesel generation will supplement this where necessary.

The Ministry is distinctly responsible for directing rural electrification efforts, though the Regulatory Commission will retain responsibility for licensing, implementing and enforcing standards of licensees, and data collection from licensees. The government must set specific targets to be met at specific milestones, which will be measurable and

actionable. To meet these targets, a range of solutions that focus on the context of each community must be considered, such as the location, distance to the grid, socio-economic status, electricity demand needs, and other relevant information. The government will need to offer financial support to address the affordability gaps and market failures in order to enable the lowest-earning rural households to have access to electricity as a basic necessity.

## **Legal**

### **Action 3: Adjust the legal framework to accommodate fully the selected ESI option.**

As mentioned in Chapter 7 above, the current Electricity Bill of FRS as presently drafted can accommodate the proposed ESI option.

However, some adjustments will be necessary to provide a complete and adequate legal framework. In particular, the Ministry will need to ensure that the latest version of the Electricity Bill is reviewed to refine certain concepts (e.g. renewable energy or third-party access to the grid). Some changes will also be necessary in the short-term in order to strengthen the licensing system (scope, duration, renewal principle, etc.). This point is indeed central to take full advantage of the current ESPs scheme while promoting the increase of the quality of service and encouraging the reduction of costs.

Operationally, and for facilitating the process, it is recommended to clarify the Energy Bill 2020 essentially through the establishment of secondary legislation and regulations rather than amendments to the Bill, as the principles, mission, and objectives of the Energy Bill constitute a strong ground for the implementation of the ESI option proposed.

## **Regulation**

### **Action 4: Empower the Regulatory Authority to implement and enforce legislation and regulations, including establishing the licensing system.**

A critical component to begin the roadmap for reform to the electricity sector is to strengthen the regulatory oversight of the Regulatory Authority and empower it to implement and enforce a full licensing system for the sector as laid out in the Energy Policy.

The Regulatory Authority will need to have the full funding and support required to exercise the full authority that is laid out in the Energy Policy, which includes:

- having authority over the regulation of imports, exports, generation, transmission, distribution, supply, and use of electrical energy
- the authority and responsibility for implementing and enforcing any legislation passed by the government or Ministry relating to the electricity sector
- authority over licensing, tariffs, dispute resolution, data collection, technical standards, codes of practice, health and safety codes, quality standards, grid codes, and connections
- oversight and responsibility to collect data from all licensees, including isolated-grid ESPs, to support sector planning processes.

All of these regulatory requirements must have their specific instruments and support developed in this short-term period from 2021 to 2025, but the priority action is to implement the full licensing system to cover all existing and future ESPs in the sector. Since the current operational and sectoral structure of the sector relies entirely on private ESPs, a full licensing system is a critical first step to better regulate the sector.

Improving operational performance and setting operational and technical standards will be a critical first step to getting the sector in line with the sectoral framework, which will be in line with the Somali Electricity Sector Recovery Project's "*Component 1: Distribution network reconstruction, reinforcement, and operations efficiency in the major load centers*". Implementing the licensing system, with requirements for technical standards, quality of service, data collection and provision, among other quality standards, will be the first available actions to be taken by the Regulatory Authority in the electricity sector roadmap once it is established. Another critical requirement in the licensing system will be establishing the necessary provisions for the ESPs to begin integrating their operational networks in order to optimize the distribution network operations and begin scaling-up the generation activities. The Regulatory Authority, when it is first established, must begin by collecting detailed statistics and data on the current tariffs and planning by the isolated grid ESPs; this will be critical to determining the appropriate tariff regime and regulations and setting in place a plan to reduce and align the tariffs charged to customers. Other possible tangible actions to improve the sector include reviews of current generation and distribution assets to reduce technical losses, improvements to sales and retail to reduce possible non-technical losses due to theft or poor collections, and capacity building and training programs to improve management of financial, operational, human resources, information technology, and other administrative matters.

One of the first specific steps to empower the Regulatory Authority after it is established will involve a review of the funding support to ensure that there is an adequate upfront capital budget to establish these systems and programs as well as a sustainable operational budget to carry the Regulatory Authority in the long term.

The Regulatory Authority would also benefit from capacity building programs to improve the administrative, financial, human resources, and information technology management so that internal systems are in place for a fast and wide scaling up of the licensing system.

Empowering the Regulatory Authority to handle this authority will improve the relationship with other sector stakeholders: ESPs, Ministries, and consumers will see improvement and independence of the regulator as a critical first step to develop a financially sustainable, accountable, and effective regulator.

The current legislation does not obligate the distribution licensees to provide full, non-discriminatory access to electricity within their specific geographic areas, nor does it specify under what conditions the distribution licensees must expand their grid to provide additional access, but changing this will be critical to the success of Component 1 of the Somalia Electricity Sector Recovery Project. The Ministry must be responsible for setting the obligations of licensees to extend coverage within a specific geographic proximity to their grid. The Regulatory Authority will also be responsible for enforcing all distribution licensees to increase electricity coverage and access within their specific geographic areas, and when negotiating and approving distribution licenses also set clear rules and

tariffs for the connection of potential customers within their geographic coverage areas. By integrating the distribution networks over the short- to medium- terms and creating an integrated off-taker for the future generation assets, it will allow for faster scale-up of generation infrastructure that will be critical to meeting future demand.

There is no distinct license for retail and sales of electricity, and it is assumed that distribution licenses include sales functions as one of their obligatory services. Since most ESPs currently generate and distribute electricity to their customers on isolated grids, it makes the most sense to keep this as a single license for the investment and maintenance in the physical distribution infrastructure as well as the revenue-generating sales activity.

## **Planning**

### **Action 5: Implement the Least-Cost Master Plan using an integrated planning approach directed by the Ministry.**

In the short term, the first planning priority for the sector is to detail the Least-Cost Master Plan for the electricity sector prepared by UNICON in 2018<sup>22</sup> and ensure its implementation. As recommended in the 2018 Study, this implementation must be undertaken at the Ministry level; in order to ensure long-term financial and political sustainability, it is critical to have high-level direction and wide-ranging stakeholder input. The Ministry is distinctly responsible for the preparation of least-cost planning for all segments of the electricity sector in the Federal Republic of Somalia, but this will be done in coordination with the Regulatory Authority once it is established, as the Regulatory Authority will have oversight and responsibility for data collection from licensees that will be used for least-cost planning.

The Least-Cost Development Plan must include long-term supply and demand forecasts for FRS, which considers the proposed plan for sectoral and operational restructuring and the projected development of the sector to facilitate generation expansion, grid development and expansion, and rural electrification efforts with a primary focus on renewable energy optimization into the existing generation mix.

According to the Energy Policy, planning for the electricity sector in FRS is handled between the Ministry and the Regulatory Authority; the Ministry has the authority to endorse the plan for the sector, while the Regulatory Authority will collect data from licensees and develops the long-term planning documents. The data initially collected from licensees by the Regulatory Authority will be critical to project financing and investment forecasts and requirements for the sector. The data from licensees will also be critical to developing cost of service projections and a tariff reduction strategy in order to make tariffs more affordable and transparent for consumers.

The Authority can begin modelling the financial costs and returns for the existing generation and distribution activities to determine the long-run operating and investment costs for the sector, begin refining the financial assumptions for the sector and better determine a cost-reflective tariff structure. The planning exercises for tariff structures and regulations will be used to inform the regulations outlined in Action 4, above.

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<sup>22</sup> Development of a Power Master Plan for Somalia Project. Ministry of Energy and Water Resources | World Bank. UNICON. 2018

The Least-Cost Development Plan implementation must also occur early in the restructuring of the sector as it will guide the development of the electricity sector in FRS. The plan must be publicly available and be based on sector-wide stakeholder consultations in order to achieve significant buy-in before integrating additional players in later stages, such as public utilities and additional IPPs.

## **Delivery**

### **Action 6: Development of technical and operational standards by the Regulatory Authority.**

The delivery of electricity will continue to be coordinated, controlled, and implemented by the existing private sector ESPs in the short term. However, there are no clear obligations for quality of service in the current legislation, and this should be specified in license contracts. The Regulatory Authority will be established and have an expanded role to play in implementing and enforcing the technical and operational standards that will improve efficiency, access to electricity, and quality of service delivery. This will require the Regulatory Authority to implement technical standards for the construction, maintenance, and operations of ESPs to ensure consistent quality, safety, and maintenance procedures. The Regulatory Authority must also implement the necessary legislation and licensing standards that will be required to ensure an integrated distribution network for the ESPs and future generation assets.

