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SOUTHERN AFRICA ENERGY PROGRAM YEAR 5 – FY22 Q3 QUARTERLY PROGRESS REPORT

APRIL 1, 2022 – JUNE 30, 2022

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DISCLAIMER

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SAEP CONTRACT AND INDICATOR PERFORMANCE SUMMARY

Project Name	Southern Africa Energy Program (SAEP)
Performance Period	15 March 2017 – 30 June 2023
TEC	\$69,955,372
Countries	Angola, Botswana, Eswatini, Lesotho, Madagascar, Malawi, Mozambique, Namibia, South Africa and Zambia
Implementing Partner	Deloitte Consulting LLP
Subcontractors	CrossBoundary, Deloitte South Africa, ENGAGE Energy, FLUXX, Geometric Talks, Consultec, Endangered Wildlife Trust and SIAL
Performance Reporting Frequency	Quarterly
Date of Latest PME P Modification	10 February 2022
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SAEP RESULTS AS OF: June 30, 2022

Project Goals	LOP Target	Progress to Date (as of 06/30/2022)	% Achieved	FY22Q3 Target	FY22Q3 Actual	% Achieved	FY22Q4 Targets
2 Number of new grid connections or off-grid connections (PA #3)	3 million	2,138,029	71.27%	227,302	186,945	82.25%	224,190
1 Number of MW from transactions that achieved financial close (PA #8) – Generation	3,000 MW	2,871.38 MW	95.71%	30 MW	0 MW	0%	5 MW
Amount of investment mobilized for energy investment (PA #14)	\$8,134.8 million	\$6,778.8 million	83.33%	\$35.2 million	0	0%	\$4.5 million
8 Kilometers of power lines that have reached financial close (PA#20)	1,166	1,121	96.14%	0	0	-	0
9 Greenhouse Gas (GHG) reduced, sequestered and/or avoided (PA #21)	4,376,435 (Thousand tCO2e)	3,680,577	84.10%	0	308,802	-	0
3 Number of laws, policies, regulations or standards to enhance energy sector governance formally proposed, adopted or implemented (PA #23)	31	33	106.45%	0	0	0%	1
7 Number of Institutions with Improved Capacity	61	58	95.08%	0	0	-	13
6 Energy Efficiency or Energy Conservation (GJ of electricity saved)	5,724	46,718	816%	0	0	-	900
10 Number of competitive procurement processes for new generation capacity implemented with USG Power Africa assistance (PA #24)	2	2	100%	0	0	-	0
Projected Targets for the Remaining Life of Project							
#New connections: 861,971; #MWs at Financial Close: 128.62 MW; Investment Mobilized: \$1.106 billion; # KM of T&D lines at Financial Close: 45; # New Laws, Policies and Regulations: 0; #Institutions with Improved Capacity: 3; #People Receiving Training in Global Clean Energy: 0							

ACRONYMS

Acronym	Definition
ADER	Agence pour le Développement de l'Electrification Rurale
AfDB	African Development Bank
ARENE	Autoridade Reguladora de Energia (Energy Regulatory Authority)
AWEaP	African Women in Energy and Power
BERA	Botswana Energy Regulatory Authority
BESS	Battery Energy Storage Systems
BGFZ	Beyond the Grid Fund for Zambia
BoD	Board of Directors
BPC	Botswana Power Corporation
BTG	Beyond the Grid
CENORED	Central Northern Regional Electricity Distributor (Namibia)
CEO	Chief Executive Officer
COR	Contracting Officer's Representative
COP	Chief of Party
CoSS	Cost-of-Service Study
CSP	Concentrated Solar Power
CTT	Central Termica de Temane
CoCT	City of Cape Town
CoW	City of Windhoek
DBSA	Development Bank of South Africa
E&S	Environmental and Socioeconomic
ECB	Electricity Control Board (Namibia)
EDM	Electricidade de Moçambique
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
EOI	Expression of Interest
EPC	Engineering, Procurement, and Construction
ERB	Energy Regulatory Board (Zambia)
ERI	Electricity Regulatory Index
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
EWSC	Eswatini Water Services Corporation

ETG	Energy Thematic Group
EWT	Endangered Wildlife Trust
ExCo	Executive Committee
FC	Financial Close
FY	Financial Year
GAP	Gender Action Plan
GEAPP	Global Energy Alliance for People and Planet
GET FiT	Global Energy Transfer Feed-in Tariffs
GOGLA	Global Off-Grid Lighting Association
GoM	Government of Malawi
HCD	Human-Centered Design
HICD	Human and Institutional Capacity Development
IA	Implementation Agreement
IDA	International Development Association
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
IRR	Internal Rate of Return
IRP	Integrated Resource Plan
IRSEA	Instituto Regulador dos Serviços de Electricidade e de Água
IsDB	Islamic Development Bank
JDA	Joint Development Agreement
JET	Just Energy Transition
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
KPI	Key Performance Indicator
kV	Kilovolt
LCOE	Levelized Cost of Energy
LEC	Lesotho Electricity Corporation
LOC	Letter of Collaboration
LWSC	Lusaka Water Supply and Sanitation Company
M&E	Monitoring and Evaluation
MCC	Millennium Challenge Corporation
MER	Municipal Energy Resilience
MERA	Malawi Energy Regulatory Authority
MINEA	Ministry of Energy and Water in Angola
MIREME	Minister of Mineral Resources and Energy (Mozambique)
MMGE	Ministry of Mineral Resources, Green Technology and Energy (Botswana)
MME	Ministry of Mines and Energy (Namibia)
MMSEZ	Musina-Makhado Special Economic Zone

MNRE	The Ministry of Natural Resources and Energy
MW	Megawatts
NARUC	National Association of Regulatory Utility Commissioners
NDA	Non-Disclosure Agreement
NEESAP	National Energy Efficiency Strategic Action Plan
NEI	Namibia Energy Institute
NO	No Objection
OGTF	Off-Grid Task Force
OFID	OPEC Fund for International Development
OPC	Office of the President & Cabinet
PATT	Power Africa Transaction Tracker
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
PPP	Public-Private Partnerships
PPPC	Public-Private Partnership Commission
PRODEL	Empresa Pública de Produção de Electricidade (Public Company for Electricity Production)
PV	Photovoltaic
Q1	Quarter 1
Q2	Quarter 2
Q3	Quarter 3
Q4	Quarter 4
RA	Relationship Agreement
RAP	Resettlement Action Plan
RBF	Results-Based Funding
RE	Renewable Energy
REIAMA	Renewable Energy Industry Association of Malawi
REIPPP	Renewable Energy Independent Power Producer Procurement
RERA	Regional Energy Regulatory Association
RFA	Request for Application
RFB	Request for Bids
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
RTS	Rooftop Solar
SACREEE	SADC Centre for Renewable Energy and Energy Efficiency

SADC	Southern African Development Community
SAEP	Southern Africa Energy Program
SALGA	South African Local Government Association
SARDC	Southern African Research and Documentation Centre
SAPP	Southern African Power Pool
SB	Single Buyer
SHS	Solar Home System
SIAZ	Solar Industry Association of Zambia
SOW	Scope of Work
SPEED+	Supporting the Policy Environment for Economic Development
SPV	Special Purpose Vehicle
SSIR	SAEP Support Information Request
STTA	Short-Term Technical Assistance
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
ZESCO	Zambia Electricity Supply Corporation
ZRA	Zambezi Revenue Authority
ZTK	Zambia–Tanzania–Kenya

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I INTRODUCTION

The United States Agency for International Development (USAID) Southern Africa Energy Program (SAEP or the Program) is a Power Africa initiative designed to provide technical advisory, capacity building and grant support to counterparts throughout Southern Africa, with the goal of increasing generation of and access to power throughout the region. The Agreement (AID-674-C-17-00002) for this Program was concluded between USAID/Southern Africa and Deloitte on 15 March 2017, initially as a five-year program which was then extended in December 2021 to 30 June 2023. This Quarterly Progress Report (the Report) documents activities and progress made from 1 April to 30 June 2022 during the Program's third quarter (Q3) of the Fiscal Year 2022 (FY22). Key results from Q3 were:

- 159.8 megawatts (MW) of SAEP-supported transactions reached commercial operations (COD)
- Achieved 186,945 direct electricity access connections
- Developed 17 new reports, analyses, reviews, action plans and tools to improve the enabling environment and reduce barriers to energy sector growth
- Trained 205 people in global clean energy
- Reduced, sequestered, and/or avoided 308,802 tCO₂e greenhouse gas emissions

More details on the above listed tangible results are given in the content of this report.

