# SADC TRADE AND REGULATION IN ELECTRICITY AND RELATED SERVICES

SHORT-TERM REPORT

***DRAFT***

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# SADC TRADE AND REGULATIONS IN ELECTRICITY AND RELATED SERVICES

Prepared by: Zulaikha Brey, Nolwazi Sokhulu and Matthew Stern

Short-term report for the project

## STRENGTHENING OF ECONOMIC AND TRADE POLICY CAPACITIES AND COMPETENCIES IN SADC – TRADE IN SERVICES

**Presented to:**

Southern African Development Community (SADC) Secretariat
SADC Headquarters
Plot No. 54385
Central Business District Gaborone
Botswana
http://www.sadc.int/

and

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GIZ – SADC Project Office
Private Bag X12 (Village)
Gaborone, Botswana

On behalf of:
Federal Ministry for Economic Cooperation and Development (BMZ)

**Implemented by:**

GFA Consulting Group

DNA Economics

Your contact person with GFA Consulting Group GmbH is
Britta Ziemann

GFA Consulting Group GmbH
Eulenkrugstraße 82
22359 Hamburg
Germany

Phone +49 (40) 6 03 06 – 352
Fax +49 (40) 6 03 06 – 119
E-mail britta.ziemann@gfa-group.de

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## 1.1 Introduction

Les pays membres de la SADC sont actuellement impliqués dans des négociations de fond sur la libéralisation du commerce des services. Six secteurs ont été identifiés pour la négociation des priorités, y compris l'énergie. Le but principal de ces négociations est de réduire les obstacles au commerce et à l'investissement intra-régional à travers la chaîne de valeur énergétique, ou au moins, de rendre les règlements existants plus sûrs et transparents.

En prévision de ces négociations, il est essentiel que les pays membres et le Secrétariat ont une compréhension éclairée du cadre réglementaire actuel, dans le secteur de l'énergie, et à travers tous les Etats Membres de la SADC; et de l'ampleur du commerce régional et de la concurrence dans ce secteur. Ensemble, ces informations devraient servir à mettre en évidence les domaines où la réforme ou l'harmonisation régionale pourrait être bénéfique; ainsi que les zones où des discussions ou des recherches supplémentaires sont nécessaires. Ce document représente une première étape dans ce processus.

L'information présentée dans ce rapport est basée sur un examen documentaire de la littérature et de la législation disponibles. Le rapport se concentre sur les services liés à l'industrie de l'approvisionnement en électricité et exclut les autres formes d'énergie. Il fournit un instantané initial mais incomplet de la situation économique, politique et du statu quo réglementaire dans les 15 pays membres de la SADC, et, si possible, identifie les obstacles spécifiques au commerce et à l'investissement. Les principales conclusions de ce rapport sont résumées ci-dessous.

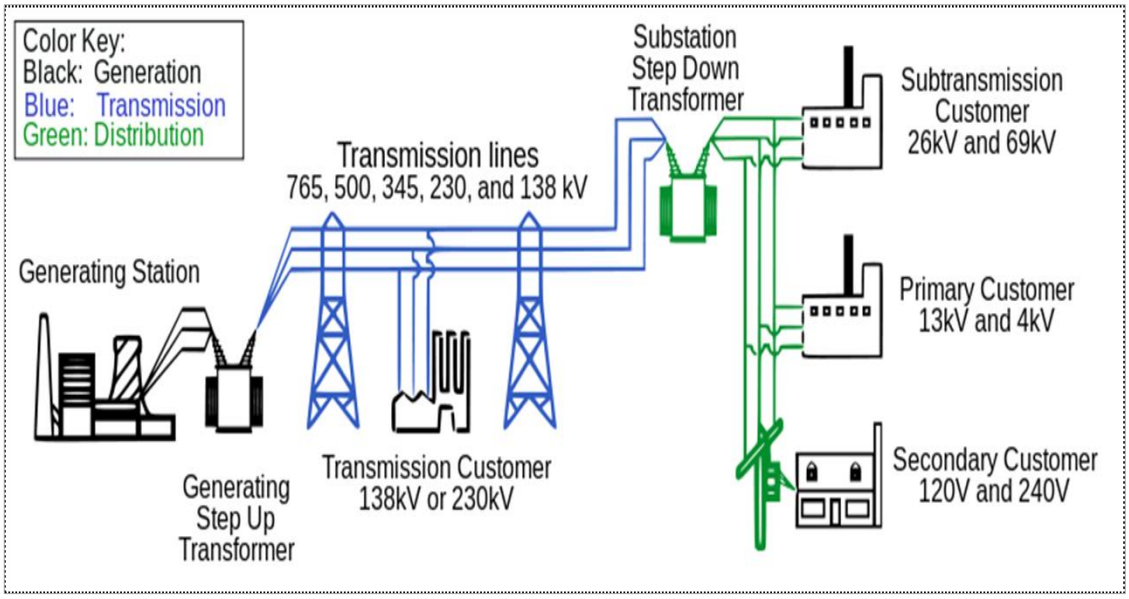
## 1.2 Historique

### 1.2.1 La portée des services d'électricité

Les services liés à l'électricité ne sont pas faciles à isoler et à catégoriser. La difficulté réside dans l'isolement de la composante des biens de ce commerce (l'électricité elle-même) des services de transmission, de distribution et de soutien qui sont nécessaires pour la commercialisation de ce bien; souvent les deux éléments sont étroitement liés.

Pour les fins de cette étude, les services d'électricité englobent tous les services liés à tous les stades de la chaîne de production d'électricité; y compris la production d'électricité dans les centrales, la transmission de l'électricité provenant des centrales électriques aux points de distribution, et, finalement, la répartition de l'électricité à certains utilisateurs finaux. La Figure 1 illustre la chaîne de valeur du secteur de l'électricité.

**Figure 1: La chaîne de valeur de l'approvisionnement en électricité**




*Source: US FERC, 2004*

### 1.2.2 Aperçu du marché de l'électricité de la SADC

La région de la SADC a d'abondantes ressources énergétiques dans l'hydroélectricité, l'énergie renouvelable, le charbon, le pétrole et le gaz naturel. Un grand nombre de ces sources sont sous-utilisées aux fins de la production d'énergie. Actuellement, la région du nord de la SADC est largement tributaire des ressources hydroélectriques et les combustibles fossiles prédominent dans le sud.

Le marché de l'électricité de la SADC est dominé par les services publics d'électricité verticalement intégrés, dont la majorité appartiennent à l'État. Les pays membres sont à différents stades de la mise en œuvre des réformes du secteur sous forme de concurrence privée et de réglementation indépendante.

En ce qui concerne le commerce, le développement de la Southern Africa Power Pool (SAPP) a été un développement critique en termes de sécurité d'approvisionnement et d'intégration régionale. Les membres ont mis en place un réseau de réseaux de transmission interconnectée qui permet le commerce de l'électricité concurrentiel. L'adhésion à la SAPP est limitée à des compagnies gouvernementales d'électricité, un par pays. Tous les membres de la SADC ont des interconnexions avec au moins un pays voisin, à l'exception des états insulaires.

#### *Génération*

Dans l'année financière 2013-2014, la capacité totale installée dans la SADC s'élevait à 59.560 mégawatts (MW). Comme indiqué dans le Tableau 1, la disponibilité de cette capacité était d'environ 83%. L'Afrique du Sud représente 76% de la capacité totale disponible de la SADC. La capacité disponible indiquée ne reflète pas le désaffectation inattendue de la capacité pour cause de maintenance. La Figure 2 indique la capacité de production déployée dans la région.

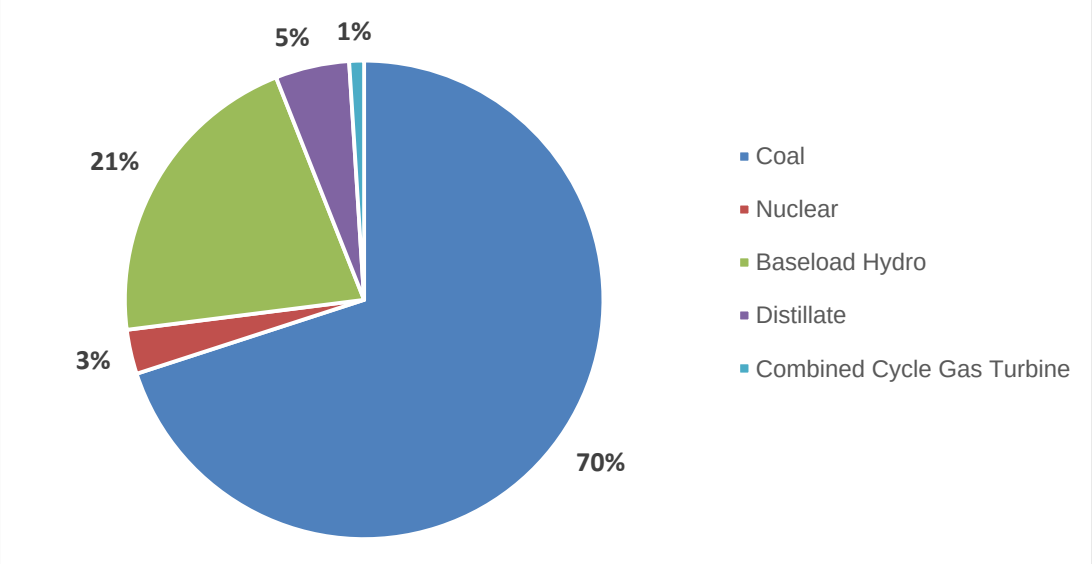
**Tableau 1: Génération d'électricité de la SADC (MW), 2013-2014**

| Pays | Capacité installée | Capacité disponible |
|---|---|---|
| Angola | 2,028 | 1,700 |
| Botswana | 892 | 460 |
| République démocratique du Congo | 2,444 | 1,502 |
| Lesotho | 72 | 72 |
| Madagascar | 430 | |
| Malawi | 304 | 288 |
| Maurice | 717 | 621 |
| Mozambique | 2,308 | 2,279 |
| Namibie | 487 | 392 |
| Seychelles | 85 | |
| Afrique du Sud | 44,170 | 37,545 |
| Swaziland | 70 | 70 |
| Tanzanie | 1,380 | 1,143 |
| Zambie | 2,128 | 2,029 |
| Zimbabwe | 1 349 | 876 |
| **Total indicatif de la SADC** | 58,864 | 48,977 |

*Source: Rapport annuel 2014 Southern Africa Power Pool, JICA, COMESA, CEB, SEC, Estimations DNA*

Une caractéristique notable du marché de l'électricité de la SADC est le grand déficit global de la capacité de production. La SAPP estime la demande totale au début de 2014 à 49.563 MW, y compris la demande de pointe, la demande supprimée et les réserves. Cela donne un déficit de la capacité régionale de 4592 MW[1]. De nombreux États Membres éprouvent des pannes régulières en raison de ce manque.

**Figure 2: Capacité installée de la SAPP par technologie, 2013-2014**




*Source: Rapport annuel 2014 de la Southern Africa Power Pool*

[1] (Rapport annuel 2014 de la Southern Africa Power Pool,pg 39)

### *Transmission et distribution*

La transmission de l'électricité dans la grille intégrée de la région est principalement faite par des lignes de 400 et 330 kilovolts (kV). Les autres capacités de ligne en usage comprennent 533kV, 275kV, 132kV et 220KV. Conformément à l'image de la génération, l'Afrique du Sud possède le plus grand réseau de lignes de transport d'électricité. A l'intérieur des frontières de l'Afrique du Sud ce réseau s'étend sur 359337 kilomètres (km) et sert 4,7 millions de clients[2].

Les réseaux de transmission au sein des Etats Membres ainsi que les interconnexions sont sous pression en raison de la hausse de consommation régionale d'électricité. La demande d'électricité en Afrique du Sud a augmenté à un taux moyen de 2,5% par an au cours de la dernière décennie[3]. L'investissement dans l'infrastructure d'approvisionnement en électricité n'a pas suivi le rythme de la demande, résultant dans la performance compromise du réseau de transmission de la région. Le Tableau 2 décrit les pertes d'électricité à travers ce réseau à la suite de ces pressions (on pourrait normalement s'attendre à ce que 2,5% de l'énergie électrique se perdu à cause de la chaleur dans le système de transmission (effet Joule)).[4]

**Tableau 2: La demande et les pertes de transmission d'électricité de la SADC, 2013-2014**

| Pays | Demande de pointe (MW) | Nombre de clients | Pertes de transmission (%)[a] |
|---|---|---|---|
| Angola | 1,072 | 251,952 | 10 |
| Botswana | 578 | 251,773 | 4 |
| République démocratique du Congo | 1,028 | 746,902 | 11 |
| Lesotho | 1,166 | 144,732 | 13 |
| Madagascar | 170 | 235,000 | |
| Malawi | 278 | 204,955 | 9 |
| Maurice | 441 | 417,215 | |
| Mozambique | 706 | 1,010,780 | 6 |
| Namibie | 611 | 200,000 | 3 |
| Seychelles | 54 | 30,000 | |
| Afrique du Sud | 35,896 | 4,653,750 | 3 |
| Swaziland | 205 | 97,000 | 3 |
| Tanzanie | 890 | 932,285 | 3 |
| Zambie | 1,681 | 418,651 | |
| Zimbabwe | 1,546 | 579,006 | 4 |

a= L'électricité qui se perd pendant le transport par le réseau de transmission

*Source: Rapport annuel 2014 SAPP, ECB.*

L'accès universel à l'électricité est un autre défi à travers le réseau de distribution d'électricité de la SADC. La Figure 3 illustre le niveau de l'électrification de la région. Les raisons pour les faibles niveaux d'accès diffèrent sensiblement entre les États Membres; certains ont des défis topographiques, tandis que d'autres doivent surmonter les grandes distances entre les

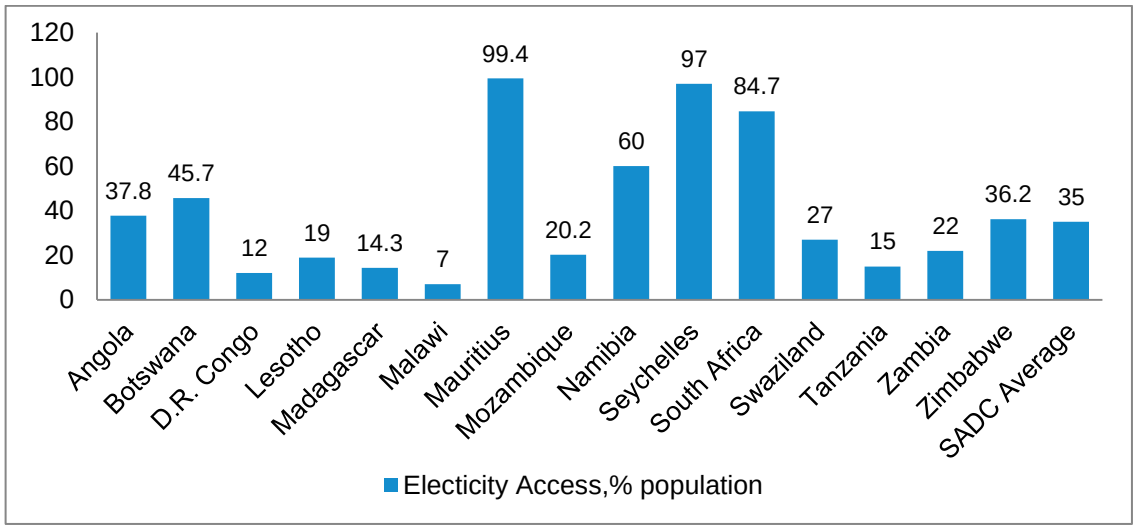
2 (Plan de développement de la transmission - Eskom 2015-2024)

3 (Rapport annuel 2014, SA PP,pg 14)

4 (Commission électro-technique international e, 2007)

centres de demande et les centres de distribution où l'électricité est générée. Afin d'optimiser les coûts pour atteindre les zones reculées, les gouvernements sont en train d'évaluer des technologies telles que l'énergie renouvelable et des approches novatrices pour fournir de l'électricité à l'extérieur de la grille traditionnelle (hors réseau).

**Figure 3: Accès à l'électricité dans les Etats Membres de la SADC**




*Source: SAPP 2014, Données de la Banque mondiale*

### *Energie renouvelable*

Les ressources énergétiques renouvelables comme l'énergie solaire et éolienne offrent une flexibilité qui ne peut être reproduite par l'énergie des combustibles fossiles traditionnels. Selon l'ampleur de ces investissements, ils peuvent être déployés sans raccordement au réseau, ce qui serait une solution d'électrification rurale, ou liés à la grille pour approvisionner des régions spécifiques et la grille nationale.

Le potentiel d'énergie renouvelable à grande échelle dans la région comprend:

• Le potentiel hydroélectrique d'environ 1 080 térawattheures par an (TWh/an) par rapport aux 31TWh/an actuellement utilisées.

• Le potentiel géothermique long de la vallée du Rift traversant la Tanzanie, le Malawi et certaines régions du Mozambique, est estimé à 4000 MW de capacité de production[5].

• Selon la Banque mondiale, la somme annuelle de l'irradiation solaire est à son plus haut niveau dans certaines parties du pays de la SADC tels que l'Angola, la Namibie, le Botswana, le Zimbabwe et l'Afrique du Sud.

• Le potentiel de l'énergie éolienne en Namibie et en Afrique du Sud est assez important pour soutenir des turbines reliées au réseau.

• L'Afrique du Sud a lancé un programme d'achat d'énergie renouvelable en 2011, le Programme Independent d'approvisionnement de producteur d'énergie renouvelable

[5] Rapport mondial des petites hydro-électricités 2013, UNEP & Profils des pays IRENA

(REIPPPP), qui prévoyait que 3625 MW d'électricité seraient procuré à travers plus de cinq tours d'appels d'offres. Au début de 2014, un total de 3,915MW de diverses technologies d'énergies renouvelables avait été attribué[6].

Pour les fins de cette étude, les énergies renouvelables sont considérées parmi les autres technologies de production d'électricité. En raison des contraintes de données, une considération limitée est accordée aux technologies des énergies renouvelables qui sont utilisées en dehors du réseau de la grille traditionnelle.

### 1.2.3 Le commerce de l'électricité de la SADC

Comme indiqué ci-dessus, l'électricité est négociée activement dans la région de la SADC à travers le SAPP. Les membres du SAPP incluent les services suivants: Empresa Nacional de Electricidade de l'Angola (ENE), BPC du Botswana, Société Nationale d'Electricité du Congo (SNEL la République démocratique du (RDC)), Electricity Corporation du Lesotho (LEC), Electricity Supply Commission du Malawi, Electricidade de Mocambique (EDM), Power Utility Agency de la Namibie (NamPower), Eskom en Afrique du Sud, Swaziland Electricity Company du Swaziland (SEC), Tanzania Electric Supply Company, Zambia Electricity Supply Corporation (ZESCO) et Electricity Supply Authority du Zimbabwe (ZESA). D'autres participants qui ne sont pas des sociétés de services publics nationaux comprennent du Mozambique, l'IPP, Hidroelectrica de Cahora Bassa (HCB) et l'entreprise de transport, Motraco; Copperbelt Energy de la Zambie et Lunsemfwa Hydro Power Company[7].