The Ministry will be responsible for determining the technical standards and requirements of licensees, while the Regulatory Authority will be responsible for implementation. The Regulatory Commission must have the necessary capacity building and training to implement and enforce these technical standards. This could include specific obligations such as consistency of supply, permissible frequency and duration of outages, specific electrical frequency and voltage requirements, maintenance and repairs requirements, and other quality of service measures and indicators. This will also be monitored and evaluated using the expanded authority of the Regulatory Authority to collect data from ESPs.

## **8.4.2 Actions and reforms within the operational framework**

### **Generation, transmission, distribution and sales segments**

#### **Action 7: Establish and operationalize the Public Utility Holding Company.**

In the short-term, the focus must first be on developing the necessary frameworks, legislation, and regulation in order to establish and operationalize the Public Utility Holding Company. The operational sector in FRS will continue to be made up of and operated by only ESPs who run isolated grids that function independently of each other. Generation sources will begin shifting from diesel fuel generators to a more diverse generation mix, though they will still not fully meet demand, and grids are primarily isolated low-voltage networks. In the short term, the first steps to realize the long-term vision of the sector is to increase operational efficiency within the existing private ESPs by implementing and enforcing better technical standards; transitioning from the current situation into a fully unbundled electricity market with public and private participation in



all operational functions will require laying the groundwork early to ensure successful implementation by first establishing the Public Utility Holding Company, while in the 2025-2030 period the individual utilities will be implemented.

In the short term, the focus of efforts in the operational sector will need to be on improving the existing operations and financial performance of existing ESPs, but without changing the structure of the operational framework. The ESPs that are now generating and distributing electricity will require, once they are established by the Regulatory Authority, under their license contract clear delineation of their geographic service areas with the requirement that there be integration with overlapping distribution networks and to provide integration with future generators. These license contracts must be ring-fenced in order to incorporate the specific regulatory and legislative requirements set out by the Ministry and Regulatory Authority, with clear rights and obligations of all parties involved. In the early phases, these contracts will be vital to ensuring a consistent supply of electricity to the existing customers and grid, while allowing for further expansion of electricity access in later phases. The development of new public and private sources of on-grid generation, transmission, and distribution relies first on the development of coherent and effective legislation and licensing systems, thus creating new operational players must wait until the medium-term stage. The rules around revocation of licenses are unclear, but could be used to improve the operational efficiency in the long term. If the Regulatory Authority is able to specify technical standards and quality of service, this can be used to determine key performance indicators for each ESP, which would in turn allow for a transparent process for revocation of licenses. Data collection will also allow the Regulatory Authority to benchmark to historical costs and performance indicators, compare current licensees to the benchmark, and impose penalties, operational improvements, or even revocation of the license for poor performing ESPs.

The Regulatory Authority, once established, will be able to use this data to inform the Ministry about possible targeted subsidy mechanisms that could be used to reduce end-user tariffs, since it is not expected that the ESPs will be able to achieve the drastic cost reductions immediately on their own. A targeted subsidy regime would likely be best served through performance-based contracts as part of the licensing provisions. This could stipulate certain requirements that must be met in order to receive the subsidies, which would need to be partially passed to end customers.

Improving operational performance will be a critical first step to getting the sector in line with the sectoral framework changes outlined in the previous section. Implementing the licensing system, with requirements for technical standards, quality of service, data collection and provision, among other quality standards, will be the first available actions to be taken by the Regulatory Authority in the electricity sector roadmap. In line with Component 1 of the Somali Electricity Sector Recover Project, the distribution licensees (which will continue to only be the existing ESPs at this stage) must ensure better operational efficiency through integration with overlapping distribution networks and the integration of additional generation. Possible tangible actions to improve the sector include reviews of current generation and distribution assets to reduce technical losses, improvements to sales and retail to reduce possible non-technical losses due to theft or poor collections, and capacity building and training programs to improve management of financial, operational, human resources, information technology, and other administrative matters.

These steps will be critical to advance the operational segment in the following stage, from 2025 onwards.

In the “medium-term,” the primary focus will be establishing the Regulatory Authority, and the public utilities under the public sector holding company for the generation, transmission, and distribution companies that will be established. Throughout the early implementation of reforms during the 2020-2025 period, the Ministry and Regulatory Authority must then establish additional legislation, regulations, and standards while keeping this eventual structure in mind. This highlights the critical importance of developing long-term sector strategy for the electricity supply industry in the Federal Republic of Somalia as outlined in Actions 1 to 6.

### Rural electrification segment

#### **Action 8: Develop a Rural Electrification Strategy to improve access to electricity in areas that will not be serviced by the main electricity grid.**

A significant operational segment priority in the short term is to develop a Rural Electrification Strategy that is based on the least-cost planning and studies that will meet the unmet demand for electricity in rural areas of FRS. The existing ESPs operate as separate grids but are primarily focused in and around higher-density urban areas; it does not appear that rural electrification efforts can depend fully on the private sector in order to meet demand. The Ministry has oversight for Rural Electrification in FRS, so it will be their responsibility to develop a Rural Electrification Strategy. Since the Ministry will take the role of mandating distinct service zones, it is important that the Ministry incorporate the planning of on-grid and off-grid development into the least-cost planning and the licensing regimes. By ring-fencing the distribution companies' geographic areas in the short- and long-terms, it can specifically identify the zones that will need additional public-sector investment in order to meet electricity access needs.

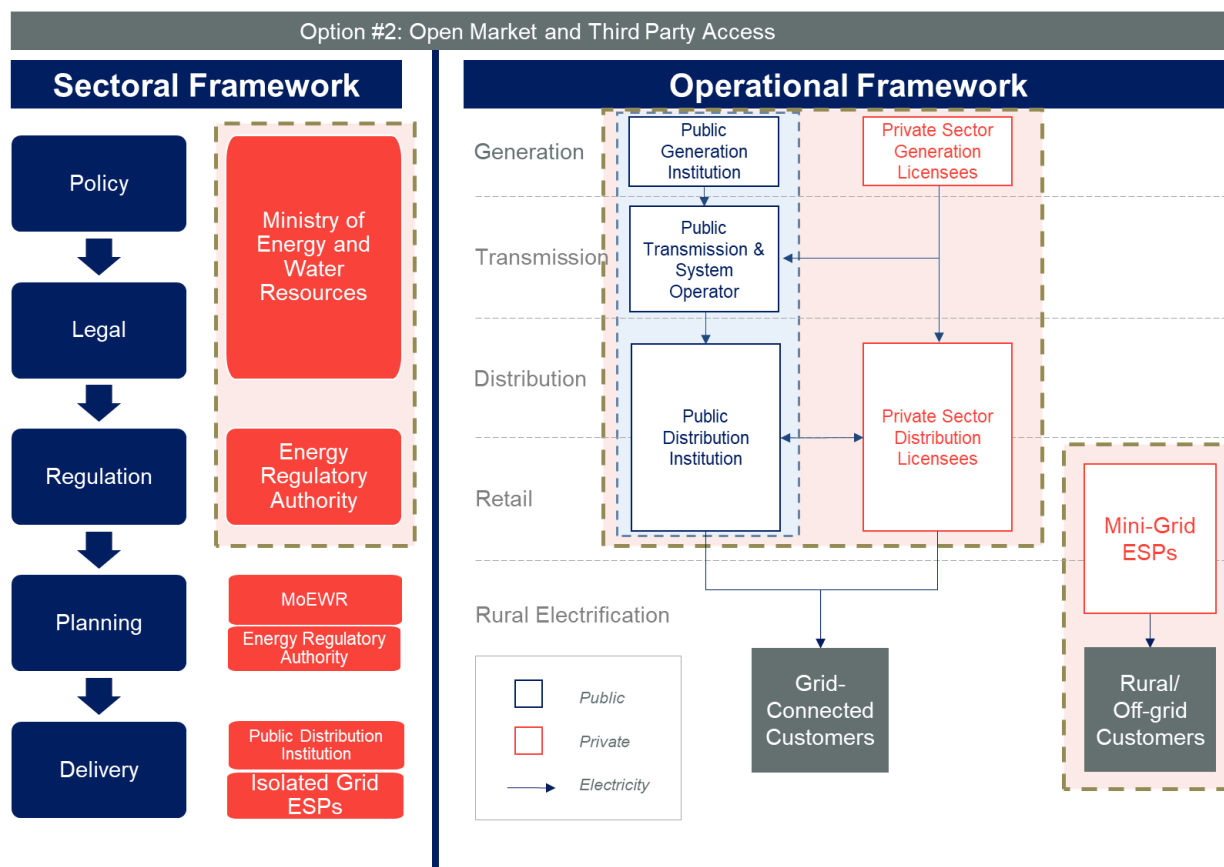
A Rural Electrification Strategy is therefore needed to implement an enabling framework that can establish a long-term development plan and more effectively deploy decentralized, preferably renewable, generation sources and to develop mini-grid systems; hybrid and optimized models, including solar PV, back-up diesel generation, and battery energy storage can drastically improve fuel efficiency, consumption and lifespans of the generators. The licensing system, technical standards, and other regulatory requirements must be specifically adapted to account for complexities and specific differences when developing off-grid or mini-grid sources for electricity generation and distribution.

