INVENTORY OF POLICY INTERVENTIONS – ETHIOPIA

DRAFT

POWER AFRICA TRANSACTIONS AND REFORMS PROGRAM (PATRP)

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The following draft report falls within the Policy Work Order (WO-17-US-03) of Power Africa/PATRP (PATRP Objective 4b).

This draft report was primarily generated by reviewing and analyzing published material on Ethiopia's energy sector, a non-exhaustive list of which is included in the References section. In addition, the report draws upon, and incorporates the collective expertise provided by PATRP's in-country team and other technical advisory staff. In particular, the insights provided by the in-country team have ensured that any policy interventions that we have proposed are focused on removing barriers to advancing actual or prospective Power Africa transactions.

In its current draft form, this report represents a working document that will be shared, and discussed further, with USAID. Therefore, any policy interventions included herein are preliminary in nature. Upon further direction by USAID, our recommended policy interventions can be augmented and verified by means of in-country due diligence assessments.

This draft report was submitted for review to the Activity Manager leading the Power Africa Policy Work Order on 15 October 2015.

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

CONTENTS

ACRONYMS

Acronym	Definition
AfDB	African Development Bank
AIP	Africa Infrastructure Project
BADEA	Arab Bank for Economic Development in Africa
CRGE	Climate Resilient Green Economy
EAPP	Eastern Africa Power Pool
EAREP	Electricity Access Rural Expansion Phase
EBITDA	Earnings Before Interest Taxes Depreciation and Amortization
EEA	Ethiopian Energy Agency (formerly Ethiopian Electric Agency)
EEP	Ethiopian Electric Power
EEPCO	Ethiopian Electric Power Corporation
EEU	Ethiopian Electric Utility
ETC	Ethiopian Birr
EPC	Engineering, procurement and construction
EREDPC	Ethiopian Rural Energy Development and Promotion Center
FDRE	Federal Democratic Republic of Ethiopia
GIS	Geographic Information System
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
HDS	Hydropower Development Strategy
HP	Hydropower Policy
IA	Implementation agreement
IDB	Islamic Development Bank
IEA	International Energy Agency
IFC	International Finance Corporation
IPP	Independent power producer
METEC	The Metals and Engineering Corporation
MoFED	Ministry of Finance and Economic Development
MoU	Memorandum of Understanding
MoWIE	Ministry of Water, Irrigation and Energy
MW	Megawatt
NAP GE	National Action Plan on Gender
NEP	National Energy Policy
OFID	OPEC Fund for International Development
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PATRP	Power Africa Transactions and Reforms Program

Acronym	Definition
PPA	Power purchase agreement
PPP	Public private partnership
REF	Rural Electrification Fund
REFIT	Renewable Energy Feed in Tariff
RISE	Readiness for Investment in Sustainable Energy
SREP	Scaling-Up Renewable Energy Program
TWh	Terawatt hour
UEAP	Universal Electricity Access Program
USAID	United States Agency for International Development
USD	United States Dollar
USEA	US Energy Association
WIAP	Women in African Power Network

EXECUTIVE SUMMARY

Ethiopia is one of Africa's fastest growing economies and has ambitious plans to expand electricity generation capacity to not only power its economy and widen access to electricity for its large population, but also to export electricity to the region. It will soon quadruple its power generation capacity through the commissioning of large hydro-electric dams. This is an unusual success story; yet large challenges loom. Electricity tariffs are way below cost-reflective levels. Indeed they are amongst the cheapest in the world and have not been adjusted for years. The consequence is that the fiscal sustainability of Ethiopia's public investment program in power will come under increasing strain and revenue risks will deter private investment. Ethiopia needs to diversify its energy mix away from its dependence on climate-vulnerable hydro-electricity. It has potentially large geothermal and solar resources but the enabling environment for private investment in independent power projects is lacking. And, after India and Nigeria, Ethiopia has the largest number of people without electricity.

Thus, there is a need for policies that prescribe specific actions in the areas of cost-reflective tariffs, competitive procurement of private investment, the promotion of non-hydro renewable energy such as geothermal energy, streamlining the pathway for project development to maintain sector sustainability, and further integrating Ethiopia into the Eastern Africa Power Pool (EAPP).

The legal and regulatory framework clearly delineates the roles, rights and obligations of public and private sector actors in the electric power subsector: the utility, the regulatory body and independent power producers (IPPs); however, this framework is incomplete, and thus creates uncertainty and a suboptimal climate for private investors. What is needed in this regard is legislation, regulations and specific directives to 1) achieve cost-reflective tariffs in light of political considerations; 2) address issues specific to geothermal,[1] and other renewable energy sources such as wind, solar and waste-to-energy power generation, perhaps via a feed-in tariff for smaller projects and competitive tenders; 3) strengthen integrated electricity planning; 4) streamline the pathway for project development, 5) establish model power purchase and implementation agreements, and 6) invest in strengthening institutions and building the capacity to execute these mandates.

Developing the power sector, integrating resources, developing generation master plans, and integrating these into larger economic growth and energy policy documents calls for increasing the amount of installed renewable electric power generating capacity, and expanding grid and off-grid electrification. However, Ethiopia has repeatedly missed the goals it has established in these areas (other than in large hydro). To correct this, its plans should aim to allay the concerns that private electric power subsector investors commonly hold, e.g., in regard to poor supply and demand data, unclear pathways for project development, competitive procurement, standardized contracts, bankable PPAs and government support, and Ethiopia's roles and responsibilities once integrated into EAPP.

Although the GoE has set ambitious targets for universal grid electrification, and its mandate for off-grid electrification is strong, Ethiopia has repeatedly missed its electrification targets. Areas for improvement are: 1) procedural efficiency, particularly in regard to the cost and time involved in

[1] Currently underway.

establishing a new grid connection, and in the permitting process for mini-grids, and 2) policies and regulations, particularly in regard to the enabling environment for investment in mini-grids by renewable energy project developers, and in stand-alone home systems. The utility needs support in improving procedural efficiency with respect to grid connections; similarly, the energy regulatory body and energy ministry need support in improving policies and procedures with respect to mini-grid permitting, and improving the enabling environment for investment.

National economic growth and energy policies address women's energy-related needs and issues of women's participation in the energy sector in such areas as enhancing access to modern energy services, improving participation in energy programs, facilitating participation in relevant decision making, introducing modern energy appliances in households, collecting gender-disaggregated information, facilitating credit for women, and raising awareness of energy-efficient technologies. However, these policies do not contain action plans or timeframes, thus making the implementation of measures to address these areas uncertain.

Recommended policy interventions are summarized in Table 1 below.

TABLE 1: RECOMMENDED POLICY INTERVENTIONS

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Area of Focus	Barriers	Associated Principle	Recommended Intervention(s), Prioritized by Impact	Effect of Intervention	Technical Assistance Required
Energy policies	Lack of policy initiatives in regard to tariff-setting at cost-recovery levels to ensure the creditworthiness of off-takers, competitive procurement of private investment in power, promotion of non-hydro renewable energy (such as geothermal energy), streamlining the pathway for project development, and, further integrating Ethiopia into the EAPP. These issues pose serious future fiscal challenges to the GoE and constrain the sustainable development of the power sector in Ethiopia	Creditworthy off-takers Cost-reflective retail tariff structures Clear and transparent procurement processes Strong regional power pools Streamlined and transparent processes for project development	Issue policies with specific actions on regulatory and utility capacity building around cost-reflective tariffs, competitive procurement of private investment in power, promotion of non-hydro-renewable energy, an expedited project development pathway, and EAPP	A cost-reflective tariff will provide a more sustainable basis for financing public and private power, competitive tenders will build a pipeline of competitively priced IPPs, clearer RE policies will diversity Ethiopia's energy mix. Integration with EAPP will facilitate exports. All of these policy interventions will allow Ethiopia to achieve desired levels of installed non-fossil generating capacity and widened access to electricity	Provide technical drafting assistance to the GoE and Ministry of Water, Irrigation and Energy (MoWIE) to produce these outstanding policies

TABLE 1: RECOMMENDED POLICY INTERVENTIONS

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Area of Focus	Barriers	Associated Principle	Recommended Intervention(s), Prioritized by Impact	Effect of Intervention	Technical Assistance Required
Energy laws	Extant gaps in the legal framework create uncertainty and a suboptimal climate for private investors, i.e., lack of legislation: 1) to govern regulatory approval of power purchase agreements (PPAs), 2) on a feed-in tariff and/or competitive tenders; and 3) to develop renewable resources such as geothermal energy	Increased clean energy share Clear and transparent legal and regulatory framework	The Ethiopian state should promulgate legislation to govern regulatory approval on PPAs; 2) make provision for feed-in tariffs for smaller RE projects and competitive tenders for larger projects and 3) a specific geothermal energy law Power Africa is already helping to amend the legal and enabling environment framework to allow for greater private investment in the power sector	Accelerated private investment in power	MoWIE should receive continued support to fill in extant gaps in the legal framework, e.g., on PPAs, feed-in tariffs and competitive tenders, and a geothermal energy law to attract great private participation in the electric power subsector

TABLE 1: RECOMMENDED POLICY INTERVENTIONS

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Area of Focus	Barriers	Associated Principle	Recommended Intervention(s), Prioritized by Impact	Effect of Intervention	Technical Assistance Required
Energy regulatory framework and tariffs	Electricity tariffs have not been increased since 2006 and are way below cost-reflective levels (they are amongst the cheapest in the world) with the consequence that the utility is not financially sustainable and new public and private investments cannot be supported by sufficient revenue to service debt and reward equity. The consequence is threats to the GoE fiscus on publicly financed projects and barriers to IPP investment	Cost-reflective tariffs	Develop cost-reflective tariff framework for urgent implementation	Tariffs rise to cost-reflective levels which foster fiscal sustainability and reduce risks for IPP investments	Provide dedicated support to EEA on the development of a cost-reflective tariff framework, based on international best practice, for urgent implementation

