FINAL REPORT
ELECTRICITY SUPPLY INDUSTRY

Consultancy Services for Somaliland Electricity Supply Industry Institutional Structure Study

(Contract Ref: 7198039)

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CPCS Ref: 20227
June 25, 2021
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Somaliland Electricity Supply Industry Institutional Structure Study

The objective of the assignment is to review the existing electricity sector institutional arrangements in Somaliland, 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: Somaliland Electricity Supply Industry Institutional Structure Study

The objective of this Report is to develop options on structuring of the ESI in Somaliland, 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 Somaliland – Ministry of Energy and Minerals (MOEM), Somaliland Energy Commission (SEC) and Somaliland Electricity Association (SEA). Lastly, 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 MOEM, SERC, or SEA. CPCS makes efforts to validate data obtained from third parties, but CPCS cannot warrant the accuracy of these data.

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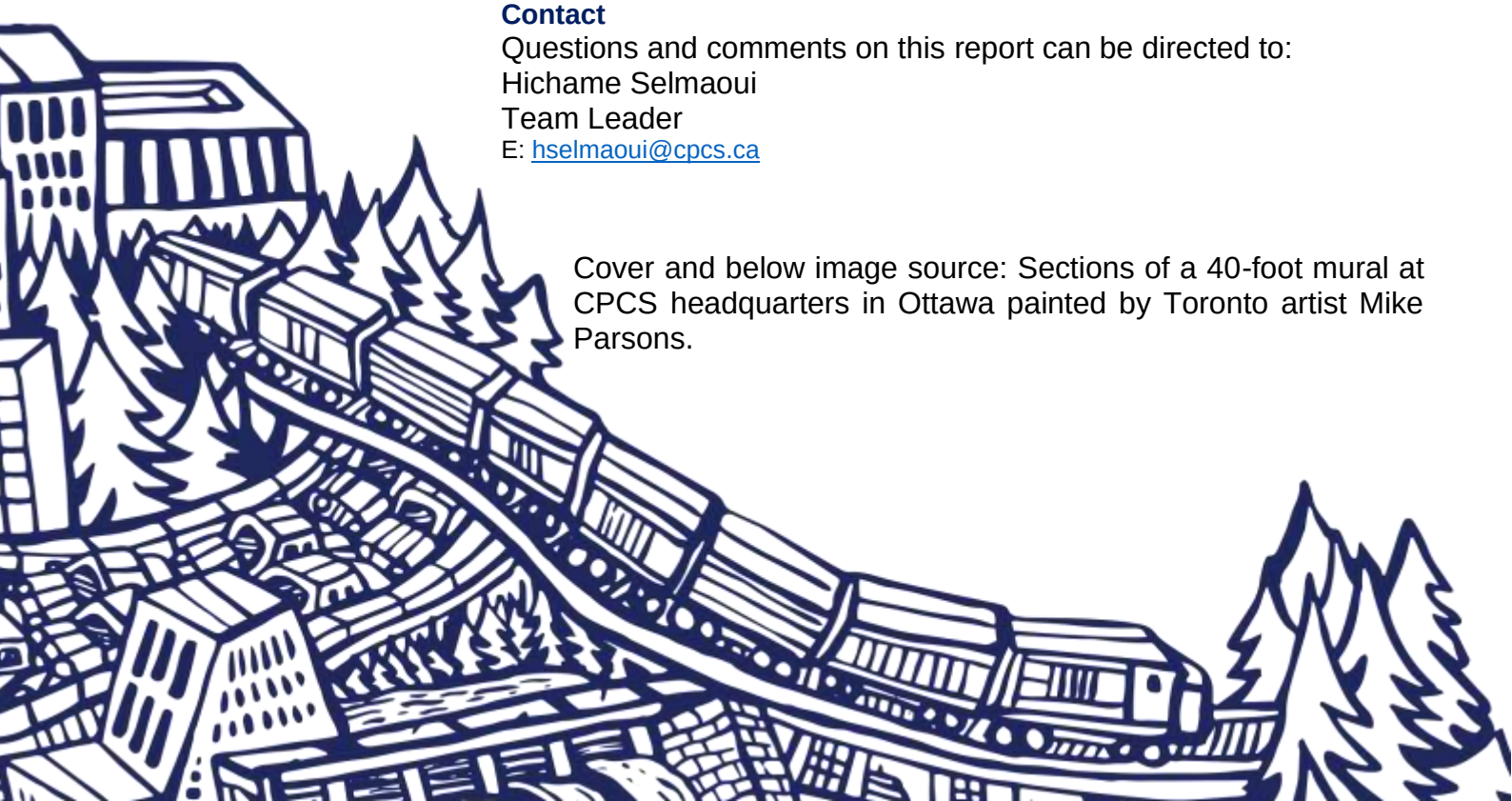

Cover and below image source: Sections of a 40-foot mural at CPCS headquarters in Ottawa painted by Toronto artist Mike Parsons.

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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
MoEM	Ministry of Energy and Minerals
PPA	Power Purchase Agreements
PPP	Public Private Partnerships
SEA	Somaliland Electricity Association
SERC	Somaliland Energy Regulatory Commission

Quality Assurance

Consultancy Services for Somaliland Electricity Supply Industry Institutional Structure Study –

CPCS Ref: 20227

FINAL REPORT
CONSULTANCY SERVICES FOR SOMALILAND ELECTRICITY SUPPLY INDUSTY INSTITUTIONAL STRUCTURE STUDY

Version	Date	Responsible	Approval
1.0	June 28, 2021	Hichame Selmaoui Team Leader	Philip Asante Project Director

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 Republic of Somaliland ("Somaliland") 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 Somaliland 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 Somaliland 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[1].

In that context and in order to improve the institutional structure and operations efficiency of the electricity sector in Somaliland, 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 Somaliland, 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 Somaliland, 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

[1] AfDB, 2015, Somaliland 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 Somaliland. 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 Somaliland 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 Somaliland 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 – Somaliland Electricity Sector

2.1 Somaliland Energy Policy

Energy Policy of Somaliland

The Somaliland Energy Policy was approved by the Council of Ministers on March 3, 2010[2] following a four-year process. Information gathered from stakeholders indicate that a newer version of the Policy is under review by decision-makers. The review of the publicly accessible version from 2010 shows that the approach used in formulating the policy involved a detailed analysis of the sector's issues from both the supply and demand perspectives. These issues are still relevant at the time of drafting this report.

Policy objectives, strategies, and an implementation plan have been developed for the supply sub-sectors (i.e. electricity, petroleum, biomass, and renewable energy). The same has also been done for the major demand side sectors (i.e. households and institutions, industry and commerce).

The main policy goal in the energy sector has been set as:

> *"To meet the energy needs of Somaliland for Social and Economic Development in a cost-effective way that promotes sustainable energy production and use while minimising negative environmental impacts".*

One of the specific objectives of the Energy Policy is to "*establish, maintain, continuously review and improve a legal and institutional framework for effective management and planning of energy services in the country*".[3] When analysing the Policy document, this particular objective can be further clarified as the following:

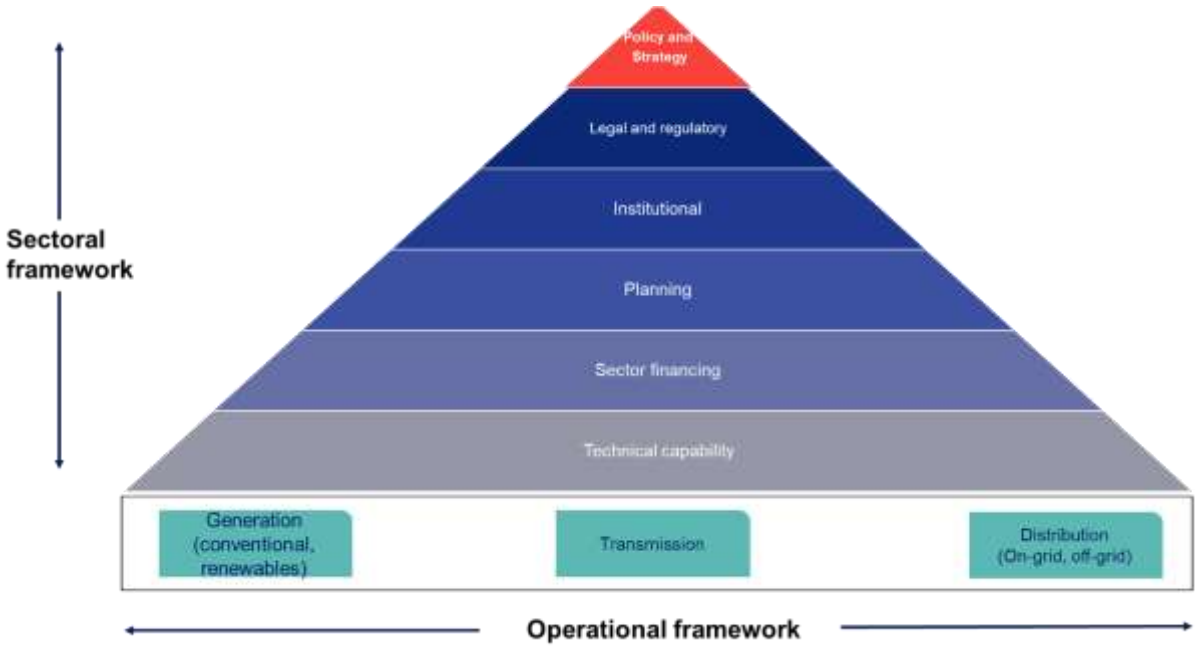
- Review, clarify or establish the roles and functions of the various institutions that are engaged in the energy sector.
- Formulate and implement a legal and regulatory framework for pricing and tariff structures to support energy investments in the country.
- Formulate a legislative and regulatory framework that links Independent Power Producers (IPPs) to the official power network and to ensure that there is compliance.
- Formulate and implement regulations for power generation that enable affordable costs of power for all energy users.
- Provide an enabling environment for the provision of energy services and remove the various barriers to institutional, legal and capacity improvement.

[2] Somaliland energy policy No. 01/419/08/03/2010
[3] Specific Objective #3

Critical review of the policy document

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

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 Act.

Sectoral framework

- Policy and strategy

  → The Energy Policy (2010) of Somaliland defines policy objectives and identifies specific issues facing the energy sector in Somaliland. i.e. "*to meet the energy needs of Somaliland for social and economic development in a cost effective way that promotes sustainable energy production and use while minimising negative*

environmental impacts". The policy clearly lays out an action plan for the energy sector for the short and medium term.

- Legal framework

  → The policy document acknowledges that "the sector is operating in a policy vacuum, without a legal and regulatory framework", and hence outlines an objective, strategy and action plan "*To establish, maintain continuity review and improve a legal framework for effective management*". However, observations undertaken during this assignment shows that beyond the creation of the Somaliland Energy Commission, the sector continues to operate without a clear legal and regulatory framework in place.

- Institutional framework

  → As per the policy document, Somaliland clearly mentions the need for a proper institutional framework in line with the policy objectives. It has also mentioned that "*Government shall work towards setting up the Energy Commission*". This Energy Commission was recently established. However, the document remains silent on other institutions that could be created in order to undertake key functions of the electricity sector.

- Planning

  → The policy acknowledges the importance of planning when developing an electricity sector in Somaliland. It lays down reasons why planning is crucial and an important endeavor to undertake but remains silent in terms of allocating the planning role to any specific institution.

- Financing

  → The policy acknowledges the importance of financing and investments when developing the electricity sector in Somaliland.

  → It appears that the policy document also indicates a preference towards a mix of financing sources as a financing approach: "*Government, financing institutions, donors to establish incentives to enable private sector investment to serve rural as well as urban population, through access to loans on concessionary terms, financial provisions, government guarantees and smart subsidies to facilitate infrastructure investment*".

  → The government of Somaliland also indicates expectations of financing from donors in addition to the primary objectives, for infrastructure upgradation, capacity building and rural electrification.

- Technical capacity

  → The policy acknowledges the need for technical capacities to develop, enforce and monitor the sector. To meet this objective, the policy establishes a need to develop strategic partnerships with the public and private sectors, investors, and universities in Somaliland. The policy does lay out strategies and an action plan to meet these objectives. However, little has been implemented on the ground, and the lack of trained workforce in the energy system continues to be a bottleneck.

Operational framework

- Generation

  → Electricity generation in Somaliland is mostly privately owned and managed. 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 also provides how these objectives will serve demand, establishes the expected main sources of generation and a plan to achieve the targets set. However, the lack of mechanism to clearly define the entities responsible for this increase in generation (public or private entities) hinders implementation of the plan laid out.

- Transmission and distribution

  → The policy is unclear in the approach to be taken for the transmission and distribution; specifically, if developing the operational framework through large public investment or through incentives to the private sector. Also, the policy document is silent in terms of institutional responsibilities regarding the operational framework, since the there is no public institution in charge of developing (or coordinating the development of) the transmission and distribution grids.

2.2 Vision as per stakeholder consultations

Beyond the analysis of the Energy Policy Document publicly available for Somaliland, the consultations undertaken under this assignment with main stakeholders in the sector have deepened the analysis of the long-term vision for the electricity sector in the country.

Consultations undertaken in 2020 and 2021 with the Ministry of Energy and Minerals (MoEM), Somaliland Energy Regulatory Commission (SERC) and Somaliland Electricity Association (SEA) have confirmed the approaches analyzed above, which are outlined in the policy documents. Visions shared by officials from the electricity sector also provided an additional level of clarity on the features of the electricity sector in Somaliland.

The consultation with his H.E. Minister, Ministry of Energy and Mineral of Somaliland held in November 2020 has, for instance, provided clear guidance in terms of overall restructuring of the sector.

The Minister of Energy and Mineral indicated that a key long-term objective is to reduce energy tariffs/prices through a state-owned utility tasked with developing a transmission grid connecting various mini grids, while continuing to rely, when necessary, on mini grids for continued off-grid electrification.

The Minister also stressed that MoEM is focused on trying to translate this vision into a legal framework that promotes the sector and facilitates its growth while ensuring a balance between private and public benefits.

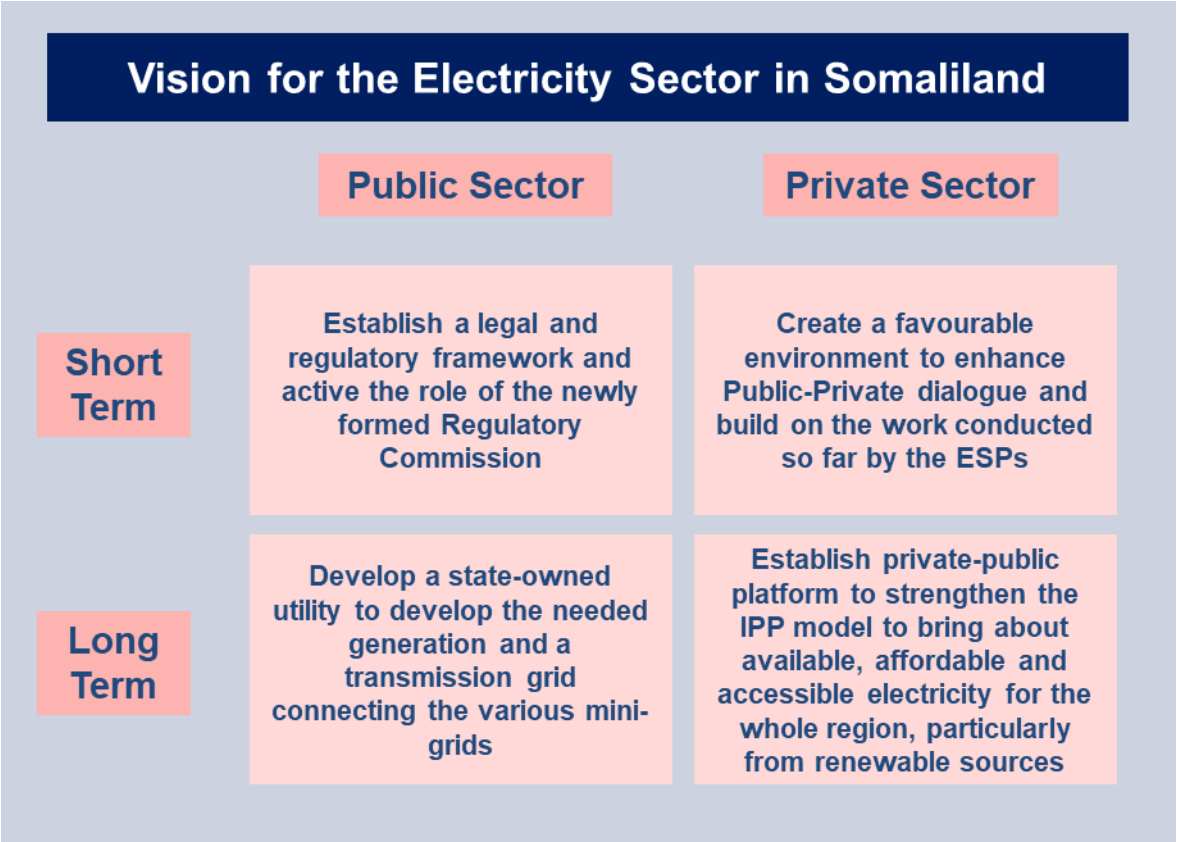
The discussions held with SERC also confirmed the key role of the private sector in the energy supply industry with a focus on empowering the regulation functions in Somaliland. The objective is to be able to build and implement the proper regulatory framework to accompany the electricity service providers (ESPs) in their operations and provide more affordable tariffs and better availability of electricity to end users.

The goal shared by the main public shareholders was therefore to have an electricity sector that provides reliable and affordable electricity to all its users (residential, commercial, and industrial) by leveraging two aspects in the short and long terms:

- From the public side:
  - Short term: increase the role of the public sector by reinforcing the legal and regulatory framework, especially through the newly formed SERC.
  - 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: create a favorable environment to enhance Public- Private Dialogue and build on the work conducted so far by the ESPs.
  - Long term: establish a public-private platform to strengthen the IPP model and Public-Private Partnership (PPP) scheme in the distribution segment to bring about available, affordable and accessible electricity for the whole region, especially from renewable energy sources.

The figure below illustrates the various dimensions of the stakeholders' vision for the electricity sector of Somaliland.

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



Source: Stakeholder consultations

Thus, when merging the vision for the sector as outlined in the Somaliland Energy Policy developed in 2010 and the one expressed by Somaliland government officials in 2020, the following key features arise:

- **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. However, it must be adjusted by: (i) developing a regulation that would help control tariffs to favor affordable electricity; and (ii) providing a legal framework to limit risks for ESPs, especially in terms of geographical and operational scope.
- **The need in the long term** to respond to the growing demand for electricity by increasing the generation capacity and connecting the country through an adapted transmission grid that would connect 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 channel these efforts to meet this vision.