I.1 HIGHLIGHTS FOR THIS QUARTER

- *Sharing Knowledge and Lessons Learned with the Region.* SAEP is hosting quarterly webinars to share lessons and exchange ideas with Southern Africa's energy sector. During the quarter, SAEP successfully delivered three webinars. On 26 April 2022, SAEP convened the second webinar in the climate resilience webinar series on the topic of accessing climate finance for the energy sector. The webinar provided insights into how to access climate finance and adopt green budgeting methodologies, and innovative tools to identify and secure finance to advance climate resilience in the energy sector. Around 80 participants from power utilities, ministries and regulators attended. SAEP also hosted the internal Power Africa webinar titled "Integrating and Managing Variable Renewable Energy (vRE) on the Power Grid" on 28 April 2022. The webinar shared results from assessing the impact of vRE on Malawi's power grid and how utilities can prepare for future vRE integration. The presentations resulted in engaging discussions. On 2 June 2022, SAEP hosted a webinar on the Route-to-Market (RTM) geospatial tool. SAEP previously developed RTM tools for Malawi, Mozambique and Zambia to provide private sector solar home system (SHS) companies with the ability to prioritize geographic markets with the highest potential for expansion or deeper market penetration, and thereby develop robust RTM strategies. The RTM tool uses geospatial data and techniques to map population centers and their density, and electrification and road infrastructure data. All tools and associated materials are publicly accessible on the USAID website.¹ The webinar included panelists from three SHS companies who shared their experiences and successes from using the RTM tool. Around 35 people participated
- *Supporting South African Municipalities' Electrification Goals.* The South African Local Government Association (SALGA) remains an essential and active counterpart in the delivery of activities in South Africa. During Q3, various activities aimed at capacitating municipalities to meet their electrification goals gained traction
 - SAEP supported two SALGA-led councilor inductions in the Western Cape and Mpumalanga for around 50 councilors, consisting of mayors, members of mayoral committees and portfolio committee members for technical services. SAEP presented the activities under the SALGA–SAEP collaboration to provide councilors with oversight for better decision-making on municipal electrification and deployment of renewable energy
 - SAEP started providing direct support to a number of municipalities to assist them to address gaps in their electrification rollout programs. These municipalities are the Kouga municipality in the Eastern Cape province, Msukaligwa and Emalahleni municipalities in the Mpumalanga province, and Polokwane municipality in the Limpopo province. Of these municipalities, SAEP

¹ The relevant documents were uploaded to USAID's Development Experience Clearinghouse as required by USAID: <https://dec.usaid.gov/dec/home/Default.aspx>.

The Zambia geospatial tool: The executive summary of the tool includes links to supporting files and explains how the tool was constructed, how it is used, and its key insights and can be found at https://pdf.usaid.gov/pdf_docs/PA00T2JC.pdf

The Malawi tool and video tutorials are available at https://pdf.usaid.gov/pdf_docs/PA00WPCX.pdf

The Mozambique tool and instructional guide are available at https://pdf.usaid.gov/pdf_docs/PA00XGZT.pdf

- made significant progress with Kouga; the Program began working with Kouga to update its municipal electrification plan with a three- to five-year outlook, specifically focusing on incorporating electrification of informal settlements within the plan
- SAEP and SALGA selected Mogale City in Gauteng as the first municipality to receive revenue management follow-on support based on the initial selection assessment and the municipality's needs and readiness to engage. The revenue management follow-on support will provide customized in-person support to municipalities struggling with cost recovery and experiencing metering and billing challenges, impaired revenue collection and incurring high non-technical losses. Mogale City will be a pilot for this support while SAEP continues reviewing the remaining potential municipalities
- *Increasing South African Municipalities' Off-Grid Electrification Capacity.* Under the SAEP/SALGA collaboration, SAEP is helping municipalities identify appropriate off-grid solutions to increase access to electricity for households in remote unserved areas. SAEP has engaged three municipalities about their electrification plans and the number of households they need to electrify. SAEP plans to recommend best-suited solutions to bring electricity to these unelectrified households. Additionally, SAEP will host a workshop for interested municipalities on the process of developing electrification plans where off-grid solutions need to be integrated
 - *Capacity-building in Support of Municipalities integrating Battery Energy Storage Systems (BESS).* SAEP is working with SALGA to increase the understanding of BESS and their utility at the municipal level. It is anticipated that this will lead to more municipalities seriously considering procuring BESS. SAEP developed the *An Introduction to Battery Energy Storage Systems* report during the quarter. SALGA distributed the report to 57 municipalities on 20 June 2022. It includes details on the different types of BESS technology, BESS market development and trends, applications of BESS, benefits of stacking services and applications, and siting considerations for BESS and highlighted 13 case studies
 - *Guiding Utilities to Manage Wildlife and Energy Interactions.* On World Environment Day on 5 June 2022, SAEP publicly released an in-depth guide that provides electric utilities with tools to protect Southern Africa's wildlife while improving the quality of electricity supply. Together with the Endangered Wildlife Trust (EWT), SAEP developed the *Mainstreaming Wildlife Incident Management into Utilities in Southern Africa* manual to enhance wildlife conservation efforts and reduce the financial impact of wildlife and energy infrastructure interactions on power utilities in Southern Africa. The guide provides details on operating a wildlife management system to monitor and mitigate wildlife and infrastructure interactions and thus reduce damage to electrical infrastructure and further losses to wildlife, and improve utilities' quality of supply to customers. The manual also guides utilities in developing wildlife-friendly electrical infrastructure, listing key elements to consider when planning a project, covering the pre-feasibility, development, operation, and decommissioning phases. SAEP will present the manual to Southern African Power Pool (SAPP) members during a webinar on 7 July 2022
 - *Upskilling the Electricity Supply Corporation of Malawi (ESCOM).* To increase access to reliable and affordable energy supply in Malawi, SAEP is strengthening ESCOM's capacity to operate in an interconnected system and maintain the associated electricity infrastructure once the 1,000 MW, 400 kV Mozambique–Malawi regional interconnection project is commissioned. From 20 to 24 June 2022, SAEP conducted a series of trainings for ESCOM in Blantyre, Malawi, focusing on production optimization and operating in an interconnected system. Over 15 engineers from the production planning and system operations departments were in attendance and all provided positive feedback as to the content of the trainings. In response to the increasing proportion of vRE on the Malawi grid, SAEP also facilitated training for ESCOM operations specialists in modelling and developing approaches for addressing underfrequency load shedding and BESS integration. SAEP aims for ESCOM employees to feel confident with their ability to manage power supply variability and its impacts, and create a conducive environment for the adoption of higher proportions of renewable energy in Malawi
 - *Ramping up Gender Mainstreaming in the Region.* SAEP conducted five gender sensitization training sessions in Lilongwe, Malawi, and six in Lusaka, Zambia. The trainings for SHS companies explained how to promote gender practices within a company's internal operations, reach a more diverse customer base and the benefits that gender mainstreaming can provide SHS companies. In Malawi, SAEP trained SolarWorks!, SunnyMoney, Yellow, Zuwa Energy and Green Impact Technologies. Each session had nine attendees on average (43 participants in total), with over 50% of the participants being women. SAEP held trainings in Zambia with RDG Collective, VITALITE, Kazang, WidEnergy, ENGIE, and Solar Industry Association of Zambia (SIAZ) members. Each of these sessions had eight attendees on average (47 participants in total), with nearly 60% of the participants being women. Overall, the participants were

engaged and participated in meaningful conversations about current company practices and how to integrate gender in these spaces to promote diversity and equity

- *Malawi's First Utility-Scale Solar-Plus-Storage Power Project Commissioned.* On 9 May 2022, JCM Power announced that the 20 MW Golomoti solar power plant in Malawi is entering commercial operation phase. The project is the first of its scale in Southern Africa to include a battery energy storage system (BESS). The BESS will enable the plant to reduce output variability and increase availability. This solar power plant, and others like it, have put Malawi on a path to diversify its generation mix, reduce costs and open the door to future rounds of private investment. And, as the impact of climate change grows, solar-plus-storage systems will be critical to the transition to a renewable-fueled world. In 2018, SAEP provided technical assistance to integrate BESS functionality into the project's financial model. Read more [here](#)

The remaining sections of this report document program activities that SAEP pursued, challenges it identified and – where applicable – mitigation strategies that SAEP implemented during the quarter. A series of separate appendices provide details on program staffing, including short term technical assistance (STTA) and resources mobilized; performance indicators and results; and progress reporting against activities included in SAEP's Year 5 Work Plan.