TABLE 1: RECOMMENDED POLICY INTERVENTIONS

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Area of Focus	Barriers	Associated Principle	Recommended Intervention(s), Prioritized by Impact	Effect of Intervention	Technical Assistance Required
Power sector development plans/integrated resource plans/generation master plans	Official plans do not propose specific solutions to key concerns for private renewable electric power subsector investors, e.g., poor supply and demand data, and an uncertain future for EAPP. Additionally, insufficient planning tools for electric power generation, transmission and distribution limit the utility's ability to estimate and implement strategic and integrated planning for demand growth. There is also a lack of individuals with well-rounded utility management experience in operations, forecasting and long-term planning	Increased clean energy share Strong regional power pools Sound, strategic and integrated power sector planning	Generate and make available better supply and demand data/forecasts, including the balance between local demand and export potential. Provide the utility with better transmission and distribution tools, in addition to the ongoing support of a transaction advisor	Official plans with more complete supply and demand data and on the future of EAPP would facilitate private renewable electric power subsector investment, and reverse the trend of repeatedly missing installed renewable power generating capacity and electrification targets The utility acquiring greater generation, transmission and distribution planning tools and having the ongoing support of an advisor in the area of utility management and distribution operations would allow it to forego the services of outside consultants	MoWIE and the utility should receive advisory support in the areas of supply and demand data, transmission and distribution planning, and achieving regional power pools

TABLE 1: RECOMMENDED POLICY INTERVENTIONS

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Area of Focus	Barriers	Associated Principle	Recommended Intervention(s), Prioritized by Impact	Effect of Intervention	Technical Assistance Required
Power generation procurement framework and processes	Lack of clarity around procurement and contracting framework for IPPs results in long delays in securing private investment GoE ministries and agencies have very little in-house legal expertise in the area of PPAs and IAs	Clear and transparent procurement processes	Initiate competitive tenders for new power generation capacity Issue updated procurement-related rules Establish central procurement unit within utility Provide capacity building for procurement staff Bolster GoE and utility in-house legal expertise in regard to PPAs and IAs USAID is collaborating with EEP to place a procurement advisor to assist and train EEP procurement personnel Power Africa is assisting in the establishment of a procurement delivery unit It is also helping to establish a dedicated delivery unit and “one-stop-shop” to streamline IPP and PPP projects	Competitive tenders and standardized documentation and contracts will create a pipeline of competitively priced IPPs	Expert advice is also necessary to design and prepare documentation for competitive tenders and contracts for new generation capacity Government and the utility should receive support in order to establish a strong, transparent and efficient central procurement unit, as well as the required contracts (PPAs, IAs) and risk mitigation measures required to secure private investment

TABLE 1: RECOMMENDED POLICY INTERVENTIONS

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Area of Focus	Barriers	Associated Principle	Recommended Intervention(s), Prioritized by Impact	Effect of Intervention	Technical Assistance Required
Electrification targets, planning and execution (for grid and off-grid)	EEA and MoWIE have room for improvement in 1) procedural efficiency, and 2) policies and regulation	Universal electricity access, achieved through the strategic use of on-grid, off-grid, and small-scale solutions Increased clean energy share	Power Africa is working to expand access to electricity by increasing connections to the electricity grid, promoting small-scale grid and off-grid renewable energy systems, and expanding the reach of community lighting programs. It is also working to accelerate and expand opportunities for private investment for transmission and distribution projects and cross-border electricity trade	Support provided to EEA and MoWIE would improve 1) procedural efficiency, particularly in regard to the cost and time involved in establishing a new grid connection, and in the permitting process for mini-grids, and 2) policies and regulation, particularly in regard to the enabling environment for investment in mini-grids by renewable energy project developers, and in stand-alone home systems Such support increases the ability to reach targets for universal grid electrification under the Universal Electricity Access Project (UEAP), and off-grid electrification through the Rural Electrification Fund (REF)	The utility should receive continued support in improving procedural efficiency with respect to grid connections, and EEA and MoWIE should receive continued support in improving policies and procedures with respect to mini-grid permitting, and improving the enabling environment for investment

TABLE 1: RECOMMENDED POLICY INTERVENTIONS

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Area of Focus	Barriers	Associated Principle	Recommended Intervention(s), Prioritized by Impact	Effect of Intervention	Technical Assistance Required
Gender equality and female empowerment	Insufficient capacity to implement gender-sensitive policy provisions and exclusion of women's voices in energy planning	Gender equality and female empowerment	Provide gender mainstreaming capacity building Promote women's participation in energy planning	Gender integration in the implementation of the National Energy Policy (NEP) guided by the National Action Plan on Gender (NAP GE) as well as increased women's participation in the sector	Gender mainstreaming workshop and resources, and promotion of women in the sector through the Women in African Power Network (WIAP)

1 PROFILE OF ETHIOPIA'S ENERGY SECTOR

1.1 GENERATION CAPACITY AND MIX

The Federal Democratic Republic of Ethiopia (FDRE) has a total of 2434 MW of installed capacity, of which around 1950 MW are dependable capacity. All of it is owned and operated by the national state-owned generation and transmission company, Ethiopian Electric Power (EEP). 80% of the country's installed capacity is hydro. The balance is generated from three wind farms, two cogenerators, a small geothermal plant, and some emergency diesel generators. Ethiopia's generation capacity is summarized in Table 2.

TABLE 2: ETHIOPIA'S GENERATING SECTOR

No.	Power Plants	Installed Capacity (MW)	Dependable Capacity (MW)	Type	Ownership
1	Tis Abay I	11.30	-	Hydro	EEP
2	Tis Abay II	73.00	-	Hydro	EEP
3	Beles	460.00	460.00	Hydro	EEP
4	Koka	43.20	18.70	Hydro	EEP
5	Awash II	32.00	12.00	Hydro	EEP
6	Awash III	32.00	24.00	Hydro	EEP
7	Finchaa including IVth Unit	134.00	128.00	Hydro	EEP
8	Melka Wakena	153.00	114.50	Hydro	EEP
9	Finchaa Amerti Neshe	98.00	98.00	Hydro	EEP
10	Sor	5.00	-	Hydro	EEP
11	Gilgel Gibe-I	192.00	184.00	Hydro	EEP
12	Gelgel Gibe 2	420.00	420.00	Hydro	EEP
13	Tekeze	300.00	300.00	Hydro	EEP
14	Aluto Langano	7.30	5.00	Geothermal	EEP
15	Adama I	51.00	17.85	Wind	EEP
16	Ashegoda	120.00	30.00	Wind	EEP
17	Adama II	153.00	45.90	Wind	EEP
18	Wonji Sugar	30.00	16.00	Bagasse	EEP
19	Finchaa Sugar	30.00	10.00	Bagasse	EEP
20	Awash 7kilo Diesel	35.00	30.00	Emergency diesel	EEP
21	Kaliti I Diesel (Containerized)	14.00	10.00	Emergency diesel	EEP
22	Dire Dawa Diesel	40.00	30.00	Emergency diesel	EEP
	TOTAL	2433.80	1953.95		

Source: EEP

Ethiopia is currently building some large hydro-electric dams which will significantly expand generation capacity. The Gibe III dam will add 1870 MW in 2015 and the Grand Ethiopian Renaissance Dam will add a further 6000 MW by 2017/18. The funding of these huge state-owned projects will place significant strains on government finances and brings into sharp focus the need for cost-reflective tariffs to finance infrastructure as well as a coherent planning.

1.2 ELECTRICITY ACCESS LEVEL AND TARGETS

The national electrification rate[2] for Ethiopia in 2012, the last year for which data is available,[3] was 23%,[4] meaning that 70 million people in Ethiopia are without access to electricity. However, urban and rural areas of the country have disparate levels of access to electric power; the urban electrification rate was between 85 and 86% in 2012, but this rate in rural areas was between 2 and 10%.

53.5% of towns and villages had access to electricity in 2012/13 compared to 41% in 2009/10.[5] The goal for electricity service coverage under the Growth and Transformation Plan (GTP) is 75% in 2014/15, and the goal under the Carbon Neutral Green Economy (CGRE) is 100% by 2020. As of December 2014, the GoE's Rural Electrification Program, encompassing both grid and non-grid connections, had electrified 5,189 rural towns and villages.[6]

1.3 POWER MARKET STRUCTURE, INCLUDING IPP PARTICIPATION

In December 2013, the GoE split the Ethiopian Electric Power Corporation (EEPCO) into two separate public enterprises (under Council of Ministers Regulations 302/2013 and 303/2013).[7] Ethiopian Electric Power (EEP) is now charged with investment, expansion and operation of generation and transmission infrastructure, while Ethiopian Electric Utility (EEU) is charged with the management of distribution networks, bulk power purchases and retail sales to customers. EEP and EEU report to the same Board of Directors as did EEPCo, and, also similar to EEPCo, both fall under the Ministry of Water, Irrigation and Energy (MoWIE). This structure is shown in Figure 1.

[2] The electrification rate is defined as the percentage of the population with access to grid- and non-grid-sourced electric power.

[3] International Energy Agency, *2014 World Energy Outlook.*

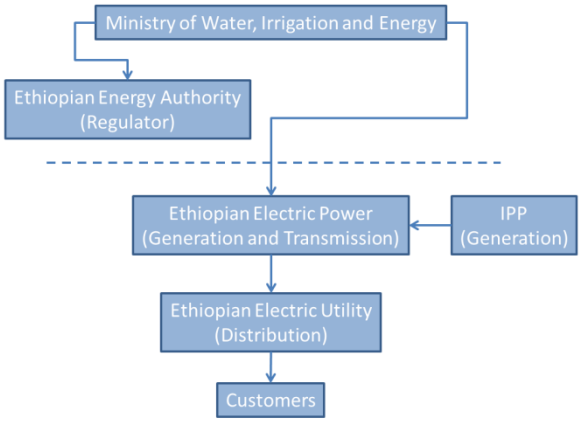
[4] The World Bank's world development indicators place this figure at 27% for 2012.

[5] Ethiopian Ministry of Finance and Economic Development (MFED), February 2014.

[6] World Bank, 2014.

[7] Federal Negarit Gazette of the Federal Democratic Republic of Ethiopia, 27 December 2013.