La SADC est un importateur net d'électricité. Le Tableau 3 ci-dessous indique que les importations nettes de la région s'élèvent à 4 700 GWh pour la période 2013-2014. L'Afrique du Sud joue un rôle important dans l'exportation d'électricité dans la région, tandis que le Botswana, le Zimbabwe, la Namibie et la Tanzanie sont de gros importateurs d'électricité.

**Tableau 3: Exportations et importations d'électricité de la SADC, 2013-2014**

| Nom du pays | Exportations (GWh) | Importations (GWh) |
|---|---|---|
| Angola | 0 | 49 |
| Botswana | 0 | 3,017 |
| République démocratique du Congo | 0 | 573 |
| Lesotho | 7.4 | 11 |
| Madagascar | n.a | n.a |
| Malawi | 19.1 | - |
| Maurice | n.a | n.a |
| Mozambique | 330 | 89 |
| Namibie | 36 | 1,591 |
| Seychelles | n.a | n.a |
| Afrique du Sud | 4,089 | 413 |
| Swaziland | 0 | 773 |
| Tanzanie | 0 | 2,192 |
| Zambie | 65.6 | 164 |
| Zimbabwe | 701 | 1,076 |
| **Total indicatif de la SADC** | 5,248 | 9,948 |

6 (Eberhard , Kolker & Leigland,2014)

7 Liste des membres sur le site web de la SAPP.

n.a= ne s'applique pas

*Source: SAPP, 2014*

Compte tenu de la pénurie globale de l'approvisionnement à travers le SAPP, de nombreux projets de centrales électriques et de transmission d'interconnexion à grande échelle sont en cours dans la région. Il s'agit notamment des centrales au charbon d'Eskom, Medupi (4,788MW) et Kusile (4,800MW), de l'usine de gaz Kudu de NamPower (800 MW) et la centrale hydroélectrique Mphanda-Nkuwa du Mozambique (1500MW). Environ 21 467 MW devraient être mis en service entre 2014 et 2017. Ce projet d'augmentation projetée d'énergie devrait conduire au commerce encore augmenté de biens et services liés à l'électricité dans la région de la SADC.

## 1.3 Environnement politique et réglementaire

### 1.3.1 Questions politiques et réglementaires

Il y a eu des progrès raisonnables dans la réforme et la réglementation du secteur de l'électricité entre les Etats Membres de la SADC. Cinq Etats Membres ont mis en place un organisme de réglementation du secteur de l'électricité indépendant, cinq Etats ont un régulateur opérationnel indépendant avec certaines fonctions réglementaires restant auprès d'un département gouvernemental, et les membres restants s'appuient sur la réglementation du gouvernement central.

**Tableau 4: Aperçu du cadre réglementaire de la SADC**

| | Règlementation indépendante | Règlementation hybride | Règlementation gouvernementale |
|---|---|---|---|
| Angola | | ✓ | |
| Botswana | | | ✓ |
| RD du Congo | | | ✓ |
| Lesotho | ✓ | | |
| Madagascar | | | ✓ |
| Malawi | | ✓ | |
| Maurice | | | ✘ |
| Mozambique | | | ✓ |
| Namibie | | ✓ | |
| Seychelles | ✓ | | |
| Afrique du Sud | ✓ | | |
| Swaziland | ✓ | | |
| Tanzanie | | ✓ | |
| Zambie | ✓ | | |
| Zimbabwe | | ✓ | |
| **Totaux** | **5** | **5** | **4** |

✓ **Réglementé par le service public**

✘ **Réglementé par une entité**

*Source: Résumé des recherches au niveau des pays*

De même, il y a eu des changements considérables dans la politique gouvernementale et le cadre législatif dans les pays membres. Le Botswana, le Malawi, la Namibie, les Seychelles, le Swaziland et la Tanzanie ont tous promulgués des lois au niveau du secteur de l'électricité dans la dernière décennie.

Dans certains pays (l'Afrique du Sud, la Tanzanie, Maurice et la Zambie) la politique générale est en faveur d'un marché de l'énergie concurrentiel, avec des preuves d'une certaine concurrence, principalement dans la production et, dans une moindre mesure, dans la distribution. D'autres pays, comme le Botswana et la Namibie, ont démontré l'intention d'ouvrir le secteur à la participation du secteur privé, mais il n'existe actuellement aucune preuve de l'implication du secteur privé. Le transmission d'électricité est généralement un monopole naturel (il est coûteux et inutile d'avoir plus d'un réseau national) et les perspectives de la concurrence sont donc limitées. Le Tableau 5 présente les principaux participants dans chaque pays à travers la chaîne de valeur de l'électricité.

**Tableau 5: Parties prenantes de l'industrie d'approvisionnement d'électricité de la SADC**

| Country | Génération | Transmission | Distribution |
|---|---|---|---|
| Angola | Aggreko, ENE, CHP | ENE | EDEL, ENE |
| Botswana | BPC | BPC | BPC |
| RD du Congo | SNEL,SINELAC | SNEL | SNEL |
| Lesotho | LHDA | LEC, LEU | LEC, LEU |
| Madagascar | JIRIMA | JIRIMA | JIRIMA |
| Malawi | ESCOM | ESCOM | ESCOM |
| Maurice | CEB,IPPs | CEB | CEB |
| Mozambique | EDM, HCB, IPPs | EDM, Moz Transmission Co. | EDM |
| Namibie | NamPower | NamPower | NamPower,REDs |
| Seychelles | PUC | PUC | PUC |
| Afrique du Sud | Eskom,IPPs | Eskom | Eskom, Municipalities |
| Swaziland | SEC | SEC | SEC |
| Tanzanie | Aggreko Plc, Symbion Power LLC,Songas,IPTL,Altsom,TENESCO | TENESCO | TENESCO |
| Zambie | ZESCO, NECL,LHPC | ZESCO,CEC | ZESCO,NWEC,ZPL |
| Zimbabwe | ZPC | ZETDC | ZETDC |

*Source: Résumé des recherches au niveau des pays*

### 1.3.2 Limitations de l'accès au marché

Ce rapport tente d'identifier les domaines où les barrières à l'accès au marché restent, dans les lois et/ou dans la pratique. Ce faisant, nous avons rencontré deux principaux défis. Tout d'abord, étant un examen documentaire, nous dépendions presque entièrement des informations mises à disposition par chaque pays sur des sites Web publics. Dans de nombreux cas, ces informations sont incomplètes ou périmées. Deuxièmement, alors que les négociations du commerce des services de la SADC sont structurées selon des catégories et sous-catégories du secteur claires, la législation nationale suit rarement ce même schéma. Alors que nous avons essayé de recueillir des informations dans tous les sous-secteurs concernés, dans la plupart des cas, les résultats montrent un accent disproportionné sur le sous-secteur de la production d'électricité.

Le rapport ci-joint fournit les résultats détaillés par pays. Étant donné les limitations mentionnées ci-dessus, ces résultats doivent encore être revus et validés par les régulateurs nationaux. Mais sur la base de cet examen préliminaire, un certain nombre de thèmes communs émergent.

• Dans la plupart des cas, le secteur de l'électricité de la SADC est relativement ouvert au commerce et à la concurrence. Les lois et règlements existants sont principalement prudentiels, et il y a peu de cas d'obstacles de type AGCS à l'accès au marché.

• Le nombre de fournisseurs de services n'est pas limité, sauf en Angola, au Mozambique et au Malawi. En Angola, le cadre réglementaire fait une distinction entre la participation du secteur public et privé; et exige que les participants du secteur privé acquièrent des concessions afin d'accéder au réseau de transport national. Le Mozambique limite l'accès au réseau national de la compagnie nationale. Au Malawi, une seule licence de transmission peut être délivrée. En outre, certains pays (l'Angola, le Lesotho et le Swaziland) limitent le nombre d'opérations de services par capacité ou zone de service.

• Toutes les juridictions de la SADC exigent la constitution de sociétés étrangères. En outre, des restrictions sur le type d'entité juridique ou de coentreprise sont appliquées en Angola, en Afrique du Sud, au Zimbabwe et au Lesotho. En Angola, une société privée doit former une joint-venture avec l'Etat en vue de produire de l'électricité. Pour les nouveaux projets de production, l'Afrique du Sud exige effectivement qu'au moins 40% de la société soit détenue par une entité sud-africaine. Au Zimbabwe, au moins 51% de participation dans toutes les entreprises doit appartenir aux Zimbabwéens indigènes (même si l'application de cette loi d'indigénisation au secteur de l'électricité n'est pas bien définie). Le Lesotho a une désignation distincte pour les entreprises étrangères: « société externe »; mais il n'est pas clair si cela vient avec des limitations spécifiques dans le secteur de l'électricité.

• La plupart des pays de la SADC exigent que les ingénieurs professionnels s'inscrivent à un organisme local de réglementation de la profession d'ingénieur. Les pays qui spécifient les limites d'accès au marché pour les ingénieurs professionnels sont le Botswana, la Zambie, l'île Maurice et l'Afrique du Sud. Le Botswana et la Zambie demandent que les individus étrangers résident dans le pays alors que les entreprises étrangères doivent établir des opérations locales. Maurice stipule que les ingénieurs doivent s'inscrire auprès de l'Institut des ingénieurs civils à Londres et l'Afrique du Sud est discriminatoire envers les ingénieurs étrangers, sauf s'ils sont membres d'associations avec lesquelles le pays a conclu un accord de reconnaissance mutuelle (par exemple le Royaume-Uni et l'Irlande).

• Enfin, les limitations concernant la participation de capital étranger varient selon les Etats Membres. Certains pays exigent l'approbation réglementaire, en particulier pour l'acquisition d'une entité publique: le Mozambique, l'Afrique du Sud, le Zimbabwe et Maurice. La Namibie limite l'acquisition étrangère d'une entité publique nationale à travers la chaîne de valeur. D'autres pays permettent l'acquisition d'une entité privée, mais sont ambigus sur l'acquisition de l'entité publique: la RDC, le Lesotho, Madagascar, le Malawi, les Seychelles, le Swaziland et la Zambie.

### 1.3.3 Limitations du traitement national

La plupart des limitations de la SADC concernant le traitement national se rapportent à la résidence et, dans certains cas, les exigences de citoyenneté qui sont imposées sur des positions clés dans l'industrie de l'approvisionnement en électricité.

- Les pays qui appliquent des restrictions sur la capacité des entreprises à embaucher du personnel étranger par des exigences de résidence et de citoyenneté comprennent l'Angola, le Malawi, le Mozambique et l'Afrique du Sud.

  o L'Angola limite le personnel étranger à 30% de la force de travail;

  o Le Malawi exige que les ressortissants de pays détiennent la majorité de la direction d'une société, tandis que la Zambie stipule qu'un administrateur doit être résident;

  o Le Mozambique place un quota de 5 à 10% sur le travail expatrié; et

  o L'Afrique du Sud a mis des seuils minimaux pour l'emploi des Sud-Africains noirs dans de nouveaux projets de production d'électricité.

- L'Afrique du Sud précise en outre des limitations concernant le traitement national en exigeant que les producteurs d'électricité procurent entre 40 et 60% de leurs besoins en matière de construction auprès de fournisseurs locaux. Cette exigence se distingue par le type de technologie de production d'électricité.

- Le rapatriement des revenus étrangers par des sociétés étrangères est limité par la réglementation des changes dans quelques pays:

  o L'Angola a fixé une limite de temps sur le rapatriement des bénéfices en fonction de la taille de l'investissement;

  o Le Mozambique a des limites sur le rapatriement des dividendes;

  o En Namibie, les investisseurs non-inscrits sont soumis au contrôle des changes en vertu des règlements applicables à la zone monétaire commune de l'Afrique du Sud; et

• La plupart des pays membres de la SADC ont des organismes de réglementation pour les professionnels de l'ingénierie qui nécessitent l'enregistrement des ingénieurs étrangers. Des recherches complémentaires sont nécessaires pour évaluer si le processus d'enregistrement est discriminatoire.

## 1.4 Questions plus larges pour la discussion et la négociation à l'avenir

Sur la base de cet examen, un certain nombre de problèmes communs ont émergé pour poursuivre la discussion, dont certains pourraient ensuite être incorporés dans l'ordre du jour officiel de la négociation.

### 1.4.1 Opportunités de et défis à la libéralisation régionale des services d'électricité de la SADC

La SADC dispose de vastes ressources énergétiques naturelles qui restent inexploitées. La région connaît un déficit majeur dans la production d'électricité qui limite la croissance économique. Les nouveaux arrivants peuvent fournir une partie de la solution dans le renforcement de la sécurité d'approvisionnement. En outre, les investissements du secteur privé régional ou étranger dans le secteur de l'électricité pourraient contribuer au transfert de savoir-faire technique et industriel à des fournisseurs locaux; et les marchés de production décentralisée/hors réseau d'électricité qui font usage de technologies d'énergie renouvelables pourraient fournir des solutions pour l'électrification rurale.

La capacité des pays de la SADC d'accéder à de nouveaux capitaux, à la technologie et aux compétences dans ce secteur est toutefois limitée par la structure du marché de l'élec-

tricité; la plupart des marchés de la SADC sont intégrés verticalement. La restructuration est clairement nécessaire pour ouvrir ces marchés aux nouveaux entrants, mais ce processus doit être géré avec soin afin d'éviter des perturbations majeures. La concurrence mal régulée pourrait menacer les fournisseurs existants et l'abordabilité de l'électricité dans la région.

Pour soutenir ce nouvel investissement, en particulier dans les nouvelles technologies, et assurer que les réformes en cours ont des résultats positifs, les pays de la SADC sont susceptibles de nécessiter l'accès à un large éventail de compétences et de services. Beaucoup de ces compétences et services spécialisés sont susceptibles d'être rares dans la région, mais la situation actuelle laisse penser qu'il est difficile pour les ingénieurs étrangers de s'inscrire et pratiquer dans la région. Permettre aux entreprises et aux individus de se déplacer de manière transparente entre les Etats Membres de la SADC serait susceptible de réduire le coût de développement et le maintien de cette infrastructure essentielle.

### 1.4.2 Questions clé pour les négociations du commerce

Les marchés de l'électricité de la SADC sont raisonnablement bien intégrés par le commerce de l'électricité en soi. L'offre est actuellement limitée et l'augmentation des investissements souhaitable. Les Etats Membres ont l'intention de commanditer des projets d'infrastructure d'électricité à grande échelle à travers la chaîne de valeur et de développer des sources d'énergie alternatives. Pour s'assurer que les négociations régionales contribuent positivement à ces développements, il y a un certain nombre de questions clés auxquelles les négociateurs devraient répondre. Celles-ci comprennent:

• Dans quels domaines de la chaîne de valeur de l'électricité le commerce et l'investissement régional pourraient contribuer le plus?

• Quelles sont les compétences et les services spécialisés nécessaires pour soutenir ce commerce et cet investissement et quelle est la capacité de la région dans ces domaines?

• Dans quelle mesure les lois et règlements existants empêchent-ils que le commerce et les investissements existent dans le secteur de l'électricité et dans ces services de soutien?

• Dans quelle mesure les exigences d'enregistrement professionnel soutiennent ou entravent-ils le développement d'un cadre adéquat, concurrentiel et mobile d'ingénieurs électriques dans la région; et

• Quelles sont les menaces potentielles de la déréglementation et de la participation accrue du secteur privé dans ce secteur?

# 2 ANGOLA

## 2.1 Angola's electricity sector overview

### 2.1.1 Structure and size of the sector

The total estimate energy consumption of Angola in 2012 comprised of biomass (58%), oil (35%), gas (4%) and hydroelectricity (3%).[8] Electricity production (in 2011) was dominated by hydroelectricity which accounted for 76% of production, with power from thermal sources (oil and gas) covered the remaining 24%.[9] The countries total production capacity in this year was estimated by the US Energy Information Administration (EIA) to be 1,700 mega-watts (MW). Angola generated 5,649 GWh of electricity in 2011.

The electricity supply industry is run by the public sector via the vertically integrated state owned company, Empresa Nacional de Electicidade (ENE). The electricity supply grid is divided geographically into three main systems: the north, centre and south. The EIA reports that these three regions are not adequately interconnected. According to the latest World Bank data 37.8% of Angola's population had access to electricity.[10] The Angolan government has identified renewable energies such as solar and hydroelectricity as potential solutions to the challenge of rural electrification.

**Table 6: Electricity operators in the DRC**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | ENE, Capanda Hydroelectric Power, Central Aggreko, ERA, Central Hidrochicapa | 1,700 MW |
| Transmission | ENE | 2,832 km |
| Distribution | ENE Network, EDEL | 4,243.1 km |

*Source: ENE Website*

### 2.1.2 Private and foreign participation

There is evidence of private sector participation in electricity generation. Of the total electricity generated in 2011, 22% was produced by ENE, with the remaining 78% acquired from Capanda Hydroelectric Power (ENE controlled), and small scale IPPs such as Aggreko, Energias Renováveis de Angola (ERA), and Central Hidrochicapa. Electricity is also imported from neighbouring Namibia through NamPower. Transmission and distribution is dominated by the public sector; ENE controls transmission, while Empresa de Distribuicao de Electricidade (EDEL) - a public interest company - controls 71% of the distribution network.

## 2.2 Institutional and regulatory framework

The Ministry of Energy and Water (MEW) is the government department responsible for the energy and water sector. The Council of Ministries, a cabinet body comprising of 21 ministers and ministers of state, is tasked with overall responsibility for the electricity supply industry. The legislative framework for the electricity supply industry is governed by the General

[8] (Enerdata,2014)
[9] (National Electricity Company -ENE)
[10] (World Bank Data,2011)

Law of Electricity (Law 14-A/1996). More recently, the Law of Delimitation of the Sectors within the Economic Activity Law 5/2002, of April 16, created a dual electricity structure in Angola. This law states that the generation, transmission and production of power for public consumption are reserved for the State. Development by companies or entities which are not part of the public sector occurs only by means of concession agreements or the issue of licenses for the said purposes.

Law 5/2002 effectively divided the electricity supply sector into two segments:[11]

1. The Public Electricity System (PES) is a network of public interest companies that are licenced to use the national transmission and distribution infrastructure. Private companies can participate in this network through concession contracts, essentially forming public-private partnerships. Under the PES, the Angolan state requires either a majority equity participation or a veto right. The concessionaire or licence holder sells power to the network at a single price contracted through a power purchase agreement (PPA) regardless of location.

2. The Non-Tied Electricity System (NTES) encompasses non-tied agents such as self-producers and non-tied customers. Non-tied agents are free to enter bilateral agreements negotiated between parties, on the condition that the agreements are not in violation of the Decree 41/2004, or the Network Access Regulation (Decree 27/2001, of May 18).

Several decrees were issued subsequent to the Law of Electricity, which lend support to these two systems; two of these decrees are highlighted below:

3. Regulation of Electricity Production (Decree 47/2001, of July 20) and the Regulation of Electricity Distribution (Decree 45/2001, of July 13). These decrees respectively outline the rules for power generation and distribution within the PES.

4. The Regulation on Licensing of Production Facilities, Transportation and Distribution of Electricity (Decree 41/2004, of July 2) establishes licencing regulations for the PES electricity supply industry. The document also outlines the rules on generation for self-consumption.

The electricity regulator, the Institute for Electricity Regulation (IRSE), was established through the Regulatory Office of the Power Sector (Decree Law 4/2002, of March 12). The IRSE was established as an independent regulatory body to oversee the regulation, transmission, distribution and electricity sales of the SEP. This body does not have the authority to issue licenses. The relationship between agents operating under the NTES is subject to Angolan contractual law and not IRSE regulations.

