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Year 3 Annual Report

USAID Southern Africa Energy Program

1 October 2019 – 30 September 2020

COVER PHOTO: Konkoonsies II Solar is a 86 MW solar plant in South Africa that commenced commercial operations in October 2020. Photo credit: USAID SAEP

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ACRONYMS

Acronym	Definition
ACE-TAF	Africa Clean Energy Technical Assistance Facility
ADER	Agence pour le Développement de l'Electrification Rurale
AEF	Africa Energy Forum
AFD	Agence Française de Développement
AfDB	African Development Bank
ALSF	African Legal Support Facility
ARENE	The Energy Regulatory Authority
BSC	Balanced Scorecard
BERA	Botswana Energy Regulatory Authority
BGFZ	Beyond the Grid Fund for Zambia
BoD	Board of Directors
BPC	Botswana Power Corporation
BSP	Battery Service Providers
BTG	Beyond the Grid
BW5	Bid Window 5 (of REIPPP Programme)
CDH	Cliffe Dekker Hofmeyr Incorporated
CENORED	Central Northern Regional Electricity Distributor (Namibia)
CEC	Copperbelt Energy Corporation
CEO	Chief Executive Officer
COR	Contracting Officer's Representative
CoSS	Cost of Service Study
CP	Cooperating Partner
CEEEZ	Centre for Energy, Environment and Engineering of Zambia
CSP	Concentrated Solar Power
CTT	Central Termica de Temane
CoCT	City of Cape Town
CoW	City of Windhoek
DBSA	Development Bank of South Africa
DFID	UK Department for International Development
DOC	Development Outreach and Communications
DSM	Demand Side Management
EAEP	East Africa Energy Program
EAPP	Eastern Africa Power Pool
E&S	Environmental and Socioeconomic
ECB	Electricity Control Board (Namibia)
EDM	Electricidade de Moçambique

EE	Energy Efficiency
EEC	Eswatini Electricity Company
EGENCO	Electricity Generation Company
EMMP	Environmental Mitigation and Monitoring Plan
EMU	Electrification Management Unit
ENDE	Empresa Nacional de Distribuição de Electricidade
ENH	National Enterprise of Hydrocarbons
EOI	Expression of Interest
EPC	Engineering, Procurement, and Construction
ERB	Energy Regulatory Board (Zambia)
ESC	SAPP Environmental Subcommittee
ESCOM	Electricity Supply Corporation of Malawi
ESERA	Eswatini Energy Regulatory Authority
ESIA	Environmental and Social Impact Assessment
ESEEP	Energy Sector Efficiency and Expansion Program
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESREM	Enhancing Sustainability of Regional Energy Markets
ESP	Energy System Planning
EWSC	Eswatini Water Services Corporation
ETG	Energy Thematic Group
EWT	Endangered Wildlife Trust
ExCo	Executive Committee
FC	Financial Close
FY	Financial Year
FMM	Financial Mobilization Memo
FY	Fiscal Year
GCA	Grid Connection Agreement
GET FiT	Global Energy Transfer Feed-in Tariffs
GOGLA	Global Off-Grid Lighting Association
GoM	Government of Malawi
HICD	Human and Institutional Capacity Development
HRMSC	Human Resources Management Sub-committee
HRWG	Human Resources Working Group
IA	Implementation Agreement
IAEREP	Increased Access to Electricity and Renewable Energy Production
IDIQ	Indefinite delivery/indefinite quantity (used in U.S. Federal government contracting)
IFC	International Finance Corporation
IFI	International Financial Institution

IPP	Independent Power Producer
IPP Office	South Africa Department of Energy (DoE) Independent Power Producer Procurement (IPP) Programme Office
IRP	Integrated Resource Plan
IRSEA	Instituto Regulador dos Serviços de Electricidade e de Água
IsDB	Islamic Development Bank
IWaSP	International Water Stewardship Programme
JDA	Joint Development Agreement
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
KPI	Key Performance Indicator
kV	Kilovolt
LCOE	Levelized Cost of Energy
LEC	Lesotho Electricity Corporation
LEDs	Low Emissions Developments
LEWA	Lesotho Electricity and Water Authority
LOC	Letter of Collaboration
LOI	Letter of Intent
M&E	Monitoring and Evaluation
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MDM	Metering Development Management
MERA	Malawi Energy Regulatory Authority
MIREME	Minister of Mineral Resources and Energy (Mozambique)
MITADER	Ministry of Land, Environment and Rural Development (Mozambique)
MITC	Malawi Investment Trade Centre
MMGE	Ministry of Mineral Resources, Green Technology and Energy (Botswana)
MME	Ministry of Mines and Energy (Namibia)
MNRE	The Ministry of Natural Resources and Energy
MONREM	Ministry of Natural Resources, Energy and Mining (Malawi)
MW	Megawatts
NARUC	National Association of Regulatory Utility Commissioners
NDA	Non-Disclosure Agreement
NEESAP	National Energy Efficiency Strategic Action Plan
NEI	Namibia Energy Institute
NERSA	National Energy Regulator of South Africa
NDCC	National Development Coordinating Committee
NORED	Northern Regional Electricity Distributor
NRECA	National Rural Electric Cooperative Association
NWEC	Northwestern Energy Corporation

OGTF	Off-Grid Task Force
OFID	OPEC Fund for International Development
OPC	Office of the President & Cabinet
OPIC	Overseas Private Investment Corporation
OSC	SAPP Operating Subcommittee
PA	Power Africa
PATRP	Power Africa Transactions and Reforms Program
PATT	Power Africa Transaction Tracker
PAU	Project Advisory Unit
PCCBIS	Portfolio Committee Capacity Building and Information Sharing Meeting
PIM	Project Investment Memo
PIU	Project Implementation Unit
PMEP	Performance Management and Evaluation Plan
PMO	Project Management Office
PMU	Project Management Unit
PPA	Power Purchase Agreement
PPPC	Public Private Partnership Commission
PPZ	Partial Protection Zone
PS	Permanent Secretary
PV	Photovoltaic
Q1	Quarter 1
Q2	Quarter 2
Q3	Quarter 3
Q4	Quarter 4
QOSWG	Quality of Supply Working Group
RBF	Results-based financing
RAB	Regulatory Asset Base
RAP	Resettlement Action Plan
RE	Renewable Energy
REA	Rural Electrification Agencies
RED	Regional Electricity Distribution Company
REEEP	Renewable Energy and Energy Efficiency Partnership
REFiT	Renewable Energy Feed-in Tariff
REIPPP	Renewable Energy Independent Power Producer Procurement
RERA	Regional Energy Regulatory Association
REOI	Request for Expressions of Interest
RFA	Request for Application
RFI	Request for Information
RFP	Request for Proposals

RNT	Empresa Rede Nacional de Transporte de Electricidade
ROW	Right of Way
RSSC	Royal Swaziland Sugar Corporation
RTIFF	Regional Transmission Infrastructure Fund Facility
SACREEE	SADC Centre for Renewable Energy and Energy Efficiency
SADC	Southern African Development Community
SAEP	Southern Africa Energy Program
SAPP	Southern African Power Pool
SAPP CC	Southern African Power Pool Coordination Center
SAPP OSC	SAPP Operating Subcommittee
SAPP ESC	SAPP Environmental Subcommittee
SAPP PSC	SAPP Planning Subcommittee
SB	Single Buyer
SFE	Sales Force Effectiveness
SHS	Solar Home System
SIAZ	Solar Industry Association of Zambia
SMO	System Market Operator
SOW	Scope of Work
SPEED+	Supporting the Policy Environment for Economic Development
SPV	Special Purpose Vehicle
SRUC	USAID Sector Reform and Utility Commercialization Program
SSIR	SAEP Support Information Request
STTA	Short Term Technical Assistance
TNA	Training Needs Assessment
TO	Task Order
ToR	Terms of Reference
TTP	Temane Transmission Project
TTS	Targeted Transaction Support
USD $	United States Dollar
USG	United States Government
USAID	United States Agency for International Development
USTDA	United States Trade and Development Agency
VAT	Value Added Tax
vRE	Variable Renewable Energy
WARMA	Zambia's Water Resource Management Authority
YALI	Young African Leaders Initiative
ZESCO	Zambia Electricity Supply Corporation
ZERA	Zimbabwe Energy Regulatory Authority
ZRA	Zambezi Revenue Authority
ZTK	Zambia–Tanzania–Kenya

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EXECUTIVE SUMMARY

In financial year 2020 (FY20), the United States Agency for International Development (USAID) Southern Africa Energy Program ("SAEP" or "the Program"), completed or advanced over 112 activities in 10 countries[1] to contribute to Power Africa's goals of creating a brighter, more sustainable future for many across the Southern African region, despite the effects of the COVID-19 pandemic on the working environment. This Annual Report ("the Report") details SAEP's successes over the past year; from transaction advisory support for large-scale energy sector projects to assistance to solar home system (SHS) companies and utilities' on-grid extension. Below is an overview of SAEP's key events, milestones, and achievements over the 12-month period (from October 1, 2019 to September 30, 2020) covered in this report.

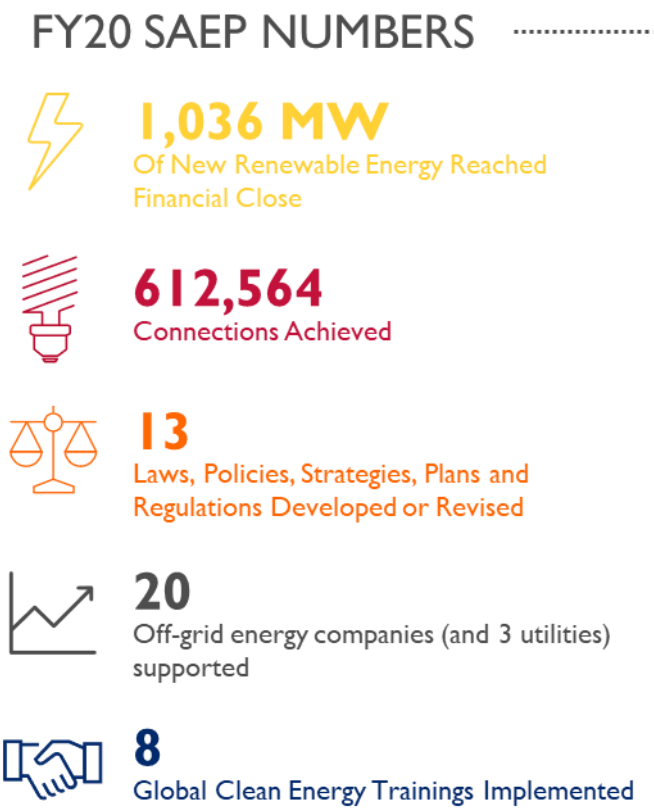

Figure 1. "BY THE NUMBERS" figures in Section 2 highlight generation and transmission projects by country with a medium or high probability of reaching financial close by March 2022

- Facilitated **financial close (FC) of 1,036 megawatts (MW)** of new renewable energy (RE) generation capacity in South Africa and Malawi. Over the life of the project, 3,301.38 MW of supported generation capacity has reached FC
- Achieved **612,564 connections** of which i) **186,933 were new off-grid connections** through support to SHS companies and other off-grid providers, and ii) **425,631 were new on-grid connections.** Over the life of the project, 909,681 connections have been supported for households and businesses
- Developed or revised **13 laws, policies, strategies, plans, and regulations** to improve the enabling environment and reduce barriers to energy sector growth. Over the life of the project, 32 laws, polices, strategies, plans, and regulations have been developed or revised
- Supported **20 off-grid energy companies and three utilities** across sub-Saharan Africa to improve market knowledge and increase sales through active transaction advisory and the development of go-to-market strategies
- Implemented **8 trainings** addressing topics like SHS sales force effectiveness, project finance and financial modelling, and utility performance management
- Guided the Government of Malawi through the process of releasing Africa's first hydropower tender and selecting a prequalified bidder to submit a full proposal for the development, financing, construction, operation, and maintenance of the **350 MW Mpatamanga Hydropower** plant

[1] SAEP continues to not work in Zimbabwe per the guidance provided by USAID

- Concluded training for ESCOM's operational personnel to equip them to operate in an interconnected SAPP system once the **Malawi–Mozambique 400 kV interconnector** line, which reached FC in July 2020, is commissioned
- Supported **Angola's electricity distribution company, ENDE, and transmission company, RNT**, to set up project implementation units to manage the procurement and planning aspects of the African Development Bank's (AfDB) USD $543.5 million Energy Sector Efficiency and Expansion Program (ESEEP)
- Managed key activities in moving Mozambique's **Temane Transmission Project** (TTP) forward, including procurement of an Engineering, Procurement and Construction (EPC) contractor
- Launched the "**Power Africa Madagascar Mini-Grid Development Grant**" and selected three mini-grid developers to receive up to USD $1.5 million in grant financing resulting in an expected new 5,216 connections
- Initiated **new activities** targeted at assisting energy-sector players **to survive the impacts of the COVID-19 pandemic** with specific focus on business continuity planning to utilities and the off-grid sector

Introduction

1 INTRODUCTION

1.1 THE PROGRAM

The SAEP contract (AID-674-C-17-00002) was signed between USAID/Southern Africa and Deloitte Consulting LLP (Deloitte) on 15 March 2017. This is SAEP's third Annual Report[3] and reflects results and achievements realized in FY20 (October 1, 2019 to September 30, 2020).

The objective of SAEP is to increase investment in electricity supply and access in Southern Africa by strengthening the regional enabling environment and facilitating transactions. SAEP addresses key constraints to energy sector investment, by i) strengthening regulation, ii) improving planning and procurement, iii) improving management of electricity trade, iv) demonstrating and scaling RE and energy efficiency (EE) technologies and practices, and v) providing capacity building to institutions and human resources for energy sector management.

SAEP is USAID's flagship implementing mechanism for Power Africa in the Southern African region. As part of Power Africa, SAEP works to contribute to Power Africa's continent-wide goals of increasing new power generation by 30,000 MW and increasing new connections by 60 million by 2030. (For more information on Power Africa, see the box on the next page).

Figure 2. The SAEP team collaborating in a remote working environment.

Over its five-year life, SAEP will meet Program-specific goals to increase electricity supply and access, and will deliver:

- 4,000 MW of new power generation and transmission capacity
- 3 million new connections

[2] Previous divider photo: Rural Malawi shops powered by local electricity lines (Photo credit: USAID SAEP)
[3] The full report name as per Contract Number AID-674-C-17-00002 is Annual Performance Management Progress Report

1.2 OVERVIEW

SAEP is a forward-looking program that aims to overcome the challenges of access to energy through actively advancing power sector development in Southern Africa. SAEP employs a proactive, responsive and flexible approach to the design, deployment and monitoring of interventions compatible with, and responsive to, the evolving needs of the region. SAEP recognizes that to sustainably advance the accessibility, reliability and security of the regional energy ecosystem, the Program must promote policy and regulatory reforms to improve the enabling environment. Additionally, the Program must stimulate private sector participation in the energy sector to realize new investment within the power sector.

SAEP is designed to increase electricity generation and to improve access to power in 11 countries located throughout Southern Africa[4] while objectively quantifying and measuring progress towards five key outcomes or work streams of the Program. Outcomes include:

- Outcome 1 (OC1): Improve regulation, planning and procurement for energy
- Outcome 2 (OC2): Improve commercial viability of utilities
- Outcome 3 (OC3): Improve regional harmonization and cross-border trade
- Outcome 4 (OC4): Demonstrate and scale RE and EE technologies and practices locally
- Outcome 5 (OC5): Increase human and institutional capacity

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Power Africa is a U.S. Government-led partnership that brings together the collective resources of over 170 public and private sector partners to double access to electricity in sub-Saharan Africa. Power Africa's goal is to add more than 30,000 megawatts (MW) of new electricity generation capacity and connect 60 million new homes and businesses to power by 2030. To date, Power Africa has helped bring 124 power generation deals to FC with a generation capacity of over 11, 000 MW and a total project value of over $22 billion. Of these deals, 46 are operational and generating nearly 4,000 MW of new and more reliable electricity. Since its launch in 2013, Power Africa has connected 17 million homes and businesses to on- and off-grid solutions, bringing first time electricity to more than 77 million people across sub-Saharan Africa.

SAEP will achieve these outcomes by strategically aligning energy reform and electrification goals with investment opportunities through i) tracking and working to close transactions, ii) coordinating with local and regional resources, and iii) building human and institutional capacity. SAEP is employing a results-oriented framework for decision-making related to the identification, prioritization, and selection of intervention activities and programming with the aim to increase and accelerate private sector investment and to move transactions forward for increased generation and access to electricity. On the following page, Table 1 shows targets and results for SAEP's Year 3 as well as targets moving forward into Year 4.

The rest of this document is organized as follows; Section 2 provides country level highlights of key successes and impacts as well as challenges and mitigation strategies implemented during the year. Section 3 details SAEP's program management, finance and operations, and challenges from Year 2 coupled with risks anticipated in Year 3. A series of appendices provide details on SAEP successes, Program staffing (short-term technical assistance (STTA) and resources mobilized), performance indicators and results, and progress reporting against SAEP Year 3 Work Plan activities. This includes completion of outputs and progress against the Work Plan activities, as well as any proposed adjustments to Program delivery.

[4] Angola, Botswana, Eswatini, Lesotho, Madagascar, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe

Table 1 SAEP high-level results

	Year 1 Target	Year 1 Results	Year 2 Target	Year 2 Results	Year 3 Target	Year 3 Results	Life of Project Target	Cumulative Results Through End of Year 3	Variance Between Year 3 Targets and Year 3 Results	Variance Between LOP Targets and Results to Date	Comments
Generation Capacity (MW) Reached FC	325	2,130.38	352	135	302	36	3,000	2,301.38	**-88.1%**	**-23.3%**	Some generation transactions that were expected to reach FC in Year 3 were pushed further out to Year 4. SAEP still has a number of generation transactions in the pipeline that are expected to reach FC within the project lifetime
Transmission Capacity (MW) Reached FC	0	0	1,000	0	1,000	1,000	1,000	1,000	**0%**	**0%**	One 1,000 MW transmission project reached FC in Year 3. The Angola-South Central was initially not expected to reach FC within Year 3
New Connections	50,000	64,412	400,000	232,705	650,453	612,564	3,000,000	909,681	**-5.8%**	**-69.7%**	This target proved challenging to reach as a result of a slowdown in connections at EDM and the off-grid sector caused by COVID-19 and a delay in connections at ENDE
Number of Laws, Policies, Strategies, Plans, or Regulations Officially Proposed, Adopted, or Implemented	6	7	8	12	9	13	31	32	**+44%**	**+3%**	An increased demand from SAEP counterparts for regulatory-related services led to more regulatory activities. Also, some of the counterparts were swift with their review and adoption of proposed policies
Number of People Receiving Training in Global Clean Energy	45	266	117	622	200	126	1,313	1,014	**-37%**	**-22.8%**	Due to COVID-19, SAEP did not perform as many in person trainings in Year 3 as originally envisioned, or the number who participated were reduced. SAEP has a number of trainings that are planned for Year 4, which should see the team achieve the life of project target

1.3 DEALING WITH THE IMPACTS OF COVID-19 IN YEAR 3

The second quarter of SAEP's third year was, as for many others, one of the most challenging since Program start in 2017. With the outbreak of the COVID-19 pandemic in most parts of the world, many governments reacted with restrictions of economic activities – from disruptions in conducting day-to-day business to a complete lockdown of certain industries and activities. Although SAEP was able to react and develop continuity plans, the impact on some of the Program's activities in Year 3 has been significant: having to adapt to a remote working environment since March 2020; delays in the ability of governments and Program counterparts such as project developers to advance their projects affecting energy project advancement that SAEP relies on for Program results; the uncertainty about the further development of the pandemic and impact on planned activities in Year 4.

The following summarizes the major impacts of COVID-19 on Program delivery during Year 3:

- Cancellation or postponement of meetings and workshops due to lockdowns and travel restrictions
- In-person meetings and workshops converted to virtual platforms have made it more challenging to build strong relationships with counterparts
- Cancellation or postponement of virtual meetings and workshops due to counterparts not being able to commit to dates because of country or business restrictions as well as unreliable internet access
- Communication challenges as a result of counterparts having to work from home where some do not have access to a personal or work computer or experience unstable internet connectivity
- A delay in some generation and connection projects advancing or reaching FC due to restrictions on procurement- and environment-related activities. In some cases, electrification programs that SAEP is supporting were quite dramatically delayed because of import delays for materials as well as projects starting later than expected due to due diligence not being completed during the pandemic
- The SHS Kick-Starter Program grantees struggled to meet their connections goals and SAEP had to modify milestones to account for the COVID-19 pandemic, while maintaining the overall targeted number of connections. For the entire off-grid SHS market this has been a challenge as the poor economics of countries that were shut down threaten the ability of these companies to meet revenue and cash flow requirements not only from new sales, but from pay-as-you-go customers

Woven throughout the annual report are updates on how the team delivered despite COVID-19 and the impact SAEP was able to have on advancing goals despite changing delivery scenarios. Below section provides an update on COVID activities that were designed to address specific concerns raised by counterparts.

1.3.1 COVID REDIRECTION ACTIVITIES

In light of the COVID-19 pandemic, SAEP has undertaken a comprehensive review of its work plan activities and approach to delivery to understand how it can help counterparts identify and mitigate COVID-related challenges, develop and execute business continuity plans, and continue improving the overall energy sector in Southern Africa. SAEP conducted an online survey and followed up with counterparts through phone calls and emails to establish how they are dealing with the pandemic, identify challenges relating to dissemination of their functions and areas they may be needing assistance from SAEP. The challenges identified through the outreach include:

- Many counterparts were grappling with business continuity amidst travel restrictions and technology challenges
- Regulators expressed concern about how they could structure their response to help reduce service disruptions and anticipate system-wide cost impacts

- Utilities also expressed concern about a reduction in revenues from key customers and asked for support on cash flow analysis
- Several counterparts expressed concerns about the costs associated with the response and requested assistance to identify grants or other funding available

From this exercise, SAEP developed new activities to help counterparts begin to prepare for and address the challenges of operating in a post-COVID-19 environment. Some of these activities will only be completed in Year 4 of the Program as a few of the items require continued support to counterparts. The support to counterparts in Year 3 on COVID-19 specific activities is shared below:

- **Regulatory Advisory to Issue Utility Accounting Order:**
  - In the wake of the COVID-19 pandemic, SAEP developed tools for use by regulatory authorities – among others – that may be useful in managing the effects on utilities of COVID-19. One such tool that is used is an accounting order that allows unexpected expenses to be accumulated for possible future recovery. Most regulatory authorities require their utilities to keep their financial records in a particular format promoting a common understanding among utilities and regulators as to how accounting items are recorded, which, in turn, aids the analysis of utility expenditures. There are times when alternative approaches are warranted and with the impact of COVID-19 on utilities resulting in lower sales, higher operations and maintenance (O&M) costs or lower capital expenditures, utility expenditures are likely to vary from their planned amounts. In order to ensure that utilities can maintain their viability when expenses are unpredictable and variable and customers pay only for the services received, accounting orders help to capture unexpected net expenditures so that regulatory authorities can evaluate them for recovery.

    SAEP met with regulators to explain the meaning of an accounting order and share a sample accounting order so that regulatory authorities, if they so choose, can order regulated utilities to segregate expenses relative to COVID-19 for recovery at a later date. In September 2020, SAEP held constructive online meetings with the Botswana Energy Regulatory Authority (BERA), Eswatini Energy Regulatory Authority (ESERA), the Electricity Control Board (ECB), and the Malawi Energy Regulatory Authority (MERA). Feedback from the participant regulators was positive and included data from some regulators indicating that, whilst utility revenues are presently being negatively affected, some cost savings are occurring too. It was generally determined that presently all participating regulators have a form of reconciliation mechanism within their existing tariff review methodologies in place to account for these variances. The existence of these reconciliation mechanisms – where budgeted expenditures are compared to actual amounts – will essentially serve the same purpose as an accounting order. However, SAEP will likely still recommend a directive be sent from regulatory authorities to utilities ordering that COVID-19 related expenses be segregated so that in the next rate case they can be evaluated for recovery as a part of the reconciliation mechanism. ESERA, BERA and the ECB all have rate case proceedings in the next 12 months.

- **COVID-19 Support to the Off-Grid Sector**
  - In response to COVID-19, SAEP initiated activities to proactively manage the impacts and disruptions to the off-grid and SHS industry. The COVID-19 related assistance through these activities was provided to SHS companies and sector-wide counterparts in Malawi, Mozambique and Zambia. The aim of these activities was to help companies maintain operations, to work with other organizations to share and document the latest industry

market intelligence and best practices for managing the crisis, to identify and facilitate relief funding and concessional financing opportunities from potential capital providers, and to work with cooperating partners under the Off-Grid Task Force (OGTF) in Zambia to support off-grid players, including SHS companies, to participate in a financial relief facility established by the Bank of Zambia. In Malawi, SAEP, in consultation with the SHS Kick-Starter Program grant awardees, revised downwards milestone connection targets, but kept the end goal the same. The new milestone payment mechanism has allowed for an early disbursement of grant funds, providing the companies much needed liquidity to manage current and impending challenges brought on by the pandemic. The expectation is that connection rates will rebound after the epidemic abates. The net effect of all the COVID-19 support activities is that counterparts were able to receive the tools and interventions they required to maintain business continuity. Due to the persistence of the COVID-19 pandemic and its impacts, some of the activities started in Year 3 will continue into Year 4.

- **COVID-19 Support to Utilities.** SAEP is supporting EDM in Mozambique and EGENCO in Malawi to improve the level of preparedness and response capacity during and after the COVID-19 pandemic:
  - EGENCO: SAEP is working with EGENCO's risk management team to design and implement a Business Continuity Management System (BCMS) and Business Continuity Management Plan (BCMP). SAEP and EGENCO conducted four workshops from 3 to 9 September 2020, focusing on the development of the BCMS policy document, discussing the BCMS roles and responsibilities, BCMP and how to develop risk scenarios. SAEP has issued a guide for the design and implementation of the BCMS document to EGENCO. On 28 September 2020, EGENCO's risk management team, with SAEP's support, presented the results to the EGENCO executive who showed great interest in the process and acknowledged the positive outcomes of forward-looking planning in dealing with existing and future disasters. EGENCO will incorporate these into their recently established risk management system. The adoption of the BCMS and BCMP will better EGENCO's risk response process to a range of impacts including pandemics, severe climate impacts on water supply as well as those impacting the utility's macro-economic situation.
  - EDM: At EDM's request, SAEP conducted an initial assessment on how the EDM COVID-19 task team was structured and supported EDM in preparing protocols, required communication and reviewing contingency plans for critical areas in response to the pandemic. Based on SAEP advisory, EDM has improved its disaster response structure and has appointed two directors, EDM Distribution Director, Alberto Banze and EDM Hygiene, Health and Safety Director, Lucas Chongo to form part of the task force. This has resulted in an empowered and streamlined coordination team that reports to the BoD. SAEP is now focused on assessing the specific impacts of the pandemic on EDM's operations and financial position. Due to the utility not having a financial model to assess the impact on cash flows, SAEP is now focusing on developing such a model. Based on the analysis, alternative scenarios will be developed to inform EDM's response. Ultimately, SAEP will utilize this information to support EDM in developing a continuity plan to provide a structured approach to crisis response and recovery

1.3.2 COVID-19 SUPPORT ACTIVITY TABLES

MALAWI

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Status
Y3.C19.02.03.02.MWI *	EGENCO assessment of impacts and contingency planning (COVID-19)	Izak du Plessis, Tea Mihic	7/27/2020 - 11/30/2020	EGENCO request	Continuation from Year 3	• Final business continuity management system (BCMS), also inclusive of the BCM Plan (BCMP) • Developed business contingency plan (BCP) • Workshops with the Project team and the Executive teams • Presentation to the EGENCO board of the BCMS and BCP • Final report	• In Progress: SAEP supported EGENCO to develop the Business Continuity Management System (BCMS), the Business Continuity Management (BCM) Policy Statement and have commenced with building the Business Continuity Management Plan (BCMP), based on the completed Key Risk Assessments, which were presented to EGENCO executives for EGENCO's alignment and input, in order to proceed with further development of the BCM elements
Y3.C19.04.06.08.MWI *	Support the identification and facilitation of grant funding/concessionary financing for SHS companies	Jorry Mwenechanya, Tshegofatso Neeuwfan	4/1/2020 - 9/30/2020	SHS company requests	Y3.04.06.06.MWI	• Updates in bi-weekly and quarterly reports	• Completed: SAEP directed SHS companies to the limited funding opportunities or relief mechanisms that they could access to support their businesses through the COVID-19 pandemic. At the end of Year 3, SAEP continued to participate in periodic meetings of Cooperating Partners and other entities administering the funding mechanisms. The program noted that challenges posed by the COVID-19 pandemic have slowed down relief funding efforts - for instance, the Energy Access Relief Fund's first window will only close in November, later than initially anticipated

MOZAMBIQUE

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Status
Y3.C19.02.03.05.MOZ*	EDM support for improving the level of preparedness and response capacity during and post the pandemic (COVID-19)	Wayne Mikutowicz, Tea Mihic	8/3/2020 - 11/20/2020	EDM request	Continuation from Year 3	• Assessment report (Task 2), assessing the sources of COVID-19 impacts in EDM's cashflow and potential disruptions in operations and investment projects • Report (Task 4) mapping EDM critical activities/services, key risks and vulnerabilities for business continuity and gap assessment • Business continuity response rulebook (Task 5) • Final report (Task 6)	• In Progress: SAEP conducted an initial assessment on how EDM COVID Task Team was structured and supported EDM in preparing protocols, required communication and review of contingency plans for critical areas. • The notable immediate advice was for EDM to make adjustment to their COVID Task Force structure, by proposing that the EDM Directors are also part of the Task Force Governance, which was accepted by EDM and resulted in an empowered coordination team, that reports to the BoD.

REGIONAL

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Status
Y3.C19.01.01.13.REG *	Regulatory support to provide disconnection relief for customer non-payment	David Jankofsky, Thomas Herbert	4/1/2020 - 9/30/2020	RERA (Regional), LEWA (Lesotho)	NA	• Draft program (adaptable by regulatory authorities in the region) • Draft Order	• In Progress: This COVID-related activity will result in a report with recommendations to regulators in the region on a moratorium on disconnection of service due to a customer's inability to pay. While still in an analysis phase, SAEP is considering combining this activity with the Accounting Order Activity (Y3.C19.01.01.15.REG) so that regulatory authorities will have a full accounting of the differences between planned and actual amounts
Y3.C19.01.01.14.REG*	Regulatory Advisory to Issue PPA	David Jankofsky, Thomas Herbert	4/1/2020 - 9/30/2020	RERA (Regional), LEWA (Lesotho)	N/A	• Template for a Draft Order	• In Progress: A report was drafted outlining SAEP's initial rationale for this proposed COVID-related activity, together with some up-to-date observations. The report

	Renegotiation Order						concluded that whilst the renegotiation of PPA's is a contemporary issue (both in Africa and elsewhere in the world) the rationale behind these renegotiations is not significantly related to the COVID-19 pandemic to require the continuation of the activity. This report was shared with USAID COR and ACOR on 10 September 2020, together with an invitation to further discuss the activity. At present, no further action is planned for this activity.
Y3.C19.01.01.15.REG*	Regulatory advisory to issue utility accounting order	David Jankofsky, Thomas Herbert	4/1/2020 - 9/30/2020		NA	• Explanatory document • Sample Accounting Order/Accounting Order Template • Virtual workshop • Technical assistance • Country-specific Accounting Orders	• Completed: Documents ready and two virtual meetings being scheduled to explain to counterparts
Y3.C19.04.06.06.REG *	Support efforts as necessary to designate off-grid companies as essential services providers to promote business continuity (COVID)	Cole Johnson	4/1/2020 - 9/30/2020	SAEP Initiative: Promote off-grid business continuity	Y3.04.06.06.MWI; Y3.04.06.10.MOZ	• Updates in bi-weekly and quarterly reports	• Completed: As part of a suite of interventions to support SHS companies through the COVID-19 pandemic, SAEP supported companies in Zambia and Malawi with obtaining permits to continue operating. The activity was completed in quarter 3
Y3.C19.04.06.07.REG *	Collaborate with PAOP, NPSP, and GOGLA to collect and disseminate market intelligence and guidance (COVID)	Cole Johnson	4/1/2020 - 9/30/2020	SAEP Initiative	Y3.04.06.06.MWI; Y3.04.06.10.MOZ	• Written briefings, blog posts, or information through other mediums Updates in bi-weekly and quarterly reports	• In progress: On calls w/WB and Acumen/GOGLA to keep abreast of funding/TA opportunities, which is shared w/SHS companies. SAEP also collaborated w/NPSP and PAOP on Power Africa COVID-19 info sheets regarding best practices and prepared Power Africa blog
Y3.C19.04.06.08.REG *	Support SHS companies in conducting scenario-based	Cole Johnson	4/1/2020 - 9/30/2020	SAEP Initiative & SHS	Y3.04.06.06.MWI; Y3.04.06.10.MOZ	• Updates in bi-weekly and quarterly reports	• Completed: Under this activity SAEP mainly supported Fenix in Zambia who had requested support with conducting scenario

	planning, as requested (COVID)			Company Request			planning in light of a dynamic foreign exchange and macroeconomic environment. By the end of Year 3 scenarios for decision-making had been developed and were being refined. This activity will continue into Year 4 as part of operational support to SHS companies in Zambia

Major Activities

By Country During the Reporting Period

2 MAJOR ACTIVITIES BY COUNTRY

In Year 3, SAEP initiated and implemented activities in 10 of SAEP's 11 focus countries: Angola, Botswana, Eswatini, Lesotho, Madagascar, Malawi, Mozambique, Namibia, South Africa, and Zambia. Pursuant to guidance from the United States Government (USG), SAEP continues to delay the design and delivery of activities for Zimbabwe. Across the region, the Program collaborated with national ministries, utilities, transmission and distribution companies, regulators, cooperating partners, international financial institutions (IFIs), and private companies including Independent Power Producers (IPPs) and SHS providers. Figure 1 provides an overview of major Year 3 activity highlights by country.

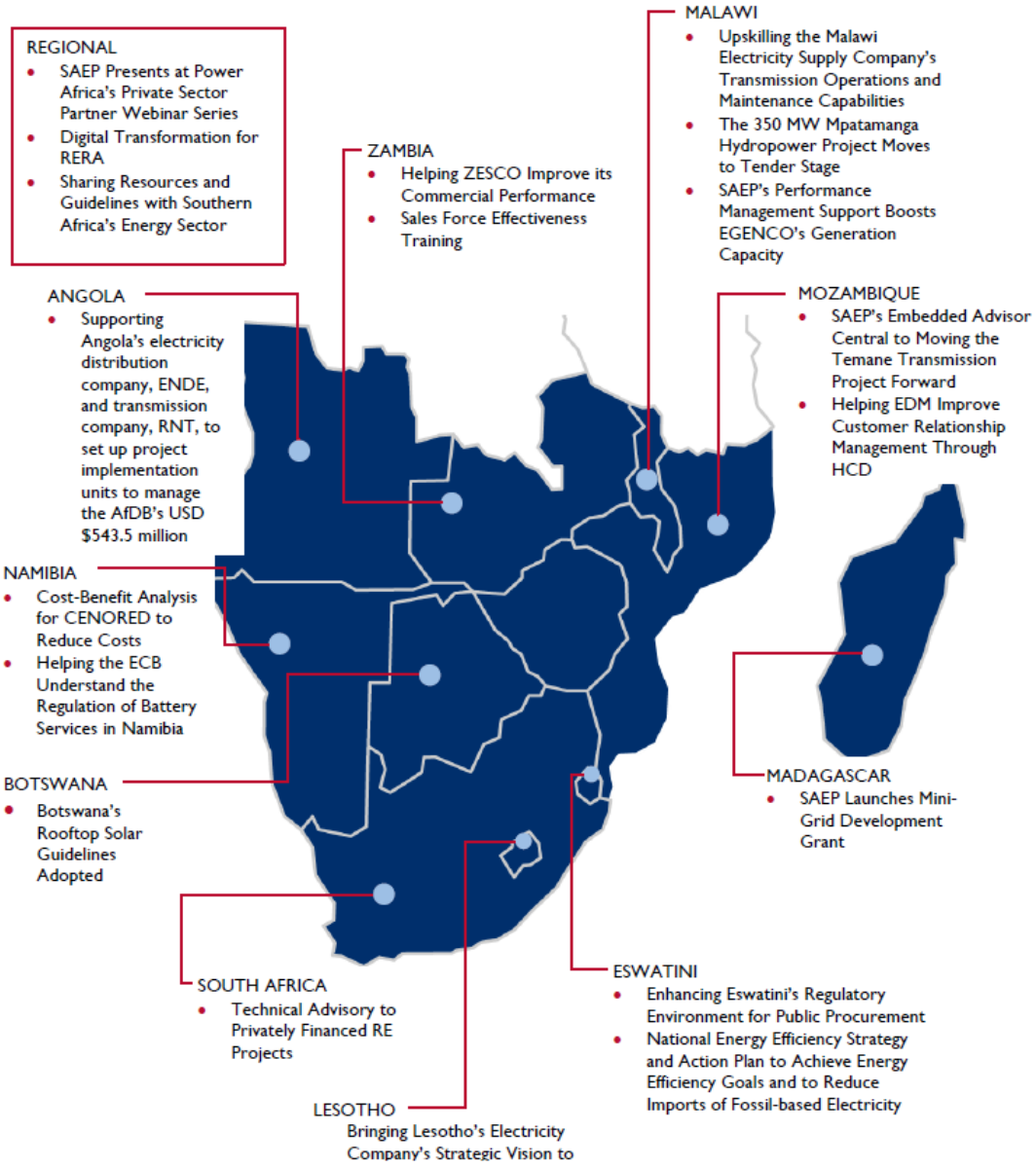


Figure 3: Overview of SAEP's major activities per country

[5] Previous divider photo: A staff member from the Electricity Generation Company of Malawi (EGENCO) checks the performance of a power plant (Photo credit: USAID SAEP)

2.1 Angola

Angola's current electrification rates are estimated at 43% in most cities and around 8% in rural areas. The Government of Angola has set targets of 9.9 gigawatts (GW) of installed generation capacity and a 60% electrification rate by 2025.

BY THE NUMBERS

1000 MW
Reached Financial Close

199,174
Actual Connections

621,826
Projected Connections

SAEP began working with the national electricity transmission company, *Empresa Rede Nacional de Transporte de Electricidade* (RNT) and power distribution utility, *Empresa Nacional de Distribuição de Electricidade* (ENDE) in October 2019 to establish and operationalize project implementation unit (PIU) to manage the procurement and planning aspects of the African Development Bank's (AfDB) multimillion-dollar loan to Angola's power sector under the first phase of the Energy Sector Efficiency and Expansion Program (ESEEP-1). ESEEP-1 will enable RNT to develop and construct a 400 kV transmission line that will connect the northern and southern parts of Angola as well as reinforce the operational capacity of ENDE to efficiently connect 1.2 million additional customers to prepaid meters.

The Government of Angola approved the AfDB loan agreement for ESEEP on 18 March 2020, as publicized in the Presidential Decree No. 43/20 in the Government Gazette No. 31. On 20 August 2020, RNT and ENDE obtained the legal opinion from Angola's Attorney General and approval ("visto") from the Angolan Court of Audit making the loan agreement effective. The collective efforts of the AfDB, SAEP and the Angolan government will ultimately improve electricity access for households, industries and businesses.

2.1.1 TOP ACHIEVEMENTS AT A GLANCE

Strengthening RNT's Transmission Project Capabilities for Lasting Impact

During Year 3, SAEP has supported RNT, Angola's transmission company, with major progress on the AfDB-funded 343 km 400 kV Central–South transmission line project. The construction of the transmission line will allow for the evacuation of around 1,000 MW to South Angola and is a critical component and precursor to enable the planned Angola–Namibia (ANNA) interconnection project, which will facilitate power trade between the two countries and enable Angola to trade with other Southern Africa Power Pool (SAPP) members. By the end of September 2020, RNT met its conditions precedent and received its first disbursement of funds from the AfDB making the loan effective and thus the transaction reached FC.

In support of the AfDB's energy program, SAEP has been working with RNT since October 2019 to set up and operationalize a project implementation unit (PIU) to manage the procurement and planning

aspects of the transmission project. This PIU or project management office will be the center of excellence throughout the full life cycle of the project (and future transmission projects) and the single repository of all project related information and documents. Having a capable and functional PIU will improve project governance, reporting, standardization of processes and RNT's project management capabilities.

Figure 4: SAEP and RNT teams during a procurement planning training in Luanda, Angola in November 2019. Photo credit: USAID SAEP

SAEP has supported the RNT PIU to advance a number of procurement processes for the construction of the transmission line and associated substations including i) consulting services for the development and implementation of the resettlement action plan (RAP); ii) the Owner's Engineer; iii) an engineering, procurement and construction (EPC) contractor; and iv) monitoring and supervisory consultant. SAEP also focused efforts on knowledge transfer to strengthen local capacities and accelerate Angola's self-reliance by training RNT PIU staff members on program management, environment and social management, engineering and procurement.
For more details on support to RNT, refer to the success story section in Appendix A.

Procurement Support to Enhance Angola's Distribution Company's Ability to Manage the Connection of 1.2 Million New Customers

Angola's power distribution utility, ENDE, is at the forefront of the country's electrification efforts. ENDE's primary focus is to distribute and market electricity nationally through the operation of distribution grid assets. In 2019, ENDE had 1.8 million customers across 18 distribution centers yet only 600,000 customers were connected to electricity meters with the remaining customers billed based on monthly average consumption. To increase ENDE's connections and improve revenue collection, SAEP is supporting ENDE to efficiently procure contractors for the installation of over 1.2 million prepaid meters over the next five years under the AfDB-funded ESEEP Phase 1 program. In Year 3, SAEP assisted ENDE in the design and set-up of a PIU, which manages the procurement and planning aspects of ESEEP, as well as advised on the technical inputs to the procurement documents. This is the first large donor funded procurement process ENDE has undertaken and SAEP is providing close advisory support for the project to be successfully implemented.

Figure 5: On 16 March 2020, the SAEP support team to ENDE were "extracted" from Angola due to COVID-19. Photo credit: USAID SAEP

Despite restrictions and challenges imposed by the COVID-19 pandemic, SAEP and the ENDE PIU were able to adapt to a remote working environment and continue technical delivery and meet procurement deadlines. SAEP facilitated three virtual workshops on procurement processes and project management which led to the coordinated development of the procurement plan for prepaid meters and revenue protection systems. SAEP then helped ENDE's commercial department to define the technical specifications for the meters and revenue protection systems into the procurement documents. These bidding documents have been completed and once approved by the AfDB, the procurement process will commence towards the end of 2020. This major and complex procurement and implementation undertaking will help to transform ENDE to improve its commercial viability and better serve its customers.

2.1.2 ADDITIONAL HIGHLIGHTS FOR ANGOLA

In Year 3, SAEP engaged in the following additional activity:

- A strong, independent regulatory authority provides stability and consistency for utilities, consumers and potential investors and are factors essential for continued electrification and by extension, economic development. Angola's relatively new regulatory authority, *Instituto Regulador dos Serviços de Electricidade e de Água* (IRSEA) was formed in March 2016 (by Presidential Decree No. 59/16) and has set out to build a plan for the role it will play in the country meeting its electrification goals. Towards these goals, SAEP developed a roadmap to lay out IRSEA's four priority activities for the next year that can be used as a clear guide to stay focused and prioritize activities towards IRSEA's goals. Development of this document entailed consultations with the management and senior staff of the organization and the review of specific strategy documents and national policies. In February 2020, the IRSEA board approved the draft roadmap and on 10 August 2020, IRSEA signed a letter of collaboration (LOC) for the implementation with SAEP's assistance on certain activities. The first roadmap activity calls for the development of a basic set of operating rules that will align IRSEA's activities with those contemplated in the Electricity Act amendments of 2015 and will get

Figure 6: SAEP and the Administrator of Angola's Regulator IRSEA, Mr. Jose Quarta, in Pretoria, South Africa in February 2020. Photo credit: USAID SAEP

underway at the beginning of Year 4. Additionally, the roadmap contains an activity that is intended to gradually eliminate the subsidies paid on electricity usage by 2025.

2.2 Botswana

Botswana relies on electricity imports to meet demand, despite having considerable natural resources (solar, coal, and coalbed methane) that – if tapped – could drive generation in amounts sufficient to power Botswana and to export throughout the region. However, the country has faced challenges as it works to expand coal-fired generation, has limited experience with solar and does not have an Integrated Resource Plan (IRP), which affects its ability to implement sustainable on- and off-grid energy generation capacity. Lastly, Botswana has a new regulator with a rapidly growing skillset that is working towards increased participation of private sector players in the power sector.

BY THE NUMBERS

197 MW
Pending Financial Close

2
Laws/Policies Proposed/Revised

In Year 3, SAEP continued to work on the implementation of a rooftop solar (RTS) program with Botswana's Ministry of Mineral Resources, Green Technology and Energy (MMGE), provided technical assistance to BERA and continued to support the 100 MW solar procurement, though there has been limited traction to advance the project.

2.2.1 TOP ACHIEVEMENTS AT A GLANCE

Botswana's Rooftop Solar Guidelines Adopted

Taking steps to implement Botswana's National Energy Policy of 2015, the Government of Botswana has undertaken initiatives to increase the contribution of solar energy to the national energy supply mix. For example, in the submission of its climate action plans to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015, Botswana committed to an overall greenhouse gas (GHG) emission reduction of 15% (from 2010 emission levels) by 2030. SAEP supported this activity by: 1) developing guidelines for the RTS program; 2) guiding a working group to prepare the necessary forms and procedures to implement the guidelines; 3) providing technical assistance by showing the BPC how to calculate avoided cost of new generation; and 4) supporting the recent public rollout of the program.

Development of the Guidelines
The development of the broad guidelines/policies for the RTS program began in Year 2. A change in government in Botswana, along with the attendant change in ministers caused some delays, however, the Department of Energy adopted the guidelines on 26 June 2020. These guidelines define the framework, processes and pricing for the implementation of roof and ground mounted small-scale grid-tied solar photovoltaic (PV) systems.

Implementation of the Guidelines
As the guidelines were under consideration, a Department of Energy working group was formed that included SAEP, to develop the applications, procedures and information forms necessary for the actual launch of the program by the Botswana Power Corporation (BPC). The working group met regularly and made rollout of the program possible. One implementation step involved drafting license conditions for generation licenses in excess of 100 kW. This is required by law for any generator greater than 100 kW. Hence the licensing conditions are not only applicable to the RTS program, but also may provide a

first step for BERA in developing licensing conditions for other regulated activities since BERA has not yet developed conditions for all of the license types it will have to issue.

Calculation of Avoided Cost

The guidelines allow for customers who use less electricity than what they bought to receive a credit for the excess kWh on their subsequent month's bill. However, accounts would be "trued-up" at the end of each 12-month period with customers having excess kWh being paid by the BPC at the avoided cost of BPC generation. Calculation of avoided cost can be a complex issue and SAEP worked with the BPC personnel to instruct them how such a calculation was to be done. As a result, BPC personnel are fully capable of calculating the avoided cost of generation into the future.

Program Rollout

Following extensive correspondence and input from the MMGE, BPC and BERA, SAEP developed a promotional one-page document about the RTS program for the Ministry in June 2020 to support marketing of the program. In August 2020, the Botho University and Airport Junction Mall agreed to participate in a four-week grid connected testing period. The report for the testing will be completed by 12 October 2020, following which, the MMGE have scheduled a RTS Program Launch Event at the Botho University in November 2020. The preliminary attendance list includes representatives of the MMGE (including the Honorable Minister), the Department of Mines, BPC, BERA, other government departments and institutions such as the Ministry of Trade and Industry, the Ministry of Environment, Natural Resources Conservation and Tourism, the U.S. Ambassador to Botswana and the United Nations Development Program Resident Representative and members of the media.

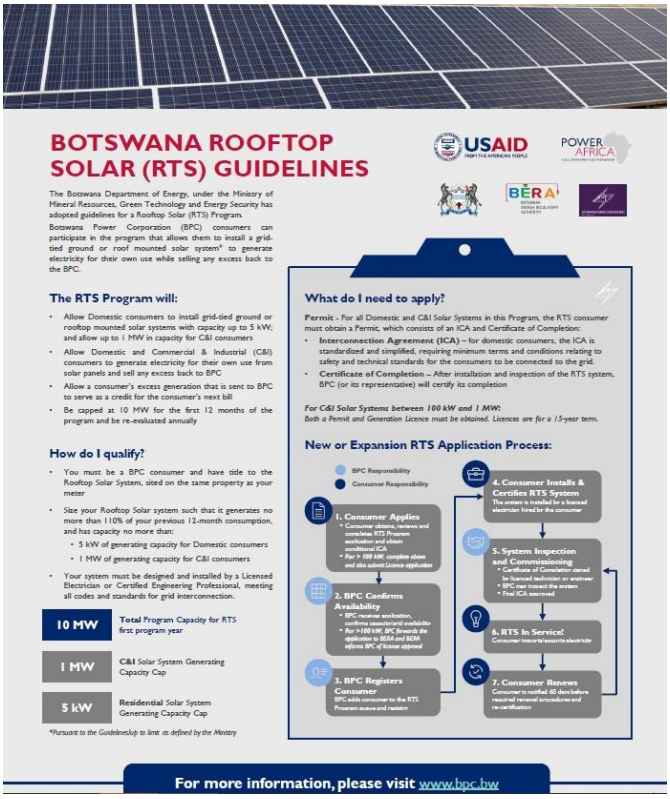


Figure 7: SAEP developed a promotional one-pager document about the RTS program for the Ministry in June 2020 to support marketing of the program.