FIGURE 1: STRUCTURE OF ETHIOPIAN ELECTRICITY SECTOR



Following the split of EEPCO in December 2013, a new energy proclamation was enacted on January 27, 2014: Energy Proclamation No. 810/2013. One of the main focuses of the proclamation was to expand the role and responsibility of the regulator, Ethiopian Energy Authority (EEA). Although EEA is an autonomous federal government organ, it nonetheless is accountable to and falls under MoWIE.

Part 2, Section 4 (Powers and Duties of the Authority) of the proclamation "granted EEA [the authority] to approve electric Power Purchase and Network Service agreements,"[8] paving the way for independent power producers (IPPs) to be able to sell power to EEP. Ethiopia currently has no IPPs. However, in July 2015, EEP and Corbetti Geothermal Company signed Ethiopia's first power purchase agreement (PPA) for up to 500 MW of power from the Corbetti geothermal caldera.

1.4 KEY SECTOR INSTITUTIONS AND MANDATES

The Ministry of Water, Irrigation and Energy promotes Ethiopia's socio-economic development through 1) the sustainable management of its water and energy resources, 2) quality and equitable provision of water and energy throughout the country while meeting international standards, and 3) significantly contributing to food security and exchange rate stability. MoWIE strives for power-related targets established under the GTP, including those relating to hydropower infrastructure development, and the promotion of solar, wind energy and bio-fuels. Its mandate contemplates the following specific power-related responsibilities:

- Administer certain dams and water structures constructed using the federal budget, e.g., hydro-electric plants
- Undertake studies concerning the development and utilization of energy
- Promote the growth and expansion of Ethiopia's electric power supply
- Promote the development of alternative energy sources and technologies.

Electric power falls under the purview of the following bodies under MoWIE:

- Ethiopian Energy Authority is responsible for regulating the power sector (see below).
- Ethiopian Electric Power (EEP) is charged with investment, expansion and operation of generation and transmission infrastructure.

[8] Ibid., page 7225.

- Ethiopian Electric Utility (EEU) is charged with the management of distribution networks, bulk power purchases and retail sales to customers.

Accountable to MoWIE, the Ethiopian Energy Authority regulates the power sector, and is responsible for, inter alia, 1) issuing technical codes, standards and directives, including on energy efficiency and conservation, 2) commissioning programs and projects on energy efficiency, 3) issuing and renewing investment licenses to operators in all segments of electricity operation, e.g., generation, transmission, distribution, sales, exports and imports, 4) setting performance standards, and 5) proposing grid tariffs, although it can only make a recommendation to its board as grid tariff approval is the responsibility of the Council of Ministers. A board of directors governs the Ethiopian Energy Authority, and it has specific powers to approve regulatory directives and proposals relating to "off-grid national" tariffs and tariff determination guidelines, the national energy efficiency strategies and programs, model PPAs, and model network agreements.

1.5 STATE OF THE UTILITY

EEPCo enjoyed a healthy financial standing approximately ten years ago,[9] i.e., in 2004-2005; however, low power tariffs and an aggressive electrification expansion plan caused EEPCo's finances to progressively weaken until August 2006, when the government authorized power tariff increases. While the 2006 tariff increases provided temporary buoyancy to EEPCo's finances, the government has not authorized any increases since; rather, it has prioritized supply-side efficiency improvements to bolster revenues while reigning in costs. Additionally, the ETB[10]/USD rate has progressively increased in recent years, thus eroding EEPCo's tariffs in USD terms and damaging its ability to meet USD-denominated obligations, e.g., USD-denominated debt or equipment purchases.

EEPCo also suffered from financial management shortcomings. It began using a computerized accounting and billing system in 2006, but failed to properly import consumer data into the system's database, forcing it to balance its accounts and ledger manually. EEPCo audits regularly missed submission deadlines, and EEPCo appears unable to address auditors' repeated observations and concerns. Additionally, the quality of periodic interim financial reports varies, which is in part attributable to significant problems still plaguing EEPCo's corporate-level accounting system, particularly in regard to its billing system interface.

Although EEPCo did not make its financial statements available, for the three-year period between 2010 and 2012, its 1) average debt service coverage ratio for 2010-2012 was 0.3, 2) its current ratio[11] was 1.3, and 3) its earnings before interest, taxes, depreciation and amortization (EBITDA) margin[12] was 0.8 %.[13] This suggests a mediocre financial performance for EEPCo and likely difficulty in meeting its financial obligations.[14]

[9] World Bank, Access to Electricity in Ethiopia, June 2015.

[10] ETB is the Ethiopian currency.

[11] Current assets / current liabilities.

[12] In USD terms, the EBITDA margin measures the number of cents of EBITDA generated per dollar of sales.

[13] World Bank data.

[14] For comparison purposes, the World Bank RISE database points to the exemplary financial performance of the Chilean utility Chilectra, with a debt service coverage ratio of 2.7, a current ratio of 0.9, and an EBITDA margin of 15.7% for 2011-2013.

EEPCo will split its balance sheet between EEP and EEU, and transfer to them assets and liabilities according to each entity's operations. The government will resolve or write off any pre-existing auditor qualifications before it transfers EEPCo's assets and liabilities to EEP and EEU, thus allowing EEP and EEU to commence with clean balance sheets. The challenge in this regard will be that EEP will bear significant new liabilities due to its extensive portfolio of generation and transmission projects and will be dependent on payments it receives from selling bulk power to EEU, its major customer. EEP is also currently selling power to such neighboring countries as Sudan and Djibouti, and has a PPA with Kenya to sell 400 MW by 2018, which will help EEP's finances. It is also under negotiations for selling up to 600 MW to other EAPP member countries.

EEP and EEU will report to the same Board that formerly controlled EEPCo. While both entities have finalized their staffing organograms and have filled their respective management positions through a competitive selection process, selection is ongoing to fill technical positions.

The utility's troubled financial standing was exacerbated by its customers' inability to pay for the electricity consumed, particularly relatively new consumers connected under the government's rural electrification initiative. The lack of tariff increases since 2006 have also had a negative impact and could compromise EEU's obligations to make payments to EEP and to future IPPs.

Electric power transmission and distribution losses,[15] expressed as a percentage of total power produced, were between 15 and 23% for 2012, the last year for which official data is available.[16] The technical vs. commercial losses are unknown, as are the transmission vs. distribution losses, although "the major share is attributable to poor design of the distribution network."[17]

[15] Defined as losses in transmission between sources of supply and points of distribution and in distribution to consumers, including pilferage.

[16] IEA and Climate Investment Funds report, 2012.

[17] Climate Investment Funds report.

2 ETHIOPIA'S ENERGY POLICY FRAMEWORK

This section reviews Ethiopia's relevant energy policies, laws, and regulatory framework, as well as its power sector development plans, procurement framework and processes, and electrification targets.

2.1 ENERGY POLICIES

The following documents encapsulate Ethiopia's official policy on cleaner energy, and address investment in the electric power subsector to varying degrees:

- In 2001, the then Ministry of Water Resources developed the Ethiopian Water Sector Strategy, encompassing a Hydropower Development Strategy (HDS). HDS aims to guide hydropower development in observance of economic feasibility and social and environmental constraints to meet the present and future domestic and foreign demand. In this vein, HDS addresses the technical and engineering, financial and economic, institutional, and capacity building aspects of hydropower development. As an accompanying document to HDS, the Ministry of Water Resources also published the Ethiopian Water Sector Policy, encompassing a Hydropower Policy (HP). HP appears to be a more concise but less structured version of HDS. Among the many policies contemplated under HP is "to encourage the involvement of domestic investors in the development of hydropower resources;" HP does not address foreign investment in hydropower nor does it provide any further detail on how to spur such domestic investment.
- The September 2006 Plan for Accelerated and Sustained Development to End Poverty (PASDEP), issued by the Ministry of Finance and Economic Development (MoFED), details several sectoral policies, strategies and programs toward eradicating poverty. In regard to the electric power subsector, PASDEP asserts high-level goals in such areas as increasing installed capacity across several generation technologies, building transmission and distribution and system operation infrastructure, including rural electrification, and an institutional framework. PASDEP does not address private and/or foreign investment in the electric power subsector in any substantive way.
- The November 2010 Growth and Transformation Plan (GTP 2010/11) is the Ethiopian government's current guiding document for broad economic development through 2015. GTP 2010/11 quantifies electric power-related targets and provides policy guidance in such areas as hydro-electric power generating capacity, total length of transmission and distribution lines, power waste reduction, and number of consumers with access to electricity and coverage of electricity services. In addition, GTP 2010/11 provides policy guidance without quantification in such areas as energy efficiency and electric power conservation regulations, development and promotion of alternative energies, and energy sector capacity building. GTP 2010/11 explicitly states that the government "will seek to meet increasing demand for energy by encouraging private investors," and that actions in this regard "include licensing applicants and granting certificates of competence to potential energy producers," in addition to ensuring the application of "reasonable tariff structures that are affordable."

- The Ethiopian government published its Climate-Resilient Green Economy Strategy (CRGE) in 2011. CRGE asserted four pillars of its green economy development strategy, among them was to expand electric power generation from renewable sources of energy for both domestic and neighboring markets. CRGE addresses at a high level the need to increase expenditures in electric power generation, noting that such increases could occur "via a combination of tariff adjustments and the attraction of private capital."
- The Scaling-Up Renewable Energy Program aims to diversify Ethiopia's electric power mix by incorporating geothermal and wind energy, and accelerate electrification by making more energy available in the system. The February 2012 SREP Investment Plan (SREP IP), issued by the Ministry of Energy and Water, identifies and prioritizes several investment-ready projects, although SREP IP only envisages such investment on the part of the GoE, SREP, multilateral development banks and other donors. Although one of the projects SREP IP priorities involves a clean energy investment facility for small- and medium-sized enterprises, SREP IP does not appear to address key concerns for private, foreign investors in cleaner electric power generation and access to electricity.
- The February 2013 Ethiopian National Energy Policy (NEP 2013) builds on the energy-related issues contemplated under the GTP 2010/11. For the electric power subsector, NEP 2013 provides a snapshot of supply and demand, points to key issues, and identifies supply- and demand-side policy objectives and instruments. The cross-cutting issues NEP 2013 describes include the energy regulatory framework and sector governance; energy sector institution and capacity building; energy planning, efficiency and conservation, and pricing; research and development; environmental and social impacts of energy sector activities; gender issues in the energy sector; and energy-related regional and international cooperation. Among the policy objectives NEP 2013 puts forth are to 1) "attract domestic and foreign investments in energy services provision through providing appropriate fiscal and tariff-based incentives," and 2) "expand off-grid power supply to rural areas through creating incentive mechanisms to attract private investment."