The prominent energy policy framework in Angola is the Policy and Strategy for the National Energetic Security, wherein government outlines major plans to reform the energy industry. Commitments made include: reforming public companies, developing a renewable energy industry, reinforcing powers of the IRSE, progressively eliminating electricity subsidies within the PES, and defining an attractive model for private sector investment with a relevant supportive legal framework.

Regulations in trade in electricity services for Angola presented below are based on the Laws and Decrees presented above, as well as information obtained from agency websites

[11] (The Energy Regulation and Markets Review, 2013)

and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 8 at the end of Section 2.

## 2.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The regulations and decrees do not set direct limitations on the number of foreign suppliers. The regulation regime is heavily reliant on licencing, with the Council of Ministries tasked with the responsibility of granting concessions in the PES regime. Concessions are granted for a power capacity over one megawatt or for markets consisting of more than 50,000 inhabitants. The granting of general licences is the responsibility of the relevant licencing entity within MEW, and local authorities such as municipalities. These different layers of bureaucracy have been highlighted as a deterrent for foreign supplier participation. Proposed reforms aim to address this challenge.

#### Value of services transactions

No evidence could be found that the value of services transactions by electricity industry service providers is restricted in any of the subsectors. The Private Investment Act stipulates that foreign companies need to invest a minimum of US$ one million in order to receive tax and economic advantages, whereas national companies are required to invest US$500,000 to receive similar benefits. All other rules apply equally to both national and foreign companies.

#### Number of services operations

The Government of Angola's strategic aim is to promote competition in the power sector. It thus follows, that the information sources analysed do not indicate any limitations on the total number of service operations, or the quantity of electricity output, from industry players. Registered suppliers of electricity services are consequently allowed to work with licenced entities throughout the country and are allowed to establish branches in the country on condition that they are registered with the National Agency of Private Investments.

#### Number of natural persons

Current legislation sets no sector specific limitations on the total number of natural persons that can be employed in the electricity sector or by a service provider.

#### Legal form of commercial presence

Angola's jurisdiction allows for participation of foreign companies and branches of foreign companies in the PES system as long as the participant has met the incorporation requirements set out in the Code of Commercial Companies (Law 1/2004, of February 13). The same requirements apply under the NTES system.

#### Participation of foreign capital

There is no formal requirement with regards to the participation of nationals in the share capital or ownership of either a public limited company or a private limited company.

### *National Treatment*

#### Discriminatory measures in licensing

Under the PES system, there is no discrimination between national and foreign companies in public concession agreements. Foreign companies are however required to have permanent representation in Angola which can be either in the form of a public or private limited company.

### Nationality requirements

The legislation and regulations governing labour relations in Angola encourage the use of local labour. The Angolan General Law limits foreign staff to 30% of a company's total staff complement. Foreign citizens require a work permit and are to be paid an equal amount as their local counterparts.

### *Other restrictions*

### Licensing procedures

The Regulation on Licensing of Production Facilities, Transportation and Distribution of Electricity (Decree 41/2004, of July 2) outlines the licencing procedures for electrical facilities. It requires that licensed facilities need to be completed within a two year period after a construction licence is issued.

### Repatriation of earnings

The repatriation of earnings is not restricted in Angola. Repatriations of dividends are subject to foreign exchange laws and need to be gradual and proportional to the size of the investment. The repatriation of profits is restricted in time. Depending on the region and the amount of the investment, profits may not be repatriated earlier than two or three years after the completion of the project.

### Cross-border trade of electricity

The regulation on cross-border trade of electricity is under the authority of the IRSE. Angola has an interconnection with Namibia.

### Professional engineers

No information found

## 2.4 Statistics

**Table 7: Key statistics for Angola**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 1,700 MW | 2011 | ENE,2014 |
| Available power | 1,509 MW | 2011 | ENE,2014 |
| Exports | 0 | 2014 | SAPP,2014 |
| Imports | 49 GWh | 2014 | SAPP,2014 |
| Peak demand | 1,072 MW | 2014 | SAPP,2014 |
| Number of customers | 251,925 | 2011 | ENE,2014 |
| Transmission and distribution losses | 11.3% | 2011 | World Bank Data,2014 |
| Electrical outages for firms (days/ year) | 35 | 2010 | World Bank Data,2014 |
| Access to electricity (% of population) | 37.8 | 2011 | World Bank Data,2014 |
| Access to electricity (% of rural population) | | | |

*Source: Sources listed above in references of document*

**Table 8: Limitations in trade in electricity services in the Angola**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on number of service suppliers | None | On-grid requires PES participation | On-grid requires PES participation |
| 2) | Limitations on total value of services transactions or assets | None | None | None |
| 3) | Limitations on total number of services operations/ quantity of service output | Concessions apply for assets over 1 MW or local population over 50,000 | None | None |
| 4) | Limitations on number of natural persons | None | None | None |
| 5) | Restrictions on types of legal entity or joint venture | | | |
| | a) Establishment of a branch | None | None | None |
| | b) Establishment of a subsidiary | None | None | None |
| | c) Establishment of a joint venture | None | None | None |
| 6) | Limitations on participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | | | |
| | b) Acquisition of domestic private entity | | | |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | Foreign staff limited to 30% | Foreign staff limited to 30% | Foreign staff limited to 30% |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Any other discriminatory measures: Repatriation of profits | Time limitations | Time limitations | Time limitations |

# 3 BOTSWANA

## 3.1 Botswana's electricity sector overview

### 3.1.1 Structure and size of the sector

Energy consumption in Botswana includes fire wood, electricity, gas, petrol and diesel. Botswana's electricity market is vertically integrated and controlled by the state-owned Botswana Power Corporation (BPC). Coal is the major source for domestic electricity production. The World Bank (2013) estimates installed generation capacity at 267 MW, whilst maximum demand is around 450 MW. BPC reported maximum system demand of 578MW in its 2013 annual report.[12] In the same year, the company's power imports amounted to 76% of total consumption and were sourced mainly from South Africa. According to the World Bank, 45.7% (2011 estimate) of the population has access to electricity according to the World Bank; BPC's own and more recent estimate is a little higher at 55% of the population (2013 estimate).

**Table 9: Electricity operators in the Botswana**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | BPC | 678 MW |
| Transmission | BPC | |
| Distribution | BPC | |

*Source: BPC*

### 3.1.2 Private and foreign participation

There is no foreign or private sector participation in Botswana's domestic electricity market.

## 3.2 Institutional and regulatory framework

Power sector regulation lies with the Energy Affairs Division in the Ministry of Minerals, Energy and Water Resources (MMEWR). The guiding legislation includes the Electricity Supply (Amendment) Act of 2007("the Act"), and the Electricity Supply: Subsidiary Legislation. The Act stipulates that an entity or persons who intend to generate, supply, transmit, distribute, export, or import electricity requires a licence to be issued by the Minister of the MMEWR. The licencing requirement applies to installation exceeding 25 kilowatts (kW). The Subsidiary Legislation outlines the various schedules and technical procedures required during and post the licencing phase. The establishment of the Botswana Energy and Water Agency as an independent regulator is underway.

The most recent energy policy for the electricity sector is the National Energy Policy of 2009. Policy goals for the country include the improvement of the security and reliability of supply, better governance for the energy sector, strengthened energy trade and regional cooperation, and effective private sector participation in all subsectors of the energy sector. Pursuant to this policy, there has been limited reform of the sector. The focus has been on building additional generation capacity due to challenges of security of supply. The country is harnessing its renewable energy potential through BPC Lesedi's RE-Botswana Renewable Energy-based Rural Electrification Project.

[12] (BPC Annual Repoert,2013)

Regulations in trade in electricity services for Botswana presented below are based on the Acts presented above, as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 11 at the end of Section 3 .

## 3.3 Openness to trade and investment

### *Market Access*

#### Number of suppliers

Botswana's legislation does not restrict the number of foreign suppliers of electricity services allowed to operate in the sector. The Act places no limitations on the number of licenses that can be issued for both foreign and domestic operators, provided they fulfil all registration requirements. This holds for all three subsectors; generation, transmission and distribution.

#### Value of services transactions

No evidence could be found that the value of services transactions carried out by electricity industry service providers is restricted in any of the subsectors. This is equally valid for both foreign and domestic suppliers. There is however, a general requirement to licence electricity installation of over 25 kW.

#### Number of services operations

Similarly, information sources do not indicate that the total number of services operations, or the quantity of output, of electricity industry service providers is limited in Botswana.

#### Number of natural persons

The current legislation sets no limitations on the total number of natural persons that can be employed in the electricity sector or by a supplier.

#### Legal form of commercial presence

While the Act stipulates that any entity or person intending to operate in the electricity industry requires a licence, there are no stipulations regarding the type of legal entity. The Companies Act requires that foreign companies who intend to operate in Botswana must obtain a business licence. Businesses can either set up a company by shares, a close company, or a company limited by guarantee.

#### Participation of foreign capital

Foreign investor participation is not limited by Botswana's legislation. In order to access investment incentive schemes for medium and large companies, foreign companies need to partner with a citizen of Botswana.

### *National Treatment*

#### Discriminatory measures in licensing

Companies in the electricity supply industry, both domestic and foreign, face the same requirements in obtaining a license. No evidence could be found of discriminatory measures against foreign companies in the issuance of either a regular business licences or an electricity related licenses.

#### Nationality requirements

The legislation and regulations governing the electricity supply industry have no explicit nationality requirements.

### *Other restrictions*

#### Licensing procedures

License criteria for electricity industry participants are outlined in the Electricity Supply: Subsidiary Legislation. All applications for a license must be directed to the Minister in writing. There is no evidence of discrimination in the licencing procedures.

#### Repatriation of earnings

The current legislation has no restrictions with regard to the repatriation of earnings by foreign operators.

#### Cross-border trade of electricity

The regulation of the cross-border trade of electricity is under the authority of MMEWR. The Electricity Act requires willing participants to go through an application process that is supported by an underlying agreement.

#### Professional engineers

The Engineers Registration Act of 1998 requires non-residents of Botswana, operating as engineers for a short-term period not exceeding a year, to register with the Engineers Registration Board. On long-term projects foreign engineers need to be resident in Botswana and are required to renew their registration annually.

## 3.4 Statistics

**Table 10: Key statistics for Botswana**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 678 MW | 2013 | BPC, 2013 |
| Available power | 392 MW | 2013 | Reegle, 2013 |
| Exports | 0 | 2104 | SAPP,2014 |
| Imports | 3,017 GWh | 2014 | SAPP,2014 |
| Peak demand | 573MW | 2013 | BPC,2013 |
| Number of customers | 315,699 | 2013 | BPC,2013 |
| Transmission and distribution losses | 56.2% | 2010 | World Bank Data, 2014 |
| Electrical outages for firms (days/ year) | 14 | 2010 | World Bank Data, 2014 |
| Access to electricity (% of population) | 43.1% | 2010 | World Bank Data, 2014 |
| Access to electricity (% of rural population) | 55.04% | 2013 | BPC, 2013 |

*Source: Sources listed above in references of document*

**Table 11: Limitations in trade in electricity services in Botswana**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on number of service suppliers | None | None | None |
| 2) | Limitations on total value of services transactions or assets | None | None | None |
| 3) | Limitations on total number of services operations/ quantity of service output | None | None | None |
| 4) | Limitations on number of natural persons | None | None | None |
| 5) | Restrictions on types of legal entity or joint venture | | | |
| | a) Establishment of a branch | None | None | None |
| | b) Establishment of a subsidiary | None | None | None |
| | c) Establishment of a joint venture | None | None | None |
| 6) | Limitations on participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | Allowed in principle | Allowed in principle | Allowed in principle |
| | b) Acquisition of domestic private entity | Allowed | Allowed | Allowed |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Any other discriminatory measures | None | None | None |

# 4 DEMOCRATIC REPUBLIC OF CONGO

## 4.1 DRC Electricity Services

### 4.1.1 Structure and size of the sector

Given the low electrification rate (9%) in the DRC, energy is dominated by biomass, with households utilising firewood and charcoal to fulfil their energy needs. The DRC has massive hydroelectric potential (approximately 100 GW), with 99.8% of current electricity generated using hydro-power.[13]

Electricity services are dominated by the state owned Société nationale d'électricité (SNEL), which generates approximately 95% of all electricity. SNEL owns and operates both the Inga stations, including all of the related thermal power stations. Despite an installed capacity of 2,443 MW, only 1,502 MW are available due to the damage inflicted on the electricity infrastructure during the war.[14] SNEL is also responsible for the transmission, distribution, import and export of electricity in the DRC, and is an operating member of the Southern African Power Pool (SAPP).

Electricity is also generated by the Société International d'Electricite des Pays des Grands LACS (SINELAC), an intercommunity organisation comprising the DRC, Rwanda and Burundi. SINELAC generates electricity at the Ruzizi II hydropower station. The DRC exports power to Congo Brazzaville, Zambia and South Africa.

**Table 12: Electricity operators in the DRC**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | SNEL (available), SINELAC | 2,443 MW (1,502 MW) |
| Transmission | SNEL | 5,510 km |
| Distribution | SNEL | 16,617 km |

*Source: SNEL, 2014*

### 4.1.2 Private and foreign participation

Current electricity generating infrastructure projects include Public Private Partnerships (PPP) with the private sector:

- A PPP with Tenke Fungurume Mining (TFM) to rehabilitate the Nseke hydro power plant
- A PPP with Entreprise General Malta Forrest (EGMF) for the rehabilitation of 3 hydro power plants at Zongo, Koni and Mwadingusha.
- A PPP with Kamoto Copper Company SARL (KCC), with the involvement of the World Bank, rehabilitating hydro plants at Inga 2.

[13] (SNEL, 2014 and World Bank, 2014)
[14] (SNEL, 2014)

Moreover, several partnerships with donors exist for the upgrade of infrastructure used in the transmission and distribution of electricity, including those with the World Bank, EIB and ADB.[15]

## 4.2 Institutional and regulatory framework

The Department of Electricity and Water Affairs (DEWA) in the Ministry of Energy is the custodian of energy policy and legislation in the DRC. The Ministry sets electricity tariffs, approves the extension of the grid, and monitors all partnerships with donors and the private sector IPPs. SNEL is largely self-regulated and sets its own operational standards. In 2009, the Electricity Code policy project was introduced with the aim of bringing change to the sector through the establishment of the Electricity Regulation Authority (ARE). The functions of ARE would be to facilitate competition, while protecting consumer interests.[16] A review of the literature provides no evidence that this body had been established or is functional.

In 2014, the DRC continued its attempts at sector reform, with a draft of the new Electrification Code passed to introduce private sector service providers into the generation, transmission, distribution, import and export of electricity. This law also provides the legislative basis for the establishment of a regulatory authority.[17] This Act is yet to be promulgated.[18]

Regulations in trade in electricity services for the DRC presented below are based on the Laws and Decrees presented above as well as information obtained from agency websites and other sources. Key findings regarding market access, national treatment and specific trade restrictions are summarised in Table 14 at the end of Section 4.

## 4.3 Openness to trade and investment

No existing laws or regulations relating to the regulation of market access in the electricity sector could be found, including the new draft Bill.

### *Market access*

#### Number of suppliers

No information available.

#### Value of services transactions

No information available.

#### Number and capacity of services operations

No information available.

#### Number of natural persons

No information available.

#### Legal form of commercial presence

15 (SNEL, 2013)
16 (Lighting Africa, 2012)
17 (Agbiyibor, Gay & Gabas. 2014:17)
18 (RAERESA, 2014)

Foreign investors can operate in the DRC in one of 2 ways; by establishing a branch or establishing a local subsidiary. If an individual business, it may take one of 2 forms; a "Société Privée à Responsabilité Limité (SPRL), or a "Société par Actions à Responsabilité Limité (SARL), both limited liability companies." Shares are not freely transferable under the SPRL, but freely negotiated under SARL. The SARL is more difficult to establish as its incorporation requires authorisation by the Head of State. It also requires a minimum of 7 shareholders.

Any foreign company conducting short-term operations in the DRC must register at the Ministry of Commerce. However, foreign firms temporarily working in the DRC under a company already established in the DRC may work under that company's registration number, while companies temporarily working for government agencies may apply for exemption.

### Participation of foreign capital

DRC investment laws and regulations do not require a minimum level of local participation.

#### *National treatment*

### Discriminatory measures in licensing

No information available.

### Nationality requirements

It is possible to start a wholly-owned foreign company in the DRC without any shareholding by either the Congolese state or its nationals. In addition, foreign-owned companies are subject to the same taxes and labour laws as domestic firms.

#### *Other restrictions*

### Licensing procedures

No information available.

### Repatriation of earnings

There are no restrictions or exchange controls on the repatriation of profit for a foreign company after paying the required dividends tax.[19]

### Cross-border trade in electricity

At present, the national electricity company, SNEL, is responsible for the import and export of electricity. Approval for the use of interconnections is granted by Parliament.

### Professional engineers

No information found

## 4.4 Statistics

**Table 13: Key statistics for the DRC**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 2443.7 MW | 2013 | SNEL, 2014 |
| Available power | 1502 MW | 2013 | SNEL, 2014 |

[19] (KPMG, 2014)

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Exports | 887 GWh | 2009 | Reegle, 2012 |
| Imports | 105 GWh | 2009 | Reegle, 2012 |
| Peak demand | 1,028 MW | 2008 | KPMG, 2011 |
| Transmission and distribution losses | 11% | 2011 | World Bank, 2014 |
| Electrical outages for firms (days/ year) | 54 days | 2009 | World Bank, 2008 |
| Access to electricity (% of population) | 12% | 2010 | COMESA, 2012 |
| Access to electricity (% of rural population) | 4% | 2012 | Lighting Africa, 2012 |

*Source: Sources listed above in references of document*

**Table 14**: **Limitations in trade in electricity services in the DRC**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on the number of service suppliers | Act is yet to be promulgated | Act is yet to be promulgated | Act is yet to be promulgated |
| 2) | Limitations on the total value of services transactions or assets | Act is yet to be promulgated | Act is yet to be promulgated | Act is yet to be promulgated |
| 3) | Limitations on the total number of branches/quantity of services output | Act is yet to be promulgated | Act is yet to be promulgated | Act is yet to be promulgated |
| 4) | Limitations on the number of natural persons | Act is yet to be promulgated | Act is yet to be promulgated | Act is yet to be promulgated |
| 5) | Restrictions on the type of legal entities | Branch or local subsidiary | Branch or local subsidiary | Branch or local subsidiary |
| 6) | Limitations on the participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | n/a | n/a | n/a |
| | b) Acquisition of a domestic private entity | Allowed | Allowed | Allowed |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | Act is yet to be promulgated | Act is yet to be promulgated | Act is yet to be promulgated |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Other discriminatory measures | None | None | None |

# 5 LESOTHO

## 5.1 Lesotho Electricity Services

### 5.1.1 Structure and size of the sector

Lesotho's energy balance is dominated by biomass (households) and petroleum based products (industry). The country's main electricity generator is the Lesotho Highlands Development Authority (LHDA). Electricity is produced at the 'Muela Hydropower Station (MHP), which has a generating capacity of 72 MW. The generated power is fed into the Lesotho Electricity Company (LEC) Network.