A similar solution to improve electricity access will be implementing incentives to expand and densify peripheral parts of the existing ESP grids to reach wider customer bases, as part of the Somali Electricity Recover Project “*Component 3: Electricity services for improved public services delivery*” to support rural and peri-urban grid intensification. Incentives to develop in this way for ESPs should be implemented by the Ministry and based on least-cost planning exercises. This approach would constitute one of the pillars of the future Rural Electrification Strategy.



## 8.5 Medium term (2025-2030): Build public operational vehicles

Figure 8-7: Structure and Changes to Support Option #2 in the Medium Term (2025-2030)



Areas highlighted in the orange box indicate the primary focus of this stage.

In the medium-term period, from 2025 to 2029, more significant changes to the operational framework of the sector will occur. These will be largely overseen and enforced by the Ministry and Regulatory Authority, while being implemented by the public utility holding company. This holding company will oversee the separate corporations that will be responsible for specific segments of the electricity supply industry. Having subsidiary companies will be critical to ensuring a greater degree of flexibility for the outcomes developed for each.

Public institutions for generation, transmission, and distribution of electricity will be created in order to meet demand and growth of the sector, increase access to electricity, and fill any gaps that may be left by the private sector ESPs.

The public sector utilities will require a large expansion of the skills and capabilities of the sector to ensure effective development and implementation of the public utilities, so planning to build this capacity within the sector would be required.

Longer-term government strategy would be already in place to effectively plan and forecast for sector demand and to set in motion the medium-term actions to be achieved

by 2029. At this stage, it is expected that ESPs will be fully complying with the licensing process of the Regulatory Authority, which will be more empowered to exercise their authority over the sector. This licensing process will be periodically reviewed and updated based on initial results from the short-term period.

At the same time, reviews and updates to the policy, legislative, and regulatory frameworks within the sector will be undertaken based on results collected from the short-term stage and the planning exercises of the short-term period will be monitored and evaluated to ensure balance between all players within the sector. The grid as a whole will continue to be expanded and strengthened; the continued role of the private sector ESPs will alleviate the strain on public sector finances, while reducing costs and ensuring affordable tariffs for the customers.

In light of the policy objectives outlined, the medium-term steps of the roadmap to implement the ESI structure selected is to engage in the following activities:

- **On the public-sector side:** significantly increase the role of the public sector by creating the public utilities for generation, transmission, and distribution & sales within the recently establish public sector utility holding company.
- **On the private-sector side:** continue to reinforce the role of ESPs.

The underlying rationale of this medium-term period is to expand the role of the public sector in electricity generation, transmission, and distribution through the creation of public utilities within the public utility holding company that was created in the 2021-2024 period. This would be implemented in parallel to a reinforced and better regulated private sector, thus building a stronger ESI with private and public players.

The main expected benefits from this phase are:

- **From the consumer's perspective:** improve the affordability of tariffs and increase access to electricity for urban and rural customers, through:
  - Lower tariffs from competition between ESPs and public utilities
  - Better quality of electricity supply and service by increasing the number of service providers in the ESI and better performance and reliability through hybrid generation models.
  - Increased access through the implementation of the rural electrification strategy.
- **From the private sector's perspective:** strengthen the enabling environment for increased investment in the sector and develop a financially sustainable electricity market, through:
  - Better clarity on the licensing process and the rules for investment and operations in the electricity sector
  - Increased competition rewarding the more efficient market players
  - Creating new market opportunities for private entities that would contribute to the implementation of the rural electrification strategy.
- **From the public sector's perspective:** meet the national demand for electricity, promote sustainable development, competition, and financial sustainability of the sector, and to improve the operational efficiency and quality of supply of electricity, through:

- Reduction of sector costs by increasing competition between public and private entities in the ESI; and,
- Implementing processes and tools necessary for long-term planning.

### **8.5.1 Actions and reforms within the sectoral framework**

#### **Policy and strategy, legal, regulatory, planning, and delivery functions**

##### **Action 9: Conduct a Gaps Analysis to understand, monitor, and evaluate the current progress and determine a path forward for progress within the sector.**

The primary tool to evaluate the least-cost master planning studies, sectoral strategies, as well as all other planning and strategy will be through a Gaps Analysis.

The Gaps Analysis will evaluate the progress made in moving forward sectoral goals and strategies that are set at the beginning of the short-term period as previously outlined. This sector-wide review will look at three general categories of actions and strategies:

- i) what actions were taken to achieve the goals that were prioritized in the original long-term sector strategy;
- ii) what priority actions were not achieved that are holding back sectoral development;
- iii) what additional actions must be prioritized moving forward that were not originally prioritized;
- iv) What additional degree of involvement of the private sector (or inversely larger public investments) should be ensured to meet the demand for electricity;

Thus, the Gap Analysis will be a review of the additional needs of the sector that are holding back full sectoral development and is meant as an evaluation of progress. The Regulatory Authority will continue to be responsible for data collection from all licensees, but the monitoring and evaluation of the sectoral plans and strategies must be done in coordination with the Ministry.

##### **Action 10: Ensure the mandate of the Regulatory Authority is effective and current to ensure proper compliance, monitoring, and evaluation of the licensing, system operations, and all other legislation, regulations, and policy within the sector.**

While most of the regulation items would have been implemented in the short-term period of the roadmap, it will be important during this medium-term period to continuously monitor, evaluate, and collect feedback on the existing policy, legal, and regulatory frameworks as well as the planning and delivery of electricity within the sector, to ensure that responsive and responsible regulations continue to be adapted and implemented.

The sectoral planning that occurs in the short-term period from 2021 to 2025, which centers on the Least-Cost Master Plan, will need to be tested, implemented, and adjusted. This will be an ongoing process moving forward. Monitoring of the licenses will

be critically important to ensure that any elements that might discourage competition or fairness within the sector are removed.

A core component of the medium-term plan for the sector involves the full operationalization of the public sector utilities for FRS, which will be elaborated in more detail in the following section. However, regulations within the sectoral framework will need to be reviewed again and adapted in order to guarantee a smooth transition towards a competitive market involving public and private players. The Gap Analysis conducted at the beginning of this phase will be critical to determining the appropriate public interventions in the sector. Public sector utilities will be driven by additional considerations that may require additional licensing procedures, incentive mechanisms, regulatory and governance oversight, or other such measures to ensure strong public interest and continued sectoral improvement.

### **8.5.2 Actions and reforms within the operational framework**

In the medium-term stage, the most significant changes will be occurring in the operational framework. At this stage, there will be proposed new entrants to the entire sector, meaning there will be newly established public utilities for generation, transmission, and distribution & sales of electricity within FRS underneath a public electricity utility holding company. As dictated by the legal framework and suggested by the recommended ESI option, each of these separate segment utilities will be functionally and financially separate from each other, within the public electricity utility holding company, and fully overseen by the Ministry and regulated by the Regulatory Authority. The literature and experience show that by keeping the utilities unbundled, the incentives, management, and performance can be evaluated in a more targeted way for a better management of the ESI.