These official policies communicate broad objectives for electric power subsector development, but none provides a detailed plan for improving the climate for private, foreign investors in the subsector.

2.2 ENERGY LAWS

Energy Proclamation No. 810/2013 establishes the institutional framework for the electric power subsector. It also clears the path for an energy law to regulate the electric power subsector.

Two laws/regulations establish the institutional framework for the electric power subsector. Council of Ministers Regulation No. 302/2013 establishes the EEP as a public enterprise under the Ministry of Water, Irrigation and Energy. Similarly, Council of Ministers Regulation No. 303/2013 establishes the EEU as a public enterprise under the same Ministry.

In regard to the Ethiopian electric power subsector's openness to private and foreign investment, the government, through public enterprises EEP and EEU, has exclusive rights over the transmission and distribution of electric power through the national grid; all other areas of the electric power subsector are open to investors, including foreigners, pursuant to the Council of Ministers Regulation No. 84/2003. In this sense, investors may participate in electric power generation from any source without any capacity limit. Additionally, private investors may operate off-grid electric power transmission and distribution infrastructure.

The GoE has several rules providing for investment incentives that affect the electric power subsector, including:

- Relief from customs duties levied on capital goods, e.g., electric power equipment, for investors engaged in the generation, transmission and distribution of electric power.
- Temporary exemption from income taxes for certain investors engaged in the transmission and distribution of electric power; investors may carry forward losses beyond the expiry of the income tax exemption period.

However, there remain gaps in current Ethiopian law in regard to supporting cleaner power generation and wider access to electric power, including:

- Ethiopia has no legislation to govern the regulatory approval of PPAs.
- Additionally, Ethiopia does not have legislation to govern PPPs.

However, these are both under development.

2.3 ENERGY REGULATORY FRAMEWORK AND TARIFFS

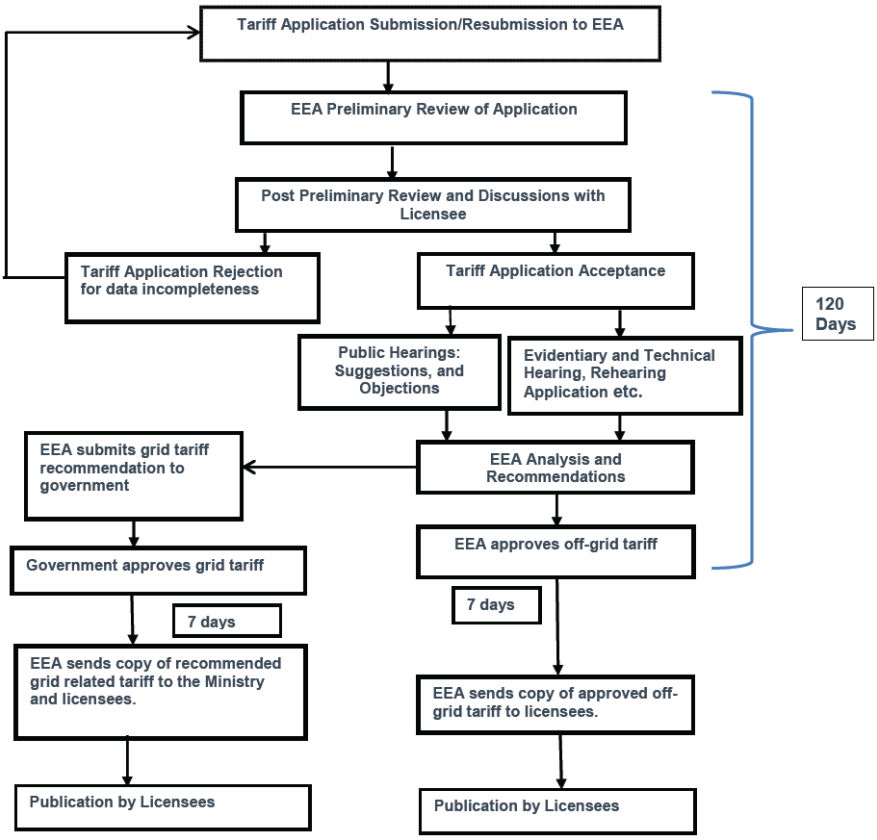
The EEU is responsible for the initiation of electric grid power tariff amendments for subsequent review by EEA. EEA then studies and recommends electric grid power tariffs based on the observance of certain regulatory[18] objectives and tariff[19] principles, including marginal cost analyses. Once approved by the Council of Ministers, the EEA authorizes its implementation. Additionally, EEA is empowered to negotiate tariffs for fully off-grid IPPs, and approve proposals relating to the national off-grid tariff.

[18] The regulatory objectives include financial sustainability, productive efficiency, allocative efficiency and distributional fairness.

[19] The tariff principles include cost reflectivity, financial viability, non-discrimination, transparency and ease of application, sending correct price signals, quantification and targeting of subsidies, appropriate structuring of tariffs, cost causer pay rule, demand response, demand-side management and market competition.

Figure 2 illustrates the Ethiopian grid and non-grid tariff review and approval process:

FIGURE 2: ETHIOPIA'S TARIFF APPROVAL PROCESS



Source: European Commission

Although the EEA recommends marginal cost-based electric power tariffs, the definitive tariffs actually approved by the Council of Ministers are not necessarily cost-reflective. Since 2006 when the Council of Ministers authorized tariff increases, tariffs have been falling in real terms. The GoE is aware of the gap between cost and tariff levels, and the Ethiopian Energy Authority has received an application to increase tariffs to a level at which cost recovery is possible.

EEA has drafted an *Ethiopian Electricity Feed-In Tariff Proclamation*, originally slated for promulgation in 2012; however, the Ministry of Water, Irrigation and Energy continues its review of the proposed Proclamation, such that the Proclamation has yet to receive approval from the Council of Ministers. The purpose of the Proclamation is to provide private investors with investment security and market stability in order to facilitate large-scale renewable energy investments in the sector. It remains unclear whether an eventual Ethiopian Renewable Energy Feed-in Tariff (REFIT) adopted by the Council of Ministers would follow the avoided-cost method or a standardized, cost-reflective, technology-specific method.

In regard to decisions on off-grid tariffs, EEA may approve or reject a licensee's off-grid tariff application only after having considered all suggestions and objections received from the public. Under law, EEA must grant the licensee applicant a hearing prior to rejecting the application. In contrast, EEA may only recommend on-grid tariffs to MoWIE as EEA cannot approve such tariffs; however, EEA will publish both its recommendation and the eventual government-approved on-grid tariff.

The EEA issues, suspends and revokes licenses for the generation, transmission, distribution and sale, import and export of electric power, and collects license fees pursuant to standing regulations. In this regard, EEA observes the Council of Ministers Regulation to Provide for the Regulation of Energy Operations, which governs 1) requirements for the application, issuance or refusal to issue, authorization and conditions for licenses and certificates of competency, 2) the registration and advertisement of applications for licenses and procedures for competitive procurement of bulk energy, 3) the duration, renewal, amendment, replacement, transfer and termination of licenses and certificates of competency, and 4) fees for licenses and certificates of competency. The Council of Ministers Regulation to provide for the Regulation of Energy Operations also details the rights and obligations of licensees, customers and certified persons.

In regard to licensing, if EEA refuses to issue the license sought by an applicant, it must notify the applicant in writing of the refusal and the reasons for the refusal. The applicant has the right to seek an internal review of the refusal. EEA's decision on the issuance of a license follows the publication of a license application receipt notice in a widely circulated periodical, and public hearings on the application, should EEA receive objections from directly affected persons.

Pursuant to Energy Proclamation No. 810/2013, the Ethiopian Energy Authority has issued an Ethiopian Electricity Services Quality Standards Directive to establish quality standards for licensee-provided electric power services in Ethiopia, and bring them in line with best regulatory and industry practices. Such directive addresses: 1) quality of service to customers, 2) quality of electricity supply, 3) continuity of supply in regard to interruptions and outages, and 4) quality of supply from licensees.

The government's February 2013 National Energy Policy points to the weak institutional capacity of existing energy sector regulatory bodies, e.g., EEA. Ongoing training of personnel in managerial and technical areas is necessary to ensure effective regulation of the electric power subsector.

The NEP 2013 also points to a weakness in enacting and enforcing energy sector laws and regulations. A strengthening of standards and enforcement measures across the energy sector is necessary in order to ensure safety and efficiency.

Current electric power sector data relating to resources, supply, consumption and finance are lacking. This forms a significant obstacle to proper power sector planning, management and regulation, as well as private sector participation in the subsector.

2.4 POWER SECTOR DEVELOPMENT PLANS/INTEGRATED RESOURCE PLANS/GENERATION MASTER PLANS

The GoE released the *Power System Expansion Master Plan Study* in November 2013, serving as the country's official electric power expansion plan for the subsequent 25 years. The study forecasted electric power demand over the subsequent 25 years, assessed all extant feasibility and pre-feasibility studies, included a 25-year least-cost generation and transmission plan, estimated the long-run marginal cost of the enlarged power system, assessed the financial viability of the proposed expansion plan, and estimated the expected impact on tariffs.

The Power System Expansion Master Plan Study (along with HDS/HP, PASDEP, GTP, SREP IP, CRGE and NEP) provide ambitious goals for increasing installed electric power generating capacity

(including capacity from renewable sources) and expanding grid and off-grid electrification throughout Ethiopia's rural areas. While Ethiopia is making impressive progress in new large hydro-electric plants that will soon expand system capacity from about 2.4GW to 10GW, it has made slower progress in other areas such as private sector investment in geothermal and solar energy and electrification. Ethiopia is moving slowly to meet key concerns for private renewable electric power investors. These include lack of a regulatory framework specifically for renewable energy generation, non-cost-reflective tariffs, the questionable creditworthiness of utility off-takers, absence of a PPA framework, uncertainty in procurement processes (including the absence of international competitive tenders), lack of reliable and current supply and demand data, unclear pathway for project development in regard to permits and other legal requirements, and uncertainty as to the future of EAPP.