The LEC, established through the Electricity Act in 1969, is responsible for the transmission, distribution and supply of electricity. It is a state owned enterprise that holds a composite transmission, distribution, and supply licence. It services the urban areas of the country.[20] When Lesotho's power production falls short of demand, the LEC imports the balance of Lesotho's electricity needs from Eskom South Africa and EDM Mozambique. In 2011, MHP provided 67% of LEC power, followed by Eskom with 27% and EDM with the remaining 6%.[21] The LEC is an operating member of the SAPP.

In the rural areas, the Department of Energy (DOE) takes over the role of the LEC, through the Lesotho Rural Electrification Unit (REU). Established in 2004, the REU builds and operates transmission and distribution infrastructure for use by the REU and LEC. Electrification in Lesotho is currently at 25% of households, approximately 5% of rural households, and 65% of urban households.[22]

**Table 15: Electricity operators in the Lesotho**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | LHWA | 461 GWh |
| Transmission | LEC (urban), REU (rural) | LEC = 1,050 km |
| Distribution | LEC (urban), REU (rural) | |

*Source: LEWA Annual Report, 2013*

Lesotho has identified hydropower, wind generation and solar power as potential sources of electricity, establishing the Lesotho Electricity Generation Authority (LEGA) to investigate, implement, operate and maintain electricity generation projects in these areas. To date however, aside from the MHP, no power is generated from wind, solar, hydro or waste.

### 5.1.2 Private and foreign participation

No evidence was found of private or foreign participation in the generation, transmission and distribution of electricity.

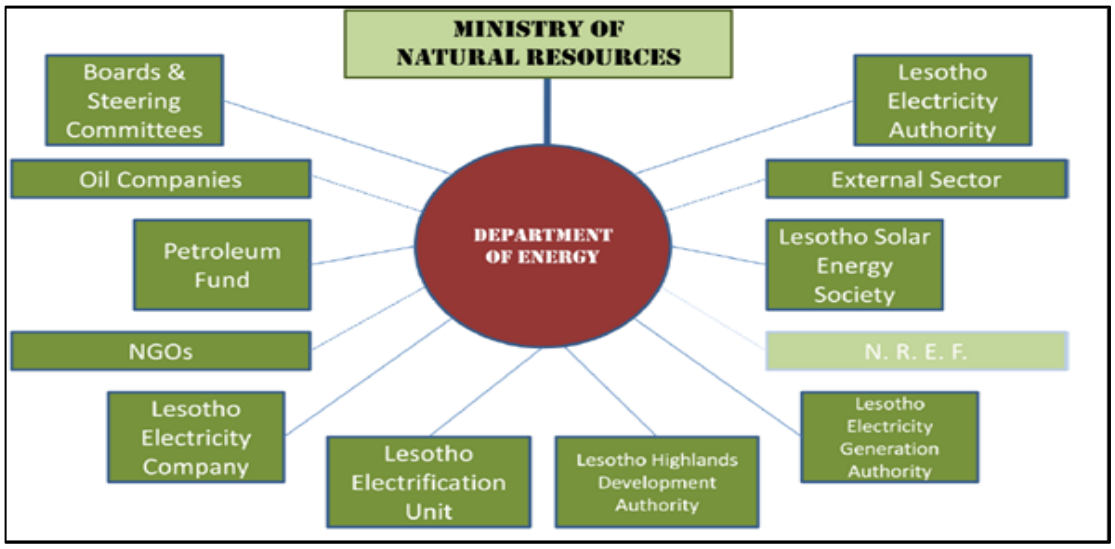
## 5.2 Institutional and regulatory framework

The main custodian of the energy sector is the Lesotho Ministry of Natural Resources (MNR) which administers the energy sector through the Department of Energy (DOE). The

[20] (LEC, 2014)
[21] (LEC, 2011)
[22] (UNECA, 2012: 7)

DOE plays a coordinative function linking the various stakeholders in the energy sector, all of whom are depicted in Figure 4 below.

**Figure 4: The institutional framework of the Lesotho energy sector**




*Source: Lesotho DOE 2011 cited in UNECA 2012*

*Note: The Lesotho Electricity Authority has since been renamed the Lesotho Electricity and Water Authority with an expanded mandate*

Each of the stakeholders in the sector holds a distinct role, with the MNR providing policy direction and guidance and ensuring that that the objectives and goals of the energy sector align with the plans of the Lesotho Government. The DOE, in fulfilling its coordinating role, drafts the policies, plans and programmes to develop Lesotho's energy sector. It is also responsible for the overall regulatory framework for the energy sector.

Regulation in the electricity sector is conducted by the Lesotho Electricity and Water Authority (LEWA) , which was established through the Lesotho Electricity Authority Act of 2002 (LEA Act). Its mandate includes both technical and economic regulation. LEWA is responsible for the setting of tariffs, standards and regulations in all aspects of electricity generation, transmission, distribution, supply, import and export. Section 2 of the LEA Act details the appointment of the board members of LEWA by the Minister of Natural Resources, while section 20 ensures its independence. LEWA receives its funding through a levy paid by consumers, and the licensing of electricity service providers.

Regulations in trade in electricity services for Lesotho presented below are based on the Laws and Decrees presented above as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 17 at the end of Section 5.

## 5.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The generation, transmission, distribution, supply, export, and import of electricity in Lesotho are governed by section 41 of the LEA Act. The Act does not limit the number of licences issued to service providers in these areas, provided they have been granted the relevant

separate or combined licence by the Authority (LEWA). Given that the Act is silent on foreign service providers, it is assumed that their participation is also unlimited.

### Value of services transactions

No evidence could be found in any of the legislation restricting the value of services transactions carried out by service providers in the sector or subsectors. Again, this is assumed to be true for both domestic and foreign service providers.

### Number and capacity of services operations

Research on the Lesotho electricity sector provided no indication that the number of service operations or service providers may be limited. Section 61 of the LEA Act does however stipulate that the conditions of a licence granted by the Authority (LEWA) may limit the area of service of the regulated undertaking, as well as restrict the total market share:

> *"Restricting the share of the total market for such regulated activity in which the licensed operator or its affiliates and related undertaking may be engaged or interested."*

### Number of natural persons

The legislation sets no limitation on the number of natural persons that may be employed, either in the electricity sector or by a service provider.

### Legal form of commercial presence

While section 41 of the LEA Act states that the generation, transmission, distribution, supply, export, and import of electricity in Lesotho requires a licence from the Authority, it does not provide specific requirements on the type of legal entity or joint venture structure which may apply or hold such a licence.

Foreign companies must register as an "external company" with the Lesotho Registrar of Companies under the Companies Act of 2011.

### Participation of foreign capital

The legislation makes no distinction between domestic and foreign companies in any of the licensed subsectors. Recent changes in the legislation, and the accompanying regulatory reforms, were undertaken with the aim of reducing the monopoly position of the LEC in the electricity sector, and encouraging both foreign and private sector participation.

## *National treatment*

### Discriminatory measures in licensing

Both the legislation and supporting documents indicate no discrimination between the requirements to obtaining a licence for domestic and foreign service providers.

### Nationality requirements

The legislation governing the electricity sector indicates no explicit nationality requirements.

## *Other restrictions*

### Licensing procedures

Part 4 of the LEA Act prescribes the criteria for industry participants, while the LEA Rules of 2012 (Application for licenses) details the application for and issuing of licences. Licences

are issued for the generation, transmission, distribution, supply, import and export of electricity.

### Repatriation of earnings

The legislation does not restrict the repatriation of earnings by foreign service providers.

### Cross-border trade in electricity

The export and import of electricity is regulated by the Authority under section 106 of the LEA Act, with all service providers required to apply for a licence.

### Professional engineers

Lesotho Association of Engineers is the body with which all engineers practising in Lesotho must register. No further details are available regarding restrictions on foreign professional engineers.

## 5.4 Statistics

**Table 16: Key statistics for Lesotho**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 72 MW | 2010 | UNECA, 2012: 8 |
| Available power | 72 MW | 2010 | UNECA, 2012: 8 |
| Exports | 14 GWh | 2012 | LEA, 2013: 27 |
| Imports | 221 GWh | 2011 | LEC, 2011 |
| Peak demand | 147.6 MW | 2013 | LEA, 2013: 26 |
| Number of customers | 144,732 | 2013 | LEA, 2013: 26 |
| Transmission and distribution losses | 13% | 2011 | LEC, 2011: 43 |
| Electrical outages for firms (days/ year) | 15 days | 2008 | World Bank, 2008 |
| Access to electricity (% of population) | 25% | 2012 | UNECA, 2012: 7 |
| Access to electricity (% of urban population) | 65% | 2012 | UNECA, 2012: 7 |
| Access to electricity (% of rural population) | 5% | 2012 | UNECA, 2012: 7 |

*Source: Sources listed above in references of document*

**Table 17: Limitations in trade in electricity services in Lesotho**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on the number of service suppliers | None | None | None |
| 2) | Limitations on the total value of services transactions or assets | None | None | None |
| 3) | Limitations on the total number of branches/quantity of services output | LEWA can limit the area of service and restrict the total market share | LEWA can limit the area of service and restrict the total market share | LEWA can limit the area of service and restrict the total market share |
| 4) | Limitations on the number of natural persons | None | None | None |
| 5) | Restrictions on the type of legal entities | Register as an external company | Register as an external company | Register as an external company |
| 6) | Limitations on the participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | n/a | n/a | n/a |
| | b) Acquisition of a domestic private entity | Allowed | Allowed | Allowed |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Other discriminatory measures | None | None | None |

# 6 MADAGASCAR

## 6.1 Malagasy Electricity Services

### 6.1.1 Structure and size of the sector

The Energy sector of Madagascar is made up of biomass (80%), petrol (17%), electricity (2%), and coal (1%). The majority of electricity is generated using hydro (56% in 2010), with the remaining power generated from thermal sources.

The state-owned company, JIRAMA (Jiro sy Rano Malagasy), which provides electricity and water services, holds a monopoly in on-grid generation, transmission and distribution of electricity under a 10-year concession. Electricity is generated through 6 hydro plants, with a combined installed capacity of 308 MW.

JIRAMA also owns and operates three local grids. These grids only service the major towns; Antananarivo Grid, Toamasina Grid and Fianarantsoa Grid. Access to electricity is 11% overall and 4% in rural areas.[23] Following market liberalisation, the private sector is now allowed to participate in the transmission and distribution of electricity in both urban and rural areas. Despite this development, the private sector only transports and distributes electricity in the rural market.

**Table 18: Electricity operators in the Madagascar**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | Jirama, HYDELEC, HFF, EDM, ENELEC | |
| Transmission | Jirama | 670 km |
| Distribution | Jirama | |

*Source: Keirin, 2009*

### 6.1.2 Private and foreign participation

Private sector participation in the sector is off-grid and confined to rural electrification. Approximately 50 small off-grid electrification projects are controlled by the private sector. These operators belong to the Association des Opérateurs Professionnels en Electrification de Madagascar (AOPEM).

The National Electricity Fund, which has been established to finance rural electrification, is funded from a consumer tax levied on electricity consumption exceeding 20MW per month. These funds are provided to the Agency for Rural electrification (ADER) to co-finance rural projects. Where private producers can raise 30 percent of the required spend for the building and operation of a plant for 10-20 years, ADER will contribute the remaining 70 percent

[23] (Rural Electrification Agency cited in UNIDO, 2013: 1)

## 6.2 Institutional and regulatory framework

The Ministère de l'Energie (Ministry of Energy and Mines) (MEM) is the custodian of the energy policy. It authorises and provides licences to operators in the generation, transmission, and distribution of electricity, and for small-scale thermal production.

Law No.98-032: The Electricity Code (Portant Réforme du Secteur de l'Électricité: Structural Reform of the Electricity Sector) of 1998 governs the power sector. Adopted in 2009, it introduced numerous reforms, setting ceilings for pricing in transport and distribution, and allowing private sector access to the electricity sector. Several other decrees and ordinance have followed:

- Ordonnance no 90-007 (1997) amended and supplemented provisions of Ordonnance 74-002 (04th February 1974) on the political control of power generation;
- Decree no 2001-109 (16th April 2001) detailed the forms of concession for power transmission; and
- Decree no 2001-110 (16th April 2001) detailed the approval of the concession electric power reticulation.

In addition, Decree No.2001-173 provided for the establishment of the Office pour la Regulation de l'Electrification (ORE), a regulatory body, while Decree 2003-194 details its functions:

- To control the prices of electricity;
- To supervise the standards of quality; and
- To manage and facilitate competition (Keirin, 2009: 3-3).

Rural electrification is the responsibility of the Agence pour le Développement de l'Electrification Rurale (Agency for Rural Electrification) (ADER), established in 2004. While the ORE controls tariffs on the grid, the ADER is responsible for charges off-grid. ADER is also responsible for the implementation of rural electrification policies.

Regulations in trade in electricity services for Madagascar presented below are based on the Laws and Decrees presented above as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 23 at the end of Section 6.

## 6.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The generation, transmission, distribution, export, and import of electricity in Madagascar is governed by Law 98-032. It does not limit the number of foreign participants in the sector.

#### Number and capacity of services operations

Research on the Malagasy electricity sector provided no indication that the number of service operations or service providers may be limited. Article 6 of the Act 98-032 details that

licences can be granted for each of the three activities, with a single operator allowed to hold concessions for all 3 activities.[24]

#### Number of natural persons

The legislation sets no limitation on the number of natural persons that may be employed, either in the electricity sector or by a service provider.

#### Legal form of commercial presence

While the Law states that the generation, transmission, distribution, supply, export, and import of electricity in Madagascar requires a licence from the MEM, it does not provide specific requirements on the type of legal entity or joint venture structure which may apply or hold such a licence.

#### Participation of foreign capital

The legislation makes no distinction between domestic and foreign companies in any of the licensed subsectors.

### *National treatment*

#### Discriminatory measures in licensing

The legislation indicates no discrimination between the requirements to obtaining a licence for domestic and foreign service providers.

#### Nationality requirements

The legislation governing the electricity sector indicates no explicit nationality requirements.

### *Other restrictions*

#### Licensing procedures

No known restrictions.

#### Repatriation of earnings

The legislation does not restrict the repatriation of earnings by foreign service providers.

#### Cross-border trade in electricity

Given that Madagascar is an island, it practices no cross-border trade in electricity services.

#### Professional engineers

None found.

## 6.4 Statistics

**Table 19: Key statistics for Madagascar**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 428 MW | 2010 | COMESA, 2012 |
| Available power | 170 MW | 2007 | Keirin, 2009 |

[24] (Comesa, 2012)

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Exports | None | | |
| Imports | None | | |
| Peak demand | Antananarivo Grid = | 2007 | Keirin, 2009 |
| Number of customers | 340,000 | 2013 | Jirama, 2014 |
| Transmission and distribution losses | 4.5-5% | 2007 | Keirin, 2009 |
| Electrical outages for firms (days/ year) | | | |
| Access to electricity (% of population) | 12.3% | 2010 | COMESA, 2012 |
| Access to electricity (% of urban population) | 39.1% | 2010 | COMESA, 2012 |
| Access to electricity (% of rural population) | 4.8% | 2010 | COMESA, 2012 |

*Source: Sources listed above in references of document*

**Table 20: Limitations in trade in electricity services in Madagascar**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on the number of service suppliers | None | None | None |
| 2) | Limitations on the total value of services transactions or assets | None | None | None |
| 3) | Limitations on the total number of branches/quantity of services output | LEWA can limit the area of service and restrict the total market share | LEWA can limit the area of service and restrict the total market share | LEWA can limit the area of service and restrict the total market share |
| 4) | Limitations on the number of natural persons | None | None | None |
| 5) | Restrictions on the type of legal entities | Register as an external company | Register as an external company | Register as an external company |
| 6) | Limitations on the participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | n/a | n/a | n/a |
| | b) Acquisition of a domestic private entity | Allowed | Allowed | Allowed |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Other discriminatory measures | None | None | None |

# 7 MALAWI

## 7.1 Malawi Electricity Services

### 7.1.1 Structure and size of the sector

Energy supply in Malawi is dominated by biomass which accounts for approximately 88.4 percent of the energy used in the country. Petroleum (6.4%), electricity (2.8%), and coal (2.4%) account for the remainder of consumption.[25]

Electricity generation, transmission and distribution are carried out exclusively by the Electricity Supply Corporation of Malawi (ESCOM), which was established under the Malawi Companies Act of 1984. It owns all of the major power plants, as well as the national grid. Distribution of electricity is the responsibility of the Distribution and Customer Services Directorate Unit within ESCOM, providing the interface between ESCOM and consumers. ESCOM is a non-operating member of the SAPP.

Ninety four percent of Malawi's electricity is generated by hydropower with thermal power accounting for the remaining six percent. The current installed capacity of the ESCOM power stations is 288 MW, well below the 2013 demand of 347 MW, resulting in frequent blackouts.[26]

With only 9.8% of the population connected to the grid, and one percent of rural households having electricity, increased rural electrification is a key objective of the government. The Malawi Rural Electrification Programme (MAREP) Department is housed within ESCOM. It is tasked with the implementation of the Malawi Rural Electrification Programme which is funded by the Government of Malawi and the World Bank

**Table 21: Electricity operators in the Malawi**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | ESCOM | 288 MW |
| Transmission | ESCOM | 2,395 km |
| Distribution | ESCOM | |

*Source: ESCOM, 2014*

Renewable energy resources are underutilised in Malawi. Studies have shown that the wind resources at the large lakeshore area can be used to generate approximately 150 MW. In addition to the existing hydropower capacity, untapped potential is speculated to be 2000 MW. This provides an opportunity for private sector involvement

### 7.1.2 Private and foreign participation

Both the Energy Policy and the legislation provide for, and encourage, the participation of the private sector through IPPs, PPPs or BOOTs. Despite these provisions, no evidence could be found of existing private sector involvement in the generation of electricity.

[25] (Gamula, Hui & Peng, 2013)
[26] (JICA, 2013)

## 7.2 Institutional and regulatory framework

The Department of Energy Affairs (DoEA) of the Ministry of Natural Resources, Energy and Environment (MNREE) is the custodian of all energy related policies. The primary policy document is the Energy Policy of 2003, while the Electricity Act of 2004 regulates the generation, transmission, distribution, export and import of electricity.

Regulation of the energy sector is conducted by both the DoEA and the Malawi Energy Regulatory Authority (MERA), which was established under the Energy Regulatory Act of 2004 (Act No. 20 of 2004). It is an independent body, reporting directly to the MNREE. Its core focus is the oversight of electricity generation, transmission, distribution and sales within the national grid. Section 9 of the Energy Regulatory Act sets out the duties of MERA to include:

- Grant, revoke or amend licences under the Act and Energy Laws;
- Approve tariffs and prices of energy sales and services;
- Prescribe and collect fees, charges, levies or rates under this Act and Energy Laws;
- Arbitrate commercial disputes under the Act and Energy Laws; and
- Promote the exploitation of renewable energy resources.

In addition, section 4 of the Act limits the type of licences a single licensee can hold to one (this section is however, not in force).

Regulations in trade in electricity services for Malawi presented below are based on the Laws and Decrees presented above as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 23 at the end of Section 7.

## 7.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The generation, transmission, distribution, export, and import of electricity in Malawi is governed by sections 3 to 15 of the Electricity Act of 2004. The Act does not limit the number of licences issued to service providers in the areas of generation and distribution, provided they have been granted the relevant separate or combined licence by the Authority (MERA). In the subsector of transmission, section 19 of the Act limits the number of transmission licences to one, with that company solely responsible for the building, operating and maintenance of all transmission related infrastructure. The transmission licensee is also the sole service provider to hold both an import and export licence of electricity. However, distribution licensees may hold export licenses, provided the export of excess electricity is done via their own distribution network. The Act does however state that section 19 is not in effect.