I.2 CHALLENGES AND RISKS

Challenges:

- *Contracting Office Approval Delays.* During this quarter, SAEP submitted a number of requests to the Contracting Officer but has not received responses. Some of these requests have been in for almost two months, while others more than one month. The approvals outstanding include key personnel changes and details of those changes and grant approvals and/or cancellations. These delays have caused operational challenges and pose reputational risks to SAEP if we cannot deliver the grant to Serengeti as we were asked to do by the COR
- *SHS Supply Chain Challenges.* SHS companies Zuwa Energy, SolarWorks! and VITALITE that were awarded grants under the Malawi SHS Kick-Start Program continue to struggle to source products for the Malawi market, given the broader supply chain disruptions and delays related to the COVID-19 pandemic. These challenges have contributed to lower than projected sales volumes. SAEP has extended the performance period for these three remaining grantees from 30 June 2022 to 30 September 2022 to provide the grantees with more time to increase overall sales
- *Slow Progress for the Madagascar Mini-Grid Development Grant.* Progress on the Madagascar Mini-Grid Development Grant is still slow. The main challenge continued to be the inability of two of the three grantees to get their imported equipment cleared and released by customs, due to a change in tax laws that has resulted in duties. This has disrupted the timelines of the delivery of equipment to sites as well as the overall project timelines. SAEP will continue to monitor progress and assist the grantees to overcome the challenges they face as best as possible. Unfortunately for one grantee, SAEP has decided to terminate the grant agreement due to unsatisfactory performance in implementing their project. SAEP finalized a termination request for this grantee's grant, which has been issued to USAID for approval. This decision came after various escalation approaches were taken to address the grantee's delays and non-responsiveness
- *Program Recruitment.* Due to the short time frame of SAEP's remaining period of performance, it has been difficult to hire full time local staff. Despite the Program's needs for specific skills, quality candidates are hesitant to join the program given the end date of 30 June 2023. Despite these challenges, SAEP was able to fill two positions in Q3: On-Grid Electrification Specialist and Revenue Management Specialist. Recruitment for three crucial positions – Senior Transmission Financing Specialist, Grid Operation Specialist and Power Geographical Load Forecast Specialist – is ongoing and SAEP hopes to fill these in Q4
- *Zambia Energy Sector Reform Support.* With a fairly new Zambian government in place, energy sector reform is important for unlocking new renewable energy generation that has been stalled due to ZESCO not being a bankable off-taker. During this quarter, SAEP's efforts have started to achieve traction. However, due to the limited time remaining in the program, further delays pose a risk that SAEP's objectives are not met. Some uncertainty remains about how the cost-of-service study (CoSS) will eventually be translated to revised tariffs. SAEP has submitted a Scope of Work (SOW) to the Zambian Ministry of Energy detailing how it would evaluate a CoSS in conjunction with the Zambian Energy Regulatory Board (ERB). The recommendation was for ZESCO to apply for a change in tariffs based (or

not based) on the CoSS. In response, the ministry asked SAEP to conduct a peer review of the CoSS, which was not SAEP's recommendation and would require significant resources. It also does not advance the setting of new tariffs according to the procedure outlined in the law. SAEP is seeking to clarify this issue. The second issue concerns the status of the energy sector roadmaps and, thus, the general direction of the reform strategy. With the tight implementation time frame, SAEP will closely monitor and deploy the necessary resources to make meaningful progress by end of September 2022

- *Closing Down Activities in Angola.* SAEP finalized a transition plan to guide Angola's transmission utility, RNT—a major recipient of SAEP's support since October 2019 – through the closeout of SAEP's assistance in September 2022. The transition plan outlines tasks, procedures and documents to be handed over to RNT as SAEP concludes its assistance. The plan will also serve as a guide for the individual consultants (Project Management, Financial Management, Senior Engineering, Procurement, Senior Engineering, Environmental, Social Safeguards and Gender Specialists) coming in to fill the skills gap within the PIU and advance delivery. Due to slow progress in procuring the individual consultants, a timely transition may be stalled if SAEP does not have anyone to whom they can transition responsibilities
- *SAEP Staff and COR Transitions.* In Q3, the Project Management Office (PMO) Lead left SAEP. Given the little time left to the end of the program, the role will not be filled. The PMO team will report directly to the Chief of Party (COP). SAEP's USAID Contracting Officer Representative (COR) also transitioned off the program, with USAID appointing an interim COR to stand in. SAEP is managing the transitions in key roles by ensuring there is a hand-over and integration plan. The current COP will leave SAEP at the end of September 2022. There will be a 1.5-month period where the current COP will still serve as an advisor to the incoming COP for a seamless transition

Potential Risks:

- *Limited Connections Opportunities in the Region to Realize Connections Targets.* Electrification rates continue to be low in Southern Africa, mainly due to inadequate funding for electrification programs. Based on current projections, the potential connections the Program can achieve falls slightly short of SAEP's 3 million connections target. This is mostly due to issues related to COVID with the current electrification programs, but the lack of other opportunities where capital is provided makes it difficult. Despite the challenges, SAEP continues to work to identify and support additional opportunities
- *Electoral and Political Transitions.* Throughout the life of the project, Southern African countries have experienced and will continue to experience political transitions following elections. 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. There were no elections in SAEP focus countries in Q3. However, Angola's general election planned for 24 August 2022 is already impacting counterparts' responsiveness and commitments. Pre- and post-election activity could impact SAEP's close-out and transition plans with ENDE, RNT and IRSEA
- *Global Market Fluctuations and Regional Interdependencies.* Prices of energy commodities are often affected by global market fluctuations. Likewise, national energy systems have regional interdependencies pertaining to imports, exports, and transportation networks. Because of this, each Southern African nation is to an extent 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 coordinate energy sector reform and other activities where possible. The SAEP team will also monitor interdependencies that can affect the success of the Program. The global economic slowdown caused by COVID-19 had caused a reduction in oil prices, which had an impact on Angola's financial sustainability, and has negatively affected currencies in countries such as Zambia and FOREX availability in Malawi. Currency devaluation in Zambia is influenced by long-standing high debt levels and has been exacerbated by COVID-19. The impact of recent volatility of commodity prices and the impact on activities is being tracked and mitigation strategies will be proposed where appropriate. This has impacted government counterparts and private sector companies such as SHS companies whose collections in local currency cannot cover their repayment of US denominated debt

I.3 POWER AFRICA SUPPORT TO AMERICAN COMPANIES

During this quarter, SAEP did not provide direct technical assistance to American companies. The following section identifies potential opportunities for U.S. companies to participate in the Southern African energy sector.

▪ **Technical Assistance**

- Various energy projects in Southern Africa are in need of development and financing. Such financing could be targeted at rural electrification through mini-grids and other approaches, off-grid companies, independent power producer (IPP) projects and transmission line projects. Financiers must conduct the necessary due diligence and be comfortable with the inherent project and off-taker risks in SAEP's targeted countries.

▪ **Potential Opportunities for U.S. Companies**

- **Angola: Transmission project related tenders**
 - Description: SAEP is assisting Angola's transmission company, RNT, in implementing the AfDB-funded 343 km 400 kV transmission line project that will interconnect central and southern Angola
 - U.S. Opportunity: i) Opportunity to participate as Engineering, Procurement, and Construction (EPC) contractor for transmission line and substation works; ii) Supply of equipment
- **Malawi: Electricity Generation Company (EGENCO) tenders**
(Link: <https://www.egenco.mw/tenders/>)
 - Description: EGENCO has requested proposals from interested consultants for the implementation of commercial energy metering. The submission deadline is 17 August 2022
 - U.S. Opportunity: Opportunity to participate as consultant subject to local content or company participation rules or guidelines
 - Description: EGENCO is tendering for consultancy services for the rehabilitation/modernization of spillway and intake equipment of Nkula B hydropower plant in Malawi. The submission deadline is 17 August 2022
 - U.S. Opportunity: Opportunity to participate as consultant subject to local content or company participation rules or guidelines
- **South Africa: City of Cape Town (CoCT) – Support with the procurement of electricity from IPPs**
 - Description: In February 2022, the CoCT issued a call for expressions of interest to IPPs for the procurement of 300 MW of renewable energy. The target capacity of individual projects is anticipated to be between 5 and 20 MW
 - U.S. Opportunity: i) Opportunity to participate as IPP developer and financier; ii) Supply of equipment
- **South Africa: CoCT – 50 MWac Paardevlei solar PV project**
 - The CoCT is working on prefeasibility approvals for the development of a 50 MWac Solar PV project at its Paardevlei site in Somerset-West, Western Cape
 - U.S. Opportunity: i) Opportunity to participate as IPP developer and financier; ii) Supply of equipment

2 MAJOR ACTIVITIES DURING THE REPORTING PERIOD

2.1 OUTCOME I: IMPROVED REGULATION, PLANNING AND PROCUREMENT FOR ENERGY

2.1.1 STAKEHOLDER ENGAGEMENT

During this quarter, the SAEP Outcome I (OCI) team moved forward important rate setting activities in the Year 5 Work Plan that allow utilities to be financially viable and make tariffs affordable to customers. These activities also result in changes to the enabling environment and include “hands-on” capacity building for both staff and board members at regulatory authorities. Key stakeholder support activities under OCI for Q3 of FY22 were:

