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PROGRESS REPORT
Q3 FY 2019 (APR – JUN 2019)
POWER AFRICA TRANSACTIONS AND REFORMS PROGRAM (PATRP)

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CONTENTS

1. INTRODUCTION

This report's format meets the requirements of Section F.6 (Reports), Paragraph E (Monthly and Quarterly Progress Report) of the PATRP Contract, AID-623-C-14-00003. PATRP is organized into four major components, called objectives, each with unique characteristics and each requiring a different mix of skills and resources:

- Objective 1: Institutional Support to the Office of the Coordinator
- Objective 2: Late Stage Transaction Support
- Objective 3: Support for Small-Scale Projects, Mini-Grids, and Rural Electrification
- Objective 4: Regulatory and Institutional Strengthening and Policy
  A. Electricity Transmission & Distribution (T&D)/Regional Trade, and Institutional Strengthening of Power Pools
  B. Policy and Regulatory Reform
  C. Natural Gas
  D. Mobilizing Finance and Building Institutional Capacity.

Drawing on the abovementioned objectives, PATRP's work is delivered through a system of Country Implementation Plans, which promote a holistic approach to PATRP's objectives in each country, and are aligned with the three Pillars of the *Power Africa Roadmap* and *Power Africa 2.0*. A breakdown of remaining PATRP Country Implementation Plans is outlined in Table 1-1. As can be seen, most PATRP activities have transitioned to new Power Africa implementing partners.

Table 1-1: PATRP Country Implementation Plans

CIP #	Description
CI-KE-008	Country Implementation Plan – Kenya
CI-WA-004	Country Implementation Plan – West Africa Regional
CI-GH-010	Country Implementation Plan – Ghana
CI-LI-011	Country Implementation Plan – Liberia
CI-SE-024	Country Implementation Plan – Senegal
CI-ZA-017	Country Implementation Plan – Coordinator

This report includes updates on all activities performed during the reporting period, and progress against targets set forth in the PATRP Work Plan for FY 2019 are reported in the Progress Summary in Table 2-1. A full list of acronyms can be found in Appendix 2.

2. PROGRESS SUMMARY

Table 2-1: Key PATRP Q3 FY 2019 Results

Indicator Name	Q3 FY19 TOTAL	FY19 TARGET	FY19 ACTUAL	Cumulative Actual (Life of Program)	Narrative/Comments
Number of new grid and off-grid anticipated direct connections; Unit: #	491 (off-grid) 0 (on-grid) Total: 491	30,550 (off-grid) NO TARGET (on-grid) Total: 30,550	99,814 (off-grid) 0 (on-grid) Total: 0	2,171,830 (off-grid) 212,810 (on-grid) Total: 2,384,640	Although PATRP's BTG and DISCO work streams have phased out or transitioned to new implementing partners, anticipated connections were added from the following project, which was identified prior to phase out: ▪ Bukasa Island Solar Mini-grid – Uganda (491)
Number of new grid and off-grid actual direct connections; Unit #	34,296 (off-grid) 134 (on-grid) Total: 34,430	97,300 (off-grid) 36,000 (on-grid) Total: 133,300	298,807 (off-grid) 26,891 (on-grid) Total: 325,698	1,140,417 (off-grid) 589,031 (on-grid) Total: 1,729,448	**Off-grid** Actual direct connections are derived from the conversion of anticipated off-grid connections reported above. To this end, the following actual connections were recorded prior to phase out/hand over of support to the new PAOP program – these numbers take PATRP above the FY19 target: ▪ **KENYA (36,745)** ▪ **TANZANIA (-3,461)** ▪ **GHANA (922)** ▪ **LIBERIA (90)** It is likely that these will be final off-grid new connection numbers recorded under PATRP. **On-grid** Actual on-grid connections are derived from PATRP's technical assistance to LEC in Liberia. During the reporting period, PATRP's assistance resulted in the following new actual customer connections: ▪ **LIBERIA (134)**
Generation Capacity Pending Financial Closure; Unit: MW	-106.925	NO TARGET	162.1	32,674.2	In Q3, the following transaction was added: **Côte d'Ivoire (25 MW)** ▪ TR-CD-022: Boundiali Biomass Power Plant (25 MW) Other transactions were adjusted based on updated information:

Indicator Name	Q3 FY19 TOTAL	FY19 TARGET	FY19 ACTUAL	Cumulative Actual (Life of Program)	Narrative/Comments

Transaction Code	Transaction Name	Adjustment	Net Increase/Reduction
TR-UG-040	Bukasa Island Solar Mini-grid	MW increase from 0.025 to 0.1 MW	+ 0.075 MW
TR-SN-023	Senegal Dual Fuel Power Project Phase I	MW decrease from 240 to 120 MW	-120 MW
TR-GH-021	Early Power 1a	MW increase from 144 to 147 MW	+ 3 MW
TR-GH-022	Early Power 1b	MW increase from 50 to 55 MW	+ 5 MW
TR-GH-023	Early Power 2	MW increase from 206 to 222 MW	+ 16 MW
TR-KE-069	Olkaria 1 Unit 1-3 Redevelopment	MW increase from 50.7 to 5.7 MW	- 45 MW
TR-NG-013	Azura-Edo	MW increase from 450 to 459 MW	+ 9 MW

Indicator Name	Q3 FY19 TOTAL	FY19 TARGET	FY19 ACTUAL	Cumulative Actual (Life of Program)	Narrative/Comments
Generation Capacity Reached Financial Closure; Unit: MW	55.95	1,033.2 (958.2 MW from projects that were supposed to reach FC in FY 2018 but did not; 75 MW from new projects)	838.5	5,039.75	The following transactions reached financial close during the quarter, taking PATRP above the 5,000 MW milestone for life of program. **KENYA (40 MW)** ▪ TR-KE-037: Malindi (40 MW) **UGANDA 0.1 MW)** ▪ TR-UG-040: Bukasa Island Solar Mini-grid (0.1MW) In addition, the following MW capacity adjustments were made as new information became available: : ▪ TR-ZM-015: Scaling Solar Zambia Round 1 – Bangweulu 47.5 to 54 MW: + 6.5 MW (reported in Q3 2018) ▪ TR-NG-013 : Azura-Edo 450 to 459 MW: + 9 MW ▪ TR-RW-002: Rwaza – Muko I 2.6 to 3 MW: +0.4 MW
Generation Capacity Commissioned; Unit: MW	852.556	846 (660 MW from projects that were supposed to reach COD in FY 2018 but did not; 186 MW from new projects)	1,210.056	1,444.79	The following new generation projects were commissioned: **GHANA (356.8 MW)** ▪ TR-GH-001: Kpone IPP (356.8 MW) **Nigeria (460.7 MW)** ▪ TR-NG-013: Azura-Edo (460.7 MW) **Zambia (28.2 MW)** ▪ TR-ZM-014: Scaling Solar Zambia Round 1 - Ngonye (28.2 MW) Further, the following MW on reaching COD were adjusted: ▪ TR-ZM-015: Scaling Solar Zambia Round 1 – Bangweulu 47.5 to 54 MW: + 6.5 MW (reported in Q2 2019) ▪ TR-RW-002: Rwaza – Muko I 2.6 to 3 MW: +0.4 MW ▪ TR-GH-055: Solar Solutions for CHPS: Solar Micro-Grid 0.096 MW to 0.045 MW: - 0.051 MW (Reported in Q1 2019)
Utilization of risk mitigation measures; Unit #	1	3	9	47	▪ TR-KE-037: Malindi: Government letter of support (GLoS)

Indicator Name	Q3 FY19 TOTAL	FY19 TARGET	FY19 ACTUAL	Cumulative Actual (Life of Program)	Narrative/Comments
Training and Capacity Building Activities; Unit: Number of people trained	Male: 0 Female: 0 Total: 0	348	Male: 91 Female: 22 Total: 113	2,904*	No training was conducted by PATRP during this quarter *Life of Program total was adjusted upward following an internal audit.
Aggregate Losses-Abuja	N/A	30%	11%	FY 2016: 41% FY 2017: 38% FY 2018: 30.3% FY 2019 (October): 11%	PATRP support ceased at the end of October 2018.
Aggregate Losses-Eko Lagos	N/A	EKO (all) Decrease from 34% to 31%	18%	FY 2016: 34% FY 2017: 34% FY 2018: 29.3% FY 2019 (October): 18%	PATRP support ended in October 2018.
Aggregate Losses-Benin	N/A	Edo: 43% Delta: 38%	NO RESULT	FY 2016: 56% FY 2017: 44% FY 2018: Edo: 44.5% Delta: 39.2%	PATRP support ceased at the end of September 2018.
Aggregate Losses-Ibadan	N/A	33%	29%	FY 2017: 52.5% FY 2018: 41.2% FY 2019 (October): 29%	PATRP support ceased at the end of October 2018.
Policy; Unit: #(Actions)	2	4	16	172*	The following policy actions were taken in the quarter: **GHANA (2)** ▪ Least Cost Fuel Procurement Policy ▪ Policy on Competitive Procurement of Energy Supply & Services *Life of Program total was adjusted downward following an internal audit.
Policy; Unit: # (implemented)	0	5	3	71*	There were no policy actions to report in the quarter. *Life of Program total was adjusted downward following an internal audit.
Kilometers of Power Lines reached financial close; Unit: KM	0	NO TARGET	0	2,367	There is no target for FY 2019, and our related activities have been phased out.