Given that the Act is silent on foreign service providers, it is assumed that their participation is unlimited.

#### Value of service transactions

No evidence could be found in the legislation restricting the value of services transactions carried out by service providers in the sector or subsectors. Again, this is assumed to be true for both domestic and foreign service providers.

### Number and capacity of services operations

Research on the Malawi electricity sector provided no indication that the number of service operations or service providers may be limited. Section 4 of the Electricity Act does however limit the number of licences that a licensee may hold to one. Only two exceptions are allowed:

- a transmission licensee may apply for an import or export license, and
- a distribution licensee may apply for an export licence, provided that the export will be done through the distribution line owned by that licensee.

The Act does however state that the clause limiting the number of licences is not in effect.

### Number of natural persons

The legislation sets no limitation on the number of natural persons that may be employed, either in the electricity sector or by a service provider.

### Legal form of commercial presence

While the Electricity Act states that the generation, transmission, distribution, export, and import of electricity in Malawi requires a licence from the Authority, it does not provide specific requirements on the type of legal entity or joint venture structure which may apply or hold such a licence.

Section 309 of the Companies Act of 1984 details the requirements for foreign companies operating in Malawi. Every company must be registered with the Registrar of Companies, be it a branch or local subsidiary.

### Participation of foreign capital

The legislation makes no distinction between domestic and foreign companies in any of the licensed subsectors. Recent changes in the legislation, and the accompanying regulatory reforms, were undertaken with the aim of reducing the monopoly position of ESCOM in the electricity sector, and encouraging both foreign and private sector participation.

## *National treatment*

### Discriminatory measures in licensing

The legislation indicates no discrimination between the requirements to obtaining a licence for domestic and foreign service providers.

### Nationality requirements

The legislation governing the electricity sector indicates no explicit nationality requirements. However, section 314 of the Companies Act requires that every external company appoint between three and nine local directors with the power to conduct business affairs. One of these local directors must be appointed as the chairman and the majority of these local directors must be residents in Malawi.

## *Other restrictions*

### Licensing procedures

Section 5 of the Electricity Act prescribes the criteria for industry participants, while the MERA Guidelines for the Processing of Applications for Energy Licences details the process for the application and issuing of licences. All providers involved in the generation, transmission, distribution, import and export of electricity require a licence to operate.

### Repatriation of earnings

The legislation does not restrict the repatriation of earnings by foreign service providers.

### Cross-border trade in electricity

The export and import of electricity is regulated by the Authority, with all service providers required to apply for a licence.

### Professional engineers

The Malawi Institution of Engineers is the body with which all engineers practising in Malawi must register. No further details are available regarding specific restrictions on foreign professional engineers.

## 7.4 Statistics

**Table 22: Key statistics for Malawi**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 304 MW | 2012 | JICA, 2013 |
| Available power | 288 MW | 2012 | Gamula, Hui & Peng, 2013 |
| Exports | | | |
| Imports | | | |
| Peak demand | 344MW | 2012 | JICA, 2013 |
| Number of customers | 230,000 | 2014 | MCA - Malawi, 2014 |
| Transmission and distribution losses | 18-22% | 2013 | Gamula, Hui & Peng, 2013 |
| Electrical outages for firms (days/ year) | 63 days | 2008 | World Bank, 2008 |
| Access to electricity (% of population) | 9.8% | 2012 | JICA, 2013 |
| Access to electricity (% of urban population) | | | |
| Access to electricity (% of rural population) | 1% | 2012 | JICA, 2013 |

*Source: Sources listed above in references of document*

**Table 23: Limitations in trade in electricity services in Malawi**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on the number of service suppliers | None | Only 1 transmission licence<br>Only transmission licensee can hold import and export licences | Distribution licensee can hold export license only |
| 2) | Limitations on the total value of services transactions or assets | None | None | None |
| 3) | Limitations on the total number of branches/quantity of services output | | | |
| 4) | Limitations on the number of natural persons | None | None | None |
| 5) | Restrictions on the type of legal entities | Can be branch or subsidiary | Can be branch or subsidiary | Can be branch or subsidiary |
| 6) | Limitations on the participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | n/a | n/a | n/a |
| | b) Acquisition of a domestic private entity | Allowed | Allowed | Allowed |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | 3-9 local directors with majority residents of Malawi | 3-9 local directors with majority residents of Malawi | 3-9 local directors with majority residents of Malawi |
| 10) | Other discriminatory measures | None | None | None |

# 8 MAURITIUS

## 8.1 Mauritian Electricity Services

### 8.1.1 Structure and size of the sector

The main sources of energy are coal (41%), diesel and fuel (38%), and bagasse[27] (17%). Electricity is generated by both the state-owned Central Electricity Board (CEB), and the private sector.

The CEB was established in 1952 to *"prepare and carry out development schemes with the general object of promoting, coordinating and improving the generation, transmission, distribution and sale of electricity."* It generates electricity through 4 thermal power stations and 8 hydroelectric plants. CEB's share in the production of electricity in the country has been on the decline, generating only 40% of the country's electricity in 2013, down from 86% in the 1990s. The remaining 60% of electricity is produced by IPPs who sell their generated or surplus electricity to CEB through various agreements.[28]

CEB remains the sole service provider in the transmission, distribution and supply of electricity. Access to electricity in 2010 was recorded at 99%.[29] The main users of electricity in 2011 were domestic (32%), commercial (36%) and industrial (23%).[30]

**Table 24: Electricity operators in the Mauritius**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | CEB, IPPs | 2,575 GWh |
| Transmission | CEB | 303 km |
| Distribution | CEB | 843 7km |

*Source: Khadaroo & Sultan, 2013: 9-10 & CEB Annual Report, 2011*

Power generation from renewable energy sources is encouraged through the Small Scale Distributed Generation Programme, formulated in 2010. The programme focuses on developing smaller electricity generation service providers for own use. This includes hydro, wind and solar power generation.

### 8.1.2 Private and foreign participation

Sixty percent of electricity is generated by IPPs, and sold to the CEB, which holds a monopoly over the transmission and distribution services. Three Continuous Power Producers (CPPs) operate dual-fired coal/bagasse plants that produce electricity throughout the year. Seven IPPs operate bagasse-fired plants only, producing electricity during the crop season. CEB purchases electricity from these CPPs and IPPs on a competitive basis.[31]

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27 Bagasse is a pulpy residue left after the extraction of juice from sugar cane. It can only be used for the generation of electricity in the crop season

28 (Khadaroo & Sultan, 2013: 9)

29 (OECD, 2014: 163)

30 (CEB Annual Report, 2011)

31 (OECD, 2014)

## 8.2 Institutional and regulatory framework

The Ministry of Energy and Public Utilities (MEPU) is the custodian of energy policy and legislation. The Electricity Act of 1939, its regulations, and the Central Electricity Board Act of 1964, are the governing legislation in the sector. Regulation is done by the CEB which is responsible for licensing and pricing in the sector.

Given the increasing role of the private participants in this sector, the Electricity Act of 2005 and the Utility Regulatory Act of 2004, aim to establish an independent Utility Regulatory Authority (URA). This legislation details the envisaged regulatory duties of the URA, and the criteria and conditions for CEB and private sector participation in the sector. These two pieces of legislation have not been enacted and promulgated.

Regulations in trade in electricity services for Mauritius presented below are based on the Laws and Decrees presented above as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 26 at the end of Section 8.

## 8.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The generation, transmission, distribution, and supply of electricity in Mauritius is governed by the Electricity Act of 1939. The Act does not limit the number of licences issued to service providers in these areas, provided they have been granted the relevant permits by the Authority (CEB). Given that the Act is silent on foreign service providers, it is assumed that their participation is unlimited as well.

#### Value of service transactions

No evidence could be found in any of the legislation restricting the value of services transactions carried out by service providers in the sector or subsectors. Again, this is assumed to be true for both domestic and foreign service providers.

#### Number and capacity of services operations

Research on the Mauritian electricity sector provided no indication that the number of service operations or service providers may be limited.

#### Number of natural persons

The legislation sets no limitation on the number of natural persons that may be employed, either in the electricity sector or by a service provider.

#### Legal form of commercial presence

While the Electricity Act states that the generation, transmission, distribution, and supply of electricity in Mauritius requires a licence from the CEB, it does not provide specific requirements on the type of legal entity or joint venture structure which may apply or hold such a licence. The Companies Act however requires that all foreign companies be registered with the Registrar of Companies.

#### Participation of foreign capital

The legislation makes no distinction between domestic and foreign companies in any of the licensed subsectors.

### *National treatment*

#### Discriminatory measures in licensing

Both the legislation and licensing documents indicate no discrimination between the requirements for obtaining a licence for domestic and foreign service providers.

#### Nationality requirements

The legislation governing the electricity sector indicates no explicit nationality requirements, and a company in Mauritius may be wholly foreign owned. Should a foreign company wish to acquire shares in domestic companies, they may require approval from the Office of the Prime Minister.

### *Other restrictions*

#### Licensing procedures

The Energy Act prescribes the criteria for industry participants. Licences are issued for the generation, transmission, distribution, and supply of electricity.

#### Repatriation of earnings

The legislation does not restrict the repatriation of earnings by foreign service providers.

#### Cross-border trade in electricity

None – Mauritius is an island state.

#### Professional engineers

Any person wishing to work as an Engineer must be registered with the Council of Registered Professional Engineers (CRPE). CRPE is a regulatory body established under the Registered Professional Engineers Council (RPEC) Act of 1966. Membership is valid for one year, renewable annually. Qualifying criteria are:

- Over the age of 21 with good repute and character; and
- (i) Hold the corporate membership of the Institution of Civil Engineers, London, the Institution of Electrical Engineers, London, the Institution of Mechanical Engineers, London, or such other institution or Society established for the purpose of promoting the practice of engineering; or
- (ii) Hold a degree in Engineering granted by one of the Universities of the United Kingdom and Northern Ireland or a degree, diploma or certificate in Engineering from any other University, Technical Knowledge, Institution or Society approved by the Council, while indicating to the council that he has had at least 2 years' experience in the practice of engineering.

## 8.4 Statistics

**Table 25: Key statistics for Mauritius**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 717 MW | 2011 | CEB, 2011 |

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Available power | 621 MW | 2011 | CEB, 2011 |
| Exports | None | | |
| Imports | None | | |
| Peak demand | 441 MW | 2013 | Board of Investment, 2014 |
| Number of customers | 417,215 | 2011 | CEB, 2011 |
| Transmission and distribution losses | 7.9% | 2011 | CEB, 2011 |
| Electrical outages for firms (days/ year) | | | |
| Access to electricity (% of population) | 99% | 2013 | Board of Investment, 2014 |
| Access to electricity (% of urban population) | | | |
| Access to electricity (% of rural population) | | | |

*Source: Sources listed above in references of document*

**Table 26: Limitations in trade in electricity services in Mauritius**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on the number of service suppliers | None | None | None |
| 2) | Limitations on the total value of services transactions or assets | None | None | None |
| 3) | Limitations on the total number of branches/quantity of services output | None | None | None |
| 4) | Limitations on the number of natural persons | None | None | None |
| 5) | Restrictions on the type of legal entities | None – must be registered | None – must be registered | None – must be registered |
| 6) | Limitations on the participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | n/a | n/a | n/a |
| | b) Acquisition of a domestic private entity | Requires approval of Prime Minister | Requires approval of Prime Min-ister | Requires approval of Prime Minister |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Other discriminatory measures | None | None | None |

# 9 MOZAMBIQUE

## 9.1 Mozambique's electricity sector overview

### 9.1.1 Structure and size of the sector

Mozambique's' total energy supply mix is dominated by biomass and hydropower, accounting for over 90% of primary energy supply according to 2009 IEA estimates. The national power utility is Electricidade de Mocambique (EDM). The total electricity generated for 2012 amounted to 4,251 GWh, of which 62% was consumed domestically. During the same year, EDM generated only 7% of the power supplied, purchasing 96% from HCB (see below) and importing the rest. EDM estimates that 23% of the population had access to electricity in 2012; a 7% improvement from 2009. In terms of energy resource potential, hydroelectricity capacity is estimated at 12,000 MW, natural gas capacity at 5,500 MW, and coal capacity at 5,000 MW.

**Table 27: Electricity operators in Mozambique**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | EDM, HCB, IPPs | 4,110 MW |
| Transmission | EDM, Moz Transmission Company | 4,874 km |
| Distribution | EDM | 12,353 km |

*Source: EDM Website,KPMG 2014*

### 9.1.2 Private and foreign participation

Private sector and foreign company participation is evident in electricity power generation and transmission. The hydro-electric power producer Hidroeléctrica de Cahora Bassa (HCB) is a private-public partnership (PPP) between the Mozambique Government (92.5% ownership) and REN/Portugal (7.5%). Moz. Transmission Company (MoTraCo) is a PPP transmission company in which EDM, ESKOM and SEB each own one third. Electricity distribution and commercialization is dominated by EDM. Mozambique's electricity system is a predominately concession-based system and competition remains limited.

## 9.2 Institutional and regulatory framework

The Ministry of Energy is responsible for policy and oversight in the electricity sector. The Electricity Law of 1997 opened the door to private sector participation in the generation, transmission and distribution. It also created the National Electricity Council (Conselho Nacional de Electricidade - "CNELEC") which is tasked with regulating the sector and acts as an advisory Board. CNELEC powers are set out in the Electricity Law and Decree No. 25/2000 of 3 October, as follows:

a. promotion of compliance with legislation in the electricity sector;

b. issuance of opinions on a variety of issues, such as expropriation proposals for electric facilities' projects, new concessions and tariffs;

c. performing studies on different aspects of the electricity sectors; and

d. participation and supervision of public tenders for electricity concessions.

In practice CNELEC has not fully assumed its regulatory duties. These responsibilities reside with the Ministry of Energy through the Electrical Energy National Directorate.

The Electricity Law requires that the National Power Transmission Grid and the corresponding Dispatch Centre be operated and managed by a public entity. EDM was entrusted with both roles through the Regulations on the National Power Transmission Decree.

The Energy Fund (Fundo de Energia, "FUNAE") is an independent public institution established under the directorate of the Council of Ministries. The organization focuses on off-grid electrification by using renewable energy technologies, and supports the country's rural electrification program through the provision of financial aid.

The Energy Policy and Strategy sets ambitious targets for Mozambique. One strategic focus for the country is increasing electricity exports to neighbouring countries. This requires substantial investments in infrastructure. The country is also in the process of updating Energy Sector Legislation in order to boost private sector investment in this sector.

The regulations in trade in electricity services presented below are based on the legal framework presented above as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 29 at the end of Section 9.

## 9.3 Openness to trade and investment

### *Market Access*

#### Number of suppliers

The number of foreign suppliers in electricity generation services allowed to operate in Mozambique is not restricted by the legal framework. Currently there are very few concessionaries in electricity generation though this is expected to change in response to increased private sector involvement. Decree No. 43 and 43/2005 entrusts the role of the National Power Transmission Network Operator to EDM. The company also holds a single concession for the distribution and sale of electricity.

#### Value of services transactions

No evidence could be found that the value of services transactions carried out by electricity industry service providers is restricted in any of the subsectors. Different governmental authorities are tasked with approving various bands of power project sizes. Specifically, the Council of Ministries approves projects over 100 MW, the Ministry of Energy approves projects between one megawatt and 100 MW and the Provincials Governors approve projects of less than one megawatt.

#### Number of services operations

Information sources do not indicate a limitation on the total number of service operations, or the quantity of electricity output. Electricity generation and transmission companies can undertake various operations, subject to concession and licencing. Restrictions would apply to transmission network operation and electricity distribution.

#### Number of natural persons

The current legislation sets no limitations on the total number of natural persons that can be employed in the electricity sector or by a supplier.

#### Legal form of commercial presence

The Electricity Law does not stipulate the legal form of commercial presence for electricity industry participants. There are two main types of companies in Mozambique; the joint stock corporation – "Sociedade Anónima de Responsabilidade Limitada (SA) – and the private limited liability company– "Sociedades por Quotas" (Lda). The former structure is easier to administer and is therefore more widely used.

### Participation of foreign capital

There are no restrictions on foreign capital participation.

#### *National Treatment*

### Discriminatory measures in licensing

Companies in the electricity supply industry, both domestic and foreign, face the same requirements in obtaining a license to establish business operations in Mozambique. Concession licences are issued by means of a public tender. The relevant public authority that has called for the tender will adjudicate with the assistance of CNELEC.

### Nationality requirements

In the electricity sector, the law does not require any amount of equity ownership to be held by Mozambican nationals. Depending on the size of the staff complement, Mozambique imposes general limitations on expatiate labour force, ranging from 5-10%. The hiring of additional foreigners, once the quota has been reached, is subject to prior authorization from the Labour Ministry. The Investment Projects' Regime allows for more flexibility in the conditions for hiring foreign labour.

#### *Other restrictions*

### Licensing procedures

Licencing procedures are done via concessions. Tender guidelines are set out in the terms of reference stipulated by the relevant public authority who issued a call for tenders.

### Repatriation of earnings

Restrictions are applied on the repatriation of dividends when a company has reported a loss, or where a foreign company is not covered by a duly approved investment project.

### Cross-border trade of electricity

The regulation of cross-border trade in electricity is governed by concessions for the transmission and distribution of electricity.

### Professional engineers

Although no evidence could be found of a formal engineering registration body, the licensing of construction contractors and other technicians is regulated by the Ministry of Public Works & Housing (Ministério de Óbras Púbicas e Habitação–MOPH).

## 9.4 Statistics

**Table 28: Key statistics for Mozambique**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 2308 MW | 2014 | SAPP, 2014 |

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Available power | 2279 MW | 2014 | SAPP, 2014 |
| Exports | 330 GWh | 2012 | EDM, 2012 |
| Imports | 84.1 GWh | 2012 | EDM, 2012 |
| Peak demand | 706 MW | 2012 | EDM, 2012 |
| Number of customers | 1,221,522 | 2015 | EDM, 2015 |
| Transmission and distribution losses | 14.6% | 2011 | World Bank Data, 2014 |
| Electrical outages for firms (days/ year) | 5.5 | 2007 | World Band Data, 2014 |
| Access to electricity (% of population) | 14.6% | 2010 | World Bank Data, 2014 |
| Access to electricity (% of rural population) | 23% | 2012 | EDM,2012 |

*Source: Sources listed above in references of document*

**Table 29: Limitations in trade in electricity services in Mozambique**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on number of service suppliers | None | Grid operation limited to EDM | Limited to EDM |
| 2) | Limitations on total value of services transactions or assets | Project size determines licencing authority | None | None |
| 3) | Limitations on total number of services operations/ quantity of service output | None | Grid operation limited to EDM | Limited to EDM |
| 4) | Limitations on number of natural persons | None | None | None |
| 5) | Restrictions on types of legal entity or joint venture | | | |
| | a) Establishment of a branch | None | None | None |
| | b) Establishment of a subsidiary | None | None | None |
| | c) Establishment of a joint venture | None | None | None |
| 6) | Limitations on participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | Subject to regulatory approval | Subject to regulatory approval | Subject to regulatory approval |
| | b) Acquisition of domestic private entity | Subject to regulatory approval | Subject to regulatory approval | Subject to regulatory approval |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | 5-10% quota on expat labour | 5-10% quota on expat labour | 5-10% quota on expat labour |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Any other discriminatory measures | Dividend repatriation | Dividend repatriation | Dividend repatriation |

# 10 NAMIBIA

## 10.1 Namibia's electricity sector overview

### 10.1.1 Structure and size of the sector

The main energy sources in Namibia are hydroelectric power and coal. Namibia's electricity market is dominated by the vertically integrated Namibian Power Corporation (NamPower) which is 100% owned by the Government of Namibia. The company has a monopoly over generation and transmission, while the distribution industry is organised into five regional electricity distribution companies (REDs). Local municipalities are also active in the distribution of power.