The following chapter explores the extent to which the current institutional framework is aligned with 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

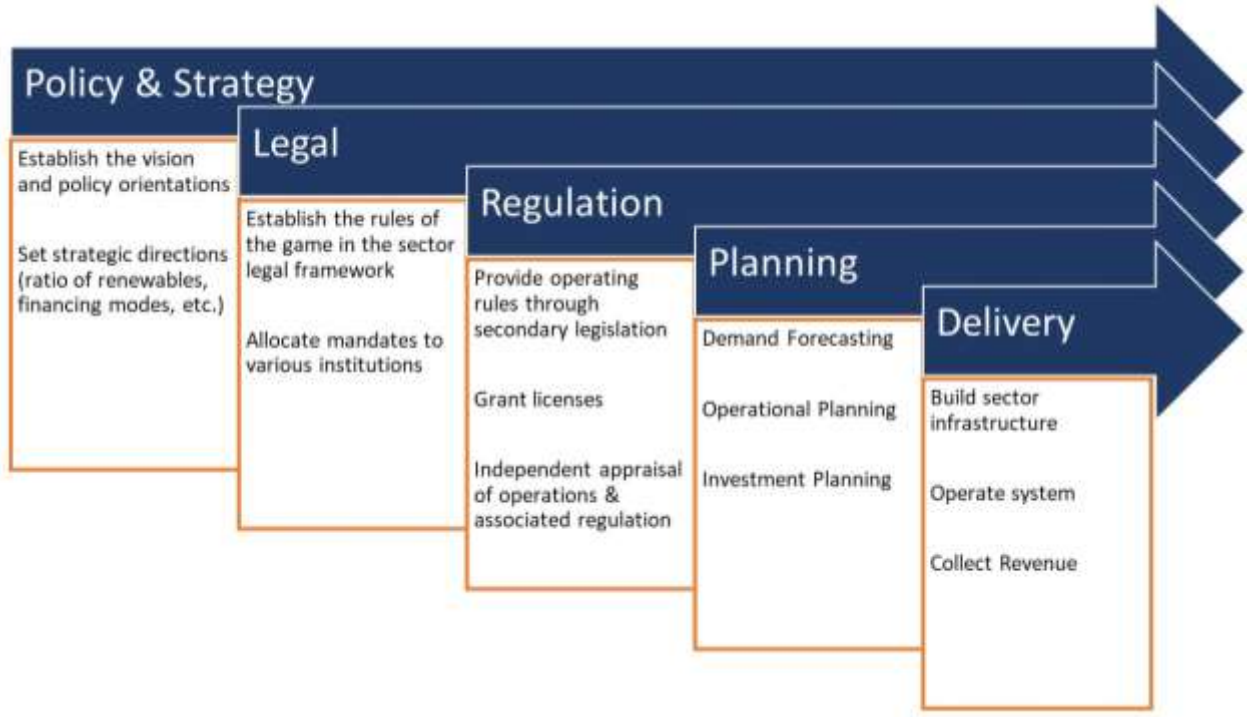
In many countries in Sub-Sahara Africa, the supply side of electricity is generally composed of three types of institutions:

- **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.

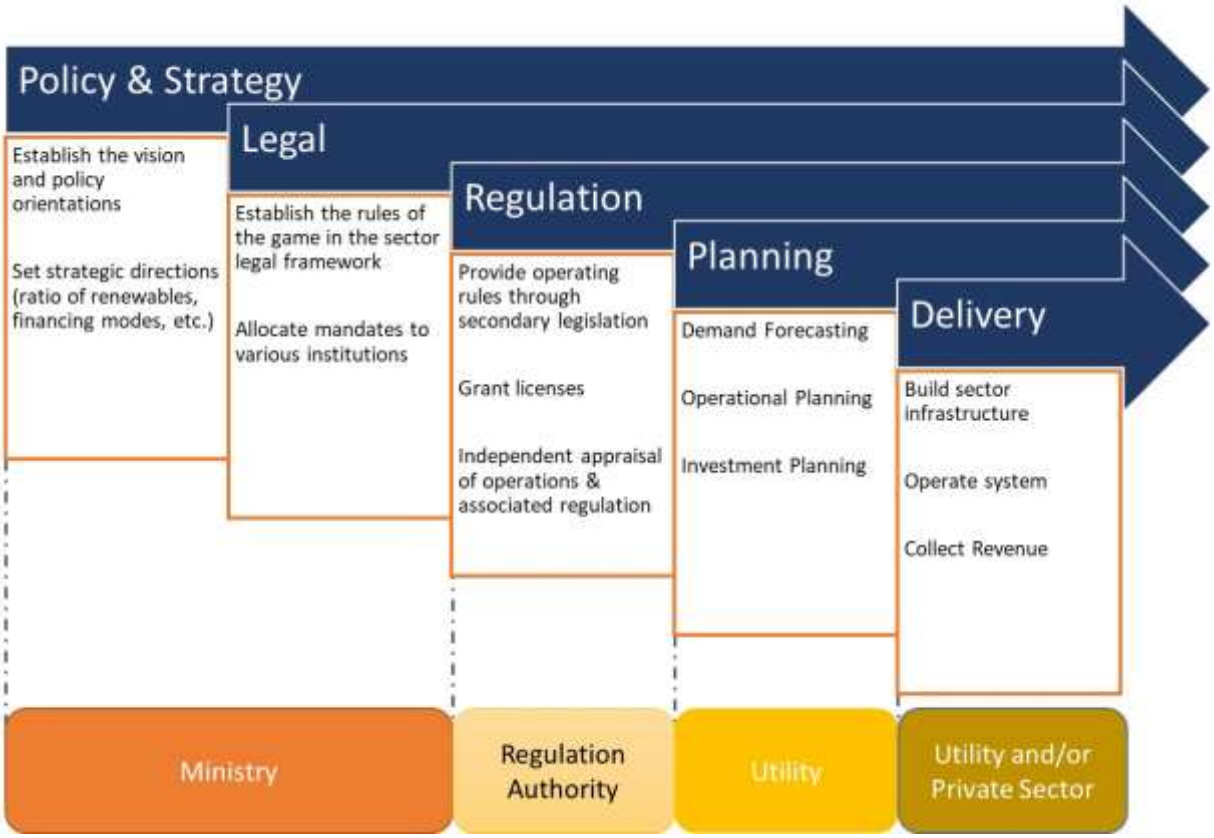
Figure 3-1 : Key elements of a typical ESI value chain



Source: CPCS analysis

The figure below then identifies and includes the institutions most commonly[4] 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 Somaliland

The institutional arrangements in Somaliland's electricity sector are unique. The only public institution in charge of the sector in Somaliland is MoEM and the newly formed (though yet to be fully empowered and established) SERC.

MoEM is the highest authority and policy-making body for Somaliland and has the responsibility to oversee operations in the electricity sector.

SERC's mission is to establish, direct, and promote the sustainable development and consumption of energy in Somaliland. More specifically, SERC is tasked with the responsibility for activities like licensing and regulations, tariff setting, standards, and general economic regulations.

The previous working paper demonstrated that ESPs play a key role in the delivery of electricity services, with responsibility for building the generation capacity and the associated mini grids to serve their customers.

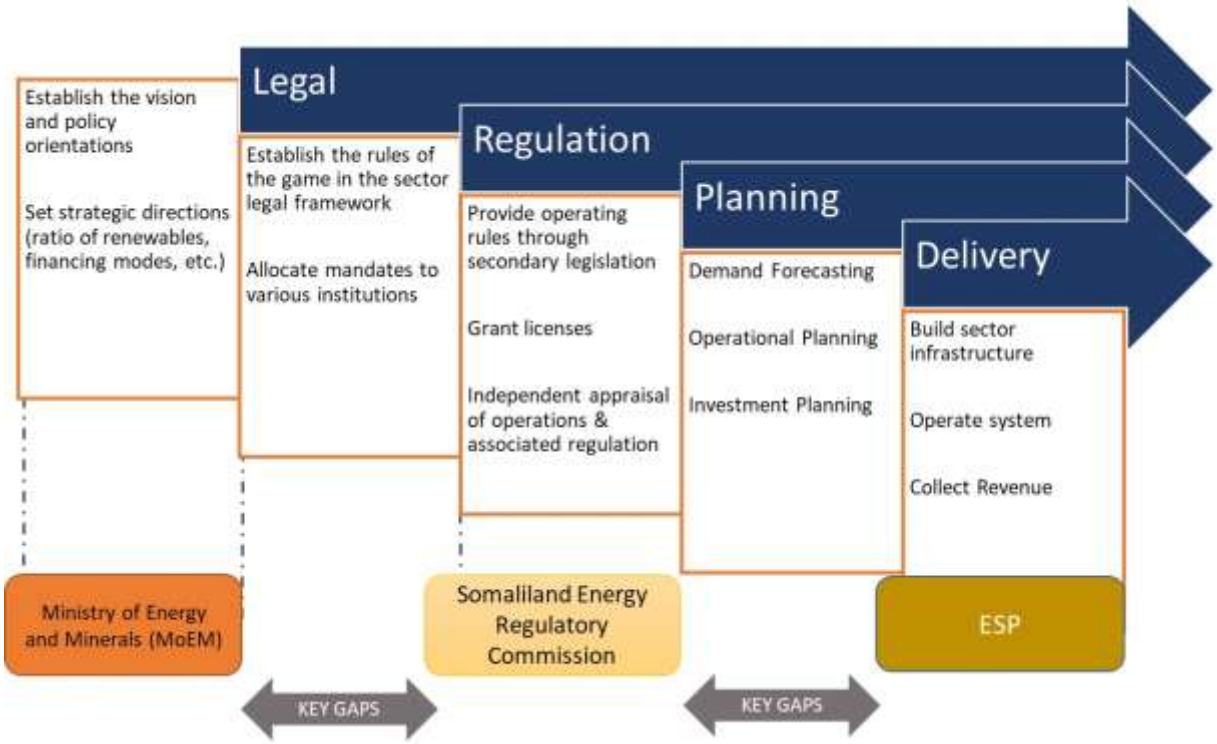
[4] This may vary depending of the level of unbundling in the sector

The current institutional framework is not aligned with the vision for the sector as expressed by stakeholders. Indeed, the consultations show that decision-makers within the Somaliland government want to ultimately develop an electricity sector structured in such a way that the services provided to users are efficient and affordable. Moreover, it was explained in the sector policy document and further expressed during consultations that one of the ways to achieve this objective is to put in place a legal, regulatory, and institutional framework for the sector based on best practices. This is planned to be done by setting up the institutions that could plan and develop generation, ensure transmission grid development, manage distribution grids (in addition to or coordinated with the current ESPs), and undertake the necessary regulatory actions.

However, to date, the only institutional reinforcement that has been undertaken is the establishment of the regulatory commission in 2020. While this shows clear progress towards a stronger institutional framework, several gaps appear in the ESI in Somaliland when compared with the policy priorities and the given framework of reference (as developed in section 2.1).

The following figure illustrate these gaps. Analysis of these key gaps is provided in the subsequent sub-sections.

Figure 3-3: Institutional gaps in the Electricity Supply Industry in Somaliland



Source: CPCS analysis

Refocusing and advancing the Ministry's mission

International best practice shows that the role of an energy ministry generally focuses on forming the strategic direction for the sector, which is then translated into a comprehensive policy document.

By creating the regulatory commission, the Government of Somaliland has encouraged a shift of focus for MoEM by entrusting regulatory functions to a separate institution. An

analysis of the institutional and legal framework of the electricity sector shows that some elements remain to be completed. These include the establishment of a legal framework as observations conducted during this assignment indicate that, to date, the law governing the sector is still under review and has not yet been promulgated.

The last sector policy document dates from 2010 and should be updated to reflect the progress made in the sector and the objectives and strategies driven by decision-makers.

At the institutional level, it should also be noted that one of the missions of the Ministry is to define operational standards. This mission not only seems to diverge from best practices but also duplicates the similar mandate given to SERC.

Clarify the mandate of the regulatory commission and empower it

The newly created SERC (2020) carries a major mandate for the sector. As shown above (section 2.1), the regulatory functions contribute to the achievement of the sector's policy objectives, most notably through monitoring of activities, price surveillance, and economic regulation.

It should be noted, however, that some of the functions assigned to SERC would normally fall under the responsibility of other entities of the institutional framework. For example, energy planning activities are currently part of SERC's mission. These functions, by their operational nature, may conflict with the necessary neutrality of a regulator. Indeed, best practices show that regulators are not operational actors of the sector but rather exercise the role of monitoring the operators of the sector to ensure that they fulfill their role within the legal framework and associated secondary regulation.

Beyond the scope of the commission's mandate, the commission must be empowered, to fully fulfill the roles assigned to it. Indeed, due to its novelty and the lack of clarity of the legal and regulatory framework, the commission would benefit from gaining visibility in the sector and having its technical and financial capacity strengthened.

Absence of planning and development activities of electricity infrastructures

To meet the electricity needs of different user groups (commercial, industrial and residential), demand for electricity needs to be better understood and quantified. Such an exercise can then be used to plan generation capacity and associated transmission and distribution needs for the sector to meet this demand. While these demand forecasting and least-cost planning functions are essential for the proper functioning of an electricity sector, they do not appear to be implemented in Somaliland today.

While institutionally anchored in SERC (with the limits indicated above), it appears that development of electricity infrastructure is left to the ESPs, without centralized planning. Within this model, ESPs act rationally to build and operate their generation facilities to meet the demand they observe. However, 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 to first serve the demand emanating from the most densely populated areas in order to generate the maximum possible revenue. This approach limits the expected benefits of the electricity sector as it is also a public service, aiming to serve all Somaliland citizens. Such an

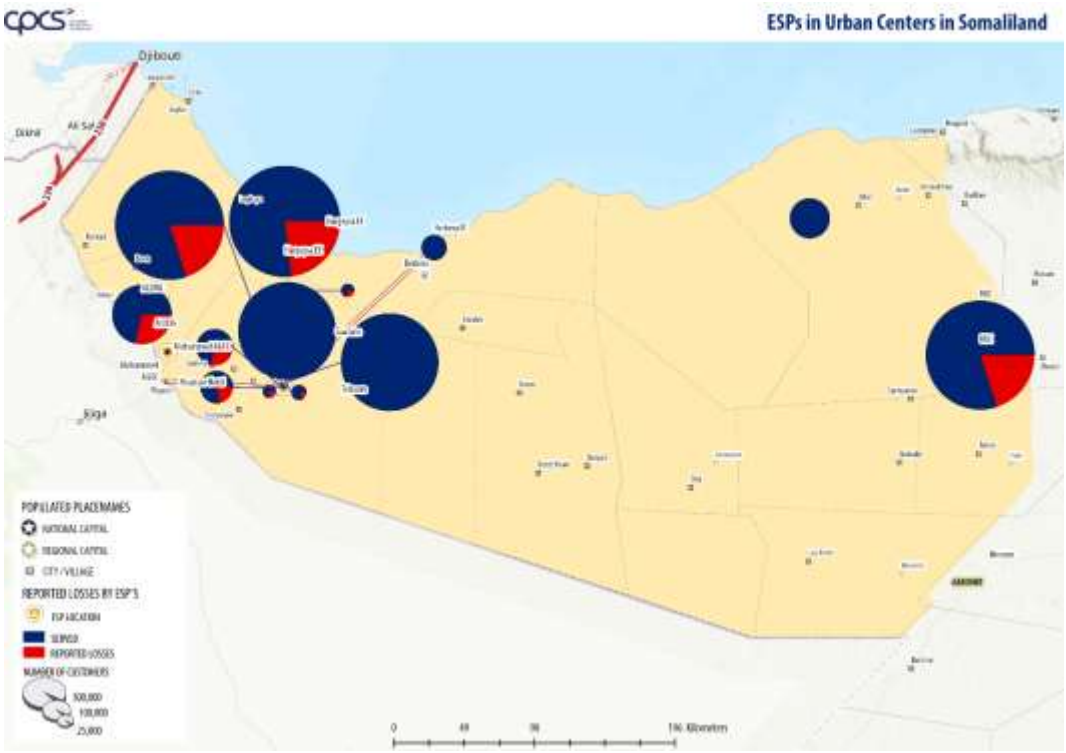
approach (i.e. leaving development of electricity infrastructure to the ESPs) is therefore partly in contradiction to the objectives of the sectoral policy that aims to provide electricity to all citizens including rural citizens.

The functions of, and responsibility for, estimating demand and low-cost planning must therefore be clarified. It could possibly be reverted to MoEM 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 Somaliland, 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: Map Urban ESPs in Somaliland



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 Somaliland 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 Somaliland’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 Government of the Republic of Somaliland**

  Under these criteria, we evaluate how the option:
  - Favours access to electricity for urban and rural customers
  - Protects customer rights, including choice of electricity provider licensees, at competitive and reasonable prices to ensure fairness
  - Encourages investment to expand and develop the electricity sector, to protect investors, promote competition, and ensure profitability.

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.

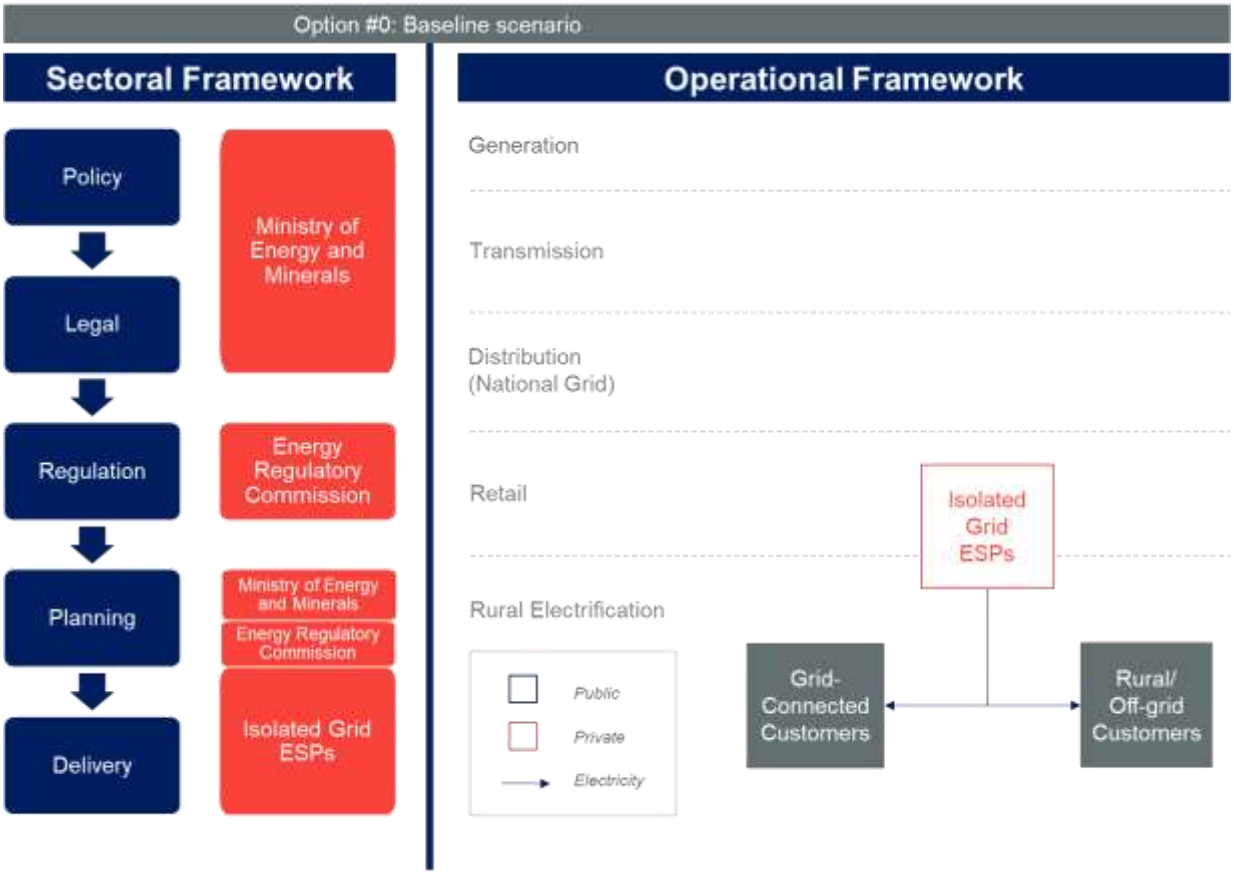
5.2 Option #0: Baseline scenario

5.2.1 Overall structure

The current situation in Somaliland 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 Minerals (MoEM 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 Somaliland Energy Commission (SERC) (“the Regulatory Commission”) has only recently been established, and it is not clear that all licensing and oversight regulations have been implemented by the Regulatory Commission yet. 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 Somaliland 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 Commission is responsible for licensing all generation sources within Somaliland, but it is unclear if this has been fully implemented yet.