- Began analyzing ESCOM’s application to change tariffs for the next four-year period. SAEP deployed to Lilongwe in Q3 for in-person sessions with MERA to define the important issues for analysis
- In support of Angola’s regulator’s, *Instituto Regulador dos Serviços de Electricidade e de Água* (IRSEA), task of reducing subsidies in the Angolan electricity sector, SAEP developed data request templates for the three Angolan utilities to populate. ENDE and RNT had done so by 30 June 2022 and analysis work is beginning. This activity is being done in parallel and in coordination with the World Bank’s training to IRSEA on tariff setting
- Began reviewing a Cost-of-Service Study (CoSS) done for Zambia. The output from that study is expected to be used in a tariff proceeding between ZESCO and the ERB that may begin this year
- Provided light-touch support to the Botswana Energy Regulatory Authority (BERA) in analyzing the Botswana Power Corporation’s (BPC) application for a change in tariffs
- Facilitated a review of the existing energy industry governing policies in Eswatini with the Ministry of Energy, Eswatini Energy Regulatory Authority (ESERA) and the Eswatini Electricity Company (EEC). SAEP is updating policy recommendations following feedback from the session and will coordinate with other Eswatini government organizations such as the Ministry of Labor to further streamline policy recommendations

OCI Top Achievements and Results

- Ramped up support to MERA for their analysis of ESCOM’s application for tariff changes. This ramp-up included in-person support in Malawi from SAEP’s tariff expert
- Collected data from Angola’s utilities to develop a plan for the regulator, IRSEA, to reduce subsidies in the Angolan electric sector
- Began to review a Cost-of-Service Study commissioned by Zambia’s Energy Regulatory Board (ERB) in support of Zambia’s efforts to revise tariff cost allocations in the electricity sector

2.1.2 COUNTRY AND REGIONAL HIGHLIGHTS

ANGOLA

▪ Support to Angola’s Regulatory Institute for Electricity and Water Services, IRSEA

During Q3, SAEP, in conjunction with IRSEA, developed a reporting template for *Empresa Pública de Produção de Electricidade* (PRODEL), RNT and ENDE to populate with data to calculate the costs of providing services and the amount of subsidies the Angolan government is putting into the electricity sector. The utilities have generally cooperated and provided enough data for SAEP to begin its analysis. By the end of Q4, SAEP should have an estimate of the level of subsidies and should be able to develop an approach for IRSEA to gradually eliminate them. This will save the Government of Angola money, make the utilities self-sustaining enterprises, and provide proper price signals to consumers for electricity services.

BOTSWANA

▪ BERA Rate Case Support Request

In response to an emergency request from BERA, OCI began work on the BPC’s application to change tariffs. While supporting BERA in reviewing a tariff application was not in SAEP’s work plan, the OCI Lead’s brief analysis of the application found that it is similar to previous filings made by BPC and would not take much of SAEP’s time. Accordingly, SAEP has authorized a low level of effort to support BERA with this task.

The analysis must be completed by about mid-August 2022 so that the BERA Board can approve it (possibly with modifications) and transmit it to the government. The government will use the recommendation to set the subsidy amount for the next government budget cycle that begins on 1 January 2023.

ESWATINI

▪ **Review of the National Energy Master Plan and Electricity Laws**

On 14 and 15 June 2022, SAEP met with representatives from the Ministry of Natural Resources and Energy, ESERA and the EEC, to discuss recommendations to update and streamline the existing policies governing the energy industry in Eswatini. The group reached a consensus on most policy changes. These changes align with recommendations highlighted in SAEP's report, "Evaluation of Regulatory Independence," and intend to more clearly delineate which agency is responsible for hosting procurement and ensure the laws comply with one another. The remaining policy recommendations will require coordination with other Eswatini government organizations, such as the Ministry of Labor and more information from case studies around the region, like the South Africa Renewable Energy Independent Power Producer Procurement (REIPPP) office. SAEP is updating the policy recommendations based on the feedback received and providing requested information to its counterparts. SAEP anticipates reaching an internal government consensus on the recommendations within the next quarter.

MALAWI

▪ **MERA 2022 Rate Case Support**

In support of MERA's analysis of ESCOM's tariff application filed on 31 May 2022, SAEP tariff specialist, Raj Addepalli, travelled to Lilongwe to help the MERA staff identify the main issues in the application and launch their analysis. MERA Guidelines provide a 150-day evaluation period for tariff analysis and recommendations. However, to make the new tariffs effective at the same time as when the existing tariffs expire (on 30 September), the MERA staff has laid out an aggressive time frame to complete the analysis and obtain a Board Decision by 30 September 2022, which would be 120 days.

SOUTH AFRICA

▪ **Early and Advanced Stage Municipal Energy Planning**

As part of SAEP's assistance to municipalities to advance renewable energy deployment, SAEP identified the need to provide technical assistance along the energy planning and procurement stages of the renewable energy lifecycle. In Q3, SAEP identified three municipalities Namakwa (Northern Cape), Metsimaholo (Free State) and Emalahleni (Mpumalanga) that need support with 'early stage' energy planning assistance. SAEP sent a diagnostic questionnaire to the three municipalities after they expressed interest in receiving support. Given the municipalities did not have energy plans, SAEP determined that it should support the development before municipalities can move forward with future energy procurements. With this program, SAEP is just supporting a few municipalities, but there will be a need to support countless other municipalities across the country over time so SAEP decided to source a local service provider to work collaboratively with the municipalities on the development of the energy plans. SAEP then launched an RFP for service providers targeted at universities and local organizations that have the capability to complete energy needs assessments and develop energy plans for the municipalities and who are interested in building the local capacity to meet these needs into the future. The RFP also included energy assessments for the Gauteng province and the Musina-Makhado Special Economic Zone (MMSEZ) (Limpopo province), though SAEP awaits feedback from Gauteng to determine if the assistance is still needed. SAEP, through the selected service providers, will begin with technical assistance to the three municipalities and two provincial entities in Q4.

The municipalities in the 'advanced stage' that will receive technical assistance on the procurement of power through PPPs are Steve Tshwete and City of Mbombela (Mpumalanga) and Cape Agulhas (Western Cape). By the end of Q3, Cape Agulhas had signed a LOC and the City of Mbombela is reviewing the draft SOW. Municipalities that are in the 'advanced stage' will receive technical assistance to further their renewable energy projects. SAEP will work with these municipalities through the processes required for energy development, such as registering their projects with the National Treasury's Government Technical Advisory Centre and developing various terms of reference (ToRs) for key roles, such as a transaction advisor.

ZAMBIA

▪ ZESCO Tariff Changes – Tariff Support after the CoSS

At the request of the Zambian Ministry of Energy, SAEP is analyzing a CoSS done for the ERB. A CoSS determines how a revenue requirement is divided among customer classes based on cost causation principles. The Government of Zambia is seeking ways to allocate costs fairly without causing rate shock. OCI has written a process to address this issue. It recommends ordering ZESCO to file an application for a change in tariffs (similar to what Malawi and Botswana are facing now) and let the ERB process the application with OCI support. This is consistent with sound regulatory practices and the general process outlined in Zambian law.

Depending on the process used, it is uncertain whether this can be completed by 30 September 2022. Nevertheless, setting forth a transparent evaluation process that conforms to regulatory principles and law would provide a sound basis for making the decisions required to use the CoSS as such studies are intended to be used.

2.1.3 ACTIVITIES AND RESULTS

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
Y5.01.01.11.ANG	IRSEA: Cross-Subsidy Reduction	David Jankofsky	10/01/2021 09/30/2022	IRSEA Request/ Continuation of Year 4 Activity	Y4.01.01.02.A NG*	<ul style="list-style-type: none"> Memorandum of the current tariff methodology and current tariff change process, together with recommended changes as required Evaluation of utilities' financial statements, together with recommendations for IRSEA in the subsidy reduction process Support IRSEA in development of ToRs, consultant selection and supervision for a Cost Allocation Study (if required) 	In progress. ENDE and RNT have responded to Data Requests. PRODEL still outstanding. In Q4, OCI Lead and Dr. Addepalli will help IRSEA with analysis to identify and quantify the extent of subsidies in the Angolan electricity supply industry. This analysis will be used to inform an approach to reducing the subsidies
Y5.01.01.03.MWI	Support MERA with their rate case	David Jankofsky, Raj Addepalli	05/16/2022 – 09/30/2021	SAEP Initiative	N/A	<ul style="list-style-type: none"> Rate case recommendations – Malawi (including both fees and charges) 	In progress: Date change based on when rate case filed. Dr. Addepalli held productive meetings in Malawi with MERA staff, ESCOM, PML (the single buyer) and USAID. The objective of the first mission was to support MERA to identify the issues in the rate case and set an approach and timeline for their analysis. Data requests have been sent to ESCOM and PML. From here, periodic virtual meetings will be held as MERA staff analyze the issues. A second mission may be desirable in September 2022, to help with the closing out of issues and making recommendations to the MERA Board.