Long-Term Impact

Once operational, the initiative will help to stimulate the clean energy sector in Botswana, and add some generation capacity. The program, a pilot at this stage, is intended to allow for 10 MW of rooftop solar. If successful, not only will the RTS program enable electricity consumers in Botswana to self-generate electricity of up to 1 MW (35 kW for residential consumers and up to 1 MW for Commercial & Industrial), but also allow consumers to sell any excess power generated to the BPC.

2.2.2 ADDITIONAL HIGHLIGHTS FOR BOTSWANA

In Year 3, SAEP engaged in the following additional activities:

- As a continuation of support to BERA in general and with a view to identifying possible activities with BERA for the remainder of Year 3 and into Year 4, SAEP attended BERA's Strategy Review

Retreat hosted in Kasane, Botswana from 11 to 13 March 2020. The purpose of the retreat was to reflect on the current performance of Botswana's energy sector and BERA's role in enhancing its competitiveness and performance. During this retreat, SAEP delivered a presentation on SADC's electricity sector Key Performance Indicators (KPIs), with a view to provide guidance to BERA on the application and enforcement of these KPIs in an overall quality of service program. The presentation was well received and BERA indicated an interest to continue to work with SAEP, which led to SAEP being invited to meet with BERA's Chief Executive Officer (CEO), Rose Seretse, together with several members of the BERA Board to assess activities for future collaboration between BERA and SAEP.

- Following on earlier rate case work SAEP provided to BERA, SAEP worked with BERA's tariff analyst to develop a timeline for the processing of BPC's 2021/22 application for a change in Tariffs and Rate Design in April 2020. The intent was to draft a timeline that all parties involved would follow while allowing BERA sufficient time to analyze the application. The timeline was agreed to by all parties and followed in BERA's analysis of the BPC filing the results of which will be effective 1 April 2021.

- Since Year 1, SAEP has provided essential ongoing support to BPC as they work to procure a 100 MW solar PV project. In year 3, Significant barriers continued to confront BPC, however, although slowly, the project continues to move forward. In February 2020, BPC issued a new RFP for the procurement; original plans that be project be jointly owned by the successful IPP(s) and the Government of Botswana were changed to instead seek full private ownership of the project. Whilst the ownership model has been restructured, other challenges remain such as financial support from the Government of Botswana, currency risk, and local content regulations. A virtual Bidders Conference was held in Year 3 with the pre-qualified bidders, and proposals are due December 2020. In Year 3, SAEP advised the development of the presentation materials for the Bidders Conference and served as moderator of the conference. Additionally, throughout Year 3, SAEP has provided on-going support to BPC to respond to questions from the Bidders, review of updated procurement documents, and updates to evaluation documents and criteria to match the changes in the project details. In Year 4, SAEP will continue to monitor the project and make itself available for support to advance the procurement process.

2.3 Eswatini

The Kingdom of Eswatini is a landlocked country that depends on South Africa to supply nearly 80% of its power needs. To enhance energy security and self-sufficiency, the Government of Eswatini has embarked on the development of additional generation capacity from renewable energy sources to meet the country's electricity demand as well as to adopt energy efficiency programs.

To assist Eswatini in reaching energy independence, in Year 3, SAEP continued to work with the national Ministry of Natural Resources and Energy (MNRE) and Eswatini Water Services Corporation (EWSC) to plan for generation expansion and address energy efficiency, while supporting the Eswatini Energy Regulatory Authority (ESERA) to prepare for ongoing and future IPP procurements.

BY THE NUMBERS

10 MW
Reached Financial Close

20 MW
Pending Financial Close

9
Laws/Policies Proposed/Revised

2.3.1 TOP ACHIEVEMENTS AT A GLANCE

Enhancing Eswatini's Regulatory Environment for Public Procurement

Eswatini is highly dependent on energy imports from neighboring countries, in particular South Africa. Due to increased uncertainty in the security of such supplies, the Government of Eswatini has set out to reduce its reliance on imported electricity by encouraging the development of more local generation. In July 2018, the MNRE launched a new energy policy, introducing (amongst other reforms) a focus on private sector provision of new generation capacity through IPPs. In June 2019, ESERA issued a public tender for the competitive procurement of 40 MW solar PV capacity. The second tranche for ~40 MW of biomass was released in August 2020. This procurement is aligned with the MNRE Energy Master Plan and Short-Term Generation Expansion Plan, which SAEP helped to review and provided input to in previous years.

Following the issuing of the aforementioned tender, the MNRE requested SAEP's assistance with the development of procurement regulations critical in guiding the procurement program, in particular the procedures and criteria to be followed in the signing of a power purchase agreement (PPA) between a successful tenderer and the procuring entity, ESERA. The regulations provide ESERA with mechanisms to properly conduct electricity infrastructure procurement processes in Eswatini in line with the 2007 Electricity Act. On 6 March 2020, SAEP shared with the MNRE an explanatory report, together with draft regulations to implement sections 26(5) and 27(6) of the Electricity Act of 2007.

> *"The Ministry wishes to express its sincere gratitude to your organization for the assistance it provided during the development of regulations that will govern the contract award aspects of the Electricity Act of 2007. This assistance is over and above the support that your organization has provided to the Kingdom of Eswatini. The Ministry is forever grateful for your continued support.* ***Winnie Stewart, MNRE Principal Secretary***

On 12 May 2020, SAEP received a letter from the principal secretary at MNRE, Winnie Stewart, expressing her gratitude to and appreciation of SAEP's technical assistance in the development of the regulations. As at August 2020, the MNRE procurement committee and ESERA have both approved the regulations; however, official adoption of the regulations is pending the Attorney General's review and approval.

National Energy Efficiency Strategy and Action Plan to Achieve Energy Efficiency Goals and to Reduce Imports of Fossil-Based Electricity

SAEP submitted the final report of the National Energy Efficiency Strategy and Action Plan (NEESAP) to the MNRE on 18 May 2020; the NEESAP was developed by SAEP in consultation with the MNRE. NEESAP is highly prioritized by the Energy Efficiency and Conservation Policy (EECP) released in January 2019 to guide the implementation of energy efficiency and energy conservation measures in all energy demand sectors in Eswatini. The MNRE has subsequently accepted the recommendations contained in the NEESAP report after Ministry leadership reviewed it.

SAEP is in discussion with the MNRE on the implementation of NEESAP with specific focus on the establishment of the Sustainable Energy Agency (SEA). At the end of Year 3, the discussions had progressed to a point where it was decided that a multi-stakeholder steering committee would be set up to direct the establishment of the SEA. An effective SEA will be in charge of implementing the measures that are contained in the NEESAP report that could help Eswatini to capture up to 80,000 gigawatt hours (GWh) per year by 2025 if implemented.[6] The effective implementation of energy efficiency and conservation measures is one leg of Eswatini's goal of achieving universal electricity access by 2022 while reducing the country's reliance on predominantly fossil-fuel generated electricity from its neighbors.

Figure 8: SAEP supports the MNRE to plan for generation expansion and address energy efficiency.
Photo credit: USAID SAEP

[6] The short-term measures include a labelling program related to Minimum Energy Performance Standards (MEPS) and the design and implementation of fiscal and financial incentives

2.3.2 ADDITIONAL HIGHLIGHTS FOR ESWATINI

In Year 3, SAEP was engaged in the following additional activities:

- SAEP started assisting the EWSC to implement the recommendations of the energy audit report developed by the Program in 2019. The purpose of the audits and the activity was to assist EWSC to reduce the contribution of electricity to their overall operational costs in light of tariff increases; low operational costs, it is anticipated, will translate to affordable end-user tariffs and not add to their economic hardship, while promoting universal access. The utility has started implementing some of the metering and demand reduction activities using their own staff.

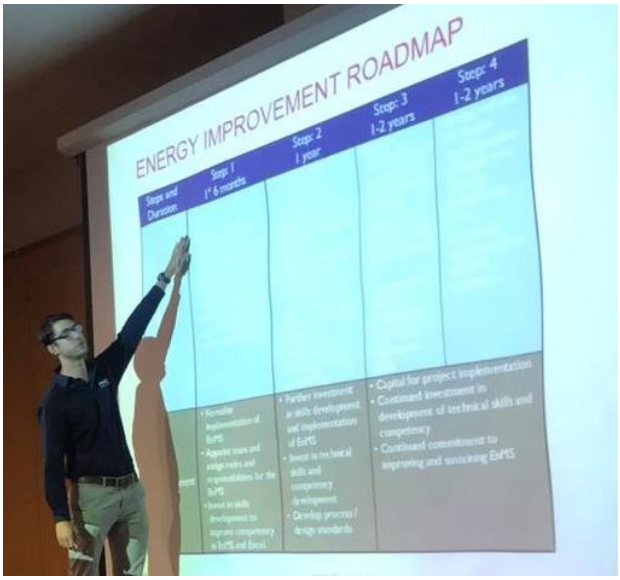


Figure 9: SAEP energy audit close-out meeting with EWSC in November 2019. Photo credit: USAID SAEP

- EWSC has requested assistance from SAEP with i) the process of selecting power factor correction equipment suppliers in South Africa, ii) analyzing their network prior to implementing operational changes, and iii) conducting training related to the implementation of the Energy Management System (EMS). SAEP has started assisting with the first request and is in the process of recruiting an energy efficiency expert with experience working with water utilities to carry out the last two requests. What is encouraging is that the EWSC is taking charge of the implementation of their program and it is expected that they will progress to some advanced level of independence during Year 4.

- Following a request from ESERA, SAEP recommended updates to ESERA's final draft "Electricity Multi-Year Price Determination Tariff Methodology" in March 2020. The document describes how ESERA would set the revenue requirement for regulated electric utility entities, broken down by function. This is a change from the current methodology in which the revenue requirement is calculated for a vertically-integrated utility. By changing its methodology in this manner, Eswatini is preparing itself to unbundle the electricity sector, thus setting the stage for more private sector participation and even wholesale or retail competition in the future. ESERA management has accepted the major recommendation contained in SAEP's report, including the calculation of the cost of capital for each unbundled function. In early August 2020, ESERA's Regulatory Manager, Mr. Simphiwe Khumalo, presented the updated methodology to the ESERA Board, which formally adopted the new recommended methodology. The final process requires the adopted methodology to be published in the government gazette, a process which as at 30 September 2020 is underway.

- SAEP also supported ESERA in the review of the Eswatini Electricity Company's (EEC) application for a change in tariffs for the financial years 2020-21 and 2021-22. ESERA management and Board accepted SAEP's recommendations on cost of capital and adopted the concept of a "slippage adjustment to account for differences in the planned versus actual regulatory asset base." ESERA also adopted SAEP's recommendation to impose a productivity factor on the company. However, this was only applicable to overtime costs because of existing employment contracts. The overall recommended increase for the EEC was approximately 1% in each of the two years. However, this

increase was suspended by the government to help ease the burden on customers due to the COVID-19 pandemic. ESERA expects the EEC to file an application for the next biennium on or about 1 November 2020 and has requested SAEP support in the analysis.

2.4 Lesotho

Lesotho's generation, transmission, and distribution are all managed by the Lesotho Electricity Company (LEC), the country's fully integrated electric utility responsible for the government mandate to sustainably manage the grid and its associated assets. The majority of Lesotho's generation comes from imports from South Africa and the 72 MW Lesotho Highlands Water Projects, as well as some RE projects.

In Year 3, SAEP continued to support the LEC with the implementation of its new strategic plan.

BY THE NUMBERS

125 MW
Pending Financial Close

10,315
Actual Connections

18,396
Projected Connections

2.4.1 TOP ACHIEVEMENTS AT A GLANCE

Bringing Lesotho's Electricity Company's Strategic Vision to Life

In Year 2 and 3, SAEP guided the LEC in the development of a strategic plan, focusing on adding renewable generation and increasing connections. The overarching goal was to assist the LEC fulfill its mission "*To provide reliable, safe, environmentally friendly and quality electricity for sustainable economic growth and improved quality of life for the people of Lesotho"* through achievable objectives and targets. Since the adoption of the strategic plan and the accompanying support to ensure effective implementation of the plan, the LEC has added 10,315 new connections in Year 3.

SAEP's support in developing the strategic plan in Year 2 was designed and executed in a manner that fully involved the LEC executive committee (ExCo) and heads of departments in all aspects of the planning process, which empowered management to take decisions relating to the strategic plan. To assist in the successful implementation of the LEC's strategic plan, in Year 3, SAEP worked with the utility to develop executive compacts, which are formal performance agreements between executives and the board. A primary focus was to discuss and transfer the responsibility for the formal agreement of each general manager's compact to the individual managers and for the general managers to take responsibility to finalize their compacts in discussion with the Managing Director. SAEP also assisted with a review of the LEC executive structure to further support the implementation of the newly developed strategic plan, and together with the LEC Human Resources Manager developed a process for the revision of the remainder of the structure, which had been in a transitional stage since 2016. In January 2020, the LEC Board approved the executive compacting process and the process for the finalization of the organizational structure.

To facilitate sustainability, SAEP has handed over the documents and tools that it developed for the LEC's reference and future use. Despite a large volume of turn over at LEC in senior management, we are hopeful that the utility will continue to make strides in the implementation of its strategic plan goals.
For more details on support to the LEC, refer to the success story section in Appendix A.

> *"The workshops, technical advice, facilitation of strategic discussions and strategic planning tools that Power Africa provided greatly enhanced our ability as a management team to develop and integrate our latest five-year strategic plan. These tools will provide a sound basis for the development of prospective planning exercises as well."* ***Mr. Thabo Nkhahle, LEC Managing Director***

2.4.2 ADDITIONAL HIGHLIGHTS FOR LESOTHO

In Year 3, SAEP was engaged in the following additional activities:

- SAEP supported the LEC to complete its ringfencing project, a regulatory condition that has been required of the LEC by the regulator, the Lesotho Electricity and Water Authority (LEWA). The LEC asked SAEP to act as the utility's independent advisor as they manage MRC Consulting, who were contracted by LEC to implement the work. On 16 January 2020, with support from SAEP, the key aspects of the consultant's final report were presented and discussed to the LEC ExCo after which the Board accepted the findings. Strong coordination between SAEP and the LEC team contributed to the successful completion of this project. LEWA also reviewed and agreed to the outcome of the ringfencing project. This activity will result in individual accounts and income statements for each functional area (transmission, distribution, and supply), improving likelihood for LEC's tariff requests that were previously reduced due to not meeting this regulatory requirement.

2.5 Madagascar

In 2015, the Government of Madagascar adopted the New Energy Policy (NEP), which sets an ambitious target to increase household access to electricity from the current 15% to 50% by 2030. The government is dedicated to using the country's RE potential and to attracting private investment to achieve this target. The Malagasy grid – run by the state-owned utility, Jirama – covers only a small portion of the country and is focused around the capital, Antananarivo, and the coastal city of Tamatave. The remainder of the country depends upon micro-grids spread across the country and SHS. Given the low electrification rate, Jirama's limited reach, and the remoteness of some parts of Madagascar, there is significant potential to support a decentralized approach to electrification.

BY THE NUMBERS

198 MW
Pending Financial Close

10,500
Projected Connections

In Year 3, SAEP continued to provide technical advisory support to the private sector as it develops on- and off-grid projects, specifically through the award of grants to mini-grid developers.

2.5.1 TOP ACHIEVEMENTS AT A GLANCE

SAEP Launches Mini-Grid Development Grant

On 27 May 2020, SAEP launched the Power Africa Madagascar Mini-Grid Development Grant to expand off-grid energy access through mini-grids in the country. USAID has committed up to USD $1.5 million in grant funding and technical advisory services to mini-grid developers who have obtained concessions to build mini-grids or are looking to expand existing mini-grids.

Figure 10: A mini-grid is an off-grid electricity distribution network involving small-scale electricity generation.
Photo credit: USAID SAEP

Activity on mini-grids in Madagascar had stagnated due to the lack of government funding that was originally designated to cover the grant portion of the costs for projects to reach FC. SAEP's grant is meant to release funds to enable progress for selected grantees resulting in new connections to rural households. In June 2020, SAEP provided clarity on the intent and content of the RFP through a prerecorded clarification presentation, a live Question & Answer

(Q&A) virtual meeting and multiple iterations of written responses to questions from 76 prospective applicants registered on the portal.

After evaluation, shortlisting and negotiation phases with the 17 companies that applied, including valuable input from Madagascar's Rural Electrification Development Agency (ADER), the following companies were awarded the grant: Autarsys Madagascar, Hydro Ingenierie Etudes Et Realisations (H.I.E.R), and Henri Fraise Fils & Cie. Grant funding allocated across the three companies will result in an estimated 5,216 connections. In Year 4, SAEP will design and implement appropriate support activities for the selected companies aimed at increasing their likelihood of reaching the set connection targets in line with agreed-to timelines.

2.5.2 ADDITIONAL HIGHLIGHTS FOR MADAGASCAR

In Year 3, SAEP engaged in the following additional activities:

- SAEP finalized support to Themis in progressing their Sahofika hydropower project in Madagascar through the development of an economic assessment model and accompanying report. The Sahofika project is a 205 MW hydropower plant to be located on the Onive River in Madagascar developed by a consortium of Eiffage, Eranove, Themis and HIER. SAEP supported Themis to develop an economic assessment model to analyze the project's economic benefits. SAEP leveraged its experience from the Mpatamanga project in Malawi to build the model. On 22 April 2020, SAEP shared the economic assessment and final report with Themis the last milestone in SAEP's support to Themis. SAEP will remain available to respond to any queries from Themis, or to discuss other areas of potential support. The project is currently stalled due to the new Malagasy government requests for changes to the PPA including on price.

- SAEP further contributed to the Malagasy power industry by developing the next generation of skills for RE technologies and rural electrification. The extent of support includes providing practical exposure to engineering students, among other approaches. In November 2019, SAEP helped to organize a field trip for 41 engineering students from the engineering school to gain practical experience on how hydropower plants are built, how turbines are installed and commissioned, and the challenges facing HPP operators when connecting consumers. The two hydro mini-grids are located approximately 350 km from Antananarivo in the Amoron'I Mania region and are at varying stages of construction. The field trip presented a great learning

Figure 11: Students inspecting a turbine during a field trip.
Photo credit: USAID SAEP

opportunity for the students who would ordinarily not get to witness the practical implementation of projects as part of their studies.

- SAEP continued to support ANKA with their mini-grid development initiatives. The transaction will be implemented in three phases/segments resulting in a total of 10,500 households being connected to electricity (phase 1: 2,500, phase 2: 5,500, and phase 3: 2,500). At ANKA's request, SAEP reviewed ANKA's draft consolidated financial model. SAEP had previously reviewed and helped update ANKA's financial model which enabled the company to win concessions through ADER's Calls for Proposals or *Appel à Projets* (APs) in French. The two processes were competitive and known as AP1 and AP2. The follow-up financial model review was for ANKA to raise funds for the AP2 mini-grids. As a result of SAEP assistance, ANKA has been able to begin construction of the first phase of the AP2 project which will connect up to 2,300 households of the 2,500 they had initially targeted for phase 1. The technical assistance has also allowed them to expand their business beyond AP2; the company is busy with additional mini-grids in the north and the south of Madagascar that will add 2 MW to the grid and connect new customers.

- SAEP began engaging with a Malagasy industry association called SIM to explore Consumer & Industrial (C&I) energy efficiency and self-generation options. SAEP will provide technical assistance to SIM as they select up to 10 industry members to have detailed energy audits performed at their factories and offices with the aim of identifying and implementing energy efficiency improvement actions. SAEP will introduce best practices in corporate energy management and business models in self-generation as well as help to guide the selection process. This activity was created after an earlier SAEP activity fell through to work with the Ministry of Water and Energy on reducing the subsidy budget to provide assistance to C&I customers and healthcare facilities that have to produce their own electricity during periods when Jirama is unable to provide supply. Initial findings from the ministry work will be incorporated into the work with SIM. On 11 September 2020, SIM informed SAEP that the board supports the project and has approved the partnership and a letter of collaboration (LOC) was signed on 14 September 2020. In October 2021, SAEP will start work on the activity in two phases. Phase 1, which runs until quarter 2 of 2021, will conclude with the selection of energy audit companies that will carry out the audits at the sites of the selected SIM member companies. Phase 2 will entail assisting SIM to oversee the execution of the energy audit reports and making sure that they effectively implement the short-term interventions identified in the reports.

2.6 Malawi

With a population of around 18 million and domestic generation capacity of only 439 MW, Malawi experiences electricity shortages regularly, with load shedding sometimes exceeding eight hours per day during the dry season. As the population continues to grow, the electricity supply/demand gap will only worsen unless remediation mechanisms are put in place.

BY THE NUMBERS

86 MW
Reached Financial Close

479 MW
Pending Financial Close

41,917
Actual Connections

222,423
Projected Connections

1
Laws/Policies Proposed/Revised

In Year 3, SAEP continued to work closely with the Government of Malawi and the private sector to move generation projects forward. Focus areas included i) operational support to the SHS Kick-Starter grantees; ii) training for ESCOM to operate in an interconnected system; iii) transaction advisory services to the Government of Malawi on the 350 MW Mpatamanga Hydropower Project; and iv) support for ESCOM vRE integration.

2.6.1 TOP ACHIEVEMENTS AT A GLANCE

Upskilling the Malawi Electricity Supply Company's Transmission Operations and Maintenance Capabilities

The Mozambique–Malawi transmission interconnector project, which entails the construction of a 218 km, 400 kV high voltage alternating current transmission line and associated substations, reached FC in July 2020. SAEP has played an integral part in helping ESCOM transform its operations and maintenance capabilities as the utility prepares to deploy the 1,000 MW regional interconnector project. This project, Malawi's first interconnection to the SAPP, will address the country's increasing demand for power and create opportunities for power trading within the regional power pool. The interconnector project is of great importance to the Southern African region as it will improve regional transmission integration and diversify the energy mix, especially with the planned hydro and renewable resources in Malawi. The process of procuring an EPC contractor to construct the power transmission line has begun and construction is expected to commence in 2021 with commercial operation anticipated in late 2022/early 2023.

Figure 12: ESCOM maintenance staff taking part in "Live Line Maintenance Awareness on 400 kV level" training. Photo credit: USAID SAEP

To ensure that the 400 kV infrastructure and the new interconnector are maintained, building an operations and maintenance training program and cadence into operations is critical for the utility's success. SAEP laid out a series of technical assistance focusing on equipping ESCOM technicians with the necessary skills, tools and equipment to move from managing a 132 kV to a 400 kV line. Over a course of several months – and despite limited in-person trainings because of COVID-19 – SAEP trained a total of 98 ESCOM control and maintenance engineers and technicians on operations, safety and maintenance. In total, eight training sessions were done virtually.

Additionally, SAEP developed a transitory power production optimization tool for the ESCOM System Operations personnel to enable the utility to conduct short- and medium-term electricity demand forecasting to facilitate generation unit commitment. The ESCOM System Operations personnel are using this tool until ESCOM is ready to migrate and use the e-terracommit model – a more versatile and advanced production optimization tool – fully. Going into Year 4, SAEP will continue with capacity building efforts by providing ongoing advisory on production optimization and operating in the interconnected SAPP system as well as focusing on the optimal use of the ESCOM SCADA system for the ESCOM National Control Centre (NCC) staff.

The table below summarizes the technical assistance that SAEP provided to ESCOM and the number of personnel who now have the necessary skills to work in an interconnected system:

Table 2 Summary of Technical Assistance to ESCOM

Item #	Technical Assistance Provided	Number of Members of Staff Trained	Skills Developed
1	**Operation of 400kV Infrastructure**	25 Personnel comprising: ▪ 9 Control Engineers ▪ 5 Over-headline Maintenance Personnel ▪ 4 Power System Protection Personnel ▪ 5 Substations Personnel ▪ 2 Substation Operators	▪ Practical operation of the network, with special focus on safety of the operator and also that of the system ▪ Theoretical operation training covering fundamental principles of power system operation; access control to high voltage areas; and switchgear isolation, earthing, testing and commissioning

Item #	Technical Assistance Provided	Number of Members of Staff Trained	Skills Developed
2	**Maintenance of 400kV Infrastructure**	54 Personnel comprising: ▪ 28 Control Technicians ▪ 13 Substations Personnel ▪ 13 Over-headline Maintenance Personnel	▪ This focused on a TNA to enable the teams to effectively conduct maintenance on the newly acquired 400 kV infrastructure. It looked at the skill sets, tools and equipment required for their work
3	**Power Production Optimization**	5 Control Engineers	▪ Load forecasting using a Microsoft Excel-based tool ▪ Production optimization: this support was delivered to prepare ESCOM's National Control Centre personnel to use e-terracommit, a more versatile tool for power production optimization
4	**Operation in an Interconnected System**	14 Control Engineers	▪ The activity was done to prepare ESCOM's National Control Centre personnel to operate in an interconnected system. This entailed exposing control engineers to: - SAPP operating and market guidelines - Practical power system operation at utilities operating in SAPP, including the SAPP Control Centre

For more details on support to ESCOM, refer to the success story section in Appendix A.

The 350 MW Mpatamanga Hydropower Project: Africa's First Competitive Procurement for a Strategic Sponsor in a Large-Scale Hydro Project

Figure 13: The public RFP launch for a Mpatamanga project sponsor. Photo credit: USAID SAEP

The first competitive tender in Africa to identify a strategic sponsor to develop, finance and operate a large-scale hydropower project was launched on 11 February 2020. SAEP, as transaction advisors to the Government of Malawi (GoM), have been helping to guide the procurement process and manage the diverse set of advisors supporting the government as they advance this complex, unique process. Leveraging on extensive experience in developing energy projects, SAEP is advising the GoM by preparing the project development team in anticipation of future requirements.
SAEP's role in Year 3 has been to manage interactions between the various governmental departments, ministries and GoM's advisors by setting up working groups and identifying required skills and people to form part of these groups. SAEP is also working closely with the GoM tender agent to support the government during the procurement of the project sponsor phase. Following the receipt of

prequalification submissions at the end of March, SAEP guided the GoM with the evaluation of the submissions and assisted in preparing responses to bidder clarification requests. On 13 June 2020, the government announced that a consortium comprising of SN Power and *Électricité de France* (EDF) – two of the strongest hydropower developers globally – prequalified to submit a full proposal. The full RFP for the development, financing, construction and operation and maintenance of the project was released on 25 August 2020.

Figure 14: Mpatamanga project site on the Shire River. Photo credit: USAID SAEP

Due to environmental concerns regarding downstream flooding from the release of water for peaking periods, the GoM advisor team, with SAEP's guidance, recommended the inclusion of a downstream regulating dam. The World Bank environmental safeguards team has accepted this proposal. The World Bank Global Infrastructure Facility (GIF) has also agreed to provide additional funding to the GoM to procure more advisors critical for project development. SAEP assisted the government's task force to prepare and present the funding request by coaching them on the administrative processes associated with requesting funding from development finance institutions; and how the additional funding request fits in the overall project development process. SAEP highlighted the need for future community resettlement requirements, which are now being addressed by a specialist consultant procured with the additional funds from the World Bank GIF.

SAEP participated in the first bidder's videoconference with the government task force and representatives from the prequalified bidder on 2 September 2020. The purpose of the videoconference was to introduce the prequalified bidder to the project team, reaffirm the government's commitment to the project as there was a change in president in Malawi and give an overview of the key elements and dates of the bid process. The bidder also had the opportunity to raise questions for clarification. The prequalified bidder will submit its full technical and financial proposal during the first few months of the 2021 calendar year. Combined with a revised ESIA that will be completed by GoM's environmental advisor before end of Jan 2021, the project appraisal can be disclosed to the World Bank Board in time for the required review period allowing a discussion of the project at the Board meeting planned for 28 May 2021. This will facilitate the targeted FC date of December 2021.

SAEP's Performance Management Support Boosts EGENCO's Generation Capacity

Building on the U.S. government's first Millennium Challenge Corporation (MCC) Compact in Malawi designed to improve the availability and reliability of and access to electricity, SAEP is assisting Malawi's Electricity Generation Company (EGENCO) to achieve its strategic plan objectives to improve commercial performance and increase generation by 1,000 megawatts (MW). As a result of the new performance system developed by SAEP in 2019, EGENCO was able to add 33 MW of generation capacity to its fleet in February 2020. This is quite significant as it represents about 11% of its installed capacity and amounts enough electricity to supply about 30 thousand households.

Formed in 2016, EGENCO is embarking on a 15-year strategic plan that aims to diversify energy

generation and increase Malawi's capacity to produce power. To achieve the strategic plan goals, EGENCO needed to increase institutional capacity and establish information management and performance monitoring practices into the organizational fabric. As such, SAEP assisted the EGENCO Board and Executive and Departmental Management to develop and implement a performance monitoring and evaluation (M&E) process, key performance indicators and a new organizational structure. SAEP's direction led to the establishment of the M&E Department and the development of a balanced scorecard in March 2019 to track objectives from EGENCO's Strategic Plan. Each step in establishing the performance management process entailed hands-on training workshops to foster sustainability and growth. By designing appropriate performance measurement instruments, re-aligning targets with a reachable timeframe and feasible ranges for those targets, EGENCO's Planning and Development Division was able to focus, evaluate, monitor and deliver on what was feasible. Their focus changed from an initial 106 projects stated in the strategic plan to nine targeted projects, which led to the rehabilitation of three hydropower and diesel plants to increase capacity.

Figure 15: Control Engineer at EGENCO's Nkula Generation Control Centre. Photo credit. USAID SAEP

In Year 3, SAEP and EGENCO continued to review the implemented processes and look for ways to improve and update these for long-term sustainability. One way to promote sustainability and complete the virtuous cycle of achieving performance metrics is to address the human resource (HR) aspect of performance. In this regard, SAEP assisted EGENCO's HR Department to review its approaches to employee performance assessments and competences for existing and new employees in order to ensure personnel are recognized for performance improvement. SAEP also provided the HR department with a tool to develop a balanced scorecard (BSC) to gauge the overall HR department performance. This assistance will continue into Year 4. *For more details on support to EGENCO, refer to the success story section in Appendix A.*

2.6.2 ADDITIONAL HIGHLIGHTS FOR MALAWI

In Year 3, SAEP engaged in the following additional activities:

- In order to assist ESCOM to operate a stable grid as the utility integrates its first variable renewable energy (vRE) technologies into the Malawi grid, SAEP completed a report of recommendations following an initial assessment of ESCOM's system and processes. The first projects to come online are those Power Africa assisted ESCOM to procure and it is critical that when they come online they can be used efficiently and effectively without damaging the grid. The report, which is the main output of phase 1 of SAEP's assistance to ESCOM, recommended immediate- and longer-term interventions for ESCOM to take to improve their preparedness for the integration of vRE technology. The second phase of the work entails detailed integration studies as well as training on modelling and simulations to enable ESCOM operations and planning staff to conduct grid integration studies. Relevant planning and operational staff in ESCOM participated in part 1 of the

training which took place in September 2020 and acquired the skills to conduct transient stability studies – the training was attended by 9 planning and operations staff that regularly perform network modelling and simulations. Part 2 of the studies will take place in October 2020 and will focus on dynamic stability studies. All the studies that are the focus of the training are meant to help ESCOM assess the state of the grid after the integration of vRE and the impact of disturbances on a grid with an increasing share of vRE. Particular attention was paid to a 60 MW solar PV plant to be commissioned by JCM Power, a Canada-based IPP. SAEP had initial discussions with ESCOM about the impacts of integrating the JCM plant and more discussions will be scheduled in October 2020 and these will include mitigation measures. SAEP anticipates a period of light operational support in Year 4 as solar PV plants are commissioned and as they reach commercial dates of operation.

- Taking into account the impact of COVID-19 on SHS companies, SAEP modified the SHS Kick-Starter grant milestones and disbursement schedule in Year 3. An additional milestone was added which would require grantees to submit a business continuity report. The approval of these reports by SAEP triggered a disbursement to ease the SHS companies' liquidity constraints. In addition to the foregoing COVID-19 mitigation activity, SAEP provided updates to SHS companies on the limited relief funding opportunities available to support their business continuity during this time. As needed and requested, SAEP will continue to support SHS companies by helping them navigate application processes. Operational support also continued with SAEP facilitating two virtual sales force effectiveness training sessions for Vitalite and Zuwa Energy supervisors and head office staff. The virtual training sessions are a work-around that was chosen in lieu of in-person sessions which were not possible due to COVID-19 travel restrictions. Another operational support highlight was the public release of the updated Malawi Route to Market (RTM) Tool[7] and accompanying video tutorials. The video tutorials are meant to improve individual SHS companies' familiarity with the tool so that they can use it effectively to develop their sales approach, including through the customization of the tool. It is anticipated that companies will continue to use the tool to scale sale volumes. The cumulative support that SAEP provided to SHS companies in Malawi unlocked 41,917 connections in Year 3.

Figure 16: Virtual sales force effectives training for Zuwa Energy. Photo credit: USAID SAEP

- An ongoing activity in Year 3 was the support provided to the Mercy James Institute for Pediatric Surgery and Intensive Care (MJC). Mercy James is a state-of-the-art pediatric surgery hospital in Malawi that was founded through a collaboration between the Government of Malawi and Raising Malawi, a philanthropic organization, which retains an affiliation with the center. MJC wants to protect its critical activities from the unreliable and poor-quality supply that they have been receiving from ESCOM. Poor-quality supply and supply interruption can, in the worst case, cause a loss of life and thus MJC is quite anxious to implement a solution that avoids this contingency. In Year 3, SAEP helped MJC to evaluate technical solutions which included a combination of solar PV and battery storage configurations, and the procurement of an EPC contractor to install a PV solar

[7] For more details on the RTM tool, refer to the success story section in Appendix A.

plant. In addition, SAEP produced an options report on funding sources. At the end of Year 3, MJC through Raising Malawi were following up on possible sources of funding in line with SAEP's recommendations. SAEP expects to continue this support during the installation and the initial phase of operations.

- SAEP continued to support EGENCO to build capacity of its staff with gender mainstreaming initiatives and to increase the number of women in leadership positions. In July 2020, EGENCO appointed Ms. Hilda Singo as the Finance Director. EGENCO currently has two women in executive positions. Further, SAEP provided mentorship and coaching to the Administration and Gender Manager on the implementation of the gender policy. SAEP also prepared a Training of Trainers Facilitators Guide to guide trainers on how to conduct trainings and integrate gender in their departments and power stations. A workshop to share the guidelines is planned for Year 4. Additionally, SAEP supported EGENCO's procurement department to incorporate women entrepreneurs and women-owned businesses working in the energy sector in EGENCO's tender processes.

2.7 Mozambique

Mozambique has high power generation potential that could be harnessed from various sources, including hydro, coal, natural gas, wind and solar. Despite this great potential, power distribution in the country is severely underdeveloped resulting in only 30% of the population having access to electricity. Mozambique aims to electrify 100% of the country by 2030 and has placed a priority on rural electrification through both on- and off-grid solutions.

BY THE NUMBERS

3,516 MW
Pending Financial Close

34,874
Actual Connections

43,501
Projected Connections

In response to Mozambique's ambitious and aggressive electrification targets, SAEP is working with the national utility, EDM, to complement their electrification initiatives with the establishment of an Electrification Management Unit and implementation of a Human Centered Design (HCD) approach to improve customer centricity. SAEP is also focusing efforts in the off-grid sector and continues to support EDM's TTP transmission project.

2.7.1 TOP ACHIEVEMENTS AT A GLANCE

SAEP's Embedded Advisor Central to Moving the Temane Transmission Project Forward

The USD $542 million Temane Transmission Project (TTP) will evacuate power from the planned 450 MW gas fired power plant at Temane in the northern part of Inhambane Province to Maputo, which is the nation's capital with a population of about 1.2 million people, to service households, businesses and industrial concerns. The development of the TTP will allow security of electricity supply, increase the reliability and energy available and allow EDM to develop several distribution projects to increase connections, contribute to unlocking the agricultural potential of rural areas and create higher value industrial jobs. The TTP project itself is expected to create close to 1,800 jobs during the three-year construction phase.

To assist Mozambique in pursuing this massive undertaking, SAEP has supported Mozambique's national utility, EDM since early 2018 to advance this flagship project through an embedded advisor who gives organizational and technical support to the TTP project team. SAEP's advisor has managed key activities in moving the project forward, including advising and guiding the review of key outputs from project consultants like the owner's engineer and Resettlement Action Plan (RAP) implementation consultant, supporting the procurement of an EPC contractor and facilitating engagements between the funders and the TTP PMO to finalize the project financing plan.

In Year 3, the COVID-19 pandemic created several challenges that affected delivery timelines and caused a delay on procurement- and environment-related activities. The SAEP embedded advisor has been particularly instrumental in navigating the TTP PMO operational team through this complex circumstance. Over the past months, he transferred management skills and facilitated capacity building measures aimed at increasing the TTP PMO administrative, financial, engineering and environmental staff members' skill set to meet the TTP project's complex and challenging operational requirements during a time of crisis.

In Year 3, the TTP reached a major milestone with the World Bank, Norwegian Trust Fund and the AfDB issuing declaration of effectiveness letters confirming that all conditions for the effectiveness of the grant have been met. The Islamic Development Bank (IsDB) and OPEC Fund for International Development are expected to issue effectiveness by October 2020. Construction of the 400 kV TTP transmission line with a capacity of 900 MW totaling 560 km will be completed by 2023 and is the first phase of the Mozambique Integrated Transmission Backbone System (STE) Project.

Figure 17: Construction of the 400 kV transmission line will be completed by 2023. Photo credit: USAID SAEP

Helping EDM Improve Customer Relationship Management Through HCD

We have all heard the expression "the customer is always right." SAEP has been applying an updated and more sophisticated version of that saying – known as human-centered design (HCD) – through its groundbreaking approach to improve EDM's customer service. To meet Mozambique's target of a 100% electrification rate by 2030, EDM is confronted with the challenge of connecting thousands of new customers and is looking at better ways to "connect" with its existing and potential customers. The value of this approach is based on the concept that customers will be more likely to connect to the grid if their experiences throughout the process are easy and if employees are providing better customer service. As customers have more positive experiences with a responsive utility, they will tell others, and demand for connections and usage of electricity will increase.

Figure 18: EDM and SAEP conducted close to 200 interviews with existing and potential customers. Photo credit: USAID SAEP

The HCD process follows four main stages: discover, define, develop and deliver. The discover stage involves in-depth research to understand stakeholders through a structured interview process. This research is critical and informs everything else throughout the HCD process, from the development of personas and journey maps, to the ultimate changes implemented throughout the organization. SAEP worked collaboratively with EDM's commercial department and local offices to map out the process which included conducting approximately 200 in-depth and personal interviews with existing

and potential customers throughout EDM's network as well as with EDM employees to better understand how they viewed the customer and connection experience. Based on these interviews, SAEP and EDM developed journey maps of customers and EDM employee experiences to provide insightful views of the journey from thinking about getting an electrical connection to being connected. This first of its kind approach was an eye opener for EDM as it revealed clear gaps and opportunities for EDM to improve the connection process. For example, EDM realized that the average customer needed to visit the EDM electricity distribution center at least three times to gain a connection, which often included the challenge of finding transportation in rural areas. Additionally, many customers were confused by the pricing structure EDM used for its promotional connection rates, prompting EDM to clarify options to improve customer engagement.

The SAEP and EDM teams then conducted ideation sessions to identify solutions that would address the highest priority concerns. As a result, EDM has identified three key focus areas based on the HCD process to improve customer engagement. These include i) improved community relations, with a focus on developing proactive engagement with community leaders, ii) improved customer service management to better manage customer expectations, and iii) a more comprehensive scheduling process to ensure customers know when to expect their connections. Once approved by EDM's board of directors (BoD), these solutions will be developed into an implementation roadmap, and will be rolled out across the EDM service area in mid-2021. The overall impact will be to better facilitate the connection process and improve the customer experience thereby fostering and improving the welfare of thousands of consumers.

> *"The project is going well. We are very happy to be participating in this project, and we are now expecting to receive indications of the main improvements for this process of connecting new customers. Then we will define a specific roadmap to implement these new improvements, and we expect that this work will increase the number of people with electricity, and people will also be happy because they will realize that we are very organized to quickly respond to the huge demand. We expect to receive a huge number of customer demands for new connections, that's why this project is really very important, since it will prepare the Commercial Department to respond in a very systematic way."* ***Former EDM Director for Commercial, Benjamim Fernandes***

For more details on support to EDM, refer to the success story section in Appendix A.

EDM Electrification Assistance

Another important part of SAEP's work in Mozambique is to assist EDM in the inception, development, and operationalization of an Electrification Management Unit (EMU). The EMU will be the delivery unit, with the sole purpose being to ensure the global electrification program is well managed, planned and implemented in a cost-efficient and sustainable manner that suits the needs of the EDM end customers. The assistance so far has resulted in the implementation plan and organizational design for the EMU, which was officially established in August 2019.

Due to board meeting delays and the subsequent COVID-19 lockdown, operationalization of EDM's EMU was not completed in Year 3. After a new BoD was selected, EDM approved the EMU Executive Order, which SAEP helped draft in August 2020. The newly appointed EDM Director for Electrification, Joaquim Ou-Chim, has shared the approved Order with SAEP, which provides a clear mandate to EDM to kick off the EMU implementation stage. SAEP is now in the process of rolling out the detailed processes developed previously. This is being achieved through focused onboarding workshops with key managers in the EMU on electrification planning, finance and procurement. In addition, based on the HCD assistance cited above a new commercial function will be established within the EMU. The EMU

will be the delivery unit, with the sole purpose being to ensure Mozambique's electrification program is well managed, planned and implemented in a cost-efficient and sustainable manner. The aim of the successful operationalization of the EMU is to connect an anticipated 300,000 new customers annually.

2.7.2 ADDITIONAL HIGHLIGHTS FOR MOZAMBIQUE

In Year 3, SAEP engaged in the following additional activities:

- SAEP completed a consumer affordability survey in Mozambique in February 2020 and produced a report of insights during a workshop where off-grid energy players reacted positively to the results, emphasizing their usefulness in helping guide off-grid policy in Mozambique and further propelling Mozambique towards its goal of universal access by 2030. The survey showed significant potential for connections through SHS; 22% already able to afford SHS and an additional 23% can fall within the affordability bracket if the price is dropped by 33%. One of the mechanisms for lowering the purchase price that has been highlighted in the survey is the implementation of fiscal exemptions and this is the approach that SAEP is assisting the Government of Mozambique to pursue. At the end of Year 3, SAEP had drafted a roadmap for the implementation of fiscal exemptions and, together with BRILHO[8], was preparing to start updating an econometric study on fiscal exemptions that is meant to surface the impacts of the fiscal exemptions on revenue collection, economic activity and access to electricity. SAEP and Mozambique stakeholders in the Ministry of Mineral Resources and Energy (MIREME) and the Confederation of Economic Associations (CTA) Mozambique had settled into a regular cadence of engagements to move forward the fiscal incentives work by the end of Year 3.

- SAEP developed a draft roadmap for the Mozambican Energy Regulatory Authority's (ARENE) natural gas operation with ARENE's Natural Gas Lead, Mr. Juan Carlos, in late February 2020 for comment. The aim of this roadmap was to identify the issues presently facing ARENE specifically within the regulatory environment of gas distribution/downstream gas supply in Mozambique and to highlight where SAEP could support ARENE in advancing its plans for the subsequent 12 months. An updated roadmap/work plan was shared with ARENE's Chairman, Paulo Graca, for his review on 18 August 2020. ARENE indicated that going forward, it would only need SAEP's support with the development of rules (in particular the prioritization of sectorial rules necessary for the functioning of the energy and gas markets), support with procurement processes and practices and work related to the gas sector.

[8] BRILHO is a five-year program, funded by UK Department for International Development (DFID) and implemented by ARE Member SNV Netherlands Development Organization

2.8 Namibia

The power sector in Namibia has undergone several reforms, including the consolidation of more than 70 power distributors into five regional electricity distribution companies (REDs), the establishment of transparent tariff setting procedures and the RE Feed-in Tariffs (REFiT) program; all overseen by the sector regulator, the Electricity Control Board (ECB). While the country's generation mix is comprised primarily of hydropower and solar projects, the majority of electricity is imported through various contracts from South Africa's Eskom and SAPP.

BY THE NUMBERS

620 MW
Pending Financial Close

1
Laws/Policies Proposed/Revised

In Year 3, SAEP continued to provide technical assistance support to the ECB, the Central Northern Regional Electricity Distributor of Namibia (CENORED), the City of Windhoek (CoW) and the Ministry of Mines and Energy (MME).

2.8.1 TOP ACHIEVEMENTS AT A GLANCE

Cost-Benefit Analysis for CENORED to Reduce Costs

Advancing battery storage technology in Namibia will be critical to unlocking the full potential of solar. As part of this aim, SAEP has been working with one of the country's distribution companies, CENORED, to advance the thinking and business case for deploying storage solutions. During Year 3, SAEP developed and handed over the second phase of a cost-benefit assessment on the viability of a grid-scale battery storage facility to CENORED aimed at reducing the Namibian distributor's overall electricity costs. CENORED plans to use solar energy to develop distributed generation capacity within its network and is exploring ways to add battery storage to one of its six solar PV sites currently under consideration. The phase 2 report focused on a reduced set of sites that were identified during phase 1 and in turn narrowed the potentially viable sites to two sites with one of the them showing the most promise.

In light of SAEP's report and its recommendations, CENORED's BoD gave the utility's executive management and SAEP the go-ahead to proceed with further exploration of a detailed study of the feasibility of battery storage combined with solar PV at the most promising site – this will be the focus of the next phase of SAEP's work with CENORED. An additional aspect of this phase will be stakeholder engagements – including engaging financiers and equipment manufacturers who had expressed interest in working with CENORED. The outcome of this phase will potentially influence an RFP issued to the market for an IPP-led PV and battery storage project. CENORED has also expressed an interest in building capacity in excess of what can be consumed within their grid and sell the excess power to NamPower or a private customer in line with the recently adopted Modified Single Buyer Model which allows private consumers to buy at most 30% of their annual energy consumption from a private seller. A battery storage and PV system could help them achieve this ambition.

Helping the ECB Understand the Regulation of Battery Services in Namibia

Technological advances and the declining prices of batteries and related equipment mean that existing services provided by the electric services industry may now be delivered through other means. Equally important, battery services in conjunction with renewable sources of electricity generation, make those renewable generation facilities more viable. The increasing use of batteries in the ESI is also stimulating evaluations as to whether and how to regulate the provision of existing services that can now be provided by batteries.

Figure 19: SAEP presenting results from its battery services regulation report to the ECB in March 2020. Photo credit: USAID SAEP

The Namibian Electricity Control Board (ECB), anticipating increasing activity by licensees using batteries to provide electric services and by potential battery service providers, which are new entities in the market that own only batteries and provide services to existing licensees, requested SAEP to evaluate to what extent the current regulatory paradigm used in Namibia must adapt to the usage of batteries. SAEP's evaluation covered three main issues/questions: i) would existing licensees in the electric services industry be required to obtain amended licenses if they began to use batteries and related equipment in their licensed operations? ii) would new battery service providers be required to have a license? iii) how should the pricing of battery services be established? To answer these questions, SAEP evaluated the types of services that batteries could offer and then sampled countries both in and outside Southern Africa as to their existing laws, rules and guidelines to determine if there were other regulatory authorities that had confronted the use of regulation of battery services and whether there were any lessons learned for Namibia. SAEP transmitted its report and recommendations to the ECB on 22 July 2020.

In response to the questions posed, SAEP concluded that: i) under existing ECB guidelines existing licensees beginning to use batteries in the provision of services for which they are already licensed would need to apply for a license modification; ii) that it was reasonable to require battery service providers to be licensed at least until a competitive market emerged in that industry sub-sector; and iii) that pricing for battery services would be handled via bilateral contracts between service providers and the buyers of those services, or, if an existing licensee owned its own batteries in the provision of electric services, the existing pricing approach (rate base/rate of return) would serve to establish pricing.

The report concludes that once the ECB has taken a decision on each of the recommendations raised in the report, working groups – supported by SAEP – review the existing documents containing rules, conditions and guidelines that affect licensees using battery services and make modifications that may be deemed necessary.

2.8.2 ADDITIONAL HIGHLIGHTS FOR NAMIBIA

In Year 3, SAEP engaged in the following additional activities:

- The CoW has large and growing peri-urban settlements most of which have never had electricity or other municipal services provided to them and where up to 30% of the city's population resides. SAEP assisted the CoW to develop an approach to accelerating the electrification of 40,000 of these peri-urban settlements on the outskirts of the city. This is the first time the City has taken into consideration and built out models for private sector participation in electricity delivery and could help the City to electrify customers before they would be able to do on their own. Phase 1 included a review of available technology options and their applicability. In Year 3, SAEP continued the assistance to the CoW on the peri-urban electrification program. The second phase of the support presented options of business models to the City for accelerating the electrification with private sector participation as well as a financial model to show the viability of each of the models. SAEP also presented options to the City for structuring partnerships that can help the City to scale its connections and assure sustainable services. At the close of Year 3, the City's technical leads on the peri-urban electrification activity had accepted SAEP's recommendations and agreed to them being presented to various layers of decision-makers which include the City's ExCo and Municipal Council committees (which include political representatives). These presentations, which were meant to take place during quarter 3 of Year 3 were delayed at the City's request, due to their focus on COVID-19 mitigation activities within the City. SAEP will support the City through these presentations during quarter 1 of Year 4. The approval of the deliverables by the City's officials and political leadership will clear the way for the City to set up implementation mechanisms for carrying out the peri-urban electrification. In Year 4, SAEP will support the CoW to navigate the structuring of an appropriate PPP for the peri-urban activity, and to identify financial institutions and develop a strategy for engaging them.