Indicator Name	Q3 FY19 TOTAL	FY19 TARGET	FY19 ACTUAL	Cumulative Actual (Life of Program)	Narrative/Comments
Substation Capacity Added; Unit: MVA	0	NO TARGET	0	897	The activities under this indicator were largely focused in Nigeria. With the phase-out of PATRP's transmission support in April 2018, no further activities are contemplated.
Additional revenue generated at DISCOs in Nigeria due to regularization of existing consumers; Unit: Naira	N/A	528,000,000 ($1.45 million)	2,055,967,876 ($5.68 million)	58,690,767,876 ($162 million)	All PATRP support to the Nigeria DISCOs ended in October 2018.
Additional revenue generated at EEU in Ethiopia due to regularization of existing consumers; Unit: Birr	N/A	4,000,000 ($142,000)	64,824,920 ($2.3 million)	159,030,311 ($5.67 million)	PATRP's Meter 2 Cash support to EEU phased out in December 2018.
Increased gas supply and availability to power plants; Unit: MMscfd	0	140	20	90	There are no results to report in Q3. With respect to the Sankofa field in Ghana, PATRP continues to assist the Ministry and respective sector entities, GNPC, GNGC, Energy Commission and Petroleum Commission in its completion. First gas started flowing in August 2018, which ramped up to 60 MMscfd during the last quarter, and is expected to reach 140 MMscfd later this year.

Section 3 provides an overview of PATRP's activities and progress towards objectives in each country and region.

3. PROGRESS BY COUNTRY OR REGION

3.1 KENYA

OVERVIEW

Most PATRP support in Kenya transitioned to the East Africa Energy Program (EAEP) and the Power Africa Off-grid Project (PAOP) in January 2019. However, PATRP maintains certain residual work streams (as detailed below), which will be completed in Q4.

ACTIVITIES

Kenya Renewables Integration – Operational Enhancements. The PATRP team visited Kenya Power during the week of May 20 to present major findings and recommendations, and to conduct a workshop on implementation procedures for each particular deliverable's recommendation, all of which aim to enhance overall stability of the Kenyan system and to strengthen Kenya Power's operational capacities. Kenya Power provided minor comments on submitted deliverables.

Thereafter, PATRP submitted updated versions of the Kenya System Stability Study Report, System Emergency Procedures, a System Defense Plan and System Restoration Plan during the week of June 24, which incorporated comments and input from Kenya Power.

Absent any further feedback from Kenya Power, the activity is now phasing out.

Strategic Environmental Assessment (SEA) Study. PATRP continues to progress the SEA, to include:

- In April 2019, PATRP and Nature Kenya met with the National Environment Management Authority (NEMA) SEA review team to present an overview of the SEA. The focus was on the Scoping Report and issues raised in the original response from NEMA.
- PATRP thereafter submitted a revised Scoping Report to NEMA in May 2019, incorporating comments from the Ministry of Energy. NEMA approved the report in a letter dated May 29, 2019, which clears the way for submission of the draft SEA report to NEMA.
- Key points from the consultative stakeholder meeting held on March 12 were compiled and will be addressed in the next revision of the 'zero draft' report. A full report of the stakeholder meeting has been drafted but not yet finalized for circulation.
- On May 2, 2019, PATRP presented a webinar on the SEA process and the 'zero draft' to the USAID regional team.
- The SEA 'zero draft' report was extensively revised, restructured and updated. New material included a county-level analysis (as requested by stakeholders) of wind power potential and plans, and of biodiversity sensitivity. The Environmental Management and Monitoring Plan chapter was rewritten to reflect current good practice approaches for application of the mitigation hierarchy in wind power projects. The Non-Technical Summary chapter was also revised and updated.
- A draft final GIS database report was internally reviewed at the end of June 2019 and is now being corrected.

- The first draft SEA report was also circulated at the end of June for review by the full SEA implementation team and the Ministry of Energy.

We expect final versions of the GIS database report and SEA report to be submitted next quarter, which represent the final deliverables under this activity. We anticipate that the consultants responsible for this activity will also deliver a final webinar next quarter to USAID and interested stakeholders on the process, lesson learned and recommendations for future activity.

3.2 WEST AFRICA REGION

OVERVIEW

In addition to the Transaction Advisor embedded within the AfDB, PATRP maintained two Regional Transaction Advisors (one in Abidjan, Côte d'Ivoire, and a second in Dakar, Senegal[1]) who service projects principally in Francophone West Africa. Regional BTG advisory was transitioned to PAOP in Q1.

Figure 3-1: Megawatt (MW) Value of PATRP Transactions in West Africa by Stage

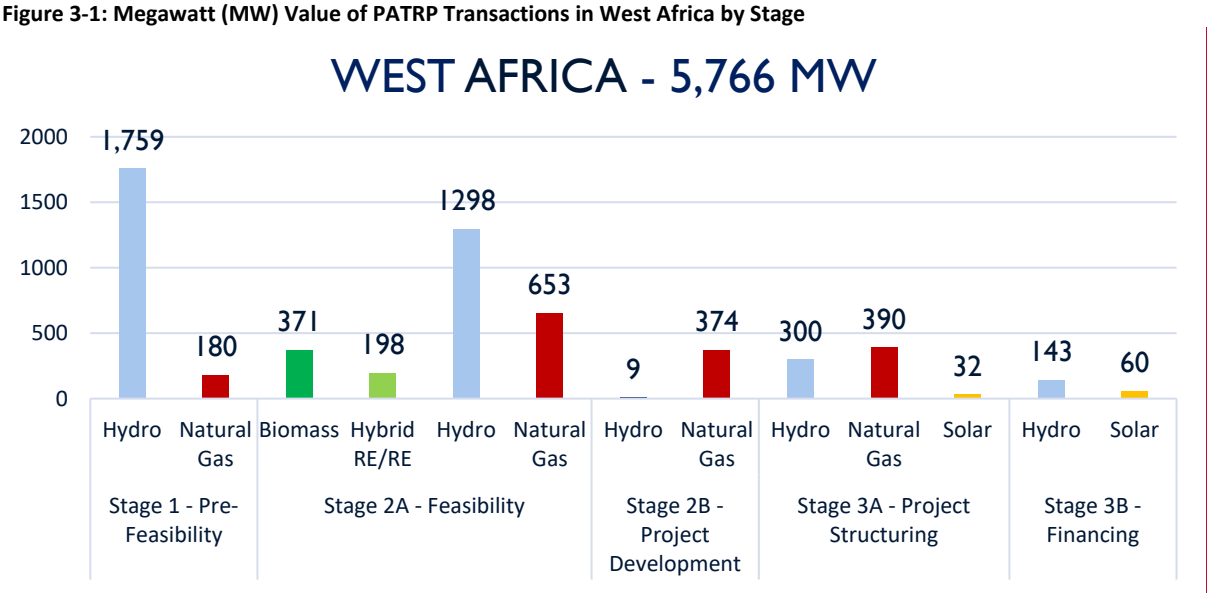

Table 3-1: List of Generation Transactions in West Africa

Code	Project Name	Country	Transaction Stage	Technology	MW
TR-CA-006	MakMo	Cameroon	Stage 2B - Project Development	Hydro	9
TR-CD-001	Tahibli	Côte d'Ivoire	Stage 2A - Feasibility	Hydro	20
TR-CD-002	Songon Power	Côte d'Ivoire	Stage 2B - Project Development	Natural Gas	374
TR-CD-003	Tiboto	Côte d'Ivoire	Stage 2A - Feasibility	Hydro	220
TR-CD-005	Gao Hydro Project	Côte d'Ivoire	Stage 2A - Feasibility	Hydro	150
TR-CD-006	Tiassalé Hydropower	Côte d'Ivoire	Stage 2A - Feasibility	Hydro	25
TR-CD-008	CIPREL V Expansion	Côte d'Ivoire	Stage 3A - Project Structuring	Natural Gas	390
TR-CD-009	Azito IV Expansion	Côte d'Ivoire	Stage 2A - Feasibility	Natural Gas	253
TR-CD-011	Tayaboui Hydro Project	Côte d'Ivoire	Stage 2A - Feasibility	Hydro	150
TR-CD-012	Abengourou	Côte d'Ivoire	Stage 2A - Feasibility	Biomass	16
TR-CD-013	Agboville	Côte d'Ivoire	Stage 2A - Feasibility	Biomass	18
TR-CD-014	Bouaflé	Côte d'Ivoire	Stage 2A - Feasibility	Biomass	17
TR-CD-015	Dalhoa	Côte d'Ivoire	Stage 2A - Feasibility	Biomass	32
TR-CD-016	Divo	Côte d'Ivoire	Stage 2A - Feasibility	Biomass	70
TR-CD-017	Duékoué	Côte d'Ivoire	Stage 2A - Feasibility	Biomass	27.5
TR-CD-018	Gagnoa	Côte d'Ivoire	Stage 2A - Feasibility	Biomass	32
TR-CD-019	San Pedro	Côte d'Ivoire	Stage 2A - Feasibility	Biomass	71

[1] The transaction advisor based in Senegal demobilized at the end of the quarter. Subject to USAID input, we anticipate that his mandate will be fulfilled through various short term technical assistance for the remainder of the PATRP contract in West Africa.