NamPower's installed generation capacity amounted to 487 MW in mid-2013, and the maximum system demand is currently 534 MW. World Bank (2011) estimates indicate that 60% of Namibia's population has access to electricity; though less than 15% of the rural population have access to electricity. Namibia imports power from ZESA Zimbabwe (31%), Eskom South Africa (12%), ZESCO Zambia (12%), and Aggreko (18%). Reliance on imports ranges between 60-80% of annual electricity usage. The construction of the 800 MW Kudu gas power plant aims to reduce the country's dependency on imports and address the electricity supply deficit.

**Table 30: Electricity operators in Namibia**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | NamPower | 487 MW |
| Transmission | NamPower | 11,118 km |
| Distribution | NamPower, Nored, Erongored, Cenored, Municipalities | 17,499 km |

*Source: NamPower*

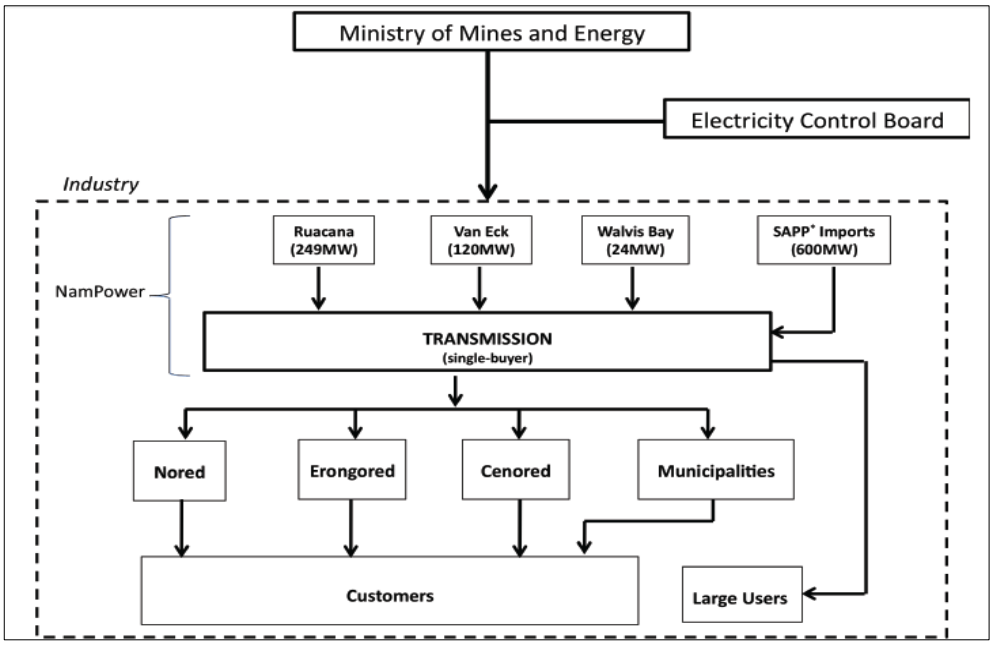
### 10.1.2 Private and foreign participation

Namibia has limited private and foreign participation in the sector. The RED companies are dominated by public interest organisations, such as municipalities. These local authorities receive shares in the RED as compensation for contributing their distribution assets into the RED. Only one independent power producer (IPP) has signed a power purchase agreement (PPA) with NamPower. This IPP is a small scale solar energy project.

## 10.2 Institutional and regulatory framework

The Ministry of Mines and Energy (MME) is responsible for energy-policy formulation and oversight, including the Electricity Act of 2007, which is an update of the Electricity Act of 2000. The amended Act establishes the electricity sector regulator, the Electricity Control Board (ECB) and outlines the objectives and powers of the ECB. The Act prohibits the generation, trading, transmission, supply, distribution, importation and export of power without a licence. The license application process is managed by the MME. The ECB is consulted during the application process and issues licences after ministerial approval.

**Figure 5: The institutional framework of the Namibia's energy sector**




*Source: NamPower, Kapika&Eberhard,2010*

The White Paper on Energy Policy (1998) outlines the country's energy goals: effective governance, security of supply, social upliftment, investment and growth, economic competitiveness and efficiency, and sustainability. Broader policy frameworks include the national Development Plan III (2008) and Vision 2030 (2004).

Namibia has made progress in restructuring the electricity supply industry and attracting IPP participation into the sector. The process is still on-going; and the government is currently drafting further legislation in the form of the Electricity Bill and the Energy Regulator Bill.

Regulations in trade in electricity services for Namibia presented below are based on the Acts presented above as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 32 at the end of Section 10.

## 10.3 Openness to trade and investment

### *Market Access*

#### Number of suppliers

The number of foreign suppliers of electricity services allowed to operate in Namibia is not restricted. The Electricity Act foresees no limitations on the number of licenses issued for both foreign and domestic operators, as long as they fulfil registration requirements. This stands for all three subsectors.

#### Value of services transactions

No evidence could be found that the value of services transactions carried out by electricity industry service providers is restricted in any of the subsectors. This is equally valid for both foreign and domestic suppliers.

#### Number of services operations

Similarly, information sources analysed do not indicate a limitation on the total number of services operations or the quantity of electricity output. Registered suppliers of electricity services are consequently allowed to establish branches and work with licenced entities throughout the country, on condition that they are registered with the Business and Licensing Agency (BRELA).

#### Number of natural persons

The current legislation sets no limitations on the total number of natural persons that can be employed in the electricity sector or by a supplier.

#### Legal form of commercial presence

The Electricity Act stipulates that any entity or person who intends to generate, transmit, distribute, supply, install or trade in electricity requires a licence. The Act does not outline specific requirements on the type of legal entity or joint venture structure.

#### Participation of foreign capital

Generally, foreign investors receive similar treatment to their local counterparts and the Electricity Act makes no distinction between local and foreign companies. In all three subsectors, there are no restrictions with regards to the acquisition of a domestic public entity in the electricity services sector by a foreign company.

### *National Treatment*

#### Discriminatory measures in licensing

Companies in the electricity supply industry, both domestic and foreign, face the same requirements in obtaining a license to establish business operations in Namibia.

#### Nationality requirements

The legislation and regulations governing the electricity supply industry have no explicit nationality requirements.

### *Other restrictions*

#### Licensing procedures

License criteria for the electricity industry participants are outlined in Part IV of the Electricity Act. Licences are issues for the three main sub-categories; generation, transmission and distribution.

#### Repatriation of earnings

The current legislation foresees no restrictions with regard to the repatriation of earnings by foreign operators. Non-status investors are subject to exchange controls under South African regulations applicable to the Common Monetary Area (CMA) – South Africa, Lesotho, Swaziland and Namibia.[32]

#### Cross-border trade of electricity

The regulation of cross-border trade of electricity is under the authority of ECB. The Electricity Act requires that this trading function be licensed separately. NamPower is the only entity involved in the trading of electricity at present.

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[32] (KPMG Namibia Country Profile 2012)

### Professional engineers

The Engineering Council of Namibia is the statutory body which regulates the engineering profession. The organisation allows for the registration of foreign engineering qualifications.

## 10.4 Statistics

**Table 31: Key statistics for Namibia**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 487 MW | 2013 | NamPower, 2013 |
| Available power | 614 MW | 2013 | NamPower, 2013 |
| Exports | 2,907 GWh | 2013 | NamPower, 2013 |
| Imports | 89 GWh | 2013 | NamPower, 2013 |
| Peak demand | 510 MW | 2013 | ECB, 2013 |
| Number of customers | 223,000 | 2013 | ECB, 2013 |
| Transmission and distribution losses | 27.9% | 2011 | World Bank Data,2014 |
| Electrical outages for firms (days/ year) | | | |
| Access to electricity (% of population) | 60% | 2011 | World bank Data |
| Access to electricity (% of urban population) | 77.6% | 2010 | World Bank Data |
| Access to electricity (% of rural population) | 14.6% | 2010 | World Bank Data |

*Source: Sources listed above in references of document*

**Table 32: Limitations in trade in electricity services in Namibia**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on number of service suppliers | None | None | None |
| 2) | Limitations on total value of services transactions or assets | None | None | None |
| 3) | Limitations on total number of services operations/ quantity of service output | None | None | None |
| 4) | Limitations on number of natural persons | None | None | None |
| 5) | Restrictions on types of legal entity or joint venture | | | |
| | a) Establishment of a branch | None | None | None |
| | b) Establishment of a subsidiary | None | None | None |
| | c) Establishment of a joint venture | None | None | None |
| 6) | Limitations on participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | Currently restricted | Currently restricted | Currently restricted |
| | b) Acquisition of domestic private entity | Allowed | Allowed | Allowed |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Any other discriminatory measures | None | None | None |

# 11 SEYCHELLES

## 11.1 Seychelles Electricity Services

### 11.1.1 Structure and size of the sector

Seychelles is heavily dependent on imported oils for its energy. Energy supply in 2010 consisted of fuel oil (29%), diesel oil (29%), kerosene (30%), and gasoline (9%). Approximately 90% of the electricity generated in the country is produced by the state-owned Public Utilities Corporation (PUC) using four thermal (diesel-fuel) power stations. The remaining 10 percent is generated by auto-producers such as hotels and businesses. In 2013, the PUC generated 354 GWh, with auto-producers generating approximately 75 million kWh. Consumption of electricity is dominated by industry (60%), domestic use (31%), and government (9%).[33] The PUC is responsible for the transmission and distribution of electricity

**Table 33: Electricity operators in the Seychelles**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | PUC | 354 GWh |
| Transmission | PUC | 243 km |
| Distribution | PUC | 126 km |

*Source: PUC, 2014*

The country has a strong focus on renewable energy and aims to generate 15 percent of total energy from renewables by 2030. The island has the potential to generate significant electricity using wind and solar; PUC currently operates a wind farm with capacity of 6 MW.

### 11.1.2 Private and foreign participation

The Energy Act of 2012 allows for the involvement of the private sector in the grid, operating alongside the PUC and IPPs do currently produce power for independent use. Moreover, the wind farm operated by the PUC is owned by MASDAR, a UAE based company involved in the renewable energy space.

## 11.2 Institutional and regulatory framework

The Ministry of Environment and Energy (MEE) is responsible for overall policy and oversight of the energy sector. Regulation is conducted through the Seychelles Energy Commission (SEC), an independent body which reports to the MEE. The CEO and Board members are appointed by the president. The main Act governing the sector is the Energy Act of 2012, which replaced the Seychelles Energy Commission Act of 2010. The main purpose of these Acts was twofold: firstly, to establish the SEC and formalise the regulation of the sector; and secondly, to facilitate the participation of private sector IPP's, while facilitating private sector access to the grid.

Section 5 of the Energy Act of 2012 details the functions of the SEC to include:

- Implementing the national energy policy;
- The promotion of energy efficiency;

[33] (SEC 2014)

- Regulating the generation, transmission, distribution, supply of electricity;
- Issuing of licences and ensuring compliance with conditions of licenses issued;
- Reviewing the electricity tariffs of the PUC and other transmission, distribution operators and network users;
- Ensuring fair competition in the energy sector; and
- Investigating of complaints or disputes.

In addition, the SEC oversees and regulates the sale of excess electricity by IPPs to the national grid of the PUC.

Regulations in trade in electricity services for the Seychelles presented below are based on the Laws and Decrees presented above as well as information obtained from agency web-sites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 35 at the end of Section 11.

## 11.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The generation, transmission, distribution, and supply of electricity in Seychelles is governed by the Energy Act of 2012. The Act does not limit the number of licences issued to service providers in these areas, provided they have been granted the relevant separate or combined licence by the Authority (SEC). Given that the Act is silent on foreign service providers, it is assumed that their participation is unlimited.

#### Value of service transactions

No evidence could be found of legislation restricting the value of services transactions carried out by service providers in the sector or subsectors. Again, this is assumed to be true for both domestic and foreign service providers.

#### Number and capacity of services operations

Research on the Seychelles electricity sector provided no indication that the number of service operations or service providers may be limited. The Energy Act does however stipulate that the conditions of a licence granted by the Authority (SEC) may limit the service area of the regulated undertaking.

#### Number of natural persons

The legislation sets no limitations on the number of natural persons that may be employed, either in the electricity sector or by a service provider.

#### Legal form of commercial presence

While the Energy Act states that the generation, transmission, distribution, and supply of electricity requires a licence from the Authority, it does not provide specific requirements on the type of legal entity or joint venture structure which may apply or hold such a licence.

The International Business Companies Act of 1994 requires that all foreign companies operating in Seychelles be registered with the Registrar of Companies.

#### Participation of foreign capital

The legislation makes no distinction between domestic and foreign companies in any of the licensed subsectors. Recent changes in the legislation, and the accompanying regulatory reforms, were undertaken with the aim of reducing the monopoly position of PUC in the electricity sector, and encouraging both foreign and private sector participation.

### *National treatment*

#### Discriminatory measures in licensing

Both the legislation and supporting documents indicate no discrimination between the requirements to obtaining a licence for domestic and foreign service providers.

#### Nationality requirements

The legislation governing the electricity sector indicates no explicit nationality requirements.

### *Other restrictions*

#### Licensing procedures

The Energy Act prescribes the criteria for industry participants. Licences are issued for the generation, transmission, distribution, and supply of electricity.

#### Repatriation of earnings

The legislation does not restrict the repatriation of earnings by foreign service providers.

#### Cross-border trade in electricity

None – Given Seychelles isolation from the mainland, no electricity is imported or exported.

#### Professional engineers

The Engineering Institution of Seychelles is the body with which all engineers practising in Malawi must register. No further details are available regarding restrictions on foreign professional engineers.

## 11.4 Statistics

**Table 34: Key statistics for Seychelles**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 85.3 MW | 2013 | SEC, 2014 |
| Available power | 275.7 GWh | 2013 | PUC, 2014 |
| Exports | None | | |
| Imports | None | | |
| Peak demand | 54 MW | 2013 | PUC, 2014 |
| Number of customers | 30,000 | 2013 | SEC, 2014 |
| Transmission and distribution losses | | | |
| Electrical outages for firms (days/ year) | | | |
| Access to electricity (% of population) | 97% | 2013 | SEC, 2014 |
| Access to electricity (% of urban population) | | | |
| Access to electricity (% of rural population) | | | |

*Source: Sources listed above in references of document*

**Table 35: Limitations in trade in electricity services in Seychelles**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on the number of service suppliers | None | None | None |
| 2) | Limitations on the total value of services transactions or assets | None | None | None |
| 3) | Limitations on the total number of branches/quantity of services output | None | None | None |
| 4) | Limitations on the number of natural persons | None | None | None |
| 5) | Restrictions on the type of legal entities | None – must be registered | None – must be registered | None – must be registered |
| 6) | Limitations on the participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | n/a | n/a | n/a |
| | b) Acquisition of a domestic private entity | Requires approval of Prime Minister | Requires approval of Prime Minister | Requires approval of Prime Minister |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Other discriminatory measures | None | None | None |

# 12 SOUTH AFRICA

## 12.1 South Africa's electricity sector overview

### 12.1.1 Structure and size of the sector

Electricity production in South Africa is dominated by coal. In 2013, coal accounted for 72% of the country's total primary energy consumption and roughly 85% of the power generation mix .[34] South Africa's electricity supply industry is dominated by Eskom, a vertically integrated utility owned by the government. Historically, Eskom has monopolized the generation and transmission market, whilst there are a number of players within the distribution sub-sector. Specifically, a number of large municipalities manage 40% of the country's distribution network.

According to the Department of Energy, Eskom generates approximately 95% of the countries' electricity from 44,084 MW of installed generation capacity (May 2014 figures). This capacity accounts for 65% of the electricity generated in sub-Saharan Africa,[35] and 80.4% of the electricity generated in the SADC region. [36] The country has an electricity supply shortfall that has resulted in rolling black outs projected to last until 2018. The country's 2011 Census estimates that 84. 7% of the population had access to electricity as an energy source for lighting. [37]

**Table 36: Electricity operators in South Africa**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | Eskom | 44,084 MW |
| Transmission & Distribution | Eskom | 359,337 km or 232,179 MVA |

*Source: DOE & Eskom Website*

### 12.1.2 Private and foreign participation

Historically, independent power producers (IPPs) in South Africa were non-energy industrial concerns that produced power for on-site use. The introduction of the Renewable Energy Independent Power Producer Procurement Program (REIPPPP) has introduced private sector participation in renewable energy electricity generation. For the 2014 financial year, Eskom reported that IPP contribution was 1.6% of the total annual electricity generated.[38] IPP participation is not fully competitive as they are required to sell all production to Eskom.

## 12.2 Institutional and regulatory framework

Overall energy and electricity policy is the domain of the Department of Energy (DoE), while the Department of Public Enterprises (DPE) is the shareholder department for Eskom.

Legislation dealing with the electricity industry includes:[39]

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34 (Eskom Factsheet)
35 (KPMG Sub-Sahara Africa Power Outlook)
36 (Sichone E.)
37 (Statistics South Africa, 2011)
38 ( Eskom Integrated Report, 2014)
39 (LexisNexus)

- Eskom Conversion Act of 2001 (No. 13 of 2001) provides for the conversion of Eskom into a public company;
- Electricity Act of 1987 (No. 41 of 1987) provides for the continued existence of the electricity regulator and for control of the generation and supply of electricity; and
- National Energy Regulator of 2004 (Act No. 40 of 2004) establishes a single regulator to regulate the electricity, piped-gas and petroleum pipeline industries. The scope of this Act was narrowed by the Electricity Regulation Act of 2006 (No 4 of 2006).

Pricing, tariffs, licensing, electricity infrastructure planning, and regulatory reform are the responsibility of the regulator, the National Energy Regulator of South Africa (NERSA). The organization also oversees the pricing that municipalities charge residential and commercial customers. The National Nuclear Regulator has joint regulatory responsibilities for Koeberg, South Africa's only nuclear power plant.

Policy for the electricity sector was formalized in 1998 through the White Paper on Energy Policy. One of the key objectives highlighted in the White Paper was the introduction of competition throughout the electricity value chain. The DoE produced an Integrated Resource Plan for Electricity (IRP) 2010-2030 in 2011(updated in 2013) to address issues of planning and investment in the electricity sector.

The IRP, together with the 2013 Renewable Energy Policy White Paper, inform South Africa's renewable energy industry and the REIPPPP. This programme is administered by the Department of Energy's IPP Unit and funded by the National Treasury. The DOE IPP unit also receives institutional support from NERSA, Eskom and the Development Bank of Southern Africa (DBSA). The government is currently investigating the development and implementation of an IPP procurement programme in order to source base load power though IPP generation in natural gas and hydro energy.

Regulations in trade in electricity services for South Africa presented below are based on the Laws and Decrees presented above as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 38 at the end of Section 12.