Figure 20: Informal settlement outside Windhoek Photo credit: USAID SAEP

- While most governments have rural electrification policies, the costs of running traditional poles and wires to rural areas has been prohibitively expensive. Even with funds allocated to rural electrification, results have historically been meager, especially in the developing world. As the costs of RE generation has decreased, governments look more to non-grid connected small grids (called either mini- or micro-grids, depending on their size) to serve rural areas. Additionally, governments are changing their approach to electrifying rural and non-electrified areas and in developing mini-grid frameworks that provide a measure of certainty to potential developers.

  Namibia is one such country that has begun filling in the details of its mini-grid framework. As a part of that, the ECB expressed an interest in making an approximation of what the tariff would be for a mini-grid situated in rural Namibia.

In collaboration with SAEP, the ECB determined that the current tariff methodology used should be applied to a hypothetical mini-grid (as opposed to using a project finance method). Since Namibia already has mini-grids in operation, SAEP and the ECB gathered data from a mini-grid, Tsumkwe in Northern Namibia, in order to make its estimates. While the data was not perfect and certain assumptions had to be made, SAEP and the ECB were able to develop an approximation of what a mini-grid tariff might be in a community with characteristics similar to Tsumkwe. The results will help inform Namibia's overall mini-grid framework.

The ECB formally acknowledged receipt of the report and recommendations with a letter signed by the CEO on 4 September 2020, indicating that the report would be presented to the ECB Board at a time to be determined.

- In 2017, SADC issued a mandate for member states to phase out inefficient lighting in their respective countries. At the request of the MME, SAEP analyzed the environmental, economic, and operational implications of such a phase-out for Namibia. In Year 3, the MME accepted SAEP's incandescent lightbulbs phase-out report after initial minor comments that were all addressed. SAEP will consider supporting the MME with the implementation of recommendations in the report, if such assistance is requested by the MME. SAEP suggested that the MME should not enact new legislation and proceed with business as usual due to the current business-driven trend to import and sell mostly energy efficient lighting. They should do this while addressing issues with customs data collection and the coordination between the MME and the Ministry of Finance as far as it relates to the tracking of lighting imports.

- SAEP assisted CENORED to review their bidding documents and update to integrate leading international practices for the procurement of at least 10 MW of solar PV grid-connected systems located at various sites throughout the CENORED distribution area. The documents reviewed by SAEP included a procurement document, a direct connection agreement, a power purchase agreement and a tariff financial model. The systems will be integrated into CENORED's network and they intend to run a bidding process for the ultimate selection of IPPs to develop, construct and operate the new capacity. At the end of Year 3, CENORED was still considering SAEP's recommendations for amendments to the documents. In Year 4, SAEP will provide additional assistance to CENORED as they issue their request for proposals, and process and evaluate bids.

2.9 South Africa

South Africa has favorable conditions for solar and wind power generation, but these sources currently only contribute about 3% of energy supplied to the national grid. The long-awaited Integrated Resource Plan 2019 (IRP 2019) was gazetted by the Minister of Mineral Resources and Energy on 18 October 2019, updating the energy forecast for South Africa from the current period to the year 2030. The IRP 2019 is the Government of South Africa's plan to solve the country's power crisis by generating electricity through a mix of sources, with RE accounting for a large portion of it. The most dominant technologies in the IRP 2019 is RE from wind and solar PV.

BY THE NUMBERS

2,205 MW
Reached Financial Close

3,354 MW
Pending Financial Close

As the largest economy in Southern Africa and a critical country in regional integration, SAEP's work in South Africa has been aimed at areas where essential technical assistance can provide additive value and drive change across the region. The main focus of SAEP support in Year 3 has been primarily in providing technical support to various privately financed RE projects.

2.9.1 HIGHLIGHTS FOR SOUTH AFRICA

SAEP works alongside developers and procurement entities providing leading practices and tools to help remove barriers to enable projects to more rapidly reach financial close. The following summarizes support to RE projects in Year 3.

- **50 MW City of Cape Town Solar Rooftop.** SAEP previously assisted the Energy and Climate Change Directorate of the City of Cape Town (CoCT) to analyze global and local models for the rollout of a rooftop solar PV program, referred to locally as small-scale embedded generation (SSEG). SAEP then developed a financial model to demonstrate the efficiency of a U.S. residential solar financing model known as Property Assessed Clean Energy (PACE). The purpose of the model was to help the municipality evaluate the costs and benefits of establishing a PACE pilot program. The project is structured in a way that the overall benefit is shared with the residents in the area. The Western Cape government is supportive of the project. Under the program, the rooftop solar PV facility is not funded and not owned by the specific homeowner, with installation and operating and maintenance costs of the facility being covered by the project. In Year 3, SAEP updated the model at the CoCT's request. The city continues to work on the rooftop solar project initiative and is applying the financial model to determine scenarios and sensitivity analyses. The first round of the program is envisioned to finance 50 MW of rooftop PV across ~2,000 to 3,000 homes between 2020 and 2022.

- **South Africa's New Risk Mitigation IPP Procurement Program**. The IRP 2019 indicates that there is a short-term supply gap of between approximately 2,000 and 3,000 MWs. In December 2019, the Department of Mineral Resources and Energy of South Africa (DMRE) launched a Risk Mitigation IPP Procurement Program (RMIPPPP) to fill the current short-term supply and to reduce extensive utilization of diesel peaking generators. The DMRE released the RFP on 23 August 2020. The program opens the opportunity for entities to sell electricity generation capacity in the local

market. In Year 3, SAEP has been in discussions with two interested bidders and is awaiting their feedback on potential SAEP required assistance.

- Mondi has excess power at their 48 MW biomass generation facility in Richards Bay, South Africa. IES Energy, working on behalf of Mondi, has been pursuing power sales opportunities to absorb this excess power that was previously being sold to Eskom. With the RMIPPPP RFP issued in August 2020, SAEP has been in discussion with IES Energy to assess Mondi's interest and options for potential participation in the RMIPPPP. However, two eligibility criteria disqualify the existing 48 MW facility to participate in the program: i) a requirement of capacity of between 50 and 450 MW and ii) only new capacity being allowed. Mondi is currently considering adding a new >50 MW biomass facility to comply with RMIPPPP requirements. SAEP has indicated willingness to support Mondi during the bid process should they decide to apply.
- IPP Global, a U.S. company based in Houston, Texas, plans to develop a 200 to 250 MW gas-to-power project in response to the RMIPPPP RFP. SAEP has offered transaction advisory support to IPP Global's bidding process should the company decide to participate and continue with bid preparation.

As SAEP will not be supporting one bidder exclusively, both Mondi and IPP Global were informed not to provide any bid competitive information to SAEP. The bid submission deadline is 24 November 2020 with an estimated preferred bidder announcement date of 15 December 2020.

- **Two Solar Plants Commence Commercial Operations.** In October 2020, two projects implemented under South Africa's landmark Renewable Energy Independent Power Producers (REIPPP) Program were commissioned. South African IPP and Power Africa partner, BioTherm Energy, commissioned its Aggeneys and Konkoonsies II solar power plants. The two plants supply 132 MW of electricity to the grid of the state-owned utility Eskom.

In 2017, SAEP supported REIPPPP through the advancement of 27 RE IPP projects received as part of Bid Windows 3.5 and 4.0. Responding to the Department of Energy's IPP Office's request for support, SAEP provided training and advisory services to staff on how to conduct initial due diligence work specific to the technical/engineering and the economic development components of the bids. Up to now, eight of these projects have been commissioned.

2.10 Zambia

The Government of Zambia has declared its goal to reach 7.2 GW in generation capacity (from the current 2.8 GW) and a 66% electrification rate (from the current 31%) by 2030. At the current rate of population growth, nearly 2.4 million new connections would be required by 2030. To achieve this goal, Zambia must – among other initiatives – increase its power generation capacity as well as develop a strategy to bring power to millions of unelectrified households.

In Year 3, SAEP continued supporting the off-grid sector and supporting the national utility, ZESCO on system operations initiatives. SAEP's support has helped deliver connections to ~110,142 households to date.

BY THE NUMBERS

1,139 MW
Pending Financial Close

110,142
Actual Connections

503,422
Projected Connections

2.10.1 TOP ACHIEVEMENTS AT A GLANCE

Helping ZESCO Improve its Commercial Performance

ZESCO as an integrated utility has approximately 200 projects in generation, transmission and distribution in various stages of development, which represents a sizeable capital investment. ZESCO realized it needed a better approach to managing these projects, which would in turn improve its operations and financial position. At ZESCO's request, SAEP is working with the utility to develop an M&E process to drive project management performance. As a first step, SAEP conducted workshops with key operating departments to better understand how they managed projects. It was clear based on SAEP's assessment that ZESCO's M&E processes related to project management needed to be improved whic h requires the development of robust systems and tools to help ZESCO manage, coordinate, execute and report on project results to key stakeholders. Based on this, SAEP developed the key performance indicator (KPI) and Balanced Scorecard (BSC) tools as well as a user's guide for ZESCO departmental managers to use to measure project performance. This approach will be tested on selected projects in Year 4.

To further support ZESCO's financial position and return on capital, SAEP conducted an extensive review of best-in-class transmission and ancillary pricing practices. To align with the proposed open access arrangements in Zambia, separate pricing will be needed for ZESCO's twin roles as transmission asset owner and system operator. Based on this review, SAEP developed a methodology for ZESCO addressing more efficient allocation of resources and costs. A workshop was then conducted to evaluate the methodology and its implementation and ZESCO management is now considering its adoption before the models and pricing are finalized.

In June and July 2020, SAEP facilitated six virtual training sessions on project finance and financial modelling to equip ZESCO with the capability to assess project viability for solar, wind and hydro projects. Having this capability will enable ZESCO to decide on the optimal mix of projects from a financial perspective. The training sessions covered project finance principles and the use and application of financial modelling. In total, 21 finance and operations staff members, of which 10 were female, completed the training course and positive feedback was received.

> *"I have a much clearer understanding of project finance and financial modeling. I therefore look at contracts differently with greater insight out of the knowledge that was acquired during the training. So far, I have analyzed two power projects and studied their financial models with a much greater understanding.* ***Misozi Samboko, ZESCO***

2.10.2 ADDITIONAL HIGHLIGHTS FOR ZAMBIA

In Year 3, SAEP engaged in the following additional activities:

- SAEP supported the Foreign, Commonwealth & Development Office (FCDO)[9]-funded Africa Clean Energy Technical Assistance Facility (ACE-TAF) as they took the primary support role for the Solar Industry Association of Zambia (SIAZ). SAEP support has been in the framework of an understanding with ACE-TAF on complementary support to SIAZ and the Off-Grid Task Force. SAEP has played a key role in SIAZ's initiatives in response to COVID-19 impacts and restrictions. These initiatives included helping SIAZ to develop stakeholder engagement approaches and writing submissions to government officials and state entities such as the Zambian Reserve Bank and the Zambian Revenue Authority. The support that SAEP provided and that was elaborated in some of the letters written, extended to providing advice on a possible change in approach in the management of financial relief packages that were being offered by the government. Subsequent to SAEP's support to SIAZ, the Government of Zambia released new funds to support business, especially small and medium enterprises, that will now be administered by the Development Bank of Zambia instead of private banks, as was initially the arrangement. At the end of Year 3, SIAZ identified a recurring risk that fiscal exemptions are inconsistently implemented at the borders, which SAEP believed had been largely resolved through earlier assistance to SIAZ. ACE-TAF has requested SAEP support on the development of a Customs Handbook that includes the revision of the fiscal incentives framework and implementation support. SAEP also supported one of the SIAZ member SHS companies to develop strategies to mitigate the effects of a depreciating currency in the face of locally-based revenues and the need to maintain low retail prices. Depending on the success of this intervention, the outcomes will inform the development of a general guide for SHS companies faced with similar challenges.

- A new area of support in Year 3 was aimed at improving the quality and sustainability of energy supplies in Zambia's primary health centers. The target facilities are in urban, peri-urban and rural areas. SAEP signed an LOC with Avencion, a private company that is offering novel technical solutions and management structures to the Ministry of Health for the delivery of electricity to healthcare facilities. With funding from the Centers for Disease Control and Prevention (CDC) the ministry implements several health programs requiring reliable data capture and consistent tracking of users. SAEP reviewed the concept note following which, the ministry gave its consent for the activity to proceed. The main area of impact, however, was SAEP's assistance to Avencion with initiating and managing relationships with U.S. government agencies – Avencion was introduced to

[9] Previously known as the Department for International Development (DFID)

USTDA with whom they will discuss funding possibilities, and, more importantly, with SAEP's mediation, the CDC-Zambia was able to set in motion the interaction between Avencion and health teams in provinces. The relationship between Avencion and health teams is critical to the success of their initiative, which includes installation of their energy solutions at five pilot sites in Lusaka in the initial phase that should end in 2021, and ambitions to expand this to between 400 and 800 healthcare facilities in Zambia thereafter.

- SAEP continued support to the Zambian utility ZESCO to improve system operations to enable the optimization of power production. In Year 3, SAEP continued to develop tools for optimizing the performance of the transmission system. The SAEP Embedded Advisor to ZESCO expanded the dispatch and water valuation model created in Year 2 with the addition of an Excel database and tool to capture information required to monitor maintenance performance, enabling tracking of outage metrics (duration, load lost, availability) of both individual equipment and different asset categories. This work required expanding on the naming conventions used for identifying equipment in the grid, which ZESCO's System Operations team has adopted. Other additions to the model included separating short- and long-term scheduling to improve the efficiency of the short-term scheduling process by incorporating the new maintenance data as well as improved load shedding forecasts. Further areas of support included working with ZESCO to identify and solicit transmission financing options. The aim of this activity forms part of the greater vision to unlock funding/financing for transmission line projects, especially for Zambia and the Zambia–Tanzania interconnector which will essentially be the first link to the East African Power Pool. SAEP also kicked off assistance to improve ZESCO's load forecasting processes to enable the utility to adopt one forecast process for the company as well as base forecasts on the latest principles using the most recent theories and methods for load forecasting.

- SAEP is working with ZESCO to improve the utility's HR ability to identify competencies needed for bridging any technical gaps and providing learning guidelines through a skills assessment toolkit. The aim of this activity is to integrate the right operational skills within the organization and align such skills to ZESCO's business goals. At the end of February 2020, SAEP facilitated a skills mapping learning workshop for HR practitioners and personnel. ZESCO was tasked to identify skills assessments within their core technical divisions based on the utilization of the toolkits and process guide provided to ZESCO. A virtual follow-up workshop took place where ZESCO gave positive feedback to the skills mapping exercise, citing that the process of reviewing the recruitment and training framework has been helpful. SAEP will continue to monitor progress made on the training framework and will support the ZESCO HR management team in the organizational integration of the modified skills identified by ZESCO in Year 4.

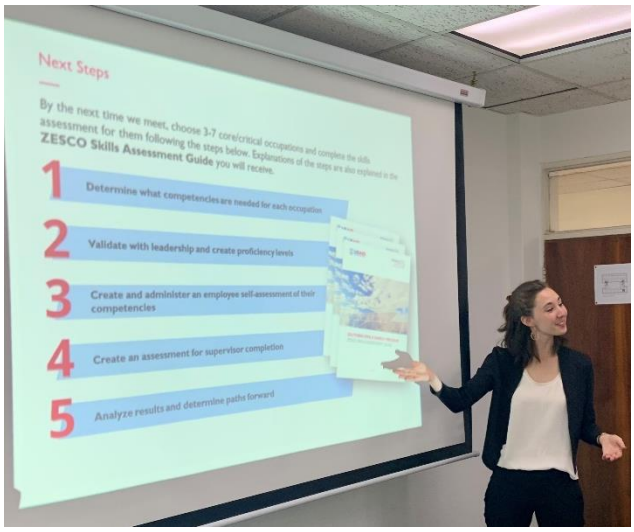


Figure 21: ZESCO HR skills mapping workshop in Luanda in February 2020. Photo credit: USAID SAEP

2.11 Regional

Increased access to affordable and reliable energy supply across Southern Africa requires greater cooperation across borders to ensure power can move freely and securely. With efficient systems in place, greater volumes of electricity can be traded at lower costs to governments and consumers. Strengthening institutional capacity remains a key focus in overcoming the challenges of the energy sector in Southern Africa.

BY THE NUMBERS

1,000 MW
Pending Financial Close

In Year 3, SAEP designed and delivered a range of activities some of which included sharing lessons from SAEP's national activities on regional platforms such as SADC, RERA, and KGRTC. A key objective of SAEP is to share the Program's work more broadly for greater impact. More detail on these activities as well as activities with the Southern African regional institutions, SADC, SACREEE, SAPP and the Regional Energy Regulatory Association (RERA) follows below.

2.11.1 TOP ACHIEVEMENTS AT A GLANCE

SAEP Presents at Power Africa's Private Sector Partner Webinar Series

Figure 22: Screenshots from the webinar on 2 June 2020.

SAEP contributed to Power Africa's Private Sector Partnerships Webinar Series by developing materials for and presenting at its first webinar titled Self-Generation and Battery Storage in Southern Africa on 2 June 2020. During a successful and informative episode of this new series, SAEP presented on these topics in a Southern African context, drawing on SAEP's experience in the region. The purpose of the webinar was to give Power Africa's private sector partners insight into the regulatory issues currently most under discussion and consideration in the region. The webinar, attended by around 40 participants, both private development partners and regulatory officials, also gave participants the opportunity to engage with SAEP and ask practical questions about what is expected to happen in Southern African electricity regulation in the coming years. Listen to the episode **here**[10].

[10] Link to listen to the Self-Generation and Battery Storage in Southern Africa webinar: https://ac.usaid.gov/phcun2xu7601/

2.11.2 ADDITIONAL SUPPORT TO REGIONAL INSTITUTIONS

In Year 3, SAEP engaged in the following additional activities:

Support to SADC Secretariat

- **SADC Battery Storage Technology Workshop.** The committee of ministers responsible for energy issued a directive to the SADC Secretariat to collaborate with regional organizations in mobilizing resources for capacity building programs. The benefits of RE technology and improvements in battery storage coupled with the cost benefits is encouraging energy policy makers to strategically spur the adoption and utilization of these technologies. SAEP collaborated with the SADC Secretariat to drive a series of capacity building engagements on RE technologies focusing primarily on battery storage improvements and battery usages in the RE space. On 6 November 2019, SAEP facilitated a workshop on battery storage for SADC energy and legal officials representing 41 participants from 14 SADC Member States in Johannesburg, South Africa. The presentation and discussions resulted in an interesting exchange of ideas and knowledge and workshop participants acknowledged that the region needs to embrace emerging technologies like battery storage. While there are complexities in energy storage technologies (battery storage or its combination with other distributed technologies), SADC has an opportunity to advance the creation of new platforms through industrialization, localization and the development of new skills to enhance the region's energy access plans. SAEP will be continuing with capacity building activities building on the battery storage workshop in Year 4.

Figure 23: SAEP facilitated a battery storage workshop for 14 SADC Member States in November 2020. Photo credit: USAID SAEP

- **SADC Gender Baseline Survey.** SAEP is conducting a study to analyze if and how SADC institutions are mainstreaming gender to enhance women participation in leadership and technical positions. The objective of the assignment is to support the SADC Secretariat and regional energy institutions with gender mainstreaming indicator monitoring and evaluation process tracking and to share with SADC a baseline on their current status on gender mainstreaming for specific indicators. SAEP developed a questionnaire and shared it with SADC energy institutions through SurveyMonkey. The survey focused on the following areas: institutional commitment to gender equality and women empowerment, women participation in the energy sector in leadership and technical positions, gender specific indicators, gender specific policies, strategies and systems, institutional gender specific procurement processes and institutional gender budgeting. In total, SAEP received 84 responses from 18 institutions. SAEP has analyzed the responses and prepared a preliminary report of the key findings and recommendations and an action plan detailing how the proposed indicators should be measured by SADC energy institutions. The report will be shared with SADC Secretariat in quarter 1 of Year 4

SAEP further participated in two conferences to present the SADC gender mainstreaming activity and to interview delegates on the subject: i) RERA's Annual Conference from 16 to 21 February 2020 in Victoria Falls, Zimbabwe, where she presented a gender business case to highlight the importance of gender within energy regulation, and ii) the SADC Energy Sub-Committee meeting from 25 to 28 February 2020 in Dar es Salaam, Tanzania to socialize the planned SADC gender baseline study to participants. The SAEP Gender Advisor's presentation on the importance of gender equality in the energy sector at the RERA Annual Conference made news headlines.

Sadc states urged to include women in energy sector

Chronicle - 19 Feb 2020

... Southern Africa Energy Programme (SAEP) gender specialist, Mrs **Edith Wanjohi**, said women were facing challenges in accessing electricity ...

Support to SACREEE

- **SACREEE's Programmatic Engagement Strategy to Promote RE and EE.** The SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) is a newly established subsidiary organization of SADC, mandated to scale up RE and EE activities in all SADC member states which includes the island and non-island (Oceanic) members. As member states continue to work towards a common regional development agenda, there are disparities the strategy to deliver and meet the region's energy access objectives. These disparities are compounded by the economic and physical hazards including climate change. SACREEE notified SAEP of the challenges it is facing to deploy its programmatic intervention of promoting RE and EE technologies in the Oceanic Member states due to unique energy access connectivity priorities within the oceanic member states and requested technical assistance from SAEP and policy evaluation from National Renewable Energy Laboratory (NREL. In May 2020, SAEP hosted a joint session to guide SACREEE and NREL through a systematic approach towards building a programmatic framework and strategic plan to identify key tasks required to promote RE and EE in SADC oceanic member states. SACREEE agreed to the proposed suggestions and SAEP finalized the joint SOW with NREL to support SACREEE in the creation of SMART programmatic intervention for the oceanic member states. SAEP will consult with various energy official's in the oceanic member states in quarter 1 of Year 4, through surveys, interviews and support SACREEE in the identification of SMART programs and the development of a sustainable communication strategy to improve and sustain any identified programs with the oceanic member states.

Support to SAPP

- **The Regional Transmission Infrastructure Funding Facility.** To unlock and leverage the development of the interconnector projects, SAPP is undertaking, with support from the World Bank, a study on establishment of a Regional Transmission Infrastructure Financing Facility (RTIFF). In Year 3, SAEP continued to act as an advisor to SAPP by i) providing technical assistance as necessary to SAPP in the review of SAPP's consultant, Pegasys' deliverables, ii) providing comments to all the reports and material developed by the consultant and iii) assisting in the socialization of the RTIFF concept within the regional community. SAEP also takes part as advisors in the biweekly meetings with SAPP, the consultants, World Bank, SADC and RERA. The consultants are finalizing Phase I of the project which focuses on the different options of the RTIFF and some of the barriers

to realizing this institution. Phase II will look into the legal and regulatory setup of the RTIFF and identify which institution will host/manage the RTIFF – the options are SAPP, RERA, SADC or DBSA. This important advisory work will continue in Year 4.

- **Replication of SAEP's Production Optimization Tool in the Region**. Based on the production optimization disciplines established in Zambia and Malawi in Year 2, SAEP developed a generic production optimization model in Year 3 for the SAPP Coordination Centre to improve awareness amongst its members of the benefits of production optimization. This includes a user manual to guide utility planning engineers to use and understand the model. In Year 4, SAEP will focus on the upkeep and enhancement of the generic production optimization model as and when required. The objective of the tool is to provide planning models to SAPP members in terms of short- and medium-term demand forecasting and production optimization.

- **Southern Africa Examines U.S. Strategies on Power Quality and Balancing**. In November 2019, representatives from the Southern African Power Pool (SAPP) travelled to the U.S to meet with leading energy sector specialists. Organized by SAEP and the World Bank, the study tours allowed participants from Quality of Supply Working Group (QOSWG) and SAPP Market Subcommittee (MSC) to share problems with U.S. counterparts on issues related to power quality and electricity balancing and learn how the U.S addresses these key issues. *For more details on support to SAPP's study tours, refer to the success story section in Appendix A.*

Support to RERA

- **Digital Transformation for RERA.** SAEP is helping RERA to develop and deploy selected training courses through digital media to increase the accessibility to skills development for member regulators. RERA provides a platform for effective co-operation between independent electricity regulators within the SADC region and is tasked with capacity building among national and regional members through skills training. The digital approach to training is a strategy that RERA wants to leverage to amplify skills development among its members and to decrease costs of travel and workshops. With SAEP's support, RERA has developed two e-learning modules on regulatory governance and regulatory impact assessment respectively. During the first quarter of Year 3, RERA held several training engagements with member state regulators. One of the first regulators to have taken ownership of the training course is Namibia's ECB. The ECB has embarked on the roll-out of the regulatory governance e-learning module with all regulation staff members. The training module is available to institutions on-demand and can be requested through SAEP or RERA. The success of this e-module deployment provides an opportunity to replicate the process for other training activities. SAEP has recommended options for RERA in establishing a learning management system (web-based platform) and continues to support the virtual delivery of capacity building training interventions for regional regulators, which has become especially pertinent in the times of COVID-19. *For more details on support to RERA, refer to the success story section in Appendix A.*

Figure 24: ECB staff taking part in regulatory governance e-training in Windhoek, Namibia. Photo credit: USAID SAEP

- **SAEP Support to RERA's Successful Annual Conference.** RERA held its annual conference from 16 to 19 February 2020 in Victoria Falls, Zimbabwe. SAEP provided significant support to RERA in both the organization and execution of the conference as well as presenting on topics as diverse as transparent tariff reviews to gender mainstreaming. The incumbent RERA chairperson said during his key address: "*Let me take this opportunity to extend RERA's sincere appreciation to all our cooperating partners for their generous support towards the regional programs and activities. Special thanks to the USAID Southern Africa Energy Program for the valuable support and collaborative efforts in planning, resourcing and organizing the conference.*"

Figure 25: SAEP presenting during the RERA conference in February 2020. Photo credit: USAID SAEP

Building Sustainable Knowledge Sharing Across the Region

- **Learning Guides: Sharing Resources and Guidelines with Southern Africa's Energy Sector.** SAEP is developing and releasing learning guides that bring together topic-specific information, innovative approaches and resources developed through the Program's activities in the Southern Africa energy sector**.** The design and development of the guides involves transposing some of the lessons learned across different interventions into easy-to-use discussion papers and learning guides. Sharing SAEP's learning guides is a cost-effective method to maximize resources, promote sustainable reforms and enable other energy stakeholders and programs to build on SAEP's practical experiences. In Year 3, SAEP developed the following learning guides: utility management series and **blog**, framework for off-grid energy access lessons learned and a transmission PMO manual.

Figure 26: A key objective of SAEP is to share the Program's work with regional stakeholders. Photo credit: USAID SAEP

- **Issues in the Evaluation of Applications for Changes in Tariffs.** By Year 3, SAEP had supported MERA in Malawi, ESERA in Eswatini (twice), and BERA in Botswana in the evaluation of four applications filed by their incumbent utilities for changes in tariffs. In the course of providing this support, patterns on certain issues began to emerge. As a result, SAEP developed a document that discusses these issues and provides recommendations and a rationale for how they should be considered in a rate case. While two regulatory authorities can legitimately come to different conclusions on the same issue, the approach to evaluating an issue is generally standard.

  The document can be used as a reference guide for regulatory authorities regionally (and beyond) for certain issues that arise in rate cases. It stresses the important issues that all regulatory authorities will encounter in a rate case, and suggests recommended approaches to evaluation, whilst further making actual recommendations in others. Most importantly, the overall theme of the report expresses that there is rarely one answer to a particular rate case question or issue; the important matter is that regulators have a rationale for the answer that they give.

  The substance of the report was completed in Year 3 and is being formatted for dissemination in Year 4. The exact means of dissemination is under discussion and will in part depend upon the state of the coronavirus pandemic.

- **Partnership with the Kafue Gorge Regional Training Center.** In Year 3, SAEP and the KGRTC agreed to partner in sharing SAEP's training materials and lessons learned with SADC members. The KGRTC is a center of excellence in energy technologies constituted by the SADC energy ministers and is mandated to facilitate sustainable energy development for transformation in the SADC region. SAEP has been in discussions with the center to host SAEP's learning practice guides and energy related training and workshop materials on its digital platform during and after the tenure of the Program. Sharing lessons learned from SAEP's various activities through a digital platform will enable increased knowledge transfer, easier access and a broader reach across all energy stakeholders within the SADC region. SAEP has kicked off a project plan for implementation, envisioned towards the end of 2020.

Program Management, Finance, and Operations

3 PROGRAM MANAGEMENT, FINANCE, AND OPERATIONS

In Year 3, SAEP's PMO continued to implement standard operating procedures to support technical delivery, manage counterpart and stakeholder relationships, and disseminate lessons learned throughout the region. Additionally, SAEP's Finance and Operations (F&O) team, with close coordination with the Deloitte Home Office, played an important role in managing program operational needs, including procurement, office administration, security, IT support, and logistics.

PMO & Finance/Operations Highlights

- Developed and submitted various USAID deliverables such as the Year 2 Annual Report, Year 3 Work Plan, status reports and M&E tools and processes
- Successfully conducted a COVID-19 survey to develop new activities that support and help counterparts manage business continuity and prepare for similar crises
- Increased USAID and Power Africa visibility through 50 social media posts and five blogs
- SAEP received an email commendation from The South African Revenue Service (SARS) for being fully compliant on all payroll tax obligations for the tax year ending on 29 February 2020
- Developed a return to the workplace plan and provided regular guidance and directives to all project staff to ensure their safety and wellbeing during the COVID-19 pandemic as SAEP staff continue to work remotely
- Released the Power Africa Madagascar Mini-Grid Development Grant RFA on 27 May 2020

3.1 SAEP Program Management Office

The PMO is an organizing body focused on integrating, facilitating and coordinating the core and cross-cutting program functions such as Knowledge and Performance Management, Communications, Monitoring and Evaluation (M&E), Environmental Monitoring and Gender Integration. In January 2020, the PMO held a strategy workshop where the team looked at lessons learned from Year 2 and applied the SWOT analysis to develop a Year 3 PMO action plan that focuses on more efficient delivery of tasks. The following section provides an overview of major PMO deliverables from Year 3:

Figure 27: The SAEP PMO team during a strategy workshop in January 2020. Photo credit: USAID SAEP

Knowledge Management. All of SAEP's technical outputs and deliverables have been archived in the required platforms like the SAEP shared drive, USAID Development Experience Clearinghouse (DEC) and USAID Development Data Library (DDL). The PMO also ensured that relevant approved deliverables are correctly linked on the deliverable tracker and accessible to USAID.

Project Management Support. PMO continued to use the project management system tool "Wrike" in successfully tracking all Program activities from planning to implementation phase and archiving all activity-based deliverables.

[11] Previous divider photo: Basic SHSs provide households with sufficient electricity for lighting, mobile charging and radio use. SAEP provides operational support to SHS companies in Malawi. Photo credit: USAID SAEP

Monitoring, Evaluation and Learning. Through the support of the PMO all set targets for the year were systematically tracked and reported as per USAID standard and platforms.

SAEP Year 3 Work Plan. The PMO facilitated the development of the Year 3 Work Plan and submitted the first draft to USAID on 30 August 2019. SAEP received feedback from USAID on the first draft and worked on all comments and recommendations, which led to the final approved Year 3 Work Plan on 16 October 2019.

SAEP Year 4 Work Plan. The Year 4 Work Plan planning process kicked off in June 2020 with the PMO leading the process of compiling planned activities. The PMO worked with each activity manager to ensure all proposed activities were in line with the Program objectives for Year 4. A first draft of the Year 4 Work Plan was provided to USAID on 30 September 2020.

The Performance Management and Evaluation Plan (PMEP). As the delivery of SAEP work continues to be of a high demand across our focal region, the PMO continuously updated the PMEP in alignment with USAID required standard. In achieving this, the team worked closely with the USAID COR in improving and approving the SAEP PMEP. The PMEP guides the SAEP team in the implementation of the Program like monitoring activities, evaluating the performance of the Program and using lessons learned to improve Program performance. The plan also includes a learning component and builds off the Power Africa Monitoring, Evaluation and Learning (MEL) Plan. The SAEP PMEP proposes indicators against each of the expected program outcomes. It also describes the processes that SAEP will use to perform M&E throughout the life of the program. Each indicator has a Performance Indicator Reference Sheet (PIRS) located in Annex 3 and Annex 4 of the PMEP. There is also a Performance Indicator Targets (PIT) table, which includes the indicators and targets for the activity. USAID approved the current updated version 7 on 11 June 2020.

The Environmental Mitigation and Monitoring Plan (EMMP) / Catalyzing Local Opportunities Fund (CLOF). Since the onboarding of the SAEP Environmental Specialist**,** the PMO has been able to better deliver on environmental compliance. The approved EMMP and CLOF Management Plan were regularly updated with current environmental laws and regulations guiding the region. The EMMP ensures that the ADS 204.3 requirements for incorporating and monitoring appropriate mitigation measures is incorporated into all program activity. This EMMP also specifies how Initial Environmental Examination (IEE) conditions and mitigation measures will be implemented and monitored. In Year 3, version 2 of the EMMP was strengthened with language on polices, which does not need a formal approval from USAID as the processes still remains the same.

Gender Integration. In Year 3, SAEP updated the Gender Action Plan to reflect as a roadmap for practically implementing gender mainstreaming across the region. The action plan is designed so that it aligns to planned program activities, is catalytic of the Program goals and presents cost-effective solutions. SAEP also continued to implement gender-specific activities that focus on promoting female leadership in energy institutions, improving female empowerment and increasing access to electricity. SAEP engaged with key stakeholders on the importance of women empowerment and understanding how those institutions are currently considering gender equality

Figure 28: The Gender Advisor participated in the Women in Energy Conference during the Africa Energy Indaba in November 2020 and gave a presentation titled: Gender balance, the path to parity in the energy sector. Photo credit: USAID SAEP

in their operations and service delivery. Refer to the Malawi and Regional country sections of this report for more details.

The Branding and Marking Plan. USAID approved SAEP's updated Branding Implementation and Marking Plan on 18 September 2020. This document, dated 31 July 2020, is an updated version of the previous plan dated April 2017.

Quarterly Program Performance Reports. Since the inception of the Program in March 2017, 10 quarterly reports have been compiled and submitted to USAID. The Quarterly Report for Q4 of FY20 forms part of this annual report.

Biweekly Status Report. SAEP has been reporting on activities and outcomes every two weeks since 12 April 2017. The template for this reporting has been iteratively improved over the course of the years of implementation, and the report itself has become instrumental in keeping USAID and the wider group of Power Africa team members informed on SAEP's work by outcome and/or country. In Year 3, the template was slightly formatted to improve readability.

Power Africa Field Update. SAEP provided inputs to Power Africa's December 2019 report. The Field Update gives an overview of the work that goes into transforming the African continent's energy sector. It is the cornerstone of the Coordinator's Update that gets distributed to a much wider audience in the USG and is read by many key decision makers in other USG agencies who need to be informed of Power Africa's key successes and challenges.

Trip Reports. SAEP provided feedback on all duty travel by drafting reports after trips, which are shared with USAID and Power Africa in a continued effort to ensure uniform access to information is available to as wide a group as possible.

Communication Deliverables. The SAEP Communications team developed and implemented various communication tools such as country fact sheets, topic-specific document releases, social media content and success story write-ups. The last two success stories were approved by USAID on 17 September 2020 together with FY20 Q3 report.

3.1.1 STAKEHOLDER ENGAGEMENT

Given SAEP's regional focus, the coordination of partnerships and alliances is critical to implementing activities and gaining stakeholder buy-in. In Year 3, SAEP continued to set the stage for sustained collaboration, coordination and knowledge-sharing as well as build on new relationships and networks with the private and public sector to accomplish set targets and amplify the Program's successes. SAEP has maintained established partnerships and identified new local, national, and regional institutions that SAEP can work with to tailor and implement core activities.

The continued engagement with counterparts in jointly designing activities will be highly prioritized. As such, these partners named throughout SAEP's technical approach, are not just serving as counterparts for technical assistance, but are also committing their own resources and work alongside SAEP for activity implementation.

3.1.2 COMMUNICATIONS AND OUTREACH

In Year 3, SAEP continued to document and communicate the Program's purpose, goals and successes from Program start-up to the present. The documents developed served as promotional material for events and outreach activities and content for social media platforms. Focus areas included increasing the Program's social media and alternative media (blog) presence, by creating short write-ups and blog posts on successes achieved, implementing processes for Program-specific communications and ensuring

impact resulting from activity delivery is appropriately conveyed. SAEP also built strong relationships with the Power Africa Communications team and the respective USAID Document Outreach and Communication (DOC) offices. The following is an overview of major activities and outcomes from Year 3:

Social Media Content Plans: On 5 May 2020, SAEP received social media guidelines from Power Africa in order to streamline social media efforts. In an effort to proactively share ideas with Power Africa, the Communications team prepared three social media plans during the course of Year 3, which were approved by Power Africa.

Blog Posts: During Year 3, the Communications team drafted the following blog posts, which were posted on Power Africa's blog, Medium:

- Energizing Voices – Camille André-Bataille, CEO of ANKA Madagascar, which went live on 22 October 2020
- Malawi's 350MW Hydropower Project Reaches Major Milestones in 2019, which went live on 6 February 2020
- Performance Management Tweaks Boost Power Generation in Malawi, which went live on 29 July 2020
- Utility Management in a Time of Crisis, which went live on 21 August 2020
- Improving Electricity Utility Customer Management in Mozambique Through Human-Centred Design (in both English and Portuguese), which went live on 16 September 2020

Figure 29: Screenshot of an SAEP blog published on Medium.

Facebook, Twitter and Instagram: During Year 3, the Communications team prepared around 50 social media posts, of which 44 were posted by Power Africa, three by USAID/Madagascar, two by USAID/Mozambique and one by USAID/Southern Africa. In the case where Power Africa was the original publisher of the content, the relevant mission amplified the post and vice versa. The topics on which SAEP prepared social media included:

- Announcement of the 350 MW Mpatamanga Hydropower Project developer tender launched towards the end of 2019
- The Botswana's Rooftop Solar (RTS) guidelines in celebration of Energy Awareness Day on 22 October 2019
- Zambia's geospatial model, in celebration of International Geographic Information Systems (GIS) Technology Day on 13 November 2019
- The student field trip that took place in the first week of November 2019 in Madagascar where 41 engineering students of the Polytechnic School of Antananarivo experienced hydroelectricity engineering in practice

- The announcement of the 350 MW Mpatamanga Hydropower Project's Request for Proposal (RFP) launch date and webinars
- The launch of the 350 MW Mpatamanga project sponsor RFP
- The Malawi RTM document release
- Good news stories from the SHS Kick-Starter grantees:
    - Yellow electrifying 10,000 households in Malawi under two years
    - Yellow's salesforce standing at 80 agents and actively recruiting more agents to help increase energy access in Malawi
    - SolarWorks! piloting the use of commercial products, including domestic sewing machines, hair clippers and Pay-As-You-Go systems and fridges
    - Vitalite opening a new sales and service center in Ntcheu in southern Malawi
    - SolarWorks' new shop opening in Michinji, Malawi
    - Yellow's increasing number of female sales agents
    - Zuwa Energy opening new branches in Blantyre and Mzuzu to increase their reach increase access to solar energy for more people in Malawi

- The announcement of the Madagascar mini-grid development grant RFA
- The Madagascar mini-grid development grant Q&A webinar
- Malawi RTM tool and the four-part video tutorial on how to use this tool
- Social media posts to support EGENCO's increased performance blog post
- Social media posts to accompany the Utility Crisis Management blog
- Social media posts to accommodate the EDM HCD blog post, which were also translated into Portuguese

LinkedIn. The SAEP LinkedIn page is a platform for sharing timely program updates including, but not limited to, job postings and grant opportunities and provides SAEP with an engaging, up-to-date digital presence. During Year 3, the LinkedIn page was regularly updated with vacancy announcements, the sharing and amplifying of other posts and SAEP's own social media content. By the end of September 2020, the SAEP LinkedIn page had 2,900 followers, which is an increase of 2,779 from last year's September follower count of 121.

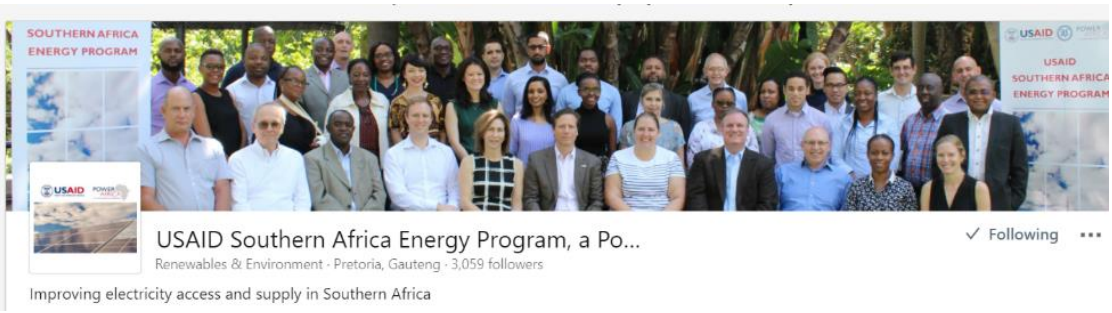
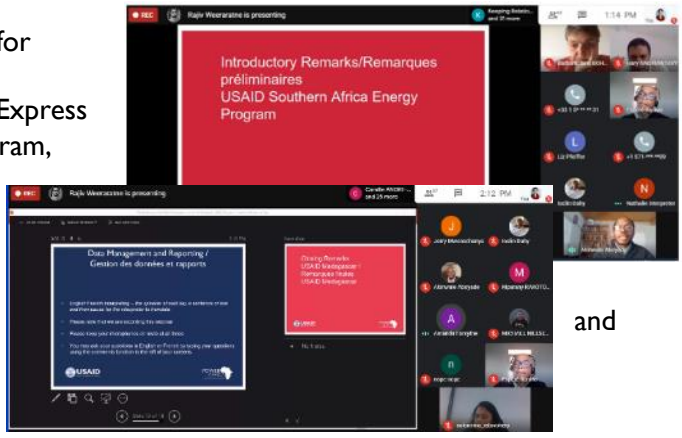


Photo Database. During Year 3, the Communications team contacted developers under the REIPPPP Bid Window 3.5 and 4 to organize access to project sites for photo opportunities. SAEP then recruited a photographer tasked with supplying photos suitable for publication on websites, social media and printed marketing materials. The photographer traveled to the Western and Northern Cape, South Africa to take photos of three sites i) Excelsior, a wind project, ii) Konkoonsies II and, iii) Aggenys, which are both solar PV projects. These photos were uploaded to the SAEP Google Drive and shared with Power Africa on Flickr.

Events. During the course of Year 3, SAEP announced the Madagascar mini-grid development grant on 27 May 2020 and hosted a virtual Question and Answer (Q&A) webinar on 15 June 2020 through Google Meet. The Communications team helped to prepare for these activities by:

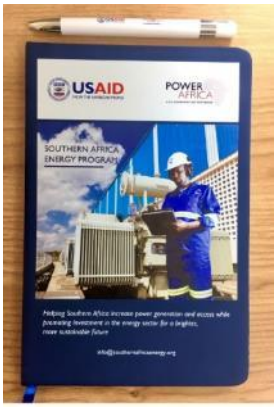
- Developing advertisements and arranging for publication in two of Madagascar's major newspapers i) Midi Madagasikara and ii) L'Express
- Drafting a one-pager about the grant program, which was posted on GOGLA's website
- Drafting social media content and targeted emails distribution to announce the RFP
- Developing and distributing invitations and reminder emails
- Developed talking points for USAID/Madagascar and SAEP's COR
- Creating a webinar link



Branding Implementation Plan and Marking Plan. Updated SAEP's branding and marking plan, which USAID approved in September 2020

Visual/Digital Public Relations (PR) Material. The Communications team developed and published the following visual/digital PR material during Year 3:

- Designed and procured SAEP-branded pens and notebooks for the SAEP team for increased visibility
- Designed and printed a SAEP Madagascar banner that started being used 6 December 2019. The banner will serve as a marketing tool at future SAEP events in Madagascar
- Developed and distributed a targeted document release about the updated Malawi Route-to-Market geospatial enabled tool for SHS companies
- Uploaded a four-part video tutorial showing SHS companies how to use a geospatial enabled data and visualization tool, also called the RTM tool, on USAID's Development Experience Clearinghouse (online repository) and shared the links to these files with SHS companies through a targeted email document release



- Developed three SHS Kick-Starter Program for Malawi Newsletters. The newsletter aims to keep the recipients of the newsletter abreast and informed on the progress of the SHS Kick-Starter Program and shares the grantees' success stories and good news. Recipients of the newsletter include i) USAID/Malawi, ii) the working capital providers, and iii) the grantees under the Program
- Designed certificates for the ZESCO finance and financial modeling training
- Designed certificates for Zuwa's and Vitalite's (grantees under the SHS Kick-Starter Program for Malawi) sales force effectiveness training
- Developed a concept note and storyboard for a three-minute success story video of SAEP's support to the off-grid sector in Malawi, which will be finalized in Year 4

Fact Sheets. During Year 3, the Communications team finalized the following country fact sheets, which were also approved by USAID:

- Country Fact Sheet for Angola in both English and Portuguese
- Country Fact Sheet for Mozambique in both English and Portuguese

Success Stories. The following success stories (full stories are available in Appendix A) were developed by the Communications team and approved by USAID during Year 3:

- Mozambique–Malawi Interconnector to Improve Regional Energy Integration
- Southern Africa Examines U.S. Strategies on Power Quality and Balancing
- Malawi's Generating Company Performance Transformation
- The Regional Electricity Regulators Association of Southern Africa Adopts Digital Training
- Connecting Solar Home System Companies and Customers
- Bringing Lesotho's Electricity Company's Strategic Vision to Life
- Improving Electricity Utility Customer Management in Mozambique through Human-Centered Design
- Strengthening Angola's Power Transmission Company's Ability to Manage a USD $ 500 million Transmission Project

Videography. During Year 3, SAEP appointed a videographer based in Malawi to document an interview with EGENCO's CEO, William Liabunya, to codify EGENCO's strategic direction through a video[12] to share across the organization. EGENCO has notified SAEP of the

[12] The video is available on EGENCO's YouTube channel: https://www.youtube.com/watch?v=qmfYTIiEEv4&t=2s

success of the video message affirming changes in behavior of the company, specifically on gender-related issues.

Copy-Editing and Formatting. The Communications team continued to review and edit major deliverables in various publication forms for readability, spelling, grammar, accuracy, punctuation, and consistency.

3.1.3 PROGRAM PERFORMANCE MANAGEMENT

The program performance management function is an essential aspect of the PMO. Its function involves coordinating interrelated tasks ranging from knowledge management services to program management support activities. These tasks encompass tracking and monitoring of performance of SAEP activities and of activity-related documents and deliverables. The following is an overview of major activities and outcomes from Year 3:

Knowledge Management. The Project Performance Specialist tracked the progress of SAEP's Year 3 Work Plan activities and coordinated updates to the status of activities using the Wrike project management tool and documented updates including final deliverables on the Master File Tracker shared with USAID/Southern Africa. Deliverables cleared for public access were uploaded to the USAID Development Clearinghouse (DEC).

Project Management Support. The Project Performance Specialist continued to provide regular training and support to the technical and finance and operations team on the effective use of Wrike.

Work Plan Revisions. The Year 3 Work Plan went through revisions every quarter to incorporate updates and changes to the FY20 activities. These revisions and amendments included the addition of new COVID-19 support activities.

Monitoring and Evaluation. In Year 3, the M&E team continued providing the required support to the communications and technical teams to ensure the timely production of the various reports and requests that were made. The M&E team maintained up-to-date status of transactions and calculated performance indicators for SAEP biweekly and quarterly reports and updated the required Power Africa Information systems such as PATT, PAIS, DIS and TEAMS, and other reports as needed.