Code	Project Name	Country	Transaction Stage	Technology	MW
TR-CD-020	Soubré	Côte d'Ivoire	Stage 2A - Feasibility	Biomass	87
TR-CH-001	Djermaya Solar Phase 1	Chad	Stage 3A - Project Structuring	Solar	32
TR-DR-009	Sombwe	DRC	Stage 2A - Feasibility	Hybrid RE/RE	198
TR-GN-002	Digan	Guinea	Stage 2A - Feasibility	Hydro	93.3
TR-GN-003	Saltinho	Guinea	Stage 1 - Pre-Feasibility	Hydro	19
TR-GN-005	Kogbedou Power Project	Guinea	Stage 2A - Feasibility	Hydro	44
TR-GN-006	Poudalde	Guinea	Stage 1 - Pre-Feasibility	Hydro	130
TR-GN-007	Amaria	Guinea	Stage 3A - Project Structuring	Hydro	300
TR-GN-008	Balassa	Guinea	Stage 2A - Feasibility	Hydro	181
TR-GN-011	Bonkon Diara	Guinea	Stage 1 - Pre-Feasibility	Hydro	174
TR-GN-012	Boureya	Guinea	Stage 2A - Feasibility	Hydro	114
TR-GN-014	Diaragella	Guinea	Stage 1 - Pre-Feasibility	Hydro	72
TR-GN-015	Doundouko	Guinea	Stage 1 - Pre-Feasibility	Hydro	127
TR-GN-017	Fetore	Guinea	Stage 1 - Pre-Feasibility	Hydro	124
TR-GN-018	Fomi	Guinea	Stage 1 - Pre-Feasibility	Hydro	110
TR-GN-020	Gozoguezia	Guinea	Stage 1 - Pre-Feasibility	Hydro	48
TR-GN-021	Gran Kingkon	Guinea	Stage 2A - Feasibility	Hydro	291
TR-GN-022	Hakkaounde	Guinea	Stage 1 - Pre-Feasibility	Hydro	84
TR-GN-023	Kassa B	Guinea	Stage 1 - Pre-Feasibility	Hydro	118
TR-GN-025	Korafindi	Guinea	Stage 1 - Pre-Feasibility	Hydro	100
TR-GN-027	Kouravel	Guinea	Stage 1 - Pre-Feasibility	Hydro	135
TR-GN-028	Lafou	Guinea	Stage 1 - Pre-Feasibility	Hydro	98
TR-GN-029	Madina Kouta	Guinea	Stage 1 - Pre-Feasibility	Hydro	67
TR-GN-030	Mangoy	Guinea	Stage 1 - Pre-Feasibility	Hydro	67
TR-GN-031	Morisananko	Guinea	Stage 1 - Pre-Feasibility	Hydro	100
TR-GN-032	Netere	Guinea	Stage 1 - Pre-Feasibility	Hydro	71
TR-GN-036	Tiopo 1	Guinea	Stage 1 - Pre-Feasibility	Hydro	115
TR-ML-001	Markala Power Project	Mali	Stage 2A - Feasibility	Hydro	10
TR-MR-001	Banda Gas-to-Power	Mauritania	Stage 1 - Pre-Feasibility	Natural Gas	180
TR-SL-006	Bumbuna II HPP	Sierra Leone	Stage 3B - Financing	Hydro	143
TR-SN-007	Dakar FSRU	Senegal	Stage 2A - Feasibility	Natural Gas	400
TR-SN-011	Scaling Solar - Kahone	Senegal	Stage 3B - Financing	Solar	30
TR-SN-012	Scaling Solar - Touba	Senegal	Stage 3B - Financing	Solar	30
Total					**5,766.80**

ACTIVITIES

West Africa Regional Gas Assessment. The West Africa Regional Gas Assessment was finalized in March 2019, and will complement the *Power Africa Gas Roadmap,* which was published in 2018. PATRP provided gas scenarios (volume and prices) to support a West Africa regional power trade analysis across 20 countries. The report covers the full gas chain, from the exploration phase to gas consumption, including gas and LNG infrastructure requirements. In Q3, PATRP was primarily involved in monitoring gas-to-power projects, and making updates to the assessment based on new information received. PATRP also presented the Gas Assessment to the Government of Côte d'Ivoire.

West African Power Pool (WAPP) Regional Electricity Market. PATRP is supporting the West Africa Power Pool (WAPP) and ECOWAS Regional Electricity Regulatory Authority (ERERA) with advancing

their goal of establishing a regional electricity market by 2020. In Q2, Power Africa received a formal letter from the Organisation pour la Mise en Valeur du fleuve Gambie (the Gambia River Basin Development Organization, OMVG) expressing interest to collaborate on engagement of representatives of the countries involved in finalizing the PPAs and transmission agreements associated with the Kaleta, Souapiti, and Sambangalou power projects. As a result, PATRP provided direct transaction support to OMVG (as described below). PATRP will incorporate status and updated timelines in the project management tool, which will be transferred to WAPP in a capacity-building and handover mission in September 2019.

Assistance to the OMVG. PATRP continued to assist the progress of the regional 1,677 km transmission line project currently underway, which is expected to be fully completed by 2021. Once completed, the OMVG interconnection line will enable electricity trade between the Gambia, Guinea, Guinea-Bissau, and Senegal. PATRP assistance is aligned with the broader project management support being provided to WAPP.

During Q3, PATRP assisted the OMVG by finalizing the first version of the three power purchase agreements, as well as providing an amended first version of the four transmission contracts to be signed by the countries that make up the OMVG. PATRP held a three-day workshop in Conakry where OMVG presented contracts to government representatives from the countries involved. PATRP reviewed the contracts and explained the reasons for the development of new transaction documents and the main differences with the old set of contracts. Suggestions put forward by the different delegations were incorporated into the new versions of contracts.

The workshop did not address cost or tariff issues as this data (which is vital for the conclusion of the agreements) was not available at the time of the workshop. The final communiqué highlighted PATRP's contribution and requested further PATRP support until the conclusion of the process. PATRP continued refining the contracts based on final comments received after the workshop for presentation to OMVG project lenders in June 2019. PATRP also translated relevant documents from the original French into English and Portuguese.

Subsequent discussions were held after financial proposals from EDG (Guinea Electricity), acting as the producer, were received. A conference subsequently organized between the parties and chaired by OMVG did not result in any resolution on the tariff. PATRP also began developing a financial model to provide an independent assessment of a realistic electricity wheeling tariff based on the various options proposed by the OMVG. The lack of information and the difficulty in obtaining the full support of OMVG has prevented conclusion of this activity.

West African Power Pool (WAPP) Backup Information and Coordination Center. In Q3, PATRP learned that the USTDA grant for application for a feasibility study (based on terms of reference developed by PATRP) was not approved. We will revisit the issue next quarter with USAID to determine what, if any, further support PATRP can provide during the remainder of the contract.

Burkina Faso – IPP Training. At the request of the Government of Burkina Faso, PATRP provided two five-day training programs in Q2 on the basics of independent power projects (IPPs), Risk analysis; Development of a risk model, and PPA negotiations. A follow-up session was expected to be conducted in Q3 to assist the stakeholders within government with one or several power projects that were already on the table and in the early stages of development. The main objective of this follow up was to make sure that the Government received direct support to projects that are actually in the pipeline. However, the Government of Burkina Faso has not yet finalized arrangements for this follow-up session, which has been postponed until Q4.

Burkina Faso – Windiga Solar (26 MW). PATRP has previously worked with Windiga on a tariff structure that could be acceptable to the Government of Burkina Faso. The Government previously

did not accept the tariff proposed by the developer, citing its perceived high cost. In Q3, PATRP proposed a solution to reduce the cost of this tariff while still maintaining the ROE value sought by Windiga. This solution aims to increase the size of the plant to a level that would ensure the amortization of significant development costs over an increased number of MW, with the plant still being able to be easily integrated into the grid network (based on existing integration studies). Windiga awaits feedback from the Government of Burkina Faso on this latest proposal.

Chad – Djermaya Solar (32 MW). PATRP's embedded advisor at the AfDB, acting as Principal Investment Officer, continued to lead efforts to finance the project, which will be the first IPP developed in Chad. In Q3, the PATRP Transaction Advisor led the AfDB team (together with Proparco), undertaking a due diligence mission of the project, supported by the lender's legal counsel and the lender's technical advisor. The TA also coordinated the hiring of the insurance advisor and the model and development cost advisor to complete the due diligence. The TA helped prepare the Project Appraisal Report (PAR) to be presented to the Credit Committee, and prepared the presentation for and attended meetings with Authorities in Chad to clear some of the key bankability issues on project documents, namely around the Framework Agreement, fiscal issues, the PCOA enforceability, the PPA exchange rate and the regularization of the status of SNE (the off-taker). The TA also attended an E&S workshop among lenders' and sponsors' E&S officers and their respective advisors in order to agree on compensation criteria under the Resettlement Action Plan (RAP). Further, the PATRP TA participated and led (with Proparco) initial negotiations on the financing term sheet of the senior loans and participated in negotiations with the Partial Risk Guarantee (PRG) team on the term sheet of the several contractual arrangements required. The project is anticipated to be presented for board approval towards the end of 2019, and should reach financial close shortly thereafter.