Transmission segment

High-voltage electricity transmission in Somaliland does not exist to date, as electricity generation and distribution occurs on isolated grids. According to the Electrical Energy Act from 2016, 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 Commission is responsible for transmission licenses, but since it is a newly formed body, it is not clear if any transmission licenses have been granted yet.

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 Commission, but it is unclear if this process has begun.

Rural electrification segment

Rural electrification efforts in Somaliland have been extremely limited; the only operating ESPs are concentrated in major urban areas primarily, as this is the most economically viable investment. Currently, rural electrification falls under the oversight of the Regulatory Commission, with the authority to "promote development of rural areas, promote community-level renewable solutions, promote off-grid and mini-grid solutions, including these based on hybrid renewable/fossil fuel-based solutions and expansion of networks to rural areas."

Under the licensing provisions, Art. 16.10 allows certain exemptions from specific time, pricing, or other requirements for the licensee in remote areas (10km or more away from existing infrastructure). In addition, Art. 21.1 (c) puts emphasis on rural electrification support from the Somaliland Energy Trust Fund, which is overseen by the Ministry. Thus, rural electrification is promoted by the Ministry and the Regulatory Commission and is regulated, licensed, and enforced in the same way as grid-connected customers, including for mini-grid development. However, in practice, isolated grid ESPs are the only source of electricity in Somaliland, for both urban and rural customers, and no specific incentives seems to be currently provided to expand rural electrification.

5.2.3 Sectoral framework

Policy and strategy

The role of policy-setting and oversight of the electricity sector in Somaliland is set by the Ministry, which has the highest authority over the energy sector in Somaliland. The Ministry is responsible for national policy-setting and planning, preparing, publishing, and revising the National Energy Policy, National Energy Plan, and National Development Plan for the energy and electricity sectors in collaboration with the Regulatory Commission.

The Ministry also has direct authority over public infrastructure funding as it has authority over the Somaliland Energy Trust Fund. The Electrical Energy Act 2018 establishes the SERC and empowers it to perform its functions in an "independent, open, objective, transparent, and non-discriminatory manner," suggesting independence and a separation of authority between the Ministry and the Regulatory Commission. However, this is not clearly defined since Art. 31.2 says all regulations made by the Regulatory Commission are "subject to the approval of the Ministry."

Legal

Legal authority over the electricity sector is set at the highest level by the Ministry and by the Government of Somaliland. Secondary legislation that would come from the Regulatory Commission is to date not enacted or implemented. When enacted, the legal authority will rest on the Ministry, but legal enforcement will fall to the Regulatory Commission under their inspection and enforcement authority.

Regulation

The Regulatory Commission has direct regulatory oversight over the electricity sector of the country and is tasked with implementing and enforcing the policies set by the Ministry. The Regulatory Commission is directly assigned authority over licensing, tariffs, dispute resolution, data collection, technical standards, codes of practice, health and safety codes, quality standards, grid codes, and connections. Electricity prices are set by the Regulatory Commission, and licensees are directly overseen by the Regulatory Commission.

Planning

Planning for the electricity sector occurs between the Ministry, Regulatory Commission, and ESPs. The Ministry has overall authority over electricity sector planning, with responsibility for the development of the National Energy Plan and National Development Plan, but these are developed in conjunction with the Regulatory Commission which is tasked with collecting data and overseeing the ESPs. All ESPs will eventually be required to hold relevant sector licenses under the current legislation and provide this data and information to the Regulatory Commission in order to undertake sector planning, but it is not clear if this is currently occurring. Currently, ESPs undertake their own isolated grid planning, but planning between ESPs and grids would be only informal and not regulated.

Delivery

Currently, ESPs are responsible for the delivery of electricity. Each ESP owns and operates its 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 include the full operationalization of SERC (the Regulatory Commission) under the regulatory component of the sectoral framework and will establish a single public utility under the operational framework, and IPPs will be licensed to provide additional generation capacity.

The public utility in this option will be the sole source of transmission, distribution, and retail for grid-connected customers, while isolated-grid ESPs will continue to operate for off-grid purposes.

The Government of Somaliland approved and enacted the Electricity Act in 2019 through the MoEM. The main purpose of this Act is to "promote and develop Electricity Services, regulate and supervise the electricity market, guide the relationship between the Ministry of Energy and Minerals, the Regulatory Commission, and Operators or Service Providers, users, and other interested parties." Its objectives are to: (i) promote access, (ii) ensure customer's rights, including choice of providers, (iii) encourage investment and participation in the sector, (iv) ensure sufficient standards, and (v) improve the generation mix. 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.

Under this option, the Ministry has the responsibility and oversight of the sector. This act also establishes the Regulatory Commission, which will have direct regulatory authority over the sector. The main function of this regulatory oversight by the Regulatory Commission is determining technical standards and requirements, and issuing licenses for generation, transmission, and distribution, which will be performed by the newly formed public utility, as well as licensing previously existing isolated grid ESPs as IPPs.

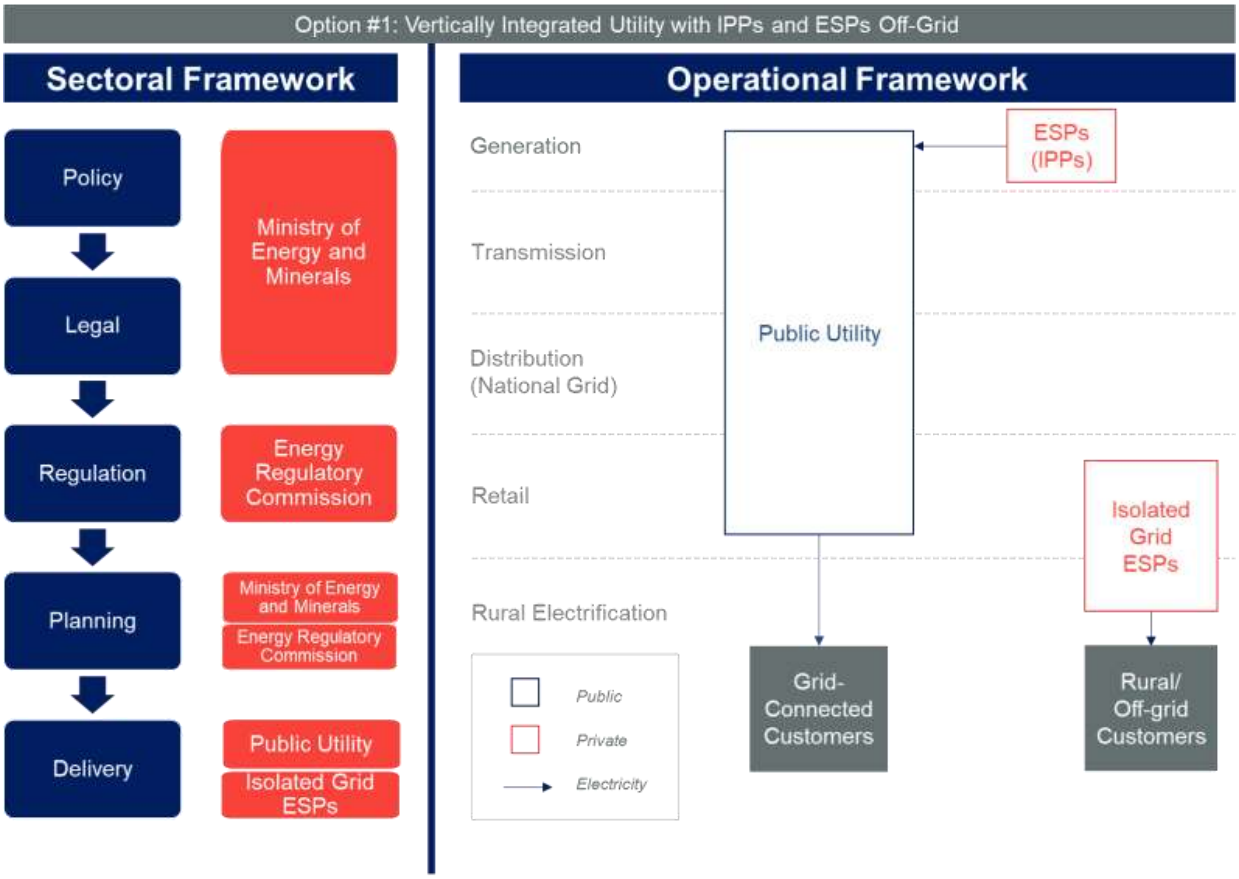
The public utility and IPPs will have responsibility for generation; IPPs will sell directly to the public utility and will not be permitted to sell directly to customers, and these relationships will be governed directly through agreements that are determined by the Regulatory Commission.

The Regulatory Commission will have direct oversight over the public utility, which will hold the sole license for the on-grid sector, and IPPs through the licensing process. Under this option, there are no interconnections between the public utility and the isolated-grid ESPs.

In addition, the Regulatory Commission enforces technical standards and quality of service requirements of the licensees, will collect data from the licensees in order to assist sectoral planning, and will coordinate the competitive processes for procurement of additional sector development based on the planning exercises undertaken by the Ministry.

The figure on the following page 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 Commission 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 Commission 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 Somaliland. 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 Somaliland, 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 Somaliland. 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 Somaliland, while having the sole responsibility for constructing, operating, and maintaining the electricity distribution grid. As the sole electricity distributor within Somaliland, 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

Rural electrification will fall under the oversight of the Regulatory Commission, with the authority to “promote development of rural areas, promote community-level renewable solutions, promote off-grid and mini-grid solutions, including these based on hybrid renewable/fossil fuel-based solutions and expansion of networks to rural areas.” Under the licensing provisions, Art. 16.10 allows certain exemptions from specific time, pricing, or other requirements for the licensee in remote areas (10km or more away from existing infrastructure). In addition, Art. 21.1(c) puts emphasis on rural electrification support from the Somaliland Energy Trust Fund, which is overseen by the Ministry.

Thus, license holders will be the responsible parties for implementation of rural electrification at the direction of the Regulatory Commission. Rural electrification is promoted by the Ministry and licensing is undertaken by the Regulatory Commission, while being implemented by the relevant licensees. Importantly, rural electrification is regulated, licensed, and enforced in the same way as grid-connected customers, including for mini-grid development.

Since the Regulatory Commission 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 Commission.

5.3.3 Sectoral framework

Policy and strategy

The role of policy-setting and oversight of the electricity sector in Somaliland would be set by the Ministry, which has the highest authority over the energy sector in Somaliland. The Ministry would be responsible for national policy-setting and planning, preparing, publishing, and revising the National Energy Policy, National Energy Plan, and National Development Plan for the energy and electricity sectors in collaboration with the Regulatory Commission. The Ministry also would have direct authority over public infrastructure funding as it is granted authority over the Somaliland Energy Trust Fund. The Electrical Energy Act establishes the Regulatory Commission and empowers it to perform its functions in an "independent, open, objective, transparent, and non-discriminatory manner," and this option would ensure this independence of the Regulatory Commission from the Ministry in order to guarantee an independent regulator.

Legal

Legal authority over the electricity sector will be set at the highest level by the Ministry and by the Government of Somaliland. Any secondary legislation would come from the Regulatory Commission, though when enacted the legal authority will rest on the Ministry. However, legal enforcement will fall to the Regulatory Commission under its inspection and enforcement authority.

Regulation

The Regulatory Commission will have authority over the regulation of generation, transmission, distribution, supply, and use of electrical energy. Furthermore, it holds the authority and responsibility for implementing and enforcing any legislation passed by the government or Ministry relating to the electricity sector. The Regulatory Commission is directly assigned authority over licensing, tariffs, dispute resolution, data collection, technical standards, codes of practice, health and safety codes, quality standards, grid codes, and connections. Electricity prices are set by the Regulatory Commission, and licensees are directly overseen by the Regulatory Commission. 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 Commission 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 Commission and the Ministry.

Planning

Coordination of the sector will be undertaken between the Ministry and the Regulatory Commission, and while the Ministry will retain final direction over policy and planning, a significant amount of planning power will be transferred to the public utility with oversight from the Regulatory Commission. The Regulatory Commission collects the data necessary for developing all national planning exercises from the public utility and IPPs.

Delivery

Delivery of electricity will fall under the responsibility of the public utility on the grid and for 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 Commission. Delivery under this option will be from a single source, simplifying the delivery options, process, and oversight.

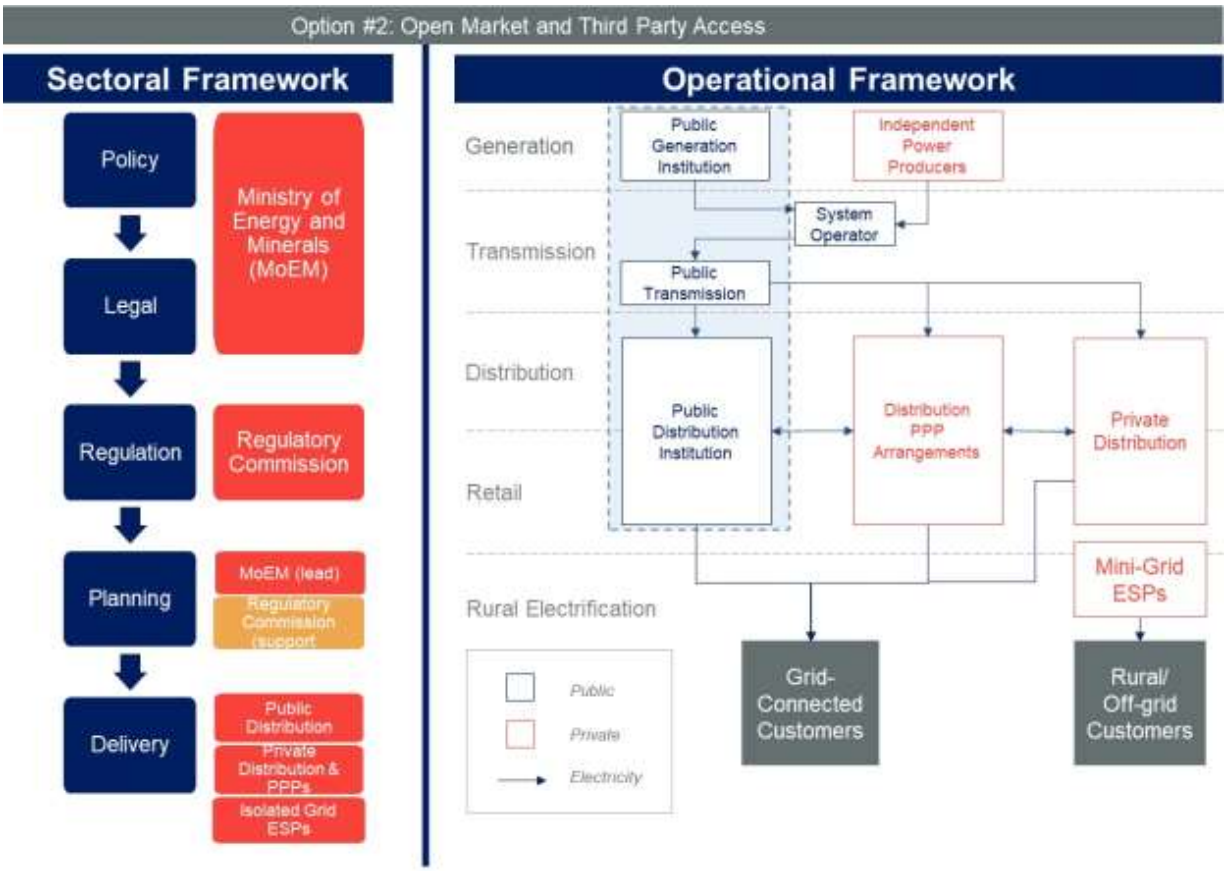
5.4 Option #2: Open market and third-party access

5.4.1 Overall structure

This option represents the vision laid out in the Electrical Energy Act of 2019 through the Ministry. 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 a license for multiple segments under a single license and 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 Government of Somaliland approved and enacted the Electricity Act in 2019 through the MoEM. The main purpose of this Act is to “promote and develop Electricity Services, regulate and supervise the electricity market, guide the relationship between the Ministry of Energy and Minerals, the Regulatory Commission, and Operators or Service Providers, users, and other interested parties.” Its objectives are to: (i) promote access, (ii) ensure customer’s rights, including choice of providers, (iii) encourage investment and participation in the sector, (iv) ensure sufficient standards, and (v) improve the

generation mix. 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.

Under this option, the Ministry has the responsibility and oversight of the sector, but this act establishes the Regulatory Commission which will also have some direct regulatory authority over the sector. The main function of this regulatory oversight by the Regulatory Commission is determining requirements and issuing licenses for generation, transmission, and distribution; exemptions to holding a license are only granted for self-generation that will not be connected or sold on the grid, and all existing ESPs and future public and private operators must be licensed. In addition, the Regulatory Commission enforces technical standards and quality of service requirements of all the licensees, will collect data from the licensees in order to assist sectoral planning, and will coordinate the competitive processes for procurement of additional sector development based on the planning exercises undertaken by the Ministry.

5.4.2 Operational framework

Generation segment

Public or private entities that are seeking to construct, own, or operate a generation plant can be granted a generation license by the Regulatory Commission. Qualification criteria for a generation license are set by the Regulatory Commission to determine specific licensing standards, and the Electricity Act stipulates that a generation license can only be granted by the Regulatory Commission. The existing ESPs will be allowed to apply for licenses for their existing assets immediately, and all operators can apply for one license to cover all business units; thus, a generation operator may also be involved in transmission and distribution activities under the same license. The public generation utility will take the primary role in developing the generation capacity of the sector in the shorter term, 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 Commission will allow responsive allocation of public and private resources and investment in order to meet demand.

Transmission segment

Public or private entities that are seeking to construct, own, or operate a transmission network must be granted a transmission license by the Regulatory Commission. It is envisioned that in the short-term only the public utility will operate transmission lines, except for the existing ESPs which will be allowed to apply for licenses for their existing assets, and all operators can apply for one license to cover all business units; thus, a transmission operator may also be involved in generation and distribution activities. The Act states specifically that "*'Transmission license' means any document or instrument authorizing a person to transmit electrical energy in the manner described in such document or instrument, such license may also entitle the Licensee to carry out system operation of the grid.*" The public transmission company will have the immediate responsibility for developing the transmission grid within Somaliland, and the Regulatory Commission must be highly discerning and selective when granting transmission licenses to other private-sector actors, and should only be considered when high- and medium-voltage transmission lines are critically needed to complement the public grid's infrastructure.

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 organised by the Act, Public or private entities that are seeking to construct, own, or operate a distribution network or a retail or supply network can be granted the appropriate license by the Regulatory Commission. 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. The existing ESPs will be allowed to apply for licenses for their existing assets, and all operators can apply for one license to cover all business units; thus, a distribution operator may also be involved in generation and transmission activities. Despite the increased participation by a wider range of actors in the sector, the Regulatory Commission'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 regards to the distribution and off-grid operations will be ensured by the Regulatory Commission.

Rural electrification segment

Rural electrification will fall under the oversight of the Regulatory Commission, with the authority to "promote development of rural areas, promote community-level renewable solutions, promote off-grid and mini-grid solutions, including these based on hybrid renewable/fossil fuel-based solutions and expansion of networks to rural areas." However, since the Ministry has the overall responsibility for sector planning and direction, rural electrification should be transferred to the Ministry's responsibility instead. 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.