Support with Surveys. Through SurveyMonkey, the M&E team assisted the technical teams to develop and analyze the following surveys:

- SAPP Study Tours to the U.S.: Post-Study Tour Evaluation
- Impact of COVID-19 on SAEP Counterparts
- SADC Energy Institutions Gender Mainstreaming
- SAEP–RNT Collaboration Survey
- RNT PIU Capacity Building Strategy and Training Plan
- Virtual Training on Operating in an Interconnected System: Pre-Training/Workshop Evaluation Form

Updating of Performance Management and Evaluation Plan (PMEP). In Year 3, the PMO team updated the Performance Management Evaluation Plan (PMEP) and submitted it to USAID. The last updated plan was approved by the USAID on 11 June 2020. The updated PMEP included the following changes:

- Update of the existing Performance Indicator Reference Sheets (PIRS) in Annexure 4 and 5
    - Year 1 and 2 indicator actual numbers on the PIRS table

    - Updating of FY20 Q1 and Q2 actual numbers
    - Revision of the Year 3, 4 and 5 and the project lifetime indicator targets
    - Updated training targets for Year 3
- Addition of Power Africa 2.0 indicators to Annexure 5
- Replaced TraiNet with TEAMS, which is the new USAID reporting system for training information
- Included the quarterly updating of PAIS and DIS with SAEP data
- Updated the data quality assurance section to include the data verifications that will be done frequently on each of the indicators
- Included the usage of Wrike as the project management software that SAEP is using to manage and keep track of the implementation of all the Program activities
- The results framework has been updated to include the new Power Africa indicators

Quarterly Reporting Requirements. As part of USAID and Power Africa reporting, all implementing mechanisms are required to upload their reported data for performance indicators on the standard USAID and Power Africa reporting platforms. In Year 3, the PMO team was able to adhere to these requirements and ensure that SAEP information is up to date. The standard reporting platforms are:

- DIS – Development Information Solution
- PATT – Power Africa Transaction Tracker
- PAIS – Power Africa Information System
- TEAMS – Training & Exchanges Automated Management System

Data Quality Assessments. In Year 2, the PMO team began planning for data quality assessments (DQAs) on some of the indicators that SAEP had been previously reported, and in Year 3 this plan was eventually implemented. This resulted in DQAs being done in three countries namely, Malawi, Mozambique and Zambia. The purpose of the data verifications was to quality assure the data that SAEP had used in reporting. The processes involved two things: firstly, a periodic desk analysis of the indicator data received in order to ensure the quality of data received through program delivery; and secondly, a DQA exercise to validate the data received.

The first set of DQAs were done in Q1 of Year 3 with Zambia and Mozambique. In Q2, DQAs were done in Malawi on the data received from the Kick-Starter grantees. Unfortunately, due to COVID-19 and the resultant travel restrictions, the team was unable to carry on with more DQAs. The plan going forward is to begin with the assessments again as soon as the travel restrictions have been reduced.

3.1.4 ENVIRONMENTAL MITIGATION AND MONITORING

SAEP updated the EMMP in June 2020 to include additional details on the grant requirements as the grant section in the EMMP did not address projects that did not require an ESIA to be legal in their home countries. The additional requirement made provision for grant applicants to develop EMMPs, in the event where an ESIA was not required by a country's environmental administration.

As the Program moved to implementation with the Year 3 Work Plan approved in September 2019, SAEP continued to operationalize the environmental compliance monitoring system. At the activity level, SAEP's Environmental Specialist worked with activity managers to assess potential negative environmental impacts and to develop mitigating actions. As per the approved EMMP, the process continues to include

appropriate environmental due diligence activities as codified by an Environmental Review Form, including aligning activities with existing performance standards and ensuring activities comply with national and international environmental frameworks. As of Year 3, all of SAEP's SOWs include paragraphs committing to compliance with environmental and social impact requirements. Additional assistance beyond the standard requirements was performed on the following activities:

Figure 30: Environmental compliance training for SHS Kick-Starter grantees in Lilongwe in January 2020. Photo credit. USAID SAEP

- In Malawi, SAEP undertook environmental and social capacity building workshops with SHS Kick-Starter grant winners for environmental compliance to support the SHS companies in meeting environmental leading practice standards
- SAEP incorporated environmental and social requirements in the Madagascar development grant terms of reference for the CLOFT tenders, tailor-made to Madagascar's environmental legislation and the SAEP EMMP
- In Angola, SAEP's environmental team contributed to increasing the RNT PIU's environmental management skills, which included assisting and advising RNT on environmental and social matters related to the 400 kV transmission line project. Highlights from Year 3 were:
    - Assisted with development of a preliminary waste management plan, preliminary social benefits plan, expression of interest for the RAP implementation consultant, ToR for the RAP implementation consultant and the Owner's Engineer, draft project roadmap and RACI matrix for the environmental and social component of the PIU, and an environmental and social management system data room for RNT
    - Presented a 12-part series of workshops on the environmental and social management system, the role of the environmental and social management unit in the PIU and the conditions of the ESMP
    - Supported and advised RNT on communication with the AfDB, project risks, methods to deal with the Ministry of Environment in getting the environmental licence for the project and potential upskilling and researched training options for the environmental and social components of the PIU
- The Environmental Specialist also investigated the waste cycle for SHS in Zambia to determine if the process to manage waste from the SHS industry is acceptable and in line with best practice. This study has been compiled and in Year 4, the final report will be issued to USAID.

3.2 Finance and Operations

In Year 3, the SAEP Finance and Operations team continued to implement and further refine all processes related to project financial management, compliance and statutory reporting, office administration and security, recruitment and performance evaluation, subcontracting and ICA management, travel and logistics coordination, technology support, and grants management. With support from the Finance and Operations team, SAEP's technical team continued to effectively deliver technical assistance to all regional counterparts.

Figure 31: SAEP Covid-19 Return to Office Plan

On 15 March 2020, the President of South Africa announced a series of travel restrictions due to the COVID-19 pandemic and declared a National State of Disaster. Travel of foreign nationals to South Africa from high-risk countries, including the U.S., was restricted from 18 March 2020. In addition, any foreign national who had visited a high-risk or medium risk country would be restricted from entry to South Africa. SAEP Leadership instructed all South Africa based staff to commence teleworking as of 23 March 2020. The National State of Disaster in South Africa was extended indefinitely and the South African Government implemented a Risk Adjusted Strategy with five (5) risk levels, which would determine at which stage certain economic activities could commence. In response, the Finance and Operations team put in place adaptive measures to provide the team with access to and training on remote working tools and connectivity support to enable a successful teleworking environment. The entire project adapted well to this modus operandi and client delivery continued.

Despite a remote working environment, team members continued to keep in high spirits and engage in team building. SAEP's annual offsite workshop took place over three four-hour sessions in June 2020. The purpose of the sessions was to continue discussions on achieving contract targets, to review the Year 3 work plan, begin preparations for the Year 4 work plan and engage in team building. Deloitte Project Principal, Kathleen O'Dell, gave an interactive presentation on the 12 leadership tenants and how to put each tenant into practice. The Poll Everywhere web-based application was used to gather real-time responses from participants and resulted in lively discussions.

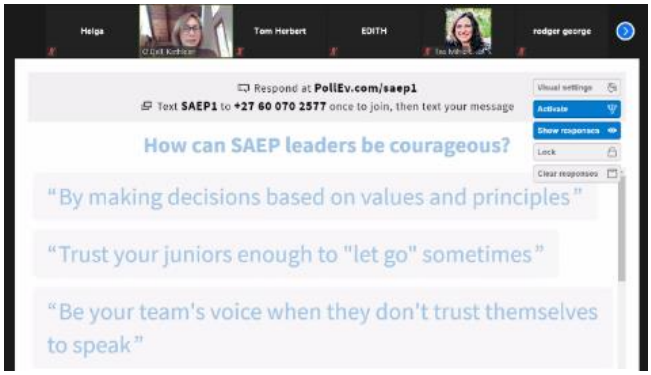


Figure 32: SAEP team leadership training

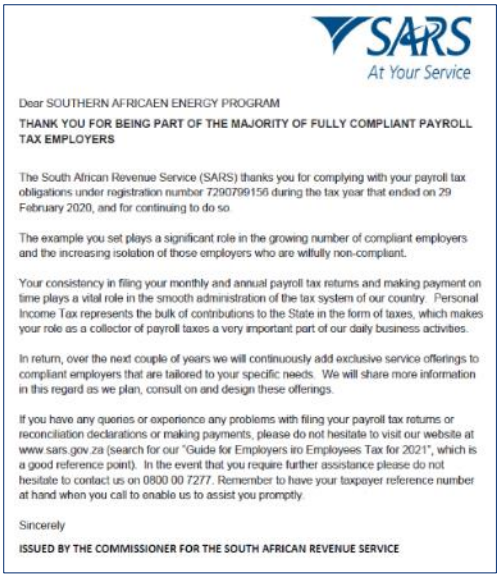
Figure 33: Pretoria Office Desk Partitions

Since the outbreak of the COVID-19 pandemic, Southern Africa regions transitioned through their various risk-adjusted levels and SAEP Leadership and Operations team provided regular, clear guidance and directives to all project staff to ensure their wellbeing and safety. Documents previously compiled by the Operations team such as the SAEP Crisis Management Plan and Business Continuity Plan ensured that the SAEP team was able to take pre-emptive measures and adapt effectively to a rapidly changing environment. While it is expected that national borders will re-open for some level of international travel in the first or second quarter of Year 4, the COVID-19 pandemic is emerging as a prolonged and unique crisis that requires well-developed return-to-work and travel strategies. As the health, safety, and well-being of SAEP staff is paramount, SAEP's Finance and Operations team developed a Return to the Workplace plan that includes measures such as daily screening, wearing of masks, sanitizing, physical distancing and the installation of clear desk partitions that will be put in place to ensure that that the Pretoria-based project office can accommodate the safe and phased return of project staff in the future. SAEP Leadership will evaluate all health and safety information available and consult with the USAID Regional Missions, the Deloitte Member Firms, and the Deloitte U.S. Home Office COVID-19 PMO and Risk Review team to determine when it is safe for all staff to return to the office.

3.2.1 FINANCE AND STATUTORY REPORTING

The SAEP Finance and Operations team is required to adhere to statutory requirements from the South African Revenue Services (SARS), Companies and Intellectual Property Commission (CIPC), South African Reserve Bank (SARB), and the Department of Labor.

SARS acknowledged the Program for the timely clearing of Pay As You Earn (PAYE) and being fully compliant on all other statutory filings for the tax year ending 29 February 2020.The SAEP Finance team submitted all project value-added tax (VAT) returns, responded to audit questions and delivered required additional documentation after which SARS approved all submissions for refund. All VAT submissions to SARS are up to date and the project has received R5,360,012 (USD $337,754) in VAT refunds with R423,400 (USD $24,390) remaining to be refunded by SARS for the period covering October 2017 to September 2020.



SARS
At Your Service

Dear SOUTHERN AFRICAEN ENERGY PROGRAM

THANK YOU FOR BEING PART OF THE MAJORITY OF FULLY COMPLIANT PAYROLL TAX EMPLOYERS

The South African Revenue Service (SARS) thanks you for complying with your payroll tax obligations under registration number 7290799156 during the tax year that ended on 29 February 2020, and for continuing to do so.

The example you set plays a significant role in the growing number of compliant employers and the increasing isolation of those employers who are wilfully non-compliant.

Your consistency in filing your monthly and annual payroll tax returns and making payment on time plays a vital role in the smooth administration of the tax system of our country. Personal Income Tax represents the bulk of contributions to the State in the form of taxes, which makes your role as a collector of payroll taxes a very important part of our daily business activities.

In return, over the next couple of years we will continuously add exclusive service offerings to compliant employers that are tailored to your specific needs. We will share more information in this regard as we plan, consult on and design these offerings.

If you have any queries or experience any problems with filing your payroll tax returns or reconciliation declarations or making payments, please do not hesitate to visit our website at www.sars.gov.za (search for our "Guide for Employers iro Employees Tax for 2021", which is a good reference point). In the event that you require further assistance please do not hesitate to contact us on 0800 00 7277. Remember to have your taxpayer reference number at hand when you call to enable us to assist you promptly.

Sincerely

ISSUED BY THE COMMISSIONER FOR THE SOUTH AFRICAN REVENUE SERVICE

Figure 34: Acknowledgement Letter for Compliance from SARS

Table 3 VAT refunds received by SARS

Project Year	Year 1	Year 2	Year 3	Total
SARS VAT Refund ZAR	R566,236	R1,727,840	R3,489,336	**R5,783,412**
SARS VAT Refund USD	$33,180	$117,710	$211,254	**$362,144**

These funds have been reutilized for project operations and have thus extended the viable duration of SAEP's currently obligated funding as of Year 3. The final employee payroll and tax withholding reconciliations for FY2019 were submitted to SARS in May 2020 and all IRP5 certificates were shared with staff in a timely manner.

The SARB renewed the Program's exemption from Regulation 3 (1) (c) of the SARB Exchange Control Regulations of 1961 for a period of one year ending 13 March 2021. This exception gives Deloitte Consulting Overseas Projects LLC, registered in South Africa as an External Company, the authority to process large subcontractor invoices on behalf of Deloitte Consulting LLP in the U.S. The annual process to obtain exchange control approval, to enable the project to process cross-border regional payments, which expires by October of each year, was renewed by the SARB in September 2020, for another year. The FY2019 Compensation Fund annual return was submitted and SAEP has received a letter of good standing from the South African Department of Labor.

The Finance team worked diligently to finalize all FY2019 transactions and journal entries in the local accounting system and compiled the trial balance report. The Finance team was able to initiate and conduct the required external audit and handle all audit queries and subsequent responses electronically due to the Program's extensive electronic document and file retention policies. The resulting (unqualified) Audited Financial Statements were finalized in July 2020 and submitted to SARS and CIPC by September 2020. The Management Letter written by the auditors that accompanies the audited financial statements highlighted the following areas of operational strength:

- *Management's attitude towards ethics and integrity: Discussions were held with Management and knowledge obtained that Management promotes an ethical culture within the organization. Furthermore, management's constant involvement with employees reveals aspects of the control environment that can be addressed timely. Management has established a Policy and Procedures Manual which sets the tone for employees to follow such as codes of conduct, safety and environmental standards, human resource policies, travel policies and company property. This portrays an efficient control environment.*

- *Segregation of duties: In the course of our audit, we verified supporting documentation for the payment of expenses and operational costs and noted that transactions were initiated by the finance manager, reviewed by a reviewer and finally approved by the DCOP: Finance & Operations. Furthermore, payments on internet banking are loaded by one person and approved by two others. Segregation of duties in this manner portrays a strong control environment and limits the risk of fraud and error.*

- *Periodic reconciliations: We reviewed bank reconciliations and bank statements and confirmed that bank reconciliations are performed on a monthly basis. In addition, creditor recons are performed via the creditor's ledger to ensure that all creditor invoices are paid.*

- *Robust level of authorizations: During our audit of operational expenditure, we noted that various stages of authorizations were in place prior to disbursement of funds. This ensures that the organization's resources are used effectively and greatly reduces the degree of fraud, theft and irregular and wasteful expenditure.*

- *Supporting documents are kept: During our audit of operational expenditure, we were able to vouch a significant proportion of transactions to supporting documents and these had been reviewed by duly delegated personnel prior to payment.*

- *Safeguarding of fixed assets: During our audit of fixed assets, we confirmed by inspection that the company maintains a Fixed Asset Register and updates it as assets are procured.*

3.2.2 PROJECT STAFFING

On 28 February 2020, the SAEP Chief of Party (COP), Craig VanDevelde, left the Program to take on the COP role for USAID's West Africa Energy Program (WAEP) based in Accra, Ghana. SAEP's Deputy Chief of Party-Technical (DCOP-T), Liz Pfeiffer, moved into the COP position on 2 March 2020.

Figure 35: Farewell lunch for outgoing project COP Craig VanDevelde

Deloitte identified and mobilized required resources to support the delivery of SAEP. Please refer to Appendix H for the Deloitte SAEP Organizational Chart. In Year 3, the following Program staffing joined SAEP:

- Thomas Herbert as the Outcome 1 Deputy Lead in December 2019
- Keith Katyora as the Outcome 3 Deputy Lead in December 2019
- Ms. Lerato Libate as the Program Assistant in January 2020
- Ms. Funanani Makhado as the Finance Assistant in January 2020
- Mr. Sabatha Madondo as the Project Performance Specialist in January 2020
- Ms. Leanna (Lea) Diggs as the Home Office Project Coordinator in February 2020
- Ms. Jennifer Ifeanyi-Okoro as the Deputy COP Technical in March 2020
- Mr. Cole Johnson as the Off-Grid Sector Lead under Outcome 4 in March 2020
- Mr. Joao Castro as the RNT Embedded Advisor in September 2020

3.2.3 SUBCONTRACTING

SAEP continued to engage the following subcontractors to provide technical assistance, advisory support and capacity development:

- **Cliffe Dekker Hofmeyr (CDH)**: CDH is a South African law firm with expertise in energy regulations. In Year 3, CDH reviewed Eswatini's public–private partnership policy and also conducted a legal and regulatory review to assess the ability of the private sector to participate in energy generation projects in Malawi and Zambia.

- **Consultec:** Consultec is a Mozambican firm that provides engineering and environmental consulting services. In Year 3, Consultec was subcontracted to ensure that the RNT transmission project adheres to the appropriate environmental regulations. In the third quarter of 2020, SAEP modified its firm-fixed price subcontract with Consultec to adjust for the new working environment in light of COVID-19. This modification allowed the subcontractor to effectively support RNT remotely.
- **Council for Scientific and Industrial Research (CSIR)**: The CSIR is South Africa's premier research and development center. In Year 3, CSIR assisted ESCOM to improve its capacity to manage the integration of grid-scale renewable power assets into the national grid. CSIR continues to assist ESCOM develop and revise system plans and operational practices to improve the utility's readiness for integrating vRE.
- **CrossBoundary:** CrossBoundary provides transaction advisory support and designs go-to-market strategies across Africa for SHS and mini-grid providers and investors. In Year 3, CrossBoundary continued to advise the Government of Malawi on the 350 MW Mpatamanga Hydropower Project in Malawi. CrossBoundary also supported SAEP's efforts to train ZESCO personnel on power project finance principles and financial modelling of generation and transmission assets.
- **Deloitte South Africa:** Deloitte South Africa provides professional and administrative personnel to support project implementation in many areas of key delivery In Year 3, Deloitte South Africa has been critical in supporting SAEP technical delivery in Mozambique and Angola. This has included supporting EDM to implement HCD, improving the conditions for scaling the off-grid energy market in Mozambique, and engaging ENDE in Angola.
- **Engage Energy and Engineering**: Engage Energy and Engineering is a South African engineering firm specializing in improvement of industrial processes through efficiency engineering. In Year 3, Engage Energy continued to assist the EWSC in designing an energy efficiency program that enables the utility to deliver water with a reduced electricity demand. Engage Energy assessed the potential energy efficiency gains from the utility's operations and from equipment retrofit. The resulting reductions in electricity costs will help reduce the pressure on user tariffs, while enhancing the quality of services.
- **Fluxx:** Fluxx provides key software support in managing SAEP's grants management information system and thus automating the entire program.
- **Geometric Talks:** Geometric Talks is a Portuguese engineering firm. In Year 3, Geometric Talks provided transmission and substation engineering assistance to assist RNT in implementing the 400-kV transmission line project in Angola. The subcontractor initiated and helped advance the procurement of an Owner's Engineer. In the third quarter of 2020, SAEP modified its firm-fixed price subcontract with Geometric Talks to adjust for the new working environment in light of COVID-19. This modification allows the subcontractor to effectively support RNT remotely.
- **GreenMax Sustainability and Finance:** GreenMax Sustainability and Finance is part of a group of international clean energy investment advisory and management-consulting firms. In Year 3, GreenMax assisted the MNRE of Eswatini to develop an action plan for the implementation of their 2018 National Energy Efficiency Policy. This included establishing a baseline to inform a monitoring and evaluation framework, formulating supporting strategies for each policy measure, and designing high-impact measures to meet set targets
- **McKinsey:** McKinsey provides management consulting in power sector planning, energy policy, and program strategy. In Year 3, McKinsey continued to support off-grid work in Malawi, Zambia and Mozambique. This support included providing technical assistance to the Malawi SHS Kick-Starter companies, supporting the OGTF secretariat, and updating the RTM geospatial tool and database.

- **Strategic International Advisory (SIAL):** SIAL provides specialist utilities and infrastructure advisory services. In Year 3, SAEP signed an indefinite-delivery/indefinite-quantity (IDIQ) subcontract and an accompanying task order with SIAL. The task order builds off the work that SIAL was doing in Zambia under its firm-fixed price subcontract. Under the IDIQ, SIAL worked on developing production optimization tools and transmission pricing for ZESCO. SIAL also supported ZESCO to define requirements, collect data, and develop methodology and modelling for estimating ancillary pricing services

See Appendix H for a comprehensive list of resources mobilized for short-term technical assistance.

3.2.4 PROCUREMENT

SAEP continued to follow best practices through the implementation of efficient procurement processes. Procurement assignment from Year 3 were:

- Photographer to capture footage of three IPP projects in South Africa in October 2019
- Videographer to film SFE training for SolarWorks! on 26 February 2020 in Lilongwe, Malawi
- English to Portuguese translation services to assist with all translation requirements of technical delivery in Angola
- English to French translation and interpretation services to assist with all translation and interpretation requirements of the Madagascar Mini-Grid Development Grant
- As part of the COVID-19 office readiness plan, clear desk screens were procured and installed at the Pretoria office
- Procured Microsoft Teams and SharePoint licenses for the implementation of a data room at RNT
- Printed SAEP branded notebooks and pens

3.2.5 GRANTS

Solar Home System Kick-Starter Program for Malawi
In Year 3, the SAEP PMO M&E team conducted two data verification exercises with the SHS Kick-Starter grant winners SolarWorks! Vitalite, Yellow Solar and Zuwa Energy as well as with another SHS company, Green Impact Technologies, in Lilongwe, Malawi. The objective of the exercise was to verify whether the actual systems/products that are being sold by the grantees meet all the technical requirements as stipulated in the RFA and their grant agreements. Compliance checks were also conducted on new SHS products that grantees requested to include as part of the grant program. The team also conducted a system check on the technical abilities of companies' CRM databases, and verified connections data previously reported.

On the subsequent visit, the Gender Advisor facilitated fact-finding discussions on how to integrate gender issues within the grant program. The Environmental Specialist provided support for the completion of the grantees' EMMPs and presented on environmentally friendly practices and approaches that the grantees would need to adhere to and consider while under the grant.

From April 2020, the COVID-19 global pandemic caused disruptions in the SHS industry in Malawi. Given the impact on grantee operations and to ensure SHS companies have access to adequate grant funding, while still maintaining their ability to meet the agreed-upon sales targets, SAEP made the following adjustments to the grant:

- *Adjustment 1: New Milestone: Submission of a Business Continuity Report*
  Companies are to submit a business continuity report describing the COVID-19 impact on the company, including overall impact on sales operability; revenue collection and customer service;

supply chain disruptions; working capital/cash management; employee mobility, as well as customer health and safety. The report must also highlight the company's response to each of the impacts described above. Companies must share their pre-COVID-19 2020 outlook on unit sales compared with the current outlook of unit sales for the remainder of 2020. The company must describe how they intend to use the early disbursement of this new milestone

- *Adjustment 2: Extending the Overall Period of Performance for the Results-Based Funding Grant*
  The overall period of performance for each company to achieve the total sales unit target will be extended by an extra quarter (Q8), from April 2021 to the end of June 2021

The adjustment to the grant allows SAEP to provide grantees a percentage of Milestone 6 and 7 forecasted sales as an advance. The grant agreement was amended and signed by all grantees. SAEP has processed the advance payments for the new milestone after submission and approval of the business continuity reports.

During Year 3, grantees submitted three quarterly reports, data verification reports and payment requests through the Fluxx portal. The total number of connections achieved, through the sale of solar home systems, in Year 3 was 39,987 and the total amount of grant funding dispersed was USD $477,043.50. The PMO M&E, the Grants Specialist and relevant technical team members reviewed and approved the reports before releasing payments.

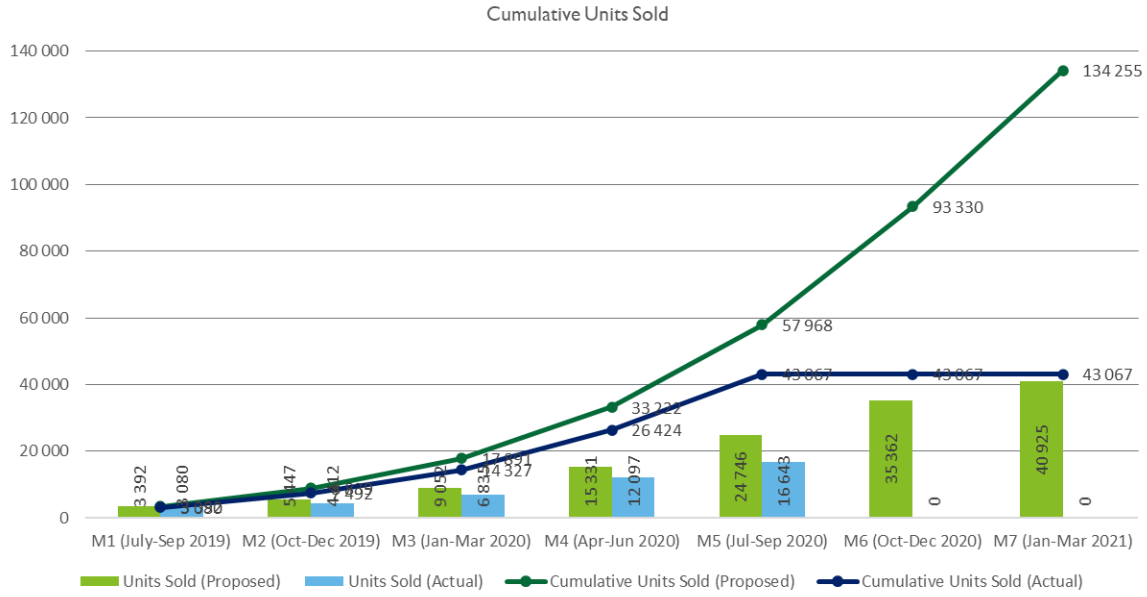


Figure 36: Cumulative SHS Units Sold

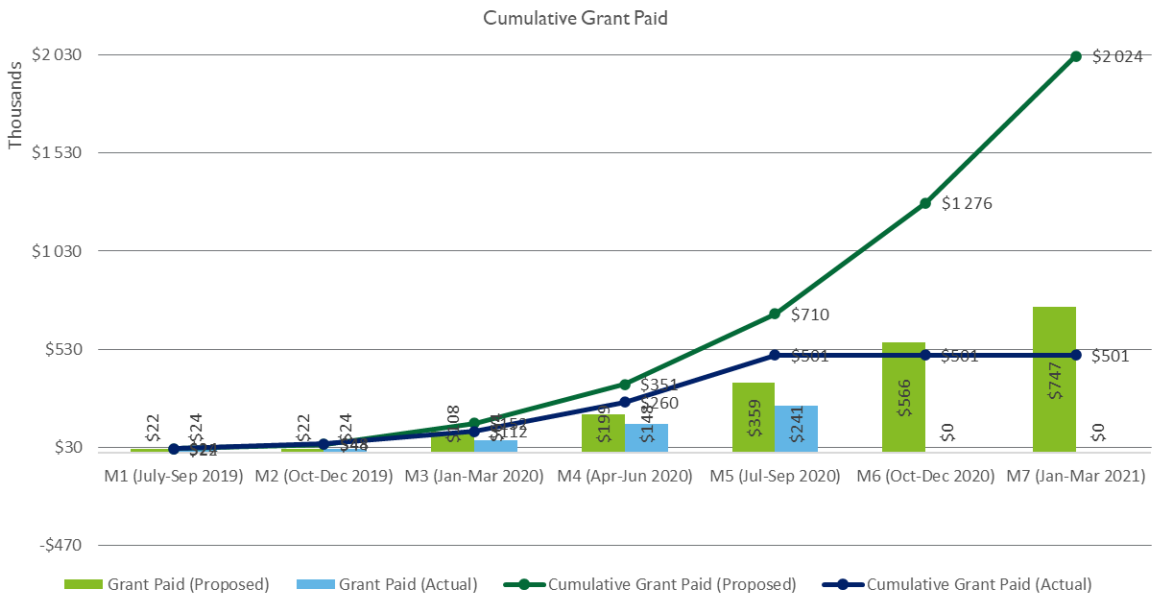


Figure 37: Cumulative SHS Grant Funding Paid

Madagascar Mini-Grid Development Grant

The SAEP Grants team and OC4 technical team developed the Request of Application (RFA) document for Power Africa's Mini-Grid Development Grant in Madagascar. SAEP and USAID committed up to USD $1.5million to support mini-grid developers who have obtained concessions from the Agency for Rural Electrification Development (ADER) to build mini-grids but were unable to bridge the funding gap to reach FC; while developers with existing mini-grids could use the grant to fund the infrastructure required to connect additional households to the grid.

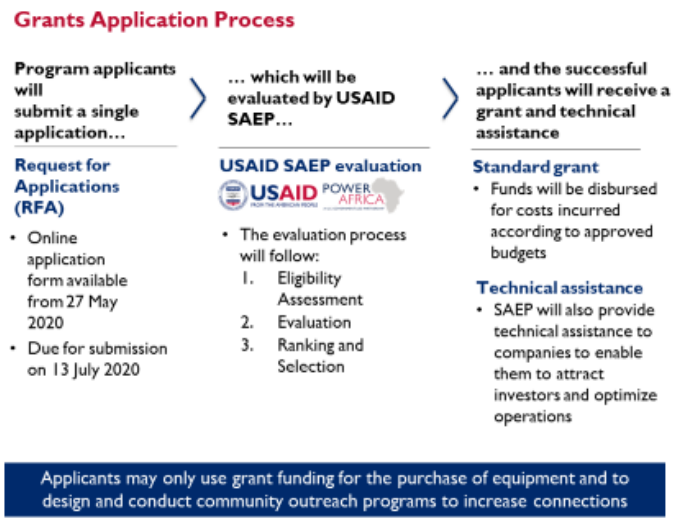


Figure 38: Madagascar Mini-Grid Application Process

The RFA was released through various channels including social media and Malagasy newspapers on 27 May 2020; the deadline for applications was 13 July 2020.

Figure 39: French and English Mini-Grid Q&A

A French and English Q&A webinar for prospective applicants took place on 15 June 2020. In total, 42 participants attended the multilingual event aimed at answering questions about the grant. On 29 June 2020, SAEP disseminated responses to 45 questions received from grant applications via email and also posted the responses on the Fluxx grants management portal. By the application deadline, 17 companies had submitted applications for the Madagascar Mini-Grid Development Grant.

The SAEP Grants team commenced the evaluation process on 14 July 2020. The process consisted of three stages: i) Eligibility: ensured that applicants met all minimum eligibility criteria. If an application was considered complete and met the minimum eligibility criteria, the application was moved on to Stage 2; ii) Evaluation: the evaluation committee met to review and score the qualified applications and iii) Ranking and Selection: applicants needed to score 70 points or higher to be considered for grant funding.

Of the 17 applications, six applicants received an average overall score higher than 70, qualifying them to be considered for grant funding. The Selection Committee had further questions for the top six shortlisted applications and reached out to them with written questions for clarification. Additional virtual clarification meetings were held to validate responses.

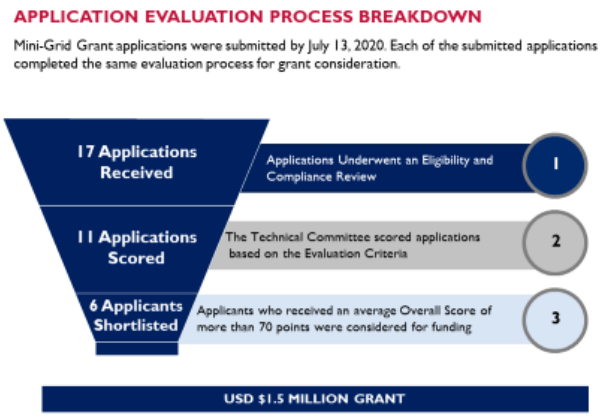


Figure 40: RFA Evaluation Process Breakdown

Based on the responses to the questions for clarification, the Selection Committee concluded that the applications needed to be re-scored based on the new information provided. The Selection Committee gained a more holistic understanding of the capacity of applicants to deliver the activities and outcomes proposed which provided greater clarity on each proposal's level of mini-grid sustainability, completion timeline, demonstrated technical experience and strategies to address low levels of affordability.

Applicants were re-ranked according to their updated scores and the final grant award recommendations were presented to USAID on 12 September 2020. The total grant award amount recommended by SAEP is USD $1,262,908.53 allocated across three companies for a total of 5,216 connections.

1. **Autarsys Madagascar SARL**

Autarsys Madagascar SARL requested the grant for the electrification of three settlements in Befandriana, Edjeda, and Fatodrevo with new hybrid solar mini-grids with battery. The sites will have a total PV capacity of 192 kWp and 582 kWh of battery storage capacity. The Befandriana concession was issued through an unsolicited bid process while Edjeda and Fatodrevo were issued as part of AP2 (the second call for projects by ADER) storage.

2. **Henri Fraise Fils & Cie**
Henri Fraise requested the grant to build a new 100 kWp solar mini-grid with 360 kWh lead acid battery, 130 kVA genset backup and a 4 km low voltage line at Manaratsandry village (Boeny region close to Mahajanga). This project is part of the Presidential 100 Villages for Rural Electrification Project of 2017.

3. **Hydro Ingenierie Etudes Et Realizations (HIER)**
HIER is requesting the grant to extend the distribution network of the 560-kW hydro-powered mini-grid in Tsarazaza. The concession was awarded to the developer following a rapid and significant decline in the quality of service of a diesel-based mini-grid. HIER was selected by the Government of Madagascar based on their capabilities to take over the concession and build a new hydro plant to replace the diesel genset in operation.

Table 4 Madagascar Mini-Grid Development Grant Award Recipients

No	Applicant	Connections Proposed	Total Project Cost	Ave. CPC	Funds Requested	Proposed Grant Amount	Leveraged Ave. CPC
1	Autarsys Madagascar Sarl	2,211	$595,312.53	$269.25	$295,312.53	$295,312.53	$133.57
2	Hydro Ingenierie Etudes Et Realisations (H.I.E.R)	1,500	$1,642,322.26	$1,094.88	$667,596.00	$667,596.00	$445.06
3	Henri Fraise Fils & Cie	1,505	$600,000.00	$398.67	$300,000.00	$300,000.00	$199.34
	Total	**5,216**	**$2,837,634.79**	**$544,03**	**$1,262,908.53**	**$1,262,908.53**	**$242.12**

The SAEP Grants team conducted due diligence reviews of the applicants and applicants have completed a pre-award questionnaire so that SAEP can assess whether a potential recipient can successfully comply with the financial, management, and programmatic requirements of the grant. The grants packages have now been approved by USAID and are being finalized for award in October 2020.

3.3 CHALLENGES AND RISKS

During Year 3, SAEP encountered several significant challenges. SAEP continuously tracked these issues and mitigated much of their associated risk. The program will continue to consider potential challenges and risks in Year 4.

Challenges:

- **Coronavirus Pandemic**. The coronavirus outbreak and resulting lockdown and travel restrictions impacted SAEP program delivery and expected outcomes. SAEP Pretoria closed its office on 23 March 2020 and the team has been teleworking ever since. Similar measures were imposed in many other countries in the region and the ability to engage with counterparts in Malawi, Zambia, Namibia and Mozambique is limited. Despite lockdowns and having to adapt to different ways of work, SAEP continues to advance electricity reform activities and support counterparts, minimizing disruptions as much possible while also working to design new activities to help the sector respond to the pandemic.

- **EDM Electrification Management Unit (EMU) Adoption and COVID-19 delays on Electrification Program.** The delay in EDM presenting an Executive Order to the EDM Board of Directors as well as to communicate the EMU mandate, unit structure, composition and

responsibilities to the entire organization impacted on some SAEP deliverables and delayed the operationalization of the EMU itself. In Q3, EDM appointed a new board of directors and in August 2020, the board approved the EMU Executive Order, which has enabled SAEP to move forward with activities related to the EMU. There were also delays in the electrification program itself due to the COVID-19 pandemic that slowed down the import of equipment for connections.

- **Delays in Financial Closure of Projects.** Several projects, including the TTP in Mozambique, experienced delays on procurement- and environment-related activities. Bidders have challenges receiving information from manufacturers and sub-contractors due to COVID-19 restrictions and bid submission deadlines have had to be postponed. While SAEP started to see more movement at the end of Year 3, there are still continued challenges from COVID-19.

- **BPC Procurement.** Significant barriers continue to confront the BPC's procurement of the 100 MW solar PV project. In February 2020, it issued a new RFP for the procurement. Original plans that the project be jointly owned by the successful IPP(s) and the Government of Botswana have now been changed and the intention is for fully private ownership. Whilst the ownership model has been restructured, a high local content requirement (approximately 18%) and lack of formal financial support from the government remain challenges. Presently, the schedule going forward has proposals due in October with selection in December 2020. In Year 4, SAEP will continue to monitor the project and make itself available for support, but momentum from the MMGE and BPC has been slow and caused delays for a transaction we have been trying to move forward since 2017.

Ongoing Risks:

- **COVID-19 Lockdowns.** By the end of Year 3, most Southern African countries had lifted lockdowns and travel restrictions. However, the current increase in new infections in Europe and the lack of an effective vaccine could again impact activity planning and implementation in Year 4 should lockdowns be re-implemented. Specific information on the impacts on results are highlighted in section 2.12, M&E and activity table status update sections.

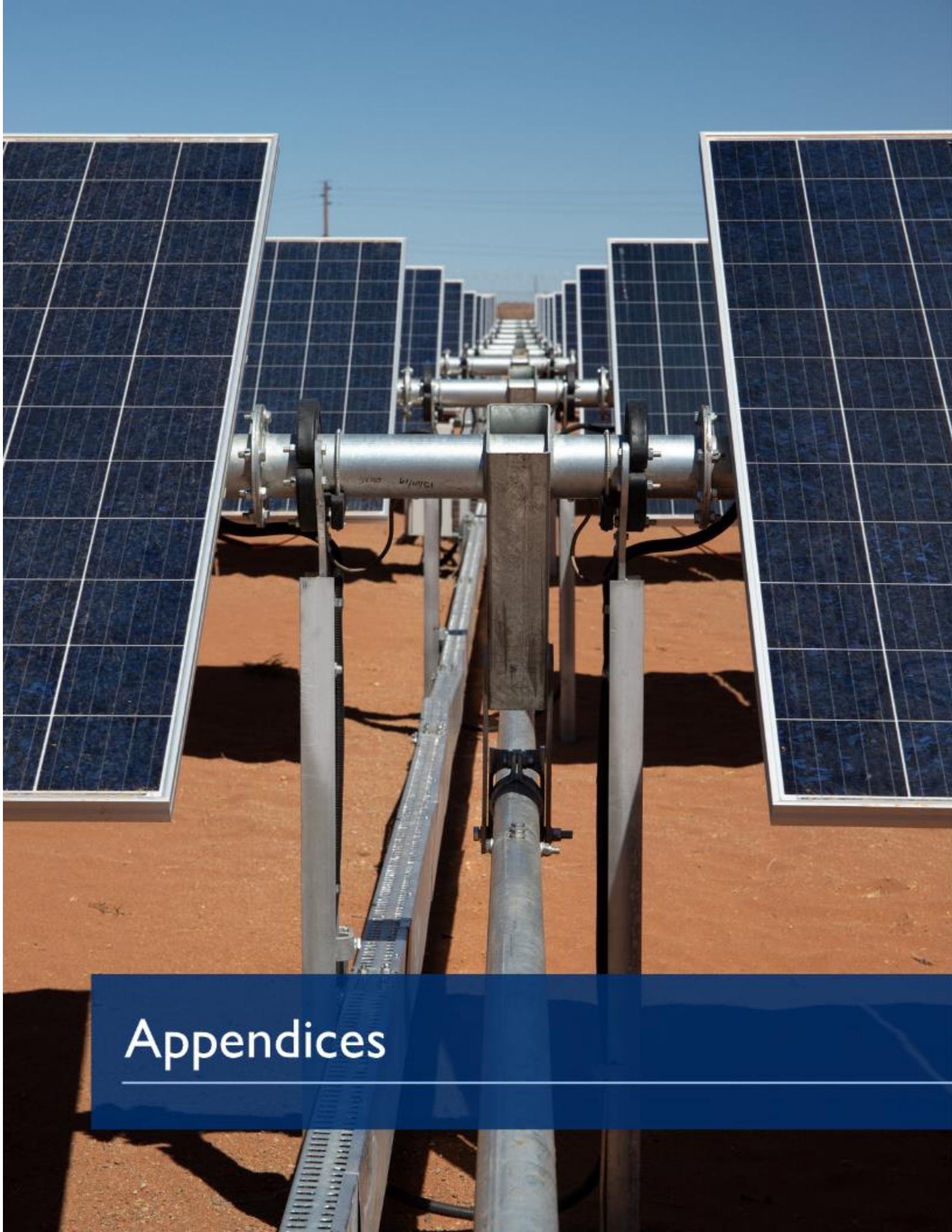
- **Electoral and Political Transitions.** Over the course of last year and over the next one and a half years, Southern African nations will continue to experience political transitions following elections. In Year 3, for example, Malawi underwent periodic protests and intermittent unrest after the results of their national elections held in mid-2019. Following the re-run of elections and the subsequent change of government in June 2020, peace and stability has returned to Malawi. Zambia will have general elections in August 2021. SAEP can only succeed with support from high-level government officials. This means that following changes in governmental composition post-election, SAEP will need to build new relationships with successor government officials. In order to ensure continuity of government support for SAEP – despite transitions – the SAEP team will focus on building broad, non-partisan governmental relationships in host countries and gaining unified support for energy sector reform and delivery of activities that are not as influenced by political outcomes.

- **Angola AfDB ESEEP and World Bank Program Delays.** SAEP is supporting both RNT and ENDE as they work to advance the AfDB ESEEP program. Given delays on the part of counterparts and delays due to discussions that must occur to determine approaches for moving the procurements forward, there have been a number of unforeseen timing delays for when the Program's targets will be hit. While this impacts SAEP targets for connections the most, there are a number of changes that have emerged for the transmission project as well that could cause project timeline changes. In addition, there have been delays to the roll-out and signing of the World Bank program that will inject additional funding to the electrification ENDE is working on. These delays

will inevitably cause ENDE connections numbers to only come in later than expected.

- **Slow-down in Lesotho Delivery.** At the end of Year 3, there were a number of factors delaying continued delivery in Lesotho. First off, Lesotho's failure to address human trafficking, police brutality against citizens and the failure to implement the long-delayed multi-sector reforms led to the country being placed in the lowest tier of the U.S. State Department's Trafficking in Persons (TIP) Report for 2020. Lesotho's new government thus has until February 2021 to have addressed the problem. USAID has recently received a waiver to continue delivery in Lesotho, but due to a change in the board at LEC there may not be approval for SAEP to deliver follow-on work with the utility. The Program will continue to work to advance discussions with the new LEC board to see if activities can start in Year 4.

- **Global Market Fluctuations and Regional Interdependencies.** Prices of energy commodities are often affected by global market fluctuations. Likewise, national energy systems naturally have regional interdependencies as it pertains to imports, exports, and transportation networks. Because of this, each Southern African nation is somewhat constrained by trends and events impacted by external factors. To mitigate this constraint, SAEP will incorporate market research and trend analysis to stay abreast of global energy market developments and changes. SAEP will also focus on regional community engagement and coalition building to unite Southern African nations in energy sector reform and coordination where possible. The SAEP team will also monitor interdependencies that can affect the success of the Program. One major area where the global and local markets have played an impact has been on the overall economic slowdown due to COVID-19 that has resulted in oil prices being reduced which has financial sustainability impact for the Angolan government and has negatively affected currencies in countries such as Zambia. Zambia's currency devaluation is influenced by long-standing high debt levels and COVID-19 has exacerbated the challenge.



Appendices

APPENDIX A SUCCESS STORIES

The following pages include full-page copies of SAEP's Success Stories. These single page handouts summarize the impacts of SAEP's engagements across Southern Africa in Year 3.

[13] Previous divider photo: Konkoonsies Solar Site in the Northern Cape of South Africa, developed by Biotherm Energy (Photo: USAID SAEP)

Southern Africa Examines U.S. Strategies on Power Quality and Balancing

In November 2019, representatives from the Southern African Power Pool (SAPP) travelled to the U.S to meet with leading energy sector specialists. Organized by the USAID Southern Africa Energy Program (SAEP) – a Power Africa initiative – and the World Bank, the study tours allowed participants to share problems with U.S. counterparts on issues related to power quality and electricity balancing and learn how the U.S addresses these key issues.

Poor power quality and interruptions in supply pose major challenges to the people of Southern Africa as load shedding and blackouts slow economic growth and impact the quality of life of those in the region. SAPP's mission includes establishing regional standards and developing competitive markets to increase availability of, and improve reliability of power supply. Power quality challenges are compounded as Southern Africa utilities explore exploiting the region's abundant solar and wind energy potential and integrating increased amounts of variable renewable energy into their systems. The SAPP Quality of Supply Working Group (QOSWG) is responsible for implementing quality of supply standards and identifying methods to effectively address and mitigate power quality issues. Simultaneously, the SAPP Markets Sub-Committee (MSC) is responsible for building on the four existing products that are currently operating in the regional competitive electricity market by developing another product to balance electricity supply and demand in real time.

With SAEP and World Bank support, 39 participants from the QOSWG and MSC travelled to the U.S. to meet leading power sector experts so as to share learn leading practices in power system operations, planning, regulation, power markets, and power quality management practices and standards. Attendees brought back to with them lessons learned which are now being woven into their training and capacity building efforts, and informing their conversations with regulators and other industry stakeholders.

Promoting quality of electricity supply. The QOSWG's visit included site tours of a solar PV microgrid with battery storage, Xcel Energy's trading floor, and the National Renewable Energy Laboratory (NREL). QOSWG participants worked with SAEP in a post-tour session where participants shared their experiences with each other and organized their lessons learned related to i) interpreting power quality data measurements, ii) accurately forecasting renewable generation to account for power quality impacts, and iii) improving management of voltage dips and swells. Relationships built during were strong, as NREL and PJM Interconnection (PJM) continue to work with tour participants on solutions that help SAPP mitigate regional power quality issues.

Developing a regional electricity balancing market. The MSC visited various power pools and their participants to understand how the U.S. structures, regulates and finances operations. Following the trip, MSC delegates benefited particularly from hearing about U.S approaches to i) data sharing/transparency across member utilities and participants, and ii) aligning market rules among multiple regulators across different countries in the region. Moving forward, SAEP will continue to support the SAPP MSC in understanding leading practices around data governance and effective methods to engage regulators in the region.

> "*From what I saw and learnt in the U.S. during a study visit of research institutions and electric power utilities, I am confident that in the near future renewable energy sources will be the conventional sources of energy, saving the earth for future generations*." Sydney Kadikula Zimba, SAPP member heading up the QOSWG

The SAPP delegations and U.S. energy institutions formed informal relationships that will continue to support SAPP and Southern African utilities in operational and market enhancements.

Mozambique–Malawi Interconnector to Improve Regional Energy Integration

The Electricity Supply Corporation of Malawi (ESCOM) must prepare to operate in the Southern Africa Power Pool (SAPP) interconnected power system as the 1,000 MW Mozambique–Malawi Regional Interconnector Project moves closer to financial close. To help, the USAID Southern Africa Energy Program (SAEP), a Power Africa initiative, has begun a series of technical assistance activities to help ESCOM improve capacity in system operations to take advantage of the integrated system.

Powering Malawi. Malawi has one of the most severely constrained power sectors in sub-Saharan Africa, with an estimated electrification level of less than 11%. Due to generation capacity constraints, load shedding is carried out almost daily. Given these constraints, Malawi will benefit from being connected to the regional trading opportunities of the SAPP. ESCOM must be ready to operate in an interconnected system.

The Mozambique–Malawi transmission interconnector, a first for Malawi, will address Malawi's increasing demand for power and create opportunities for power trading within SAPP. The interconnector will enable ESCOM to import electricity during generation constraints and export during excess capacity periods. In addition, being interconnected to SAPP will help to enable unexploited generation sites in Malawi including solar and hydropower projects as the off-taker can extend beyond Malawi. The Mozambique–Malawi interconnector will therefore become an integral link between Mozambique utility *Electricidade de Mocambique's* (EDM) and ESCOM's transmission systems. This should also result in increased revenue flows to EDM and further diversification of its trading portfolio.

Progress on the Interconnector. In 2019, the project reached major milestones, including securing full funding and the signing of all required commercial agreements between ESCOM and EDM. The interconnector is anticipated to reach financial close by mid-2020. The total project cost is USD $130 million, with USD $127 million for the transmission infrastructure and USD $3 million for technical assistance and capacity building. The group of financiers is: World Bank, KfW Development Bank and the Norwegian Trust Fund. The proposed interconnector is a 218 km long 400 kV double circuit transmission line with a design capacity of 1,000 MW. The interconnector will be between the 22/400 kV Matambo substation in Tete, Mozambique and the 132/400 kV Phombeya substation in Balaka, Malawi. Construction is expected to commence in 2020 for a period of two years, with commercial operation around 2022.

SAEP's Role. SAEP's critical contribution to the project has been to transform ESCOM's operations and maintenance capabilities to 400 kV and prepare the utility to operate in the SAPP interconnected system. Historically, the ESCOM system has functioned as an isolated network with the highest voltage being 132 kV. To ensure that the 400 kV assets and the new interconnector are maintained, building an operations and maintenance training program and cadence into operations is critical for the utility's success.

Furthermore, SAEP developed a transitory Power Production Optimization tool for the National Control Centre to enable the utility to conduct short- and medium-term electricity demand forecasting to facilitate generation unit commitment. The ESCOM System Operations personnel is using this tool until ESCOM is ready to migrate and use Plexos fully, a more versatile and advanced production optimization tool.