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
Y5.01.01.08.MOZ	Develop a PPA and infrastructure investment evaluation mechanism for ARENE	David Jankofsky	10/01/2021–09/30/2022	Continuation of SPEED+ TA/ Continuation of Year 4 Activity	Y4.01.01.11.M OZ*	<ul style="list-style-type: none"> Report and recommendations outlining an evaluation mechanism for PPAs for ARENE Report and recommendations outlining an evaluation mechanism to be used by ARENE for evaluating energy infrastructure investments 	In progress: Draft with the OCI lead for review. The activity will be closed out in Q4.
Y5.05.01.05.REG	Develop a learning guide discussing ways to structure fees for new grid connections	David Jankofsky, Nachi Majoe	03/01/2022-09/28/2022	SAEP Initiative	Y4.01.01.13.S WA	<ul style="list-style-type: none"> White Paper outlining the approach and recommending opportunities for its use in the region. Will expand off of Year-4 connections charges work with ESERA 	In progress: OCI lead has drafted a white paper on connection charges that he will take through internal reviews.
Y5.01.01.12.ZMB	Implementation of the Cost-of-Service Study (CoSS): Tariff actions	David Jankofsky	6/01/2022 – 09/30/2022	Counterpart request	N/A	<ul style="list-style-type: none"> Tariff design options Report on capacity-building for stakeholders on the COSS process 	In progress: Ministry received the first deliverable. Ministry gave approval to interact with ERB, but for a "Peer Review," which was not what was recommended. SAEP recommended that the CoSS be used by ZESCO to file an application for a change in tariffs and the SAEP would support the ERB in its analysis. OC4 and OC1 Leads will engage with ERB Director General in July to discuss process going forward.
Y5.01.02.01.SWA	Eswatini National Energy Master Plan and Legal Review	Jorry Mwenechanya, Christine Covington	11/01/2021 – 01/14/2022	MNRE Request	N/A	<ul style="list-style-type: none"> Inception Report Draft and Final Review of Electricity Master Plan Draft and Final Report of Electricity Laws 	In progress. SAEP met with representatives from Eswatini's government organizations to discuss recommendations to update and streamline the existing policies governing the energy industry in Eswatini. SAEP is updating the policies based on the feedback received and anticipates reaching an internal government consensus on the recommendations within the next quarter
Y5.01.02.03.RSA	Energy Plan Support for Municipalities (Early stage)	Nachi Majoe	06/01/2022 – 09/30/2022	Namakwa municipality request and JET priority munics	N/A	<ul style="list-style-type: none"> Inception report TOR for energy strategy or plan development 	In progress: An RFP was released to market to service providers, the closing date for proposals was 5 July. A service provider will be appointed and work will commence in Q4

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
Y5.01.02.04.RSA	Energy Plan Support for Municipalities (Advanced stages)	Nachi Majoe	06/01/2022 – 09/30/2022	SALGA request and JET priority munics	N/A	<ul style="list-style-type: none"> Inception report per municipality Periodic reports outlining assistance provided 	In progress: On 23 June a presentation was made to councilors and officials of the Cape Agulhas municipality on the technical assistance to be provided by SAEP and an LOC was subsequently signed. On 25 May, SAEP met with the City of Mbombela to discuss the technical assistance to be provided, an LOC and SOW were developed and are awaiting approval and signature by the municipal manager
Y5.01.04.02.BWA	Light-touch support to the Botswana Energy Regulatory Authority (BERA) in analyzing the Botswana Power Corporation's (BPC) application for a change in tariffs	David Jankofsky	6/27/2022 – 8/31/2022	BERA request	Y4.01.04.03.B WA	<ul style="list-style-type: none"> Advisory notes or memos to BERA 	New: This was a request by BERA that SAEP COR said we should support

Please see Appendix J for information on all SAEP activities

2.2 OUTCOME 2: IMPROVED COMMERCIAL VIABILITY OF UTILITIES

2.2.1 STAKEHOLDER ENGAGEMENT

In this quarter, the SAEP Outcome 2 (OC2) team continued to work with utilities in Angola and Mozambique to achieve expected outcomes and advance the approved activities in the SAEP Year 5 Work Plan. OC2 has also stepped-up engagements with South African municipalities in support of their electrification challenges. Key stakeholder activities under OC2 for Q3 of FY22 included:

- Continued support to Angola's distribution company ENDE under the AfDB's Energy Sector Efficiency and Expansion Program (ESEEP) Phase 1 to advance the tender to procure prepaid meters and service contracts to connect 1.2 million customers. ENDE completed and submitted the request for bids (RFB) bidding documents to AfDB for no objection (NO) and expects to publish the RFB and conclude the evaluation in Q4, resulting in the selected EPC contractor(s) for specified lots
- Under the AfDB ESEEP-I, continued supporting ENDE to advance the evaluation of the first stage of the two-stage RFP procurement process for the systems development and integration services tender to improve ENDE's fraud and revenue protection management capabilities. ENDE submitted the Stage 1 evaluation report and Stage 2 TOR to AfDB for NO
- Implemented direct support to selected South African municipalities to address the key challenges they are

OC2 Top Achievements and Results

- Assisted ENDE to advance the procurement process for the EPC contractor for secondary network regularization and supply and installation of 1.2 million prepaid meters tender
- Supported ENDE to conclude the EOI stage for procuring the services of the supervision consultant(s) who will oversee the prepaid meters EPC contractor
- Started supporting South African municipalities to address the challenges they face with revenue management and reaching electricity access goals
- Assisted City of Windhoek (COW) in Namibia to complete the financial model enabling COW to assess the financial viability of replacing 57,000 water and 24,000 electricity post-paid meters to pre-payment meters, thereby ultimately leading to an improved COW's revenue management
- Contributed to 58,287 connections through on-grid activities in Angola and Mozambique in Q3

experiencing in their electrification rollout programs. This assistance follows the completed electrification PMO training sessions in Q1 and Q2

- Advanced to the final stages of support to EDM's Revenue and Losses Control Directorate in enhancing the loss indicator calculation tool to include a forecasting functionality, which EDM successfully adopted. SAEP also conducted in-person capacity-building sessions and site visits with the EDM analytics team in Mozambique to clarify any concepts or deliverables developed during the virtual collaboration between EDM and SAEP. SAEP's support will help EDM to assess whether its loss reduction initiatives will result in it reaching its set target of reducing losses by 2% per year
- Successfully concluded the assistance to the City of Windhoek (CoW) in Namibia in developing a financial model to assess project financial viability across various scenarios of prepaid meter rollouts to a select number of electricity and water customers. The model seeks to support CoW's understanding of cost implications for a full prepayment rollout to replace existing water and electricity credit meters

2.2.2 COUNTRY AND REGIONAL HIGHLIGHTS

ANGOLA

- **Support to ENDE with the AfDB's Energy Sector Efficiency and Expansion Program Phase I (ESEEP-Phase I)**

SAEP has been assisting Angola's electricity distribution company, ENDE, in developing and implementing the internal systems and processes necessary to install approximately 1.2 million prepaid meters successfully and efficiently under the AfDB-funded energy program. The installation will take 36 months from commencement of work. Based on the AfDB procurement process and ENDE's installation plan, the work is currently estimated to be completed by the end of 2025. SAEP support entails technical advisory and on-the-job training as the ENDE PIU advances the procurement of the required tender packages for i) installing prepaid meters, ii) systems and integration services and iii) supervision services.

In Q3, SAEP support was instrumental in advancing the ENDE PIU tenders. The PIU's relationship with the AfDB's recently established local office was also strengthened. The AfDB's strategic move of having a local presence has been beneficial, as the AfDB project team is easily accessible for consultations during the procurement processes.

The main highlights from Q3 are:

- AfDB approved the updated ENDE/RNT integrated procurement plan on 30 May 2022. The revised plan includes actual and forecasted dates of all ENDE and RNT procurement tenders
- ENDE concluded the EOI stage for procuring the services of the supervision consultant(s) who will oversee the prepaid meters EPC contractor. After SAEP delivered capacity building to ENDE on the evaluation template for this tender, ENDE proceeded with the evaluation of the 18 received proposals, which will be concluded early in Q4. Concurrently, SAEP has been supporting ENDE as they work on developing the RFP and the TOR for the next stage of the process, planned to commence in Q4
- SAEP also assisted ENDE in finalizing the RFB bidding document and technical specifications for the EPC consultant that will implement secondary network regularization, and supply and install 1.2 million prepaid meters as part of the prepaid metering tender prequalification process. ENDE has submitted it to AfDB for NO. Once the AfDB has given a NO to the RFB documents, ENDE will inform the 10 qualified bidders shortlisted in Q1 and share the RFB with them, commencing the final bidding process stage. ENDE is expecting a NO in July 2022
- For the two-stage RFP systems and integration services tender (currently at Stage 1), ENDE is awaiting the AfDB's NO to the evaluation report for the completed RFP Stage 1 technical evaluations and the updated TOR for the RFP Stage 2 (technical and financial evaluations). Once the AfDB gives a NO, ENDE will proceed to the next and final selection stage (RFP Stage 2), which will entail the final selection of the consulting company and contract negotiations, expected to commence in Q4

SAEP and ENDE are finalizing the transition for ENDE to take complete ownership of the procurement processes in anticipation of SAEP's support ending on 30 September 2022. During the final quarter, SAEP will facilitate capacity-building sessions and help prepare final deliverables on the critical aspects for which ENDE may still require SAEP support, enabling them to conclude all procurement elements smoothly.