Rural electrification should ultimately be transferred to be overseen by the Ministry, and only the licensing and monitoring is undertaken by the Regulatory Commission, while being implemented by the relevant licensees. Thus, license holders will be the responsible parties for implementation of rural electrification at the direction of the Ministry. Of note, rural electrification is regulated, licensed, and enforced in the same way as grid-connected customers, including for mini-grid development.

The current framework will allow the Regulatory Commission to specify the geographic coverage and expansion requirements for rural electrification licensees, which can ensure that there are no areas of the country that do not fall under either distribution or rural electrification licenses. However, this could pose a significant financial burden on licensees and rural electrification efforts must be phased in gradually. Under the licensing provisions, Art. 16.10 allows certain exemptions from specific time, pricing, or other requirements for the licensee in remote areas (10km or more away from existing

infrastructure). In addition, Art. 21.1 (c) puts emphasis on rural electrification support from the Somaliland Energy Trust Fund, which is overseen by the Ministry.

5.4.3 Sectoral framework

Policy and strategy

The role of policy-setting and oversight of the electricity sector in Somaliland would be assumed by the Ministry, which has the highest authority over the energy sector in Somaliland. The Ministry would be responsible for national policy-setting and planning, preparing, publishing, and revising the National Energy Policy, National Energy Plan, and National Development Plan for the energy and electricity sectors in collaboration with the Regulatory Commission. The Ministry also would have direct authority over public infrastructure funding as it is granted authority over the Somaliland Energy Trust Fund. The Electrical Energy Act establishes the Regulatory Commission and empowers it to perform its functions in an "independent, open, objective, transparent, and non-discriminatory manner," and this option would ensure this independence of the Regulatory Commission from the Ministry in order to guarantee an independent regulator.

Legal

Legal authority over the electricity sector will be set at the highest level by the Ministry and by the Government of Somaliland. Any secondary legislation would come from the Regulatory Commission, though when enacted the legal authority will rest on the Ministry. However, legal enforcement will fall to the Commission under their inspection and enforcement authority.

Regulation

The Regulatory Commission will have authority over the regulation of imports, exports, generation, transmission, distribution, supply, and use of electrical energy. Furthermore, it holds the authority and responsibility for implementing and enforcing any legislation passed by the government or the Ministry relating to the electricity sector. The Regulatory Commission is directly assigned authority over licensing, tariffs, dispute resolution, data collection, technical standards, codes of practice, health and safety codes, quality standards, grid codes, and connections. Electricity prices are set by the Regulatory Commission, and licensees are directly overseen by the Regulatory Commission. The Regulatory Commission will also have oversight and responsibility for data collection from all licensees, including the isolated-grid ESPs, to support sector planning at the levels of the Regulatory Commission and the Ministry.

Planning

Coordination of the sector is undertaken by the Ministry with the support of the Regulatory Commission. The Ministry retains final direction over policy and planning.

The Regulatory Commission collects the data necessary for developing the national electrification plan. The Regulatory Commission 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.

Delivery

Delivery of electricity is overseen and regulated by the Regulatory Commission, but delivery will ultimately fall only under the responsibility of holders of distribution licenses, which can be either public or private. 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 Commission 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 Government of the Republic of Somaliland**

  Under these criteria, we evaluate how the option:

  - Favours access to electricity for urban and rural customers
  - Protects customer rights, including choice of electricity provider licensees, at competitive and reasonable prices to ensure fairness
  - Encourages investment to expand and develop the electricity sector, to protect investors, promote competition, and ensure profitability.

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%	→ 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 sector structure entails high levels of coordination between entities
Scoring Scale			
5: Very high feasibility: proposed changes will have no barriers to implementation, drawing on the existing institutional framework and human resources. **4: High feasibility:** proposed changes would have few, limited barriers to implementation, drawing mostly on the existing institutional framework and human resources. **3: Moderate feasibility:** proposed changes would have some barriers to implementation and would need support to the existing institutional framework and human resources. **2: Low feasibility:** proposed changes would have significant barriers to implementation, requiring strong support to the existing institutional framework and human resources. **1: Very low feasibility:** proposed changes would have significant barriers to implementation, and existing institutional framework and human resources would not support implementation.			
2	Acceptability by institutions	30%	→ Acceptability of changes to existing public institutions → Acceptability of changes to electricity sector stakeholders (public and private – notably ESPs)
5: Very high acceptability: proposed changes would be highly acceptable to all existing institutions and stakeholders. **4: High acceptability:** proposed changes would be mostly acceptable to all existing institutions and stakeholders, with some limited reservations that can be considered through limited changes. **3: Moderate acceptability:** proposed changes would be acceptable to a majority of existing institutions and stakeholders, but some institutions will resist or object. **2: Low acceptability:** proposed changes would be acceptable to few institutions and stakeholders and would receive significant objection. **1: Very low acceptability:** proposed changes would not be acceptable to existing institutions and stakeholders, and implementation is unlikely to succeed.			
3	Improvement to Sector Governance and Transparency	20%	→ 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 is promoted and potential for conflicts of interest is reduced within the proposed structure
5: Significant improvement to sector governance: proposed changes would totally clarify sector governance, improve transparency, and make stakeholders accountable. **4: Improved sector governance:** proposed changes would clarify and improve sector governance, transparency, and accountability.			

3: Moderate improvement to sector governance: proposed changes would make some improvements to sector governance, transparency, and accountability. **2: Limited improvement to sector governance:** proposed changes would make limited improvements to sector governance, transparency, and accountability. **1: No improvement or weakened sector governance:** proposed changes would make no improvements to sector governance, transparency, and accountability.			
4	Policy Priorities of Government Republic of Somaliland	20%	→ The option *favours access to electricity for urban and rural customers* → The option *protects customer rights, including choice of electricity provider licensees, at competitive and reasonable prices to ensure fairness* → The option *encourages investment to expand and develop the electricity sector, to protect investors, promote competition, and ensure profitability*
5: Very high: proposed changes would address all policy priorities of the government. **4: High:** proposed changes would address most of policy priorities of the government. **3: Moderate:** proposed changes would address the majority of policy priorities of the government. **2: Low:** proposed changes would address limited number of policy priorities of the government. **1: Very low:** proposed changes would not meet the policy priorities of the government.			
	Total	**100%**	

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.

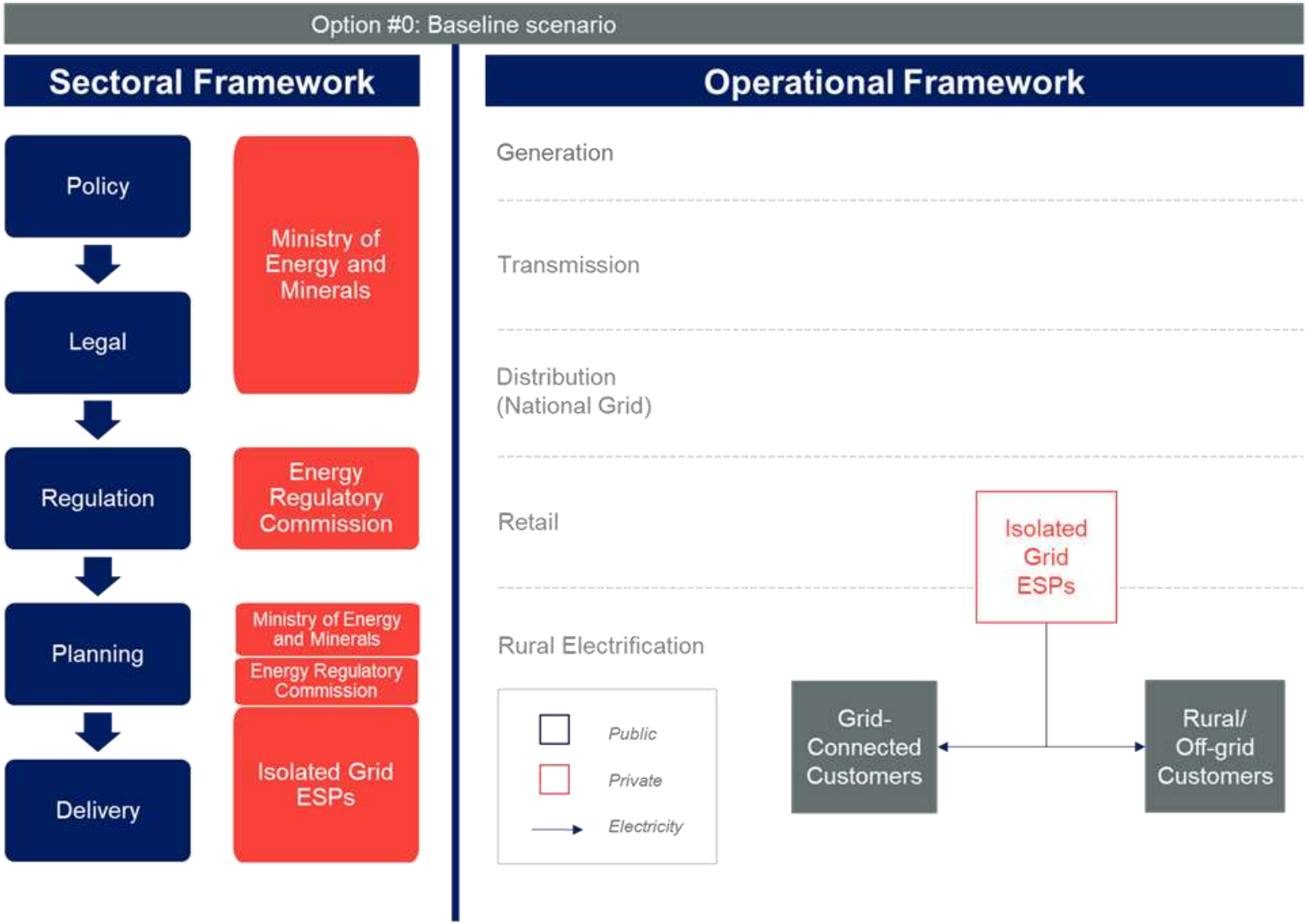
6.2 Analysis of Option #0: Baseline scenario

6.2.1 Summary of baseline scenario

The current situation in Somaliland is of limited operational public 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 MoEM sets the national policy and provides legislative guidance, there is little actual regulatory oversight of the ESPs that conduct limited planning and delivery. SERC has only recently been established, and it is not clear that all licensing and oversight regulations have been implemented by SERC yet. The Ministry has set specific roles for the Regulatory Commission to undertake, primarily with the issuance, implementation, and monitoring of the licensing system and technical standards, but this has not been implemented yet. Thus, this description of the current situation considers the enacted policy and provides only the current structural situation, but does not assume that all structural policies for the sector have been implemented.

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
Institutional Feasibility	This evaluation criterion is to **determine the feasibility of maintaining the current baseline scenario** 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, although any improvements are also assumed to be increasing regulation of the sector. • Keeping the baseline entails no changes. This translates into a high score of institutional feasibility as maintaining the status quo does not require any institutional change. However, in the long term, baseline will lead to very low levels of institutional development in the sector, affecting negatively the institutional framework over time. Thus, a score of 4 is assigned since it is only going to be feasible in the short term, but it is assumed that some of, if not a majority of, it will negatively affect the institutional framework.	4 High feasibility
Acceptability by institutions	This evaluation criterion is to **determine the acceptability from the existing institutions to maintain the status quo**. In other words, how satisfied are institutions and stakeholders in the sector with the current structure of the electricity sector. • 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 strengthen the role of the Regulatory Commission will respond in part to this issue, and the Ministry will be able to pass off regulatory responsibilities to ensure greater oversight. • According to discussions held with ESPs, acceptability of the status quo by the private sector will also be very limited. High costs and low levels of regulatory oversight makes it an unattractive investment for private sector players. Strengthening the role of the Regulatory Commission in the sector would be the first step to increase acceptability to the private sector players. Interviews conducted at early stages of this assignment show that isolated-grid ESPs will see regulation as a positive development.	1 Very low acceptability
Improvement to Sector Governance and Transparency	This evaluation criterion is to **determine the current quality of sector governance and transparency** and if it has room to improve under the current framework. • Under the baseline scenario, the institutional analysis conducted in Phase 2 of this assignment shows that the current allocation of roles and responsibilities has significant room for improvement. Several functions of both the sectoral and operational framework are not fully covered or not covered at all in some cases. Without significantly expanded capabilities of the Regulatory	1 No improvement or weakened

Evaluation Criteria	Analysis of the Baseline	Scoring
	Commission, including more funding, clear regulatory roles, and independence from the Ministry, there will be very limited improvements to the current sector governance and transparency.	sector governance
Policy Priorities of Government of Somaliland	This evaluation criterion is to **determine the ability of the current structure to favor the implementation of policy priorities** as stated in the Energy Policy 2018. • **Access**: The baseline scenario does not encourage access to the grid. Private sector isolated-grid ESPs are incentivized essentially to operate in the highest-density areas of the country where it is most economical, while overlooking rural electrification. Even though the Regulatory Commission can set specific expansion requirements for the licensees, they are severely limited in what they can mandate on licensees since there will not be a single entity whose mandate is to expand grid access (eg. from a single public utility) • **Protection of customer rights**: The current situation limits customer rights as the customers have limited choice over which isolated-grid ESP that they may choose from, and the electricity tariffs are not regulated and controlled effectively yet by the Regulatory Commission. Since the Regulatory Commission will not be able to effectively mandate expansion requirements, many customers will not be able to benefit from a wider introduction of ESP choices. With some of the highest tariffs in Sub-Saharan Africa, there is significant room for improvement. • **Promotion of investment and development**: 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 monopolies, which discourage further private sector investment. There is a trade-off with this structure, since defining specific geographic areas for the ESPs will limit the appeal for additional investment, but it must be reconciled with increasing electricity access. Furthermore, the current legislation does not promote a wider diversity in the generation mix, particularly in the absence of secondary regulation that would incentivize electricity providers from renewable energy sources.	1 Very low
Weighted Total	**Criteria 1:** 30% * 4 = 1.2 **Criteria 2:** 30% * 1 = 0.3 **Criteria 3:** 20% * 1 = 0.2 **Criteria 4:** 20% * 1 = 0.2	**1.9 / 5**

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

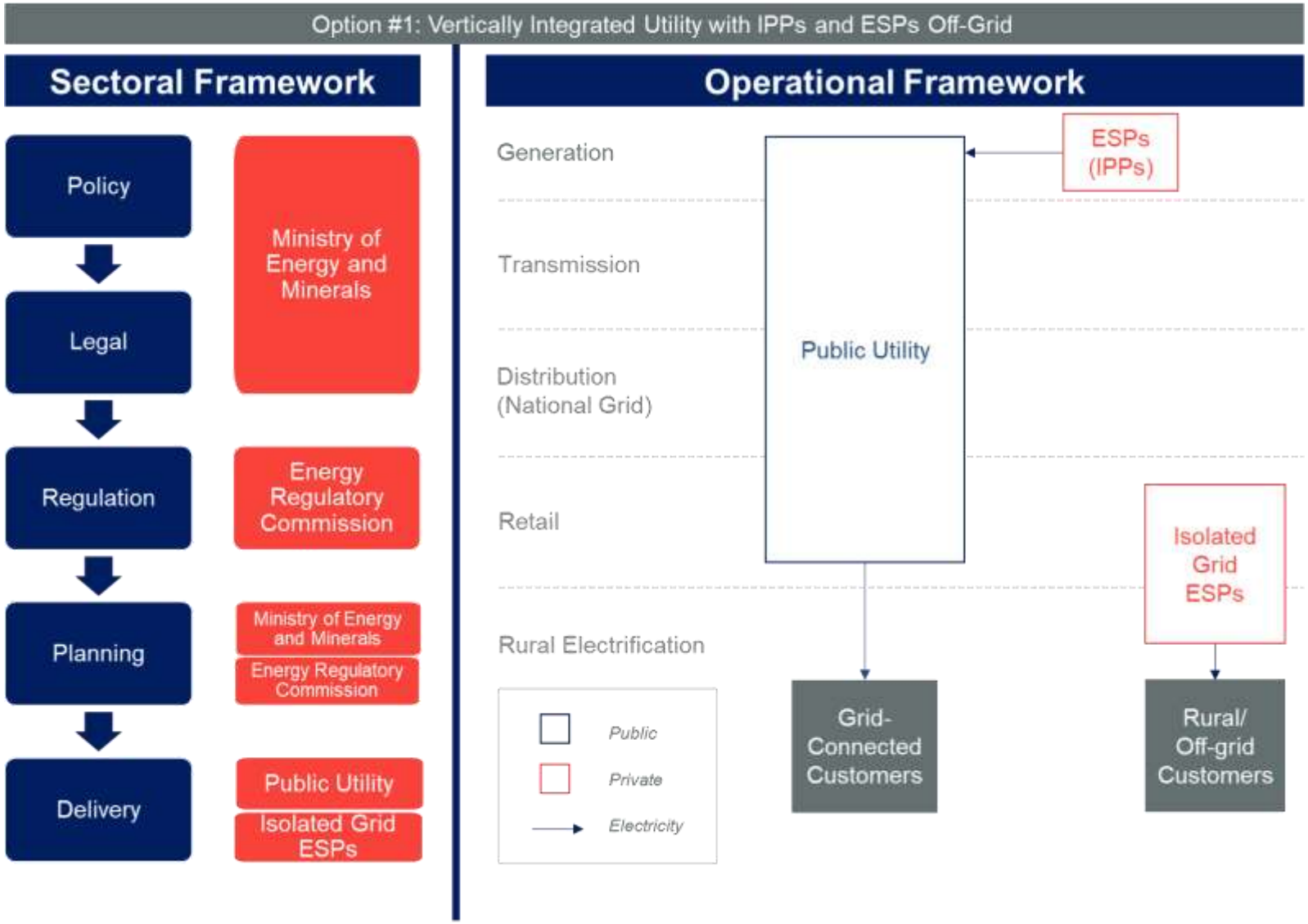
6.3.1 Summary of Option #1

This option would include the full operationalization of SERC (the Regulatory Commission) under the regulatory component of the sectoral framework and will establish a single public utility under the operational framework and IPPs will be licensed to provide additional generation capacity.

The public utility in this option will be the sole source of transmission, distribution, and retail for grid-connected customers, while isolated-grid ESPs will continue to operate for off-grid purposes. Under this option, the public utility and IPPs will have responsibility for generation; IPPs will sell directly to the public utility and will not be permitted to sell directly to customers. The Regulatory Commission will have direct oversight over the public utility and IPPs through the licensing process, technical standard setting, and monitoring of licensee results and collection of data for planning purposes. The Ministry would have the direct responsibility for setting sector policy, least cost planning for all segments of the sector, and leading the implementation of the least cost planning.