This project is of great importance to the Southern African region as it will improve regional transmission integration and diversify energy trading, especially with the new hydro resources in Malawi and Mozambique and gas energy in Mozambique. SAEP will continue to engage ESCOM on the 400 kV training and conduct regular checks to determine whether the maintenance practices have been embraced and are being implemented as we continue to implement our trading training with ESCOM system operations.

The Regional Electricity Regulators Association of Southern Africa Adopts Digital Training

Power Africa helps the Regional Electricity Regulators Association of Southern Africa (RERA) develop and deploy selected training courses through digital media increasing the accessibility to skills development for Member Regulators

RERA provides a platform for effective co-operation between independent electricity regulators within the Southern African Development Community (SADC) region and is tasked with capacity building among national and regional members through skills training. The digital approach to training is a strategy that RERA wants to leverage to amplify skills development among its members and to decrease costs of travel and workshops.

The U.S. Government has previously supported RERA's capacity development mandate by developing several training packages and programs. At RERA's request, the USAID Southern Africa Energy Program (SAEP), a Power Africa initiative, is now working with the regional regulator to deploy selected training courses through digital media building on content previously created. In May 2019, SAEP kicked off the development of an online learning module to increase RERA members' understanding of the importance of regulatory governance and how to identify measures that the regulator needs to take for high standards of public confidence and trust. Over a period of three months through a consultative process between SAEP and RERA, the e-learning module on regulatory governance was finalized and launched on 29 August 2019 at the RERA Structures Meetings in Mauritius.

RERA has since then taken full ownership of the e-learning module files and is in the process of developing an online learning management system that will be available through RERA's website making the content available across SADC. During RERA's Annual Conference in February 2020 in Victoria Falls, Zimbabwe, conference participants were given the opportunity to practically test the e-module through the SAEP demo booths set up at the conference. Overall, participants' feedback was positive and members indicated their eagerness to impart this training to their staff members.

One of the first regulators to have taken ownership of the training course is Namibia's Electricity Control Board (ECB). The ECB has embarked on the rollout of the regulatory governance e-learning module with all regulation staff members. During a first training session with 13 participants on 7 February 2020 in Windhoek, Namibia, Ms. Charity Nsofu, Senior Engineer Regulation Department, is quoted as saying "the regulatory governance e-module really brings home the message of why we do what we do for our public."

> "With the decreasing budgets for training of most member regulators arising from cost containment measures, the valuable and timely assistance from the Southern Africa Energy Program in developing the e-learning module on Regulatory Governance would go a long way in making it digitally accessible anywhere and anytime to anybody at no cost."
>
> Elijah C. Sichone, RERA Executive Director

The training module is available to all institutions on-demand and can be requested through SAEP or RERA. The success of this e-module deployment provides an opportunity to replicate the process for other training activities. SAEP is currently working with RERA on a second online module that presents essential building blocks for good practices in regulatory impact assessments. This module will be rolled out in in the third quarter of 2020.

Malawi's Generating Company Performance Transformation

Building on the U.S. government's first Millennium Challenge Corporation (MCC) Compact in Malawi designed to improve the availability and reliability of and access to electricity, Power Africa is assisting Malawi's Electricity Generation Company (EGENCO) to achieve its strategic plan objectives of improved commercial performance and increased generation.

Malawi's energy sector has gone through important sector reform efforts, including the unbundling of the national utility, the Electric Supply Company of Malawi (ESCOM) and the establishment of EGENCO. Formed in 2016, EGENCO is embarking on a 15-year strategic plan that aims to diversify energy generation and increase Malawi's capacity to produce power.

To achieve the strategic plan goals, EGENCO needed to increase institutional capacity and establish information management and performance monitoring practices into the organizational fabric. As such, the USAID Southern Africa Energy Program (SAEP), a Power Africa initiative assisted the EGENCO Board and Executive Management to develop and implement a performance monitoring and evaluation (M&E) process, key performance indicators and a new organizational structure. SAEP's direction led to the establishment of the M&E Department and the development of a balanced scorecard in March 2019 to track objectives from EGENCO's Strategic Plan. The plan focuses on improving the utility's commercial performance and adding 1,000 MW over the ten-year planning horizon.

As a result of the new performance system, in February 2020, EGENCO was able to add 33 MW of generation capacity to its fleet. This is quite significant as it represents about 11% of its installed capacity and amounts enough electricity to supply about 30 thousand households. By designing appropriate performance measurement instruments, re-aligning targets with a reachable timeframe and feasible ranges for those targets, EGENCO's Planning and Development Division was able to focus, evaluate, monitor and deliver on what was feasible. Their focus changed from an initial 106 projects stated in the strategic plan to nine targeted projects, which led to the rehabilitation of three hydropower and diesel plants to increase capacity.

Each step in establishing the performance management process entailed hands-on training workshops to foster sustainability and growth. Further, SAEP provided a framework to EGENCO's CEO on developing change management statements to guide him in delivering messages on key change activities happening within the utility. SAEP and EGENCO continue to review the implemented processes and will look for ways to improve and update these for long-term sustainability.

> "On behalf of EGENCO I would like to express our appreciation for the support that SAEP provided to EGENCO since February 2018 on improving performance. With SAEP support, EGENCO now has a clear process for M&E to achieve the objectives of our plan."
>
> EGENCO CEO, William Liabunya

Bringing Lesotho's Electricity Company's Strategic Vision to Life

The Lesotho Electricity Company (LEC), is wholly owned by the Government of Lesotho and regulated by the Lesotho Electricity and Water Authority. The company is responsible for electricity transmission and distribution to most electricity consumers in Lesotho. Since 2018, Power Africa has been providing operational support to the LEC to improve the utilities' commercial viability and help it to hit its performance targets.

The appointment of a new board of directors and senior management team in 2018, as well as a need to bring an external perspective into the organization's strategy formulation, prompted the LEC to request Power Africa's support to build a five-year strategic plan that would improve the utilities' performance and help it to hit its goals. The focus of the assistance was to help the utility to develop a plan that had initiatives with budgets and direct linkages to the company's fiscal strength, directing funding to achievable priority projects.

As a first step, Power Africa conducted a strategic plan review session. The session brought together the new LEC board and senior management team for a three-day session. The workshop helped to build consensus and agreement on the LEC's mission, vision and strategic goals up to 2023. Subsequently, Power Africa facilitated executive committee and senior management workshops and team meetings over several months to assist the LEC in formulating an integrated set of key objectives in support of the strategic goals as well as initiatives needed to achieve the strategic objectives. In July 2019, the LEC Board approved the updated strategic plan.

To assist in the successful implementation of the plan, Power Africa worked with the LEC to develop executive compacts, which are formal performance agreements between executives and the board. A primary focus was to discuss and transfer the responsibility for the formal agreement of each general manager's compact to the individual managers and for the general managers to take responsibility to finalize their compacts in discussion with the Managing Director. Power Africa also assisted with a review of the LEC executive structure to further support the implementation of the newly developed strategic plan, and together with the LEC Human Resources Manager, developed a process for the revision of the remainder of the structure, which had been in a transitional stage since 2016. In January 2020, the LEC Board approved the executive compacting process and the process for the finalization of the organizational structure. To facilitate sustainability, Power Africa handed over the documents and tools that it developed for the LEC's reference and future use.

Since the adoption of the strategic plan and the accompanying support to ensure effective implementation of the plan, the executive team at LEC is now focused on achieving the LEC's organizational objectives as set out in the strategic plan.

Connecting Solar System Sales Companies and Customers

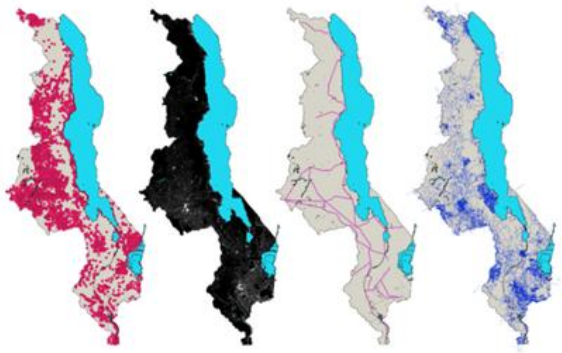
Power Africa has developed a geospatial enabled tool that brings together key data sets, such as population, density, electrification and road infrastructure data, to enable solar home system (SHS) companies to prioritize geographic markets shown to have the highest potential for expansion or deeper market penetration for increased sales.

Although Malawi has a high population density, finding the right customers in rural Malawi, where only 4% of the population are connected to electricity, is often a challenge that SHS companies face in looking to expand their market footprint. Typically, SHS companies use sales agents who go from house to house to sell their systems. Some visits are more successful than others and some areas generate more sales than others. Unsuccessful trips can be frustrating, time consuming and expensive. Knowing which territories have the greatest need for SHS companies is essential to promoting company success and achieving increased access.

In September 2018, Power Africa developed a route-to-market (RTM) tool for Malawi, building on a similar geospatial tool developed in Zambia for SHS companies and the Government of Zambia's use. The database brings together different factors that SHS companies typically use to prioritize geographic target areas, at both the district and the village levels.

Providing this information in a consolidated and digestible way to companies can help them finetune their market expansion strategy by targeting the areas with the highest potential, and then locating their service centers and selecting sales agents in or close to those areas. The RTM database, an easy-to-use Excel dataset that can be viewed with Google Earth for georeferencing, includes data sources such as population density, distance from Lilongwe and other major cities, income levels, mobile activity, and agricultural activity.

In February 2020, Power Africa, using a targeted email document release and social media, released an updated RTM tool to the Malawian SHS market. Power Africa also developed a four-part video tutorial to show SHS companies how to use the data and visualization tool. The RTM tool, data and video tutorials are publicly available on USAID's online document repository[14]. The RTM geospatial tool is part of a series of initiatives alongside the Power Africa SHS Kick-Starter Program for Malawi[15] to support the off-grid sector and spur private sector investment in electricity delivery.



The analysis is based on publicly available data sources like the WorldPop dataset to calculate population.

[14] Documentation for the RTM tool can be found at https://pdf.usaid.gov/pdf_docs/PA00WPCX.pdf

[15] For more on the SHS Kick-Starter Program: https://www.usaid.gov/malawi/news/power-to-the-people

Improving Electricity Utility Customer Management in Mozambique through Human-Centered Design

In 2019, Mozambique's utility, *Electricidade de Moçambique* (EDM) initiated a pilot human-centered design (HCD) approach, with Power Africa support, to improve its new and existing customer experiences and facilitate new connections nationwide. The value of this approach is perceived through the concept that customers will be more likely to connect to the grid if their experiences throughout the process are easy and if employees are providing better customer service – as customers have more positive experiences with a responsive utility, they will tell others and demand for connections will increase.

In the energy context, HCD means thinking about customer energy needs; how customers will perceive, interact with and use energy products; and iterating solutions to promote alignment between technical and financial feasibility and customer behavior and perception. With a current electrification rate of only 29 percent, the Government of Mozambique aims to electrify all households by 2030. Achieving this daunting task relies heavily on human behavior, from customers being willing to pay for connection contracts and electricity to how EDM staff communicates with new customers and communities.

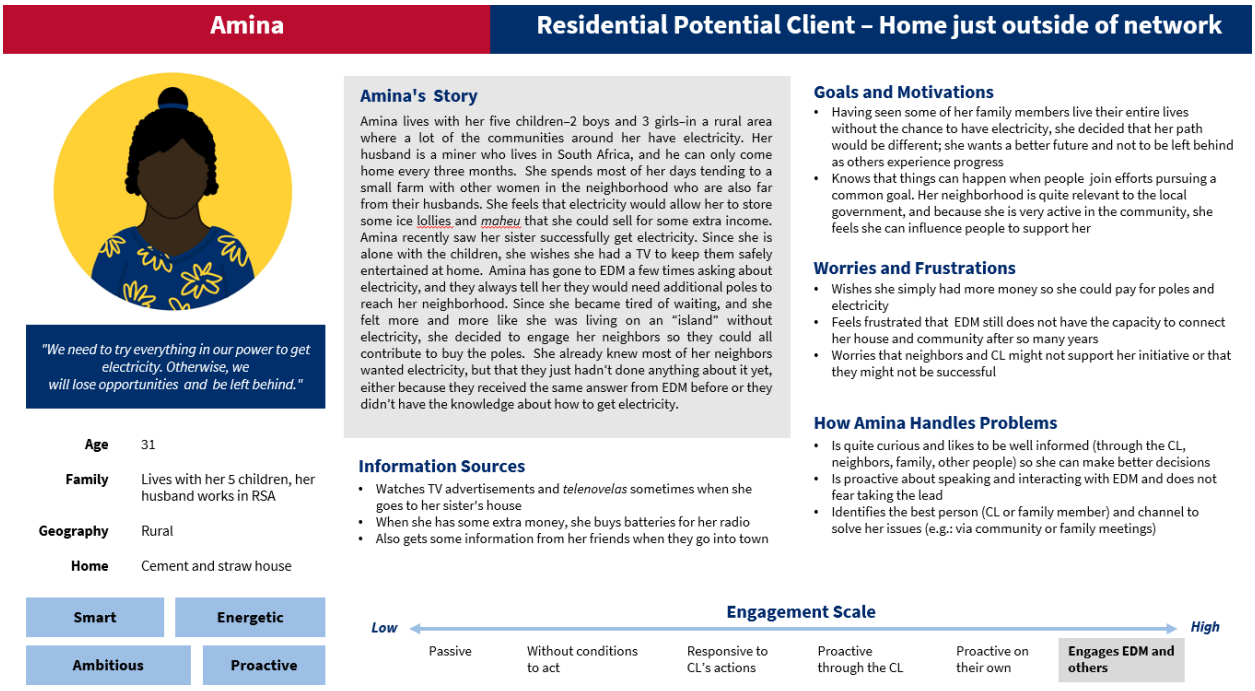
The HCD process follows four main stages: discover, define, develop and deliver. The discover stage involves in-depth research to understand stakeholders through a structured interview process. This research is critical and informs everything else throughout the HCD process, from the development of personas and journey maps, to the ultimate changes implemented throughout the organization. Over the course of two months, Power Africa and EDM teams conducted 191 field interviews with both potential and existing customers, community leaders and EDM employees of various backgrounds in the South, Central, and Northern regions of Mozambique. The interviews with customers and community leaders focused on experiences gaining or attempting to gain an electrical connection, while interviews with EDM employees focused on their experiences helping customers obtain connections. After conducting the interviews, Power Africa and EDM proceeded to map stakeholders who are typically within any customer's "ecosystem" of interactions.

While many other customer management approaches categorize their customers purely by demographic information, HCD creates archetypal customer groups, also called personas, in terms of behaviors, motivations and attitudes. The purpose of personas is to create empathy with an end user by understanding that person's story – goals, motivations, worries and frustrations. These personas can help EDM differentiate between customer groups based on not only demographics but also emotional and motivational factors.
Based on the interviews, Power Africa developed nine "personas" and inserted these personas' "journeys" into journey maps describing their unique connection process and representing the common patterns of experience that illustrate beneficial observations for EDM's strategy

Through this process, EDM gained many insights for improving both quality (e.g. increased customer satisfaction, better ease of business, reduced commercial losses) and quantity of new connections. Using journey maps to capture pain points, the HCD process revealed opportunities for EDM to improve the connection process. For example, EDM realized that the average customer needed to visit the EDM

electricity distribution center at least three times to gain a connection, which often included the challenge of finding transportation in rural areas. Additionally, many customers were confused by the pricing structure EDM used for its promotional connection rates, prompting EDM to clarify options to improve customer engagement.

Improving customer service is an ongoing journey. Working with Power Africa, EDM has identified three key focus areas based on the HCD process to improve EDM customer engagement. These include i) improving community relations, with a focus on developing proactive engagement with community leaders, ii) improving customer service management to better manage customer expectations, and iii) developing a more comprehensive scheduling process to ensure customers know when to expect their connections.
Once approved by EDM's board of directors, these solutions will be developed into an implementation roadmap, and will then then rolled out across the EDM service area in mid-2021.



Amina is one of the nine personas that tells the persona's "story" and gives a sense of her behaviors, motivations, and attitudes.

Strengthening Angola's Transmission Project Capabilities

Power Africa is focusing investment on transmission infrastructure projects and associated training to improve enabling environments and strengthen utilities' capacities to manage these projects. In Angola, where only 36% of the population has access to electricity, Power Africa and the African Development Bank (AfDB) are working together to support the Government of Angola to expand electricity infrastructure to increase access to electricity and ultimately contribute to the overall development of Angola.

Building and maintaining reliable transmission infrastructure is crucial for increased electricity access. Photo Credit: RNT

In March 2020, the AfDB announced a multimillion-dollar loan to the Government of Angola to improve and expand Angola's transmission capacity and connect 1.2 new customers to the grid. One part of the AfDB's Energy Sector Efficiency and Expansion Program (ESEEP) entails the construction of a 343-km, 400 kV transmission line that will connect the northern and southern parts of Angola and allow for the evacuation of around 1,000 MW to the South. The integration of power systems across the country will address power shortages, improve grid reliability and pave the way for the electrical interconnection of Angola with the Southern Africa Power Pool.

In support of the AfDB's loan, Power Africa has been providing technical advisory and capacity building to Angola's national electricity transmission company, *Empresa Rede Nacional de Transporte de Electricidade* (RNT), who has the mandate to complete the AfDB-funded Central–South transmission line project. Resources at utilities like RNT are often thinly stretched across various activities. This can lead to utilities having more projects stuck in development phase, without the required full-time-equivalent resources capable to deliver them, resulting in project delays. Power Africa has been working with RNT since October 2019 to set up and operationalize the RNT project implementation unit (PIU) to manage the procurement and planning aspects of the transmission project. This PIU or project management office will be the center of excellence throughout the full life cycle of the project (and future transmission projects) and the single repository of all project information and documents.

Throughout the process of setting up the PIU, Power Africa focused efforts on strengthening local capacities by training RNT PIU staff members on overall program management, environment and social management, risk mitigation and engineering and procurement requirements and processes. Understanding the different PIU functional areas and developing the necessary skills to efficiently manage tasks and outputs is critical for RNT to advance project-related activities and meet key milestones within the AfDB's required timelines.

In September 2020, the AfDB approved RNT's work plan and the first disbursement of funds. RNT is in the final stages of procurement processes related to the construction of the Central–South transmission line and associated substations monitoring and supervisory consultant. Construction is planned to begin towards the end of 2021. The collective efforts of the AfDB, Power Africa and the Government of Angola will ultimately improve electricity access for people, industries and businesses across Angola.

APPENDIX B PERFORMANCE MONITORING & EVALUATION TABLES

The table below shows the FY20 Annual results of the Program indicators, attributable to SAEP's efforts.

Number of Transactions Reached Financial Closure [PA6]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Results to date**	**Life of Project results**	**Data Source:** Written confirmation from FMM party
Target	2	1	1	0	4	**31**	**37**	**Note:**
Actual	2	0	0	1	3	**30**	**30**	**Quarter 1:** Eswatini • EEC Lavumisa Solar with 10 MW reached FC Malawi • Nkhotakota Solar with 26 MW reached FC **Quarter 4:** Angola • Angola South-Central Interconnector with 1,000 MW reached FC

(#AA) Capacity (MW) from Transactions Supported by SAEP that Achieved Financial Closure [1 / PA1] [16]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Written confirmation from Financial Mobilization Memo (FMM) party PATT and SAEP transaction tracker
Target	1,100	192	10	0	1,302	**3,567.38**	**4,000**	**Note:**

[16] GCC indicator is "Clean energy generation capacity (MW) that has achieved financial closure (4.8.2-33)" This indicator includes both our target for 3000 MWs generation and 1000 MWs of new transmission capacity

(#AA) Capacity (MW) from Transactions Supported by SAEP that Achieved Financial Closure [I / PA1] [16]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Written confirmation from Financial Mobilization Memo (FMM) party PATT and SAEP transaction tracker
Actual	36	0	0	1,000	1,036	**3,301.38**	**3,301.38**	**Quarter 1:** Eswatini • EEC Lavumisa Solar with 10 MW reached FC Malawi • Nkhotakota Solar with 26 MW reached FC **Quarter 4:** Angola • Angola South-Central Interconnector with 1,000 MW reached FC

Utilization of Risk Mitigation Tools [PA16]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Written confirmation from IFI or government.
Target	2	1	1	0	4	**31**	**37**	**Note:**
Actual	1	0	0	1	2	**29**	**29**	**Quarter 1:** Malawi • Nkhotakota Solar with 26 MW used Sovereign Guarantee **Quarter 4:** Angola • Angola South-Central Interconnector with 1,000 MW used Sovereign Guarantee

Number of Transactions Pending Financial Closure [PA5]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Power Africa Transaction Tool and SAEP transaction list.
Target	57	57	57	57	57	**57**	**57**	**Note:** At the end of Q4 there were 61 transactions that were pending financial close. *This total excludes those transactions that have reached financial close, but does include transactions that are currently on hold in the PATT*
Actual	65	61	61	61	61	**61**	**61**	

Generation and Transmission capacity (MW) pending financial closure [2 / PA2]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Written confirmation from Financial Mobilization Memo (FMM) party. PATT and SAEP transaction tracker
Target	11,478.50	11,478.50	11,478.50	11,478.50	11,478.50	**11,478.50**	**4,000**	
Actual	11,735.27	12,544.25	13,949.27	13,949.27	13,949.27	**13,949.27**	**4,000**	**Note:** As at the end of Q4 SAEP has a pipeline of 9,647.87 MW and 4,301.4 MW that had reached FC through the life of the project. Note that the increase for Tx came from the Angola Central-South line to the 900 for TTP and 1,000 for Malawi-Mozambique *Note: The actual figure is cumulative and shows the total generation and transmission capacity pending financial closure at the end of the reporting quarter. It does not remove MWs for those that reach financial close during the period.*
Gx	9,835.27	10,644.25	11,049.27	11,049.27	11,049.27	**11,049.27**	**3,000**	
Tx	1,900	1,900	2,900	2,900	2,900	**2,900**	**1,000**	

Number of New Grid and Off-Grid Projected Direct Connections [5 \ PA5]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records for OC4/OC2 and utility/ government official publications.
Target	3,069,149	2,877,492	2,647,260	2,338,954	2,338,954	**2,338,954**	**3,000,000**	**Note:** Projected connections are based on access transactions. The number for Actual projected connections comes down as connections are realized. **On grid** • EDM: 316,247 • ENDE: 621,826 • LEC: 13,724 **Off grid** • Madagascar: 10,500 (Mini-Grid) • Malawi: 222,423 • Mozambique: 43,501 • Zambia: 503,422
Actual	3,137,929	3,063,197	2,424,595	1,731,643	1,731,643	**1,731,643**	**1,731,643**	

(#AB) Direct Electricity Access [4 / PA10]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records for OC4 and utility/ government official publications.

Target	175,184	191,657	134,806	148,806	650,453	**947,570**	**3,000,000**	**Note:**
								The reported connections for Q4 are a result of SAEP's activities in Angola, Malawi, Mozambique and Zambia for both on- and off-grid.
								
								Off-grid:
								• **Malawi:** 17,821 individual off-grid connections
								  ○ **Solar Home Systems sales:** 17,410
								  ○ **Lanterns sales:** 411

Actual	161,400*	124,985*	161,944*	164,235	612,564	**909,681**	**909,681**	
Off-Grid	48,685	41,463	44,518	52,267	186,933	**400,543**	**400,543**	

(#AB) Direct Electricity Access [4 / PA10]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records for OC4 and utility/ government official publications.

On-Grid	112,715*	83,522*	117,426*	111,968	425,631	**509,138**	**509,138**	• **Mozambique:** 13,249 individual off-grid connections
								  ○ **Solar Home Systems sales:** 13,249
								  ○ **Lanterns sales:** 0
								• **Zambia:** 21,197 individual off-grid connections
								  ○ **Solar Home Systems sales:** 21,099
								  ○ **Lanterns sales:** 98
								On-grid:
								• **Angola**: 38,765
								• **Lesotho**: 4,672
								• **Mozambique:** 68,531 connections
								
								**The numbers were updated to reflect the connections received from ENDE (Angola) for Q1 through Q3*

Number of Transactions Commissioned [PA4]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** SAEP Installation Memos.
Target	1	5	9	1	16	**16**	**27**	**Note:**

Number of Transactions Commissioned [PA4]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** SAEP Installation Memos.
Actual	3	2	1	5	11	**11**	**11**	The eleven transactions to reach COD in Year 3 are the following: **Quarter 1** • Tedzani III (5 MW Hydroelectric Transaction) • Mapanga (20 MW Diesel Transaction) • Lilongwe B stations (8 MW Diesel Transaction) **Quarter 2** • Dyasons Klip 1 (86 MW Solar Transaction) • Sirius Solar PV Project One (86 MW Solar Transaction) **Quarter 3** • Dyasons Klip 2 (86 MW Solar Transaction) **Quarter 4** • Aggeneys Solar Park (46 MW Solar Transaction) • Bokamoso Solar Park (67.9 MW Solar Transaction) • Droogfontein 2 Solar Park (75 MW Solar Transaction) • Konkoonsies II Solar (86 MW Solar Transaction) • Pedekraal East Wind Farm (110 MW Wind Transaction)

Generation Capacity (MW) Commissioned [3 / PA3]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** SAEP Installation Memos.
Target	60	297.32	810.36	75	1,242.68	**1,242.68**	**2,265.38**	**Note:** The eleven transactions to reach COD in Year 3 are the following: **Quarter 1** • Tedzani III (5 MW Hydroelectric Transaction) • Mapanga (20 MW Diesel Transaction) • Lilongwe B stations (8 MW Diesel Transaction) **Quarter 2** • Dyasons Klip 1 (86 MW Solar Transaction) • Sirius Solar PV Project One (86 MW Solar Transaction) **Quarter 3** • Dyasons Klip 2 (86 MW Solar Transaction) **Quarter 4** • Aggeneys Solar Park (46 MW Solar Transaction) • Bokamoso Solar Park (67.9 MW Solar Transaction) • Droogfontein 2 Solar Park (75 MW Solar Transaction) • Konkoonsies II Solar (86 MW Solar Transaction) • Pedekraal East Wind Farm (110 MW Wind Transaction)
Actual	33	172	86	384.6	675.6	**675.6**	**675.6**	

Electricity Loss Reduction (Aggregate Losses) / Aggregate Losses: Total technical and non-technical electricity losses [6 / PA12]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Data collection with utilities (survey for annual data collection).
Target	0	0	0	0	0	**0**	**0**	**Note:** SAEP did not anticipate reporting results for this indicator in Q4.
Actual	0	0	0	0	0	**0**	**0**	

Expected Lifetime Energy Savings from Energy Efficiency or Energy Conservation [7 / PA13]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records for OC2 and OC4.
Target	0	0	0	1,224	1,224	**1,224**	**1,224**	**Note:** SAEP did not have any activity that yielded results for Year 3. The 28,358.74 Gj (7,877,427 kWh) reported in this quarter is from EWSC. The energy efficiency saving achieved by EWSC have exceeded the annual target. In the coming year, SAEP will work with EWSC to investigate the main driver of the savings-this task will become easier as EWSC complete its role out of metering.
Actual	0	0	0	28,358.74	28,358.74	**28,358.74**	**28,358.74**	

Total Public and Private Funds Leveraged by USG for Energy projects (USD millions) [17 / PA18]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Grant records. Project funding records
Target	891.9	968	16	0	1,875.9	**5,943.6**	**7,232.6**	**Note:**

Total Public and Private Funds Leveraged by USG for Energy projects (USD millions) [17 / PA18]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Grant records. Project funding records
Actual	76,300,158.97	9,000	84,446.55	545,765,666.57	622,159,272.09	**622,159,272.09**	**622,159,272.09**	The total funds leveraged for Year 3 were **USD 622,159,272.09** mainly through the following activities: • One transaction reached FC in Q4 of Year 3, this was the Angola South-Central Interconnector (**USD 543.50 mill**) which leveraged IFI funding and loans for the project to reach FC. • Through the Malawi Kickstarter program SAEP managed to leverage USD 2,659,272.09 through cost-share

Number of Institutions with Improved Capacity [11]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records. Organization assessment capacity tool
Target	3	6	0	0	9	**33**	**61**	**Note:**

Actual	3	5	0	11	19	**43**	**43**	**Quarter 1**: • **ADER Madagascar:** Provide assistance to the technical studies and transaction advisory for the rehabilitation of abandoned diesel-based concessions - Y2.04.06.24.MDG • **SAPP:** SAEP supported SAPP with organizing study tours to the US for the SAPP OSC and ESC in October and November 2019 respectively - Y2.03.05.08.REG • **Lesotho Electrification Company (LEC)** ringfencing assistance final report- Y3.02.02.02.LSO **Quarter 2:** • **RNT Angola**: Worked with RNT to teach them procurement practices and how to structure RFIs/RFPs, and they have gone from providing input into drafts to taking ownership and drafting for SAEP comment – Y3.03.05.02.ANG • **DOE Botswana**: Development of a Rooftop Solar Guidelines for the Department of Energy for the Ministry of Mineral Resources, Green Technology and Energy Security - Y2.01.01.21.BWA • **EEC Eswatini:** SAEP completed the first phase of a two phase vRE grid integration study to assist the Eswatini Electricity Company (EEC) in assessing the amount of RE it can introduce into the Eswatini grid. - Y1.04.03.01.SWZ • **Zambia Ministry of Energy & ZRA:** Off-grid Task Force (Content Support): Fiscal exemptions implementation support, including provide training to ZRA agents on the new exemptions policy at the main SHS import border posts - Y2.04.06.05.ZMB

Number of Institutions with Improved Capacity [11]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records. Organization assessment capacity tool
								• **ZESCO:** Work with ZESCO and developers to implement PPAs, implementation agreements and licenses - Y2.02.02.02.ZMB **Quarter 4:** • **Zuwa Energy, YellowSolar, Vitalite and SolarWorks**: Support the Identification and Facilitation of Grant Funding/Concessionary Financing for SHS Companies - SAEP directed SHS companies to the limited funding opportunities or relief mechanisms that they could access to support their businesses through the COVID-19 pandemic. At the end of Year 3, SAEP continued to participate in periodic meetings of Cooperating Partners and other entities administering the funding mechanisms - Y3.C19.04.06.08.MWI • **Fenix, Vitalite, SunnyMoney, SupaMoto, Kazang Solar, WidEnergy and Green Impact Technologies:** As part of a suite of interventions to support SHS companies through the COVID-19 pandemic, SAEP supported companies in Zambia and Malawi with obtaining permits to continue operating. The activity was completed in quarter 3. Support Efforts as Necessary to Designate Off-grid Companies as Essential Services Providers to Promote Business Continuity - Y3.C19.04.06.06.REG

Number of Women in Energy Sector Leadership Roles (Custom) [12]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records. Energy institution records and interviews
Target	0	1	1	1	3	**6**	**12**	**Note:** There was one woman appointed into a leadership role as a result of SAEP assistance this year. • 1 x Financial Director at EGENCO in Malawi The institutions that were targeted for Year 3 were EDM, ESCOM, EGENCO and LEC. For EGENCO and LEC there were specific positions that were targeted, and SAEP managed to reach the objective with only EGENCO. For EDM and ESCOM there was not any specific position that was targeted, but the Gender Advisor worked to try and influence appointments/promotions into senior management roles.
Actual	0	0	1	0	1	**4**	**4**	

(#Y) Number of Laws, Policies, Strategies, Plans, or Regulations Officially Proposed, Adopted, or Implemented [8 / PA15]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Record of laws, policies, strategies, or regulations
Target	3	2	0	4	9	**28**	**31**	**Note**: For Year 3, SAEP reported the following laws, policies, strategies or regulations proposed, adopted and/or implemented

Actual	5	6	2	0	13	**32**	**32**	**Quarter 1:** Eswatini: • Determine a reasonable rate of return and weighed average cost of capital for Eswatini Electricity Company – Y3.01.01.12.SWA **(Proposed)** • Evaluate the regulatory asset base and working capital requests of the Eswatini Electricity Company – Y3.01.01.12.SWA **(Proposed)** • Review the manpower register of the Eswatini Electricity Company as a part of evaluating the company application for change in tariffs – Y3.01.01.12.SWA **(Proposed)** Malawi: • Treatment of revenues from revaluation of assets– Y3.01.0105.MWI **(Proposed)** Namibia: • Battery storage services: A regulatory approach – Y3.01.01.10.RSA **(Proposed)** **Quarter 2:** Eswatini • Development of Eswatini Procurement Framework: Regulations to Implement Sections 26(5) and 27(6) of the Electricity Act of 2007 - Y3.01.04.01.SWA **(Proposed)** • Review of the draft evaluation by the Eswatini Electricity Regulatory Authority of the application of the Eswatini Electricity Company for a change in tariffs - Y3.01.01.12.SWA **(Proposed)** • Determine a reasonable rate of return and weighed average cost of capital for Eswatini Electricity Company – Y3.01.01.12.SWA **(Adopted)** • Evaluate the regulatory asset base and working capital requests of the Eswatini

								Electricity Company – Y3.01.01.12.SWA **(Adopted)** • Review the manpower register of the Eswatini Electricity Company as a part of evaluating the company application for change in tariffs – Y3.01.01.12.SWA **(Adopted)** • New Tariff Methodology: Review of the Eswatini Electricity Regulatory Authority's electricity multi-year price determination tariff methodology - Y3.01.01.13.SWA **(Proposed)** **Quarter 3:** Botswana • Botswana Rooftop Solar Guidelines - Y3.01.01.03.BWA **(Proposed and Adopted)**

Number of Reports, Analysis, Reviews, Action Plans, Tools Developed and Campaigns and Trips Implemented (Custom) [9]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records
Target	6	10	13	13	42	**132**	**205**	**Note:** SAEP produced the following reports in Q4:

Actual	8	15	17	25	65	**155**	**155**	**Angola: (5)** • ENDE Bidding Document for Procurement of Goods - Y3.02.09.01.ANG • Environmental and Social Project – Presentation – Y3.03.05.01.ANG • RNT Risk Management Workshop Presentation - Y3.03.05.01.ANG • RNT PIU Concept of PIU Project Manual - Y3.03.05.01.ANG • RNT Communications Protocol - Y3.03.05.01.ANG **Malawi: (8)** • Task 3 (Interim Report): Evaluating the Sustainability of Institutional Capacity in EGENCOs Human Resource Department - Y3.02.03.01.MWI • Evaluating the Sustainability of Institutional Capacity in EGENCO HR: BSC Development Tool - Y3.02.03.01.MWI • EGENCO Solar PV Performance Metrics Workshop (Virtual) - Y3.02.03.01.MWI • Transaction Advisory services summary - Mpatamanga and Themis Sahofika - Y3.04.01.02.MWI • Malawi SHS Kickstarter Quarterly Report – SolarWorks - Y3.04.06.06.MWI • Malawi SHS Kickstarter Quarterly Report – Vitalite - Y3.04.06.06.MWI • Malawi SHS Kickstarter Quarterly Report – YellowSolar - Y3.04.06.06.MWI • Malawi SHS Kickstarter Quarterly Report – Zuwa - Y3.04.06.06.MWI **Mozambique: (2)**

								• ARENE Roadmap for Start-up for Downstream Gas Regulation - Y3.01.05.01.MOZ • Design and Implement Customer Support Program and Adoption of Human-Centred Design for EDM - Task 3: Client & Employee Journey Maps - Y3.02.09.04.MOZ **Namibia: (1)** • Namibia Tariff Methodology for Mini-Grid Pricing for Electricity: Report and Recommendations - Y3.01.01.06.NAM **Regional: (4)** • Transmission Project Manual Learning Guide - Y3.05.01.02.REG • Utility Performance Management Learning Guide - Y3.05.01.04.REG • Off-Grid Energy Access Learning Guide - Y3.05.01.06.REG • RERA regulatory impact assessment (RIA) e-learning module - Y3.05.02.03.REG • Supporting SADC's Energy Institutions to Track Gender Equality Progress Preliminary Findings - Y3.PMO.GEN.04 • SADC Gender Mainstreaming Baseline Survey Report - Y3.PMO.GEN.04 **South Africa: (1)** • Battery Storage Services: A Regulatory Approach - Y3.01.01.10.RSA **Zambia: (1)** • Load Forecasting Dynamics interpretation and awareness for Executive Teams – Final Report – Y3.03.03.04.ZMB

								• ZESCO Workshop on Production Optimization Model – Y3.03.03.05.ZMB

Number of People Receiving Training in Global Clean Energy [13a]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Training Attendance Sheets
Target	10	25	30	135	200	**1,088**	**1,313**	**Note:** SAEP conducted the following training activities in Year 3. **Quarter 1:** Malawi: • Project management skills building training for VITALITE - Y3.04.06.06.MWI **(6 people trained for 78 Hours)**
Actual	18	69	9	30	126	**1,014**	**1,014**	
Male	9	50	7	18	84	**821**	**821**	

Number of People Receiving Training in Global Clean Energy [13a]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Training Attendance Sheets
Female	9	19	2	12	42	**193**	**193**	• Project management skills capability building for Solar Works! - Y3.04.06.06.MWI **(12 people trained for 162 Hours)** **Quarter 2:** Malawi • Power Plant Inspection List – Y3.03.03.02.MWI **(22 people trained for 176 Hours)** • Sales Force Effectiveness Training with SolarWorks! - Y3.04.06.06.MWI **(35 people trained for 630 Hours)** Zambia • ZESCO Skills Assessment Training - Y3.05.02.06.ZMB **(12 people trained for 36 Hours)** **Quarter 3:** Malawi • Sales Force Effectiveness Training with Vitalite - Y3.04.06.06.MWI **(9 people trained for 45 Hours)** **Quarter 4:** Malawi • Sales Force Effectiveness Training with Zuwa Energy! - Y3.04.06.06.MWI **(9 people trained for 67.5 Hours)** Zambia • Power Project Finance Training (Financial Modelling) - Y3.02.03.02.ZMB **(21 people trained for 210 Hours)**

Number of Person-Hours of Training [13b]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Training Attendance Sheets
Target	80	200	240	1,080	1,600	**8.950**	**10,750**	**Note:** SAEP conducted the following training activities in Year 3.
Actual	240	842	45	277.5	1,404.5	**8,755**	**8,755**	**Quarter 1:** Malawi:
Male	120	585	35	162.5	902.5	**6,954.5**	**6,954.5**	

Female	120	257	10	115	502	**1,800.5**	**1,800.5**	• Project management skills building training for VITALITE - Y3.04.06.06.MWI **(6 people trained for 78 Hours)** • Project management skills capability building for Solar Works! - Y3.04.06.06.MWI **(12 people trained for 162 Hours)** **Quarter 2:** Malawi • Power Plant Inspection List – Y3.03.03.02.MWI **(22 people trained for 176 Hours)** • Sales Force Effectiveness Training with SolarWorks! - Y3.04.06.06.MWI **(35 people trained for 630 Hours)** Zambia • ZESCO Skills Assessment Training - Y3.05.02.06.ZMB **(12 people trained for 36 Hours)** **Quarter 3:** Malawi • Sales Force Effectiveness Training with Vitalite - Y3.04.06.06.MWI **(9 people trained for 45 Hours)** **Quarter 4:** Malawi • Sales Force Effectiveness Training with Zuwa Energy! - Y3.04.06.06.MWI **(9 people trained for 67.5 Hours)** Zambia • Power Project Finance Training (Financial Modelling) - Y3.02.03.02.ZMB **(21 people trained for 210 Hours)**

(#X) Percentage of RFP Section F Deliverables Submitted in a Timely Manner (Custom) [10]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records
Target	100%	100%	100%	100%	100%	**100%**	**100%**	**Note:** SAEP reached the assigned target for Q4 on this indicator
Actual	100%	100%	100%	100%	100%	**100%**	**100%**	

Kilometers of Power Lines Reached Financial Close [PA8]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Written confirmation from FMM part
Target	218	0	563	0	781	**781**	**1,166**	**Note:** One transmission transaction reached FC in Q4 of Year 3; this was the Angola South-Central Interconnector (**343 km**). The Malawi-Mozambique Interconnector **(218 km)** and Temane-Transmission project **(563 km)** were also expected to reach FC in Year 3, however, the transactions have experienced delays and have not been able to reach FC.
Actual	0	0	0	343	343	**343**	**1,166**	

National Energy Mix Showing % of MWs from Clean Energy Technologies in Each Country [PA7]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** PA PIRs; RERA national data
Target	0	0	0	0	0	**0**	**0**	**Note:** SAEP did not anticipate reporting results for this indicator in Q4. This is provided when required.
Actual	0	0	0	0	0	**0**	**0**	

Kilometers of Power Lines Constructed or rehabilitated [PA9]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Written confirmation from FMM part
Target	0	0	0	0	0	**0**	**0**	**Note:**

Kilometers of Power Lines Constructed or rehabilitated [PA9]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Written confirmation from FMM part
Actual	0	0	0	0	0	**0**	**0**	SAEP did not anticipate reporting results for this indicator in Q4. No transmission lines will be commissioned this year

Greenhouse Gas (GHG) Emissions Reduced, Sequestered, and/or Avoided (thousand tCO_2e) [PA14]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records, using the USAID CLEER Tool
Target	0	0	0	0	0	**1,169.6**	**1,169.6**	**Note:**

Greenhouse Gas (GHG) Emissions Reduced, Sequestered, and/or Avoided (thousand tCO_2e) [PA14]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program records, using the USAID CLEER Tool
Actual	3.6	162	81	365.7	612.3	**612.3**	**612.3**	The commissioning of the following transactions contributed to the Greenhouse Gas Emissions Reduced: **Quarter1** • Tedzani III Hydro Power Plant – (5 MW Hydroelectric Transaction) - **3.6 tCO2e** **Quarter 2** • Dyasons Klip 1 – (86 MW Solar Transaction) - **81 tCO2e** • Sirius Solar PV Project One (86 MW Solar Transaction) - **81 tCO2e** **Quarter 3** • Dyasons Klip 2 (86 MW Solar Transaction) - **81 tCO2e** **Quarter 4** • Aggeneys Solar Park (46 MW Solar Transaction) – **43.8 tCO2e** • Bokamoso Solar Park (67.9 MW Solar Transaction) - **64.7 tCO2e** • Droogfontein 2 Solar Park (75 MW Solar Transaction) - **71.4 tCO2e** • Konkoonsies II Solar (86 MW Solar Transaction) - **81 tCO2e** • Pedekraal East Wind Farm (110 MW Wind Transaction) – **104.8 tCO2e**

US Exports Supplied for Clean and Cleaner Energy Projects [PA17]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Target	0	0	0	0	0	**N/A**	**N/A**	**Note:** SAEP did not anticipate reporting results for this indicator in Q4. None of the transactions that reached FC this year have US exports
Actual	0	0	0	0	0	**N/A**	**N/A**	

Partner Commitment Tracking ($ million USD) [PA19]								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Target	0	0	0	0	0	**N/A**	**N/A**	**Note:** In Q2 the AfDB committed through their loan in Angola $530m USD for the South-Central Transmission line. The WB loan for connections and transmission work in Angola has not been signed yet, but is estimated to commit $250m USD. Temane Transmission Project committed funds: • World Bank - $300 million • Norwegian Trust - $24 million • AfDB - $33 million (Not PA Partners: OFID - $ 36 million; IsDB $99 million but not finalized commitment)) For the Temane Gas Project (CTT), a commitment of up to $200m USD has been committed by the DFC.
Actual	0	530	250	357	1,137	**1,137**	**1,137**	

Estimated number of Beneficiaries: Number of beneficiaries with anticipated access to connections								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Target	N/A	N/A	0	0	0	**0**	**N/A**	**Note:** (The multipliers used are based on the World Banks average country household size. The average

Estimated number of Beneficiaries: Number of beneficiaries with anticipated access to connections								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Actual	N/A	N/A	7,342,006	6,688,522	6,688,522	**6,688,522**	**N/A**	country household size multipliers per country are as follows: • Angola – 2.32 • Lesotho – 3.3 • Madagascar – 4.7 • Malawi – 4.5 • Mozambique – 4.4 • Zambia – 5.1 **On grid** • EDM: 1,391,487 • ENDE: 1,442,636 • LEC: 45,289 **Off grid** • Madagascar: 49,350 • Malawi: 1,000,904 • Mozambique: 191,404 • Zambia: 2,567,452

Estimated number of Beneficiaries: Number of beneficiaries with actual access to connections								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Target	N/A	N/A	0	0	0	**0**	**N/A**	**Note:** The multipliers used are based on the World Banks average country household size. The average

Estimated number of Beneficiaries: Number of beneficiaries with actual access to connections								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Actual	N/A	N/A	609,945	653,484	1,248,011	**1,248,011**	**N/A**	country household size multipliers per country are as follows: • Angola – 2.32 • Lesotho – 3.3 • Madagascar – 4.7 • Malawi – 4.5 • Mozambique – 4.4 • Zambia – 5.1 **On grid** • EDM: 301,536 • ENDE: 89,935 • LEC: 15,418 **Off grid** • Malawi: 80,195 • Mozambique: 58,296 • Zambia: 108,105

Number of competitive procurement processes for new generation capacity implemented with USG Power Africa assistance								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Target	N/A	N/A	0	0	0	**0**	**N/A**	**Note:** From FY20 Q3 and thus only counted once in the time the procurement process was introduced.

Number of competitive procurement processes for new generation capacity implemented with USG Power Africa assistance								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Actual	N/A	N/A	2	0	2	**2**	**N/A**	• Development of eSwatini Procurement Framework: Regulations to Implement Sections 26(5) and 27(6) of the Electricity Act of 2007 – Y3.01.04.01.SWA • Continued procurement technical assistance to BPC 100MW solar procurement. This procurement is live and our assistance was integral to the development of the RFP (this tender has not be finalized and assistance started last year, but as we just began to track this indicator, it is marked in this quarter)

Number of host-government power sector strategic planning documents adopted, implemented, or revised, with U.S. Government (USG) Power Africa support								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Target	N/A	N/A	0	0	0	**0**	**N/A**	**Note:** SAEP did not anticipate reporting results for this indicator in Q4. To note, most of the strategic plans that we have worked on under SAEP are counted in the above laws, policies indicator as they are internal strategic plans, not overall country strategic planning documents. As we do not want to double count, they are not counted here.
Actual	N/A	N/A	0	0	0	**0**	**N/A**	

New electricity capacity committed for regional trade through bilateral agreements								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Target	N/A	N/A	0	0	0	**0**	**N/A**	**Note:**

New electricity capacity committed for regional trade through bilateral agreements								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Actual	N/A	N/A	0	0	0	**0**	**N/A**	SAEP did not anticipate reporting results for this indicator in Q4 or Year 3 overall.

Number of U.S. companies that participate in Power Africa outreach events								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Target	N/A	N/A	0	0	0	**0**	**N/A**	**Note:**
Actual	N/A	N/A	1	0	1	**1**	**1**	On the 2nd of June 2020, Power Africa held a Private Sector Partners Webinar series, in which, episode 1 focused on Self-Generation and Battery Storage. The event had six Private Sector Partners in attendance and only one of those companies was a US company. The US company that took part in the event is **National Rural Electric Cooperative Association (NRECA).**

Number of U.S. companies participating in Power Africa Projects/Transactions								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Target	N/A	N/A	0	0	0	**0**	**N/A**	**Note:**

Number of U.S. companies participating in Power Africa Projects/Transactions								
	FY20 Q1	**FY20 Q2**	**FY20 Q3**	**FY20 Q4**	**Year 3 Total**	**Cumulative Results**	**Life of Project**	**Data Source:** Program documents
Actual	N/A	N/A	2	2	2	**2**	**2**	This indicator requires the number of US companies that are involved in transactions that have reached FC and COD. From the SAEP basket of transactions that have reached FC and COD, there are two US companies involved, namely: • Rockefeller Brothers Fund **(Perdekraal East Wind Farm)** • Just Energy (**Wesley-Ciskei Wind Project)**

APPENDIX C TRANSACTIONS TRACKER[17]

In Year 3, SAEP's Transaction Advisory team supported the following projects in support of Program goals. In addition, SAEP initiated conversations with other developers. The outcome of those engagements may result in additional projects being added in Year 4. This is a list of transactions that SAEP is actively working on and tracking with an intention to support.

Connections

Project name	Country	Technology	Est. Connections	Current Status
EDM	Mozambique	On-Grid	657,000 connections	**EDM EMU:** The SAEP assistance resumed following the appointment of the new EDM Board, and the Electrification Director, Joaquim Ou-Chim, who had immediately prioritized SAEP activity and issued the Executive order in August 2020, thereby permitting the EMU to proceed with its mandate. SAEP commenced with the engagements with the EMU Appointed Managers in the operationalization of an EMU. Furthermore, SAEP finalized the issue of the three (3) Handbooks for Electrification, Procurement and Finance Planning and Execution were completed and issued to EDM EMU for application and the teams are currently undergoing the planning of how to roll out the tools and the processes in EDM and the Delegations, through the discussions with EDM Directors and EMU Managers. **EDM HCD** SAEP continued with the design of an HCD approach at EDM to foster customer centricity and facilitate new connections in Mozambique. The SAEP focus in Q4 was on the development of the implementation activities and roadmap, based on the three solutions that were identified. **COVID-19 Support to EDM** SAEP commenced the additional support to EDM this quarter, with the assistance for improving the level of preparedness and response capacity during and post the COVID-19 pandemic. SAEP conducted an initial assessment on how the EDM COVID Task Team was structured and supported EDM in preparing protocols, required communication and review of some contingency plans for critical areas. The most notable support was SAEP's proposal to EDM to make adjustments to their COVID Task Force structure by proposing that the EDM Directors are also part of the Task Force Governance. Prior to this discussion, the COVID Task Force Team comprised only the technical team members, focusing on preparing the communication protocols and buying protection and safety equipment. SAEP's recommendation was accepted by EDM, and two of EDM's Directors have taken the overarching lead over the Task Force, namely EDM Distribution Director, Alberto Banze and EDM Hygiene, Health and Safety Director, Lucas Chongo. This new structure resulted in an empowered coordination team that reports to the BoD. Under the Directors' level is the technical team, which in turn is also streamlined and organized in specialized teams to manage different topics.