Côte d'Ivoire – Azito IV Expansion (253 MW). In Q2, PATRP supported lender's due diligence through its embedded transaction advisor at the AfDB, with the anticipated AfDB board approval for financing expected in the latter half of 2019. In Q3, PATRP further supported DFIs, including the AfDB, by providing an assessment of possible natural gas supply scenarios and options for both Azito IV and Ciprel V power plants. The AfDB Board approved the senior loan financing during Q3 2019. Financial close is expected to follow by the end of 2019.

Côte d'Ivoire – Ciprel V (Atinkou) CCGT (390 MW). One of the main risks identified during the due diligence assessment is the financing and timely implementation of the 400 kV transmission system component that was not part of the original scope of the IPP. The anticipated AfDB board approval for a decision on financing is expected by the late 2019. PATRP anticipates that the due diligence and negotiations of the loan term sheet will be concluded in the next few months. During Q3, the Government requested that the transmission line infrastructure should become part of the project, which may now delay the financial close, although it is still anticipated for 2019.

Côte d'Ivoire – Divo Biomass (70 MW). This 70 MW biomass transaction being developed by SODEN (Société Des Energies Nouvelles) in Divo, and is a past recipient of a USTDA grant. The project, fueled by cocoa waste, will be the world's first cocoa biomass project. In Q3, PATRP has prepared a concept note on how to value the "externalities" of a biomass project in Côte d'Ivoire. The objective of this exercise was to support Divo and another biomass project, the Boundiali project, with respect to PPA negotiations and a future biomass regulatory framework. The project is expected to reach financial close by mid-2020.

Guinea and Sierra Leone – West Africa LNG Project (Guinea) and LNG Project (Sierra Leone). PATRP has benchmarked West Africa LNG projects in Guinea, as well as an IFC-led LNG project in Sierra Leone, where we identified potential areas of cooperation between the two developers as well as supported USTDA in assessing the West Africa LNG project for potential support.

Togo – Connection Program for Universal Access. Togo's public utility company, Compagnie Energie Electrique du Togo (CEET), is responsible for grid connection (and mini-grids), and aims to develop an on-grid rural electrification program to connect between 400,000 to one million households to the grid. PATRP supported CEET with preparation of a project proposal, which was presented to the Government of Togo in Q3. PATRP supported CEET in identifying the main risks to their rollout strategy and suggested that CEET focus on key parameters that will impact success, such as upfront fees, realistic household consumption, assessment of type of customer, physical connection timelines, reimbursement options and payment options. A follow up meeting in Togo is expected next quarter.

3.3 GHANA

OVERVIEW

PATRP maintains three resident Transaction Advisors (TAs) in Ghana: A Lead TA who also serves as a Gas Advisor, a Transaction Advisor, and local financial advisor. The team is embedded within the Ministry of Energy (MOEn) to provide technical assistance to the MOEn, government-owned or administered institutions and agencies, and private sector developers and investors active in the energy sector. Regional BTG advisory was transitioned to PAOP in Q1.

Figure 3-2: Megawatt (MW) Value of PATRP Transactions in Ghana by Stage

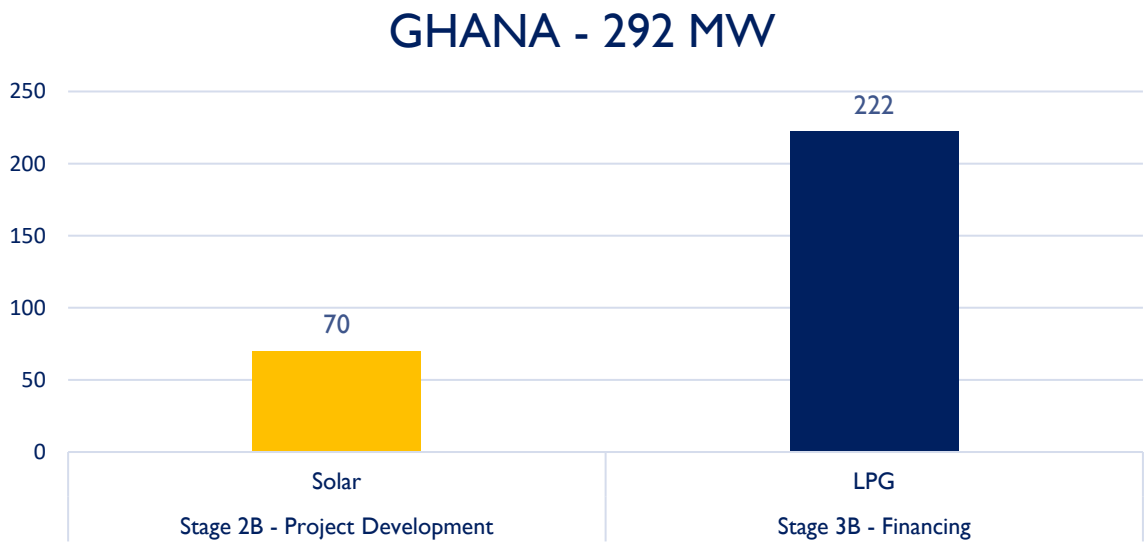

Table 3-2: List of Generation Transactions in Ghana*

Code	Name	Stage	Technology	MW
TR-GH-008	Siginik Solar PV	Stage 2B - Project Development	Solar	50
TR-GH-022	Early Power Ltd Phase 2	Stage 3B - Financing	LPG	222
TR-GH-032	Tilli Solar Project	Stage 2B - Project Development	Solar	20
			Total	**292**

ACTIVITIES

Kpone (350 MW). In Q3, PATRP monitored the project during its commissioning phase, resulting in the successful declaration of COD on June 10, 2019. Further reliability testing on gas was conducted after the gas supply infrastructure had been completed, including pressure testing. Gas is expected to flow by the first week of August 2019. Commissioning tests on gas will then be conducted, which should be completed by mid-August.

Early Power Stage 1 (194 MW). PATRP monitored the progress of commercial financing and construction of Stage 1 of the project, expected to reach COD in September 2019. PATRP also supported OPIC's due diligence on the Ghana energy sector related to a request from the project sponsors for an equity investment partial risk guarantee (PRG). Due to mounting financial difficulties within the Ghanaian energy sector, the Government of Ghana (GoG) requested proposals from all existing and under-construction IPPs to reduce or restructure tariffs.

Energy Sector Recovery Program. PATRP, in coordination with the World Bank, assisted the MOEn to prepare and obtain Cabinet approval for the Energy Sector Recovery Program (ESRP), which was a key Prior Action to the World Bank funding a $500 million budget support loan (DPO). The ESRP is intended as a roadmap to restore the energy sector to financial balance within five years and was based on PATRP's energy sector cash flow modelling work conducted over the past two years. Related to the ESRP, the MOEn adopted the "Least-Cost Fuel Procurement Policy" and the "Policy on Competitive Procurement of Energy Supply and Services", which were developed with PATRP support. Following approval, PATRP began assisting MOEn with implementation of the ESRP, including establishment of an Energy Sector Task Force and ESRP activity tracking matrix.

The Gas Sector – Assistance to Ministry of Energy. In Q3, PATRP monitored and supported MOEn and sector agencies as follows:

- **Karpower Relocation Project**: PATRP assisted the MOEn to relocate and interconnect the 450 MW Karpowership from Tema to Takoradi, which is expected to increase OCTP gas offtake by 80 MMscfd after completion in September 2019.
- **Takoradi Tema Inter-connection Project (TTIP):** PATRP provided project management assistance to MOEn to monitor and expedite the expansion works on the Ghana Gas Company (GNGC) Takoradi Regulating & Metering Station and the West African Gas Pipeline Company (WAPCo) Takoradi Regulating Station, which were completed and interconnected during the quarter, allowing the commencement of commercial gas transportation from Takoradi to Tema and increasing indigenous gas offtake by the power sector.
- **Sankofa Gas Supply Project:** PATRP assisted the GNPC & MOEn to negotiate a reduction in the Sankofa gas price and obtain EMT approval, resulting in a reduction of the overall delivered gas price to the power sector.
- **Gas Act 2019:** PATRP assisted MOEn to develop the objectives and first draft of the 2019 Gas Act, which is intended to define and update roles and responsibilities of sector SOEs and regulators.
- **Gas Allocation and Pricing Policy:** PATRP continued to assist the MOEn and sector agencies to develop a gas allocation and pricing policy in line with the Least Cost Fuel Procurement Policy adopted by MOEn as part of the ESRP.