Considerable technical, engineering, operational, financial, and management skills will be needed to establish these public utilities, in an already strained public sector given the wide expansion of the Ministry and the newly established Regulatory Authority that will be preceding this period. FRS must undertake a general review of the current skill set and the skills requirements to better develop the sector and to be able to effectively establish these new utilities. These skilled professionals could be transferred from the existing private sector ESPs, from within the Ministry, or from other government and public sector entities, but it is not likely that this will present a sufficient skills base to achieve the full long-term vision of the sector. Thus, considerable HR planning will be needed to build the skills and capacity needed within the Federal Republic of Somalia to implement this plan.

The details for each of the operational segments is presented below.

#### **Generation segment**

**Action 11: Create and empower a public generation utility to ensure large scale generation of electricity that can meet the electricity demand of FRS (GenCo).**

This phase 2 of the roadmap will see the introduction of a public electricity generation utility (GenCo) within the public electricity utility holding company, with the fundamental goal of increasing generation to meet growing electricity demand for FRS. The generation segment will still include private sector participation in operating electricity generation and supply infrastructure, but the competition between the public and private

sectors will optimize generation at a national level in order to develop new capacity and satisfy demand. The existing distribution infrastructure will be better integrated and coordinated between the ESPs and the new DisCo's (Action 13) through a reconstruction and reinforcement plan as part of Component 1 of the Somali Electricity Sector Recovery Project. By having an integrated distribution network, new generation will be more easily dispatched and the grid will be better optimized to support the increased supply and demand.

The new public GenCo will focus on generation only, allowing several benefits. First, the institutional structure, goals, incentives, and monitoring framework will be more targeted, and the strategy of the organization can better focus on the sector goals set by the Ministry, i.e. increasing generation, increasing the penetration of renewable energy, improving sector technical capacity.

A public generation utility will have a primary mandate of meeting the government policy goals and targets, particularly for meeting electricity demand in FRS, improving the mix of renewables in the grid, and reducing sector costs to provide a more affordable tariff for consumers. The generation utility will focus on developing hybrid models that are optimized to reduce dependency on diesel fuel generators and other thermal generation, by integrating efficient battery storage technology alongside solar PV units. The Ministry must make these mandates clear and develop further studies to determine the optimal financial and management structures for the GenCo. During this phase, from 2025-2030, the GenCo will be primarily responsible for developing the generation capacity of the electricity sector, as it is assumed that the tools, mechanisms, regulations, and sectoral investment will not yet be available to widely introduce public-private partnerships or additional private sector investment vehicles into the sector, which will occur instead after 2030. Efficient and cost-effective generation is a priority, so reviews and updates will be needed to the least-cost studies, tariff studies, and other technical studies that inform and direct the sector.

## **Transmission segment**

### **Action 12: Create and empower a transmission operator to ensure the development of a national grid system (TransCo).**

This phase 2 of the roadmap will see the introduction of a public electricity transmission company (TransCo) with the fundamental goal of building and expanding the national grid throughout FRS. A core focus of the transmission utility must be to ensure efficiency in the system and to reduce technical losses from transmission through a more efficient electricity transmission system. The transmission system will grow out of the existing distribution networks that exist between and within ESPs, which have been optimized in the previous stage to be better integrated and optimized. It is expected that some of the distribution infrastructure will qualify for medium- and possibly even high-voltage upgrades

The transmission segment is typically considered a natural monopoly because it is not efficient to have competition in transmission lines or the associated infrastructure might be considered as a key national asset by public authorities. Thus, the new transmission company will seek to meet demand for electricity transmission where it does not already exist. However, as dictated by the Electricity Act, to ensure fairness and effective



competition in the sector, the owners and operators of transmission lines must provide third-party access to generation and distribution companies. The public transmission company will have this as a special component of their licensing regulations.

In the medium term, the goal of establishing an electricity transmission utility will also be developed at the same time as developing a transmission system operator. The transmission system operator will have the role of optimizing the grid and dispatch of electricity in FRS. The purpose of the transmission company will be to build connections between the currently isolated grid ESPs, but the system operator must ensure efficient dispatch of the electricity between the now grid-connected ESPs. These roles must be separated, and the system operator will have the primary goal of ensuring system balance, which will be critical to ensuring that the private sector ESPs will connect to the national grid.

The transmission segment will not include private sector participation in operating the existing electricity transmission infrastructure at this stage, as the primary focus must be to optimize existing resources in the sector and to prioritize a flexible, responsive, efficient, and interconnected national grid network. It is important to focus on the public sector in the medium-term phase, as it will be critical to attracting additional grants, subsidies, and concessional financing to support more cost-effective development, since it should be able to better demonstrate effective management, investments, and structures to potential financing institutions. The increased competition to provide long-distance electricity transmission between public and private utilities will occur only in the longer-term phase, once greater participation, better connections between isolated grid ESPs, and wider and more stable access to electricity will be a priority.

### **Distribution and retail segment**

#### **Action 13: Create and empower public Distribution Companies to ensure electricity access within urban areas at affordable tariffs (DisCos).**

In the medium term, the distribution grid will require additional public operators to be established in order to fill the gaps that exist country-wide. Private sector ESPs will be required to improve operational efficiency of their grids and will continue to expand their grids and provide wider access to electricity in FRS during the short-term period as the licensing system is being established. The Regulatory Authority will be able to compel the isolated-grid ESPs to provide non-discriminatory access and connections to customers within certain parameters set out in the legislation; though gaps will continue to exist, public distribution companies (DisCos) will be established to fill these gaps. Upon further review through the master planning for the sector, it will need to be determined if local, regional, or national distribution companies should be established, to meet the context and needs of FRS.

Private sector participation will continue and be enhanced by the introduction of DisCos, as the private sector partners will still maintain their current distribution grids that have significantly improved operational efficiency and interconnections and will be further enhanced through these transmission and distribution interconnections. At the same time, the private sector ESPs will become more integrated to the main grid and will continue to function as owners and operators of their distribution grids, including being responsible for maintenance and improvements, establishing new connections, and operating and collecting revenue from their low-voltage grids. A goal of the public distribution companies must also be focused on communication of the choice of

electricity providers to all customers. The public distribution companies should be developed to cover all medium- and low-voltage electricity distribution as well as the sales and retail service associated with distribution.

### Rural electrification segment

#### Action 14: Implement the national Rural Electrification Strategy to ensure electricity access.

To promote rural electrification efforts, the Rural Electrification Strategy, the least-cost planning studies, and the changes to the regulatory and legislative frameworks will have been developed in the short-term stage of the roadmap in coordination with the Somali Electricity Sector Recovery Project's "*Component 3: Electricity services for improved public services*". The objective at this stage is to operationalize the strategy to allow the development of rural electrification solutions, notably off-grid and mini-grid solutions that increase access.

Pending the strategic decisions that would have been taken in the short-term period of the roadmap, rural electrification might depend primarily on the development of mini- and off-grid projects with storage and hybrid systems to supply electricity to rural and isolated communities. Other communities that are close enough to the grid might be connected through the transmission or distribution licensees that will be set up or which currently exist). It is during this period that the licensee requirement to connect customers within a certain distance of their grid will become mandatory.