[17] The transactions presented here are transactions that we are currently designing transaction advisory scopes for or are currently providing targeted transaction support to.

Project name	Country	Technology	Est. Connections	Current Status
ENDE	Angola	On-Grid	735,000 connections	SAEP had previously reviewed the ENDE procurement plan to accommodate the AfDB's recommendations of changing the prepaid metering tender to the works category and to add the procurement of an engineering consultant to review the bill of quantities of the meters' tender Terms of Reference (ToR) for the secondary network regularization services. This revised version of the Procurement Plan was resubmitted to the Bank for No Objection. AfDB subsequently recommended the approach which would extend the award of the meter installation to commence in 2022. Accordingly, SAEP assisted ENDE to develop alternative procurement options that would shorten considerably the timeline, with the meter tender commencing early next year. However, after AfDB strongly recommended their own suggested approach, ENDE decided to accept it, despite its prolonged duration. During this period of the negotiations between AfDB and ENDE, SAEP's work was on hold, until late September, when ENDE made the decision. Subsequently, AfDB recommended that ENDE increase the number of lots in the metering tender, which had previously been advised by SAEP, but rejected by AfDB at the time (with an explanation of the concern of the ability of ENDE to manage more than one (1) contractor). SAEP once again supported ENDE to review the number of lots and to propose the configuration option aimed to reach a reasonable compromise between i) the total number of lots in the RFP and the corresponding contracts that the ENDE PIU will have to manage (three lots), and ii) the level of effort required each year by the contractors in the allocation of the meters to be installed in the regions/distribution centers within each lot. This was submitted to ENDE for internal review, after which the proposal will be submitted to AfDB for consideration.
LEC	Lesotho	On-Grid	29,682 connections	**COVID-19 Support to LEC** Activity cancelled, due to LEC's new Board of Directors and MD, who have yet to reengage with SAEP
ANKA	Madagascar	Mini-grid	10,500 connections	SAEP is assisting ANKA in its effort to become a Power Africa Partner but the process has not been completed yet. ANKA also informed SAEP that they have started construction of phase 1 of their AP2 project, which will connect up to 2,500 households in its end-state. SAEP had previously assisted ANKA with financial modelling and financial matchmaking for their AP2 project, and will assist with further model updates as and when needed.
Baobab+	Madagascar	SHS	92,600 connections	In quarter 4, Baobab+ was still struggling to obtain the authorization to move around freely even though energy companies were classified as essential services. At the end of the Year, the US Mission in Madagascar was exploring the possibility of assisting Baobab+ and other SHS companies in a similar position to obtain permissions to ease their movement restrictions and enable them to do business. Baobab+ had previously informed SAEP that the movement restrictions had caused about 50% of revenue loss to the company. To mitigate the impacts, the company had adopted a sub-optimal solution that entailed collaborating with authorized transporters to deliver their equipment and materials across the country, which exposed the company to significant delays and damage to equipment. As a result of this threat to Baobab+'s business, SAEP and Baobab+ have not been able to discuss the nature of further support that Baobab+ requires from SAEP such as the sales agent performance management support they had mentioned previously. SAEP will continue to make an offer of further support available to Baobab+ going into Year 4.
Mozambique Off-Grid Companies	Mozambique	SHS	100,000 connections	In quarter 4, SAEP completed updates to the Mozambique RTM tool with data sourced from Fenix, who provided electrification coverage data, and from M-Pesa, who provided mobile network and mobile money penetration data. The model updates are yet to go through internal reviews. In quarter 1 of Year 4, there is a plan to release the updated model to the public. The updated release will be accompanied by video tutorials. SAEP also continued to

Project name	Country	Technology	Est. Connections	Current Status
				keep companies informed of progress with the fiscal incentives work from whose successful implementation they will benefit.
SHS Kick-Starter Grant	Malawi	Solar	300,000 connections	After initial delays caused by a surge in COVID-19 cases, at the end of Year 3 Vitalite indicated that they would be moving forward with agent-level training. Zuwa, on the other hand, were undergoing some staff reductions due to lower business activity as a result of COVID-19 and were not in a position to proceed to agent-level training. Both companies had previously received SFE training from SAEP targeted at managerial and supervisory level training. The next step is for them to lead their own agent-level training with light support from SAEP. In addition to the above, during quarter 4, disbursements were made to SHS companies that are part of the Kick-Starter Program after the submission and approval of their business continuity plans. This was part of the modification to the grant milestones and disbursement schedule. An additional milestone was added, which required grantees to submit a business continuity report.
Zambia Off-Grid Companies	Zambia	SHS	702,509 connections	By the end of Year 3, Zambia's off-grid companies have contributed a cumulative total of 88,945 connections mainly from SHS companies. In Year 3, SAEP handed over the primary responsibility of supporting SIAZ to ACE-TAF but continued to support ACE-TAF and attending SIAZ meetings. The highlight of SAEP support to SIAZ during Year 3 is the contribution of the Country Manager and OC4 Lead to the development of responses to COVID-19 impacts, which included an approach to engaging the government on a range of issues. In addition to SIAZ support, SAEP was a key source of information for the World Bank as they developed their geospatial model for Zambia, and assisted BGFA as they worked on designing an RBF program for Zambia.

Transmission

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
Mozambique–Malawi	Cross-border	Transmission	1000	The World Bank advised on 14 July 2020 that the Project Implementation Manual (PIM) for the Malawi–Mozambique 400 kV interconnection project has been concluded and that the project has now reached financial close. The Requests for Bids (RFB) for the EPC contractor overhead transmission line (the interconnector) were published on 21 July 2020 in Malawi's Daily Times Newspaper and announced through the Club of Mozambique (an online news outlet) on 28 July 2020. To prepare ESCOM to operate in an interconnected system when the interconnector is completed, SAEP, through discussions with the World Bank and ESCOM, laid out a series of technical assistance areas. On 23 July 2020, SAEP kick-started delivery of virtual training for the ESCOM system operations team on operating in an interconnected system. This training, which concluded on 8 October 2020, is the last bit of the SAEP technical assistance to ESCOM in support of the Mozambique–Malawi	31-July-20 (FC Reached)

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				interconnection project for Year 3. Going into Year 4, SAEP will continue with capacity building efforts by providing ongoing refresher interventions on Production Optimization and Operating in an interconnected SAPP system. This will also include new training, which will focus on the optimal use of the ESCOM SCADA system for the Malawi National Control Centre (NCC) staff (front and back).	
Temane Transmission Project (TTP)	Mozambique	Transmission	450 (Gx) 900 (Tx)	TTP reached a major milestone with the World Bank, Norwegian Trust Fund and AfDB issuing declaration of effectiveness letters confirming that all conditions for the effectiveness of the grant have been met. The Islamic Development Bank (IsDB) and OPEC Fund for International Development is expected to issue effectiveness by October 2020, provided that all Conditions Precedent are met, and all Financial Agreements are approved by the Mozambique Attorney General, approved by the Council of Ministers and published in the Mozambique Gazette. To reach effectiveness, the team is working with the Ministry of Finance (MEF) to compile all evidences and formally submit to IsDB via MEF.	30-Oct-20
Angola South-Central	Angola	Transmission	1000	SAEP is supporting Angola's transmission company, RNT, to manage the development of the AfDB-funded 343 km 400 kV transmission line that will interconnect central and southern Angola. The construction of this transmission line will allow for the evacuation of around 1,000 MW from North to South and is critical to the Angola–Namibia (ANNA) interconnection project, which will facilitate power trade between the two countries and enable Angola to join the Southern Africa Power Pool (SAPP) for the first time. Key components of support have been: • Facilitating the operationalization of the RNT PIU, which is critical for the management of the AfDB-funded Angolan Central–South transmission system project • Finalizing the procurement of consulting services for the development and implementation of the resettlement plan and the construction of the Huambo–Lubango 400 kV transmission line and associated substations. Specific support included assistance and training to prepare tender documents, evaluate proposals and draft an evaluation report On 20 August 2020, the AfDB informed SAEP that the ESEEP I project had obtained legal opinion and that the Angolan court of audits had approved the loan agreement. The AfDB loan was approved by its Board of Directors on 13 December 2019, became Effective on 8 September 2020, and then consequently the approval of the proposed Work Plan and Budget. Following the loan approval, the RNT PIU immediately commenced the recruitment of an Owner's Engineer and of an EPC company for the construction of the project, which were part of the advance procurement requested by the Government of Angola. During Year 3, the following procurement processes were conducted (and will continue into Year 4, where they will be concluded): • Recruitment of the Owner's Engineer	8-Sep-20 (FC reached)

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				• Recruitment of the resettlement action plan (RAP) consultant • Engineering Procurement Contractor (EPC) recruitment • Consultant to carry out the feasibility studies for Gove Menongue • Procurement of office IT equipment, office vehicles and rental of office space	

Generation

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
BPC Solar PV	Botswana	Solar	100	SAEP continues to provide support to BPC as procurement advisors as they work to advance the project. The project should move forward in the next quarter through committee of the Ministry, BPC and BERA advancing the RFP. Transaction is being re-scoped and meetings need to be set up with Ministry and BPC to discuss the next phase. Christine Covington put together a presentation for discussions targeted at the proposed schedule and de-risking options for the project. SAEP supported RFQ development and review. The RFQ was released on 1 August 2019 and closed on 30 September 2019 with the selection of qualified Bidders. The group of qualified Bidders received the RFP on 4 February 2020; the RFP is expected to close 30 October 2020. SAEP continues to support BPC during clarifications rounds of the RFP. Other information is procurement sensitive and confidential	08/31/2021
Kalahari Energy Coal Bed Methane (CBM)	Botswana	Coal Bed Methane (CBM	97	In June 2019, both Kalahari Energy (97 MW) and Tlou Energy (2 MW) were awarded Preferred Bidder status for the construction of a Coal Bed Methane (CBM) fueled, IPP-owned power plant in Botswana. Sekaname (Pty) Ltd is developing the 97 MW Kalahari Energy project. The award follows from submission in October 2018 to tender "for the development of a maximum of 100 MW CBM fueled pilot power plants in Botswana as an IPP". Kalahari Energy intends entering into a 30-year PPA with BPC; and the Government of Botswana will provide a credit-enhancement mechanism to make the project bankable. On 9 March 2020, a grant ceremony was held in Botswana where the project received a USD $980,000 grant from the USTDA. Some of the grant funding is targeted at the appointment of a mining advisory entity for further work in confirming the CBM resource. On 23 June 2020 it was publicly announced that Botswana has granted their first-generation licenses to IPPs. BERA allotted generation licenses to three IPPs for the construction of power plants with an 827 MW generation capacity. The license has a term of 15 years. The three IPPs include:	31-March-22

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				• The Gaborone based Energy & Natural Resource Corporation for the construction of a 600 MW coal-fired power station • Sese Power for a 225 MW coal-fired power station • Tlou Energy for a 2 MW of coal bed methane gas and solar power project No mention was made of the 97 MW Kalahari Energy CBM project. SAEP is awaiting the completed SSIR and NDA from Kalahari Energy.	
GBA Swaziland Riverbank	Eswatini	Solar	10	SAEP completed TTS on 15 May 2018. SAEP's support was focused on increasing the robustness of the project's financial model, in particular how the project's storage component enhances the underlying project economics, while providing EEC (the utility) a level of dispatchability. The financial model delivered to the client enables him to adjust key project-level assumptions to optimize project economics (in particular, the IRR to investors) and determine the most appropriate tariff to charge the off-taker. The model calculates unique storage-related outputs and revenue streams that currently have no precedent to follow. On 26 April 2019, the project sponsor submitted a new "Registration of Interest for Participating in the Development of New Generation Capacity" to ESERA. This latest request from the state indicates that the previous request in December 2018 may have not been successful. On 7 June 2019, ESERA released a new Request for Qualification for Procurement of New Generation Capacity of 40 MW of solar power, excluding storage. In July 2020 GBA confirmed that their leading partner has decided not to participate in the bidding process. GBA will hence not participate in the bidding process anymore and the GBA project has been stopped.	(Project stopped / Not Active)
RSSC Grid-Tied Solar PV Plants	Eswatini	Solar PV	10	The former Royal Swazi Sugar Corporation (RSSC) is now known as Royal Eswatini Sugar (RES). RES intends contracting with an IPP for the financing, EPC and operations of a 10 MW Solar PV facility with RES as PPA off-taker. Following a bidding process in Q3 2019, RES subsequently selected a Preferred Bidder for the solar PV project. SAEP has engaged with RES Energy Manager, Mr. Bongumusa Tfwala. Mr. Tfwala stated: • RSSC is awaiting a draft PPA from the preferred IPP for consideration and input by RES in preparation for the PPA negotiations • RES intends to contract an advisor to provide, amongst other services, technical and financial advisory services • The preferred IPP is currently procuring the services of an environmental consultant for the environmental assessment of the project • The preferred IPP may still need to formulate and register the local company and make an application for the generation and wheeling licenses Little progress was made during this reporting period, partly due to COVID-19 travel restrictions.	30-Jun-21

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				SAEP is continuously following up with RES.	
Neo1 - OnePower	Lesotho	Solar	20	One Power is developing the Neo1 20 MW solar PV project in Lesotho, which would be the first IPP in the country. In May 2019, One Power received a grant from the United States Trade and Development Agency (USTDA) to support feasibility studies for the development of the 20 MW Neo1 solar PV project. While the Power Purchase Agreement for the project was initialed in 2017, the Implementation Agreement (IA) for the transaction is being negotiated for the Government of Lesotho through the Ministry of Finance by the law firm Trinity with funding from the African Legal Support Facility (ALSF). SAEP has offered negotiation support to the Ministry. In addition to financial model review, SAEP is examining generation planning with LEC as well as the impacts of renewable generations on Lesotho's national grid. One Power CEO, Dr. Matt Orosz and One Power Lead Developer, Mr. Chaim Motzen are leading the development of the 20MW NEO1 Solar PV project. Following discussions during the reporting period between One Power representative, Mr. Chaim Motzen and SAEP Lead Transaction Advisor, Mr. Motzen inter alia stated that corruption charges in Lesotho as well as COVID issues have delayed some aspects of the project's progress. Technical and Financial Advisors (Mutliconsult) have recently been appointed by ALSF to report to Trinity and help advise the Government of Lesotho. Most land issues have been resolved and good progress is being made with IA negotiations with IA signature anticipated by 4Q 2020.	06/30/2021
Mazenod	Lesotho	Solar	40	Phanes Group is developing the 40 MW Mazenod and the 30 MW Mohales Hoek Solar PV project in Lesotho. The Mazenod project will follow and lag behind the development of the Mohale's Hoek project. In April 2020, Phanes stated that they anticipate delays due to COVID-19 travel restrictions. No progress made by developer during the reporting period.	06/30/2021
Mohale's Hoek	Lesotho	Solar	30	Phanes has signed a non-binding MOU with the Government of Lesotho for the Mohale's Hoek project, though LEC (the utility) does not currently have the project in its generation planning. The next step is for Phanes to sign a binding MOU with the Ministry of Energy, after which Phanes will enter into PPA negotiations with LEC. SAEP is remaining in contact with Phanes as it progresses its conversations with the Government and is attempting to better understand the Government's intentions with respect to new renewable projects. During the reporting period, Phanes Business Development Director, Mr. Salma Moussaoui, stated that they are experiencing delays due to COVID 19 as they were planning to travel to Lesotho but have now delayed such travelling. No progress to share on the project.	12/31/2020

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
ANKA (Previously EOSOL Madagascar)	Madagascar	Solar	2300 Seg 1 5900 Seg 2 2800 Seg 3 connections	In April 2019, ANKA asked SAEP for additional support in addressing a USD $1 million funding gap for ANKA'S mini-grids under AP1. SAEP agreed to assist ANKA to raise the funds required. SAEP has proposed various funding options. ANKA managed to secure all the funding they need for segment 1 of their AP2 project. One of their existing financiers, who had already committed a portion of the grant funding they need, decided to increase the grant amount to close the gap. Previous EOSOL Merged with a smaller mini-grids company and will now trade as ANKA. ANKA needs SEAP assistance for segments 2 & 3 of AP2 project. ANKA is of the opinion that the funders that SAEP introduced will benefit her next funding "tour" (planned COD of 2021). SAEP to potentially assist ANKA with a structured plan for engaging funders for segments 2 & 3. ANKA has 8 grids under construction and when they are commissioned, they will operate a total of 12 mini-grids with a total installed generation capacity of 350kWp. None of these new concessions were part of AP1 and AP2. ANKA needs support from SAEP to help them to "tell their story" as they apparently have not been great at selling their successes and need help with this aspect. SAEP completed TTS in April 2018, where they developed a financial model to analyze expansion projects for EOSOL, a mini-grid developer, and made recommendations on capital sources. In respect of AP2 Phase 1B, two projects are targeted, totaling around Euro6.5m. The Scale North (Euro3.5m) and AP2 Phase 1B+ (Euro3m) project in the South. The target is to achieve FC by 4Q 2020 and commission the two projects by 4Q 2021. In respect of AP2 Phases 2 & 3, ANKA is doing some work on AP2 Phases 2 & 3, but is focusing on the current projects and Scale North and AP2 Phase 1B+ for now and will then move towards AP2 Phases 2 & 3. ANKA hopes to achieve FC by 1Q 2021. Connection numbers are not confirmed yet as they first need to finalize the projects and grid studies, and will then know the connection numbers.	Segment 2: 12/31/2020 In respect of AP2 Scale North and AP2 Phase 1B+: 1Q 2021 Phase 1B: 4Q 2021
Themis Sahofika	Madagascar	Hydro	192	The Sahofika Hydropower Project (the "Project") will be a 205 MW hydropower plant located on the Onive River in Madagascar, being developed by Eiffage, Eranove and Themis (the "Consortium"). On 2 December 2016, the Consortium signed a Project Development Agreement with the Ministry of Water, Energy and Hydrocarbons to design, finance, build, operate and maintain the project. In addition to the power plant, the Project also involves the construction of a 110 km transmission line to the site, as well as camp facilities and 112 km of access roads. The past quarter saw the completion of SAEP support to Themis through the development of an economic assessment model and accompanying report.	12/31/2021

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
Akuo Energy	Madagascar	Solar PV	2.9	The objective of the 2.9 MW Akuo Energy Solar PV project (the "Project") is the development of a 2.9 MW Solar PV facility to replace current HFO-LFO generated power. This will assist in reducing the tariffs payable by Jirama to Enelec on the current PPA between the entities. With the Solar PV plant, the operator can also reduce the operating time of HFO&LFO plant. This will contribute to lower maintenance cost and, with the fuel offset, potentially reduce the subsidies to the Jirama in Toliary (where the Akuo will implement this project). The intended project is an "innovative" solar PV farm of 2.9 MWp with installation of the containerized solution Solar GEM, that has been deployed in Indonesia in a smaller scale and it has proven its robustness. This solution has been chosen because it can be deployed quickly and it gives a strong warranty against the risk of non-payment from Jirama, as it is removable, can be folded back and deployed elsewhere. An NDA has been signed between the SAEP and Akuo. The SSIR was agreed and the QTAT in preparation. SAEP has provided Akuo with a list of potential debt, grant & equity financiers. Feedback received is that Akuo's intended partner decided not to use the Akuo JV for the two projects and intends to work with another company. NO PROGRESS made during the reporting period. The Akuo Energy project is currently ON HOLD.	ON HOLD 12/31/2021
Kanengo Solar	Malawi	Solar	20	Atlas Energy was looking at developing the 20 MW Kanengo Solar PV project in the Lilongwe area. It is one of the four projects intended for the Lilongwe area. The developers have not made any progress during the reporting period. This project is ON HOLD. No progress made by developer during the reporting period.	12/31/2021
Lilongwe Solar	Malawi	Solar	25	The developers have not made any progress during the reporting period. The solar PV projects in the Lilongwe area are delayed by land issues. This project is ON HOLD. No progress made by developer during the reporting period.	06/30/2021
Luweya River Phase I	Malawi	Hydro	15	The developers have not made any progress during the reporting period. This project is ON HOLD. No progress made by developer during the reporting period.	09/30/2021
Mbongozi Power	Malawi	Hydro	41	Hydro Electric Power Limited ("HE Power") is developing the 41 MW Mbongozi Hydropower plant in Malawi. An IA was signed between the GoM through the Ministry of Energy and HE Power in October 2013. A PPA was signed between ESCOM and HE Power in June 2018. In December 2018, EGENCO provided HE Power with a non-binding EOI for EGENCO's potential participation in the development of, and investment in, the project. SAEP has been assisting EGENCO	12/31/2021

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				with transaction advisory support and inputs as well as a due diligence report, which was presented to EGENCO in July 2019. Following an additional request from EGENCO Director of Planning & Development, Mr. Labren Songhi, SAEP submitted an updated due diligence report to EGENCO in March 2020. In August 2020, the SAEP Lead Transaction Advisor reviewed an offer letter EGENCO received from HEP and provided comments to Mr. Songhi on 27 July 2020. During the reporting period SAEP Lead Transaction Advisor had follow up discussions with Mr. Songhi, where he stated that meetings between EGENCO and HEP is scheduled for August 2020. The purpose of the meetings will be to discuss the proposal and the outstanding issues as well as inputs received from SAEP. Following the meetings with HEP, EGENCO will revert back to SAEP with feedback and further assistance.	
Mpatamanga Hydro Electric Project	Malawi	Hydro	350	SAEP support to the development of the Government of Malawi's (GoM) Mpatamanga hydropower project continues following the release of the full Request for Proposals (RFP) for project sponsor to the prequalified bidder on 25 August 2020. During the reporting period, SAEP worked on and advanced the following activities: • Participated in the first bidder's videoconference held on 2 September 2020. Members of the GoM's Task Force, the GoM's advisors and representatives from the qualified bidder, SN Power and EDF, participated in the call. The purpose of the videoconference was to introduce the prequalified bidder to the project team, reaffirm the GoM's commitment to the project and give an overview of the key elements and dates of the bid process. The bidder also had the opportunity to raise questions they required immediate answers to, such as the possibility to conduct a site visit by mid-October amid the COVID-19 pandemic • Reviewed the Expressions of Interest submitted by 12 international legal firms on 1 September 2020 for the position of the GoM's legal counsel for the remainder of the project development period (until financial close at the end of 2021). SAEP recommended five firms to be shortlisted. Following the GoM's approval of the shortlist, the RFP will be released and prequalified firms will have a minimum of 21 days to submit a technical and financial proposal. The new legal counsel's contract will be funded using part of the GoM's recently approved additional USD $750,000 development funding allocation from the Global Infrastructure Facility (GIF) • Continued discussions with the Environmental and Social (E&S) consultant, Mott MacDonald, who is leading the preparation of the final biodiversity action plan (BAP), resettlement action plan (RAP), livelihood restoration plan (LRP), and the environmental and social impact assessment (ESIA). SAEP led a call with the GoM environmental specialists on 8 September 2020 to prepare for a call with Mott MacDonald, the IFC	12/31/2021

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				and the World Bank on 9 September 2020, the latter of which was held to agree on the sampling and methodology for the fish survey. The survey, which started in mid-September 2020, will be a core component of the BAP. Its results will determine whether the project's area constitutes "critical habitat" and to what extent the project is expected to impact protected fish species. Additionally, SAEP participated in a monthly progress report call with Mott MacDonald on 9 September 2020	
Golomoti Solar PV	Malawi	Solar	18	JCM is developing the 18 MW Golomoti Solar PLUS Battery Storage. The USTDA grant awarded in 2018 was targeted at covering costs through FC (including feasibility, ESIA). JCM started the overall feasibility study for Golomoti towards the end of October 2018. The Project is still under early development as JCM needs ESCOM to better understand the incorporation of storage into the system before they can negotiate the PPA. JCM signed a PPA with ESCOM on 14 September 2018 for the solar component of the Golomoti project (PPA does not cover the storage component of the project; that may be addressed later in a revised PPA). The Golomoti project is still under early development as JCM needs ESCOM to better understand the incorporation of storage into the system before they can negotiate the PPA. JCM is also busy with the development and construction of the 60MW Salima Solar PV project in Malawi, which reached financial close in January 2019. For now, JCM is focusing on the Salima Solar PV project with any delays impacting the Golomoti project. No progress during reporting period.	12/31/2021
Nchalo Solar IPP Project	Malawi	Solar	10	Illovo Sugar Malawi (ISM) wishes to procure a 20-year Power Purchase Agreement with a third-party Independent Power Producer (IPP) for 10-15 MW Solar PV Project. The installation will be sited on the Nchalo Sugar Estate, on land owned by ISM. ISM will be the sole off-taker with a Business to Business (B2B) arrangement. The power from the solar PV plant will feed directly into the ISM-owned substation, after the ESCOM meter and into the ISM-owned grid. ESCOM will continue to feed power to the sugar estate when the solar plant is not capable of doing so. The	6/30/2021

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				purpose of the project is to offset expensive utility power and augment power during the hot dry months when ESCOM "load-limits" ISM. Illovo evaluated bids from third party producers and have selected a preferred bidder for the development of the solar plant. (Following a selection process, Mulilo was selected as the preferred bidder and Illovo has been selected as the reserve bidder.) SAEP previously tasked legal firm Cliffe Dekker Hofmeyr (CDH) for a legal review of regulatory framework in Malawi and Zambia where Illovo Sugar intends contracting with IPPs. This project has been placed ON HOLD in order to resolve regulatory issues. CDH Director: Projects & Energy Sector Head, Mrs. Jay Govender is leading the CDH team for the task. Other information is confidential. SAEP raised follow-up regulatory clarification questions to CDH as to what options might potentially be allowed under the regulations. There are different definitions of what is allowed for a "customer" and for a "consumer". A customer does not necessarily consume the electricity but might on-sell it. A PPA might only be allowed for a customer, while an Energy Supply Agreement (ESA) might be allowed for a consumer – to be confirmed with CDH. Furthermore, Illovo Sugar is a consumer and hence an ESA might be allowed. Also, if a PPA is not allowed, is an ESA allowed? Illovo Sugar is potentially not regarded as a customer in the regulations, but maybe a consumer? On 13 October 2020 Mrs. Jay Govender submitted a Supplementary Memo on Section 21(3) of the Malawian Electricity Act. The main take from the memo are as follows: • The inclusion of section 21(3) of the Electricity Act, as part of the 2016 amendment to the Electricity Act, allows for bulk consumers to buy power directly from generators, upon the approval of MERA. • However, it is not clear on what basis the generator will be allowed to bypass the single buyer in the market chain and sell directly to bulk consumers. The Electricity Act does not provide for a generator selling power outside of the single buyer. From the two points, it therefore seems that there is a misalignment in the electricity act as the consumer can buy from the generator, but the act does not provide for the generator to sell to the consumer. Follow up discussions are taking place with Illovo Sugar in order to decide on an appropriate way forward.	
Asani Biogas	Mozambique	Biogas	120	Asani Energy aims to develop up to 120 MW of biogas to power facilities in Mozambique for EDM. Feedstock will be based on silage from indigenous elephant grass enhanced with super napier grass. The project is still in early development stage. Asani is seeking transaction advisory support from SAEP, including a review of the financial model and other contract documents.	03/31/2022

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				Asani is also seeking a co-developer/partner to assist with further funding required to move the project forward. Asani shared their project teaser with SAEP. This project is ON HOLD. No progress made by developer during the reporting period.	
Buroma Hydro	Mozambique	Hydro	200	SAEP has held follow-up discussions with Mr. Paulo Dambusse Marques Ratilal (one of the project sponsors) and Mrs. Rita Faria, Tora Holdings Representative. SAEP requested copies of the latest financial model, IA and PPA. SAEP undertook to review such documentation and provide comments to Tora Holdings. SAEP is currently awaiting the receipt of the requested documents. During the reporting period, discussions were held between SAEP LTA and Tora Holding's financial advisor to the developer, Mr. Maique. Follow up discussions will be arranged by Tora with the rest of the team for update and potential assistance needed from SAEP. No progress reported by developer during the reporting period.	03/31/2022
Lupata Hydro	Mozambique	Hydro	600	SAEP has held follow-up discussions with Mr. Paulo Dambusse Marques Ratilal (one of the project sponsors) and Mrs. Rita Faria, Tora Holdings Representative. SAEP requested copies of the latest financial model, IA and PPA. SAEP undertook to review such documentation and provide comments to Tora Holdings. SAEP is currently awaiting the receipt of the requested documents. During the reporting period discussions were held between SAEP LTA and Tora Holding's financial advisor to the developer, Mr. Maique. Follow up discussions will be arranged by Tora with the rest of the team for update and potential assistance needed from SAEP. No progress reported by developer during the reporting period.	03/31/2023
NACALA Combined-Cycle Gas Turbine project	Mozambique	LPG	400	Nacala Power Limitada (Nacala) is developing the 400 MW CCGT project in Mozambique with Nacala President, Mr. Hugh Brown, leading the development of the project. As per the framework agreement between Nacala and the Ministry of Energy of Mozambique, the project scope has been changed from 450 MW (50+200+200 MW) to a 400 MW (200+200 MW) CCGT project. The project configuration includes a single 200 MW train with three gas turbines and one steam turbine producing 200 MW of power to be transmitted from the power station to Nacala Velha substation and then on to Namialo substation. The project targets to ultimately enable the full 400 MW generated at Nacala to be distributed on the northern grid. The project plays an important role in stabilizing the power balance and supply to the northern grid of Mozambique, and will mitigate long line brown-out outages and save power losses on single direction long transmissions. Financial close is scheduled for quarter 3 of 2021	12/31/2021

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				In early 2020, the SAEP Lead Transaction Advisor introduced Mr. Brown to two reputable IPPs interested in the Nacala project. During the reporting period, SAEP facilitated further discussions between Nacala and the interested entities. Nacala is seeking an IPP partner to come on board now. An opportunity also exists for earlier energy supply. Communication between Nacala and the IPPs has been positive to date and the parties are currently proceeding with further due diligence and deeper discussions. Feedback is limited for confidentiality reasons.	
Dondo Solar	Mozambique	Solar	50	Phanes Group was developing the project. EDM has subsequently decided to put the project out on open tender. Phanes Group therefore halted the development process and awaited the release of the tender process. Very recently, early October 2020, The Ministry of Mineral Resources and Energy proceeded with the tendering of three solar power projects with capacity of 40 MW each. Mozambican utility Electricidade de Mocambique (EDM) anticipate to enter into PPAs for the renewable electricity off take. The European Commission, together with the French Development Agency (AFD) is supporting the country's Projeto de Promoção de Leilões para Energias Renováveis (PROLER) auction scheme for renewable energies. For the PROLER scheme, the following three 40 MW solar plants as well as one 40 MW wind project is targeted in the districts of: • Dondo, • Manje, and • Lichinga; as well as a A 40 MW wind project in Inhambane. Phanes intends bidding the Dondo project under the PROLER scheme process.	
Nacala LPG-to Power	Mozambique	LPG	50	Nacala Power Limitada (Nacala) is developing the 400 MW CCGT project in Mozambique. Nacala Power Limitada President, Mr. Hugh Brown is leading the development of the project. The project consists of two phases of 200 MW CCGT each. As per the Framework Agreement between Nacala and the Ministry of Energy of Mozambique, the project scope has been changed from 450 MW (50+200+200 MW) to a 400 MW (200+200 MW) CCGT project. The 400MW (2x200MW) Nacala Natural Gas CCGT project consists of two phases of 200MW CCGT each. The project configuration includes a single 200MW train with 3 gas turbines (GTs) and one steam turbine (ST) producing 200MW of power to be transmitted from the power station to Nacala Velha substation and then on to Namialo sub-station. The project targets to ultimately enable the full 400MW generated at Nacala to be distributed on the Northern Grid. The project plays an important role in stabilizing the power balance and supply to the northern grid of Mozambique, and will mitigate long line brown out outages, and save power losses on single direction long transmissions.	12/31/2021

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				Nacala requested the Government of Mozambique (GoM) to allow a three-month extension on dates / Financial Close dates as per the Framework Agreement as a force majeure delay due to COVID-19 travelling and meeting restrictions. In early 2020, SAEP Lead Transaction Advisor introduced Mr. Brown to two reputable IPPs interested in the Nacala project. During the reporting period, SAEP facilitated further discussions between Nacala and the interested entities. Nacala is seeking an IPP partner to come on board now. An opportunity also exists for earlier energy supply. Communication between Nacala and the IPPs have been positive to date and the parties agreed to proceed to further due diligence and deeper discussions. • Other information is confidential.	
Mandimba Solar	Mozambique	Solar	50	Phanes Group is developing the 50MW Mandimba Solar PV project and has entered into a Non-binding MOU with EDM. Phanes is in bilateral discussions / negotiations with EDM, but not in a tender process. The next step on the project is to sign a binding term sheet to form the basis of the PPA. Thereafter the Framework agreement with the Ministry of Energy, which Phanes has received a template of. This is all part of the PPA term sheet and PPA requirements. After the term sheet is signed, Phanes will enter into a Framework Agreement with the Government of Mozambique, after which a PPA will be negotiated and signed between Phanes and EDM. During the reporting period Phanes Group Managing Director, Mr. Malik, stated that they anticipate delays due to COVID 19 as they were planning to travel to Mozambique a couple of weeks ago but in light of the evolution of the corona-virus (COVID 19), they decided to postpone the trip. No progress has been reported on the project during this reporting period. SAEP has been in touch with Phanes regarding the project, but until further progress is made, it does not appear SAEP assistance is required.	6/30/2021
Lichinga Solar	Mozambique	Solar	23	Phanes Group was developing the project. EDM has subsequently decided that they will put the project out on open tender. Phanes Group is therefore no longer developing the project and will await the tender process. ON HOLD.	12/31/2021
Naamacha Wind Farm	Mozambique	Wind	60	eleQtra is leading the development of the 120MW Namaacha Wind IPP, to be developed in two phases of 60 MW each, located in the Namaacha District in southern Mozambique. The project was awarded USD $2 million in USTDA grant and USD $400,000 from AfDB for legal fees. This plant will be among Mozambique's first utility-scale wind power plants. EleQtra project leader, Mrs. Lauren Thomas is leading the development of the project. Following communication between SAEP Lead Transaction Advisor and Mrs. Thomas, she stated that they experienced some issues which unfortunately set back the project development and pushed the project into very late 2021 as a result of the need for bankable data.	3/31/2022

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				At the moment, they have LIDAR and geotech consultants contracted but delays are experienced due to COVID-19 travel restrictions. However, if all goes well, they will be able to still finish technical studies largely in 2020 and use 2021 as the year for implementation agreements and financing documentation as proposed.	
Baynes Hydro Power Project	Namibia	Hydro	600	The 600 MW Baynes Hydro Power project has been in development since 2009. The project is split in two parts with 300MW allocated to Namibia and 300 MW allocated to Angola. The project is being jointly developed by the Angola Namibia Permanent Joint Technical Commission on the Cunene River Basin (PJTC). It will be situated on the Cunene River, approximately 40km downstream from the Epupa Falls. The project entails the construction of a 200m high CFRD (Concrete Faced Rock Fill Dam) with a total installed capacity of 600 MW (300 MW allocated to Namibia and 300 MW allocated to Angola). The financial close of the project is anticipated to be outside the SAEP program period ending March 2022. SAEP is however considering high-level support to the project in view of the Financial Close outside the SAEP program period. In July 2020, PJTC Secretariat, Mr. Muyenga Muyenga stated that they are proceeding with World Bank support. SAEP is following up with Mr. Muyenga for potential SAEP assistance. No progress reported during the reporting period.	4Q 2022 / 1Q 2023
CENORED	Namibia	Solar PV and Battery storage	10MW Solar + 10MWh storage	CENORED seeks to procure IPP PV plants for integration into its network. SAEP assisted CENORED with a review and comments for potential improvement of the i) tariff financial model, ii) PPA and iii) Direct Connection Agreement support. CENORED intends running a bidding process for the installation of Solar PV grid-connected systems located at various sites throughout the CENORED distribution area, with emphasis on one of the sites (preferably Tsumeb) having a 10 MW Solar PV plant with all sites developed on an IPP basis. The integration of (10MWh) battery storage system is envisaged as a net phase following on the Solar PV. During the reporting period SAEP assisted CENORED with the review of their bidding documents for the procurement of at least 10 MW of solar PV capacity from IPPs. The documents reviewed by SAEP include the Solar PV procurement document, Power Purchase Agreement (PPA), Distribution Connection Agreement (DCA) and a feed-in-tariff financial model. In Year 4, SAEP will provide additional assistance to CENORED in finalizing the documents and model and during their request for proposals (RFP) process and potentially also the evaluation of bids received.	12/31/2021
City of Cape Town Rooftop PV SSEG Program	South Africa	Solar	50	The City of Cape Town intends assisting residents in targeted area with the installation of circa 50 MW Rooftop solar PV facilities. SAEP previously assisted the City and developed a financial model to demonstrate the efficiency of a U.S. residential solar financing model known as Property Assessed Clean Energy. The City has continued to work on the Solar Rooftop project initiative and is developing a proposal which they will present to the relevant decision makers within the City.	12/31/2021

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				The City is working through the financial model previously developed by SAEP to determine scenarios and sensitivity analyses. The City requested model discussions with SAEP. On 6 August 2020, follow-up discussions were held between the City of Cape Town's Principal Professional Officer: Renewable Energy and Energy Efficiency Facilitation and Promotion: Sustainable Energy Markets, Mr. Julian Naidoo. Model input assumptions were discussed and updates were made where applicable. For the initial project, the targeted number of households were reduced from 10,000 to between 2,000 and 3,000 installations.	
Wonderkop Smelter	South Africa	EE	40	Energy Efficiency project - Organic Rankine Cycle (ORC) - process heat recovery. The project consists of a smelting process which will include capturing and converting process heat to electricity in an ORC system. The installed capacity of the plant is estimated at 40 MW. Heat measurements were completed in August 2018. The result was a variety of efficiency changes to the smelting process, which were implemented in 2019. Development Consult's, Mr. Nico Smith is leading the development of the project. SAEP has been in discussions with Mr. Smith. The owner of the smelter, Glencore, intends funding the pre-feasibility study. Once the pre-feasibility study report is submitted, they will submit the info to their Board if Wonderkop Operations believe it allows commercial benefits justifying major investment and a 15-year agreement with an IPP. Wonderkop project is ON HOLD until a decision has been made following receipt of the outcome of the feasibility study.	3/31/2022
Redstone Solar Thermal Power Project	South Africa	Solar	100	No progress reported during the reporting period.	Estimated 7/31/2019 (This will not be reported as FC until further details are collected on this project)
Mondi - Biomass / Cogen Richards Bay plant	South Africa	Biomass-to-Power Project	50	SAEP has been providing high level support to Mondi with finding potential off-takers from Mondi's existing 48MW Biomass facility. With the RMIPPPP RFP issued, SAEP Lead Transaction Advisor has been in discussion with Mondi's advisor, IES Energy Director, Mr. Dave Long, in order to assess Mondi's interest and options for potential participation in the RMIPPPP. However, two items in the RMIPPPP disqualifies the existing 48MW facility to participate, being i) a requirement of capacity of 50-450MW and ii) only new capacity being allowed, not existing capacity. Mondi is currently still considering adding a new >50MW biomass facility in order to comply with RMIPPPP requirements. SAEP is in discussion with Mondi and if Mondi decides to participate, SAEP has indicated willingness to support which will then be finalized. SAEP intends providing high level support to RMIPPPP bidders during the bid process. Such support still to be confirmed. As SAEP will not be supporting any one bidder exclusively in the RMIPPPP, bidders are informed accordingly in order not to provide any bid competitive information to the SAEP,	04/30/2021
IPP Global	South Africa	Gas-to-Power Project	200	IPP Global is a US Company, based in Houston, Texas. They intend developing a 200-250MW gas to power project in response to the RMIPPPP RFP issued by the DMRE of South Africa in August 2020.	04/30/2021

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				Following an introduction by Ryan Tramonte (US Trade) to Mr. Akinwale Aboyade (USAID), IPP Global's Mr. Peter Agbro (based in Houston, Texas) and SAEP Lead Transaction Advisor had discussions on the opportunity. IPP Global intends developing a project for bidding in the RMIPPPP. The MW capacity of the project still need to be confirmed. Following the discussions, IPP Global will revert back with any potential SAEP assistance required. SAEP intends providing high level support to RMIPPPP bidders during the bid process. Such support still to be confirmed. As SAEP will not be supporting any one bidder exclusively in the RMIPPPP, bidders are informed accordingly in order not to provide any bid competitive information to the SAEP,	
Plettenburg Bay	South Africa	Waste-to-Power Project	20	During the reporting period, SAEP Lead Transaction Advisor followed up with the developer, Development Consult's representative Mr. Nico Smith. Mr. Smith stated that the Biomass project was awarded to another entity. Eden Waste Management (RF) Pty Ltd was approved as the Private Partner to build and operate the regional waste management facility over a period of 10 years from start of operation of the facility. The Garden Route District Municipality, through a public-private partnership (PPP) with Eden Waste Management Pty Ltd, in February 2020, celebrated the launch and sod-turning of the region's first Garden Route Regional Waste Management Facility. This is the very first PPP of its kind in South Africa and is a leading innovation in creating environmental and social benefits for communities. Project awarded to another entity. (Project to be removed from future lists)	12/31/2021
Matjhabeng	South Africa	Solar PV	450	SunElex is a South African renewable energy developer that is developing the 450 MW Matjhabeng Solar PV Complex (Complex) in the Free State province of South Africa. The Complex is being developed in two distinct phases, as follows: A. The first phase of the Complex (the Public Procurement Phase) entails the development and operation of a 200MW Solar PV power plant with an accompanying 40MW Battery Energy Storage System (BESS). It is envisioned that this power plant will generate electricity for supply to the South African national grid under the Risk Mitigation Power Purchase Procurement Programme (and/or any other public procurement programme) ("Public Procurement Programme"). B. The second phase of the Complex (C&I Phase) entails the development and operation of a 200MW Solar PV power plant with the accompanying 40MW BESS. It is envisioned that this power plant will generate electricity for supply to South African commercial and industrial customers via wheeling and use of system agreements (the C&I Customers). SAEP entered into an LOC with SunElex on 9 October 2020 to provide transaction advisory support, which includes the development of a financial model as well as ESIA review and assessment.	12/31/2020

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
Kabompo Hydro	Zambia	Hydro	40	Copperbelt Energy Corporation (CEC) is developing the 40 MW Kabompo Hydro Power project in Zambia. As background, in 2015 the Government and Kabompo Gorge Hydroelectric Power Limited signed a concession agreement for the development of Kabompo Gorge Hydroelectric Power Project (KHPL). In March 2020, CEC was reviewing its Kabompo hydropower project to lower the cost and come up with an acceptable tariff. CEC stated that the project has not been suspended but is currently being redesigned with the process expected to be completed end of the year. No progress reported during the reporting period.	12/31/2021
Ngonye Falls Hydro	Zambia	Hydro	180	Western Power Company (WPC) is a Zambian independent power producer (IPP) developing the 180 MW (4 x 45 MW) Ngonye Falls hydroelectric power station along the Zambezi River at Ngonye Falls in the Senanga and Sioma Districts of Western Province. Run of River type, low head hydro with a capacity factor of around 53%. Significant technical work has been done. The ZESCO PPA bankability challenges remain. The project will need to build a substation and some length of line to join to the ZESCO line/substation. The connection of the project to the grid is however still reliant on an additional transmission line to be financed/done by ZESCO in order to strengthen the network as the plant will not be able to evacuate with the current network. ZESCO has budgeted for the required transmission line in 2022 connecting the Ngonye Falls Hydro to the ZESCO network. Western Power is also considering inclusion of such transmission line costs in their project capital costs (CAPEX) in order to fund the ZESCO T-line. If funded by Western Power, it is envisaged that a separate Lease Agreement will be entered into between ZESCO and Western Power in order for Western Power to not have to increase their required PPA tariff in order to accommodate the T-line expense. Irrespective of the funding, the T-line will still be owned and operated by ZESCO and developed 100% as per ZESCO specifications. ZESCO have confirmed technical specs will be shared with WPC shortly. They expect further progress this week having been invited to meeting at MOE to discuss how best to do this. EPC is currently on hold subject to securing additional development finance.	12/31/2021
GET FiT Zambia Round 1 – Small Solar	Zambia	Solar	120	SAEP has an embedded advisor supporting the GETFiT Secretariat with this solar round. Zambia received a USD $34.8 million full funding commitment from the German development bank KfW to implement Round 1 of the Program. The funding is to be provided to the GET FiT (Global Energy Transfer Feed-in Tariffs) Program. GET FiT Zambia is a cooperation Program between the Government of Zambia, ZESCO Limited, the Energy Regulation Board (ERB), the African Trade Insurance	6/30/2021

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
				Agency (ATI) and KfW. It focuses on the promotion of small grid-connected RE generation projects between 1 to 20 MW and is expected to connect an additional 200 MW of RE facilities to the national grid over the next five to seven years. In April 2019, the Zambia Ministry of Energy awarded solar PV projects with a combined capacity of 120 MW to six IPPs, at a competitive weighted average of USD $0.044/kWh. This followed the Zambian government's launch of a Global Energy Transfer Feed-in-Tariff (GET FiT) tender for an additional 100 MW of solar PV under the GET FiT solar framework. The maximum size of each project is 20 MW, to be procured over a period of three years. The three-joint venture (JV) companies, each developing 2 solar PV projects under the GET FiT program are: • JV of Building Energy & Pele Green Energy (PGE) • JV of Globeleq & Aurora Power Solutions (APS) • JV of InnoVent & CEC The selected developers expressed concern and discomfort with the "bankability" and credit risk of the PPA's with ZESCO. This is in view of ZESCO's financial situation and uncertainty around the support the government will provide and require comforting / supporting letters from the Govt of Zambia. Such letters are currently still being awaited by the developers. All the JVs in round 1 of GET FiT under the solar have expressed the current negative financial position of ZESCO as their main risk to reaching FC with their financiers.	
GET FIT Zambia Round 2 - Mini Hydro	Zambia	Hydro	100	SAEP has successfully completed TTS of the Energy Regulation Board (ERB) of Zambia request for technical assistance in determining feed-in-tariffs for mini-hydro projects, differentiated by size. SAEP assisted the ERB and provided a renewable energy feed-in tariff financial model in June 2019 to ERB. On 6 May 2019, GET FiT Zambia announced the 30 pre-qualified bidders for round two. On 5 November 2019, the Zambia Ministry of Energy announced that it granted Feasibility Study Rights to 22 developers within the framework of the Global Energy Transfer Feed-in-Tariff (GET FiT) Zambia mini hydro tender The Hydro component of GET FiT is currently NOT moving forward. In part, the issue of PPA credit risk is one of the major stumbling blocks. There have been meetings between the GET FiT Secretariat and Ministry of Energy of Zambia, but no firm commitments yet. It seems that the Secretariat would rather see FC on the solar projects first, before making tangible movement on hydro. Grid integration studies seem to be continuing but no firm movement from Government or Zesco. The ERB initially requested: • An analysis of available methodologies to calculate a REFiT Amendment/re-building of the model as necessary • Identifying relevant model inputs and their values • Capacity building in the development and use of the ultimate tariff determination model	3/31/2022

Project name	Country	Technology	Project size [MW]	Current Status	Estimated Financial Close Date
Unika Wind Mpepho Power	Zambia	Wind	100	Mphepo Power is leading the development of the 90 MW Unika wind power project in Zambia. On 21 November 2019 Mphepo installed a 120-metre meteorological mast to measure the wind potential for the wind power project. Implementation Agreement signature is targeted for Q3 of 2020 (July – September) where after unsolicited PPA negotiations with ZESCO can officially begin. Financial Close is targeted for Q3 2021. SAEP has facilitated a formal introduction between the U.S. International Development Finance Corporation's (DFC) Private Enterprise Officer, Julius Svoboda and Mphepo Power MD, Linda Thompson. A conference call was subsequently held on 25 June 2020. During the call, Mrs. Thompson shared various project details with DFC. Following the call, Mr. Svoboda distributed DFC guidelines on key elements of a Clean Energy Business Plan, which will be an important element for Mphepo to consider further funding discussions with DFC. There is potential higher interest from DFC for women involvement. SAEP has also made Mrs. Thompson aware of potential support/assistance from the SAEP Gender Specialist, if required.	12/31/2021

APPENDIX D TRANSACTIONS REACHED FINANCIAL CLOSE

The projects listed below are projects that have reached FC during the life of the project, as at the end of Year 3.