- **Support to ENDE with the World Bank's Electricity Sector Improvement and Access Project (ESIAP)**

SAEP supported ENDE to prepare tender documents for the installation of advanced metering infrastructure for medium- and high-voltage customers as part of the World Bank's Revenue Protection Program (RPP). The program will lead to 200,000 connections in Angola. ENDE will use the World Bank's USD \$250 million loan to extend access to power and improve revenue collection. This component will contribute to enhancing ENDE's distribution services' commercial and operational performance.

In Q3, SAEP supported ENDE in discussions with the Ministry of Energy and Water's (MINEA) Project Coordination Unit (PCU) and the World Bank project team around the details of the RPP tender documents. At the end of Q3, ENDE submitted the bidding documents and technical specifications for RPP to the World Bank for NO via MINEA. This procurement will be done as a single-envelope tender RFB, with no prequalification stage. ENDE is expecting World Bank to give a NO in Q4, thereafter they will publish the RFB. The World Bank, MINEA PCU and ENDE PIU teams also discussed updating the ENDE procurement plan for ESIAP. The discussions will continue in Q4. The current outdated version of the procurement plan (from 2020) reflects the pre-loan forecasted dates.

SAEP and ENDE are transitioning the final tasks for ENDE to take over complete ownership of the procurement process in anticipation of SAEP's support ending on 30 September 2022.

- **Support to ENDE in Developing and Implementing Data Management and Reporting Capabilities**

SAEP is supporting ENDE with designing a pragmatic and agile business intelligence process model and reporting solution related to the AfDB ESEEP-Phase I and the World Bank ESIAP programs' reporting requirements. This business intelligence process model will allow for the periodic sharing of information in user-friendly dashboards to internal and external stakeholders.

In Q3, SAEP and ENDE aligned on the requirements and proceeded to the design stage of the process. ENDE reviewed SAEP's proposed reporting framework and identified additional templates it has started adopting as part of its internal and AfDB reporting. SAEP and ENDE teams are iteratively improving the design and will finalize the activity during SAEP's in-person meetings in Luanda in Q4.

MOZAMBIQUE

- **Support to EDM to Improve Customer Relationship Management through HCD**

SAEP is assisting EDM to realign its customer engagements through the innovative HCD process, which builds on understanding customer experiences and developing aligned solutions and strategies for the utility. After successfully piloting three solutions in Year 4, SAEP supported the EDM HCD task team in presenting the pilot results and rollout plan to the EDM BoD in Q1 of Year 5. The board approved the Customer Engagement and Support Program that aims to capacitate the EDM delegations (regional technical and commercial centers in Mozambique) and the EDM EMU to deliver better results and customer experiences during the planning, community engagement and connection processes.

SAEP's Q3 focus remained on implementing the HCD solutions to improve EDM's new and existing customer experience and facilitate new connections. SAEP supported the EDM HCD task force in virtual meetings with the EDM-appointed managers in all the delegations to adopt and accurately complete the reporting templates analyzed and consolidated by the EDM commercial team (HCD task team). Solution managers have submitted the first set of reports using the new templates. The HCD task team has proceeded to prepare the integrated report, which they will analyze and align with the EDM EMU before submitting to the EDM Board.

SAEP has been supporting EDM in preparing the first integrated report to include inputs from all the EDM delegations to provide EDM leadership with a more holistic and accurate view. Previously, the EDM commercial team was collecting statistical data from the delegations. Now, this information is enhanced, better organized, consistent and more accurate. The EDM commercial team will receive regular information on the commercial and technical KPIs (e.g., number of new contracts, connections, installation orders, orders in the pipeline, duration). Furthermore, the added information contains reporting on the projects the delegations are

executing, such as community engagements or other initiatives that the EDM Board prioritizes to enable an increased success of the ProEnergia project.

- **Support to EDM with the Commercial Loss Reduction Phase II – Assessment and Mitigation**

SAEP supported EDM's newly formed Revenue and Losses Control Directorate with developing tools and capacity building. The overall goal of this assistance is to help EDM reduce commercial losses and improve commercial viability. In Year 4, SAEP completed the initial phase of assistance focused on developing an analytical tool and procedures to capture and accurately measure commercial losses.

The immediate and critical value of the tool is that it enables EDM to understand the source and magnitude of its commercial losses, which is a key starting point in working towards the set target of reducing commercial losses by 2% per year over five years. The current 2022 indication is that EDM total losses are at 27%, with a baseline of 31% in 2020/2021. During the development of the tool and procedures, SAEP conducted several virtual workshops with EDM staff engaged in commercial loss reduction. In Q3, SAEP and EDM finalized the loss forecast module in the loss indicator calculation tool. SAEP traveled to Mozambique to conduct in-person capacity-building sessions. SAEP's trip also involved engagements with the EDM analytics team in the head office and visits to the regions (Maputo delegation and Nampula delegation). SAEP held working meetings with EDM to discuss the weak and strong points in EDM's loss combating activities currently in place (through other funding mechanisms, e.g., AFD, WB, EDM-internal) and supported the EDM director in his presentation to the EDM BoD. EDM Executive Board Director (Commercial, Distribution and IT), Francisco Inroga, was actively involved throughout the in-person discussions and site visits and thanked SAEP for enabling the consolidation of the knowledge through the in-person meetings. EDM has been implementing several commercial loss-reduction initiatives funded internally or by the International Financial Institutions (IFIs) to combat commercial losses and improve EDM's commercial viability. The loss indicator calculation tool, now including the forecasting module, will enable them to assess the impact of these activities. SAEP will finalize the activity close-out report in Q4, which will also contain recommendations to EDM on the key principles to be considered to develop an achievable loss reduction plan.



In Q3, SAEP traveled to Mozambique to conduct in-person capacity-building sessions with EDM's analytics team and went on site visits to the Maputo and Nampula delegations.

- **Support to EDM EDM's EMU – Developing a Connections Database and Associated Processes**

SAEP commenced support to EDM with EMU-related work. This new activity builds on previous SAEP support to EDM in operationalizing the EMU. The SAEP support included structuring the EMU, which the EDM BoD subsequently approved for implementation. With the funding received from the World Bank (WB), EDM appointed the managers to manage EMU's operations. SAEP also assisted with designing the processes for the EDM EMU from a planning, operational and financial perspective.

The sole purpose of the EMU is to ensure the electrification program is well managed, planned, and implemented in a cost-efficient and sustainable manner that suits the needs of the EDM end customers.

In 2022, two years after the EMU's operationalization, EDM asked SAEP to assist the EMU in developing a connections database and associated processes for Results-Based Funding (RBF) of electrification projects as

well as reviewing the operating procedures that will form part of the tools used to manage future RBF programs. This is particularly important with the imminent AfDB-RBF funded program that will yield total of 100,000 new connections.

EDM's objective is to have a comprehensive picture collated in the database SAEP will help which will then be accessible to EDM, the IFIs (e.g., AfDB, WB), and the verification consultants. The draft database will be ready for implementation by mid-August 2022.

NAMIBIA

▪ **City of Windhoek (CoW) Revenue Management**

In 2020, the CoW Revenue Protection and Enhancement Committee identified promoting prepaid services as one of the strategic projects that the council must embark on to enhance and protect revenue. The CoW wanted to determine the feasibility of replacing 57,000 water and 24,000 electricity post-paid meters with pre-payment meters, thereby improving revenue management. The CoW aims to pay for the conversion using a percentage applied to the tariffs and to have all prepaid meters installed within a five-year period. In the last quarter of 2021, CoW approached SAEP to assist them with developing a financial model to help the city assess project financial viability across various scenarios of prepaid meter rollout for a select number of electricity and water customers and the impact of the conversion on cash flow. In Q3, SAEP finalized the financial model and handed it over to the CoW. The financial model can enable the city in negotiations with the funding institutions. Once the conversion is implemented, it will assist the city in improving their revenue management and overall commercial viability.

SOUTH AFRICA

▪ **Assistance to Selected SALGA Municipalities with Electrification Challenges**

In Q3, SAEP and SALGA proceeded with the next collaboration stage, focusing on support to selected municipalities in addressing their most pressing electrification challenges. The SAEP Electrification PMO training for municipalities, completed in Q2, identified specific focus areas for further support which include electrification planning and design, supply chain management and electrification of informal settlements.