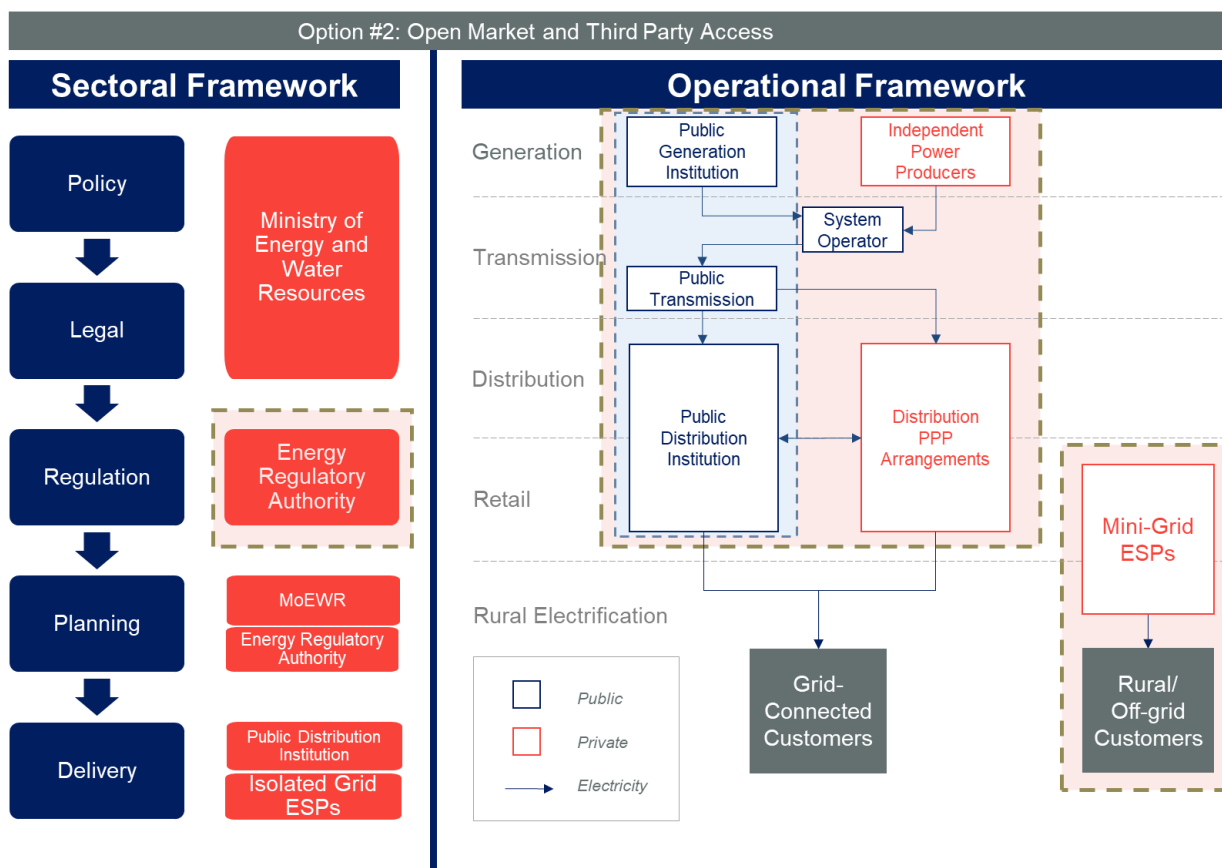
The existing ESPs will begin to cease operating as separate grids, and the Energy Policy by this point will require that the distribution licensees expand electricity coverage and increase access under certain parameters in order to expand access to peri-urban and geographically proximate rural areas. Taken together, these two impacts will mean a greater proportion of potential customers will have access to the national electricity grid. The parameters under which the electrification requirements will apply to distribution licensees will be specified within the Rural Electrification Strategy and subsequent legislation and regulations.

Given these two general approaches (off-grid and on-grid) to increasing electricity access to under-serviced and remote areas, a wide range of incentives will need to be provided to encourage private sector participation. The Rural Electrification Strategy will outline an approach to implement an enabling framework that can establish a long-term development plan. The rural electrification segment will be directly overseen by the Ministry, so it will need to allocate the necessary financial resources to support these proposals. Some major incentives can include securing access to funding either as grants or loans to support the development of mini-grids as well as expediting the process for licensing of mini-grids. Securing permits, licenses, or concession contracts faster will also significantly encourage the development of the sector, as it removes barriers to private sector development. The Ministry can also secure the technology and equipment for small-scale generation sources to be bought by private developers or communities that are building mini grids, thereby reducing the upfront procurement and purchasing barriers.



## 8.6 Long term (2030-2040): Open market and PPPs across the value chain

Figure 8-8: Structure and Changes to Support Option #2 in the Long-Term (2030-2040)



*Areas highlighted in the orange box indicate the primary focus of this stage.*

In the long-term period (from 2030 to 2040), the primary focus will be to consolidate the ESI structure built over the previous decade and maximize its benefits by opening the market to facilitate PPPs along the value chain. These improvements will include for instance developing IPPs for additional generation, third-party access to transmission systems, and PPPs in the distribution segment.

This long-term period can thus be primarily characterized by the changes to the operational framework that sees an expanded role for the private sector in electricity generation, transmission, and distribution and sales. This will see the introduction of IPP arrangements for new private sector participation in electricity generation. The non-discriminatory third-party access legislation will be fully implemented and operationalized to facilitate wider access and transmission of electricity. In the distribution sector, PPP models and agreements will be reviewed and implemented to increase private sector participation in electricity distribution and sales.

In light of the policy objectives outlined in section 8.2, the long-term steps of the roadmap to implement the ESI structure selected is meet the following policy objectives:

- **From the consumer's perspective:** improve the affordability of tariffs and increase access to electricity for urban and rural customers, especially through:
  - Greater competition that is expected to lower tariffs and provide better quality of electricity supply and service
  - Better quality of electricity supply and service
  - Increased access by inciting private sector to expand the grid.
- **From the private sector's perspective:** increased investment in the sector and a financially sustainable electricity market.
  - Increased market opportunities for private sector by the development of PPP schemes along the value chain and third-party access to the transmission grid.
- **From the public sector's perspective:** meet the national demand for electricity, promote sustainable development, competition, and financial sustainability of the sector, and to improve the operational efficiency and quality of supply of electricity.
  - Reduction of sector costs
  - Improve quality of supply through a properly regulated competition.

### 8.6.1 Actions and reforms within the sectoral framework

#### Policy and strategy, legal, regulation, planning, and delivery

**Action 15: Ensure the mandate of the Regulatory Authority is effective and current to ensure proper compliance, monitoring, and evaluation of the licensing, system operations, and all other legislation, regulations, and policy within a fully open sector.**

This period is characterized by a large number of players in the ESI. The sectoral framework in the long-term period will thus need to ensure a strong sectoral governance and monitoring. This will be done by establishing effective and responsive policy, legislation, regulations, and licensing procedures as well as ensuring adequate access to financing, skills, and incentives. An integrated planning approach between all operational sectors, including rural electrification, will also need to be implemented and operational, and periodically reviewed and improved.

The Ministry and the Regulatory Authority will, by 2040, have built the necessary policy, legislative, and regulatory tools in order to effectively oversee, monitor, evaluate, and direct the sector to ensure the achievement of policy and sectoral goals. The long-term strategy developed in the initial short-term stage will be reflected in the sector by 2040, and the changes will be taking shape by the start of this stage, in 2030. The long-term strategy can still be updated and adapted by stakeholders to better reflect changes in the sector, and it will be used as an input and guide to the development of the sector.

Regulation and legislation will continue to be strengthened, and the role and authority of the Regulatory Authority will continue to be strengthened. The Regulatory Authority and the Ministry will have built the necessary internal infrastructure and capacity in order to

effectively oversee the sector and will have worked out budgetary and financial challenges while ensuring their autonomy.

Specifically, at this stage, legislation, licensing procedures, and planning processes will be expanded to finalize the changes to the generation, transmission, and distribution and sales segments. The changes will introduce new incentives and mechanisms to promote private sector investment in generation through IPP and PPP contracts for on-grid generation and concession agreements for rural electrification through mini grids. In the transmission segment, third-party access will become a requirement for all transmission network companies in order to allow for a fully operational national grid. In the distribution segment, the regulation of partnerships between publicly-owned and privately-owned distribution companies will ensure efficiency gains to the end-consumers.

## **8.6.2 Actions and reforms within the operational framework**

### **Generation segment**

**Action 16: Develop and implement a licensing, contracting, monitoring, and evaluation system for IPPs to ensure competition within the generation segment.**

In the long term, the generation segment can rely on better data collection, planning, policy, legislation, regulations, and licensing processes to better meet the demand needs of the electricity sector. At this stage, a public generation utility will have been established and operationalized in the previous medium-term period from 2025 to 2030, and the Ministry and the Regulatory Authority can open the sector fully to private sector IPPs to be involved in electricity generation. The sector can also benefit from a wide range of possible public-private partnership structures that could see a blend of investment, risks, and operations between the public generation utility and private investors. O&M contracts or concession of public assets could possibly be beneficial to the sector as a whole by introducing innovation and efficiency gains into the system. Until this point, new private sector players have not been allowed to generate large-scale electricity, but the necessary processes will be in place to allow the sector to absorb new entrants. This will ensure continued competition within the sector as well as more effectively meeting electricity demand in the long term.