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 Option #1	Scoring
Institutional Feasibility	This option will strengthen the Regulatory Commission's regulatory oversight and roles and will establish a public utility. IPPs will be licensed by the Regulatory Commission to provide additional generation capacity, but they will not be able to contribute with transmission or distribution of electricity. • As a new institution, the skills and expertise necessary for the public utility to function will likely need to 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 be to rely on the existing ESPs since they are currently the only source of generation and distribution within Somaliland 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. • Compared to Option 0, additional skills will be required, especially in terms of negotiating power purchase agreements (PPAs) with IPPs or dispatching of privately generated electricity and publicly generated electricity. • The Regulatory Commission will draw on existing expertise within the Ministry and the sector to improve its regulatory oversight and role. Some external support will be needed to support the Regulatory Commission and the Ministry, as it is not clear that the skills and capacity currently exist within the sector. • This option does not offer a gradual lead-in to the long-term option, taking into account the likelihood of legal action by ESPs.	2 Low feasibility
Acceptability by institutions	• The creation of a public 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 as IPPs that sell electricity to the public utility, it would mitigate the lack of acceptability by the ESPs. The reliability of the off-taker (the public utility) compared to individual consumers 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. • On the public side, this option is creating a new institution, while significantly reducing the role of isolated-grid ESPs. The public sector, which will include the Ministry, the Regulatory Commission, and the public utility, will likely accept this option since main responsibilities would be allocated to them, and even with additional IPPs, the role of the public utility is still significant.	2 Low Acceptability

Evaluation Criteria	Analysis of Option #1	Scoring
Improvement to Sector Governance and Transparency	• 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. • The Regulatory Commission will struggle to better coordinate the roles and responsibilities of the five sector stakeholder groups: the Ministry, the Regulatory Commission, the public utility, IPPs and the isolated-grid ESPs. Developing and implementing the regulations necessary to oversee the public utility 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 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. • 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. • Specific regulatory oversight over the isolated-grid ESPs will also be needed to ensure fairness, transparency, and proper governance in order to encourage investment in this sector to promote rural electrification. Licensing will need to balance the needs of rural electrification with the need to improve governance and transparency over these entities.	2 Limited improvement to sector governance
Policy Priorities of Government of Somaliland	• **Access**: Priority is placed on increasing access since the establishment of the public utility will ensure wider grid access to the population. Private sector IPPs will possibly help free up resources to provide better access through increased investment in the distribution sector by the Public Utility. Moreover, isolated-grid ESPs support rural electrification through the regular licensing process through the Regulatory Commission will help ensure greater participation in rural electrification through the Regulatory Commission's ability to incentivize licensees to undertake rural electrification efforts. Since the Regulatory Commission will mandate the grid expansion requirements for the Public Utility and define the geographic boundaries for isolated grid ESPs, it will help improve electricity access, but falls short of encouraging a competitive process for grid expansion. • **Protection of customer rights**: this option will make some limited improvements to customers' rights within the sector by better regulating electricity tariffs, although customers will not have any choice for their electricity service provider. The public utility will be overseen and regulated by the Regulatory Commission, which will set the electricity tariff that it may charge customers. The PPAs and relationships will also be arranged between the public utility and the IPPs that can supply additional generation, which will still set specific tariff prices and also further improve the public utility's ability to meet electricity demand, but at the cost of lowered competition within the sector since the existing ESPs will be converted to IPPs rather than introducing entirely new	2 Low

Evaluation Criteria	Analysis of Option #1	Scoring
	generators. While tariffs will be controlled for far greater fairness within the sector, customers will not have a choice of electricity service providers. • **Promotion of investment and development**: This option makes some limited steps towards greater competition within the sector, but with very limited improvements. While the public utility will have a monopoly over transmission and distribution within the sector, generation will fall to the public utility and to private sector IPPs, which will not encourage competition nor encourage cost reduction to the full extent desired by the government. Competition among IPPs and between IPPs and the public utility will be limited, so it is unlikely to significantly reduce tariffs. However, this also entails that the Regulatory Commission closely oversee the relationships between the public utility and the IPPs in order to ensure adequate pricing for electricity generation, translating ultimately into the tariffs. In the early stages, the end-use pricing of electricity is unlikely to change significantly since significant investments will be needed in the sector and the Public Utility will have limited tariff-setting, benchmarking, and performance assessment capabilities. Finally, this option can only encourage a small increase in the generation mix since the Regulatory Commission cannot incentivize and select for a wider range of generation sources beyond the existing ESPs that will be converted into IPPs.	
Weighted Total	**Criteria 1:** 30% * 2 = 0.45 **Criteria 2:** 30% * 2 = 0.45 **Criteria 3:** 20% * 2 = 0.4 **Criteria 4:** 20% * 2 = 0.4	**1.7/5**

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

6.4.1 Summary of Option #2

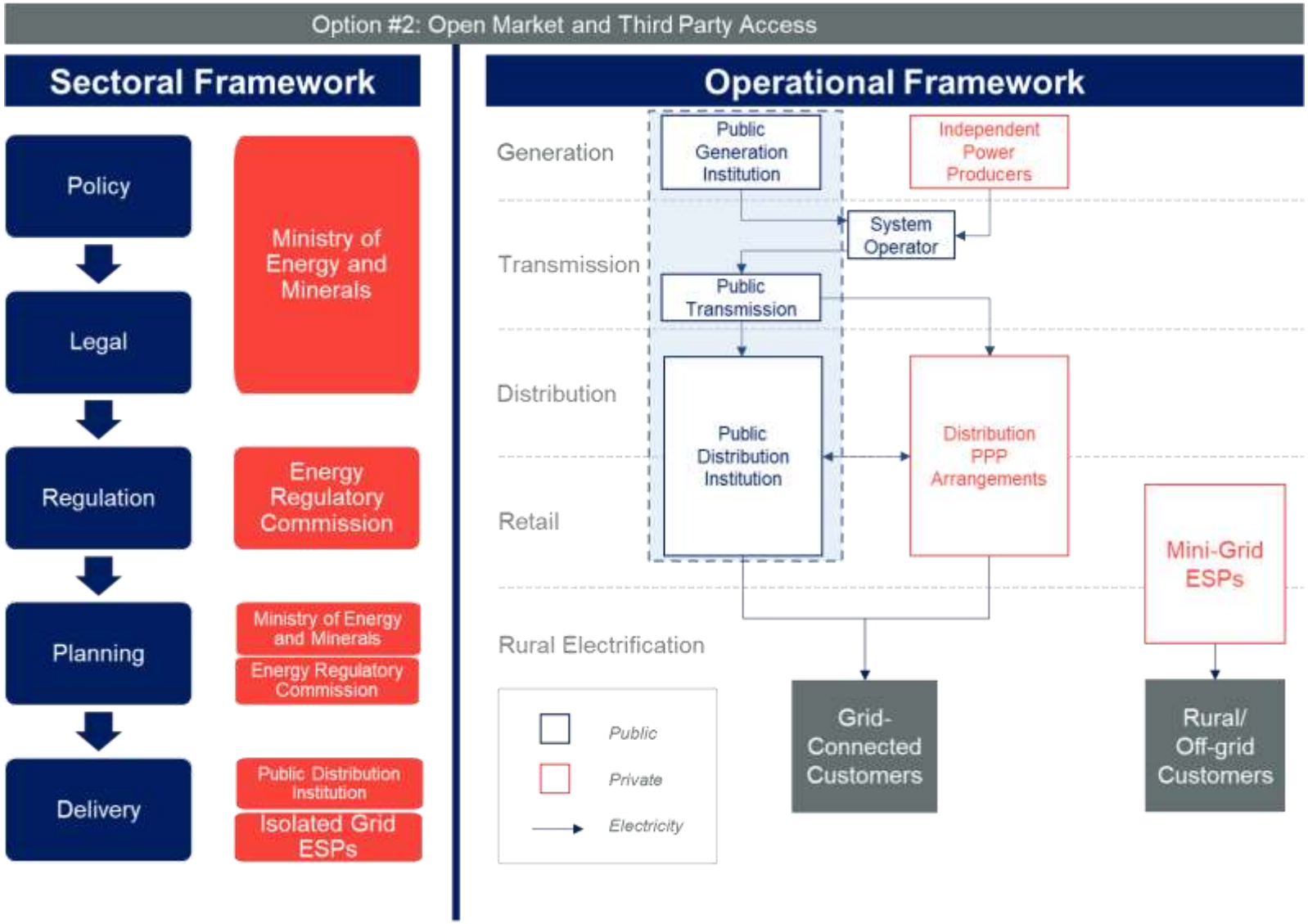
This option represents the vision laid out in the Electrical Energy Act of 2018 through the Ministry. It seeks to improve competition and participation in the sector of public and private entities through licensing of generation, transmission, and distribution providers, which will be permitted to obtain a license for multiple segments under a single license and are granted for fixed terms by the Regulatory Commission.

The Government of Somaliland approved and enacted the Electricity Act in 2018 through MoEM. The main purpose of this Act is to promote and develop Electricity Services, regulate and supervise the electricity market, guide the relationship between the Ministry of Energy and Minerals, the Regulatory Commission, and ESPs, users, and other interested parties." Its objectives are to: (i) promote access, (ii) ensure customer's rights, including choice of providers, (iii) encourage investment and participation in the sector, (iv) ensure sufficient standards, and (v) improve the generation mix. The Ministry will need to take responsibility for setting sectoral policies and undertaking the least cost planning development and monitoring for all segments of the sector, including generation, transmission, grid expansion, and rural electrification.

Under this framework, the Ministry has the responsibility and oversight of the sector, but this act establishes the Regulatory Commission, which will also have some direct regulatory authority over the sector. The main function of this regulatory oversight is determining requirements and issuing licenses for generation, transmission, and distribution; exemptions to holding a license are only granted for self-generation that will not be connected or sold on the grid, and all existing ESPs and future public and private operators must be licensed. In addition, the Regulatory Commission enforces technical standards and quality of service requirements of all the licensees, will collect data from the licensees in order to assist sectoral planning, and will coordinate the competitive processes for procurement of additional sector development based on the planning exercises undertaken by the Ministry.

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	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. • 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 Somaliland 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. • 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. • 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. • 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.	4 Highly feasible
Acceptability by institutions	• 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. • 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.	5 High acceptability
Improvement to Sector Governance and Transparency	• 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. • 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.	4 Improved sector governance
Policy Priorities of Government of Somaliland	• **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, segmenting public utilities and the additional private sector support will increase coverage and improve the population's ability to access the grid.	5 Very high

Evaluation Criteria	Analysis of Option #2	Scoring
	For rural electrification, the licensing process and oversight by the Regulatory Commission, which can select licensees based on their commitment to rural electrification and grid intensification, will allow for a disaggregated rural electrification approach. The additional direction from the Ministry will prioritize more public-private partnerships to encourage innovative ways to achieve rural electrification through the private sector while encouraging investment with public-sector risk-sharing and investment. • **Protection of customer rights**: This option will significantly improve customer's rights within the sector by much better regulating electricity tariffs and allowing choice of their electricity service provider. The Regulatory Commission will set the electricity tariff that any distribution license holders may charge customers and will be able to regulate the relationships between all public and private actors within the operational segments. PPAs will be determined between all generators with the public and private transmission and distribution license holders, and wheeling charges will be set for any transmission and distribution license holders. Thus, the prices within the sector will be fully regulated within the sector to protect customer rights. Furthermore, with licensing requirements for distribution operators that will require them to provide choice to customers for their source of electricity, customer rights are further reinforced. • **Promotion of investment and development**: 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, and distribution segments, while also ensuring service delivery through the public utilities that will operate within each segment. The high level of competition associated with this option has a high potential to reduce costs, which will in turn reduce electricity tariffs. This option will also be able to encourage the public generation utilities to deploy a wide variety of generation sources and also encourage private generation licensees to deploy a wide variety of generation sources as it can incentivize them through the licensing process.	
Weighted Total	**Criteria 1:** 30% * 3 = 0.9 **Criteria 2:** 30% * 4 = 1.2 **Criteria 3:** 20% * 4 = 0.8 **Criteria 4:** 20% * 5 = 1.0	**3.9/5**

6.5 Summary Table

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

6.6 Recommended option

The review of the current institutional framework of the electricity sector in Somaliland identified a number of limitations that lead to inefficiencies in the system; reducing in return 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 Somaliland. Indeed, the main positive aspects of this option are:

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

- The Regulatory Commission’s regulatory oversight and roles 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 Somaliland 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.
- 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.

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.

In the longer-term, the system operator will become independent from the transmission company and regulators, further improving sector governance.

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

- Customer rights are improved by better regulating electricity tariffs through the Regulatory Commission. Customers will have a wider range of choices for their electricity service providers, and the competition introduced by IPPs under this option should contribute to decreased tariffs for customers.
- Increasing access is prioritized because the Ministry and public utilities will ensure wider grid access for the population. Private sector competition can free up resources to provide better access through increased investment in the transmission and distribution segments. Isolated-grid ESPs can also support rural electrification efforts through the regular licensing process.
- This option promotes investment and development within the sector. The public utilities will support and expand transmission and distribution throughout the country, and the need for additional generation capacity will be supported by the public utilities. The possibility to establish IPPs will attract investors in the sector and is expected to meet most of the need. Finally, this option can encourage a wider diversity of the generation mix since the Regulatory Commission can incentivize and select for a wider range of generation sources from IPPs.

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 Somaliland, 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 infrastructure has 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 Somaliland. 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 Somaliland. The state was largely rural, with a handful of fast-growing urban centers that

had a need for small-scale electricity grids.[5] 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.[6] 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.[7]

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.[8] 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.[9]

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.[10] 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 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

[5] Texas: The Most Robust Competitive Market in North America, in *Electricity Market Reform: An International Perspective*, by Parviz Adib and Jay Zarnikau. 2005.

[6] "Electrical Power." Handbook of Texas online. *Texas State Historical Association.* Retrieved May 2021.

[7] "History." *Texas Electric Cooperatives Online*. Retrieved May 2021.

[8] "Rural Electrification." Handbook of Texas online. *Texas State Historical Association.* Retrieved May 2021.

[9] "Rural Electrification." Handbook of Texas online. *Texas State Historical Association.* Retrieved May 2021.

[10] "Electrical Power." Handbook of Texas online. *Texas State Historical Association.* Retrieved May 2021.

development.[11] There were over 550 market participants from a range of regulatory, government, public, private, and community-cooperatives.[12] The range of players within the sector was quite widespread, ensuring competition, access, and lower prices.

Texas started in a similar situation as Somaliland 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 Somaliland 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.[13] 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.[14] 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.[15]

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.

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[11] Texas: The Most Robust Competitive Market in North America, in *Electricity Market Reform: An International Perspective*, by Parviz Adib and Jay Zarnikau. 2005.
[12] Texas: The Most Robust Competitive Market in North America, in *Electricity Market Reform: An International Perspective*, by Parviz Adib and Jay Zarnikau. 2005.
[13] "Electricity Liberalization in Britain and the Evolution of Market Design" by David Newbery in "*Electricity Market Reform: an International Perspective*", 2005
[14] "The Central Electricity Generating Board (CEGB)", from *Power Stations of the UK*, retrieved from: https://www.powerstations.uk/history-of-power-generation/
[15] Newbery, "Electricity Liberalization in Britain and the Evolution of Market Design"

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.[16] 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.[17] 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 Somaliland, 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.[18]

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.[19]

The reform and restructuring process for Sierra Leone was outlined in its 2017-2030 roadmap that has a similar development pathway to that of Somaliland. 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.[20]

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 same period, the role of the system operator is clarified and consolidated, and there is the expectation that private sector distribution licensees begin being incorporated into the system. Furthermore, large customers will be able to begin securing their own supply through direct power purchase agreements.[21]

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[16] “The Restructuring and Privatisation of Britain’s CEGB – Was it worth it?” by David Newbery, March 27th, 2003.

[17] “Market Information”, retrieved from https://www.nationalgrideso.com/industry-information/balancing-services/reserve-services/short-term-operating-reserve

[18] “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

[19] “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

[20] “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

[21] “Electricity Sector Reform Roadmap”, Ministry of Energy, 2017

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.[22]

This is a major lesson from this post-conflict state that can apply to Somaliland: 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.

[22] “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 Somaliland resulting from the Electrical Energy Act, 2018 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 Electrical Energy Act, 2018 is to establish an open market for electricity and therefore to open competition in all segments of the market.

In this regard, one of the main principles laid out by the Electrical Energy Act, 2018 is that all electricity services (except self-generation - Art 16.1) must be operated under license and that this license is granted by an independent body, the Regulatory Commission.

In that respect, Article 3 of the Electrical Energy Act, 2018 deals with the objective of the Act, which clearly states that:

> *"The objectives of the Act include but are not limited to the following:*
>
> *……*
>
> *b) to promote Customer-oriented electricity services that protect all Customer's rights, including the right to choice among* ***competing licensees carrying out an electricity-related activity****,* ***at competitive and reasonable prices*** *based on commercial terms that ensure fairness among Customers to enable them to receive reliable electricity services".*

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. It is further specified that if the entity wishes to operate more than one electricity service, it may be granted a multi-service license (Art 16.5).

The analysis shows that, despite various recommended adjustments to the legal and regulatory framework (section 7.2 below), 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 (the Regulatory Commission) is put in place, and the missions and powers of both the Ministry and the Regulatory Commission are defined and delineated. The Ministry is the sectoral policy-maker, and the Regulatory Commission is in charge of implementing the Ministry's policies, regulating and supervising the electricity market. This therefore reflects the features of the ESI option recommended in section 6.6 above.

Without prejudice to the above, it must be noted that the licensing system is the only legal regime provided for by the Electrical Energy Act, 2018 to operate an electricity service, while different regimes exist in other countries for generation based on the number of kWh generated, such as concessions.

Despite this principle of "*competing licensees*", one may observe that, since only the licensing regime (authorization regime) exists, the granting of a license is not subject to public tender but only to an application to the Regulatory Commission.

Therefore, the preservation of competition and the above-mentioned "competitive and reasonable prices" mainly, if not entirely, depends on the regulation put in place, in particular on tariff setting and tariff control.

One may also observe that, while electricity services means electricity sales, importing, and exporting, as well as generation, transmission, and distribution, (Art 2.16), no reference is made to any sales license, importation license, or exportation license. One may also observe that the maximum duration of licenses is regulated for generation, transmission and distribution licenses but that no duration is provided for sales, importation and exportation (see Art 10.13).

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

The legal framework of electricity in any country usually comprises two sets of documents.

The first set consists of a law of Parliament, which in this case is the law on electricity, which establishes the principle of the sector, among others, the structure of the market (monopolistic, open to competition, single buyer system, etc.) and the institutional framework of the market (the missions and powers of the public institutions in charge of the organization, regulation, planning and control of the market). Apart from the ministry and the minister in charge of electricity, all the other institutions are generally created by the law of electricity.

Like any Act of Parliament, any modification of the Electrical Energy Act, 2018 can only result from another Act of Parliament amending the previous one, which can be a long and uncertain process, since it is not only a technical process, but also a political process.

The second set consists of secondary legislation whose aim is to operationalize the Electrical Energy Act, 2018. That is to determine the principles laid out by the law on electricity and to make them applicable and practical. Secondary legislation cannot lay out principles or create institutions.

Issuing secondary legislation to implement the Electrical Energy Act, 2018 falls within the orbit of the government, which in this case is the ministry in charge of electricity. This is easier than amending a law, since it is only a technical process within the government, with the technical assistance of third parties advising the government, which the Regulatory Commission can establish and operationalize.

The Electrical Energy Act, 2018 provides under Art 4.4 that, in the absence of the Regulatory Commission, all powers and duties of the Regulatory Commission shall be vested in the Ministry. Thus, if the Regulatory Commission is not fully operational, this shall not affect granting of licenses since the Ministry shall have legal authority to grant licenses in lieu of the Regulatory Commission. From a pure legal point of view, Art 4.4 should be read as referring to the Minister and not the Ministry, since the Ministry is not

a legal person, but rather only a department of the Government, while the Minister is a legal person.

It is recommended to clarify the Electrical Energy Act, 2018 through secondary legislation and regulations rather than amendments to the Act itself, as long as the principles, mission, and objectives of the Electrical Energy Act, 2018 are not in question. However, when the amendment consists not in explaining, clarifying or implementing a provision of the Electrical Energy Act, 2018 but consists in modifying a provision of the Electrical Energy Act, 2018, such modification can only result from an Act of the Parliament amending the Electrical Energy Act, 2018.

7.2.1 General comments

The Electrical Energy Act, 2018 is well structured and in most aspects conforms to international best practices regarding the way electricity law must be drafted.