SAEP and SALGA selected Kouga municipality from the Eastern Cape, Msukaligwa and Emalahleni local municipalities, both from Mpumalanga Province, and Polokwane local municipality from Limpopo to receive direct support in addressing gaps in their electrification rollout programs. During the quarter, SAEP began working with the Kouga electricity team to update their municipal electrification plan to a three- to five-year outlook, with a specific focus on how to incorporate electrification of the informal settlements within the plan. Additionally, SAEP will be helping this team to integrate with other internal stakeholders, e.g., the human settlements municipal team, as the teams must operate in synergy for successful rollout of electrification. Support to Msukaligwa, Emalahleni and Polokwane will commence in Q4.

▪ **SALGA Revenue Management Follow-on Support**

SAEP is providing revenue management follow-on assistance to municipalities after training interventions that were completed as part of the initial phase of the Program's collaboration with SALGA. Municipalities eligible for assistance are selected from a list of top 20 highest debtor municipalities and those that have expressed an interest in receiving assistance. This shortlisting is based on pre-defined criteria that factors in the financial indicators of the municipalities.

The revenue management follow-on support is aimed at providing customized in-person support to municipalities experiencing metering and billing challenges, impaired revenue collection and incurring high non-technical losses. As a result of the aforementioned challenges, these municipalities are not able to invest in their electricity infrastructure, which results in poor service quality, aging and dilapidated infrastructure and limits any expansions to the network.

Furthermore, these municipalities struggle to pay Eskom for the electricity bought resulting in overdue debt. The expected outcomes from the follow-on support are to identify opportunities within the electricity services value chain for revenue enhancement, recommend practical solutions with immediate impact and considerations on how the municipality can organize its resources to optimize revenue management

performance. Ultimately, the improved revenue should enable municipalities to invest in their infrastructure and honor their Eskom bills.

In Q3, SAEP and SALGA selected Mogale City as the first municipality to receive follow-on support based on the initial selection assessment and the municipality's needs and readiness to engage. Mogale City will be a pilot for this support while SAEP continues reviewing the remaining potential municipalities. SAEP's support to Mogale City is scheduled to commence early in Q4. The final list of municipalities to receive assistance will be influenced by how responsive and receptive they are during initial engagements. SAEP will conclude the selection and schedule support in Q4.

- **Department of Mineral Resources and Energy (DMRE) Integrated National Electrification Programme (INEP) Steering Committee (Steerco) Support**

The DMRE is developing electrification master plans to inform the rollout of electrification connections for universal access. SAEP is serving as advisor to the DMRE steering committee overseeing the development and approval of these plans. The Steerco consists of representatives from entities such as Eskom, the National Energy Regulator of South Africa, SALGA, and the Department of Human Settlements. The role that SAEP is playing includes providing project management assistance, such as outlining and standardizing reports, software support, resolving GIS queries and overall management of the appointed service providers. In Q3, SAEP reviewed six provincial inception reports produced by the appointed service providers and the status quo reports that highlight the status of the MV electrical infrastructure at municipalities and Eskom, and the forecasted load growth, including refurbishment plans. SAEP developed the framework for the status quo reports.

- **Support to DMRE with the Electrification Master Plan (EMP) for KZN**

The DMRE has embarked on producing provincial electrification master plans, which will guide the DMRE's financial distributions to the provinces, possible constraints with meeting the universal access to electricity target of 2030 and anticipated growth points per province. The DMRE decided to start developing plans with one province to guide the remaining provinces. The selected province is KwaZulu-Natal. The DMRE-appointed service provider for KwaZulu-Natal, AES Consulting, requested assistance with a simulation package called Power Geospatial Load Forecasting (GLF) that Eskom uses to perform load forecasting. DMRE asked SAEP to assist AES Consulting in using the Power GLF software as the software was not specified in the TOR. SAEP initiated a process of recruiting a Power GLF specialist who will assist with the KwaZulu-Natal EMP and support DMRE. The expected outcome of this assistance is accurate load forecasting for the KwaZulu-Natal province, a key input for the EMP, and training for the DMRE team.

ZAMBIA

- **Open Access Market Regulations**

The KfW Development Bank supports the ERB in developing rules and regulations for an Open Access Market in Zambia. During Q3, SAEP began discussions with KfW and the Multiconsult team based in Zambia, that KfW funds, to discuss opportunities for SAEP to support work related to open access that Multiconsult is not already covering. SAEP met with the KfW Zambia Director Marco Freitag and Multiconsult Project Director Judith Raphael on 20 May 2022 to discuss SAEP taking over the development of the market regulations and associated workshops and capacity-building exercises, which Multiconsult had run out of resourcing and funding to support. This SOW would complement Multiconsult's work on market design and market rules they are currently finalizing. SAEP agreed to carry out the necessary work on creating market regulations. SAEP is drafting the SOW and will share it for discussion with the Department of Energy once finalized. SAEP plans to begin executing the SOW in Q4.

2.2.3 ACTIVITES AND RESULTS

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
Y5.02.01.02.ZMB	Zambia Sector Reform Management Support	Jorry Mwenechanya	06/30/2022 – 09/30/2022	GRZ request	2.01	<ul style="list-style-type: none"> Consolidated reform roadmap that is accepted across all levels in 	In progress: SAEP developed a draft scope of work that will be finalized and discussed

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
						<p>the ministry of energy</p> <ul style="list-style-type: none"> Status reports on support provided to the GRZ with the appointed consultant 	with the Ministry for their concurrence
Y5.02.02.04.RSA	Assistance to South African Municipalities with Distribution Concessions	Sikhumbuzo Gqoli, Sibulele Dlova	06/01/2022 – 09/30/2022	USAID Request	N/A	<ul style="list-style-type: none"> Status reports on assistance provided A position paper on barriers and enablers of municipal distribution systems in South Africa 	In progress: In Q3, SAEP engaged Ulundi municipality to understand the different options they had explored for operating and maintaining their network and to understand how much they understood about distribution concessions. In the discussions, Ulundi shared 3 main areas of support that will aid them in their quest to be financially viable. These areas are the reduction of non-technical losses, pre-feasibility review of a solar farm and assistance with the cost of supply documentation for NERSA. An LoC has been drafted and sent to Ulundi Municipality. We await the return of a signed LOC
Y5.02.03.04.ZMB	Zambia Market Design in Support of the Open Access Regime and the Independent System and Market Operator	Jorry Mwenechanya	06/01/2022 – 09/30/2022	Ministry request	N/A	<ul style="list-style-type: none"> Report covering support given and covering institutional roles, rules and regulations for transactions, and capacity building efforts 	In progress: SAEP held discussions with KfW to align on the SAEP scope of work and the timing of inputs. In addition, based on the discussions SAEP drafted a separate scope of work that was outside KfW's ToR. The SAEP will determine whether to proceed with this work depending on the substance and the buy-in from the Ministry
Y5.02.05.01.MOZ*	EDM Commercial Loss Reduction Phase II – Assessment and Mitigation	Tea Mihić, Mario Fernandes	10/01/2021– 07/29/2022	EDM request	Y4.02.05.01.M OZ	<ul style="list-style-type: none"> A functional specification for the EDM losses data extract Report required by the EDM analytics team obtained from the commercial and prepaid vending systems. This specification must be provided to EDMs system vendor to configure Principles and guidelines for developing the yearly loss reduction plan that guides all the 	In progress: SAEP and EDM finalized the loss forecast module in the loss indicator calculation tool. SAEP Utility Specialist travelled to Mozambique to conduct in-person capacity-building sessions and reinforce the concepts introduced through the virtual training, with the in-person discussions and hands-on work approach. SAEP held working meetings with EDM to discuss the weak and strong points in EDM loss combating activities currently in place (through other funding mechanisms, e.g., AFD,

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
						<p>loss reduction and loss analytics team's actions for the year</p> <ul style="list-style-type: none"> • Sustainability in the losses management process • Improve the analytics process by providing the capability to compare results against the loss reduction plan for the year, scenario modelling for future years, and produce a model for added energy that is to function with different sources of data given current limitations in enabling the end state solution • Workshop with EDM team • SAEP final report on the activity (internal) 	WB, EDM-internal) and supported the EDM director in his presentation to the EDM BoD. As part of the activity close out, the SAEP will compile the Final report, inclusive of recommendations to EDM on their ongoing commercial loss-reduction initiatives, in terms of how to approach assessing their effectiveness and prioritize them. SAEP will also hold a final review session with EDM of the loss indicators data assessment from Q3, to provide any final clarification requests on the use of the tool developed by SAEP
Y5.02.05.02.NAM	Financial Modelling Support to the City of Windhoek to Convert Customers to Prepaid Meters	Tea Mihalj	01/01/2022–05/31/2022	City of Windhoek Request	N/A	<ul style="list-style-type: none"> • Financial model to support conversion of electricity and water customers to prepaid meters, thereby reducing operating losses 	Completed: SAEP finalized the financial model and demonstrated its usage to the COW team. COW Finance Manager and Electricity and Water teams reviewed the model assumptions and found it fully met their needs. The model and supporting material were handed over to the COW
Y5.02.08.01.REG*	Dissemination of the Credit Rating White Paper	Tea Mihalj	01/17/2022 – 07/15/2022	Requested by USAID	OC5	<ul style="list-style-type: none"> • Report released • Webinar to engage utilities and regulators to present and discuss the credit rating whitepaper 	In progress: Based on USAID's comments requesting the inclusion of supporting case studies, SAEP reached out to the NamPower CFO for an interview to strengthen the supporting case studies of the white paper. The document will be finalized and submitted to USAID for final approval early in the next quarter
Y5.02.09.01.MOZ	EDM EMU program implementation support continued	Tea Mihalj, Rui Alves	03/01/2022 09/30/2022	EDM request	Y4.02.09.04.M OZ	<ul style="list-style-type: none"> • Report on the status of electrification-related management and operational procedures in place and aligned with the EMU governance and management 	In progress: SAEP is assisting the EDM EMU in developing a connections database and associated processes for Results-Based Funding (RBF) for electrification projects. EDM's objective is to have a comprehensive picture collated in the database - planned and actual connections, as reported