In the context of the COP17 in Durban, South Africa and the CRGE initiative, the GoE estimated in 2011 that total power demand would grow from 4 TWh in 2010 to 70 TWh in 2030,[20] a 14% increase annually. These projections stem from data on expected GDP growth, energy consumption intensities by sector, and energy efficiency gains.

In order to meet 70 TWh of electric power demand in 2030, the GoE estimated a required investment in installed generating capacity of USD 38 billion over 20 years (i.e., 2010-2030), or approximately USD 2 billion annually. Current spending to increase installed capacity at the time of this estimate was USD 1 billion, and the GoE asserted that the additional financial resources needed in this regard could come from a combination of tariff adjustments and the attraction of private capital, climate finance, sovereign wealth funds, and the donor community (e.g., grants).

Power planning currently occurs within EEP, in collaboration with such other bodies within MoWIE such as the Planning and Foreign Relations Coordination Directorate and the Energy Study and Development Follow-up Directorate. Such power system planning follows the Ethiopian Power System Expansion Master Plan, which the GoE updates approximately every two years.

2.5 POWER GENERATION PROCUREMENT FRAMEWORK AND PROCESSES

All existing power plants have been publicly procured and there are, as yet no IPPs. No competitive tenders have been run for private power, although the GoE has entered into direct negotiations with individual IPPs.

There is evidence of a direct link between integrated resource plans / generation master plans and the initiation of procurement processes for new capacity in Ethiopia. The February 2012 SREP IP contemplates investment in a 100 MW wind power project for which the then-utility (EEPCo) would execute a competitive bidding process for the procurement of an engineering, procurement and construction (EPC) contract in observance of international standards, e.g., those of multilateral development banks.

International competitive bidding is not mandatory, although it does occur, particularly where relevant funds proceed from the donor or development finance community, e.g., World Bank. EEP also uses such other procurement vehicles as national competitive bidding (referred to as "open bidding" in the EEPCo Procurement Manual), shopping, and direct contracting.

[20] Extraordinary energy efficiency gains could limit electric power demand to 50 TWh in 2030.

Public Enterprises Proclamation No. 25/1992 governs EEP[21] and EEU. Federal public bodies other than public enterprises procure goods and services pursuant to Federal Public Procurement Proclamation No. 649/2009; however, as they are public enterprises, EEP procures goods and services pursuant to its procurement manual (i.e., procurement guidelines) as opposed to Federal Public Procurement Proclamation No. 649/2009. As EEP is a relatively new entity, it has adopted the June 2012 EEPCo Procurement Manual that draws upon, inter alia, the Federal Public Proclamation and World Bank Procurement Guidelines. This EEPCo Procurement Manual requires updating in order to reflect changes in names and institutional arrangements, and to take into account accountability regimes (e.g., appropriate delegation, approvals, and complaints).

EEP's organizational structure shows that its corporate procurement activities fall under the purview of the CFO. The EEPCo Procurement Manual EEP has adopted details for procurement entities: 1) a procurement unit to process procurement requests, 2) an ad hoc bid evaluation committee to provide subject matter expert evaluation of submitted bids, 3) an award committee[22] to endorse subject matter expert evaluation reports, and 4) a board[23] to provide oversight and issue awards. A significant share of EEP procurement staff previously worked in procurement for EEPCo, many of whom remain in the same or a similar role.

EEP is still finalizing its organizational structure, updating and implementing relevant systems and manuals, and empaneling necessary working groups, committees and teams will take time. As such, the following constitute possible areas for improvement: 1) procurement decision-making timetable, 2) ability to comply with sector-specific business delivery standards, 3) procurement process quality assurance and accountability system, and 4) procurement-related capacity building, career development path, and remuneration for procurement staff.

As EEP is a relatively new entity, it is still too early to accurately comment on its procurement-related organizational structure in regard to the allocation of responsibilities, reporting relationships, decision-making authorities, and business performance standards. However, EEPCo's organizational structure in this regard was inefficient, and its internal procedural manuals, instructions and historical compliance were unsatisfactory. Therefore, these represent organizational issues that EEP could have inherited from EEPCo and would need to be addressed.

Also due to EEP's relatively recent establishment, its internal services and control mechanisms – which serve as a system of checks and balances, procurement audit independence and credibility, and internal quality control – remain unknown. Under current law,[24] EEP must establish internal technical and administrative control systems for performance audits, quality control, and board oversight. EEP is in the process of implementing systems and procedures, but these areas represent possible weaknesses moving forward.

Capacity-strengthening actions to ensure good procurement and contracts management practices are necessary. Such capacity-strengthening actions could address inefficient procurement cycle management in regard to the poor bid submission quality and the lengthy procurement decision timetable (e.g., for subject matter expert evaluation reports and awarding contracts), likely

[21] EEP Regulation No. 302/2013 specifically governs EEP.

[22] Tender Endorsing Committee (TEC).

[23] This is the same board that previously oversaw EEPCo.

[24] Public Enterprises Law

stemming from either a lack of procurement skills or burdensome regulation of the procurement process.

High staff turnover is a challenge EEPCo faces, and will imperil the effectiveness of future institutional capacity-building measures taken. EEP will need to be cognizant of maintaining a clear career path for procurement staff and of providing sufficient incentives to attract and retain such staff.

EEP is already collaborating with the donor and development finance community, including the World Bank, to achieve a strong central procurement unit, with a well-defined career path for its procurement staff, and to increase institutional capacity in the areas of procurement and contracts management in order to avoid the systemic challenges faced by EEPCo in these same areas. Additional areas for improvement include the development of well-defined business delivery standards and the delegation of appropriate approval thresholds to EEP management.

A pending procurement-related issue is the management of competitive tenders for IPPs. While EEP manages competitive tenders for EPC services, EEP faces a conflict when engaging in a competitive tender process for the purchase of electric power from IPPs, given that EEP also generates electric power. Additionally, there are unclear rules and oversight for EEP negotiating on unsolicited bids from IPPs. In light of these pending issues, law and or regulation is necessary to better govern competitive tenders for IPPs and/or the evaluation of unsolicited IPP bids.

2.6 ELECTRIFICATION TARGETS, PLANNING AND EXECUTION (FOR GRID AND OFF-GRID)

In regard to energy access, the World Bank's Readiness for Investment in Sustainable Energy (RISE) assigns survey-based scores to Ethiopia in such areas as planning, policies and regulation, pricing and subsidies, and procedural efficiency:

- **Planning** addresses whether Ethiopia has an electrification plan, whether such plan encompasses grid and non-grid electrification, and when the government last updated its electrification plan. The World Bank RISE database placed Ethiopia in the upper quartile.
- **Policies and regulation** address the enabling environment for investment in mini-grids by renewable energy project developers and stand-alone home systems. The RISE database placed Ethiopia between the upper and lower quartiles.
- **Pricing and subsidies** address funding support for electrification, affordability of electricity, and the financial performance of the utility. The RISE database placed Ethiopia in the upper quartile.
- **Procedural efficiency** addresses the cost and time involved in establishing a new grid connection, and the permitting process for mini-grids. The RISE database placed Ethiopia in the lower quartile.

GTP contemplated growth plans for Ethiopia's electric power subsector, including through the Universal Electrification Access Program (UEAP) initiated in 2005. The aim of UEAP is to construct medium- and low-voltage transmission lines to connect rural towns and villages, commercial agricultural production and irrigation pumping to the national grid as economically as possible. UEAP resided within EEPCo until December 2013.

UEAP now resides within EEP, and encompasses several departments that report to it, such as Planning & Engineering, Supply Chain and Finance, Bank Finance, and Projects Management. The government provides soft loans and grants to defray the cost of UEAP projects, and EEP also provides financial support. The African Development Bank (AfDB), Saudi Fund, OPEC Fund for International Development (OFID), Islamic Development Bank (IDB), and the Kuwait Fund have also provided funds to UEAP.

The Government of Ethiopia has created the Rural Electrification Fund (REF) to further off-grid, private sector-led electrification in rural areas. REF's capabilities include 1) financing private sector-led rural electrification projects, 2) facilitating technical, operational and business development and management support services for rural electrification projects, 3) preparing annual updates of the off-grid rural electrification master plan, and 4) conducting studies to identify renewable energy projects feasible for development by the private sector.

GTP envisaged an increase in the utility's base of registered customers from two million in 2009/10, corresponding to coverage of 41% of towns and rural villages, to four million by 2015/15, corresponding to 75% coverage.[25] In the first three years of GTP, 2,978 additional towns and rural villages were to receive electric power services;[26] however, only 2,046 towns and rural villages[27] actually received such services over this three-year period, representing two-thirds of the target.

The Alternative Energy Technology Promotion and Dissemination Directorate, having assumed the mandate of the Ethiopian Rural Energy Development and Promotion Center (EREDPC), facilitates rural energy development by providing information, technical assistance and loan financing to the private sector and community, non-governmental and governmental organizations. The specific capabilities under this mandate are: 1) integrating rural grid and off-grid electrification activities under MoWIE, 2) promoting renewable energy technologies in rural areas, 3) facilitating an enabling environment for rural electrification investors, 4) providing rural organizations with technical support, e.g., training and studies on sustainable energy technologies, 5) providing technical assistance and financing to rural, private sector sustainable energy projects and programs, 6) coordinating rural electrification activities between state and non-state actors, and 7) serving as the Rural Electrification Executive Secretariat and managing the REF.

The World Bank funded Electricity Access (Rural) Expansion project (EAREP II) intended to address issues that needed further attention such as the off-grid program regulatory constraints, the lack of a sustainable business model, and the need for improved overall planning. These constraints continue to constitute major bottlenecks toward reaching national electrification goals.

[25] GTP.

[26] Annual GTP Progress Report, February 2014.