Renewable Energy Project Development. PATRP continued to monitor the development of Power Africa renewable energy projects, primarily the Upwind Ayitepa Wind Power Phase-1 (150 MW) and Siginik Solar Power (50 MW). PCOA discussions with the MOF have stalled while the GoG reassess the planned completion dates for renewable energy projects given the near-term oversupply of capacity and MOF's desire to minimize financial obligations. PATRP supported the Ayitepa project with development of a revised tariff structure proposal to address GoG concerns in an effort to advance the PCOA approval process.

3.4 LIBERIA

OVERVIEW

PATRP supports Power Africa in Liberia though frequent short-term technical assistance (STTA), support to the Liberia Electricity Company (LEC), and to specific transactions.

Figure 3-3: Megawatt (MW) Value of PATRP Transactions in Liberia by Stage

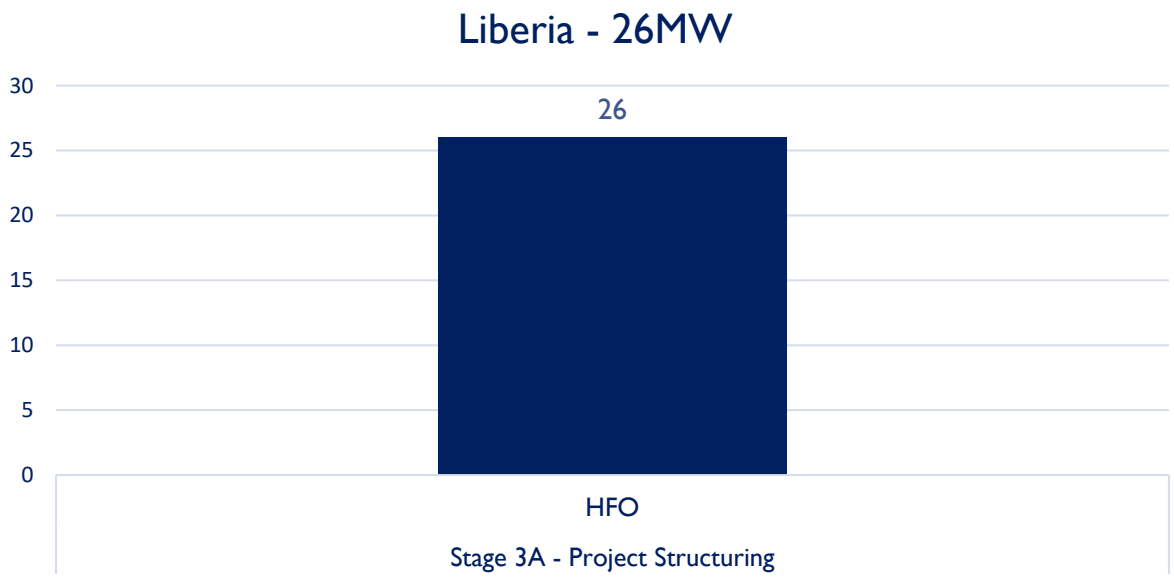

Table 3-3: List of Generation Transactions in Liberia

Code	Name	Stage	Technology	MW
TR-LB-014	Buchanan	Stage 3A - Project Structuring	HFO	26
Total				**26**

ACTIVITIES

LEC New Connections. Previously, PATRP supported the procurement of the management services contract for LEC. Based on the performance requirements set forth in the new LEC management contract, the contractor is expected to add nearly 200,000 new customer connections over the life of the 5-year contract. New actual connections are being reported each quarter by PATRP.

As per the LEC Implementation Plan agreed by stakeholders, the next stage of reforms is to adopt a concession model for LEC. Given that it may take approximately two years to complete the transaction, the Government of Liberia (GoL) is now looking at the next stage. In this regard, the GoL requested USAID support to develop a concept note on how to structure the concession arrangement for LEC, as well as other possible next steps. PATRP initiated the concept note in Q3, and will provide further support on this for LEC. The concept note will provide the rationale for transitioning to a concession model and will include high-level next steps for the GoL to consider. The concept note is expected to be submitted to USAID by the start of Q4.

Solar Resources Study. PATRP completed a solar resource study for development of utility-scale solar projects in Liberia. The study envisages 900 MW of solar installed capacity by 2050 to meet part of the electricity demand at that time, given that sufficient grid flexibility and capacity is developed. The study identified potential locations for the solar plants and provided policy and regulatory recommendations that will support the sector. PATRP also agreed to provide general transaction support to stakeholders in Liberia to support proposed deals for utility-scale solar projects.

At present, KfW is funding a feasibility study for a 10-30 MW solar PV plant at Mt. Coffee, one of the sites identified in the PATRP study. PATRP is also tracking another 10-30 MW solar PV plant proposed at Mt. Coffee by Gigawatt Global (GWG). The GWG team visited Liberia in March 2019 with respect to their proposed Mt Coffee project, and PATRP learned that GWG acquired requisite land and the due diligence process was started. PATRP engaged with GWG and shared updates on the project and expected timelines. If requested, PATRP will provide general transaction support to this project, including review of the design basis, deliverables, and financial closure.

Pursuing New Generation Capacity. In FY17-18, at the request of the GoL, PATRP identified 110 MW of heavy fuel oil (HFO) assets owned by mining company Arcelor Mittal (AM) as a potential generation resource for Liberia Electricity Corporation (LEC) for providing increased electricity access to the Liberian people. While AM intended to privately sell 78 MW outside of Liberia, 26 MW was under consideration for LEC. PATRP supported this request with a technical and financial feasibility study, which resulted in moving all the units to the Buchanan Port Facilities, and the preparation of a detailed demand estimates for Buchanan City in Grand Bassa County. In Q3, the project resurfaced, and PATRP shared previous demand studies with GoL and LEC and discussed possible electrification options, including grid extension and acquisition of new generation plants.

Ganta-Gbarnga-Grid Extension Project (GGGEP). USAID Liberia is funding the construction of the Ganta-Gbarnga grid extension corridor in Nimba County. The grid extension consists of a 77 km, three-phase 33 kV line; a 25 km, single-phase distribution line and associated transformers; and a 10 km, low-voltage line with around 500 service connections to end consumers. Power to the corridor will come from the Danane-Ganta Cross Border 33kV system from Côte d'Ivoire. The construction of the corridor extension and connections to end customers is expected to be completed by December 2019. In Q3, PATRP conducted field visits to the grid extension areas and inspected electrical infrastructure at Phebe Hospital, Cuttington University (CU), Central Agricultural Research Institute (CARI), Bong County Technical College (BCTC), and B C Dunbar Hospital. A preliminary recommendations report is under preparation. The team also inspected the Centralized Medical Store (CMS) in Monrovia to assess best options for connecting the facility to the national grid.

3.5 SENEGAL

OVERVIEW

PATRP maintains a Lead Regional Transaction Advisor (for West Africa)[2]. Regional BTG advisory was transitioned to PAOP in Q1.

Figure 3-4: Megawatt (MW) Value of PATRP Transactions in Senegal by Stage

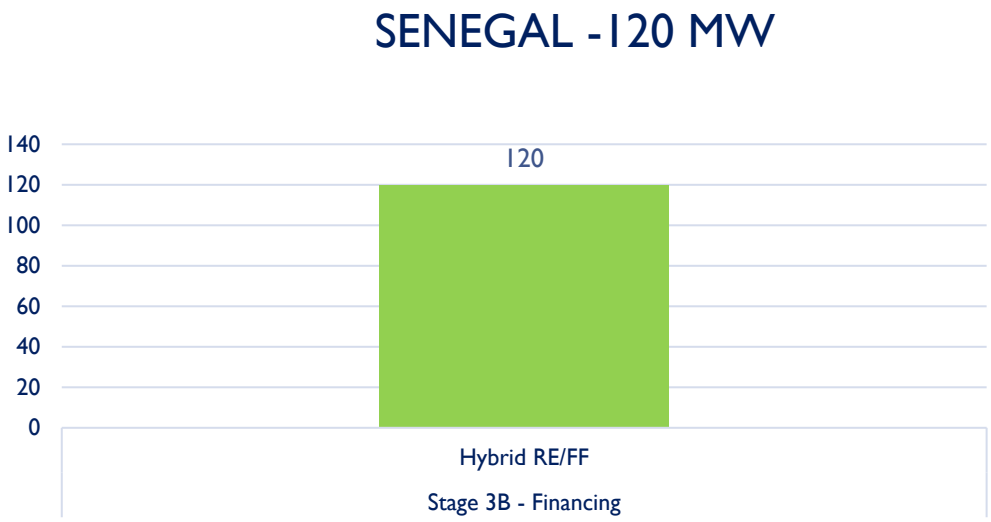

Table 3-4: List of Generation Transactions in Senegal

Code	Name	Stage	Technology	MW
TR-SN-023	Senegal Dual Fuel Power Project Phase I	Stage 2A - Feasibility	Hybrid RE/FF	120
Total				**120**

ACTIVITIES[3]

Gas Strategy. In Q3, PATRP presented the final iteration of the Senegal Gas Study to the Government of Senegal (GoS), with a view to supporting the recommendations set forth in the report, in collaboration with other stakeholders and donors, such as MCC and the World Bank. PATRP engaged with USAID, MCC and the World Bank on the organization of an information workshop to formally present PATRP's findings to GoS, as well as what actions that will be required by GoS to ensure the implementation of the gas study within a three-year period. Discussions are underway with USAID and MCC on the structure of such a presentation to the GoS.