As already mentioned, the respective duties and powers of both the Ministry (to be read as the Minister) and of the Regulatory Commission are clearly defined and well balanced, even though some provisions could have more precise wording.[23]

Most sensitive issues

There are several issues that are usually mentioned in legal frameworks for electricity sectors, which are only mentioned briefly without significant clarification, including:

- Renewable energy
- Energy efficiency
- Rural electrification (which is not even used, as Art 10.10 only addresses the promotion of electricity in rural areas)
- Mini-grids and off-grid development
- Third-party access
- Self-generation and if it may be sold to third parties
- Preservation of the environment
- Feasibility studies and requirements for projects before granting licenses
- Public private partnerships as an alternative way to licenses in order to operate electricity services.

  → **Suggestion**: The Government of Somaliland should appraise during the course of the suggested amendments to the Electrical Energy Act, 2018 set forth below whether the above-mentioned issues should be regulated in a revised and updated version of the Electrical Energy Act, 2018.

[23] However, since we were provided with an English transaction of the original version of the Electrical Energy Act, 2018 imprecise wording might only derive from the transaction

Questionable issues

Specific attention should be drawn to the following issues.

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 Electric Power Act, 2018 will be numbered with the letter B:

- **Article 16(5)** suggests that: "A company providing multiple services, such as generation and/or transmission and/or distribution may apply for one license to cover all these services."

  By this drafting, a multi-electricity services license is not limited to "generation and/or transmission and/or distribution" but could cover all electricity services, which is to suggest that generation, transmission, distribution, sales, importation, and exportation. Thus, a multi-service electricity license could be a general license.

  → **Recommendation 1A**: Develop secondary legislation to clarify how Article 16(5) should be interpreted.

  Allowing multiple entities to operate in each segment of the market may distort competition in the market, assuming that the principle of multiple licenses is understood in this way.

  To preserve competition, it would be best for the Electrical Energy Act, 2018 to account for unbundling of the sector and to obligate ESPs with multiple licenses to establish separate accounts for each electricity service it operates and to prohibit any transfer between these accounts.

  → **Recommendation 2A**: Develop secondary legislation to provide for the way an entity may operate between various electricity segments under a single license.

- **Article 16(16)** is not well drafted and could be construed as providing that license cannot be renewed except to provide service on a temporary basis.

  The absence of renewal may limit the level of investment and therefore might limit the development of the electrical sector.

  → **Recommendation 3A**: Provide in secondary legislation that any license can be renewed and to state the conditions for such renewal since the Electrical Energy Act, 2018 does not provide for a clear and explicit prohibition of the renewal of licences.

- **Article 18(1)** states that "the Commission shall recommend regulations concerning tariff matters for approval by the Ministry of Energy and Minerals".

  This suggests that the final decision regarding tariffs falls on the Ministry rather than the Regulatory Commission, which is responsible for actual implementation of tariff regulations (Articles 4, 10.10, and 10.13).

  → **Recommendation 4A**: Provide secondary legislation to clarify the interpretation of Article 18(1).

→ **Recommendation 5A**: Once established and fully operational the Regulatory Commission shall regulate tariffs. However, Since the Regulatory Commission is not yet fully operational, the Ministry may regulate tariffs on the ground of Article 4(4) of the Electrical Energy Act, 2018 and adopt secondary legislation for that purpose.

- **Article 16(13)** states that: "Foreign investors must enter into a joint venture agreement with the existing local energy service providers".

  The rationale for this obligation on foreign investors is questionable unless joint venture only means a special purpose vehicle incorporates in Somaliland. Imposing on foreign investors that they must enter into a joint venture with a third party that is a national of Somaliland, up to an unspecified level, will have a negative impact on foreign investment, and therefore on the development of the electricity sector in Somaliland.

  → **Recommendation 6A**: Develop secondary legislation for how to interpret Article 16(13).

Initial Conclusion

While the Electrical Energy Act, 2018 could certainly be improved in several aspects such as definitions and provisions, it would be advisable to clarify it and render it more operational by way of secondary legislations as indicated in the above-mentioned recommendations.

7.2.2 Specific Comments

Definitions

Some definitions are ambiguous and misleading, while some are missing, which generates a range of uncertainties that will have negative impacts on the attractiveness of the legal, institutional, and operational electricity frameworks, and therefore on private investments.

For example, without limitation:

- *Consumer* is defined as a person that uses electricity and *Customer* as a person that uses electricity on the basis of an agreement. Unless an agreement relates to a certain type of contract into which a customer cannot enter, no one can have access and use electricity in any country without an agreement with the electricity provider. The difference between Customer and Consumer is ambiguous.

  → **Recommendation 7A**: Provide in secondary legislation the distinction between *Consumers* and *Customers*.

- As drafted, the definition of *Electricity Service* only relates to generation and transport. *Distribution* is not mentioned, while the definition of *License* appears as mentioning distribution of Electricity Services. *Importation* and *exportation* are not mentioned as Electricity Services but listed as services to be operated under licenses.

→ **Recommendation 8A**: Develop secondary legislation to remove any ambiguities by providing an exhaustive list of electricity services and related licenses.

- The definition of *distribution* under Article 2(3) only relates to supply of electricity at voltage lower than 132Kv. This is unusual, since in most jurisdictions, *distribution* refers to medium voltage up to 33kV. Electric lines of higher voltage are usually reserved for long-distance transmission and should therefore be subjected to the same non-discriminatory third-party access obligations, to ensure fair competition in generation and distribution/retail.

  → **Recommendation 9B**: Amend the Electrical Energy Act, 2018 to obligate distribution licensees operating electric lines, meant for long-distance transmission, to ensure third-party access. Alternatively, revise the 132kV threshold in the Electrical Energy Act, 2018.

- *Operators* and *Supplier* are used interchangeably, but remain undefined, and one may question whether there is any difference and if a supplier is not de facto operator.

  → **Recommendation 10A**: Develop secondary legislation to resolve any ambiguity.

- *User* is a definite word, but is not clearly defined, and raises questions whether *User* means *Customers*. Similarly, *Public* is also used to apparently designate the *Users*, generating confusion. Since one of the objectives of the Electrical Energy Act 2018 is to promote "Customer oriented services", there is a need to clarify who are the "Consumers", the "Users" and the "public" so as to determine the true beneficiaries of the Electrical Energy Act, 2018.

  → **As already mentioned under Recommendation 8A**: Develop secondary legislation to list all electricity services to solve any ambiguity.

Regulations

- **Subsidiary legislation**: There is no licensing regulation prescribing detailed conditions of the licenses and rights and obligations of licensees. However, the Electrical Energy Act, 2018 provides under Article 10(4) (a) that the Regulatory Commission shall establish various regulations, including licensing regulations. Furthermore, the Electrical Energy Act, 2018 already contains few provisions regarding licensing such as the duration.

  → **Recommendation 11A**: Once established and fully operational the Regulatory Commission should provide for the detailed conditions of the licenses and rights and obligations of licensees on the ground of Article 16(9). Meanwhile, the Ministry may provide for the same in a secondary legislation on the ground of Article 4(4) of the Electrical Energy Act, 2018.

- **Duration**: At least 15 years for generation and transmission licenses, and at least 10 years for distribution license. No time period is provided for exportation and importation.

→ **Recommendation 12A**: Since the duration of the licenses appears as falling within the ambit of the Regulatory Commission under Article 16(10), the Regulatory Commission could provide for the duration of exportation license and importation license.

Revocation of a license

- The cases that can lead to the revocation of a license are clear. However, the Electrical Energy Act, 2018 does not specify what happens after a license is revoked. The defaulting service provider becomes subject to the provisions of Article 27.4, including imprisonment and fines. However, the Electrical Energy Act, 2018 does not mention how continuity of service will be ensured in the area served by the defaulting provider. It must clarify if another provider will be allowed to take over or if the public utility will take over, if the defaulting provider retains ownership of the infrastructure, and to clarify compensation. Of note, with a large number of existing ESPs requiring their license during the transition period, it is quite likely that such a case will happen.

→ **Recommendation 13A**: Clarify through secondary legislation the consequences of the revocation of a license (or non-abstention thereof) in terms of ownership and/or compensation as well as measures to preserve continuity of service.

Quality of Service

- The Electrical Energy Act, 2018 does not define Licensee's obligations in terms of quality of service. These obligations could include providing electricity 24/7; maintaining the frequency and voltage within a certain range; or, reacting to an outage or a breakdown of equipment within a prescribed time. It is good practice to define quality of service standards, and to monitor, through a set of performance indicators, the quality of service actually offered by ESPs. If the ESPs' indicators consistently fail to meet the target, it can be considered as a non-compliance.

→ **Recommendation 14A**: Establish secondary legislation to define quality of service standards and monitor licensees' performance with regards to the quality of service.

→ **Recommendation 15A**: Have a transition period during which the quality of service standards will be less strict, to let licensees progressively improve their performance.

Cost-effectiveness

- Inefficiencies on the part of licensees directly results in higher costs for the customers and/or the tax payers. It is thus important to incentivize cost-effectiveness. This is usually done through tariff regulations. Tariff regulations usually allow for reasonable profits and operators can increase their profit if they manage to decrease their costs through efficiency gains, while still complying with their obligations in terms of quality of service. However, due to absence of a legal framework for tariff regulations, licensees have no incentive to be efficient in handling their business.

→ **Recommendation 16A**: Provide in secondary legislation for an obligation for the licensees to strive for cost-effectiveness. Alternatively, the need to strive for cost-effectiveness could be conveyed through a tariff regulation.

→ **Recommendation 17A**: Through time, the Regulatory Commission should develop a benchmark of typical costs and other performance indicators and compare licensees to the benchmark. In the long term, licensees who consistently perform poorly could be penalized. Alternatively, as tariff regulations are introduced, the benchmark will be used by the Regulatory Commission to regulate tariffs.

Expanding electricity coverage and increasing access

- While the Electrical Energy Act, 2018 sets an objective to "provide further access to electricity to the public throughout the country" (Art 3.2.a), it does not give distribution licensees any obligation regarding expanding electricity coverage and increasing access within their geographic areas. The Electrical Energy Act, 2018 does not set an obligation to provide electricity to all prospective customers who request an electricity connection.

→ **Recommendation 18A**: Provide secondary legislation as an obligation for distribution licensees to set clear rules and tariffs for obtaining a connection in their distribution zones that already have electricity coverage (e.g. within 100 meters of an existing distribution line), and to provide a connection to prospective customers within a set timeframe and on a non-discriminatory basis.

→ **Recommendation 19A**: Provide secondary legislation for a general obligation for distribution licensees to strive to increase electricity coverage within their geographic areas. The details in terms of expansion targets, sources of funding, and remuneration of the investment, will have to be worked out carefully on a case-by-case basis.

Tariffs

- The Electrical Energy Act, 2018 does not contain rules giving the Regulatory Commission to set up and regulate tariffs for the supply or use of electricity. This is a challenge to the very purpose of the Electrical Energy Act, 2018, which is to ensure all citizens in Somaliland have access to customer friendly electric services at competitive and reasonable prices based on commercial terms that ensure fairness among Customers to enable them to receive reliable electricity services.

→ **Recommendation 20B**: Amend the Electrical Energy Act, 2018 as this issue can only be regulated by the Electrical Energy Act, 2018.

Electricity supply chain and market structure

- The Electrical Energy Act, 2018 does not contain any provisions outlining and governing the electricity supply chain and market structure. It provides the licensing of ESP's providers, as generation, transmission and distribution as well as trading. However, the Act does not provide specific duties and functions of each of the different ESPs. Likewise, the act does not provide any rules detailing

the electricity market structure in Somaliland. The fact that the Electrical Energy Act, 2018 is silent about regulating the supply chain and the market structure is one of the major challenges to electricity sector reform in Somaliland, and hence needs immediate attention from the Somaliland government and stakeholders.

→ **Recommendation 21A**: Develop secondary legislation to resolve this problem.

Grid system

- No provision is provided in the Electrical Energy Act, 2018 to guide and regulate the establishment, management and use of Grid systems/centers as well as the responsible bodies to coordinate and monitor observance of rights and duties of ESPs in regards to the grid systems. The Electrical Energy Act, 2018 provides that the Regulatory Commission will develop and issue Grid codes but does not contain any legal rules requiring the establishment of National and/or regional Grid systems/centers, and guiding the use and access and management of Grid. The absence of comprehensive provisions pertaining to grid systems means that the commission can hardly regulate the sector.

→ **Recommendation 22A**: Develop secondary legislation to address this issue.

Dispute settlement mechanism

- The Electrical Energy Act, 2018 does not establish comprehensive dispute resolution mechanisms to entertain disputes that may arise between ESPs, and between ESPs and consumers. There is only one provision in Electrical Energy Act, 2018 providing that decisions of the Regulatory Commission are subject to an appeal, and any person or body aggrieved by a decision of the Regulatory Commission can file an appeal case at the Supreme Court. The Electrical Energy Act, 2018 mandates the Commission set Dispute Settlement procedures for all electricity-related disputes. However, the Electrical Energy Act, 2018 does discuss the dispute resolution body, but does not clarify if the Regulatory Commission or another body will be established by the Regulatory Commission. The Electrical Energy Act, 2018 does not prescribe whether civil courts have jurisdiction over electricity supply related disputes between ESPs or between ESPs and Consumers.

→ **Recommendation 23A or 23B**: Provide in secondary legislation a reference to a settlement dispute mechanism existing in Somaliland. If a not-yet-existing settlement dispute mechanism has to be put in place, amend the Electricity Energy Act, 2018 to ensure the presence of adequate dispute settlement procedures and means available to stakeholders in the sector.

Sales

- The Electrical Energy Act, 2018 does not give a clear definition of “sales services” and does not specify the conditions of the license. The definition of “distribution services” seems to entail sales as well. As most existing ESPs are highly active in sales, this needs to be clarified.

→ **Recommendation 24A**: Clarify through secondary legislation whether sales is included under “distribution services” or constitutes a licensed activity in

itself. Considering the current organization of the sector, grouping distribution (physical infrastructure) and sales (actually distributing electricity to customers) as one single service seems to be the best option for now.

Geographic extent

- **Art 3.2. (b)** tends to indicate that several distribution/retail licensees could, in theory, operate in the same area since "customers have the right of choice among competing licensees carrying out an electricity-related activity". However, there are no operational provisions to regulate competition in retail. International experience shows that ensuring fair competition in retail requires an advanced regulatory framework and sophisticated regulatory tools that are not yet in place in Somaliland.

  → **Recommendation 25A**: Clarify through secondary legislation that a distribution/retail licensee has exclusivity for providing these services in the geographic area defined in its license. This exclusivity shall, however, be conditional to the fulfillment of the licensee's obligations, notably in terms of quality of service and efficiency.

Transition period

- The Electrical Energy Act, 2018 gives a grace period of three years to the existing ESPs to comply with the new regulations and to obtain a license. The grace period starts when the Electrical Energy Act, 2018 enters into force. However, the ESPs can only start working on their compliance and on their license applications after the corresponding regulations have been issued by the Regulatory Commission. The grace period must be extended to consider the time required to develop and pass the regulations.

  → **Recommendation 26A**: Clarify through secondary legislation that the grace period for ensuring compliance and obtaining a license may be prolonged depending on when the corresponding regulations are issued.

7.3 Synthesis and prioritization of recommendations

7.3.1 Synthesis

It emerges from section 7.2 that among the 26 recommendations, 24 consist in issuing one or more secondary legislations (as explained below) and two consist in amending the Electrical Energy Act, 2018 (recommendation 9B and 18b).

Among the 24 recommendations consisting in issuing one or more secondary legislations:

- 9 recommendations consist in clarifying and interpreting the Electrical Energy Act, 2018 and can be grouped within the same secondary legislation (the "**Interpretation Secondary Legislation**"): recommendations 1A, 3A, 4A, 6A, 7A, 8A, 10A, 24A, and 26A
- 9 recommendations relate to license issues and can be grouped within the same technical secondary legislation: recommendations 2A, 11A, 12A, 13A, 16A, 17A, 18A, 19A, and 25A

- 1 recommendation relates to a tariff issue, which should be implemented in a technical secondary legislation: recommendation 5A
- 2 recommendations relate to quality issue which should be implemented in a technical secondary legislation: recommendations 14A and 15A
- 1 recommendation relate to electricity supply chain and market structure issue, which should be implemented in a technical secondary legislation: recommendation 21A
- 1 recommendation relate to grid issue which should be implemented in a technical secondary legislation: recommendation 22A

  We suggest dealing with all the above-mentioned technical issues in the same technical secondary legislation.

- 1 recommendation relate to dispute settlement issue: recommendation 23A (unless the settlement dispute mechanism to put in place is unknown in Somaliland). If a not-yet-existing settlement dispute mechanism has to be put in place, the Electrical Energy Act, 2018 will have to be amended to provide for such new settlement dispute mechanism. **We suggest implementing this recommendation in the above-mentioned Interpretation Secondary Legislation**.

Below is a tabular representation of the aforementioned list of recommendations

Figure 7-1: Summary table of list of issuing one or more secondary legislations

Type of secondary legislation	Recommendations
Interpretation Secondary Legislation	**Recommendation 1A**: Develop secondary legislation to clarify how Article 16(5) should be interpreted
	Recommendation 3A: Provide in secondary legislation that any license can be renewed and to state the conditions for such renewal since the Electrical Energy Act, 2018 does not provide for a clear and explicit prohibition of the renewal of license's
	Recommendation 4A: Provide secondary legislation to clarify the interpretation of Article 18(1).
	Recommendation 6A: Develop secondary legislation for how to interpret Article 16(13).
	Recommendation 7A: Provide in secondary legislation the distinction between Consumers and Customers.
	Recommendation 8A: Develop secondary legislation to remove any ambiguities by providing an exhaustive list of electricity services and related licenses.
	Recommendation 10A: Develop secondary legislation to resolve any ambiguity.
	Recommendation 24A: Clarify through secondary legislation whether sales is included under "distribution services" or constitutes a licensed activity in itself. Considering the current organization of the sector, grouping distribution (physical infrastructure) and sales (actually distributing electricity to customers) as one single service seems to be the best option for now.
	Recommendation 23A: Provide in secondary legislation a reference to a settlement dispute mechanism existing in Somaliland.
	Recommendation 26A: Clarify through secondary legislation that the grace period for ensuring compliance and obtaining a license may be prolonged depending on when the corresponding regulations are issued.

Type of secondary legislation	Recommendations
Technical Secondary Legislation	**Recommendation 2A**: Develop secondary legislation to provide for the way an entity may operate between various electricity segments under a single license.
	Recommendation 11A: Once established and fully operational the Regulatory Commission should provide for the detailed conditions of the licenses and rights and obligations of licensees on the ground of Article 16(9). Meanwhile, the Ministry may provide for the same in a secondary legislation on the ground of Article 4(4) of the Electrical Energy Act, 2018.
	Recommendation 12A: Since the duration of the licenses appears as falling within the ambit of the Regulatory Commission under Article 16(10), the Regulatory Commission could provide for the duration of exportation license and importation license.
	Recommendation 13A: Clarify through secondary legislation the consequences of the revocation of a license (or non-abstention thereof) in terms of ownership and/or compensation as well as measures to preserve continuity of service.
	Recommendation 16A: Provide in secondary legislation for an obligation for the licensees to strive for cost-effectiveness. Alternatively, the need to strive for cost-effectiveness could be conveyed through a tariff regulation
	Recommendation 17A: Through time, the Regulatory Commission should develop a benchmark of typical costs and other performance indicators and compare licensees to the benchmark. In the long term, licensees who consistently perform poorly could be penalized. Alternatively, as tariff regulations are introduced, the benchmark will be used by the Regulatory Commission to regulate tariffs.
	Recommendation 18A: Provide secondary legislation as an obligation for distribution licensees to set clear rules and tariffs for obtaining a connection in their distribution zones that already have electricity coverage (e.g. within 100 meters of an existing distribution line), and to provide a connection to prospective customers within a set timeframe and on a non-discriminatory basis
	Recommendation 19A: Provide secondary legislation for a general obligation for distribution licensees to strive to increase electricity coverage within their geographic areas. The details in terms of expansion targets, sources of funding, and remuneration of the investment, will have to be worked out carefully on a case-by-case basis.
	Recommendation 25A: Clarify through secondary legislation that a distribution/retail licensee has exclusivity for providing these services in the geographic area defined in its license. This exclusivity shall, however, be conditional to the fulfillment of the licensee's obligations, notably in terms of quality of service and efficiency.
	Recommendation 5A: Once established and fully operational the Regulatory Commission shall regulate tariffs. However, Since the Regulatory Commission is not yet fully operational, the Ministry may regulate tariffs on the ground of Article 4(4) of the Electrical Energy Act, 2018 and adopt secondary legislation for that purpose**.**
	Recommendation 14A: Establish secondary legislation to define quality of service standards and monitor licensees' performance with regards to the quality of service.
	Recommendation 15A: Have a transition period during which the quality of service standards will be less strict, to let licensees progressively improve their performance.
	Recommendation 21A: Develop secondary legislation to resolve this problem.