## 12.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The number of foreign suppliers of electricity generation services allowed to operate in South Africa is not restricted by the legal framework. South Africa's single buyer regime and the IPP procurement programme could pose a limitation on the number of suppliers.

#### Value of services transactions

No evidence could be found that the value of services transactions carried out by electricity industry service providers is restricted.

#### Number of services operations

There is no limitation on the total number of service operations, though the quantity of output is subject to limitations. Specifically, the tender procurement process (e.g. REIPPPP) may set project size limitations in order to encourage competition and economies of scale in the generation of power. The DoE therefore has the discretion to set capacity allocations for individual power generation technologies in each bidding round.

### Number of natural persons

The current legislation sets no limitations on the total number of natural persons that can be employed in the electricity sector or by a supplier.

### Legal form of commercial presence

The Companies Act of 2008 (No. 71 of 2008) stipulates that companies incorporated outside of South Africa are required to register with the Companies and Intellectual Property Commission (CIPC) within 20 business days of starting to conduct business in South Africa. Alternatively, the foreign entity can establish a local subsidiary.

### Participation of foreign capital

The procurement programmes encouraging private sector participation in the electricity generation sector have qualification criteria related to 'economic development'. During the bidding process, 70% of the bid score will be allocated to price with the remaining 30% allocated to these non-price categories, including the shareholding of South African citizens.[40] In recent bidding rounds, projects were effectively required to have 40% participation from South African entities with South African citizens as majority shareholders.

## *National Treatment*

### Discriminatory measures in licensing

Companies in the electricity supply industry, both domestic and foreign, face the same requirements when applying for a license. The procurement procedure for independent producers is rigorous and transparent, but does come with local participation requirements.

### Nationality requirements

Economic development requirements place an emphasis on the use of local content in the development of privately held power generation assets. The targets differ by technology type, but the latest bidding round has seen targets of up to 65% to be spent on South African produced goods and services, with minimum thresholds at 40%.[41] The economic development score card also places emphasis on empowering Black South African citizens through employment and company ownership in order to comply with the country's Broad-Based Black Economic Empowerment Act of 2003.

## *Other restrictions*

### Licensing procedures

Licencing procedures are carried out by NERSA.

### Repatriation of earnings

There are no limitations on the repatriation of funds or earnings for non-residents. Special dividend repatriation and transactions involving South African residents require approval from the Financial Surveillance Department within the South African Reserve Bank.

### Cross-border trade of electricity

NERSA regulates the cross-border trade of the electricity good, with no known restrictions.

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40 (Eberhard,Kolker & Leigland, 2014).

41 (Nowak R, 2014)

### Professional engineers

The registration and regulation of professional engineers is undertaken by The Engineering Council of South Africa (ECSA). The statutory body was established in terms of the Engineering Profession Act (EPA) of 2000 (No. 46 of 2000). Section 6(1) of the EPA prohibits the membership of "a person not a South African citizen and ordinarily resident in the Republic." However, ECSA has mutual exemption agreement with countries such as Ireland and the UK.

## 12.4 Statistics

**Table 37: Key statistics for South Africa**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 44,084 MW | 2014 | DOE, 2014 |
| Available power | 35,267 MW | 2014 | Eskom, 2014 |
| Exports | 4089 | 2014 | SAPP,2014 |
| Imports | 413 | 2014 | SAPP,2014 |
| Peak demand | 36,000 MW | 2014 | Eskom,2014 |
| Number of customers | 5,232,915 | 2014 | Eskom, 2014 |
| Transmission and distribution losses | 9.4% | 2014 | Eskom, 2014 |
| Electrical outages for firms (days/ year) | 0 | 2014 | Eskom, 2014 |
| Access to electricity (% of population) | 84.7% | 2011 | Census, 2011 |
| Access to electricity (% of urban population) | 94.3% | 2011 | World Bank Data, 2014 |
| Access to electricity (% of rural population) | 64.1% | 2011 | World Bank Data, 2014 |

*Source: Sources listed above in references of document*

**Table 38: Limitations in trade in electricity services in South Africa**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on number of service suppliers | None | None | None |
| 2) | Limitations on total value of services transactions or assets | None | None | None |
| 3) | Limitations on total number of services operations/ quantity of service output | Generation capacity limitations for IPPs | None | None |
| 4) | Limitations on number of natural persons | None | None | None |
| 5) | Restrictions on types of legal entity or joint venture | | | |
| | a) Establishment of a branch | None | None | None |
| | b) Establishment of a subsidiary | None | None | None |
| | c) Establishment of a joint venture | Requires South African entity participation | None | None |
| 6) | Limitations on participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | None | None | None |
| | b) Acquisition of domestic private entity | None | None | None |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for foreign capital participation | S.A entity participation of 40% | None | None |
| 9) | Nationality requirements for employees | A 24% threshold for Black S.A employees | None | None |
| 10) | Any other discriminatory measures | Limit between 40%-65% for local content | None | None |

# 13 SWAZILAND

## 13.1 Swaziland Electricity Services

### 13.1.1 Structure and size of the sector

Energy supply is dominated by biomass, which accounts for approximately 90 percent of the total energy consumed. It is still the primary source of energy for use in cooking and heating in rural areas. Biomass is also a major source of self-generation in the sugar, pulp and saw mill industries.

Electricity in Swaziland is generated mainly by hydro generation. The market is dominated by the Swaziland Electricity Company (SEC) which holds a monopoly in the import, generation, transmission and distribution of electricity. The SEC is governed by the Electricity Company Act of 2007 (Act No. 1 of 2007). It ascribes to the Electricity Act of 2007, and is granted a licence to operate by the Swaziland Energy Regulatory Authority (SERA).

The SEC owns and operates the country's four hydropower stations; Maguga, Ezulwini, Edwaleni, and Maguduza. Together these stations generate approximately 60 MW of power. In addition, the Edwaleni Diesel Power Station generated 9.5 MW in 2013. In the 2012-2013 year, SEC generated 239.8 GWh, but sold 939.3 GWh, importing the balance from Eskom South Africa. Users of electricity include industry (34%), agriculture (23%), commercial (10%) and domestic (33%).[42] SEC is an operating member of the SAPP.

Approximately 40% of urban Swaziland is connected to the electricity grid, but in rural Swaziland this figure is as low as 4%.[43]

**Table 39: Electricity operators in Swaziland**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | SEC | 69.5 MW |
| Transmission | SEC | 132 kV = 296 km<br>66 kV = 930 km |
| Distribution | SEC | 11kV = 9093 km |
| Import | Eskom, EDM | 821.9 GWh |

*Source: SEC Annual Report, 2012-2013: 4*

The increased use of renewable energy is a core focus of the Ministry of Natural Resources and Energy (MNRE) and the country is exploring solar, wind, hydro and biomass as potential sources of energy. The Renewable Energy Unit of the Department of Energy (DOE) is responsible for all activities in this area.

### 13.1.2 Private and foreign participation

Currently, there is no private participation in the electricity sector in Swaziland. Though, in 2014, SEC and SERA began talks with 3 local independent power producers (IPPs) and

[42] (SEC Annual Report, 2012 – 2013: 11)
[43] (Clean Energy Portal, 2012 cited in UNIDO 2013)

one foreign IPP, to invest a combined R5.3 billion investment in the country's power industry on condition that the SEC agreed to purchase their electricity output.[44]

## 13.2 Institutional and regulatory framework

The Department of Energy (DOE) within the Ministry of Natural Resources and Energy (MNRE) is the custodian of all energy related policies, including the the National Energy Policy of 2002. The Electricity Act of 2007, which replaced the Electricity Act of 1963, guides the sector and regulates the generation, transmission, distribution and supply of electricity.

Regulation in the sector is conducted by the Swaziland Energy Regulatory Authority (SERA), which was established under the Energy Regulatory Act of 2007. It is an independent corporate body, with the Chairman, Deputy Chairman and CEO of SERA appointed by the Minister of Natural Resources and Energy. The Authority reports directly to the Minister of Natural Resources and Energy.

Section 5 of the Energy Regulatory Act of 2007 prescribes the duties and function of SERA to include among others the:

- Issuing, modifying or revoking of licences with terms and conditions;
- Monitoring and enforcing of compliance to licence terms and conditions;
- Regulating and approving tariffs, prices and charges;
- Setting standards for the quality of supply and service;
- Receiving, investigating and adjudicating of consumer complaints; and
- Monitoring of the levels of competition, while promoting and establishing controls to ensure competition in electricity production and distribution.[45]

Regulations in trade in electricity services for Swaziland presented below are based on the Laws and Decrees presented above as well as information obtained from agency websites and other sources. Key findings with regard to Market Access, National Treatment and specific trade restrictions are summarised in Table 41 at the end of Section 13.

## 13.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The generation, transmission, distribution, supply, export, and import of electricity in Swaziland is governed by sections 3 to 9 of the Electricity Act of 2007. The Act does not limit the number of licences issued to service providers in these areas, provided they have been granted the relevant separate or combined licence by the Authority (SERA). Given that the Act is silent on foreign service providers, it is assumed that their participation is unlimited.

#### Value of service transactions

No evidence could be found in any of the legislation restricting the value of services transactions carried out by service providers. Again, this is assumed to be true for both domestic and foreign service providers.

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[44] (IOL News, 2014)
[45] (SERA, 2014)

### Number and capacity of services operations

Section 15 (2)(k) of the Electricity Act stipulates that the conditions of a licence granted by the Authority (SERA) may limit the area of service of the regulated undertaking.

In addition, increasing or decreasing the installed generating capacity of an electricity undertaking requires approval by the Minister under Section 24, subsection 3 of the Electricity Act:

> *"If any electricity undertaking wishes to increase or decrease its rated generating capacity by more than 5 percent (5%), or its contractual rights to purchase, transmit, and/or wheel power from outside Swaziland, or its contractual rights to sell or wheel power to consumers outside Swaziland, that undertaking shall apply to the Minister for approval, and shall supply the Minister with a full report on its approach".*

Likewise, Section 24, subsection 4 of the Electricity Act requires that the expansion of the transmission system also requires approval by the Minister:

> *"If any electricity undertaking wishes to expand its transmission by more than fifteen percent (15%) per annum of its existing capital investment in such system, it shall apply to the Minister for approval, and shall submit to the Minister a full report on its proposal."*

### Number of natural persons

The legislation sets no limitation on the number of natural persons that may be employed, either in the electricity sector or by a service provider.

### Legal form of commercial presence

While sections 3 of the Electricity Act states that the generation, transmission, distribution, supply, export, and import of electricity in Swaziland requires a licence from the Authority, it does not provide specific requirements on the type of legal entity or joint venture structure which may apply or hold such a licence.

The Companies Act of 2009 (Act No. 8 of 2009) requires that all foreign companies operating in Swaziland be registered with the Registrar of Companies.

### Participation of foreign capital

The legislation makes no distinction between domestic and foreign companies in any of the licensed subsectors. Recent changes in the legislation, and the accompanying regulatory reforms, aim to reduce the monopoly position of SEC in the electricity sector, and encourage both foreign and private sector participation. There are no formal policies or practices that discriminate against foreign investors.[46]

## *National treatment*

### Discriminatory measures in licensing

Both the legislation and licensing documents indicate no discrimination in the requirements for obtaining a licence for both domestic and foreign service providers.

### Nationality requirements

The legislation governing the electricity sector indicates no explicit nationality requirements.

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[46] (KPMG, 2012: 6)

### *Other restrictions*

#### Licensing procedures

Sections 3 to 9 of the Electricity Act prescribe the criteria for industry participants, while the Electricity Licencing Bylaws of 2007 details the process for the application for and issuing of licences. Licences are issued for the generation, transmission, distribution, supply, import and export of electricity.

#### Repatriation of earnings

The legislation does not restrict the repatriation of earnings by foreign service providers.

#### Cross-border trade in electricity

The export and import of electricity is regulated by the Authority, with all import and export service providers required to apply for a licence.

#### Professional engineers

The Swaziland Association of Architects, Engineers & Surveyors (SAAES) was established to maintain the professional standards in the included professions. Its objectives include the establishment and maintenance of a register of members who meet the qualifying criteria:

- Passing the final professional examination or be exempt therefrom;
- Hold a current and valid membership of a professional institution, society or association recognised by the SAAES committee; and
- Be registered with a professional council or other professional registration body recognised and approved by the SAAES committee.

While this association exists, it is unclear if registration is mandatory or by self-selection.

## 13.4 Statistics

**Table 40: Key statistics for Swaziland**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 70.5 MW | 2013 | SEC, 2013 |
| Available power | 239.8 GWh | 2013 | SEC, 2013 |
| Exports | | | |
| Imports | 821.9 GWh | 2013 | SEC, 2013 |
| Peak demand | 213.7 MW | 2013 | SEC, 2013 |
| Number of customers | 121,090 | 2013 | SEC, 2013 |
| Transmission and distribution losses | 15.2% | 2013 | SEC, 2013 |
| Electrical outages for firms (days/ year) | | | |
| Access to electricity (% of population) | 27% | 2010 | COMESA, 2012 |
| Access to electricity (% of urban population) | 62.3% | 2010 | COMESA, 2012 |
| Access to electricity (% of rural population) | 51.3% | 2010 | COMESA, 2012 |

*Source: Sources listed above in references of document*

**Table 41: Limitations in trade in electricity services in Swaziland**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on the number of service suppliers | None | None | None |
| 2) | Limitations on the total value of services transactions or assets | None | None | None |
| 3) | Limitations on the total number of branches/quantity of services output | Area can be restricted, Changes in capacity requires approval | Expansion requires approval | Expansion requires approval |
| 4) | Limitations on the number of natural persons | None | None | None |
| 5) | Restrictions on the type of legal entities | None – must be registered | None – must be registered | None – must be registered |
| 6) | Limitations on the participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | | | |
| | b) Acquisition of a domestic private entity | | | |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Other discriminatory measures | None | None | None |

# 14 TANZANIA

## 14.1 Tanzania's electricity sector overview

### 14.1.1 Structure and size of the sector

Energy supply in Tanzania is dominated by biomass (90%), petroleum products (8%), electricity (1.5%), with the remaining contribution (0.5%) from coal and other renewable energy resources. There is some competition in the generation sub-sector of the market with Independent power producers (IPP) licenced to generate power, but the government-owned Tanzania Electricity Supply Company (TANESCO) has a monopoly in transmission and distribution. The total installed generation capacity measured in mid-2014 was 1,583 MW (this includes off-grid generation capacity). Roughly 24% of mainland Tanzania is connected to electricity services and 7% of these connections are in rural areas. TANESCO imports power from Uganda, Zambia and Kenya.[47]

**Table 42: Electricity operators in Tanzania**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | Aggreko Plc, Symbion Power LLC,Songas,IPTL,Altsom | 1,396.24 MW (on-grid) |
| Transmission | TANESCO | 4,868.86 km |
| Distribution | TANESCO, Mtwara Energy Project | |

*Source: TANESCO Website*

### 14.1.2 Private and foreign participation

Private sector participation in power generation commenced in the early 1990s, though a public-private partnership called Songas. Foreign company participation in the country's electricity supply industry has historically been limited to generation. These companies are often referred to as emergency power producers. Estimates from 2012 indicate that IPPs owned 41% of the total installed generation capacity.[48]

## 14.2 Institutional and regulatory framework

The Ministry of Energy and Minerals is the custodian of energy policy through the Electricity Act of 2008. The Energy and Water Utility Regulatory Authority (EWURA), established in 2006, is responsible for the technical and economic regulation of four interrelated sectors; electricity, petroleum, natural gas and water. The regulatory authority is independently run by a Director General, with its own Board of Directors with at least two private sector representatives, and reports directly to the Ministry of Water and Irrigation.

The duties of EWURA are laid out in Clause 6 of the EWURA Act of 2001, while the powers and functions of the organisation are stated in Clause 5 of the Electricity Act:

a. award licences to entities undertaking or seeking to undertake a licensed activity

[47] (Tanzania Ministry of Minerals,2014)
[48] ( Msyani C, 2013)

b. approve and enforce tariffs and fees charged by licensees;

c. approve licensees' terms and conditions of electricity supply; and

d. approve initiation of the procurement of new electricity supply installations.

The Rural Energy Agency (REA) is an autonomous body under the Ministry of Energy and Minerals. The organization has been operational since 2007 and it is tasked with rural electrification. REA's powers emanate from The Rural Energy Act of 2005 as well as the Electricity Act. The organization works closely with EWURA to achieve its mandate.

Regulations in trade in electricity services for Tanzania presented below are based on the Acts presented above as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 44 at the end of Section 14.

## 14.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The number of foreign suppliers of electricity services allowed to operate in Tanzania is not restricted. The Electricity Act foresees no limitations on the number of licenses issued for both foreign and domestic operators, as long as they fulfil registration requirements. This applies to all three subsectors.

#### Value of services transactions

No evidence could be found that the value of services transactions carried out by electricity industry service providers is restricted in any of the subsectors. This is equally valid for both foreign and domestic suppliers.

#### Number of services operations

Similarly, information sources do not indicate that the total number of services operations or the quantity of output of electricity industry service providers is limited in Tanzania. Registered suppliers of electricity services providers are consequently allowed to work with licenced entities throughout the country and are allowed to establish branches in the country provided they are registered with the Business and Licensing Agency (BRELA).

#### Number of natural persons

The current legislation sets no limitations on the total number of natural persons that can be employed in the electricity sector or by a supplier.

#### Legal form of commercial presence

The Electricity Act, through Section 8(2), stipulates that any entity or person who intends to generate, transmit, distribute, supply, install or trade in electricity requires a licence from the regulator, EWURA. The Act does not outline specific requirements on the type of legal entity or joint venture structure required to supply a service. The Business Registration and Licencing Act stipulates that business entities are required to register with the BRELA in order to obtain a business licence. Foreign companies can set up a branch; or incorporate as an independent entity or a subsidiary of the parent company. There are no restrictions on ownership of locally incorporated companies or in joint venture agreements with local businesses.

#### Participation of foreign capital

Generally, foreign investors receive equal treatment as their local counterparts. Both the Electricity Act and the EWURA Act make no distinction between local and foreign companies. In all three subsectors, there are no restrictions with regard to the acquisition of a domestic public entity in the electricity services sector by a foreign company. Foreign suppliers are in principle allowed to hold a controlling stake in both private and public domestic companies.

### *National Treatment*

#### Discriminatory measures in licensing

Companies in the electricity supply industry, both domestic and foreign, face the same requirements in obtaining a license to establish business operations in Tanzania. No evidence could be found that discriminatory measures against foreign electricity services suppliers with regard to the establishment, licensing and operation of business licences or EWURA issued licences.

#### Nationality requirements

The legislation and regulations governing the electricity supply industry have no explicit nationality requirements.

### *Other restrictions*

#### Licensing procedures

License criteria for the electricity industry participants are outlined in Part III of the Electricity Act. Licences are issued for the three main sub-categories; generation, transmission and distribution. There are no specific rules for electricity related services under this Act. Service providers are likely to be required to obtain an ordinary business licence.

#### Repatriation of earnings

The current legislation foresees no restrictions with regard to the repatriation of earnings by foreign operators.

#### Cross-border trade of electricity

The regulation on cross-border trade of electricity is under the authority of EWURA. The Electricity Act requires willing participants to go through an application process that is supported by an underlying agreement.