50 MWh Battery Storage Proposal. A UK-based private sector developer made a proposal to Senelec regarding the latter's interest in a 50 MWh battery storage system that will be connected to the Taiba N'Diaye wind project. PATRP was approached by the developer to provide technical support to Senelec in understanding the benefits such a system could provide. This system would not only be dedicated

[2] As noted previously in this report, the TA based in Senegal demobilized at the end of this quarter. His mandate will be fulfilled by short term technical assistance for what remains of the PATRP contract.
[3] Supra footnote 2.

to stabilize Taiba output, but would also be used for all intermittent renewable energy projects (including solar) connected to the national grid system. This battery storage system will also help to improve the use of energy from solar PV projects by storing energy for periods of peak demand.

In Q3, several Power Africa partners, including the World Bank, MCC and AFD, continued to discuss the implementation of the battery storage system in Senegal in order to stabilize the grid, extend the period of solar power, and improve the solar production curve. PATRP provided comments on the results of the studies as well as on the terms of a possible proposal from a private partner in Senelec to cover a portion (approximately 60 percent) of the organization's needs for the battery.

Renewables Integration Studies for Senelec. PATRP continues to monitor potential actions to be taken by Senelec in response to three renewable energy integration studies performed by the World Bank, AFD, and MCC, respectively. Each study relied on different data and produced different conclusions regarding a battery storage solution to counter instability of the network. In Q3, MCC and the World Bank finalized a joint conclusion, which was presented to Senelec. We anticipate Senelec action on this issue in Q4, and will provide support as needed. PATRP also expects that a tender for 60-90 MWh of battery storage will be released in the future by the Government, with support from the World Bank and the MCC.

4. SUPPORT TO THE COORDINATOR'S OFFICE

4.1 MONITORING AND EVALUATION (M&E)

PATRP continued its data review and updates of the PATT, including Risk Mitigation, Greenhouse Gas emissions reduced, training, policy, and connections data. A summary of PATRP's progress toward targets in Q3 is presented in Table 2-1 above, with country or regional level results reported in their respective sections.

4.2 POWER AFRICA TRACKING TOOL (PATT)

PATRP continued to support the internal versions of PATT 2.0 for web, iOS, and Android, and provided demonstrations and training to new implementing partners and new TAs, Power Africa staff, and other USG users. Specific activities in Q3:

- Provided detailed training to all implementing partners (EAEP, PAUESA, SAEP and NPSP) as part of the transition process.
- Compiled list of enhancements and additions to PATT based on feedback received from implementing partners.
- Provided CIO with the updated version of the public app.
- Continued PATT support and granting user access as requested by the Coordinator's Office.
- Continued PATT update and clean-up based on feedback received from USG POCs, RMs and TAs.

4.3 POWER AFRICA PRIVATE SECTOR PARTNERS (PSP)

In Q3, five new due diligence memos were produced and submitted to Power Africa.

4.4 GENDER INTEGRATION

Most of PATRP's recent gender integration work streams were focused on specific opportunities with off-grid companies, and have therefore been transitioned to PAOP.

4.5 COLLABORATION, LEARNING AND ADAPTING (CLA)

During the quarter, PATRP began discussions with USAID on hosting a CLA event in August 2019. It is anticipated that the event will be geared toward ensuring a consistent approach across all Power Africa contract mechanisms in the following key areas:

- Environmental & Social Assessment (E&S)– particularly the assessment of risks associated with the transaction advisory mandate
- Data input and management of the Power Africa Tracking Tool (PATT)
- Vetting and assessment of transactions – particularly the deployment of the Qualified Transaction Assistance Tool (QTAT) and associated protocols
- Monitoring & Evaluation (M&E) - to facilitate a common understanding of the value of M&E at Power Africa
- Communications
- Gender

The forum will also represent a valuable opportunity to discuss and share any 'lessons learned' in the implementation of Power Africa assistance across the different contract mechanisms.

4.6 ENVIRONMENTAL AND SOCIAL DUE DILIGENCE

PATRP's E&S Specialist continued to screen the environmental and social soundness of PATRP Transactions in Q3 FY 2019 through the PATRP Environmental and Social Review Methodology (PESRM) Checklist. The E&S Specialist provided ad hoc support to the Metehara Solar project and provided PATRP's input into the deliverables with respect to Strategic Environmental Assessment for Wind Power and Biodiversity in Kenya. Based on E&S overview training conducted with USAID staff in Q2, the E&S Advisor worked with USAID to further develop the materials in Q3 towards a unified approach amongst Power Africa Task Orders.

A detailed description of PATRP's compliance with the Initial Environmental Examination (IEE) conditions is set forth in Appendix 1.

4.7 COMMUNICATIONS

Transaction Fact Sheets and Website Updates. PATRP continued to support the Coordinator's Office with the creation of fact sheets showcasing Power Africa's financially closed transactions around the continent. In Q3, PATRP delivered individual fact sheets for each country, and contributed to the development of dedicated pages on the Power Africa website.

Nigeria DISCO Video. PATRP continued to edit and refine a video highlighting Power Africa's achievements at four Nigerian electricity distribution companies (DISCOs). PATRP will develop a distribution plan for release of the video, which is planned for early Q4.

Africa Energy Forum. PATRP supported the Coordinator's Office with preparation for the Africa Energy Forum (AEF) in Lisbon in June. Specific PATRP support included development of a PowerPoint for the Coordinator's keynote speech (see Figure 4-1), shipment of materials to the conference venue, and on-site support in Lisbon to capture Power Africa activities and staff the Power Africa booth (see Figure 4-2).

Figure 4-1: PowerPoint Developed for the Coordinator Keynote at AEF

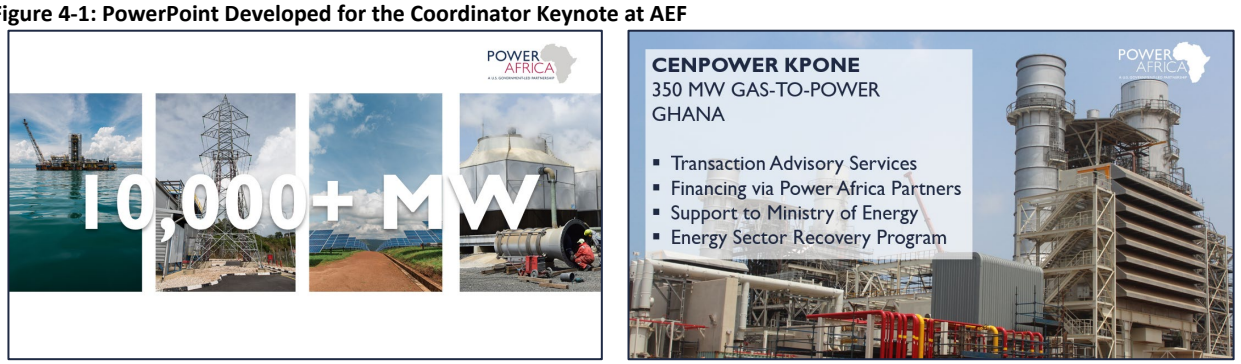

Figure 4-2: Power Africa Booth at AEF in Lisbon

APPENDIX 1: COMPLIANCE WITH IEE CONDITIONS

IEE Condition	Requirement	Comments
1	Establish a Process for Tracking and Screen existing, new, and reclassified transactions.	Of the PATRP-supported transactions at the end of Q3 FY 2019: ▪ In excess of 250 Power Africa transactions have been screened through the PESRM Checklist since inception. Of the remaining PATRP-supported transactions: o Multiple transactions are supported by other USG Agencies or International Finance Institutions with the presumption that no further E&S screening is required o Various transactions primarily at Stages 1 and 2 remain to be screened o Many transactions are micro-scale or operational with limited to no immediate environmental impact PATRP Transactions subjected to the PESRM Checklist in Q3 FY 2019 included the following: ▪ Amaria Hydropower ▪ Digan Hydropower ▪ Côte d'Ivoire Biomass Projects
2	Power Africa review of E&S checklist to determine whether continued support appropriate (for rescreening or new transactions).	None of the transactions reviewed in Q3 FY 2019 were escalated to Power Africa leadership due to significant E&S concerns.
3	Review of ESIAs for stage 3 and 4 transactions (Power Africa will not provide support to any Stage 4 transaction without a completed ESIA party to that transaction).	No ESIA's were sourced during Q3 FY 2019. To date eighty-five ESIA's have been sourced for transactions that have been subjected to the PESRM. These documents have been uploaded to the PATT.
4	Resources: Power Africa to make available links to E&S soundness policies and procedures of USG agencies as well as IFC, Equator Principles and carbon principles. If USG agency policies are not available, Power Africa is to list regulations governing E&S impacts of agencies and provide links to their public statements.	PATRP sourced E&S policies / procedures for OPIC, MCC, USADF, Ex-Im Bank, and USTDA, in addition to World Bank Operational Policies and Procedures, the IFC Performance Standards and General Health and Safety Guidelines, the Equator Principles, and environmental policies of other MDBs. This information is currently hosted on PATRP's SharePoint site and shared with new PATRP transaction advisors as required.
5	Staffing: Power Africa through PATRP to make available an E&S advisor to: ▪ Complete PESRM checklists ▪ Provide E&S social soundness on activities ▪ Serve as a resource to relevant staff as needed	PATRP's E&S advisor completes PESRMs for PATRP supported transactions and advises on E&S soundness at policy and transactional level. The E&S advisor is also supported by PATRP's Gender Specialist, who provides subject matter expertise on gender components of the PESRM checklist. The E&S advisor regularly informs / updates TAs of environmental safeguarding and/or best practices, and remains available as a resource to TAs to advise on environmental issues.
6	PATRP, with support from Power Africa, to provide training to PATRP staff including transaction advisors, relationship managers, other USAID staff and implementing partner staff.	No E&S onboarding training was conducted with TA's in Q3 FY 2019. Based on E&S overview training conducted with USAID staff in Q2, the E&S Advisor worked with USAID to further develop the materials in Q3 towards a unified approach amongst Power Africa Task Orders.
7	Advising: Power Africa / other relevant staff to provide recommendations to private sector partners on adhering to international E&S best practice.	No partner advisory activities / assistance was requested of the PATRP E&S Specialist in Q3 FY 2019.