[27] Electric power coverage for FY 2012/13 was 53.5%.

3 ETHIOPIA'S POLICIES AND LAWS FROM A GENDER EQUALITY AND FEMALE EMPOWERMENT PERSPECTIVE

A comprehensive gender analysis of the energy-related legal and policy framework in Ethiopia is beyond the scope of this inventory. A few selected provisions from key policies are highlighted and some gaps are noted.

PASDEP aims to eradicate poverty, as has been noted, and includes energy-related goals. While the plan does not consider the links among gender, energy and poverty specifically, it does address issues related to gender and development and incorporate the National Action Plan on Gender (NAP GE) to guide a gender mainstreaming approach to the implementation of the PASDEP.

The NAP GE includes actions for a gender mainstreaming approach in all government departments, as well as increasing women's participation in government institutions. According to the NAP GE, it can specifically be used to: engender the PASDEP and all other government policies and programs, sensitize development planners and hold them accountable for gender equality, monitor and evaluate the government's and other stakeholders' commitment to gender equality, promote gender budgeting, build the capacity of civil servants who are mainly responsible for the plan's implementation, and recognize women's overall contribution to development. The implementation of energy-related laws and policies, which are for the most part gender-blind, should thus be informed by the NAP GE. While the NAP GE had a 5-year timeframe (2006 – 2010), it has not been replaced by another NAP and can therefore still be used to guide a gender mainstreaming approach to policy implementation.

Especially when read with the NAP GE, the National Energy Policy (NEP) 2012 is the most relevant policy for addressing women's energy-related needs and issues of women's participation in the energy sector. The policy recognizes the link between gender and energy and contains a separate section to address gender issues. The objective is to ensure the participation and benefit of women from energy sector programs and projects. Notably, this objective recognizes women as participants in energy planning and as beneficiaries. Towards achieving this objective, a number of measures are outlined such as: enhancing women's access to modern energy services, improving women's participation in energy programs, facilitating women's participation in relevant decision making, introducing modern energy appliances in households, collecting gender-disaggregated information, facilitating credit for women, and raising awareness of energy-efficient technologies. Without a corresponding action plan and time frame specific to the NEP however, these measures may not be implemented.

Aside from the specific section on gender in the NEP, gender is not integrated into other sections. For example, towards strengthening energy sector governance, the NEP provides for an energy forum, which is a consultation process that would engage the private sector, communities, academia, civic societies, governmental and non-government organizations, and possibly others in

policy formulation and implementation. There is no mention of women as a specific stakeholder group, but the forum does nonetheless present an opportunity for women's participation.

With respect to building strong energy institutions and capacity, the policy does not recognize the need to target women specifically for the training and capacity building initiatives to which it refers.

The capacity of the stakeholders responsible for implementing the NEP to mainstream gender will largely determine the degree to which the NEP will improve energy access for women and increase women's participation in energy planning.

4 DONOR ASSISTANCE TO ETHIOPIA

This section reviews the current donor landscape in Ethiopia, including donor activities and existing redundancies and gaps.

The principal non-USAID donors involved in the electric power subsector for the years between 2011 and 2015 include AfDB, the Arab Bank for Economic Development in Africa (BADEA), the World Bank, the European Union, Italy, German-KFW, Norway, Japan, OFID, Korea, the Slovak Republic, and France/AFD. The areas in which each donor works are:[28]

- **AfDB** has concentrated its efforts and resources on electric power transmission and distribution improvement, particularly rural electrification, and regional power interconnections (e.g., with Djibouti and Kenya).
- **BADEA** focuses on electric power transmission and distribution improvement, particularly rural electrification.
- **The World Bank** has focused on supporting the build-out of renewable and non-renewable electric power generating capacity and improving transmission and distribution infrastructure to increase energy access, procurement management efficiency and regional power interconnections (e.g., Ethiopia-Sudan).
- **The European Union** has concentrated on supporting the build-out of renewable energy generating capacity and tariff policy, and on achieving a regional power interconnection (i.e., EAPP).
- **France** has concentrated on supporting the build-out of renewable energy generating capacity, namely wind power and geothermal.
- **Germany/KfW** has focused on improving energy policy and management, providing training on renewable energy and energy efficiency, geographic information system (GIS) mapping and creating a corresponding database, and on achieving a regional power interconnection.
- **Italy** has focused on supporting the build-out (e.g., co-financing) of renewable energy, namely hydro-electric plants.
- **Japan** has concentrated on supporting the build-out of renewable energy generating capacity.
- **Korea** has concentrated on improving transmission and distribution infrastructure.
- **Norway** has focused on supporting the build-out (e.g., feasibility studies) of renewable energy, namely hydro-electric plants, and on institutional strengthening (i.e., the Strategic Climate Institutions Program – Energy)
- **OFID** has concentrated on electric power transmission and distribution improvement, particularly rural electrification.
- **The Slovak Republic** has focused on providing study tours for Ethiopian energy sector professionals to nuclear power plants.

Multilateral financial institutions are large donors in Ethiopian infrastructure, and the AfDB and World Bank collaborate on projects in the electric power subsector, e.g., rural electrification access programs.[29]

[28] http://www.openaiddata.org/purpose/238/230/top/

[29] http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Ethiopia-2011-2015%20CSP%20ENG1.pdf

5 RECOMMENDED POLICY INTERVENTIONS FOR INVESTEMENT AND ACCESS

5.1 ENERGY POLICIES

The several official state policies that address the development of the Ethiopian electric power subsector (see Section 2.1) do aim for increased energy access, particularly through rural electrification and adding installed non-fossil fuel generating capacity. However, only a few of these policies address the need for private investment in order to achieve desired levels of energy access. Furthermore, beyond brief mentions of providing fiscal- and tariff-based incentives for private investment, none of these policies details specific actions the state could take to allay the concerns that private investors and lenders commonly hold on investing in the Ethiopian electric power subsector.

In this regard, future state policies should strengthen the enabling environment for private investment in power including competitive bidding processes for IPPs and improving the credit-worthiness of off-takers and moving tariffs to cost-reflectivity. Policy enhancement is also required with regard to non-hydro renewable energy, including geothermal energy, and also further integration of Ethiopia into the EAPP.

5.2 ENERGY LAWS

The instruments that constitute the legal framework clearly delineate the roles, rights and obligations of public and private sector actors in the electric power subsector, e.g., EEP, EEU, EEA, MoFED, MoWIE, the National Bank of Ethiopia and potential IPPs. However, extant gaps in the framework create uncertainty and a suboptimal climate for private investors. In this regard, the Ethiopian state should promulgate legislation to 1) address issues specific to geothermal energy and possibly other non-hydro renewable energy sources such as wind, solar and waste-to-energy power generation; 2) standardize and achieve regulatory approval of power purchase agreements, and 3) govern public-private partnerships.

5.3 ENERGY REGULATORY FRAMEWORK AND TARIFFS

Extant gaps in the regulatory framework similarly create uncertainty and a suboptimal climate for private investors. In this regard, the Ethiopian state should craft specific regulations to 1) address issues specific to geothermal, wind, solar and waste-to-energy power generation, e.g., a feed-in tariff for smaller projects and competitive tendering requirements for larger projects, 2) achieve cost-reflective tariffs in light of the political implications of raising electric power tariffs, and 3) streamline the pathway for project development in regard to permitting and other legal and regulatory requirements.

5.4 POWER SECTOR DEVELOPMENT PLANS/INTEGRATED RESOURCE PLANS/GENERATION MASTER PLANS

HDS/HP, PASDEP, GTP, SREP IP, CRGE, NEP and Power System Expansion Master Plan call for increased renewable and non-renewable electric power generating capacity, and expanding grid and off-grid electrification. However, apart from major progress in large hydro-electric plants, Ethiopia has repeatedly missed goals established in these areas. Key to reversing this trend is attracting private actors to the electric power subsector; in this regard, these documents should propose specific solutions to key concerns for private renewable electric power subsector investors, e.g., poor supply and demand data, an uncertain future for EAPP.

Additionally, insufficient planning tools for electric power generation, transmission and distribution limit the utility's ability to estimate and implement strategic and integrated planning for demand growth. There is also a lack of individuals with well-rounded utility management experience in operations, forecasting and long-term planning. Consequently, utilities depend heavily on outside consultants. In this regard, the utility should acquire more generation, transmission and distribution planning tools and have the ongoing support of an advisor in the area of utility management and distribution operations in order to be able to forego the services of outside consultants, thus leading the way to train capable management teams to run the operations and planning of both EEP and EEU.

Also, to encourage IPPs to enter the Ethiopian electric power market, power sector planning and the allocation of new generating capacity build-out opportunities must occur independent of the utility in order to avoid conflicts of interest. A possible home for such planning and allocation capabilities is the Energy Study and Development Follow-up Directorate under MoWIE.

5.5 POWER GENERATION PROCUREMENT FRAMEWORK AND PROCESSES

The utility observes the June 2012 Procurement Manual of the now-defunct EEPCo. While the Procurement Manual does prescribe a systematic approach to electric power subsector procurement (often, although not exclusively, through competitive bidding processes consistent with international standards sanctioned by multilateral development banks), EEP suffers from the same procurement challenges EEPCo faced. Among these challenges are 1) protracted procurement decision-making timetable, 2) limited ability to comply with sector-specific business delivery standards, 3) an ineffective procurement process quality assurance and accountability system, 4) lack of procurement-related institutional capacity building, 5) an unclear career development path and insufficient remuneration for procurement staff, and 6) lack of a procurement system that monitors conflicts of interest surrounding government agencies. In this regard, the utility should receive support from an advisor in order to establish a strong, transparent and efficient central procurement unit.

Additionally, because EEP is responsible for both electric power generation and transmission, there is a conflict of interest in regard to EEP procuring electric power from potential IPPs; such IPPs must compete with EEP-owned generating plants for electric power sales to EEP. A further unbundling of EEP (e.g., splitting EEP into an entity responsible for generation and another entity responsible for transmission) is a possible avenue for addressing this apparent conflict of interest and for stoking the interest of potential IPPs and related investors.