Private sector IPPs and PPPs will be licensed, monitored, and evaluated based on the same criteria as are applied to the existing private sector ESPs and will also benefit from the fully operationalized non-discriminatory, third-party access regime (elaborated in the following section). The Ministry and the Regulatory Authority will rely on planning documents and studies and the demand forecasts for the sector to direct potential new entrants, allowing control over the overall generation mix and tariffs, allowing the government to still be able to meet specific existing or newly created policy objectives for access, affordability, and integration of renewables.

The IPPs and PPPs will be monitored and overseen based on the data collected, studies undertaken, and sectoral planning that has occurred in the short- and medium-term periods. Electricity service costs and tariff methodologies will have been established by this point, and the sectoral planning will set minimum benchmarks for IPPs performance. Incentives can be implemented as well in order to more effectively improve operational

performance of the sector. Licenses and contracts will be granted to IPPs based on the generation planning studies for the sector. It is too early to indicate the precise sector planning requirements that will come from these studies and exercises, but it is certain that This planning document will continue to be reassessed and updated periodically. Finally, the Ministry will need to re-evaluate and improve the tools and incentives that had been put in place, such as funding incentives and subsidies, in order to encourage greater private sector participation in generation.

### **Transmission segment**

#### **Action 17: Develop and implement third-party access legislation and licensing for the transmission segment.**

In the transmission sector in the long term, the first priority in 2030 will be to fully operationalize the non-discriminatory, third-party access. This will be based on the transparent and competitive conditions that will be established to encourage private sector participation in the transmission grid, though transmission licenses will still be established as natural monopolies over specific geographic areas. The gradual incorporation of private sector participation and private investment in the transmission grid will be a means to faster develop the grid as they can supplement the potential financing needs. Based on the Gaps Analysis conducted in the medium term (see Action 7), new structures, vehicles for investment, and strategies will be prioritized in order to ensure efficient and widespread resource allocation throughout the Federal Republic of Somalia.

As this non-discriminatory third-party access is fully operationalized, it will allow new sources of generation to be connected easily to the grid. As this system is developed, the role of the System Operator must be continuously reviewed and updated to ensure that the capacity for grid operations and dispatch are always responsive and reactive to market changes. The system operator will also be gradually become more independent during this phase, separated from the public transmission utility. The system operator will have a critical role in long-term and least-cost planning that will occur in coordination with the Regulatory Authority and the Ministry.

### **Distribution and retail segment**

#### **Action 18: Develop and implement PPP programs between existing and future ESPs for private sector involvement in the distribution segment.**

Private sector participation has been enhanced in the previous short-term stage of sector development, in which distribution companies are operational based on the existing ESPs and the grid development has been driven by the ESPs existing infrastructure consolidation and integration as well as gaps being filled by the new distribution companies. Public participation in the distribution segment would have been enhanced in the medium-term stage of the roadmap through the establishment of public distribution companies. The primary focus on the distribution sector during this period is to develop the PPP models, structures, and incentives to establish efficient and fruitful PPPs in the distribution of electricity in FRS. Private sector participation has been enhanced in the previous stages of sector development, in which the grid was strengthened and made more efficient and distribution companies are established from the existing ESPs.

The enabling environment created and consolidated in the previous phases of the Roadmap will allow new private sector ESPs for electricity distribution to integrate into the main grid, establishing new connections, and operating and collecting revenue from their low-voltage grids.

The Ministry and the Regulatory Authority will need to oversee the new contracts for PPPs. Non-technical loss reduction efforts will continue and be expanded to deal with non-payment, theft, and billings issues. This can continue to be monitored through performance contracts and indicators based on benchmarking and performance assessments of the sector as a whole.

## 8.7 Summary of the roadmap activities

Table 8-9: Summary of All Actions

Time Frame	Section	Actions
Short-Term 2021-2025	Short-Term: Policy and Strategy	<b>Action 1:</b> Develop and disseminate a long-term government strategy, including the least-cost planning studies, to implement the proposed option and enhance the policy direction of the government.
		<b>Action 2:</b> Develop a Rural Electrification Strategy
	Short-Term: Legal	<b>Action 3:</b> Adjust the legal framework to accommodate fully the selected ESI option.
	Short-Term: Regulation	<b>Action 4:</b> Empower the Regulatory Authority to implement and enforce legislation and regulations, including establishing the licensing system.
	Short-Term: Planning	<b>Action 5:</b> Develop a Least-Cost Master Plan using an integrated planning approach directed by the Ministry.
	Short-Term: Delivery	<b>Action 6:</b> Development of technical and operational standards by the Regulatory Authority.
	Short-Term: Operations	<b>Action 7:</b> Establish and operationalize the Public Utility Holding Company.
Medium-Term 2025-2030	Medium-Term: Policy and strategy, legal, regulatory, planning, and delivery functions	<b>Action 8:</b> Develop a Rural Electrification Strategy to improve access to electricity in areas that will not be serviced by the main electricity grid.
		<b>Action 9:</b> Conduct a Gaps Analysis to understand, monitor, and evaluate the current progress and determine a path forward for progress within the sector.
		<b>Action 10:</b> Ensure the mandate of the Regulatory Authority is effective and current to ensure proper compliance, monitoring, and evaluation of the licensing, system operations, and all other legislation, regulations, and policy within the sector.
	Medium-Term: Generation	<b>Action 11:</b> Create and empower a public generation utility to ensure large-scale generation of electricity that can meet the electricity demand of FRS (GenCo).
	Medium-Term: Transmission	<b>Action 12:</b> Create and empower a transmission operator to ensure the development of a national grid system (TransCo).

	Medium-Term: Distribution	<b>Action 13:</b> Create and empower public Distribution Companies to ensure electricity access within urban areas at affordable tariffs (DisCos).
	Medium-Term: Rural Electrification	<b>Action 14:</b> Implement the national Rural Electrification Strategy to ensure electricity access.
<b>Long-Term</b> 2030-2040	Long-Term: Policy and strategy, legal, regulation, planning, and delivery	<b>Action 15:</b> Ensure the mandate of the Regulatory Authority is effective and current to ensure proper compliance, monitoring, and evaluation of the licensing, system operations, and all other legislation, regulations, and policy within a fully open sector.
	Long-Term: Generation	<b>Action 16:</b> Develop and implement a licensing, contracting, monitoring, and evaluation system for IPPs to ensure competition within the generation segment.
	Long-Term: Transmission	<b>Action 17:</b> Develop and implement third-party access legislation and licensing for the transmission segment.
	Long-Term: Distribution	<b>Action 18:</b> Develop and implement PPP programs between existing and future ESPs for private sector involvement in the distribution segment.

# 9 Appendix A: Map and Details of Electricity Service Providers in FRS

*From Section 2.3.1 of Working Paper 2: Electricity Supply Industry Institutional Structure Analysis for FRS*

## Electricity Service Providers (ESPs)

While the institutional aspects usually cover the public institutions in charge of a given sector, the specifics of the ESI in FRS calls for a presentation of the ESPs. The system of delivering the electricity service comprises of a network of isolated distribution grids with isolated diesel-based generation owned and operated by private electricity services providers.