IEE Condition	Requirement	Comments
8	Reporting: Report to Power Africa leadership any significant environmental and social issues with respect to a transaction or party they are engaged with.	No other significant environmental and social issues were identified in the PESRM checklists or reported by Transaction Advisors for PATRP supported projects.
9	Screen hydropower transactions in PESRM supplement.	No PESRM hydropower supplements were completed due to insufficient information being available at the time of completing the PESRMs.

APPENDIX 2: PATRP ACRONYMS

ACRONYM	MEANING
aBi	Agricultural Business Initiative (Uganda)
ADME	Djiboutian Energy Management Agency
AECF	Africa Enterprise Challenge Fund
AEDC	Abuja Electricity Distribution Company (Nigeria)
AFC	African Finance Corporation
AfDB	African Development Bank
AFD	French Development Agency
AG	Attorney General
AGIL	Africa Geothermal International Limited
AGSI	Association of Ghana Solar Industries
AKSA	AKSA Power Generation (Ghana)
ALSF	African Legal Support Facility
AM	Arcelor Mittal
AMCC/GCCA	Global Climate Change Alliance
ANARE	Autorité Nationale de Régulation de l'Electricité (Côte d'Ivoire)
ANER	National Agency for Renewable Energy (Senegal)
ANPER	Agency for the Promotion of Electrification in Rural Areas of Niger
APSD	African Plantations for Sustainable Development
APV	Africa Power Vision
ARE/RECP	Alliance for Rural Electrification (ARE) and the Africa-EU Renewable Energy Cooperation Programme (RECP)
AT&C	Accumulated Commercial and Technical (losses)
AUC	African Union Commission
B2B	Business-to-Business
BADEA	Arab Bank for Economic Development in Africa
BEDC	Benin Electricity Distribution Company (Nigeria)
BEE	Black Economic Empowerment Programme (South Africa)
BEO	USAID Bureau Environmental Office
BOAD	West African Development Bank
BOOT	Build-Own-Operate-Transfer
BOT	Build-Own-Transfer
BPC	Botswana Power Corporation
BPE	Bureau of Public Enterprises (Nigeria)
BRG	Black Rhino Group
BTG	Beyond the Grid
BWG	Budget Working Group
C&I	Commercial and Industrial
CAPEX	Capital expenditure
CBN	Central Bank of Nigeria
CCGT	Combined Cycle Gas Turbines
CEET	Compagnie Energie Electrique du Togo

ACRONYM	MEANING
CIE	La Compagnie Ivoirienne d'Éléctricité (Côte d'Ivoire)
CIO	Chief Information Officer
CIP	Country Implementation Plan
CLSG	Côte d'Ivoire-Liberia-Sierra Leone-Guinea (transmission line)
COFIT	Cogeneration Feed-In Tariff (South Africa)
COMASEL	Compagnie Marocco-Sénégalaise d'Éléctricité
COMESA	Common Market for Eastern and Southern Africa
COP	Chief of Party
COPERES	Conseil Patronal des Energies Recoverable du Sénégal
COR	Contracting Officer's Representative
COTVET	Council for Technical and Vocational Education and Training (Ghana)
CP	Conditions Precedent
CREE	Mali Commission de Régulation de l'Électricité et de l'Eau
CRM	Customer Relationship Management
CRSE	Commission de Régulation du Secteur de l'Électricité du Sénégal
CSP	Concentrated Solar Power
DCA	USAID's Development Credit Authority
DCOP	Deputy Chief of Party
DFI	Direct Foreign Investment/Investor
DFID	Department for International Development (UK)
DGE	Deemed Generated Energy
DISCO	Distribution Company
DIV	Development Innovation Ventures
DMD	Deputy Managing Director
DO	Development Objective
DOC	Director of Communications
DPFZA	Djibouti Ports & Free Zones Authority
DPM	Deputy Prime Minister (Ethiopia)
DRC	Democratic Republic of Congo
E&S	Environmental and Social
EAC	East Africa Community
EAEP	East Africa Energy Program
EAPP	Eastern Africa Power Pool
EC	Energy Commission (Ghana)
ECG	Electricity Company of Ghana
ECOWAS	Economic Community of West African States
ECREEE	ECOWAS Centre for Renewable Energy and Energy Efficiency
EDCL	Energy Development Corporation Limited (Rwanda)
EDD	Electricité de Djibouti
EDG	Electricité de Guinée (Guinea)
EEA	Ethiopian Electricity Authority
EEP	Ethiopian Electric Power Corporation
EEU	Ethiopian Electric Utility
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EIPC	Electricity Infrastructure Procurement Coordinator
EKEDC	Eko Electricity Distribution Company (Nigeria)
EKT	Ethiopia-Kenya-Tanzania Transmission Interconnector

ACRONYM	MEANING
EKTZ	Ethiopia-Kenya-Tanzania-Zambia Transmission Interconnector
EKZ	Ethiopia-Kenya-Zambia Interconnector
ELPS	Escravos-Lagos Pipeline System (Nigeria)
EMMP	Environmental Monitoring and Mitigation Plan
ENGIE	French multinational electric utility company
EOI	Expression of Interest
EPC	Engineering, procurement and construction
EPL	Early Power Limited (Ghana)
EPSRA	Electricity Power Sector Reform Act (Nigeria)
ERA	Energie Rurale Africaine (Senegal)
ERB	Energy Regulation Board of Zambia
ERC	Energy Regulatory Commission (Kenya)
ERP	Enterprise Resource Planning
ESCOM	State power utility (Malawi)
ESIA	Environmental and Social Impact Assessment
EU	European Union
EUCL	Energy Utility Corporation Limited (Rwanda)
EWURA	Energy & Water Utilities Regulatory Authority (Tanzania)
EXIM	Export–Import Bank of the United States
FGN	Federal Government of Nigeria
FEI	Fund for Energy Inclusion
FiT	Feed-in Tariff
FREEDM	Future Renewable Electric Energy Delivery and Management (USA)
FSRU	Floating Storage Regasification Unit
FY	Fiscal Year
GCE	Generation Capacity Expansion
GCSA	Government Consent & Support Agreement
GDC	Geothermal Development Company (Kenya)
GDL	Global Development Lab
GENCO	Generation Company
GEDAP	Ghana Energy Development and Access Project
GETFiT	Global Energy Transfer Feed-in Tariffs Program
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GLOS	Government Letter of Support (Kenya)
GMP	Gas Master Plan (Ghana)
GMR	Gas Market Review (Ghana)
GMSP	Grid Management Support Program (Ethiopia & Kenya)
GNGC	Ghana Gas Company
GNPC	Ghana National Petroleum Corporation
GoA	Government of Angola
GoB	Government of Belgium
GoCI	Government of Côte d'Ivoire
GoE	Government of Ethiopia
GoG	Government of Ghana
GOGLA	Global Off-Grid Lighting Association
GoK	Government of Kenya