Given the superior price outcomes experienced in other countries from competitive tenders or auctions, Ethiopia should consider adopting these for new power projects, as opposed to direct negotiations with unsolicited bids. Feed-in tariffs could be retained for smaller renewable energy projects.

5.6 ELECTRIFICATION TARGETS, PLANNING AND EXECUTION (FOR GRID AND OFF-GRID)

GTP includes ambitious targets for universal grid electrification under UEAP, and the government's REF has a strong mandate for off-grid electrification; however, Ethiopia has repeatedly missed self-established electrification targets. Areas where there appears to be much room for improvement are 1) procedural efficiency, particularly in regard to the cost and time involved in establishing a new grid connection, and in the permitting process for mini-grids, and 2) policies and regulation, particularly in regard to the enabling environment for investment in mini-grids by renewable energy project developers, and in stand-alone home systems. In this regard, the utility should receive support in improving procedural efficiency with respect to grid connections, and EEA and MoWIE should receive support in improving policies and procedures with respect to mini-grid permitting, and improving the enabling environment for investment.

5.7 GENDER EQUALITY AND FEMALE EMPOWERMENT

NAP GE and the NEP do address women's energy-related needs and issues of women's participation in the energy sector in such areas as enhancing women's access to modern energy services, improving women's participation in energy programs, facilitating women's participation in relevant decision making, introducing modern energy appliances in households, collecting gender-disaggregated information, facilitating credit for women, and raising awareness of energy-efficient technologies. However, neither document contains an action plan and time frame, such that implementation measures to address these areas are uncertain. In this regard, GoE and MoWIE should receive support to devise a relevant action plan and timeframe. Additionally, MoWIE should integrate gender into all sections of the NEP in addition to it being its own section, and incorporate female training and capacity building activities into any action plan.

6 RECOMMENDED TECHNICAL ASSISTANCE FOR INCREASING INVESTMENT AND ACCESS

TABLE 3: RECOMMENDED TECHNICAL ASSISTANCE
To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Policy Intervention	Technical Assistance	Active Donors in this Space	Donor(s) Recommended to Provide Support
Issue policies with specific actions on regulatory and utility capacity building around cost-reflective tariffs, competitive procurement of private investment in power, promotion of non-hydro-renewable energy, an expedited project development pathway, and EAPP	Provide technical drafting assistance to the GoE and Ministry of Water, Irrigation and Energy (MoWIE) to produce these outstanding policies	Germany/KfW, and USAID	Germany/KfW, and USAID
The Ethiopian state should promulgate legislation to 1) govern regulatory approval on PPAs; 2) make provision for feed-in tariffs for smaller RE projects and competitive tenders for larger projects and 3) a specific geothermal energy law	MoWIE should receive continued support to fill in extant gaps in the legal framework, e.g., on PPAs, feed-in tariffs and competitive tenders, and a geothermal energy law to attract great private participation in the electric power subsector Power Africa is already helping to amend the legal and enabling environment framework to allow for greater private investment in the power sector	European Union, IFC, EATP and USAID	European Union, IFC, EATP and USAID

TABLE 3: RECOMMENDED TECHNICAL ASSISTANCE

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Policy Intervention	Technical Assistance	Active Donors in this Space	Donor(s) Recommended to Provide Support
Develop cost-reflective tariff framework for urgent implementation	Provide dedicated support to EEA on the development of a cost-reflective tariff framework, based on international best practice, for urgent implementation	European Union and USAID	European Union and USAID
Generate and make available better supply and demand data/forecasts, including the balance between local demand and export potential. Provide the utility with better transmission and distribution tools, in addition to the ongoing support of a transaction advisor	MoWIE and the utility should receive advisory support in the areas of supply and demand data, transmission and distribution planning, and achieving regional power pools	None that we are aware of	USAID, through Power Africa
Initiate competitive tenders for new power generation capacity Issue updated procurement-related rules Establish central procurement unit within utility Provide capacity building for procurement staff	Expert advice is also necessary to design and prepare documentation for competitive tenders and contracts for new generation capacity Government and the utility should receive support in order to establish a strong, transparent and efficient central procurement unit, as well as the required contracts (PPAs, IAs) and risk mitigation measures required to secure private investment USAID is collaborating with EEP to place a procurement advisor to assist and train EEP procurement personnel	USAID	USAID, through Power Africa

TABLE 3: RECOMMENDED TECHNICAL ASSISTANCE

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Widen Access to Electricity

Policy Intervention	Technical Assistance	Active Donors in this Space	Donor(s) Recommended to Provide Support
Bolster GoE and utility in-house legal expertise in regard to PPAs and IAs	Power Africa is assisting in the establishment of a procurement delivery unit. It is also helping to establish a dedicated delivery unit and "one-stop-shop" to streamline IPP and PPP projects	USAID	USAID, through Power Africa
Power Africa is working to expand access to electricity by increasing connections to the electricity grid, promoting small-scale grid and off-grid renewable energy systems, and expanding the reach of community lighting programs It is also working to accelerate and expand opportunities for private investment for transmission and distribution projects and cross-border electricity trade	The utility should receive continued support in improving procedural efficiency with respect to grid connections, and EEA and MoWIE should receive continued support in improving policies and procedures with respect to mini-grid permitting, and improving the enabling environment for investment	USAID	USAID, through Power Africa
Provide gender mainstreaming capacity building. Promote women's participation in energy planning	Gender mainstreaming workshop and resources, and promotion of women in the sector through the Women in African Power Network (WIAP)	None that we are aware of	USAID, through Power Africa

REFERENCES

Climate Investment Funds, Intersessional Meeting of the SREP Sub-Committee, "Investment Plan for Ethiopia," February 16, 2012, https://www.climateinvestmentfunds.org/cifnet/sites/default/files/Ethiopia%20SREP%20Investment%20Plan%20-%20Endorsed%20in%20Principle.pdf

Embassy of the United States of America, Addis Ababa, Ethiopia, "Power Africa Announces Historic Signing of Ethiopia's First Independent Power Purchase Agreement," news release, July 30, 2015, https://www.usaid.gov/sites/default/files/documents/1860/Press%20Release%20Power%20Africa%20Signing%207-25-15.pdf

European Commission, "EU Technical Assistance Facility for the 'Sustainable Energy for All' Initiative (SE4ALL) – Eastern and Southern Africa, Quality of Service Code for Ethiopia," May 11, 2015, http://www.ethioenergyauthority.gov.et/attachments/article/64/MAY%2011,%20QUALITY%20OF%20SERVICE%20%20QoS%20CODE,%20final.pdf

European Commission, "EU Technical Assistance Facility for the 'Sustainable Energy for All' Initiative (SE4ALL) – Eastern and Southern Africa, Tariff Guidelines and Methodology for the Electricity Sector in Ethiopia," May 7, 2015, http://www.ethioenergyauthority.gov.et/attachments/article/64/MAY%207,%202015%20TARIFF%20GUIDELINES%20AND%20METH.,G,T,D,.pdf

European Commission, "EU Technical Assistance Facility for the 'Sustainable Energy for All' Initiative (SE4ALL) – Eastern and Southern Africa, Tariff Guidelines and Methodology for Ethiopia: Grid Connected Renewable Energy," May 7, 2015, http://www.ethioenergyauthority.gov.et/attachments/article/64/May%207,%202015%20TARIFF%20GUIDELINES,%20GRID%20CONNECTED%20%20RE,.pdf

Federal Negarit Gazette of the Federal Democratic Republic of Ethiopia, 27 December 2013.

Government of Ethiopia, Council of Ministers, "Council of Ministers Regulation to provide for the Regulation of Energy Operations," http://www.ethioenergyauthority.gov.et/attachments/article/66/Final%20English%20Draft%20Energy%20Operation%20Regulation%20-%20Version.pdf

Government of Ethiopia, "Ethiopia's Climate-Resilient Green Economy, Green Economy Strategy," http://www.undp.org/content/dam/ethiopia/docs/Ethiopia%20CRGE.pdf

Government of Ethiopia, Ethiopian Energy Authority, "Articles of the Investment Law Related to the Electricity Sector," http://www.ethioenergyauthority.gov.et/attachments/article/43/Some%20articles%20of%20the%20Investment%20law%20related%20to%20the%20electricity%20Sector.pdf

Government of Ethiopia, Ethiopian Investment Commission, "Investment Guide to Ethiopia 2014," http://www.ethiopianembassy.org/PDF/Ethiopia_Investment_Guide_2014.pdf

Government of Ethiopia, Ministry of Finance and Economic Development, "Growth and Transformation Plan Annual Progress Report for F.Y. 2012/13," February 2014, http://www.mofed.gov.et/English/Resources/Documents/GTP%20APR%202005%20EFY%20English.pdf

Government of Ethiopia, Ministry of Finance and Economic Development, "Growth and Transformation Plan 2010/11 -2014/15, Volume II: Policy Matrix", November 2010, http://www.mofed.gov.et/English/Resources/Documents/GTP%20English2.pdf

Government of Ethiopia, Ministry of Finance and Economic Development, "A Plan for Accelerated and Sustained Development to End Poverty (PASDEP), (2005/06-2009/10), Volume I: Main Text," September 2006, http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Plan_for_Accelerated_and_Sustained_(PASDEP)_final_July_2007_Volume_I_3.pdf

Government of Ethiopia, Ministry of Water and Energy, "Ethiopian National Energy Policy (2nd Draft)," February 2013.