Based on the data collected, key players in the sector in FRS are as follows:

**Figure 9-1: Electricity Dependent sectors in FRS**

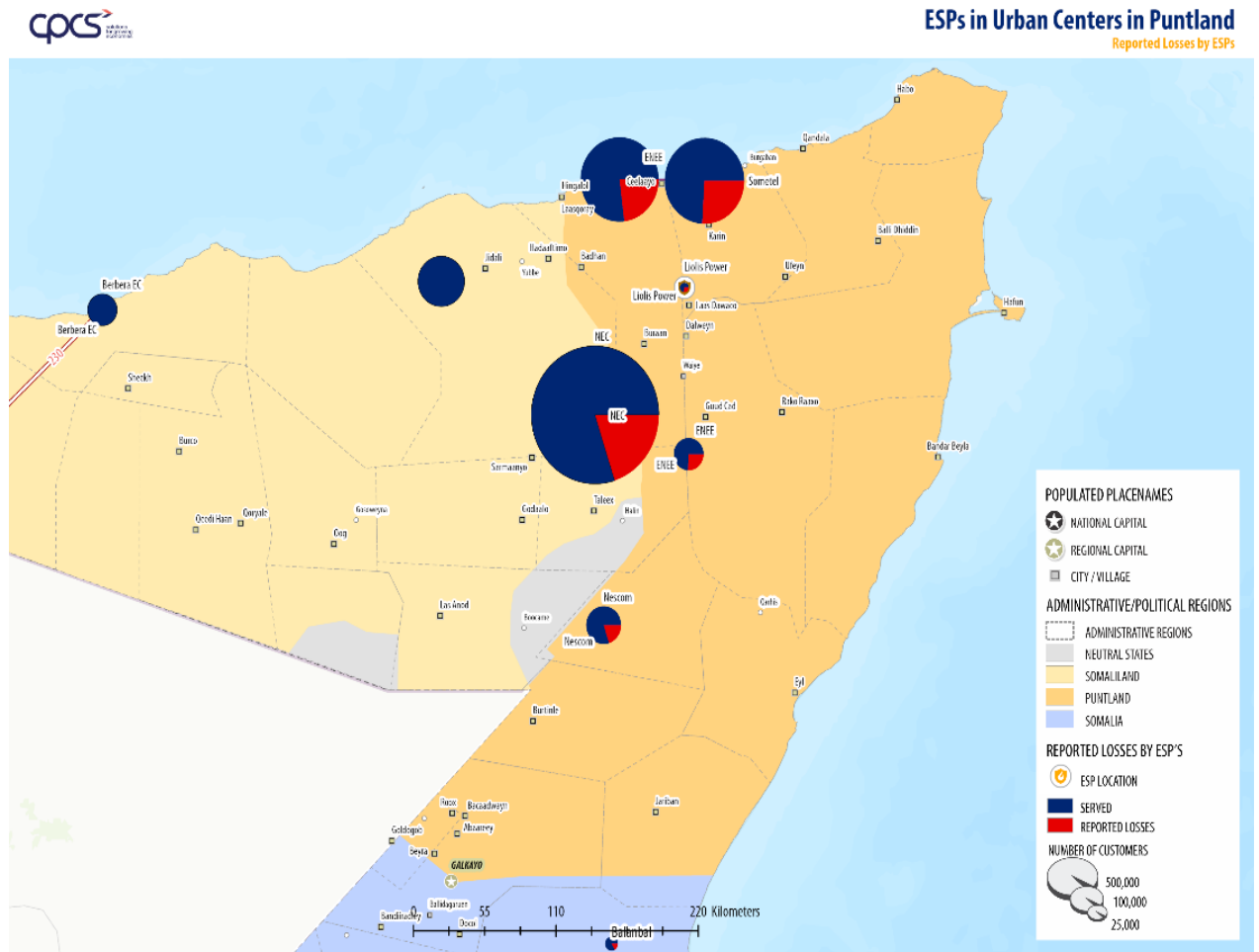
Name	Location	Operational Status	Capacity	Approx. Population Coverage	Entity Type
BECO	South Central	Active	65 MW	230,000	Private
Mogadishu Power	Benadir Region	Active	11 MW	70,000	Private
Blue Sky	Benadir Region	Active	8 MW	40,000	Private
ENEE	Bosaso, Gardo	Active	5.5 MW and 3 MW	100,000	Public-Private
NECSOM	Garowe	Active	4 MW	40,000	Private

Source: CPCS Analysis



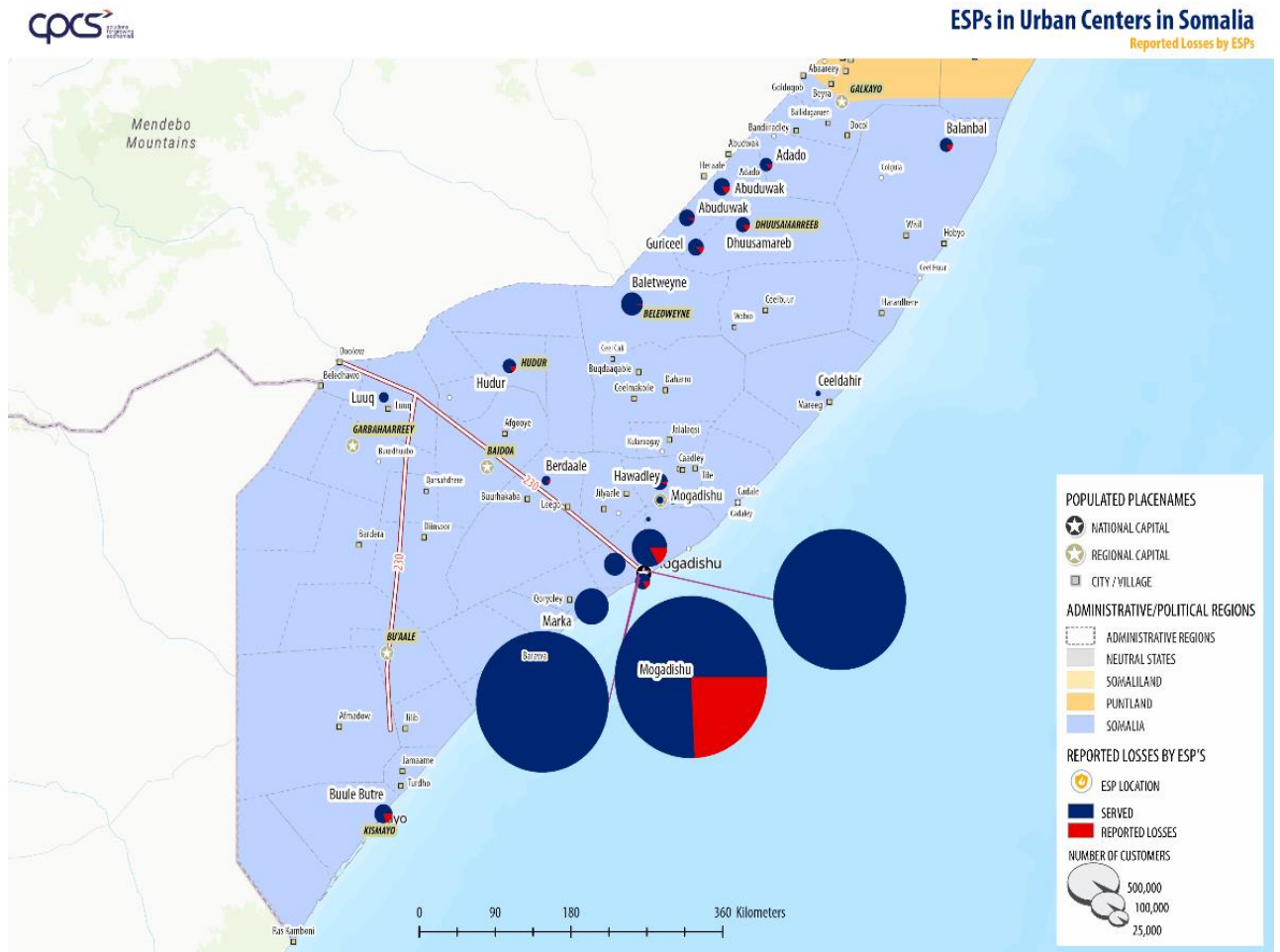
The figure below shows the location and the capacities of the various ESPs in Federal Republic of Somalia (Puntland and South Central Somalia).

**Figure 9-2: ESPs in Urban Centres in Puntland**



Source: CPCS Analysis

Figure 9-3: ESPs in Urban Centres in Central and South Somalia



Source: CPCS Analysis

# 10 Appendix B: Skills Assessment of the Electricity Supply Industry and Sector in Federal Republic of Somalia

## 10.1 Federal Republic of Somalia Ministry Skills Assessment

The Ministry lacks the professional capacity to sufficiently manage the power sector, so proactive improvements and reforms are not currently possible.

Ongoing efforts to improve the sector have not materialized as the current deficit in capacity and skills increases the risk of project delays, redundancy between ongoing developments and projects, and a lack of synchronization between the ongoing investments and projects.