#### Professional engineers

The Engineering Registration Board (ERB) of Tanzania is the statutory body charged with monitoring and regulating engineering activities in Tanzania. It was established by the Engineers Registration Act of 1997 (No. 15 of 1997). The ERB permits the registration of foreign engineers temporally working in Tanzania.

## 14.4 Statistics

**Table 43: Key statistics for Tanzania**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 1,583 MW | 2014 | Ministry of Minerals, 2014 |
| Available power | 767 MW | 2011 | Reegle, 2014 |
| Exports | 2192 MW | 21014 | SAPP, 2014 |

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Imports | | | |
| Peak demand | 1200 MW | 2014 | Reegle, 2014 |
| Number of customers | 932,285 | 2014 | SAPP, 2104 |
| Transmission and distribution losses | 19% | 2013 | TANESCO, 2013 |
| Electrical outages for firms (days/ year) | 36 | 2013 | World Bank Data, 2104 |
| Access to electricity (% of population) | 24% | 2014 | Ministry of Minerals, 2014 |
| Access to electricity (% of rural population) | 2% | 2014 | Ministry of Minerals,2104 |

*Source: Sources listed above in references of document*

**Table 44: Limitations in trade in electricity services in Tanzania**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on number of service suppliers | None | None | None |
| 2) | Limitations on total value of services transactions or assets | None | None | None |
| 3) | Limitations on total number of services operations/ quantity of service output | None | None | None |
| 4) | Limitations on number of natural persons | None | None | None |
| 5) | Restrictions on types of legal entity or joint venture | | | |
| | a) Establishment of a branch | None | None | None |
| | b) Establishment of a subsidiary | None | None | None |
| | c) Establishment of a joint venture | None | None | None |
| 6) | Limitations on participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | Allowed in principle | Allowed in principle | Allowed in principle |
| | b) Acquisition of domestic private entity | Allowed | Allowed | Allowed |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | None | None | None |
| 10) | Any other discriminatory measures | None | None | None |

# 15 ZAMBIA

## 15.1 Zambia Electricity Services

### 15.1.1 Structure and size of the sector

In 2011, 99% of electricity in Zambia was generated via hydro, with the remainder generated through thermal sources.[49] The total installed capacity of Zambia is 2,038 MW, comprising hydro (1,898 MW), gas turbine (80 MW); diesel (11 MW), HFO (50MW) and solar (0.06 MW). Four major electricity service providers operate in Zambia, one of which is government owned, while the remaining three are private IPPs.[50;51]

1. The Zambia Electricity Supply Corporation (ZESCO) is a government owned power utility involved in the generation, transmission and distribution of electricity. ZESCO is the largest generator of electricity, owning and operating the three major hydro-power stations, Kafue Gorge (990 MW), Kariba North (720 MW), and Victoria Falls (108 MW). ZESCO transmits both its self-generated and bought power, to its own distribution points and those of other service providers. ZESCO is also the main distributor of electricity, wheeling electricity along the national grid to residents, industry, and for export purposes. In 2013, ZESCO recorded transmission and distribution system losses of 22%. It is also an operating member in the SAPP.
2. The Copperbelt Energy Corporation (CEC) owns, operates and maintains assets used for the transmission and distribution of electricity to mines on the copper belt. In addition, CEC undertakes domestic wheeling to the DRC, as well as the export of electricity to a mine in the Democratic Republic of Congo (DRC). As CEC does not undertake generation, it purchases all of its power from ZESCO through a signed Bulk Supply Agreement (BSA). CEC is an Independent Transmission Company in the SAPP.
3. The Lunsemfwa Hydro Power Corporation (LHPC) participates in the generation, distribution and supply of electricity. LHPC has a generating capacity of 54 MW through 2 plants; Lunsemfwa and Mulungushi, and is an IPP in the SAPP.
4. The Ndola Energy Company Limited (NECL) generates electricity from heavy fuel oils, selling the generated electricity to ZESCO through a Power Purchase Agreement (PPA). It has a generating capacity of 50 MW.

In addition to the main players listed above, a small off-grid generator of electricity Zengamina Power Limited (ZPL) has a capacity of 0.75 MW, while two smaller service providers assist with distribution; the North Western Energy Company (NWEC), and the Zengamina Power Limited. The former serves the non-mining requirements in specific areas, while the latter, which is off-grid, services isolated areas.[52]

The export and import of electricity to and from other Southern African countries is also done through ZESCO, which exported 1,083 GWh in 2013, while importing only 73 GWh.[53]

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49 (World Bank, 2014)
50 (ERB, 2013)
51 The structure of the electricity sector is detailed in Appendix A.
52 (ERB, 2013)
53 (ERB, 2013)

In 2013, the national consumption of electricity was recorded at 10,845 GWh, up from 10,317GWh in 2012. The main users of electricity are mining (55%), residential (31%), agriculture (2.5%), and manufacturing (5%).[54]

**Table 45: Electricity operators in the**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | ZESCO, LHPC, NECL | 2,038 MW |
| Transmission | ZESCO, CEC | 330 kV = 2,008 km<br>220kV = 548 km<br>132kV = 85 km<br>88kV = 704<br>66kV = 3,014 km |
| Distribution | ZESCO, NWEC, ZPL | 6,500 km |

*Source: ERB, 2013*

The expansion of the electricity sector in rural areas falls under the mandate of the Rural Electrification Authority (REA) which was established in 2003. In 2011, only 22 percent of the population had access to electricity, with rural access to electricity at10 percent.[55]

### 15.1.2 Private and foreign participation

As discussed above, several IPPs are active participants in the generation, transmission and distribution of electricity in Zambia.

## 15.2 Institutional and regulatory framework

The Ministry of Energy and Water Development (MEWD) is the custodian of energy policy in Zambia. The Electricity Act of 1995 (CAP. 433) reduced the monopoly power held by ZESCO by providing the regulatory framework for the generation, transmission, distribution and supply of electricity, thus allowing private participation in the sector.

Regulation in the sector is conducted by two bodies. The Energy Regulatory Board (ERB) was established under the Energy Regulation Act of 1995 (CAP. 436) and began operating in 1997. It is an independent body, with the Chairman of the ERB appointed by the Minister of Energy and Water Development. Section 6 of the Act details the functions of the ERB to include:

- The issuing of licences;
- To receive and investigate complaints from consumers;
- To design standards with regard to the quality, safety and reliability of supply of energy; and
- Investigate and monitor competition within the energy sector, developing measures to promote competition.

In 2013, the ERB finalized the Zambian Grid Code (ZGC) with the aim of facilitating an open and liberalised electricity transmission grid. It details the rules and requirements when interfacing with the network, thus promoting the involvement of the private sector. It also prescribes the tariff methodology to be applied in the subsector. The ERB is responsible for ensuring compliance with the ZGC.

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54 (ERB, 2013)

55 (World Bank, 2014)

The Office for the Promotion of Private Power Investors (OPPPI) was established by the MEWD to encourage and facilitate private sector involvement in the sector, while maintaining competition in electricity operations.

Regulations in trade in electricity services for Zambia presented below are based on the Laws and Decrees presented above as well as information obtained from agency websites and other sources. Key findings with regard to market access, national treatment and specific trade restrictions are summarised in Table 47 at the end of Section 15.

## 15.3 Openness to trade and investment

### *Market access*

#### Number of suppliers

The generation, transmission, distribution, and supply of electricity in Zambia is governed by both the Electricity Act and the Energy Regulation Act. These Acts do not limit the number of licences issued to service providers in these areas, provided they have been granted by the Authority (ERB). Given that the Act is silent on foreign service providers, it is assumed that their participation is unlimited as well.

#### Value of service transactions

No evidence could be found in any of the legislation restricting the value of services transactions carried out by service providers in the sector or subsectors. Again, this is assumed to be true for both domestic and foreign service providers.

#### Number and capacity of services operations

Research on the Zambian electricity sector provided no indication of limitations on the number of service operations or service providers. The increasing or decreasing of the rated generating capacity of an electricity undertaking requires approval by the Minister under Section 5 of the Electricity Amendment Act:

> *"If any undertaking, which is part of an interconnected system, wishes to increase or decrease its related generating capacity, it shall apply to the Board for approval and shall submit to the Board a full report on its proposals".*

#### Number of natural persons

The legislation sets no limitation on the number of natural persons that may be employed, either in the electricity sector or by a service provider.

#### Legal form of commercial presence

While the Electricity Act and Energy Regulation Act states that the generation, transmission, distribution, supply, export, and import of electricity in Zambia requires a licence from the Authority, it does not provide specific requirements on the type of legal entity or joint venture structure which may apply or hold such a licence.

Foreign companies operating in Zambia are required to be registered with the Patents and Company registration office (PACRO). It is required by law to have between one and nine "local directors". At least one of these directors must be a resident of Zambia.[56]

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56 (UNCTAD, 2011)

In addition, the Environmental Protection and Pollution Control Act of 1990 (Cap. 204) requires an EIA approval letter, while construction approval is required under the Town and Country Planning Act (Cap. 204).

### Participation of foreign capital

The legislation makes no distinction between domestic and foreign companies in any of the licensed subsectors. Recent changes in the legislation, regulatory reforms, and the establishment of the OPPPI, were undertaken with the aim of reducing the monopoly position of ZESCO, encouraging both foreign and private sector participation and investment in the sector.

Companies wishing to invest in Zambia, and take advantage of the services provided by the Zambian Development Agency (ZDA) must apply for an Investment licence to the ZDA.[57]

## *National treatment*

### Discriminatory measures in licensing

Both the legislation and licensing documents indicate no discrimination between the requirements to obtaining a licence for domestic and foreign service providers.

### Nationality requirements

The legislation governing the electricity sector indicates no explicit nationality requirements. For a foreign company or company with less than 75 percent Zambian shareholders to own land, an Investment Certificate is needed.

## *Other restrictions*

### Licensing procedures

The Electricity Act and Energy Regulation Act prescribe the criteria for industry participants, while the Energy Regulation (Licensing) Regulations, Statutory Instrument No 2 of 1998 details the application for and issuing of licences. Licences are issued for the generation, transmission, distribution, and supply of electricity.

### Repatriation of earnings

The legislation does not restrict the repatriation of earnings by foreign service providers.

### Cross-border trade in electricity

The export and import of electricity is also regulated by the Electricity Act, with all service providers required to apply to the Minister for approval to begin importing:

> *"Any undertaking which wishes to purchase power from outside Zambia shall apply to the Minister for approval and shall submit to the Minister a full report on its proposals."*

### Professional engineers

Founded in 1954, the Engineering Institution of Zambia (EIZ) is governed by the Engineering Institution of Zambia Act of 2010 (No. 17 of 2010) and falls under the Ministry of Communications and Transport. Part four of the Act established the Engineering Registration Board (EngRB), responsible for the registration and regulation of engineers and firms in the

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[57] (ZDA 2012)

various disciplines of engineering, including electrical engineering, of which power engineering is a branch.

All academically qualified individual engineers, or firms, who wish to practice in Zambia, must apply to the EngRB after meeting the qualifying criteria. Membership must be renewed annually, with payment of a renewal fee.

Qualifying criteria at individual level:

- Must be a fellow of the EIZ;
- Must be a resident or have an established office in Zambia; and
- Pay the prescribed fee.

At firm level, the qualifying criteria are:

- Must have two or more registered engineers standing for the firm;
- Is a registered company in Zambia, or wants to practice engineering in Zambia; and
- Pay the prescribed fee

## 15.4 Statistics

**Table 46: Key statistics for Zambia**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 2,038 MW | 2013 | ERB, 2014 |
| Available power | | | |
| Exports | 1,083.4 GWh | 2013 | ERB, 2014 |
| Imports | 72.9 Gwh | 2013 | ERB, 2014 |
| Peak demand | 1,600 MW | 2009 | ZDA, 2014 |
| Number of customers | 418,651 | 2013/14 | SAPP, 2014 |
| Transmission and distribution losses | 22% | 2013 | ERB, 2014 |
| Electrical outages for firms (days/ year) | 25 days | 2008 | World Bank, 2008 |
| Access to electricity (% of population) | | | |
| Access to electricity (% of urban population) | | | |
| Access to electricity (% of rural population) | | | |

*Source: Sources listed above in references of document*

**Table 47: Limitations in trade in electricity services in Zambia**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on the number of service suppliers | None | None | None |
| 2) | Limitations on the total value of services transactions or assets | None | None | None |
| 3) | Limitations on the total number of branches/quantity of services output | Increase in generation requires approval | Export requires approval of minister | Export requires approval of minister |
| 4) | Limitations on the number of natural persons | None | None | None |
| 5) | Restrictions on the type of legal entities | None – must be registered | None – must be registered | None – must be registered |
| 6) | Limitations on the participation of foreign capital | | | |
| | a) Acquisition of domestic public entity | | | |
| | b) Acquisition of a domestic private entity | | | |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for employees | None | None | None |
| 9) | Nationality requirements for board of directors | 1 - 9 “local directors”. 1 director must be a resident of Zambia | 1 - 9 “local directors”. 1 director must be a resident of Zambia | 1 - 9 “local directors”. 1 director must be a resident of Zambia |
| 10) | Other discriminatory measures | Foreigners need investment licence | Foreigners need investment licence | Foreigners need investment licence |

# 16 ZIMBABWE

## 16.1 Zimbabwe's electricity sector overview

### 16.1.1 Structure and size of the sector

Zimbabwe's primary sources of energy are from biomass (65%), coal (20%), petroleum products (7%), and electricity (8%). Domestic electricity generation is from coal and hydroelectric power. The industry is dominated by the state-owned Zimbabwe Electricity Supply Authority Holdings (ZESA). The holding company operates through two subsidiaries; Zimbabwe Power Company (ZPC) and Zimbabwe Electricity Transmission and Distribution Company (ZETDC). These subsidiaries cover the entire electricity value chain, including power imports. The installed generation capacity reported in 2014 was 1,349 MW. The available capacity is very low resulting in electricity imports from Zambia, Namibia, South Africa and Mozambique and regular black outs.

**Table 48: Electricity operators in Swaziland**

| Type of operator | Provider/s | Indicators of size |
|---|---|---|
| Generation | ZPC | 1 349 MW |
| Transmission | ZETDC | |
| Distribution | ZETDC | |

*Source: ZPC*

### 16.1.2 Private and foreign participation

The participation of foreign and private investors in the electricity supply industry is limited. There are a handful of independent power producers (IPPs) with a relatively small contribution supplying electricity off the grid.

## 16.2 Institutional and regulatory framework

The Ministry of Energy and Power Development oversees energy policy in Zimbabwe's electricity sector through the Electricity Act of 2002.This Act gave rise to the unbundling of ZESA into separate companies and established the functions of an independent regulatory body. The Energy Regulatory Act of 2011 sets out rules for the function and management the Zimbabwe Energy Regulatory Authority (ZERA)In terms of this Act, anyone operating an electricity undertaking which generates, transmits, distributes or supplies power should be licenced by the Authority. Exemptions apply for generation capacities of less than 100 kW.

The Zimbabwean Energy Policy of 2012 aims to increase access to affordable energy services to all the citizens of Zimbabwe; to contribute to the eradication of poverty; to stimulate sustainable economic growth; and to reduce the country's heavy dependence on energy imports.

The regulations in trade in electricity services presented below are based on the legal framework presented above as well as information obtained from agency websites and other sources. Key findings with regard to Market Access, National Treatment and specific trade restrictions are summarised in Table 50 at the end of Section 16.

## 16.3 Openness to trade and investments

### *Market access*

#### Number of suppliers

The number of foreign suppliers of electricity generation services allowed to operate in Zimbabwe is not restricted by the legal framework. The state reserves the right to assume an interest in electricity supply companies.

#### Value of services transactions

No evidence could be found that the value of services transactions carried out by electricity industry service providers is restricted in any of the subsectors.

#### Number of services operations

Information sources analysed do not indicate a limitation on the total number of service operations or the quantity of output of electricity generation.

#### Number of natural persons

The current legislation sets no limitations on the total number of natural persons that can be employed in the electricity sector or by a supplier.

#### Legal form of commercial presence

The Electricity Law requires that a company be incorporated in Zimbabwe in order to obtain a licence.

#### Participation of foreign capital

The Indigenisation programme requires that “indigenous Zimbabweans” own at least 51% of all enterprises. There have been indications that this principle will be applied on a sector by sector basis. The Energy Regulation Act requires that companies who intend to embark on the licence application need to follow the law of the land.

### *National Treatment*

#### Discriminatory measures in licensing

Companies in the electricity supply industry, both domestic and foreign, face the same requirements in obtaining a license through ZERA.

#### Nationality requirements

Indigenisation provisions require the participation of indigenous Zimbabweans according to sector guidelines. No electricity sector specific guidelines were found.

### *Other restrictions*

#### Licensing procedures

Licencing procedures are carried out by ZERA. The licencing procedures are transparent and available to the public.

#### Repatriation of earnings

The Government of Zimbabwe has identified the electricity supply industry as a priority sector. As an incentive, requirements on the repatriation of earnings in this sector have been somewhat relaxed.

### Cross-border trade of electricity

ZESA is responsible for the regulation on cross-border trade in.

### Professional engineers

The Engineering Council of Zimbabwe regulates engineering practices in Zimbabwe. The organization allows for temporary registration of non-resident persons and foreign engineering firms.

## 16.4 Statistics

**Table 49: Key statistics for Zimbabwe**

| Detail | Statistic | Year | Source |
|---|---|---|---|
| Installed capacity | 1349 MW | 2014 | ZPC, 2014 |
| Available power | | | |
| Exports | 701 GWh | 2014 | SAPP, 2014 |
| Imports | 1071 GWh | 2014 | SAPP, 2014 |
| Peak demand | | | |
| Number of customers | 579,006 | 2014 | SAPP, 2014 |
| Transmission and distribution losses | 3.8% | 2011 | World Bank Data, 2014 |
| Electrical outages for firms (days/ year) | 15 | 2012 | COMESA, 2012 |
| Access to electricity (% of population) | 36.9% | 2011 | World Bank Data, 2014 |
| Access to electricity (% of rural population) | 13.3% | 2011 | World Bank Data, 2014 |

*Source: Sources listed above in references of document*

**Table 50: Limitations in trade in electricity services in Zimbabwe**

| | Limitation/Restriction | Generation | Transmission | Distribution |
|---|---|---|---|---|
| | **Market Access** | | | |
| 1) | Limitations on number of service suppliers | None | None | None |
| 2) | Limitations on total value of services transactions or assets | None | None | None |
| 3) | Limitations on total number of services operations/ quantity of service output | None | None | None |
| 4) | Limitations on number of natural persons | None | None | None |
| 5) | Restrictions on types of legal entity or joint venture | | | |
| | Establishment of a branch | None | None | None |
| | Establishment of a subsidiary | None | None | None |
| | Establishment of a joint venture | None | None | None |
| 6) | Limitations on participation of foreign capital | | | |
| | a. Acquisition of domestic public entity | Subject to presidential approval, Electricity Act | Subject to presidential approval, Electricity Act | Subject to presidential approval, Electricity Act |
| | b. Acquisition of domestic private entity | None | None | None |
| | **National Treatment** | | | |
| 7) | Discriminatory measures in licensing | None | None | None |
| 8) | Nationality requirements for foreign capital participation | Limit up to 49%, indigenisation law | Limit up to 49%, indigenisation law | Limit up to 49%, indigenisation law |
| 9) | Nationality requirements for employees | None | None | None |
| 10) | Any other discriminatory measures | None | None | None |

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