Code	Project Name	Country	Technology Used	MW	Project Sponsor	Financial Intermediary	Date of Financial Closing	Risk Mitigation Tools	Female Ownership
				YEAR 1					
TR-SA-036	Aggeneys Solar	South Africa	Solar PV	40.00	Biotherm	Nedbank	23-Jul-18	Sovereign Guarantee	No
TR-SA-063	Bokamoso Solar Park	South Africa	Solar PV	67.90	SunEdison	ABSA	31-Jul-18	Sovereign Guarantee	No
TR-SA-094	Copperton Wind Farm	South Africa	Wind	102.00	Gestamp	Standard Bank	31-Jul-18	Sovereign Guarantee	No
TR-SA-062	De Wildt Solar Park	South Africa	Solar PV	50.00	SunEdison	ABSA	31-Jul-18	Sovereign Guarantee	No
TR-SA-061	Droogfontein 2 Solar Park	South Africa	Solar PV	75.00	SunEdison/Old Mutual	Nedbank	23-Jul-18	Sovereign Guarantee	No
TR-SA-100	Dyason's Klip 1	South Africa	Solar PV	75.00	Scatec Solar	Standard Bank	4-Apr-18	Sovereign Guarantee	No
TR-SA-101	Dyason's Klip 2	South Africa	Solar PV	75.00	Scatec Solar	Standard Bank	4-Apr-18	Sovereign Guarantee	No
TR-SA-034	Excelsior Wind	South Africa	Wind	31.90	Biotherm	Nedbank	23-Jul-18	Sovereign Guarantee	No
TR-SA-099	Garob Wind Farm	South Africa	Wind	135.90	Enel	Nedbank/ABSA	31-Jul-18	Sovereign Guarantee	No
TR-SA-033	Golden Valley Wind	South Africa	Wind	117.72	Biotherm	Nedbank	23-Jul-18	Sovereign Guarantee	No

Code	Project Name	Country	Technology Used	MW	Project Sponsor	Financial Intermediary	Date of Financial Closing	Risk Mitigation Tools	Female Ownership
TR-SA-058	Greefspan PV Power Plant No. 2 Solar Park	South Africa	Solar PV	55.00	AE AMD/ SunEdison	ABSA	31-Jul-18	Sovereign Guarantee	No
TR-SA-024	Kangnas	South Africa	Wind	136.70	Lekela/Mainstream	ABSA	30-May-18	Sovereign Guarantee	No
TR-SA-020	Karusa Wind Farm	South Africa	Wind	139.80	Enel	Nedbank/ABSA	31-Jul-18	Sovereign Guarantee	No
TR-SA-035	Konkoonsies II Solar	South Africa	Solar PV	75.00	Biotherm	Nedbank	23-Jul-18	Sovereign Guarantee	No
TR-SA-098	Kruisvallei Hydro	South Africa	Hydro	4.70	H1 Capital, Building Energy	RMB	31-Jul-18	Sovereign Guarantee	No
TR-SA-097	Ngodwana Energy	South Africa	Biomass	25.00	Sappi	Nedbank/ABSA	12-Apr-18	Sovereign Guarantee	No
TR-SA-067	Nxuba Wind Farm	South Africa	Wind	138.90	Enel	Nedbank/ABSA	31-Jul-18	Sovereign Guarantee	No
TR-SA-021	Oyster Bay Wind Farm	South Africa	Wind	140.00	Enel	Nedbank/ABSA	31-Jul-18	Sovereign Guarantee	No
TR-SA-025	Perdekraal East	South Africa	Wind	107.76	Mainstream	ABSA	30-May-18	Sovereign Guarantee	No
TR-SA-066	Roggeveld	South Africa	Wind	140.00	Building Energy	RMB	4-Apr-18	Sovereign Guarantee	No
TR-SA-095	Sirius Solar PV Project One	South Africa	Solar PV	75.00	Scatec Solar	Standard Bank	4-Apr-18	Sovereign Guarantee	No
TR-SA-022	Soetwater Wind Farm	South Africa	Wind	139.40	Enel	Nedbank/ABSA	31-Jul-18	Sovereign Guarantee	No
TR-SA-043	Waterloo Solar Park	South Africa	Solar PV	75.00	SunEdison	ABSA	31-Jul-18	Sovereign Guarantee	No
TR-SA-023	Wesley-Ciskei Wind Project	South Africa	Wind	32.70	Innowind	Standard Bank	4-Apr-18	Sovereign Guarantee	No

Code	Project Name	Country	Technology Used	MW	Project Sponsor	Financial Intermediary	Date of Financial Closing	Risk Mitigation Tools	Female Ownership
TR-SA-041	Zeerust Solar Park	South Africa	Solar PV	75.00	SunEdison/Old Mutual	Nedbank	31-Jul-18	Sovereign Guarantee	No
					YEAR 2				
TR-SA-073	Loeriesfontein Orange (Sol Cap orange)	South Africa	Solar PV	75.00	Solar Capital	Standard Bank	31-Dec-18	Sovereign Guarantee	No
TR-MW-022	Salima Solar	Malawi	Solar	60.00	JCM Power	100% Equity	30-Jun-19	Sovereign Guarantee	No
					YEAR 3				
TR-SZ-016	EEC Lavumisa Solar	eSwatini	Solar	10	CONCO, Consolidated Infrastructure Group Limited	Eswatini Pension Fund and local banks	31-Aug-19	N/A	No
TR-MW-024	Nkhotakota Solar	Malawi	Solar	26	Phanes Group	OPIC	31-Dec-2019	Sovereign Guarantee	No
	Malawi-Mozambique Interconnector	Malawi	Transmission	1,000	ESCOM	World Bank	31-Jul-2020	Sovereign Guarantee	No
	Angola-South Central Transaction	Angola	Transmission	1,000	RNT	AfDB	8-Sep-2020	Sovereign Guarantee	No
TOTAL				**4,301.38**					

APPENDIX E TRANSACTIONS REACHED COMMERCIAL OPERATION

The projects listed below reached COD in Year 3.

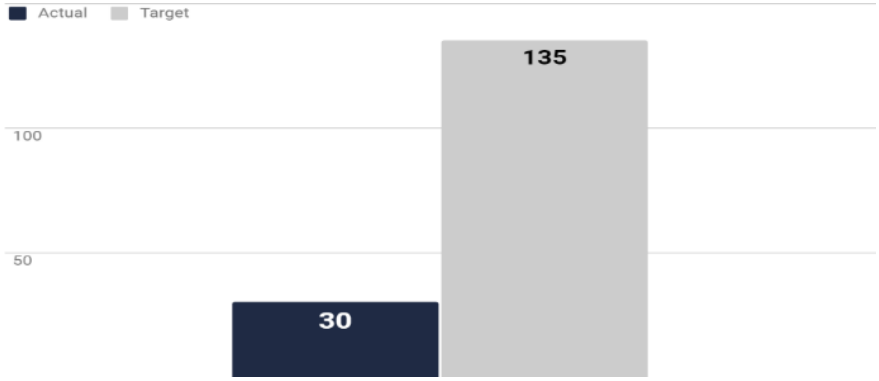
Project Name	Country	Technology Used	MW	Date of Commercial Operation
Tedzani III	Malawi	Hydro	5	8-Feb-20
Mapanga	Malawi	Diesel	20	8-Feb-20
Lilongwe B stations	Malawi	Diesel	8	8-Feb-20
Bokamoso Solar Park	South Africa	Solar PV	67.9	18-Sep-20
Droogfontein 2 Solar Park	South Africa	Solar PV	75	1-Sep-20
Dyason's Klip 1	South Africa	Solar PV	86	25-Feb-20
Dyason's Klip 2	South Africa	Solar PV	86	30-Apr-20
Sirius Solar PV Project One	South Africa	Solar PV	86	18-Feb-20
TOTAL			**433.9**	

APPENDIX F PARTICIPANT TRAINING REPORT

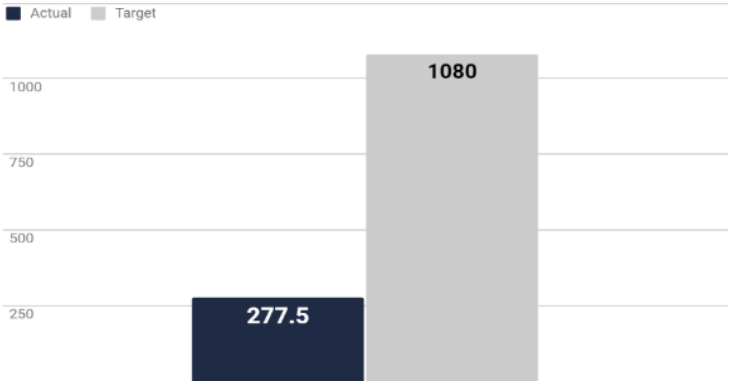
	Training & Capacity Building Activity	Date	# of Males	# of Females	Total # of participants	Hours of Training	Person-Hours of Training
Malawi	Project management skills building training for VITALITE	07-Oct-19	3	3	6	13	78
Malawi	Project management skills capability building for Solar Works!	12-Nov-19	6	6	12	13.5	162
Malawi	Power Plant Inspection List	28-Nov-19	21	1	22	8	176
Zambia	ZESCO Skills Assessment Training	12-Feb-20	7	5	12	3	36
Malawi	Sales Force Effectiveness Training with SolarWorks!	18-Feb-20	22	13	35	18	630
Malawi	Sales Force Effectiveness Training with Vitalite	4-Jun-20	7	2	9	5	45
Malawi	Sales Force Effectiveness Training with Zuwa Energy!	13-Jul-20	7	2	9	7.5	67.5
Zambia	Power Project Finance Training (Financial Modelling)	16-Jun-20	11	10	21	10	210
Total			**84**	**41**	**125**	**78**	**1,404.5**

DASHBOARD FOR YEAR 3 RESULTS OF ALL SAEP ORGANIZED TRAININGS

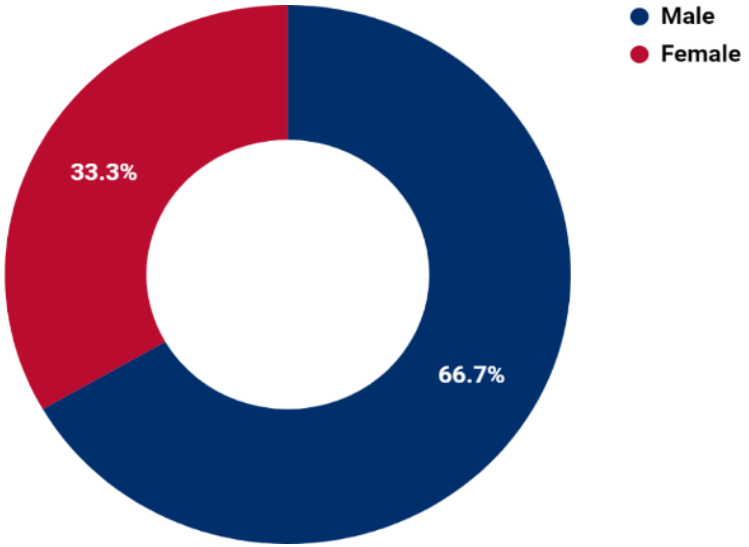
Number of People Receiving Training in FY20Q4 (Actual vs. Target)



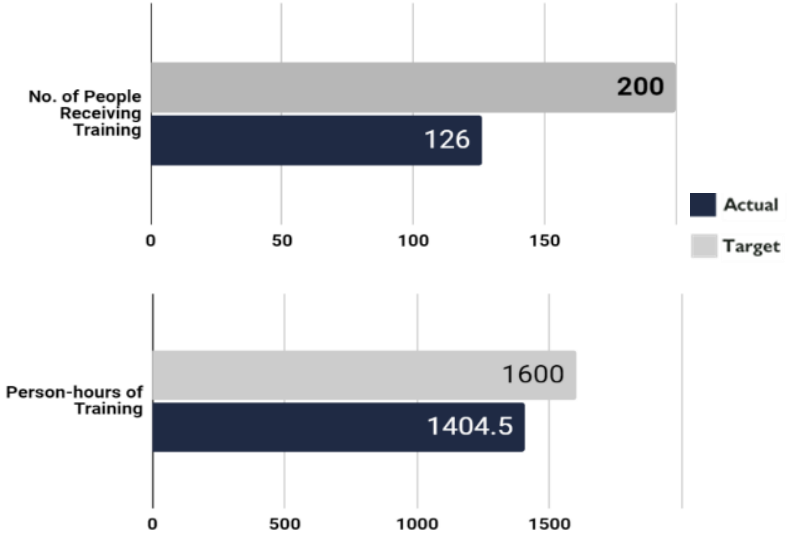
Person-Hours of Training in FY20Q4 (Actual vs. Target)



Gender Disaggregation of Participants of SAEP's Trainings (Year 3)



Performance for Year 3 Trainings Against the Annual Target



APPENDIX G ASSUMPTIONS FOR CALCULATION AND INVOICING OF FEE

Pursuant to section B.3 (f) of the SAEP contract, Deloitte will include earned fee on the periodic invoice immediately following the COR's final acceptance of the SAEP Quarterly Progress Report. Each quarter's earned fees will not exceed one-twentieth (5%) of the total fixed fee amount, or USD $242,427 per quarter. This includes a maximum of USD $151,517 for timely submission of all required deliverables during the quarter (Output Indicator #X), and USD $90,910 for meeting quarterly targets for three Impact Indicators (#Y, #AA, and #AB).

COR acceptance of the Quarterly Progress Reports will constitute acceptance of the performance indicator values included in the Performance Monitoring and Evaluation Tables presented as an Appendix to that report. With the exception of the first Quarterly Progress Report, which covered the period from program award to 30 June 2017, SAEP Quarterly Progress Reports will follow the US Government fiscal year.

RECONCILIATION OF DISPARATE PROJECT CALENDARS

At the request of USAID/Southern Africa, Deloitte prepared the SAEP Year 1 Work Plan that covers the period from program award on 15 March 2017 through the end of US Government Fiscal Year 2018. While this simplifies planning and reporting by aligning project years to the US Government fiscal calendar, it also has the effect of extending Project Year 1 to more than six fiscal quarters.

From Project Year 2 onward, the calendars for Quarterly Progress Reporting, invoicing of fee, and the Government fiscal year will all coincide. In Year 5, this will result in an abbreviated performance year, with only two quarters for program reporting and invoicing of fee.

TREATMENT OF QUARTERLY AND ANNUAL PERFORMANCE TARGETS

As indicated in SAEP's approved PMEP, target values for the four *Impact Indicators* are set on an annual basis. For purposes of quarterly reporting and calculation of fee, incremental performance targets for Quarters 1, 2 and 3 of each Program year are set at zero, and with Quarter 4 of the Program year carrying the full annual performance target. In the event Deloitte does not meet the annual performance target, fee may not be invoiced in subsequent quarters until that target is met. That is, Deloitte may not begin invoicing fee in Q1 of Year 3 if the annual performance target for Year 1 has not been met, even though the *incremental* performance target for the quarter is zero. **Error! Reference source not found.** below summarizes the quarterly impact indicator targets for SAEP's Year 3.

Figure 41: *Quarterly Impact Indicator Targets, Program Year 3*

Indicator	Disaggregation	FY20 Q1	FY20 Q2	FY20 Q3	FY20 Q4	FY 20 Total	Baseline & Rationale
#AA: Capacity (MW) from transactions supported by	• ***Country*** • ***Technology (separating***						0; targets based on transaction pipeline and experience with financial closure timelines and

Indicator	Disaggregation	FY20 Q1	FY20 Q2	FY20 Q3	FY20 Q4	FY 20 Total	Baseline & Rationale
SAEP that achieved financial closure	***transmission from generation)*** ****note when female ownership in developer consortium***	1,100	192	10	0	1,302	probabilities (includes transmission and generation capacity)
#AB: Direct Electricity Access: Number of new grid and off-grid actual direct connections	• ***Type of connection*** • ***Type of enterprise*** • ***Country***	175,184	191,657	134,806	148,806	650,453	0; number of new grid connections of off-grid access directly enabled based on OC4 technical work plan with implementation priority countries
#Y: Number of laws, policies, strategies, plans, or regulations, officially proposed, adopted, or implemented	• ***Country*** • ***Measure (Clean Energy standard)***[18]	3	2	0	4	9	0; targets set based on anticipated need for relevant laws, policies, strategies, plans or regulations in the region
#X: Submission of required deliverables as per Section F of the Contract	• ***Type and # of reports*** • ***Submitted or not submitted timely***	100%	100%	100%	100%	100%	0; For all Section F deliverables not including the trip reports and other reports which will be estimated later
#Z: Generation and Transmission capacity (MW) pending financial closure	***Country*** • ***Technology/ energy source*** • ***Transaction Stage*** ****note female ownership***	11,478.50	11,478.50	11,478.50	11,478.50	11,478.50	Indicator measures new transactions added to the pipeline to equate to the total amount in the pipeline.

SETTING OF ANNUAL TARGETS IN SUBSEQUENT PROJECT YEARS

Recognizing the importance of balancing accountability with changing conditions over the extended period of performance, Deloitte and USAID/Southern Africa have agreed to set performance targets for select indicators annually. To enable that flexibility while maintaining accountability and intended incentives, Deloitte will submit proposed annual targets for the coming year in the Year 3 work plan. USAID/Southern Africa acceptance of the Q3 Quarterly Progress Report will constitute acceptance of proposed performance targets.

RECOVERING FEE IN THE EVENT OF UNDERPERFORMANCE IN A REPORTING PERIOD

Pursuant to B.3 (f) (5), fee amounts unbilled in a given period due to underperformance against targets are not permanently forfeited. With COR approval, these fees maybe recovered in subsequent periods, when Deloitte returns to meeting or exceedingly quarterly or year-to-date performance targets.

[18] Disaggregation: Drafted, Presented, Regional, National, Private Sector Participation, Clean and Cleaner Energy, Small-Scale and Off-Grid Investments, Gender Equity and Country

APPENDIX H STTA MOBILIZED AND UPDATE ON TRAVEL IN QUARTER 4

Table 5 STTA mobilized during the period of 1 July – 30 September 2020

Resource	Role / Activity / Scope	Est. Start Date	Est. End Date
Gus Manke	**Graphic Designer.** Mr. Manke continues to provide ad hoc graphic design support to SAEP deliverables and presentations	1 July 2019	30 September 2020
Brandon Yeh	**SFE Senior Consultant.** Mr. Yeh supported SFE trainings in Malawi and Zambia.	13 January 2020	21 August 2020
Cole Johnson	**Off-grid Advisor.** Mr. Johnson oversees SAEP's off-grid work in Malawi, Zambia and Mozambique.	14 January 2020	30 September 2020
Lauren Egbert	**Gender Data Analytics Specialist.** Ms. Egbert supports SHS gender data analysis and surveys across Malawi, Zambia and Mozambique.	28 January 2020	30 September 2020
Ellen Bomasang	**Gender Advisor.** Ms. Bomasang supports the SAEP Gender Advisor to establish a standard set of indicators and an M&E framework for SADC institutions.	10 March 2020	30 September 2020
Erik Spurgin	**Organization, HR, and Training Advisor.** Mr. Spurgin, building off the work he previously provided to EGENCO on the BSC for HR, is monitoring the progress of EGENCO's HR department to build institutional capacity.	15 March 2020	31 March 2021

SAEP Team Travel between 1 April and 30 September 2020

On 23 March 2020, the President of South Africa announced a "hard lockdown" of 21 days, which began on 26 March 2020. The lockdown meant that South Africa closed all international borders with limited access and movement of their citizens for essential goods and services. South Africa reached its peak infection rate of the coronavirus during June to July which kept the country in an advanced level 3 lockdown stage. During this period restrictions to movements of citizens and the economy had been implemented.

South Africa moved from the initial lockdown (level 5) to the currently mandated level 1 as of 21 September 2020. Level 1 has meant that many restrictions have been relaxed and allowed the economy to grow. At first it was expected that national borders will only re-open for some level of international travel in the first or second quarter of Year 4. The South African government announced that South Africa will open its international borders for the first time on 1 October 2020 as part of the country's move to COVID-19 alert level 1.

Although international flights to a number of countries around the world will resume, many countries are divided into three risk groups based on their relation to South Africa's risk level (high-risk, medium-risk, and low-risk). The Logistics team will remain to keep in regular contact with the travel agent monitoring the situation as to when international borders will reopen to high risk counties like the U.S. Due to this unprecedented lockdown, there has been no international or regional travel on the Program since end of March 2020.

APPENDIX I ORGANIZATIONAL CHART & RESOURCES

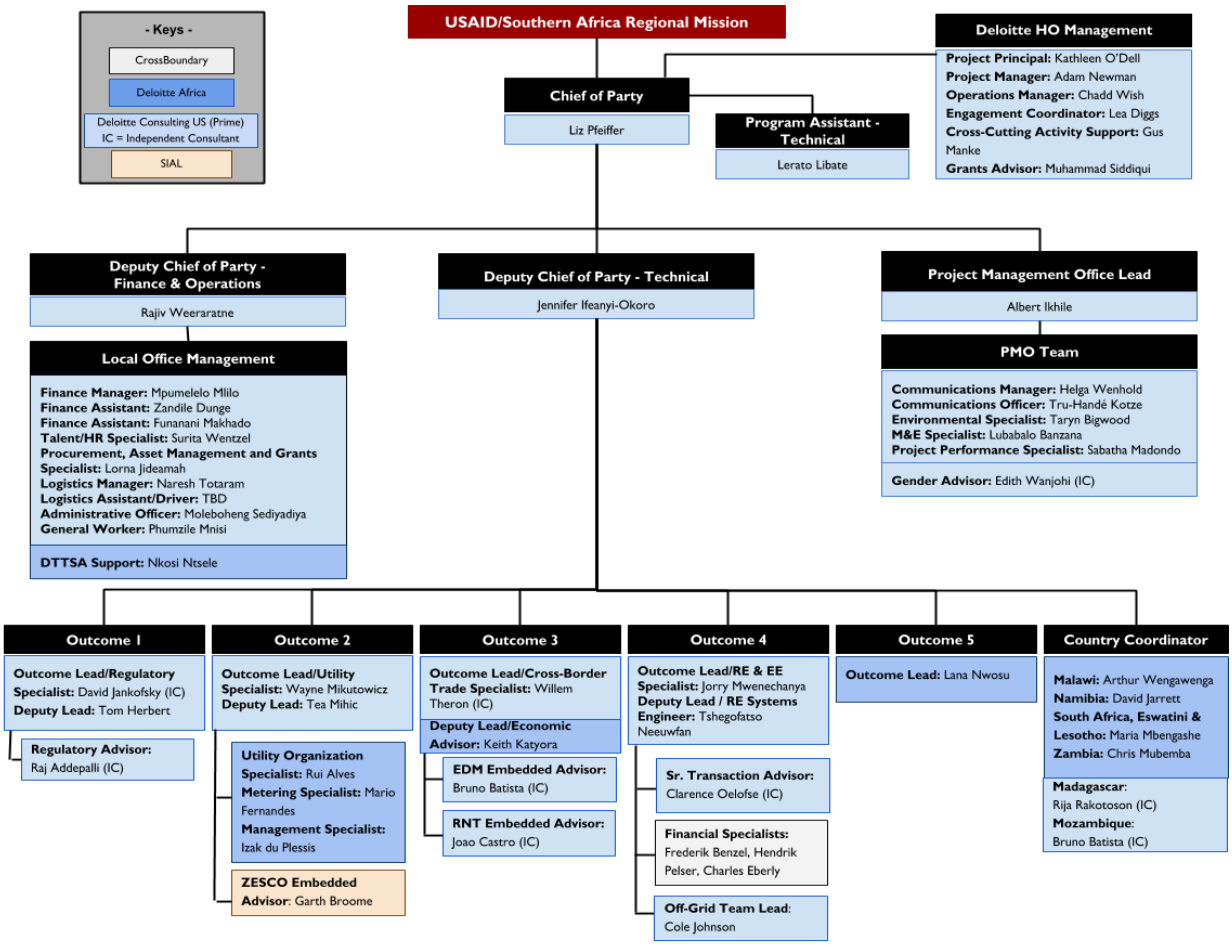


Figure 42. SAEP Organizational Chart as of 30 September 2020

APPENDIX J DETAILED ACTIVITIES PROGRESS

OUTCOME–SPECIFIC ACTIVITIES

Below are the outcome-specific activities from the Year 3 Work Plan. This table is to track the status of the activities and to highlight any activity changes, timing changes or other major items related to activities that SAEP would like to highlight for the period.

OUTCOME 1

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
***Y3.01.01.01.ANG** Y2.01.01.10.ANG	Angola Roadmap for regulator startup	David Jankofsky	11/1/2019 - 9/30/2020	IRSEA request	New activity	• Roadmap for key activities to focus on and implement	**Completed:** In the final quarter of Year 3 SAEP updated the roadmap, which includes a final Gantt chart of the roadmap and explanatory notes for IRSEA. IRSEA signed an LOC for the implementation to begin. This will include review of the 2015 Electricity Act in order to complete a set of rules for IRSEA that will align with the Act, work upon which commenced in September 2020.
Y3.01.01.03.BWA Y2.01.01.21.BWA	Rooftop Solar Guidelines Implementation	David Jankofsky	9/1/2019 - 6/30/2020	MNRE request	Follow on to Rooftop Solar Guidelines development Y2.01.01.21.BWA Gov of Botswana must adopt Rooftop Solar Guidelines before implementation	• Implementation Roadmap. Specified deliverables as laid out in the Roadmap that SAEP will support are TBD	**Completed:** In August 2020, requests were made to the Botho University and Airport Junction Mall to participate in a 4-week grid connected testing period. The report for the testing will be completed by 12 October 2020, following which the MMGE have scheduled a Public Launch Event at the Botho University on 27 October 2020. Attendees will represent the MMGE (including the Minister), BPC, BERA, the Ministry of Trade and Industry, the Ministry of Environment, the United States Ambassador to Botswana and the United Nations Development Programme Resident Representative, as well as members of the media. SAEP will continue to monitor the status of the Program and lend whatever assistance may be necessary.
Y3.01.01.13.SWA	New Tariff Methodology	David Jankofsky	3/2/2020 - 4/30/2020	ESERA request		• Tariff Methodology Recommendation for ESERA	**Completed**: SAEP received a request from ESERA for assistance in March 2020 and SAEP recommended updates to ESERA's final draft "Electricity Multi-Year Price Determination Tariff Methodology". ESERA management accepted the major recommendation contained in SAEP's report, including the calculation of the Cost of Capital for each unbundled function.

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
							The ESERA Board formally accepted the updated methodology in August 2020.
Y3.01.01.06.NAM	Support development of Namibia Mini-grid Framework	David Jankofsky	10/1/2019 - 8/31/2020	ECB Request	Follow on from mini-grid financial analysis previously conducted to feed into this framework	• Feedback on and comments on tariff components of Namibia Mini Grid Framework and follow up with ECB for adoption	**Completed:** As Namibia began to further develop its national mini-grid framework, the ECB expressed an interest in analyzing what a tariff would be for a mini-grid situated in rural Namibia. Using data gathered from an existing Namibian site (Tsumkwe), a report was developed, the results of which were delivered to the ECB on 7 August 2020. The ECB acknowledged receipt of the report on 4 September 2020, indicating that the report would be presented to the ECB Board at a time to be determined.
Y3.01.01.08.REG	Rate case processing guide	David Jankofsky, Gus Manke	7/1/2020 - 9/30/2020	Regional impact	MERA, BERA and ESERA rate cases OC5	• How to guide for regulators to analyze utility requests for changes in rates	**Moved to Year 4:** Rate case Processing Guide uses the common issues that SAEP has come across in supporting regulatory authorities in the region in their analysis of applications for changes in tariffs, to create a reference document detailing the common issues with a view to providing recommended approaches to resolving them. It is in the final stages of development, with content complete, and it now requires editorial and formatting input. It will be shared regionally in the first quarter of Year-4.
***Y3.01.01.10.RSA**	Approach to battery storage rules	David Jarret, David Jankofsky	10/1/2019 - 6/30/2020	NERSA request	Tied to Namibia ECB battery storage rules, but with a NERSA and regional focus	• Report assessing the need for battery storage rules in South Africa and the region	**Completed:** SAEP submitted the final report together with recommendations on the Regulation of Battery Services in Namibia to the ECB on 22 July 2020. The report recommended that once the ECB has taken certain decisions based on the report, working groups – supported by SAEP – should review the existing documents that affect licensees using battery services and make modifications that may be deemed necessary.
Y3.01.01.12.REG	Power Africa Private Sector Partners Webinar	Thomas Herbert, David Jankofsky	04/17/2020 - 06/02/2020		NA	• PowerPoint Presentation	**Completed:** SAEP contributed to Power Africa's Private Sector Partnerships Webinar Series on 2 June 2020 by presenting on small-scale electricity generation, as well as battery storage regulation in a Southern African context, drawing on SAEP's experience in the region.
Y3.01.04.03.REG	Analysis of current Botswana REFIT Policy and	David Jankofsky, Crissy Godfrey	4/1/2020 - 5/31/2020	Botswana Department of Energy request	Request from Y2 Y3.04.01.05.ZMB	• Quick review of Botswana REFIT and	**Completed:** SAEP engaged with the Botswana's Ministry of Energy (MMGE) on a full update of the 2011 Report. SAEP provided

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
	recommendations for next steps					recommendation for next steps *Light touch activity focused on closing out Botswana government request*	comments to a United Nations Development Programme (UNDP)-developed Terms of Reference (ToR) calling for consultants to conduct the full 2011 report update, to the MMGE on 21 February 2020. SAEP's proposed role on a REFiT steering committee has not been pursued by the MMGE.
Y3.C19.01.01.14.REG*	Regulatory Advisory to Issue PPA Renegotiation Order	Thomas Herbert, David Jankofsky	06/01/2020 - 09/30/2020	RERA (Regional), LEWA (Lesotho)	NA	• Template for a Draft Order	**Completed:** A report was drafted outlining SAEP's initial rationale for this proposed COVID-related activity, together with some up-to-date observations. The report concluded that whilst the renegotiation of PPA's is a contemporary issue (both in Africa and elsewhere in the world), the rationale behind these renegotiations is not significantly related to the COVID-19 pandemic to require the continuation of the activity. This report was shared with USAID COR and ACOR on 10 September 2020, together with an invitation to further discuss the activity.
Y3.C19.01.01.15.REG*	Regulatory Advisory to Issue Utility Accounting Order	Thomas Herbert, David Jankofsky	06/01/2020 - 09/30/2020	RERA (Regional), LEWA (Lesotho)	NA	• Explanatory Document • Sample Accounting Order/Accounting Order Template • Virtual Workshop • Technical Assistance Country-specific Accounting Orders	**Completed:** This COVID-related Activity resulted in the development of an Accounting Order tool for use by regulatory authorities that allows unexpected expenses to be accumulated for possible future recovery. SAEP developed and distributed a 'packet' of documents and held virtual meetings entitled: 'Accounting orders and their uses during a pandemic'. Feedback from the participant regulators was positive and SAEP will likely follow-up with regulators regarding a directive to be sent from regulators to utilities for the segregation of COVID-related expenses for the foreseeable future.
Y3.C19.01.01.13.REG	Regulatory Support to Provide Disconnection Relief for Customer Non-payment	Thomas Herbert, David Jankofsky	06/01/2020 - 09/30/2020	RERA (Regional), LEWA (Lesotho)	NA	• Draft Program (adaptable by regulatory authorities in the region) • Draft Order	**Completed:** This COVID-related Activity will result in a report with recommendations to regulators in the region on a moratorium on disconnection of service due to a customer's inability to pay. While still in an analysis phase, SAEP is considering combining this Activity with the Accounting Order Activity (Y3.C19.01.01.15.REG) so that regulatory authorities will have a full accounting of the differences between planned and actual amounts

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
Y3.01.04.04.ZMB Y2.01.04.01.ZMB	Zambia One Stop Shop	David Jankofsky, Christopher Mubemba	1/1/2020 - 9/30/2020	EU request	Continuation of Year 2 activity, Y3.04.01.05.ZMB	• Analysis of leading practices for One Stop Shops for licensing. Support to EU as requested.	**Moved to Year 4:** The OSS Working Group had a Virtual Workshop on 22 September 2020, hosted by the EU Lead and SAEP presented a country research report. Engagements with project stakeholders such as Zambia's MOE, ERB, ZDA, ZEMA and ZESCO are ongoing, which will result in the development of an OSS Roadmap. SAEP will continue to support the activity with a planned study tour by the end of 2020 (travel restrictions dependent).
Y3.01.05.01.MOZ Y2.01.05.02.MOZ	ARENE Roadmap for startup for downstream gas regulation	David Jankofsky	11/1/2019 - 9/30/2020	ARENE request SPEED+ coordination	Continuation from Y2	• Roadmap to guide downstream gas regulation in Mozambique. *This activity will be closely coordinated with SPEED+ to build off the work they are doing for electricity regulation startup. Specific follow on deliverables or implementation support on the Roadmap is TBD and will be included in future work plan updates*	**Completed**: SAEP had interactions with both ARENE and the Speed+ consultants, and SAEP will continue to work with ARENE in their institutional development.

OUTCOME 2

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
~~**Y3.C19.02.03.09.LSO**~~	~~Support Business Continuity Planning and Management for LEC~~	~~Wayne Mikutowicz, Tea Mihic~~	~~06/01/2020 - 09/30/2020~~		~~NA~~	~~• Workshop and final report~~	**Deleted:** Activity has been placed on hold as LEC has a new Board of Directors and the MD has not yet reengaged with SAEP.
Y3.02.03.01.MWI	EGENCO Strategic Plan and M&E Performance Review	Vince Micali	04/01/2020 - 09/30/2020	EGENCO request	NA	• Workshop • Report	**Completed:** SAEP conducted a Sustainability and Solar PV KPI Workshops for EGENCO, which were attended by members from the M&E Department and from the Planning & Development Division. A report is currently under internal review.
Y3.C19.02.03.02.MWI	Support Assessment of Impacts and Contingency Planning for EGENCO	Wayne Mikutowicz, Tea Mihic	06/01/2020 - 11/30/2020		NA	• Strategic Plan, Report	**Moved to Year 4:** SAEP supported EGENCO to develop the Business Continuity Management System (BCMS), the Business Continuity Management (BCM) Policy Statement and have commenced with building the Business Continuity

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
							Management Plan (BCMP), based on the completed Key Risk Assessments, which were presented to the EGENCO Executives for EGENCO's alignment and input in order to proceed with further development of the BCM elements.
Y3.02.03.02.ZMB	ZESCO Project Finance Training and Financial Model Development	Clarence Oelofse	10/1/2019 - 9/30/2020	ZESCO LOC	OC4.01	• Project finance training to enable ZESCO to interrogate project finance models • Generic project finance models for the generation types listed	**Completed:** SAEP successfully concluded the workshops for the project finance and financial modelling for ZESCO in July 2020. A post-training questionnaire was sent to the 21 participants. The certificates for the course will be circulated upon receipt of all the completed post-training questionnaires.
Y3.02.03.03.ZMB	ZESCO M&E Process and Tools Review	Vince Micali	10/1/2019 - 9/30/2020	ZESCO LOC	EGENCO M&E Could help ZESCO/ERB report into RERA KPI activity	• Inception report • Development of KPI measurements • Report on process map and performance metrics and BSC • Development of project portfolio prioritization methodology and techniques • Presentation to the Executive Management • Final report	**Completed:** SAEP facilitated a meeting with ZESCO Information and Communications Technology (ICT) Department to review the IT requirements for storing and reporting of the performance data for the project management performance process. In order to complete the M&E activity with ZESCO, SAEP requested information from ZESCO on the projects related to the performance evaluation, which includes revised BSC assessments and projects time plans. SAEP is awaiting the information in order to conclude the work.
Y3.02.03.04.ZMB	ZESCO Transmission and Ancillary Services Pricing	Garth Broome	1/15/2020 - 12/30/2020	ZESCO LOC	NA	• Inception report • Data collection and analysis • Stakeholder engagement -Develop methodology • Financial model • Proposal on cost recovery alternatives • Final report	**Moved to Year 4:** SAEP facilitated a workshop with ZESCO's Transmission, System Operations and Business Development teams with the objectives of 1) reporting on progress on the SAEP transmission pricing activity; 2) reviewing the recommendations from SAEP presented to ZESCO in July, and 3) initiating a parallel activity to develop a pricing mechanism for ancillary services. The agreed way forward was for ZESCO to consult internally on the pricing recommendations and respond to SAEP.
***Y3.02.09.01.ANG**	ENDE Phase I AfDB Pre-paid Metering	Wayne Mikutowicz, Jose Cavaretti	9/2/2019 - 9/30/2020	ENDE request, AfDB collaboration	AfDB funding for pre-paid meters	• Metering Development Specification and Plan • Metering Development Management (MDM) Plan	**Completed:** AfDB recommended to ENDE to increase the number of lots in the metering tender, which was previously advised by SAEP, but rejected by AfDB at the time. SAEP once again supported ENDE to review the number of lots and to propose the optimal two solutions for AfDB's consideration. Once reviewed by ENDE

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
						• Commercial Systems Progress Reports	internally, the proposal will be submitted to AfDB and the decision on this aspect will lead to a final update of the prepaid metering bidding documents, as well as the procurement plan.
***Y3.02.09.03.MOZ** Y2.02.09.01.MOZ	EDM EMU Implementation Continuation and Reviews	Deloitte Mozambique, Wayne Mikutowicz	10/1/2019 - 9/30/2020	EDM request	OC5.01	• PMO fully staffed and on-the-job training being performed • Process procedures and manuals finalized and in use • PMO Toolkit developed to share electrification PMO guides across the region	**Moved to Year 4:** SAEP assistance resumed following the appointment of the new EDM Board that issued the Executive order, thereby permitting the EMU to proceed with its mandate. SAEP finalized the three Handbooks for Electrification, Procurement and Finance Planning and Execution, which were issued to EDM EMU for application. SAEP and EDM teams are planning to roll out the tools and the processes both in EDM and the Delegations.
***Y3.02.09.04.MOZ** Y2.02.09.01.MOZ	EDM EMU: Customer Service Component (HCD process)	Wayne Mikutowicz, Lana Nwosu, Jose Cavaretti	11/1/2019 - 9/30/2020	EDM request	OC5.03	• HCD training materials for internal team and EDM • HCD customer and stakeholder journey mapping • Recommendations report on PMO processes and toolkits and requirements to enhance customer service and commercial operations	**Completed:** SAEP continued with the design of an HCD approach at EDM to foster customer centricity and facilitate new connections in Mozambique. The SAEP focus in Q4 was on the development of the implementation activities and roadmap, based on the three solutions that were identified.
Y3.C19.02.03.05.MOZ	EDM Support for Improving the Level of Preparedness and Response Capacity During and Post the Pandemic	Wayne Mikutowicz, Tea Mihic	06/01/2020 - 10/30/2020		N/A	• Workshop and final report	**Moved to Year 4**: SAEP conducted an initial assessment on how the EDM COVID Task Team was structured and supported EDM in preparing protocols, required communication and review of contingency plans for critical areas. SAEP proposed adjustments to EDM's COVID Task Force structure, which required the addition of EDM Directors as part of the Task Force Governance. This proposal was accepted by EDM and resulted in an empowered coordination team that reports to the BoD.

OUTCOME 3

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
Y3.03.01.02.REG	Support to SADC ETG Meetings and SAEP Advisory Committee	Keith Katyora	10/1/2019 - 9/30/2020	SAEP initiative	OC5	• Notes of meetings every six months	**Moved to Year 4:** SAEP will continue to attend these meetings going into Year 4. The next meeting will be on the 15th of October 2020.
Y3.03.02.01.REG Y2.03.02.01.REG	Develop a Generic System Optimization Model that can be used by SAPP to Train its Members	Keith Katyora, Michael Barry	11/1/2019- 9/30/2020	SAEP initiative	Building on utility specific production optimization in Malawi Y2.03.05.02.MWI	• Production optimization model • Close-out report	**Moved to Year 4:** This generic system optimization model was presented to the SAPP CC Planning Committee on 27 August 2020, and SAPP has informed SAEP that the SAPP member utilities are very much interested in utilizing the model. Therefore, going into Year 4, SAEP will continuing with the activity, providing light touch assistance to both SAPP and its members.
Y3.03.03.03.MWI Y2.03.05.05.MWI	Prepare ESCOM Personnel for Operating in an Interconnected System	Mark Sims, Keith Katyora	1/1/2020 - 9/30/2020	ESCOM LOC	OC5	• Inception report interconnected system operations • Meeting notes • Training materials • Training/Close-out report	**Moved to Year 4:** The training modules were concluded on 8 October 2020 and going into Year 4, the site visits will be conducted for the ESCOM trainees.
Y3.03.03.04.ZMB	Provide ZESCO Load Forecasting Capacity Building	Keith Katyora, Vince Micali	10/1/2019 - 9/30/2020	ZESCO LOC	OC5	• Load forecasting tool • Training material • Training report	**Completed**: Activity was concluded in Year 3.
Y3.03.03.05.ZMB Y2.03.02.04.ZMB	ZESCO Production Optimization Capacity Building	Garth Broome, Willem Theron	2/3/2020 - ~~7/31/2020~~ 9/30/2020	ZESCO LOC	OC2	• Process document and work example spreadsheet	**Completed**: Activity was concluded in Year 3.
Y3.03.04.01.REG Y2.03.04.01.REG	Support SAPP in the Rollout of New Access Guidelines	Mark Sims, Willem Theron	1/1/2020 - 9/30/2020	SAPP request	Follow on activity from Year 2 development of access guidelines	• Presentation materials to support SAPP in promoting and marketing the new access guidelines	**Moved to Year 4:** A letter with a proposed revised work plan was sent to the SAPP executive on 1st October 2020, who have agreed to kick start the activity going into Year 4.
***Y3.03.05.01.ANG**	Assist RNT to Establish a PMO for the Central – Southern 400kV Transmission Project	Willem Theron	1/8/2019 - 9/30/2020	RNT and AfDB request	OC2 and OC4	• PMO start-up documents • Process maps of PMO design • Quarterly progress reports	**Moved to Year 4:** This activity is ongoing and progressing well as SAEP continues to assist the PIU in its operationalization.
***Y3.03.05.03.MOZ** Y2.03.05.04.MOZ	Embedded Project Coordinator in EDM to manage the Temane	Bruno Batista, Willem Theron	10/1/2019 - 9/30/2020	EDM and SPEED+ request	OC2	• PMO toolkit for transmission projects	**Moved to Year 4:** This activity will continue for a short period into year 4 (until end of

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
	Transmission Project and its interface to the Temane 400 MW IPP project					• Quarterly progress reports • Financial close achieved	October 2020), after the contract extension of the TTP Embedded Advisor.
***Y3.03.06.01.REG**	Assistance to SAPP for Regional Transmission Infrastructure Fund (RTIFF)	Willem Theron	4/1/2019 - 9/30/2020	SAPP and World Bank request	RTIFF activity from Year 2 Y2.03.06.01.REG	• Stakeholder engagement plan • Written feedback on SAPP consultant's work	**Moved to Year 4:** SAEP is currently working on the final report for the Phase I of the RTIFF activity. This activity will continue into Year 4 as SAEP will play an active role as advisors to SAPP in concluding Phase I and the kickstart of Phase II.
***Y3.03.06.02.ZMB**	ZESCO Transmission Financing Options	Willem Theron, Clarence Oelofsen	10/1/2019 - 9/30/2020	ZESCO LOC	OC2	• Financial models for transmission projects and options report	**Moved to Year 4:** This activity will continue into Year 4 as SAEP will present the second part of the activity via a workshop to the ZESCO team. However, it is anticipated that this activity will be finalized by December 2020.

OUTCOME 4

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
Y3.04.01.02.MWI	Transaction Advisory Services on Mpatamanga Project	Jorry Mwenechanya, Cross Boundary	10/1/2019 - 9/30/2020	GOM and IFC request	Y2.04.06.06.MWI OC1.04	• Quarterly progress reports • Development Agreements concluded • Financial close achieved	**Completed:** In Year 3, An RFP for a project sponsor was released for a pre-qualification round. SAEP subsequently assisted the GoM to evaluate the pre-qualification bids, update the RFP that will be released to pre-qualified bidders, work on project documents, and apply for development and project preparation funding. One bidder was pre-qualified and they are expected to submit their proposal early in 2021.
Y3.C19.04.06.08.MWI*	Support the Identification and Facilitation of Grant Funding/Concessionary Financing for SHS Companies	Jorry Mwenechanya, Tshegofatso Neeuwfan	4/1/2020 – 9/30/2020	Needed to sustain the grantees and SHS market in Malawi	Y3.04.06.06.MWI; Y3.04.06.10.MOZ; Y3.04.06.15.ZMB	• Quarterly updates in the quarterly report	**Completed:** SAEP directed SHS companies to the limited funding opportunities or relief mechanisms that they could access to support their businesses through the COVID-19 pandemic. At the end of Year 3, SAEP continued to participate in periodic meetings of Cooperating Partners and other entities administering the funding mechanisms.
Y3.C19.04.06.09.MWI	Malawi SHS Kick-Starter Grant Modification	Jorry Mwenechanya, Tshegofatso Neeuwfan	4/1/2020 – 9/30/2020	Requested from SHS companies in Malawi	Y3.04.06.06.MWI	• Modified grant milestone agreements	**Completed:** The activity, which was initiated in response to the COVID-19 pandemic, was completed in quarter 4 with the disbursement of payments to SHS companies. The disbursements followed the submission and approval of the companies' business continuity plans.

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
Y3.04.01.03.NAM	TA to CENORED for Procurement of Energy from New Solar Plants	David Jarrett, Clarence Oelofse	10/1/2019 - 9/30/2020	CENORED request		• Recommendations on how to get developers to lower their tariffs and/or combine their offers with battery storage	**Moved to Year 4:** SAEP reviewed a set of bidding documents from CENORED and provided recommendations on improvements. At the end of Year 3, CENORED were still considering SAEP's inputs and a response.
Y3.C19.04.06.06.REG*	Support Efforts as Necessary to Designate Off-grid Companies as Essential Services Providers to Promote Business Continuity	Jorry Mwenechanya, Tshegofatso Neeuwfan	4/1/2020 - 9/30/2020	Requests from SHS companies in Mozambique, Malawi, Zambia	Y3.04.06.06.MWI; Y3.04.06.10.MOZ; Y3.04.06.15.ZMB	• Quarterly updates in the quarterly report	**Completed:** As part of a suite of interventions to support SHS companies through the COVID-19 pandemic, SAEP supported companies in Zambia and Malawi with obtaining permits to continue operating. The activity was completed in quarter 3.
Y3.C19.04.06.07.REG*	Collaborate with PAOP, NPSP, and GOGLA to Collect and Disseminate Market Intelligence and Guidance	Jorry Mwenechanya, Tshegofatso Neeuwfan	04/01/2020 - 09/30/2020	Leading Practice, Regional	Y3.04.06.06.MWI; Y3.04.06.10.MOZ	• Quarterly updates in the quarterly report	**Completed:** SAEP collaborated with NPSP and PAOP to provide inputs to the Power Africa COVID-19 Info Sheets on best practices for companies as well as a Power Africa blog. SAEP also collected and disseminated information on available technical and financial assistance available to assist companies to respond to COVID-19 impacts. The activity has been completed and its tasks will be incorporated into activities that deal with SHS operational support in Year 4.
Y3.C19.04.06.08.REG*	Support SHS Companies in Conducting Scenario-Based Planning, as Requested	Jorry Mwenechanya, Tshegofatso Neeuwfan	4/1/2020 - 9/30/2020	Needed to sustain the grantees and SHS market in Malawi	Y3.04.06.06.MWI; Y3.04.06.10.MOZ; Y3.04.06.15.ZMB	• Quarterly updates in the quarterly report	**Completed:** SAEP mainly supported Fenix in Zambia, who had requested support with conducting scenario planning in light of a dynamic foreign exchange and macroeconomic environment. By the end of Year 3, scenarios for decision-making had been developed and were being refined. This activity will continue into Year 4 as part of operational support to SHS companies in Zambia.
Y3.04.03.04.MWI Y2.04.03.05.MWI	vRE integration for Solar Project Support to ESCOM (Phase 2)	Jorry Mwenechanya, Tshegofatso Neeuwfan	4/1/2020 - ~~8/31/2020~~ 9/30/2020	ESCOM Request	Y3.04.03.02.MWI, OC3	• Training Plan • Report on studies for integrating the JCM plant • Training report • Report of ESCOM's progress with implementing process and procedure recommendations	**Moved to Year 4:** SAEP, with the assistance of the Council for Scientific and Industrial Research (CSIR) acting as consultants, completed an initial iteration of the JCM Solar PV plant grid impact assessment. The team also completed part 1 of a 2-part training presented to ESCOM on 5-year grid impacts assessments in anticipation of the integration of higher levels of vRE in the Malawi grid.
Y3.04.05.03.SWA Y2.04.05.08.SWA	Implementation Support to EWSC for Energy Efficiency	Maria Mbengashe, EE Specialist	2/14/2020 - ~~8/17/2020~~	EWSC request	OC1; OC2	• Report on feasibility of recommended measures	**Moved to Year 4:** EWSC has gone some way in implementing some of the measures recommended by SAEP in the energy audit

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
			9/30/2020			• Implementation plan submitted	report, particularly the installation of meters and power factor correction equipment. At the end of Year 3, SAEP was in the process of recruiting a consultant to mainly provide training to the utility's energy committee.
***Y3.04.06.02.MDG**	Mini-grid Catalytic Grant Program	Lorna Jideamah	10/1/2019-9/30/2020	SAEP Initiative	Y3.PMO.CLF.02	• Grant documentation including RFP • Mini-grid grant funding disbursed to successful recipients	**Moved to Year 4:** After a lengthy selection process, three mini-grid developers were selected. A virtual launch event and the initiation of grant implementation are scheduled for October 2020.
***Y3.04.06.06.MWI**	Malawi SHS Kick-Starter: Operational Support for Grant Awardees	Jorry Mwenechanya, Cole Johnson	10/1/2019-9/30/2020	Sourced from SHS companies	Y2.04.06.07.MWI	• Biweekly and quarterly report on the support provided • Training: Material, gender dis-aggregated attendance register, pre- and post-training assessments • Application development: Concept documentation, mobile application and supporting documentation • Capacity building: Concept document and roll-out plan	**Completed:** SAEP conducted virtual SFE training to Vitalite and Zuwa as an alternative to in-person training. This training was aimed at managers, supervisors and headquarter staff. The follow-on work, which includes SAEP providing support to Zuwa and Vitalite as they lead their own agent-level training, was disrupted by a surge in COVID cases among the staff. At the end of Year 3, Vitalite had indicated that they would be moving forward with the training.
Y3.04.06.07.MWI	Malawi SHS Kick-Starter: Support to the Solar Industry Association	Cole Johnson	10/1/2019-6/30/2020	SAEP initiative	N/A	• Quarterly progress report on Kick-Starter will include details on planned support to solar industry association or convening body such as ENDEV	**Completed:** This activity was completed in quarter 3. In quarter 2, an updated Route-to-Market tool was publicly released through a press release and its uploading to an official USAID platform. In quarter 3, video tutorials to accompany the RTM tool were also released to the market.
Y3.04.06.09.MOZ	Mozambique SHS: Fiscal Exemption Solar Products	Cole Johnson	12/16/2019 - 09/18/2020	SPEED+ collaboration	N/A	• Customized RTM tools • Quarterly reports on additional operational support provided	**Completed:** At the end of Year 3, SAEP had settled into a regular cadence of meetings with MIREME and CTA, at which progress-to-date with fiscal incentives is discussed. SAEP was also still drafting the implementation roadmap for fiscal incentives and preparing to start updating the econometric model in collaboration with the BRILHO team. The activity will continue into Year 4.