ACRONYM	MEANING
GoL	Government of Liberia
GoN	Government of Nigeria
GoR	Government of Rwanda
GoRD	Government of the Republic of Djibouti
GoS	Government of Senegal
GoSL	Government of Sierra Leone
GoT	Government of Tanzania
GRMF	Geothermal Risk Mitigation Facility
GRZ	Government of the Republic of Zambia
GSA	Government Support Agreement
GTF	Global Tracking Framework
GTP	Growth and Transformation Plan (Ethiopia)
GUMP	Gas Utilisation Master Plan (South Africa)
GW	Gigawatt
HFO	Heavy Fuel Oil
HOMER	Hybrid Optimization of Multiple Energy Resources
HPP	Hydropower plant
IA	Implementation agreement
IDC	Industrial Development Corporation
IEA	International Energy Association
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IFI	International financial institution
IMF	International Monetary Fund
IPP	Independent power producer
IRB	EAPP Independent Regulatory Board
IRENA	International Renewable Energy Agency
IRP	Integrated Resource Plan
IRRP	Integrated Resource and Resilience Planning
JDA	Joint Development Agreement
JICA	Japan International Cooperation Agency
JUFG	Joint Utilities Finance Group (Ghana)
KenGen	Kenya Electricity Generating Company
KEREA	Kenya Renewable Energy Association
KETRACO	Kenya Electricity Transmission Company Limited
KfW	German Development Bank
km	Kilometer
KNES	Kenya National Electrification Strategy
KOSAP	Kenya Off-grid Solar Access Project
KP (formerly KPLC)	Kenya Power
KTZ	Kenya-Tanzania-Zambia Transmission Interconnector
kV	Kilovolt
kWh	Kilowatt hour
kWp	Kilowatt-peak
LCO	Light Crude Oil
LCOE	Levelized costs of energy
LEC	Lesotho Electricity Company

ACRONYM	MEANING
LEC	Liberia Electricity Corporation
LFO	Light Fuel Oil
LNG	Liquefied Natural Gas
LOP	Life of Program
LVN	Low-Voltage Network
M2C	Meter to Cash
M&E	Monitoring and Evaluation
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MD	Managing Director
MD	Maximum Demand
MDB	Multilateral development bank
MEDER	Ministry of Energy and the Development of Renewable Energy Sources (Senegal) [name changed to MPE, see below]
MEM	Ministry of Energy and Minerals (Tanzania)
MEMD	Ministry of Energy and Mineral Development (Uganda)
MERN	Ministère de l'Energie Chargé des Ressources Naturelles (Djibouti)
MHPP	Micro-Hydro Power Project
MINEA	Ministry of Energy and Water (Angola)
MININFRA	Ministry of Infrastructure (Rwanda)
MLM&E	Ministry of Lands, Mines and Energy (Liberia)
MMEWR	Ministry of Minerals and Water Resources (South Africa)
MMO	Mobile Money Operator
MMscfd	Million standard cubic feet of gas per day
MNO	Mobile Network Operator
MNREM	Ministry of Natural Resources, Energy and Mining (Malawi)
MOE	Ministry of Energy (Zambia)
MOEn	Ministry of Energy (Ghana)
MOEP	Ministry of Energy and Petroleum (Kenya)
MOF	Ministry of Finance (Ghana)
MOFEC	Ministry of Finance and Economic Cooperation (Ethiopia)
MOFP	Ministry of Finance and Planning (Tanzania)
MOU	Memorandum of Understanding
MoWIE	Ministry of Water, Irrigation & Energy (Ethiopia)
MPE	Ministère du Pétrole et des Énergies (formerly MEDER)
MPN	Mobil Producing Nigeria
MSC	Management Services Contract
MVA	Megavolt Amperes
MW	Megawatt
MWp	Megawatt-peak
MYTF	Multi-Year Tariff Framework
MYTO	Multi-Year Tariff Order
NBET	Nigeria Bulk Electricity Trading, Plc.
NBI	Nile Basin Initiative
NDA	Non-disclosure Agreement
NDPHC	Niger Delta Power Holding Company Limited
NEDCO	Northern Electricity Distribution Company (Ghana)
NELSAP	Nile Equatorial Lakes Subsidiary Action Program

ACRONYM	MEANING
NEPAD	New Partnership for Africa's Development
NERC	Nigerian Electricity Regulatory Commission
NERSA	National Energy Regulator of South Africa
NES	National Electrification Strategy (Ethiopia)
NGFCP	Nigeria Gas Flares Commercialisation Programme
NIPP	National Integrated Power Project (Nigeria)
NLNG	Nigeria LNG Limited
NMD	Non-Maximum Demand
NNPC	Nigerian National Petroleum Corporation
Norfund	Norwegian Investment Fund for Developing Countries
NRECA	National Rural Electric Cooperative Association
NREL	National Renewable Energy Laboratory (USA)
O&M	Operations and Maintenance
ODDEG	Office Djiboutien de Développement de l'Energie Géothermique
ODPP	Office of the Director of Public Procurement
OFID	OPEC Fund for International Development
OMVG	Organisation pour la Mise en Valeur du fleuve Gambie
OMVS	Organisation pour la Mise en Valeur du fleuve Sénégal
OPEC	Organization of the Petroleum Exporting Countries
OPEX	Operating Expenses
OPIC	Overseas Private Investment Corporation
OPPPI	Office for Promoting Private Power Investment (Zambia)
PA	Power Africa
PAD	Project Appraisal Document
PAIS	Power Africa Information System
PAOP	Power Africa Off-grid Project
PASER	Plan d'Action Sénégalais d'Électrification Rurale
PATA	Power Africa and Trade Africa
PATRP	Power Africa Transactions and Reforms Program
PATT	Power Africa Tracking Tool
PAYGO	Pay-as-you-go
PCOA	Put/Call Option Agreement
PEPT	Programme Electricité Pour Tous (Côte d'Ivoire)
PESRM	PATRP Environmental and Social Review Methodology
PIDG	Private Infrastructure Development Group
PIP	Performance Improvement Plan
PISSA	Project Implementation and Steam Supply Agreement (Kenya)
PIU	Project Implementation Unit
PMP	Performance Management Plan
PNER	Programme National d'Électrification Rurale (Sénégal)
POC	Point of Contact
PPA	Power purchase agreement
PPF	Project preparation facility
PPM	Pre-Paid Meter
PPP	Public Private Partnership
PRG	Partial Risk Guarantee
PS	Principal Secretary
PSP	Private sector partner

ACRONYM	MEANING
PSS/E	Power System Simulator for Engineering
PURC	Public Utilities Regulatory Commission (Ghana)
PV	Photovoltaic
QAF	Quality Assurance Framework
QIPP	Qua Iboe Power Project
QTAT	Qualified Transactions Assistance Tool
RAED	Renewable and Alternative Energy Directorate (Ghana)
RBF	Results Based Financing
RE	Renewable Energy
REA	Rural Energy Agency (Tanzania)
REACT	Renewable Energy and Adaptation to Climate Change Technologies Window
REEEP	Renewable Energy and Energy Efficiency Partnership
REFiT	Renewable Energy Feed-in Tariff
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme (South Africa)
REPARLE	Renewable Energy to Power Agriculture and Rural Livelihood Advancement (Uganda)
RES	Rural Electrification Strategy (Rwanda)
RF	Results Framework
RFEOIWC	Request for Expression of Interest with Evaluation Criteria
RFP	Request for Proposal
RFQ	Request for Qualifications
RNT	Rede Nacional de Transporte de Electricidade (Angola)
RSD	Regulatory Services Department (Djibouti)
SDFS	Suppressed Demand and Forecast Study
SE4All	Sustainable Energy for All (United Nations)
SEC	Swaziland Electricity Company
SENELEC	Société National d'Éléctricité du Sénégal
SEP	Strategic Equity Partner
SERA	Swaziland Electricity Regulatory Authority
SHS	Solar Home System
SIDA	Swedish International Development Cooperation Agency
SIS	System Integration Study
SOGA	System Operation Gap Analysis
SOW	Scope of Work
SNEL	Société Nationale d'Éléctricité (DRC)
SNP	Solar Nigeria Project
SPP	Small Power Producer
SPPA	Standardized Power Purchase Agreement
SPV	Special Purpose Vehicle
SREP	Scaling up Renewable Energy Program
SSA	Sub-Saharan Africa
SSRE	Small-scale renewable energy
STTA	Short-Term Technical Assistance
SUNREF	Sustainable Use of Natural Resources and Energy Finance (AfDB)
T&D	Transmission & distribution
TA	Transaction Advisor
TANESCO	Tanzania Electric Supply Company Limited

ACRONYM	MEANING
TARP	Troubled Asset Relief Program (USA)
TBI	Tony Blair Institute (formerly AGI)
TCN	Transmission Company of Nigeria
TEDAP	Tanzania Energy Development and Access Project
ToP	Take-or-Pay
TOR	Terms of Reference
TPDC	Tanzania Petroleum Development Corporation
TREEP	Tanzania Rural Electrification Expansion Project
TRR	Transmission Revenue Requirements
TSA	Transmission Service Agreement
TSO	Transmission System Operator
TSP	Transmission Services Provider
TWG	Transmission Working Group
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UNOPS	United Nations Office for Project Services
USADF	United States African Development Fund
USAID	United States Agency for International Development
USD	United States dollars
USEA	United States Energy Association
USG	United States Government
USTDA	United States Trade and Development Agency
VAT	Value Added Tax
VfM	Value for Money
VP	Vice President
VRA	Volta River Authority (Ghana)
WAGP	West African Gas Pipeline
WAPCo	West African Gas Pipeline Company
WAPP	West African Power Pool
WB	World Bank
WENRECo	West Nile Rural Electrification Company
WIAP	Women in African Power
WO	Work Order
Wp	Watt-peak
WTE	Waste to Energy
YALI	Young African Leadership Initiative (USA)
ZESCO	Zambia Electricity Supply Corporation