Government of Ethiopia, Ministry of Water and Energy, "Scaling-Up Renewable Energy Program

Ethiopia Investment Plan (Draft Final)," January 2012, http://www.oecd.org/env/cc/TADELE_FDRE%20Ethiopia%20Scaling%20-%20Up%20Renewable%20Energy%20Program%202012.pdf

Government of Ethiopia, Ministry of Water Resources, "Ethiopian Water Sector Policy," 2001, http://www.mowr.gov.et/attachmentfiles/Downloads/Water%20policy.doc

Government of the United States of America, US Agency for International Development, Power Africa, "Investment Brief for the Energy Sector in Ethiopia," https://www.usaid.gov/sites/default/files/documents/1860/Ethiopia_IG_2015_05_03.pdf

International Energy Agency, "Ethiopia: Electricity and Heat for 2012," http://www.iea.org/statistics/statisticssearch/report/?country=Ethiopia&product=electricityandheat&year=2012

The World Bank, International Development Association, "Implementation Completion and Results Report (IDA-43440) on a Credit in the Amount of SDR 86 Million (US$130 Million Equivalent) to the Federal Democratic Republic of Ethiopia for a Second Electricity (Rural) Access Expansion Project," Report No: ICR3135, June 24, 2015, http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/06/26/090224b082f912c0/1_0/Rendered/PDF/Ethiopia000Sec000Expansion0Project0.pdf

The World Bank, International Development Association, "Project Appraisal Document on a Proposed Credit in the Amount of SDR 115.5 Million (US$178.5 Million Equivalent) and a Proposed SCF-SREP Grant in the Amount of US$24.5 Million to the Federal Democratic Republic of Ethiopia for the Geothermal Sector Development Project," Report No: 83994-ET, May 5, 2014, http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/05/13/000333037_20140513105446/Rendered/INDEX/839940PAD0P133010Box385211B00OUO090.txt

World Energy Outlook, "Electricity Access Database," 2014, http://www.worldenergyoutlook.org/media/weowebsite/WEO2014Electricitydatabase1.xlsx

APPENDIX A: RECOMMENDED POLICY INTERVENTIONS FOR TRANSACTIONS

This appendix summarizes the key policy and regulatory impediments PATRP's transaction advisors face in bringing projects to financial close in Ethiopia. It then recommends policy, legal, regulatory, operational and other interventions to address them, and the technical assistance that is being provided/is needed to implement the recommendations. To summarize:

- GoE currently does not have a regulatory framework to govern geothermal, wind, solar and hydro-electric projects. Nonetheless, Power Africa is assisting GoE in developing a regulatory framework in the geothermal space.
- GoE lacks understanding of the virtue of a cost-reflective tariff. The consequences include poor creditworthiness of the electric power off-takers and difficulty in achieving investment in generating capacity.
- GoE ministries and agencies have very little in-house legal expertise in the area of PPAs and IAs. As a consequence, there is substantial difficulty in negotiating power deals.
- GoE lacks planning tools in the areas of electric power generation, transmission and distribution. The consequences include the limited ability of power sector actors to estimate and implement strategic and integrated planning for demand growth, such that these actors are heavily dependent on outside consultants, and an inability of the utility to consistently provide basic services.
- Current policy dictates that EEP should use an open procurement process, which can be straightforward in the case of EPC services. However, how EEP procures from IPPs is unclear as there is ostensibly a conflict of interest given that EEP also generates electric power.
- GoE lacks a streamlined and transparent process for electric power generation project development. Consequently, investors often have difficulty understanding the steps along the pre-development and development paths toward project completion.

TABLE 4: RECOMMENDED POLICY INTERVENTIONS BASED ON CURRENT TRANSACTIONS

To Enable or Increase Private Sector Investment in Cleaner Power Generation and Wider Access to Electricity

Policy and Regulatory Barriers to Transaction(s)	Recommended Intervention(s) and Effects	Technical Assistance Provided/Needed
Ethiopia has no geothermal, wind, solar or waste-to-energy regulatory framework.	Develop a regulatory framework to further strengthen electric power subsector institutions and make the subsector more attractive to investors.	There is currently a joint effort among Power Africa, the United States Energy Association (USEA) and the International Finance Corporation (IFC) to assist the GoE, through the MoWIE, in developing a regulatory framework for geothermal power development. The GoE is also working with IFC to establish a geothermal institute responsible for the development and regulation of geothermal projects.
Electric power tariffs in Ethiopia are not cost-reflective; rather, tariffs reflect substantial government subsidies. The unsustainability of these subsidies imperils the creditworthiness of the off-taker and increases the risk of investing in electric generation assets that would sell to such off-taker.	Engage the GoE, particularly through MoWIE, on the implementation of a cost-reflective tariff, which would constitute a step toward making viable the utility and the sector as a whole. The GoE, through MoWIE, is willing to listen and act.	Discussions are underway with MoWIE to set up a workshop to introduce several tariff structures to MoWIE and EEA, and teach them how to implement them. MoWIE and EEA would then be able to choose whether to adopt and how to implement these tariff structures. It is possible for MoWIE and EEA officials to attend such a workshop in late-2015 or early-2016.
The current tariff structure is not cost-reflective, and increasing tariffs has political implications. Discussions with MoWIE officials suggest that there is political will to make tariffs cost-reflective.	Educate policymakers on the need for cost-reflective tariffs and on how to achieve this to constitute a step toward making the electric power subsector sustainable over the long term.	Discussions are underway with MoWIE to set up a workshop to introduce several tariff structures to MoWIE and EEA, and teach them how to implement them; MoWIE and EEA would then be able to choose whether to adopt and how to implement these tariff structures. It is possible for MoWIE and EEA officials to attend a workshop in late-2015 or early-2016.

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Improvements are necessary at the retail level. Power Africa addresses large transactions, and the utility lacks commercial know-how in regard to negotiating PPAs for this kind of transaction.	Hold workshops for mid- to senior-level utility executives and legal staff on negotiating and crafting PPAs and implementation agreements. This would allow the utility to better engage with investors and project developers on large transactions. A power markets "boot camp" in the United States, aimed at senior utility leadership, would allow for better system management and planning.	A two-tier workshop program on PPAs and power markets should exist, i.e., one tier for middle management and another tier for senior-level management. No workshops or other technical assistance has occurred thus far.
There is a lack of planning tools in generation, transmission and distribution, which limits the ability of power sector actors to estimate and implement strategic and integrated planning for demand growth. These actors are therefore heavily dependent on outside consultants. The lack of individuals with well-rounded utility management experience in operations, forecasting and long-term planning has made the utility unreliable in providing basic services. Additionally, there is scarce accountability in the utilities' respective operations and management divisions due to perverse employee incentive structures.	Provide and implement electric power generation, transmission and distribution planning tools to allow utilities to better estimate and implement strategic and integrated planning for demand growth, and to depend less on outside consultants in these areas. Provide the EEP and EEU with ongoing transaction advisory services in utility management and distribution operations. The presence of individuals with operations, forecasting and long-term planning experience and the institution of effective utility employee incentive structures would allow the utilities to better provide basic services.	EATP, in collaboration with the EAPP, is engaging utility planning departments in regional planning activities and, in some cases, is providing them PSS/E transmission planning tools to coordinate regional planning activities. The same type of collaboration and engagement is necessary on the resource and distribution side.

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Current Ethiopian investment law allows the government to engage in both direct negotiation and the tendering process. Current policy dictates that EEP use an open procurement process; however, complicating this process is the involvement of the state-run METEC, which has made procurement less transparent and has created conflicts of interest.	Embed a procurement advisor within the utilities to assist in making procurement processes more transparent and avoiding extant conflicts of interest.	USAID is collaborating with USEA to embed a procurement advisor in EEP to assist and train its Procurement Department. Although a procurement workshop occurred in April 2013 in the context of AIP, another such workshop would prove useful once the procurement advisor is in place and has been able to assess procurement challenges facing EEP, EEU and other power sector entities.
A streamlined and transparent process for project development is necessary.	A streamlined and transparent project development process, as implemented by MoWIE or EEP, would allow investors to better understand the steps along the pre-development and development path towards project completion.	Power Africa Ethiopia is currently establishing a delivery unit to create an investor-friendly and transparent process. McKinsey will set it up to help the GoE streamline the process to make it simple for an investor to acquire information, specifically about a resource it would like to develop. McKinsey has received permission to develop the delivery unit strategy for subsequent review and approval by MoWIE.
Ethiopia has abundant clean energy resources, but lacks the regulatory framework, and the human and institutional capacity to formulate policies favorable to project investors.	The delivery unit mechanism mentioned above could assist the GoE in prioritizing and diversifying its energy portfolio through advisory services and stakeholder engagement.	Power Africa is helping the GoE to see the benefit of diversifying the national energy portfolio and of working with donor communities to collaborate on mini-grid projects under Power Africa's Beyond-the-Grid Initiative.

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The World Bank had a universal electricity access program with the GoE that did not meet its goal due to unknown reasons.	Power Africa, through the Beyond-the-Grid Initiative, is attempting to revive the off-grid/mini-grid activities, on which the government, particularly MoWIE, is willing to work with USAID and Power Africa.	Sampson Atsbha of USAID/Ethiopia is the lead for the Beyond-the-Grid Initiative in Ethiopia, and has been in constant contact with MoWIE on off-grid activities. Mr. Atsbha is also working on five mini-grid projects with MoWIE; however, the GoE, particularly MoWIE, requires greater funding and know-how in order to better engage the private sector in this area.
There are institutional and cultural challenges in regard to female empowerment. The appointment of the first utility CEO in the country in January 2014 was not exemplary.	Assist in the training of young female managers, engineers and technicians in order to make the sector more gender-balanced.	Power Africa has not yet engaged with female empowerment programs in Ethiopia. Nonetheless, it is hiring a second transaction advisor and office assistant, both female, to raise awareness of female inclusion in the electric power subsector.
There are several impediments to making EAPP operational as a transaction hub for the Eastern Africa region. They include management incompetency, lack of foresight, lack of experience working in power pools and exposure to power pool culture, and lack of transparency.	Building on the achievements of AIP, Power Africa has introduced a transaction approach to assist Ethiopia, Kenya and Tanzania with long-term, bilateral electric power trades between non-contiguous countries through wheeling arrangements. This is the first of its kind in Eastern Africa, and is currently a pilot project to lay the groundwork for how to establish wheeling tariffs in the region, while at the same time establishing the regulatory framework within which this mechanism will operate. This mechanism will affect how parties conduct both long- and short-term transactions in the region.	EAPP has tremendous potential to achieve the installed capacity to which Power Africa aspires. Therefore, this institution requires support to become operational and serve as a platform for transactions that will move countries toward their respective development goals. An example of needed support is a regional stakeholder meeting on how to establish and operate this power pool. In this regard, the question for each member country and regional institution is what each envisions the power pool to be and how each pledges to assist it to reach that vision.