Type of secondary legislation	Recommendations
	Recommendation 22A: Develop secondary legislation to address issue on grid systems.

7.3.2 Prioritization

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. Interpretation
2. Licensing (covering quality and performance related conditions)
3. Tariff
4. Grid
5. Market supply and structure

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

1. **Licensing** (covering quality and performance related conditions)

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:

- Providing for an exhaustive list of electricity services and related licenses.
- Providing for the detailed conditions of the licenses and rights and obligations of licensees
- Providing for the way an entity may operate between various electricity segments under a single license.
- Providing that any license can be renewed and to state the conditions for such renewal
- Providing for the duration of exportation license and importation license.
- Defining quality of service standards and monitor licensees' performance
- Providing for a transition period to let licensees progressively improve their performance

- Providing 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
- Providing 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
- Providing for a general obligation for distribution licensees to strive to increase electricity coverage within their geographic areas.

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 secondary regulation must take into account, as specified in the table above, the following issues:

- Provide for rules, in the Electricity Act, that give the Electricity Regulator authority to set up and regulate tariffs for the supply or use of electricity
- Providing 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
- Providing 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 ESPs in regards to the grid systems

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 Electrical Energy Act of 2018. 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 Commission.

The graphic below describes the features of Option #2.

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

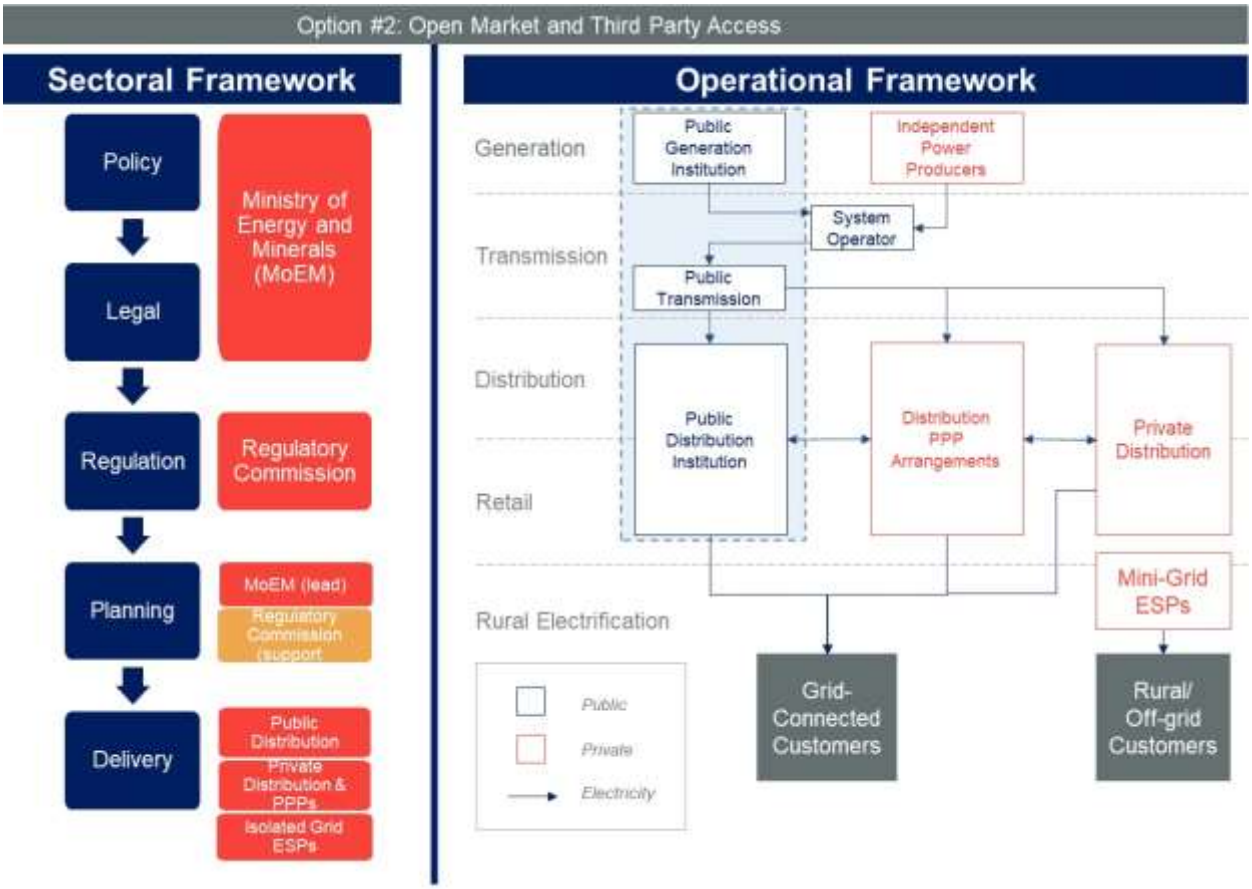


Figure 8-2: Institutional Framework

Institutional Entity	Mandate
Ministry	**Policy**: 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 Commission on a more frequent basis. **Legal**: The Ministry will be responsible for setting out the legal frameworks under which all entities, including itself, must abide. **Regulation**: The Ministry will set regulations and secondary-legislation that is to be implemented and enforced by the Regulatory Commission. **Planning**: the Ministry will have the authority over planning within the sector, which will be done in coordination with the Regulatory Commission. The Regulatory Commission will be responsible for collecting the data required for planning, but the Ministry will set the longer-term planning goals for the sector.
Regulatory Commission	**Regulation**: the Regulatory Commission has the 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. **Planning**: the Regulatory Commission 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 Commission plays a role in sector planning, it will not have final decision-making power or authority over sectoral planning.
Public Generation Institution	**Delivery**: The Public Generation Institution will have a role in large scale generation of electricity to be delivered to end-users
System Operator	**Planning**: 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. **Delivery**: The System Operator will have a role in aggregating the electricity generated from various sources and dispatch it between the various distributors.
Public Transmission	**Delivery**: The Public Transmission Company will have a role in transmitting electricity from generation centers to distribution transformers.
Public Distribution	**Delivery**: The Public Distribution Companies will have a role in delivery of electricity to the end-users.

8.2 How the selected option meets policy objectives

8.2.1 Policy objectives of the Somaliland Energy Act 2018

The Somaliland Energy Policy was approved by the Council of Ministers on March 3, 2010[24] following a four-year process. Information gathered from stakeholders indicate that a newer version of the policy is under review by decision-makers. The review of the publicly accessible version from 2010 shows that the approach used in formulating the policy involved a detailed analysis of the sectoral issues from both the supply and demand perspectives. These issues are still relevant at the time of drafting this report.

[24] Somaliland energy policy No. 01/419/08/03/2010

Policy objectives, strategies and an implementation plan had been developed for the supply sub-sectors (i.e. electricity, petroleum, biomass and renewable energy). The same has been done for the major demand side sectors (i.e. households and institutions, industry and commerce).

The main policy goal in the energy sector has been set as:

> *"To meet the energy needs of Somaliland for Social and Economic Development in a cost-effective way that promotes sustainable energy production and use while minimising negative environmental impacts".*

One of the specific objectives of the Energy Policy is to "*establish, maintain, continuously review and improve a legal and institutional framework for effective management and planning of energy services in the country*".[25] When analysing the policy document, this particular objective can be further clarified as the following:

- Review, clarify or establish the roles and functions of the various institutions that are engaged in the energy sector.
- Formulate and implement a legal and regulatory framework for pricing and tariff structures to support energy investments in the country.
- Formulate a legislative and regulatory framework that links Independent Power Producers (IPPs) to the official power network and ensure that there is compliance.
- Formulate and implement regulations for power generation that enables affordable costs of power for all energy users.
- Provide an enabling environment for the provision of energy services and remove the various barriers to institutional, legal and capacity improvement.

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, especially through the newly formed Regulatory Commission.
- **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:** create a favorable environment to enhance Public-Private Dialogue and build on the work conducted so far by the ESPs.

[25] Specific Objective #3

- **Long Term:** establish a public-private platform to strengthen the IPP model and PPP scheme in the distribution segment to bring about 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 Somaliland.

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.

Figure 8-4: ESI Roadmap Blueprint 2021- 2040

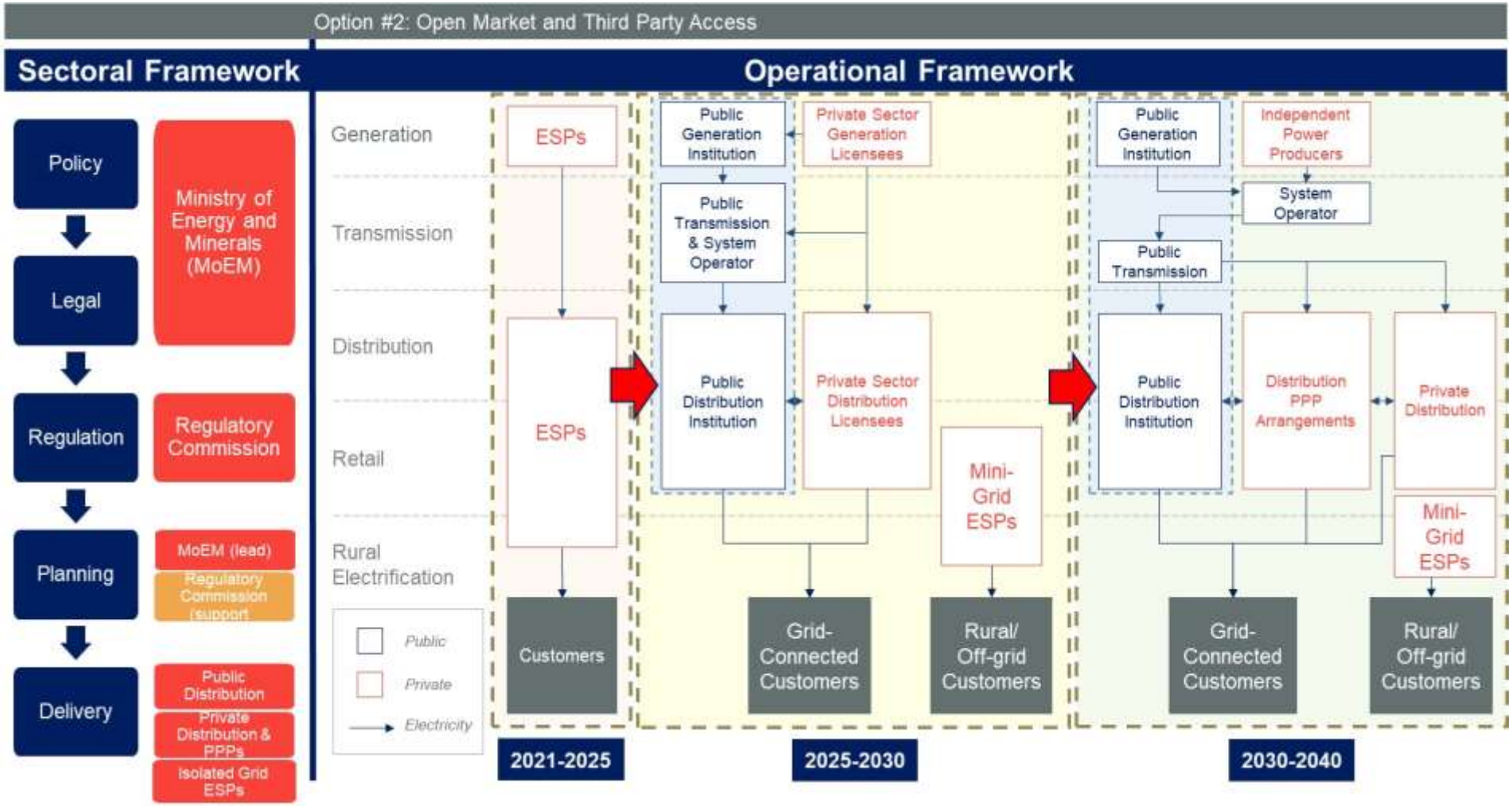
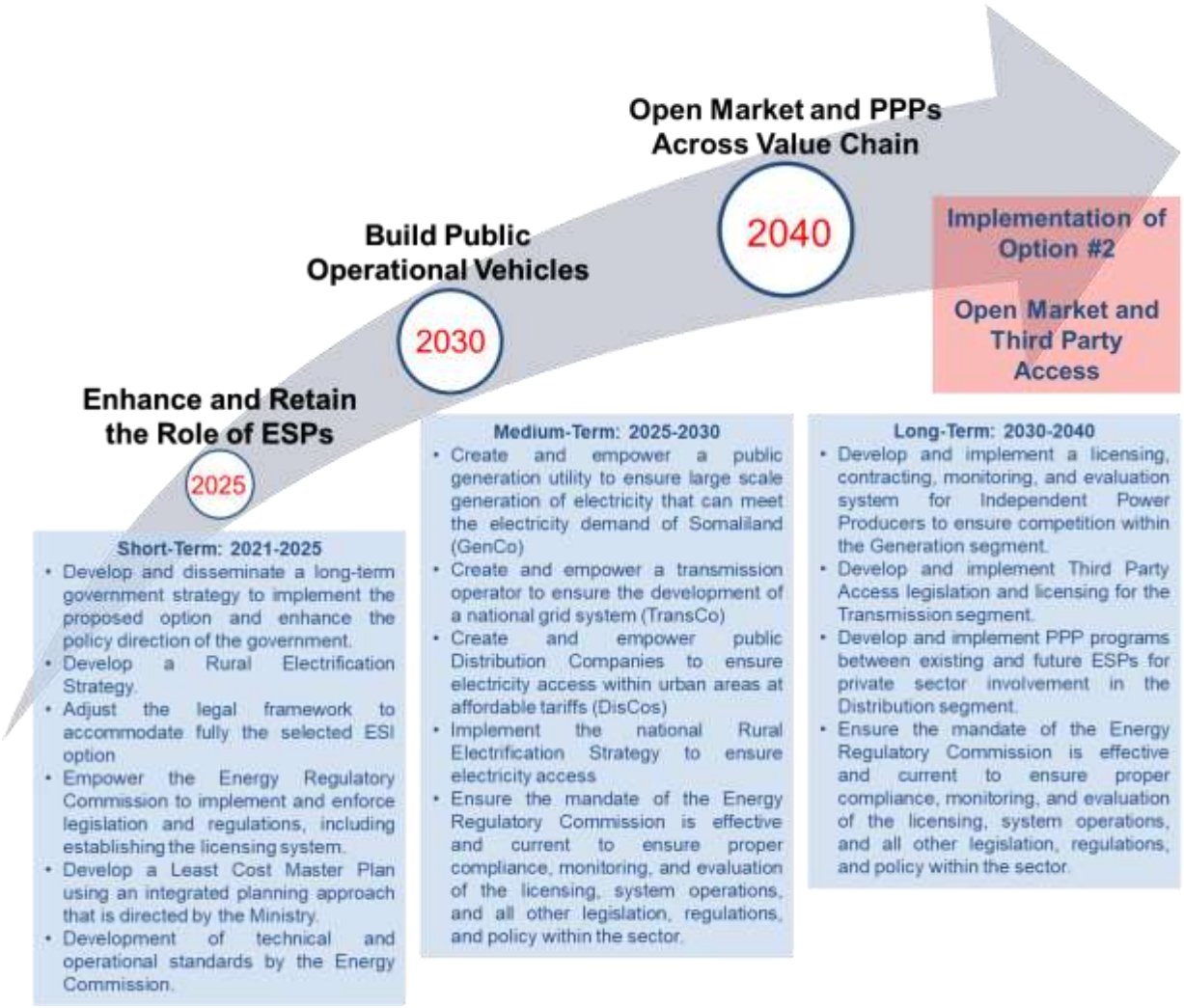
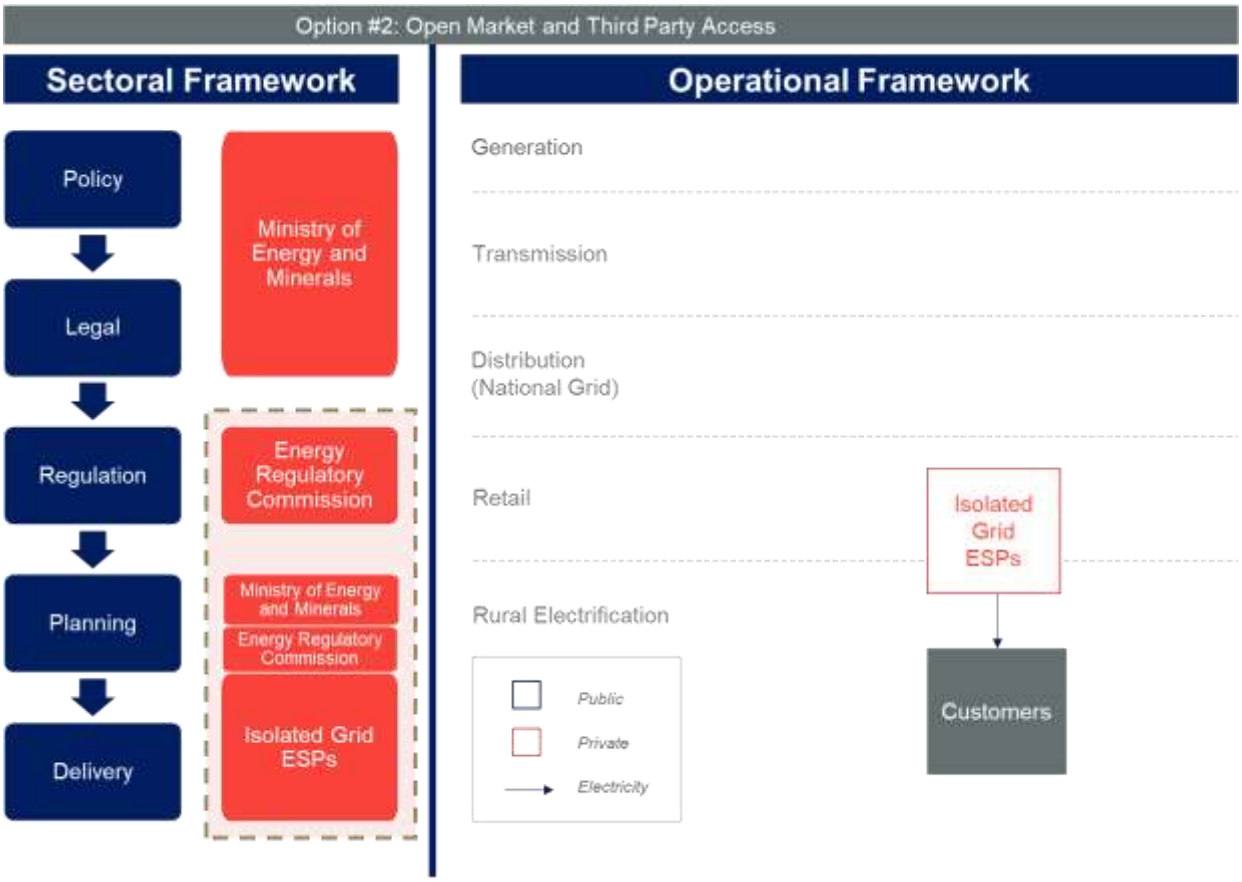


Figure 8-5: Roadmap for 2040



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.
- **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 an empowered Regulatory Commission and implementation of additional regulations and legislation to enhance and retain the roles of the existing ESPs.