The Ministry will be a primary beneficiary of any capacity building efforts as part of the roadmap or the Somali Electricity Sector Reform Project. Additional beneficiaries are the Electricity Service Providers, other energy providers, and the other existing and planned agencies and institutions such as the Regulatory Authority and the System Operator.

It was found that the staff in the Ministry have very little understanding of energy trading internally within Somalia or internationally with other countries through any theoretical interconnections with neighbors through the Eastern Africa Power Pool.

The assessment of the Ministry has found that there are 130 employees in total focused on the electricity sector.

- Of the 130 employees, 80% (or 104) are men, while 20% (or 26) are women.
- Of the 130 employees, only 10% (13) are considered skilled workers. Of these skilled workers, 4 are engineers (3%) and 9 are administrators (7%)

Figure 10-1: Breakdown of Ministry Staff by Skills Assessment

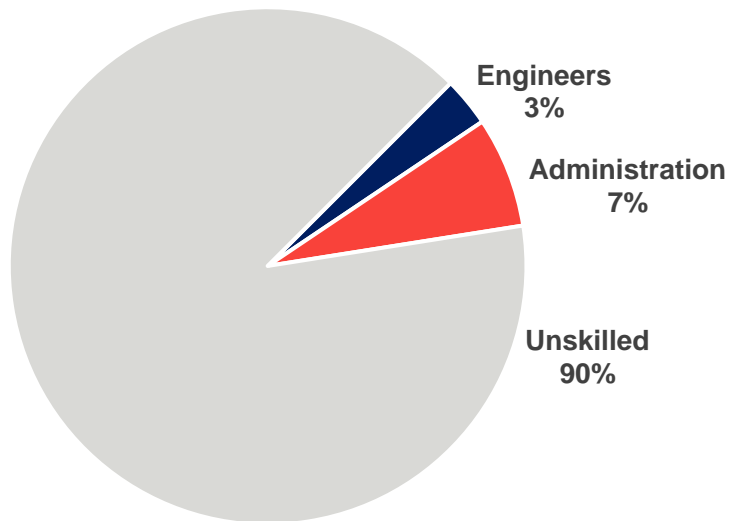
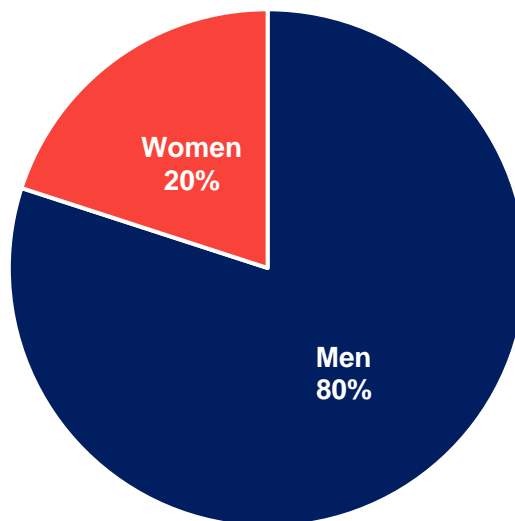


Figure 10-2: Breakdown of Ministry Staff by Gender



### Steps for Capacity Building within the Ministry

- The needs assessment indicates that gaps and capacity bottlenecks exist in both technical and non-technical skills, both of which must urgently be addressed in order to enable the markets and power trading in Somalia to continue developing and to function effectively.

#### Step 1: Identify the specific skills needed to build the sector

- It is necessary to design and implement capacity building measures to ensure the skills and capacity of staff continues to grow and improve in line with the sector reforms and in line with the new infrastructure being built in the long-term. As a result,

capacity building should be viewed as an on-going process in addition to infrastructure projects. The Ministry should develop a capacity building plan that is responsive and flexible to meeting the sector needs.

**Step 2: Implement ongoing capacity building efforts and develop a capacity building plan that is responsive to the needs of the proposed roadmap for reforms.**

- Strengthening the capacity of the staff to operate within the power pool in both the technical and non-technical areas will help build a solid foundation for energy trading to fill the demand for electricity in Somalia.

**Step 3: Strengthen capacity and understanding of the Eastern Africa Power Pool for technical staff, including engineers, economists, and administrators.**

## **10.2 Puntland Ministry Skills Assessment**

- The Ministry of Water, Mining and Energy of Puntland has established an office and has defined the functions and roles of its departments. The staffing structure has been defined, but there is an acknowledged gap between the proposed structure and the existing staffing.
- The Ministry is now developing bylaws, acts, and policies for the Ministry and the sector, but these are not yet approved.
- The primary capacity and skills gaps that are identified by the Ministry are for staff training and institutional strengthening, planning and development of the sector, management and implementation of the Energy Sector Information Management System, and in monitoring and evaluation.
- The Ministry has 28 full time employees spread between the different departments currently established. The Ministry technicians are mostly engineers with degrees in electricity, hydrology, geology, and civil engineering. The Ministry also has internal administration and finance staff. However, since the staff and ministry was only recently established, the skills and capacity of the staff are not well coordinated. Capacity building efforts must focus on developing these skills in order to focus their skills towards achieving the Ministry's mandate.
- International institutions are not currently supporting the Ministry in Puntland in any way. Similar projects to rehabilitate the sector under the Federal Ministry, such as the proposed Somali Electricity Sector Recovery Project funded by the World Bank, do not have an equivalent in Puntland. The Ministry indicated that similar projects are expected in the future, but efforts have not yet materialized. The Ministry indicated a need for ongoing funding, capacity building, and project support across the electricity sector as well as in upstream energy sources such as renewables and liquid petroleum gas.

### **Key focus areas for skills and capacity development in the Ministry**

#### **1. Staff training and institutional strengthening**

2. **Planning and sector development**
3. **Implementation and management of the Energy Sector Information Management System**
4. **Monitoring and evaluation of sector goals and performance**

### 10.3 PEDA

Staffs skill gaps and capacity building requirement

- PEDA has a range of experienced technical and administrative staff, which include seven engineers with B.Sc. and M.Sc. degrees and twelve technicians
- The Director of the Department of Electricity of PEDA is a woman with a graduate degree in engineering, and is the only female professional staff in PEDA.
- The technical staff in PEDA have between two to seven years of relevant professional experience in the sector.
- PEDA management pointed out a specific need for capacity building in:
  1. **Information and database management**
  2. **Data collection, monitoring, and evaluation skills**
  3. **Supporting the development of ongoing capacity and skills training**

### 10.4 An example of an ESP Provider - NECSOM

#### Infrastructure & Skills Gaps

NECSOM reported an infrastructure gap in the NECSOM operations, particularly due to rapid urbanization that requires significant upgrades and changes to all transformers and distribution lines, which is costly and difficult. The distribution network also has associated challenges, since unbalanced phasing leads to significant shocks to the system the degrades the quality of the infrastructure more rapidly. The distribution grids are not properly protected from rain, wind, and humidity, so they degrade at an even more rapid rate than anticipated, leading to additional shortages. During the rainy season, heavy rain typically causes outages and the electricity is pre-emptively cut in the cities. The poor quality of infrastructure and the poor understanding of effectively managing the grid often leads to wider blackouts throughout the city.

Thus, a primary skills gap identified by NESCO is how to deal with the degrading infrastructure in their existing grid.

NECSOM identified that they have 34 technical staff with a range of experience and qualifications. These staff have the highest level of education at Bachelors in Engineering, with most technicians having Diplomas and Certificates in their relevant skills. Two of the engineers are women with degrees in electrical engineering. These two women both work in the control department of the power plant, while the other engineers work in installation, repairs, connections, maintenance, and ongoing operations of the generators.

NECSOM has seven diesel generators, of which only 3 to 5 of them are on line at any single time. A solar PV unit and wind generators was introduced into the system; the solar PV unit is 1 MW, while the three wind units produce 750 kW each. The transmission output from these generators is a maximum of 3.7 MW. The introduction of these alternative means of electricity generation has led to an significant increase in the skills required for the technicians, so additional capacity building is being sought for NECSOM in order to further integrate renewable energy hybrid models.





## CONTACT INFORMATION

Suite 200, 979 Bank Street,  
Ottawa, Ontario, Canada K1S 5K5

P: +1 (613) 237 2500

T: +1 (613) 237 4494

hello@cpcs.ca

www.cpcs.ca