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
***Y3.04.06.10.MOZ**	Mozambique SHS: Operational Support to SHS companies	Cole Johnson	12/16/2019-9/18/2020	SHS companies request	N/A	• Customized RTM tools • Quarterly reports on additional operational support provided	**Completed:** SAEP worked to update the Mozambique RTM tool. By the end of Year 3, model updates had been finalized but were yet to undergo internal reviews. There is a plan to release the model to the public in quarter 1 of Year 4. In addition to the RTM tool work, SAEP kept the SHS companies informed of progress with fiscal incentives work.
Y3.04.06.18.ZMB	Zambia Off-grid Taskforce: Program management support	Cole Johnson; Off-grid Specialist	10/1/2019 - 7/31/2020	Ministry and Cooperating Partner requests	Y2.04.06.04.ZMB	• Quarterly report on priority setting and outcomes	**Completed:** Support to the OGTF was handed over to ACE-TAF. The OC4 Lead and Zambia Country Manager continue to support ACE-TAF and the OGTF and this support will continue into Year 4.
Y3.04.06.19.ZMB	~~Concept Note for Alternative Energy Solutions for Health Facilities in Zambia~~ Alternative energy solutions for health facilities in Zambia	Jorry Mwenechanya	2/17/2020 - ~~8/31/2020~~ 9/30/2020	Avencion request	NA	• Report/concept note that includes a proposal on the approach to rolling out private-sector-led energy services for healthcare facilities	**Moved to Year 4:** With SAEP's assistance, Avencion has made significant progress with engaging the relevant stakeholders, including USTDA, the CDC-Zambia, and healthcare teams in the provinces/regions. In Q1 of year 4, SAEP will get into reviews of designs and financial models.

OUTCOME 5

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
Y3.05.01.01.REG	Electrification PMO Handbook - ~~Leading Practice~~ Learning Guide	Lana Nwosu, Wayne Mikutowicz	3/2/2020 -7/30/2020	Duplicating success of EDM EMU	OC2	• Electrification project management handbook building off lessons learned from EDM and RNT activities	**Moved to Year 4:** The electrification process guides have been issued by SAEP to the EDM team. Generalization for regional utility practitioners looking to learn from SAEP electrification process will be reviewed as part of Year 4 activities.
Y3.05.01.02.REG	Power Trading ~~– Leading Practice~~ Learning Guide	Lana Nwosu	2/24/2020 - 9/23/2020	SAEP initiative	OC3	• Newsletter • White Paper • Conferences • Social media document	**Completed:** Release notes and the transmission PMO guide are complete. SADC stakeholder engagement on learning guide introduced at regional institutional forums.
Y3.05.01.03.REG	The Future of Regulation and Governance Series - ~~Leading Practice~~ Learning Guide	Lana Nwosu	9/24/2019-9/29/2020	SAEP initiative	All OC	• Leading practice learning guides and reports on regulation for regulators • Collaboration Framework	**Completed:** Rate case tariff guide technically completed by OC1 and undergoing management review.

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
						• RERA workshop materials	
Y3.05.01.04.REG	Utility Management Series – ~~Leading Practice~~ Learning Guide	Lana Nwosu	1/1/2020-11/10/2020	SAEP initiative	OC2	• Series of topic materials designed • Workshop materials and summary report	**Completed:** Utility performance management learning guide and release note completed. SADC stakeholder engagement on learning guide introduced at regional institutional forums.
Y3.05.01.05.REG	Energy Access Workshop	Lana Nwosu	2/4/2020 9/30/2020	SADC request	OC4	• Workshop Facilitators' Guide • Close-out Report • LinkedIn materials to share impact from workshop	**Moved to Year 4:** SADC energy officials continue to evaluate the requirements for energy access. SAEP will provide learning guide from field experiences on electrification that supports countries in scaling country electrification. This activity will continue in Year 4.
Y3.05.01.06.REG	Scaling Renewable Energy Series – ~~Leading Practice~~ Learning Guide	Lana Nwosu	1/14/2020 - 9/30/2020	SADC request	OC4	• Papers • Presentations • Financial models where applicable • Social media blogs/posts • Conference presentation materials	**Completed:** Release notes and off grid energy access guide is complete. SADC stakeholder engagement on learning guide introduced at regional institutional forums.
Y3.05.02.02.REG Y2.05.02.04.REG	Refresh and Review of RERA Training Curriculum	Lana Nwosu	1/21/2020 - 9/30/2020	RERA request	OC1	• Revised RERA Training augmentation and prioritized module in alignment with current trends • Capacity building report	**Moved to Year 4: Developed** SOW for this activity supported by RERA Human Resource Portfolio Committee. Activity to continue in year 4
Y3.05.02.03.REG Y2.05.02.04.REG	RERA Second E-module	Lana Nwosu	2/14/2020 - 8/17/2020	RERA request	OC1	• E-module	**Completed.**
Y3.05.02.04.REG Y2.05.02.05.REG	Design SACREEE Capacity Building Program	Lana Nwosu	3/23/2020 - 9/14/2020	SACREEE request	OC4	• Capacity building program plan with business case to SACREEE members • Training materials on selected capacity building topics	**Moved to Year 4:** SAEP and NREL have kicked off stakeholder consultation and literature review. This activity is set for finalization in year 4 wherein SAEP will outline the programs and design the communication framework for SACREEE.
Y3.05.02.06.ZMB Y2.05.02.08.ZMB	ZESCO HR Capacity Building / Training Program Guidance	Lana Nwosu	11/5/2019-~~5/29/2020~~ 8/28/2020	ZESCO LOC	All OCs	• Training gap assessment	**Completed:** SAEP engaged with ZESCO HR Management team to clarify outstanding actions on the skills mapping exercise given to

Activity No	Activity Title	SAEP Activity Manager(s)	Start–End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
						• Capacity building program plan • Consolidated training program for all SAEP OCs where applicable to incorporate into consistent materials	the ZESCO team to support ZESCO in reviewing skills gaps for operational teams. HR Point of Contact will introduce areas of improvement in procedures for job profiling and affirmed the exercise will support the procedures for skills mapping. SAEP will be providing light touch support and evaluate integration of skills mapping to the organizational alignment as part of year 4's activities.

PMO AND CROSS CUTTING–SPECIFIC ACTIVITIES

Below are the PMO- and Cross-Cutting- specific activities are from the Year 3 Work Plan. Any activities that are direct replications of the above Outcome-specific activities have been excluded from the below table. This table is to track the status of the activities and to highlight any activity changes, timing changes or other major items related to activities that SAEP would like to highlight for the period.

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
KNOWLEDGE MANAGEMENT						
Y3.PMO.KMR.01	Archive various SAEP reports that have been submitted to and approved by USAID on the SAEP Google drive	Sabatha Madondo	Ongoing	Contract requirement	Archived Documents including: • Bi-Weekly reports • Quarterly reports • Annual Work Plan • PMEP	**Completed:** This is an ongoing activity. All Year 3 tasks were completed
Y3.PMO.KMR.02	Track and archive deliverables for the Year 3 work plan activities and submit the tracker to USAID on a quarterly basis	Sabatha Madondo	Ongoing	Contract requirement	• An up-to-date Year 3 master file with links to activity deliverable folders, shared with USAID	**Completed:** This is an ongoing activity. All Year 3 tasks were completed
Y3.PMO.KMR.03	Track and archive trip reports submitted by the team and submit the tracker to USAID on a quarterly basis	Sabatha Madondo	Ongoing	Contract requirement	• An up-to-date trip report tracker with links to various trip reports	**Completed:** This is an ongoing activity. All Year 3 tasks were completed

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
Y3.PMO.KMR.04	Submissions of datasets/documents to the DDL	Albert Ikhile, Sabatha Madondo	Ongoing	Contract requirement	• Ongoing submissions of datasets/documents to the DDL	**Moved to Year 4:** This is an ongoing activity
Y3.PMO.KMR.05	Upload SAEP deliverables onto the USAID DEC	Albert Ikhile	Ongoing	Contract requirement	• Ongoing submissions of deliverables to DEC	**Completed:** This is an ongoing activity
Y3.PMO.KMR.06	Archiving supporting documents for various SAEP's performance indicators	Lubabalo Banzana	Quarterly	Contract requirement	• Archived Documents including: - Connections data submitted - Training data submitted	**Completed:** This is an ongoing activity. All Year 3 tasks were completed
MONITORING EVALUATION AND LEARNING						
Y3.PMO.MEL.01	Document activities and data for M&E indicators and results	Lubabalo Banzana; Technical Teams	Ongoing	Leading practice DQA Assessment	• Documentation of M&E results and documentation that results have been verified	**Completed:** All SAEP Year 3 Workplan activities are linked to the performance indicators. This is an ongoing activity
Y3.PMO.MEL.02	Consolidate M&E Reporting database on Wrike, for all indicators	Lubabalo Banzana	Quarterly	Consolidation of reporting database	• Consolidated internal M&E Database, where all SAEP data can be directly retrieved from one source.	**Completed:** The M&E reporting on some indicators, such as Training data, Transactions, Reports, Laws and Policies, has been done through Wrike and all the supporting documents are attached in Wrike
Y3.PMO.MEL.03	Manage transaction status updates via Wrike	Lubabalo Banzana	Quarterly	Leading practice	• Up-to-date record of status updates on SAEP's transactions	**Completed:** This is an ongoing activity. Transactions are continuously tracked through Wrike. All Year 3 tasks were completed
Y3.PMO.MEL.04	Complete quarterly transactions update on PATT	Lubabalo Banzana	Quarterly	Contractual requirement	• Data entry into PATT (within 30- days after the end of each quarter of performance)	**Completed:** This is an ongoing activity. PATT has been updated frequently and mainly on a quarterly basis.
Y3.PMO.MEL.05	Conduct regular DQAs	Lubabalo Banzana	Quarter	Leading practice	• 1 x DQA report per country assessed	**Completed:** In Year 3, SAEP managed to conduct 3 DQAs. Two of the DQAs were conducted in Q1 in Zambia and Mozambique and the other DQA was done in Q1 in Malawi. Due to the

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
						COVID-19 travel restrictions, we were unable to conduct further DQAs.
Y3.PMO.MEL.06	Draft and Submit M&E data updates for Quarterly Progress Reports	Lubabalo Banzana	Quarterly	Contractual requirement	• Submission of required reports (as part of the quarterly reporting process) - Transaction table and tracker updates - Performance Monitoring and Evaluation table - Participant training report - DIS reporting - TraiNet reporting - Monitoring, Evaluation and Learning reporting	**Completed:** The Transaction Tracker and Performance Monitoring and Evaluation tables were updated for every quarters Quarterly Report.
Y3.PMO.MEL.07	Review Performance Management and Evaluation Plan (PMEP), and update as necessary	Albert Ikhile, Olukunle Ogundele, Lubabalo Banzana	Quarterly	Contractual requirement	• Updated PMEP	**Completed:** The updated PMEP included the following changes: - Update of the existing Performance Indicator Reference Sheets (PIRS) in Annexure 4 and 5 - Year 1 and 2 indicator actual numbers on the PIRS table - Updating of FY20 Q1 and Q2 actual numbers - Revision of the Year 3, 4 and 5 and the project lifetime indicator targets - Updated training targets for Year 3 - Addition of Power Africa 2.0 indicators to Annexure 5
Y3.PMO.MEL.08	Support SAEP staff and counterpart to collect/analyze data as requested	Lubabalo Banzana	Ongoing	Leading practice	• Ad-hoc data requests from SAEP staff	**Completed:** This is an ongoing activity as the M&E specialist receives ad-hoc requests for team members. Some of the data collected and analyzed include data from surveys that have been conducted via

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
						SurveyMonkey and also assistance with the Malawi Kickstarter Newsletter.
Y3.PMO.MEL.10	Draft and submit M&E data updates for Annual Performance Management Reports	Lubabalo Banzana	1 October 2020	Contract requirement	• Performance Management progress Reports (Submitted within 30-days after the end of FY)	**Moved to Year 4:** To be completed when annual report is submitted.
Y3.PMO.MEL.11	Conduct project performance analysis focusing on implementation of activities and their impact on indicator performance as a learning exercise	Lubabalo Banzana	Monthly	Leading practice	• Activity progress update	**Moved to Year 4:** Year 3 analysis on impact of activities towards indicator performance still to be done

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
PROJECT MANAGEMENT SUPPORT						
Y3.PMO.PRS.01	Provision of Wrike training and support to SAEP staff	Sabatha Madondo	Ongoing	Leading practice	• Continuous onboarding of SAEP staff to Wrike for Program Management	**Completed:** This is an ongoing activity. In Year 3 provided WRIKE training to F&O team.
Y3.PMO.PRS.02	Generation of a quarterly activity status from Wrike	Sabatha Madondo	Quarterly	Leading practice	• Year 3 Activity Table for Quarterly Reports	**Completed:** This is an ongoing activity. All Year 3 tasks were completed
Y3.PMO.PRS.03	Follow-up on technical teams on activity updates and document uploads on Wrike	Sabatha Madondo	Ongoing	Quality control of management systems	• Up-to-date Y3 work plan activities on Wrike	**Completed:** This is an ongoing activity. All Year 3 tasks were completed
Y3.PMO.PRS.04	Manage project performance update and feedback to the outcomes leads and the management	Sabatha Madondo	Quarterly	Leading practice	• SAEP Project Performance dashboard for internal monitoring of activities	**Completed:** This is an ongoing activity. All Year 3 tasks were completed
Y3.PMO.PRS.05	Implementation of contact list as an outlook contact for SAEP staff	Sabatha Madondo	Ongoing	Leading practice	• Up-to-date contact list CSV	**Moved to Year 4:** this is an ongoing activity

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
COMMUNICATION AND OUTREACH						
Y3.PMO.COM.01	Branding and Marking Plan updates as required	Helga Wenhold	Ongoing	Leading practice	• Revisions to Branding and Marketing Plan as necessary	**Completed:** The Branding and Marking plan was approved by USAID on 21 September 2020
Y3.PMO.COM.02	Communications Strategy updates as required	Helga Wenhold	Ongoing	Leading practice	• Revisions to the Communications Strategy as necessary	**Completed:** Updated strategy approved by USAID on 10/02/2019
Y3.PMO.COM.03	Send Biweekly updates	Albert Ikhile; Helga Wenhold	Biweekly	Contract requirement	• Biweekly report (every two weeks)	**Completed:** This is an ongoing activity. All Q4 tasks were completed
Y3.PMO.COM.04	Draft and Submit Quarterly Progress Reports	Albert Ikhile; Helga Wenhold	Quarterly	Contract requirement	• Quarterly Progress Reports (within 30 days after the end of each quarter of performance)	**Completed:** Submitted the Year 3, Quarter 3 report to USAID on 30 July 2020
Y3.PMO.COM.05	Draft and Submit Year 3 Annual Report	Albert Ikhile; Helga Wenhold	10/30/2020	Contract requirement	• Annual Report (packaged as success stories)	**Completed:** Had calls with each OC Lead and Deputy Lead from 14 to 18 September 2020 to plan and agree on top achievements for inclusion in SAEP's Year 3 annual report. The annual report is due to USAID/Southern Africa on 30 October 2020.
Y3.PMO.COM.06	Draft success stories	Helga Wenhold	Ongoing	Leading practice	• Publish at least two success stories per quarter	**Completed:** Submitted two success stories as part of this annual report
Y3.PMO.COM.07	Revise and finalize fact sheets for all SAEP focus countries	Helga Wenhold	Ongoing	Leading practice	• Finalize at least two fact sheets per quarter	**Completed:** Developed country fact sheets for 1) Angola, and 2) Mozambique. Both the English and Portuguese versions of these fact sheets were approved by USAID on 4 August 2020.
Y3.PMO.COM.08	Publish press releases	Helga Wenhold	Ongoing	Leading practice	• Publish press release depending on activities and events	**Completed:** No press releases required
Y3.PMO.COM.09	Maintain SAEP LinkedIn page	Tru-handé Kotze	Ongoing	Leading practice	• LinkedIn page developed in July 2019 and continuously	**Completed:** Regularly updated the page with vacancy announcements,

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
					updated with relevant and interesting content	sharing and amplifying other posts, especially content posted by Power Africa
Y3.PMO.COM.10	Regular output of social media content for USAID and Power Africa platforms	Helga Wenhold	Ongoing	Leading practice	• Social media write-ups for Facebook and Twitter	**Completed:** Social media plans: Developed a SAEP social media content plan for August 2020, which was approved by Power Africa on 2 August 2020. Blog posts: Developed three blog posts to be posted on Power Africa's blog Medium. Social media posts: Prepared around 14 social media posts, of which 12 were posted by Power Africa and 1 by USAID/Mozambique. All these posts were amplified on the SAEP LinkedIn page.
Y3.PMO.COM.11	Creation of visual/digital Public Relations (PR) material	Helga Wenhold	7/31/2019–7/31/2020	Leading practice	• Develop two three-minute success story videos; expand SAEP photo database to include professional, high-quality, impactful photos	**Completed**: SHS Kick-Starter Program for Malawi Newsletters: - Developed and distributed the SHS Kick-Starter Program for Malawi Milestone Four newsletter on 15 September 2020. Videos: - Prepared a video concept and storyboard for the Malawi off-grid video, the storyboard was approved by Power Africa on 8 September 2020. SAEP appointed a videographer based in Malawi on 30 September 2020. Post-production will commence in Year 4.

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
Y3.PMO.COM.12	Plan and implement high-level events in Year 3 as per the outcome planned activities	Helga Wenhold	Ongoing as needed	Leading practice	• High-level events implemented in SAEP focus countries that lead to USAID visibility; preparation of materials including scene setters, PR material like banners etc. • See the SAEP live event calendar for more details on the planned events for Year 3	**Completed:** Provided ad-hoc support **to** the Madagascar mini-grid development grant Q&A webinar
GENDER						
Y3.PMO.GEN.01	ZESCO Gender Mainstreaming	Edith Wanjohi, Lana Nwosu	10/1/2019-9/30/2020	ZESCO request	• Gender policy and strategy Gender mainstreaming training materials • Training workshop reports	**Moved to Year 4:** Activity was moved to year 4 due to travel restriction during COVID-19 lockdown.
Y3.PMO.GEN.02	SHS Kickstarter Malawi: Gender mainstreaming	Edith Wanjohi, Tshegofatso Neeuwfan	10/1/2019-10/31/2020	SAEP initiative	• Gender data and analytics requirements for SHS companies and grant reporting • Report recommending further qualitative and quantitative analysis and required surveys • Gender specific training for sales agents and managers as part of SFE • Implementation of gender hiring practices within SHS companies • Initial impact report on gender focus within SHS companies (similar to PAOP report)	**Moved to Year 4:** This activity was put on hold until year 4 due to COVID -19 travel restrictions.
Y3.PMO.GEN.03	Support women entrepreneurs in procurement tender process EGENCO and ZESCO	Edith Wanjohi Lana Nwosu	1/1/2020-9/30/2020	Leading Practice	• Gender specific analysis undertaken with procurement/operation departments to determine number of women owned businesses that benefit from procurement value chains in utilities	**Moved to Year 4:** SAEP has continued to support EGENCO Procurement department to ensure that women entrepreneurs and women-owned businesses working in the energy sector are actively involved

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
					• Develop guidelines on how to incorporate gender into the procurement processes • Train Procurement/Operations team on how to incorporate gender sensitive procurement systems in their procurement processes	in EGENCO's procurement tender process. In Q4 the Gender Advisor prepared draft procurement guidelines on how to incorporate gender into the procurement process. The Guidelines will be completed in year 4
Y3.PMO.GEN.04	Conduct gender baseline of Southern Africa regional institutions	Edith Wanjohi	10/1/2019-6/15/2020	SADC Secretariat request	• Inception report • Gender specific indicators Collection Implementation Guidelines for data collection moving forward	**Moved to Year 4**: In Q4, SAEP Gender Advisor, analyzed the responses and prepared a final key finding report power point presentation highlighting key findings and recommendations and Action Plan detailing how the proposed Indicators will be measured by SADC Energy Institutions. The report will be shared with SADC Secretariat in October 2020. After the SADC Secretariat approved the report and the Action Plan, the findings will be shared with the SADC Energy ministers
Y3.PMO.GEN.05	Gender baseline survey South Africa Department of Energy and Minerals	Edith Wanjohi	2/1/2020-7/30/2020	DOE request	• Gender baseline survey report to understand current levels of female participation in the energy industry	**Moved to Year 4** Activity did not kick-off as planned. SAEP still to decide if this activity will move to year 4 or not.
Y3.PMO.GEN.06	Gender mainstreaming for utility boards	Edith Wanjohi & Lana Nwosu	2/3/2020-9/30/2020	EGENCO & ZESCO Proposal	• Utility board Gender Mainstreaming Leadership Development Program manual/guidelines • Training progress reports • Quarterly reports • Annual report	**Moved to Year 4:** activity did no kick off- due to the COVID-19 travel and meeting restrictions. The activity has been moved to year 4.
Y3.PMO.GEN.07	EGENCO Gender Mainstreaming Program	Edith Wanjohi	10/1/2019-9/30/2020	EGENCO request	• Gender and Social Inclusion training manual • Gender and Social Inclusion training reports	**Moved to Year 4:** SAEP has continued to support EGENCO to build capacity of its staff with gender mainstreaming initiatives and also, to provide mentorship and coaching

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
						support to the Administration and Gender manager on the implementation of the Gender policy through sensitization initiatives to EGENCO staff. In Q 4, the Gender Advisor Prepared Training of Trainers Facilitators Guidelines for the proposed Training of Trainers (TOT) workshop which will be conducted in year 4
Y3.PMO.GEN.08	Utility gender specific procurement	Edith Wanjohi	10/1/2019-9/30/2020	EGENCO request	• Utility gender specific procurement guidelines • Training report • Quarterly reports • Annual report	**Moved to Year 4:** The Gender Advisor prepared draft procurement guidelines that will be fine-tuned in Year 4 Q1. The procurements guidelines will be used to Guide EGNCO and other utilities with how to undertake gender specific procurement processes in order to enhance equitable procurement within utilities in the region
Y3.PMO.GEN.09	Engendering Utilities implementation support – HR	Edith Wanjohi	10/1/2019-9/30/2020	EGENCO request	• Hiring, retention and advancement program implementation guidelines building on Engendering Utilities • Quarterly progress reports • Annual progress report	**Moved to Year 4:** Gender Advisor continued to provide mentorship and coaching support to the Administration and Gender manager on the implementation of the Gender policy through sensitization initiatives to EGENCO staff. The Gender Advisor also participated in Engendering Utility quarterly progress calls where progress, gaps and opportunities were discussed
Y3.PMO.GEN.10	Utility gender mainstreaming toolkit	Edith Wanjohi, Lana Nwosu	11/5/2019-9/30/2020	EGENCO, ZESCO request	• Packaged as a toolkit: Gender Self-assessment guidelines (completed in Year 2 for EGENCO) • Gender mainstreaming in utilities and regulators training manual • Training reports • Quarterly reports	**Moved to Year 4:** The Tool Kit containing guidelines and training materials was developed and is being fine-tuned to complete the tool kit.

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
					• Annual reports	
Y3.PMO.GEN.11	SHS Zambia Gender Mainstreaming	Edith Wanjohi	2/3/2020 - 9/30/2020		• Manual on gender and social inclusion into SHS companies	**Moved to Year 4:** This activity was put on hold due to travel restriction during COVID 19 Lockdown. The activity has been moved to year 4.
ENVIRONMENTAL COMPLIANCE AND CLIMATE RESILIENCE						
Y3.PMO.ENV.01	Quarterly review of Environmental Compliance	Taryn Bigwood	Quarterly	Contractual requirement	• EMMP quarterly update as required	**Completed:** updated the EMMP
Y3.PMO.ENV.02	TA on project development documents as required by transactions	Taryn Bigwood	As required	Leading practice	• ERFs developed from reviewing each project and transaction • Review of EIAs and EMMP and advise accordingly from to international standard, environmental compliance (with the county's legislation) and practical perspective. Review of environmental licenses, environmental authorizations and other project documents as required	**Completed:** All ERFs needed have been developed
Y3.PMO.ENV.03	Assistance with environmental reviews and project assistance	Taryn Bigwood	As required	Leading practice	• Review of policies and advise on environmental shortfalls, so that all policy can meet international environmental standards and that country's environmental policies and legislation • Contribute to all assessments • Assist with environmental planning needed for the energy regulators	**Completed:** Ongoing, all tasks for Year 3 completed
Y3.PMO.ENV.04	Assistance with environmental requirements on grants,	Taryn Bigwood	As needed	Leading practice	• Environmental criteria for grant TOR	**Completed**: Assisted with development of the TOR for the Grant in Madagascar, presented a

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
	review of grant applications for environmental considerations and assist in developing an environmental evaluating system for grant applicants				• Development of a grant evaluation form, developing an Environmental Mitigation and Mitigation program template, train grant applicants on environmental and social knowledge gaps and audit grant projects to ensure environmental compliance	capacity workshop in Malawi and presented environmental requirements to Madagascar Potential grant applications
Y3.PMO.ENV.05	Environmental review of ZESCO Water Valuation activity from Year 2 and check-in with ZESCO	Taryn Bigwood	10/1/2019 – 6/15/2019	ACOR request	• Description in Water Valuation on potential impacts of water valuation analysis on environmental considerations • Environmental training for ZESCO system operations	**Completed**: A disclaimer was developed and added to the report as the report was reviewed.
Y3.PMO.ENV.06	Impact on Energy from Wildlife	Taryn Bigwood and subcontractor EWF	7/01/2020 – 9/30/2020		• Reports on the wildlife interaction status of 5 utilities (Angola: 2, Malawi: 2 and Mozambique: 1)	**Move to Year 4:** this activity will continue into year 4
ADMINISTRATION AND OPERATIONS						
Y3.PMO.OPS.01	Coordinate program administration and operations between the Pretoria office, Lusaka office, and DC office	Rajiv Weeraratne; Chadd Wish	Ongoing	Required	• Program administration and operations support	**Completed:** This is an ongoing activity, all Year 3 tasks completed
Y3.PMO.OPS.02	Support program financial management	Rajiv Weeraratne; Chadd Wish	Ongoing	Required	• Program financial management support	**Completed**: This is an ongoing activity, all Year 3 tasks completed
Y3.PMO.OPS.03	Quarterly Financial Updates	Rajiv Weeraratne	Quarterly	Required	• Quarterly Financial Report (submitted with the quarterly report)	**Completed:** This is an ongoing activity, all Year 3 tasks completed
Y3.PMO.OPS.04	Onboard new resources and submit required approvals to USAID	Surita Wentzel	Ongoing	Required	• Resource CV, Biodata, and SoW submitted to USAID and received USAID concurrence	**Completed:** All new resources were onboarded we submitted required approvals to USAID in Y3
Y3.PMO.OPS.05	Develop Travel Authorization Requests and submit for approval	~~Elias Sethosa~~; Naresh Totaram	Ongoing	Required	• TARs submitted to USAID for approval	**Moved to Year 4**

Activity No	Activity Title	SAEP Activity Lead(s)	Start and End Dates	Reasoning / Buy-In	Deliverable(s)	Status
Y3.PMO.OPS.06	Procurement support for personnel and office materials	Naresh Totaram; Lorna Jideamah	Ongoing	Required	• Procurement documents	**Completed:** This is an ongoing activity, all Year 3 tasks completed
Y3.PMO.OPS.07	Annual staff compliance trainings or verification	Surita Wentzel	Annual	Required	• Confirmation from staff of annual compliance updates	**Completed:** All annual staff compliance trainings or verification were completed in Y3
Y3.PMO.OPS.08	Annual staff performance management evaluation	Surita Wentzel	Annual	Required	• Performance management documentation	**Completed:** All annual staff performance management evaluation was completed in Y3
GRANTS / CATALYZING LOCAL OPPORTUNITIES FUND						
Y3.PMO.CLF.01	Implementation and continuous monitoring of Malawi SHS Kickstarter program through the following tasks • Amend grant agreements as necessary • Review of grantees quarterly reports • Data verification • Payment processing	Lorna Jideamah, Lubabalo Banzana; Rajiv Weeraratne	Ongoing	Contractual obligation	• Modified grant agreements • Report achievements in SAEP quarterly reports • Review of grantees monitoring and evaluation reports • Submission of data to Power Africa • Payment release	**Completed:** Grantees submitted a total of 4 quarterly reports. SAEP reviewed and approved the reports before releasing payments. A modification has been made to the grant (COVID-19 related adjustment) A new milestone submission of a Business Continuity Report has been added to the grant. Payment for the new milestone was released upon receipt of business continuity reports.
Y3.PMO.CLF.02	Design and implementation of Madagascar mini grids through the following tasks • RFA developed • RFA released and then applications reviewed. Award released	Lorna Jideamah Jorry Mwenechanya	10/01/2019-3/31/2019	Leading practice	• RFA • Evaluation documents • Grant award	**Completed.** Three companies were selected. The grant announcement will take place in Q1 of Year 4.

APPENDIX K SAEP YEAR 4 QUARTERLY TARGETS

SAEP YEAR 4 QUARTERLY TARGETS									
#	Indicator	Q1 FY21	Q2 FY21	Q3 FY21	Q4 FY21	Year 4 Total	Results -to-date	Life of Project Target	Notes
I / PA1	(#AA) Capacity (MW) from Transactions Supported by SAEP that Achieved Financial Closure (4.8.2-33 and PA)	0	0	150	100	250	4,301.38	4,000	**FY 2021 PMEP Target: 290 MW and 4 transactions** The transactions included in the target are those that have high likelihood to reach financial close at the set date in FY 2021. The other transactions listed below have low confidence of reaching FC at the set date, hence not included in the target number for the year. **SAEP supported transactions with high likelihood to reach FC at set date** **Quarter 3:** • GET FiT Zambia Round 1 – Small Solar 120 MW. Est. FC date: 06/2021 – (US$M 50) • Mohale's Hoek 30 MW. Est. FC date: 06/2021 – (US$M 45) **Quarter 4:** • BPC Solar PV 100 MW. Est. FC date: 09/2021 – (US$M 150)
PA6	Number of Transactions Reached Financial Closure (PA)	0	0	2	1	3	31	37	

17 / PA18	**Total Public and Private Funds Leveraged by USG for Energy projects (USD millions) (MIL 4.4.1-32) (PA)**	**0**	**0**	**95,000,000**	**150,000,000**	**245,000,000**	**4,721,700,000**	**7,232,600,000**	
PA16	**Utilization of Risk Mitigation Tools (PA)**	**0**	**0**	**2**	**1**	**3**	**31**	**37**	
2 / PA2	**Generation and Transmission capacity (MW) pending financial closure (PA)**	**13,949.27**	**13,949.27**	**13,949.27**	**13,949.27**	**13,949.27**	**13,949.27**	**4,100**	**FY 2021 New Target: 13,949.27 MW** 13,949.27 MW is made up of the 90 transactions which also includes those that have already reached financial close (2,301.4 MW). From the 90 transaction, 61 are currently in the pipeline and have not yet reached financial close. From the 61 transaction in the pipeline, three are for Transmission (2,900 MW) and the remaining 58 are for Generation (8,747.87 MW).
	Gx MW pending financial lose	8,747.87	8,747.87	8,747.87	8,747.87	8,747.87	-	-	
	Gx MW reached financial close	2,301.4	2,301.4	2,301.4	2,301.4	2,301.4	-	-	
	Gx Total	**11,049.27**	**11,049.27**	**11,049.27**	**11,049.27**	**11,049.27**	**11,049.27**	**3,100**	
	Tx MW reached financial close	2,000	2,000	2,000	2,000	2,000	-	-	
	Tx MW pending financial close	900	900	900	900	900	-	-	
	Tx Total	**2,900**	**2,900**	**2,900**	**2,900**	**2,900**	**2,900**	**1,000**	
PA5	**Number of Transactions**	**61**	**61**	**61**	**61**	**61**	**61**	**57**	

	Pending Financial Closure (PA)								
3 / PA3	**Generation Capacity (MW) Commissioned (PA)**	**558.4**	**0**	**493.2**	**0**	**1,051.6**	**675.6**	**2,265.38**	**FY 2021 PMEP Target: 783.4 MW from 11 transactions.** The following transactions are expected to be commissioned in FY 2021: **Quarter 1** ● Bokamoso Solar Park 67.9 MW: 11/2020 ● De Wildt Solar Park 50 MW: 11/2020 ● Golden Valley Wind 117.72 MW: 11/2020 ● Greefspan PV Power Plant No.2 Solar Park 55 MW: 11/2020 ● Waterloo Solar Park 75 MW: 11/2020 ● Perdekraal East Wind Farm 107.76 MW: 12/2020 ● Zeerust Solar Park 75 MW: 12/2020 **Quarter 3** ● EEC Lavumisa 10 MW: 04/2021 ● Kruisvallei Hydro 4.7 MW: 04/2021 ● Nkhotakota Solar 26 MW: 04/2021 ● Roggeveld 140 MW: 04/2021 ● Karusa Wind Farm 139.8 MW: 06/2021 ● Oyster Bay Wind Farm 140 MW: 06/2021 ● Wesley-Ciskei Wind Project 32.7 MW: 06/2021
PA4	**Number of Transactions Commissioned (PA)**	**7**	**0**	**7**	**0**	**14**	**11**	**27**	
5 / PA1 1	**(#AB) Direct Electricity Access (PA)**	**179,438**	**217,770**	**232,840**	**241,697**	**871,745**	**585,037**	**3,000,000**	**FY 2020 PMEP Target: 871,745** *(The breakdown between off-grid and on-grid is based on the Year 4 projected connections from SAEP's off-grid and on-grid activities.)* **Off Grid: 271,745** ● Madagascar – 10,500 ● Malawi – 86,012 ● Mozambique – 47,535 ● Zambia – 127,698 **On Grid: 600,000** ● Angola – 285,000 ● Lesotho – 15,000 ● Mozambique – 300,000
	Off Grid	50,688	64,020	79,090	77,947	271,745	N/A	N/A	
	On Grid	128,750	153,750	153,750	163,750	600,000	N/A	N/A	

4 / PAI 0	**Number of New Grid and Off-Grid Projected Direct Connections (PA)**	**2,164,769**	**1,946,999**	**1,714,159**	**1,472,462**	**1,472,462**	**2,424,595**	**3,000,000**	**FY 2020 PMEP Target: 1,472,462** *(the breakdown between off-grid and on-grid is based on the Year 4 projected connections from the teams off-grid and on-grid activities.)* **Off Grid: 695,034** ● Malawi – 178,328 ● Mozambique – 30,840 ● Zambia – 485,866 **On Grid: 777,428** ● Angola – 536,000 ● Lesotho – 9,036 ● Mozambique – 232,389
	Off Grid	916,091	852,071	772,981	695,034	695,034	N/A	N/A	
	On Grid	1,248,678	1,094,928	941,178	777,428	777,428	N/A	N/A	
6 / PAI 2	**Electricity Loss Reduction [Aggregate Losses (PA)]**	TBD	TBD	TBD	TBD	TBD	**0**	**0**	**FY 2021 PMEP Target: TBD** The target for this indicator is yet to be determined by OC2 and will only be done if determined that we will take on the EDM loss reduction activity and will be baselined as part of the scoping exercise or first task
7 / PAI 3	**Energy Efficiency or Energy Conservation (MVA) (4.8.2-31)**	0	0	0	3,600	3,600	**7,877,427**	**1,224**	**FY 2021 PMEP Target: 3,600** The target for this indicator is 1,000,000 kWh. This is for activities in Eswatini, if we cannot move forward with that activity than this number will need to be edited. In line with the PMEP, the target has been converted into Gigajoules (GJ) ***This indicator is calculated in Gigajoules (GJ).***
8 / PAI 5	**(#Y) Number of Laws, Policies, Strategies, Plans, or Regulations Officially Proposed, Adopted, or Implemented (4.8.2-28) (PA)**	**2**	**0**	**0**	**0**	**2**	**32**	**31**	**FY 2021 PMEP Target: 2** SAEP is targeting 2 Laws, Policies, Strategies, Plans, or Regulations that will be officially Proposed, Adopted, or Implemented in FY 2021. Below are the countries that will be targeted: **Angola** ● IRSEA Botswana ● BERA **Eswatini** ● ESERA **Mozambique**

									• ARENE **Regional** • SACREE • RERA
9	**Number of Reports, Analysis, Reviews, Action Plans, Tools Developed and Campaigns and Trips Implemented (Custom)**	**12**	**11**	**11**	**11**	**45**	**155**	**205**	**FY 2021 PMEP Target: 45** SAEP is targeting 45 Reports, Analysis, Reviews, Action Plans, Tools Developed and Campaigns and Trips Implemented in FY 2021 Below are the countries and institutions that will be targeted: **Angola** • ENDE **Botswana** • BERA **Eswatini** • ESERA • Ministry of Natural Resources and Energy (MNRE) • Eswatini Water Supply Corporation (EWSC) **Lesotho** • LEC **Madagascar** • SIM (Malagasy Industry Association) • Baobab+ • US Mission Madagascar **Malawi** • EGENCO • ESCOM • Mercy James Centre (MJC)/ Raising Malawi • Government of Malawi (GoM) **Mozambique** • ARENE • EDM • MIREME **Namibia** • CENORED • City of Windhoek (COW)

									• Ministry of Mines and Energy (MME) **Regional** • SACREE • RERA **Zambia** • AVENCION • Lusaka Water Supply and Sanitation Company (LWSSC) • SIAZ • ZESCO
10	**(#X) Percentage of RFP Section F Deliverables Submitted in a Timely Manner (Custom)**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**FY 2021 PMEP Target: 100%** The following are the deliverables that should be submitted in a timely manner in FY 2021: • Bi-Weekly • Quarterly Report • Annual Report • Quarterly Financial Report • Success Stories • Participant Training Report • Quarterly updates to the PATT
11	**Number of Institutions with Improved Capacity (4.8.2-14)**	**0**	**0**	**0**	**15**	**15**	**43**	**61**	**FY 2021 PMEP Target: 15** Below are some of the institutions that have been targeted for improved capacity for FY 2021: • EDM • ENDE • ESCOM • EGENCO • RNT • SACREEE • SADC • SAPP • SolarWorks • Vitalite • Yellow Solar • ZESCO • Zuwa Energy
12	**Number of Women in Energy Sector Leadership Roles (Custom)**	**0**	**1**	**1**	**1**	**3**	**4**	**12**	**FY 2021 PMEP Target: 3** **Some of the targeted** institutions for Women in Energy Sector Leadership Roles are the following: **Botswana:**

									• BERA **Malawi:** • ESCOM • EGENCO **Zambia** • ZESCO
13a	**Number of People Receiving Training in Global Clean Energy (4.8.2-6)**	**37**	**38**	**38**	**37**	**150**	**1,014**	**1,313**	**FY 2021 PMEP Target: 150** (60% males and 40% females) Below are the target countries and institutions from which the trainings will be done: **Malawi** • ESCOM **Mozambique** • EDM **Zambia** • ZESCO
	Men	**22**	**23**	**23**	**22**	**90**	**821**	**788**	
	Women	**15**	**15**	**15**	**15**	**60**	**193**	**525**	
13b	**Person-Hours of Training (4.8.2-29; MIL 4.4.1-34)**	**296**	**304**	**304**	**296**	**1,200**	**8,755**	**10,750**	**FY 2021 PMEP Target: 1,200** This indicator is linked to indicator 13a above.
	Men	**176**	**184**	**184**	**176**	**720**	**6,954.5**	**6,450**	
	Women	**120**	**120**	**120**	**120**	**480**	**1,800.5**	**4,300**	
PA3	**Clean Energy Generation Capacity Installed or Rehabilitated (MWs) (4.8.2-32) & Generation Capacity Commissioned (PA)**	**558.4**	**0**	**493.2**	**0**	**1,051.6**	**366**	**2,265.38**	**FY 2021 PMEP Target: 783.4 MW commissioned from 11 transactions.** The following transactions are expected to be commissioned in FY 2021: **Quarter 1** • Bokamoso Solar Park 67.9 MW: 11/2020 • De Wildt Solar Park 50 MW: 11/2020 • Golden Valley Wind 117.72 MW: 11/2020 • Greefspan PV Power Plant No.2 Solar Park 55 MW: 11/2020 • Waterloo Solar Park 75 MW: 11/2020 • Perdekraal East Wind Farm 107.76 MW: 12/2020 • Zeerust Solar Park 75 MW: 12/2020 **Quarter 3** • EEC Lavumisa 10 MW: 04/2021 • Kruisvallei Hydro 4.7 MW: 04/2021 • Nkhotakota Solar 26 MW: 04/2021

									• Roggeveld 140 MW: 04/2021 • Karusa Wind Farm 139.8 MW: 06/2021 • Oyster Bay Wind Farm 140 MW: 06/2021 • Wesley-Ciskei Wind Project 32.7 MW: 06/2021
PA7	**National Energy Mix Showing % of MWs from Clean Energy Technologies in Each Country (PA)**	**TBD**	**TBD**	**TBD**	**TBD**	**TBD**	**0**	**0**	**FY 2021 PMEP Target: TBD** Indicator will be tracked. Consistent with PA reporting and sources based on 2016 baseline numbers (or the latest reported).
PA8	**Kilometers of Power Lines Reached Financial Close (PA)**	**0**	**0**	**0**	**0**	**0**	**561**	**1,166**	**FY 2021 PMEP Target: 0** There are no transmission transactions that are expected to reach financial close in FY21.
PA9	**Kilometers of Power Lines Constructed or Rehabilitated (PA)**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**FY 2021 PMEP Target: 0** There are no transmission transactions were expected to reach COD in FY21.
PA14	**Greenhouse Gas (GHG) Emissions Reduced, Sequestered, and/or avoided (4.8-7) (PA) (thousand tCO2e)**	522.3	0	461.6	0	983.9	**1,169.6**	**1,169.6**	**FY 2021 PMEP Target: TBD** (Results to be calculated using CLEER tool at the time of commissioning) The following transactions are expected to be commissioned in FY 2021 - SAEP will calculate GHG in all quarters: **Quarter 1** • Bokamoso Solar Park 67.9 MW: 11/2020 (64.7 tC02e) • De Wildt Solar Park 50 MW: 11/2020 (47.6 tC02e) • Golden Valley Wind 117.72 MW: 11/2020 (112.1 tC02e) • Greefspan PV Power Plant No.2 Solar Park 55 MW: 11/2020 (52.4 tC02e) • Waterloo Solar Park 75 MW: 11/2020 (71.4 tC02e) • Perdekraal East Wind Farm 107.76 MW: 12/2020 (102.7 tC02e) • Zeerust Solar Park 75 MW: 12/2020 (71.4 tC02e) **Quarter 3** • EEC Lavumisa 10 MW: 04/2021 (7.2 tC02e) • Kruisvallei Hydro 4.7 MW: 04/2021 (4.5 tC02e) • Nkhotakota Solar 26 MW: 04/2021 (18.7 tC02e) • Roggeveld 140 MW: 04/2021 (133.4 tC02e) • Karusa Wind Farm 139.8 MW: 06/2021 (133.2 tC02e) • Oyster Bay Wind Farm 140 MW: 06/2021 (133.4 tC02e) • Wesley-Ciskei Wind Project 32.7 MW: 06/2021 (31.2 tC02e)
PA17	**US Exports Supplied for Clean and**	TBD	TBD	TBD	TBD	TBD	**N/A**	**N/A**	**FY 2021 PMEP Target: No set targets** This indicator has no set target for FY 2021 but the indicators will be tracked and actuals reported.

	Cleaner Energy Projects (PA)								
PAI 9	**Partner Commitment Tracking (PA)**	TBD	TBD	TBD	TBD	TBD	**N/A**	**N/A**	**FY 2021 PMEP Target: No set targets** This indicator has no set target for FY 2021 but the indicators will be tracked and actuals reported.
1	**Estimated number of Beneficiaries: Number of beneficiaries with anticipated access to connections**	8,337,204	7,513,898	6,620,944	5,711,949	5,711,949	**9,417,290**	**N/A**	**FY 2021 PMEP Target: 5,711,949** *(the breakdown between off-grid and on-grid is based on the Year 4 projected connections from the teams off-grid and on-grid activities.) The multipliers used are based on the World Banks average country household size. The average country household size multipliers per country are as follows:* ● Angola – 2.32 ● Lesotho – 3.3 ● Madagascar – 4.7 ● Malawi – 4.5 ● Mozambique – 4.4 ● Zambia – 5.1 **Off Grid: 3,416,088** ● Malawi – 802,475 ● Mozambique – 135,696 ● Zambia – 2,477,917 **On Grid: 2,295,861** ● Angola – 1,243,520 ● Lesotho – 29,829 ● Mozambique – 1,022,512
2	**Estimated number of Beneficiaries: Number of beneficiaries with actual access to connections**	702,262	823,307	892,954	908,995	3,327,518	**481,974**	**N/A**	**FY 2021 PMEP Target: 3,327,518** *(the breakdown between off-grid and on-grid is based on the Year 4 projected connections from the teams off-grid and on-grid activities.) The multipliers used are based on the World Banks average country household size. The average country household size multipliers per country are as follows:* ● Angola – 2.32 ● Lesotho – 3.3 ● Madagascar – 4.7 ● Malawi – 4.5 ● Mozambique – 4.4 ● Zambia – 5.1 **Off Grid: 1,296,818** ● Madagascar – 49,350 ● Malawi – 387,054 ● Mozambique – 209,154 ● Zambia – 651,260 **On Grid: 2,030,700** ● Angola – 661,200 ● Lesotho – 49,500 ● Mozambique – 1,320,000
3	**Number of competitive procurement**	0	0	0	2	2	**2**	**N/A**	**FY 2021 PMEP Target: 2** The target for this indicator is yet to be determined by OC1.

	processes for new generation capacity implemented with USG Power Africa assistance								
4	**Number of host-government power sector strategic planning documents adopted, implemented, or revised, with U.S. Government (USG) Power Africa support**	0	0	0	0	0	**0**	**N/A**	**FY 2021 PMEP Target: 0** The target for this indicator is yet to be determined. The target will be determined by taking into account the final approved activities from each of the outcomes.
5	**Aggregate Losses: Total technical and non-technical electricity losses / total electricity generated**	TBD	TBD	TBD	TBD	TBD	**0**	**N/A**	**FY 2021 PMEP Target: TBD** The target for this indicator will be determined if the loss reduction activity moved forward with EDM. It will be calculated by OC2 as part of the first task.
6	**New electricity capacity committed for regional trade through bilateral agreements**	TBD	TBD	TBD	TBD	TBD	**0**	**N/A**	**FY 2021 PMEP Target: TBD** The target for this indicator is yet to be determined by OC3.
7	**Number of U.S. companies that participate in Power Africa outreach events**	TBD	TBD	TBD	TBD	TBD	**0**	**N/A**	**FY 2021 PMEP Target: No set targets** This indicator has no set target for FY 2021 but the indicators will be tracked and actuals reported.
8	**Number of U.S. companies participating in Power Africa Projects/Transactions**	TBD	TBD	TBD	TBD	TBD	**0**	**N/A**	**FY 2021 PMEP Target: No set targets** This indicator has no set target for FY 2021 but the indicators will be tracked and actuals reported.

Back cover: South Africa IPP BioTherm Energy recently connected its Excelsior wind farm to the grid. The wind project was part of the fourth round of the South African Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). Credit: USAID SAEP

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