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 Commission 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 Commission. The

Ministry will also begin the Least-Cost Planning studies and implementation, based on data gathered by the Regulatory Commission, 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.

- **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
  - 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.

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 Somaliland 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.

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 Act 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 Act 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 Act 2018 essentially through the establishment of secondary legislation and regulations

rather than amendments to the Act, as the principles, mission, and objectives of the Energy Act constitute a strong ground for the implementation of the ESI option proposed.

Regulation

Action 4: Empower the Regulatory Commission 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 Commission and empower it to implement and enforce a full licensing system for the sector as laid out in the Energy Act.

The Regulatory Commission will need to have the full funding and support required to exercise the full authority that is laid out in the Energy Act, 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. 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 Commission in the electricity sector roadmap. The Regulatory Commission 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 Commission 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 Commission in the long term.

The Regulatory Commission 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 Commission 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.

All existing ESPs will be required to comply with the new licensing system from the Regulatory Commission within three years of the approval and enactment of the Electrical Energy Act 2018, but it is unclear what progress has been made in licensing the existing ESPs in Somaliland. The 11 currently operating ESPs in Somaliland function across multiple segments and are responsible for the generation and distribution on their isolated grids; while the current legislation allows for multiple license segments for a single ESP, it is not clear what additional conditions these licensees may have. Furthermore, the duration of the licenses and possibility of renewal of licenses is flexible. Taken together, this creates unnecessary uncertainty for the private sector operators that can deter additional investment in the sector. The rules clarifying these issues should be clear and transparent, and not taken on a case-by-case basis, in order to show fairness in the licensing process.

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. The Ministry must be responsible for setting the obligations of licensees to extend coverage within a specific geographic proximity to their grid. The Regulatory Commission 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.

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: Develop a 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 undertake a Least-Cost Master Plan for the electricity sector as a whole for Somaliland. This 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 Somaliland, but this will be done in coordination with the Regulatory Commission as the Regulatory Commission has oversight and responsibility for data collection from licensees that will be used for least-cost planning.

A Least-Cost Development Plan must include long-term supply and demand forecasts for Somaliland, 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.

According to the Electricity Act, planning for the electricity sector in Somaliland is handled between the Ministry and the Regulatory Commission; the Ministry has the authority to endorse the plan for the sector, while the Regulatory Commission will collect data from licensees and develops the long-term planning documents. The data initially collected from licensees by the Regulatory Commission 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 Commission 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.

The Least-Cost Development Plan must occur early in the restructuring of the sector as it will be used to primarily guide the development of the electricity sector in Somaliland. 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 Commission.

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 Commission will 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 Commission to implement technical standards for the construction, maintenance, and operations of ESPs to ensure consistent quality, safety, and maintenance procedures.

The Ministry will be responsible for determining the technical standards and requirements of licensees, while the Regulatory Commission 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 Commission to collect data from ESPs.

8.4.2 Actions and reforms within the operational framework

Generation, transmission, distribution and sales segments

The operational sector in Somaliland will continue to be made up of only ESPs who run isolated grids that function independently of each other, and no changes will occur to the operational framework in the short term. 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.

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 under their license contract will require clear delineation of their geographic service area. These license contracts must be ring-fenced in order to incorporate the specific regulatory and legislative requirements set out by the Ministry and Regulatory Commission, 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 Commission 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 the revocation of licenses. Data collection will also allow the Regulatory Commission 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 Commission 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 Commission in the electricity sector roadmap. 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," a primary focus will be establishing the public utility, which will be a 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 Commission must 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 Somaliland as outlined in Actions 1 to 6.

Rural electrification segment

Action 7: Develop a Rural Electrification Strategy to improve access to electricity in areas that will not be serviced by the main electricity grid.

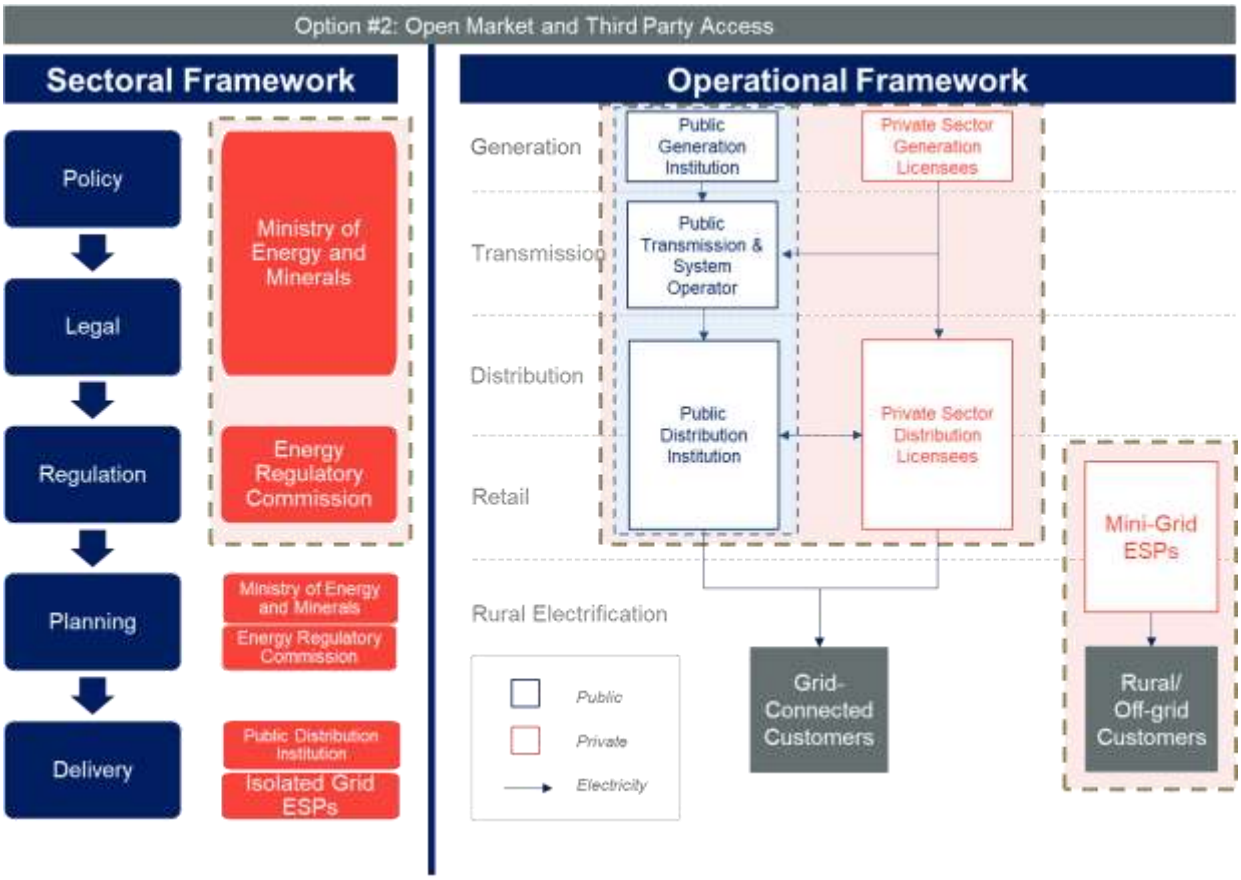
A significant operational segment priority in the short term is to develop a Rural Electrification Strategy that is based on the least-cost planning and studies that will meet the unmet demand for electricity in rural areas of Somaliland. The existing ESPs operate as separate grids but are primarily 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. 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. 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. Incentives to develop in this way for ESPs should be implemented by the Regulatory Commission, but at the direction of 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 Commission, 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 Commission, 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.
- **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. 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
    - 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 8: 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 by the private sector (or 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 Commission 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 9: Ensure the mandate of the Energy Regulatory Commission 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 around 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 Somaliland, 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 Somaliland 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 Commission. 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 Regulatory Commission that will be preceding this period. Somaliland 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 Somaliland to implement this plan.

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

Generation segment

Action 10: Create and empower a public generation utility to ensure large scale generation of electricity that can meet the electricity demand of Somaliland (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 Somaliland. 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 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.

A public generation utility will have a primary mandate of meeting the government policy goals and targets, particularly for meeting electricity demand in Somaliland, improving the mix of renewables in the grid, and reducing sector costs to provide a more affordable tariff for consumers. 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 11: 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 Somaliland. 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 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 Somaliland. 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, 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 12: 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 continue to expand their grids and provide wider access to electricity in Somaliland during the short-term period as the licensing system is being established, but the Regulatory Commission can only compel the isolated-grid ESPs to provide non-discriminatory access and connection to customers within certain parameters set out in the legislation; thus, gaps will continue to exist, and public distribution companies (DisCos) must 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 Somaliland.

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 and be further enhanced through 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 13: 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. 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.

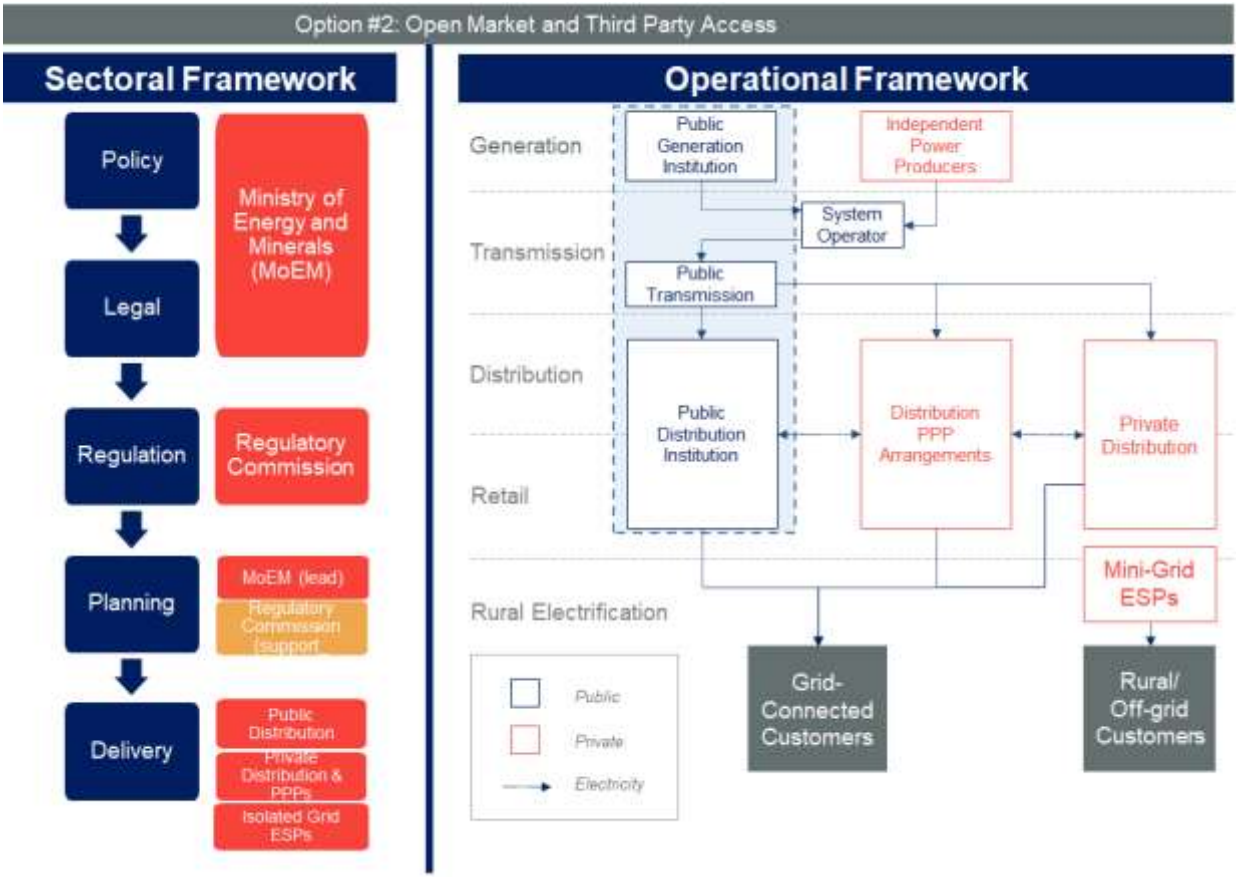
Pending the strategic decisions that would have been taken in the short-term period of the roadmap, rural electrification might depend primarily on the development of mini- and off-grid projects to supply electricity to rural and isolated communities. Other communities that are close enough to the grid 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 Act 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 14: Ensure the mandate of the Regulatory Commission 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 Commission 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 Commission will continue to be strengthened. The Regulatory Commission 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 15: 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 Commission 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 benefitial 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 Commission 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. 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 16: 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 Somaliland.

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 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 Commission and the Ministry.

Distribution and retail segment

Action 17: 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. 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 Somaliland. Private sector participation has been enhanced in the previous medium-term stage of sector development, in which 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 Commission 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	**Action 1:** 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.
		Action 2: Develop a Rural Electrification Strategy
	Short-Term: Legal	**Action 3:** Adjust the legal framework to accommodate fully the selected ESI option.
	Short-Term: Regulation	**Action 4:** Empower the Regulatory Commission to implement and enforce legislation and regulations, including establishing the licensing system.
	Short-Term: Planning	**Action 5:** Develop a Least-Cost Master Plan using an integrated planning approach directed by the Ministry.
	Short-Term: Delivery	**Action 6:** Development of technical and operational standards by the Regulatory Commission.
	Short-Term: Rural Electrification	**Action 7:** Develop a Rural Electrification Strategy to improve access to electricity in areas that will not be serviced by the main electricity grid.
Medium-Term 2025-2030	Medium-Term: Policy and strategy, legal, regulatory, planning, and delivery functions	**Action 8:** Conduct a Gaps Analysis to understand, monitor, and evaluate the current progress and determine a path forward for progress within the sector.
		Action 9: Ensure the mandate of the Regulatory Commission 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	**Action 10:** Create and empower a public generation utility to ensure large-scale generation of electricity that can meet the electricity demand of Somaliland (GenCo).
	Medium-Term: Transmission	**Action 11:** Create and empower a transmission operator to ensure the development of a national grid system (TransCo).
	Medium-Term: Distribution	**Action 12:** Create and empower public Distribution Companies to ensure electricity access within urban areas at affordable tariffs (DisCos).
	Medium-Term: Rural Electrification	**Action 13:** Implement the national Rural Electrification Strategy to ensure electricity access.
Long-Term 2030-2040	Long-Term: Policy and strategy, legal, regulation, planning, and delivery	**Action 14:** Ensure the mandate of the Regulatory Commission 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	**Action 15:** Develop and implement a licensing, contracting, monitoring, and evaluation system for IPPs to ensure competition within the generation segment.
	Long-Term: Transmission	**Action 16:** Develop and implement third-party access legislation and licensing for the transmission segment.
	Long-Term: Distribution	**Action 17:** 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 Somaliland

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

Electricity Service Providers (ESPs)

The system of delivering the electricity services in Somaliland comprises of a network of isolated distribution grids with isolated diesel-based generation owned and operated by private Electricity Service Providers (ESPs).

Key players in the region of Somaliland include:

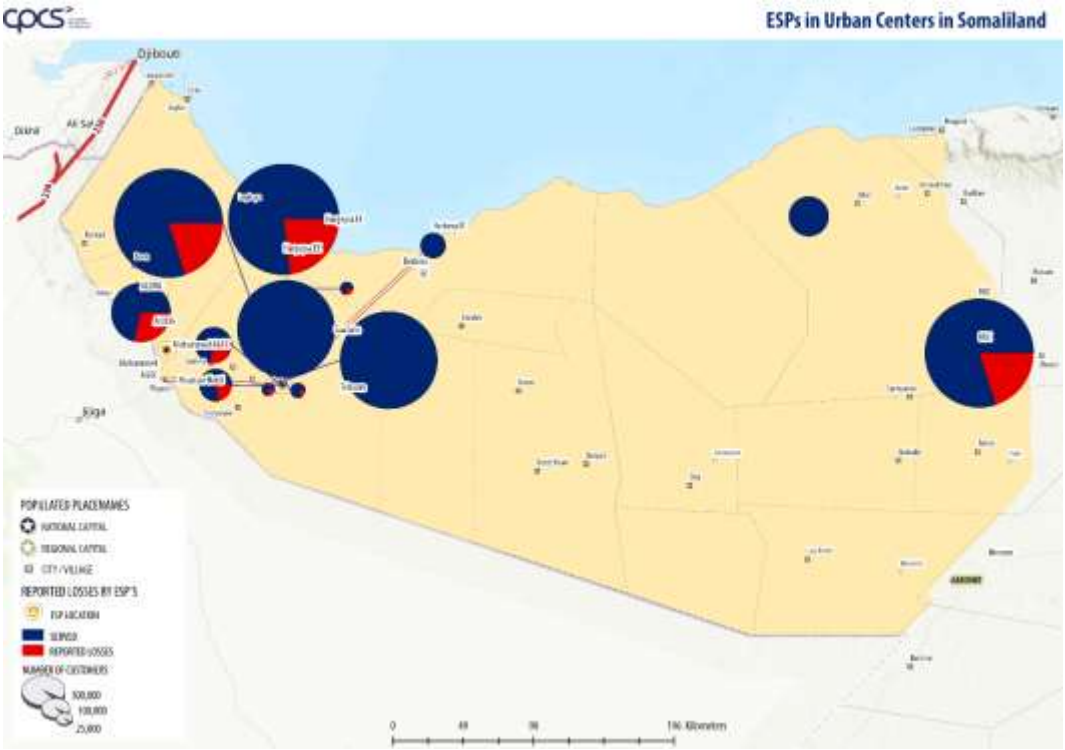
Figure 9-1: Electricity Dependent sectors in Somaliland

Name	Location	Operational Status	Capacity	Approx. Population Coverage	Entity Type
Sompower	Hargeisa, Maroji-deh	Active	75 MW	400,000	Private
Berbera Electricity Company	Berbera	Active	28 MW	200,000	Private
Telesom Electricity Company	16 Towns in Somaliland	Active	15 MW	100,000	Private
Horn Electricity Company	Burao, Togdher	Active	12 MW	100,000	Private
Aloog Electricity Company	Borama, Awdal	Active	4.5 MW	25,000	Private

Source: CPCS Analysis

The map below illustrates the location and the capacities of the various ESPs in Somaliland.

Figure 9-2: ESPs in Urban Centers in Somaliland



Source: CPCS Analysis

It is worth noting that these ESPs are represented by The Somaliland Electricity Association (SEA)[26]. The Association was established in November 2015 with initial funding from utility companies to provide a platform for all Members, to discuss and progress issues of common concern and develop the Energy Sector in Somaliland. This entity constitutes therefore a key institutional player in the sector.

[26] http://seasomaliland.com/

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