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
						<ul style="list-style-type: none"> model designed/approved A business intelligence model and dashboards for electrification-related KPIs Procedures implemented to periodically report electrification-related KPIs to the key internal and external electrification stakeholders SAEP final report on the activity 	by the contractors, which will then be accessible to EDM, the IFI (e.g., AfDB), and the verification consultants. The draft database will be ready by mid-Aug 2022
Y5.02.09.02.MOZ *	EDM HCD Customer Experience Implementation	Tea Mihic	06/30/2022 – 07/29/2022	SAEP initiative	Y4.02.09.05.M OZ	<ul style="list-style-type: none"> Report outlining the needs and challenges of the communities targeted for electrification and evaluations of solutions adopted by EDM to successfully implement them Workshop/capacity building on the central community engagement with commercial directorates Communication and training program designed to promote connections and use of energy by the targeted communities SAEP final report on the activity (internal) 	In progress: SAEP supported EDM HCD Task Team from EDM Commercial to roll out solutions and associated reporting requirements to the appointed solution managers in each delegation. EDM conducted capacity-building sessions with all Delegations and shared the reporting templates. Currently, the EDM HCD Task Team is at the stage where EDM is preparing the first integrated report from the inputs received from the Delegations. This report, which will also be ratified by EDM EMU before its issuance to the EDM BoD, will provide a different perspective to the reporting already in place by the EMU on the planned and actual connections, by reflecting on the initiatives implemented by the EDM Commercial Delegations to enable the successful rollout. BoD will also have an overview of any implementation challenges and risks, amongst other operational value-added insights emerging from these reports
Y5.02.09.03.ANG *	ENDE bid evaluation support for AfDB ESEEP-I program	Tea Mihic, Rui Alves	10/01/2021 – 09/30/2022	ENDE request	Y4.02.09.01.A NG	<ul style="list-style-type: none"> Report communicating the activities where SAEP provided support to ENDE to enable and guide timely execution of all procurement-related activities and compliance to 	In progress: SAEP supported the ENDE PIU to advance all procurement tenders, i) the supply and installation of pre-paid meters (awaiting NO for the RFB stage), ii) systems and integration services (RFP Stage - II), and iii) supervision consulting services (EOI stage - evaluations). In addition,

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
						<p>the AfDB requirements</p> <ul style="list-style-type: none"> • Technical support: end-state metering and revenue protection solutions designed (ICT, processes) • Workshops with PIU teams to prepare the distribution and commercial local areas to provide the subcontractors the required detailed electrification and connection data/plans • SAEP final report on the activity (internal) 	AfDB established an AfDB local office technical team to enable support to ENDE, RNT, and Prodel. AfDB appointed the new Task Manager, Mr. Mario Batsana, operating from AfDB's local office in Luanda.
Y5.02.09.04.ANG *	Support to ENDE for the World Bank Sector Improvement Project (WB ESIAP)	Tea Mihić, Rui Alves	10/01/2021 – 09/16/2022	ENDE request	Y4.02.09.03.A NG	<ul style="list-style-type: none"> • Report communicating the activities where SAEP provided support to ENDE to enable and guide timely execution of all procurement related activities and compliance to the World Bank requirements • Technical support - end-state metering and revenue protection solutions designed (ICT, processes) • Workshops with PIU teams to prepare the distribution and commercial local areas to provide the subcontractors the required detailed electrification and connection data/plans • for the HV, MV and high-consumption LV customers • SAEP final report on the activity (internal) 	In progress: SAEP continued support to ENDE and finalized the bidding documents for the Request for Bids (one-envelope bidding process) - Supply, installation & commissioning of meters and meter control center for the Revenue Protection Program. SAEP supported ENDE to enhance the technical specifications, to meet WB's requirements. ENDE proceeded to issue the documents to WB for NO (through the MINEA PCU), and it is expected that SAEP will still support ENDE next quarter during clarification meetings with the WB, expected to take place, before WB will grant NO. Once the WB grants NO to ENDE for the RFB tender, SAEP's support will end, and ENDE will proceed independently with the next steps of the procurement process.
Y5.02.09.05.ANG *	Assist ENDE to develop and implement data management and reporting capability to the key internal and external electrification	Tea Mihić, Rui Alves	02/01/2022 – 09/30/2022	ENDE request	N/A	<ul style="list-style-type: none"> • A business database and dashboards for electrification-related KPIs 	In progress: SAEP is supporting ENDE to develop a business intelligence process model for reporting. SAEP and ENDE are now in the

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
	stakeholders (focused only on electrification programs)					<ul style="list-style-type: none"> Procedures implemented to periodically report electrification-related KPIs to the key internal and external electrification SAEP final report on the activity (internal) 	design stage. Teams are continually aligning and iteratively improving the design. SAEP and ENDE will finalize the design during the in-person meetings in Luanda in the next quarter, after which, the implementation of the design stage will commence.
Y5.02.09.10.RSA*	Assistance to SALGA selected Municipalities with Electrification Project Management	Tea Mijić, Bandile Jack, Sisanda Mqwebedu, Sibulele Dlova	06/01/2022 – 9/30/2022	SALGA request	OC5	<ul style="list-style-type: none"> Tailored recommendations to improve municipality PMO effectiveness 	In progress: Held several scoping sessions and identified the following municipalities with which SAEP will work to assist with challenges presenting barriers to electrification: Kouga, Eastern Cape (support commenced in June 2022), Msukaligwa and Emalahleni (Mpumalanga). SAEP's On-grid Electrification and Supply Chain Management specialists are working with the identified municipalities on their identified challenges
Y5.02.09.12.RSA*	DMRE INEP Steerco Support	Sibulele Dlova	05/02/2022 - 09/30/2022	DMRE request	N/A	<ul style="list-style-type: none"> Minutes from the steering committee that oversees the provincial electrification master planning project. SAEP supports DMRE on the committee 	In progress: SAEP is providing technical expertise to the DMRE as part of the National Steering Committee. This Steering Committee consists of representatives from entities such as Eskom, National Energy Regulator of SA (NERSA), SALGA, COGTA, DMRE, Department of Human Settlements (DHS) and MISA. The role that SAEP is playing at the Steerco includes providing project management assistance in the form of producing outline reports of upcoming submissions to standardize the reporting formats, software support, specifically Power GLF - to the enable the service providers and DMRE staff to use the software tool - resolving GIS queries and general overall management of the appointed service providers
Y5.02.09.13.RSA	SALGA Revenue Management Follow-on Support	Sisanda Mqwebedu	05/01/2022 09/30/2022	SALGA request	OC5	<ul style="list-style-type: none"> Reports on engagements with municipalities Close-out reports 	In progress: SAEP is engaging respective selected municipalities on critical revenue management challenges to customize the in-person follow on support

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
Y5.02.09.14.RSA	KZN Energy Master Plan Support	Sibulele Dlova	06/01/2022 09/30/2022	DMRE request	N/A	<ul style="list-style-type: none"> Written comments to the DMRE on the performance of the appointed consultant against contracted service levels Templates and guides for the consultant as required 	In progress: SAEP started engaging the DMRE in Q1 and Q2 to find areas of collaboration and due to diplomatic agreements, receiving approval to provide support to the DMRE was in Y5Q3. The DMRE Has appointed AES Consulting as the service provider to develop the KZN EMP. AES Consulting came to SAEP requesting for assistance with a simulation package called Power Geospatial Load Forecasting which Eskom uses to perform their load forecasting. SAEP has initiated the process of finding a Power GLF specialist. The specialist will be appointed in Q4 and thereafter deployed to assist the consultant

Please see Appendix J for information on all SAEP activities

2.3 OUTCOME 3: IMPROVED REGIONAL HARMONIZATION AND CROSS-BORDER TRADE

2.3.1 STAKEHOLDER ENGAGEMENT

During Q3 of FY22, the SAEP Outcome 3 (OC3) team continued to work with regional and national-level stakeholders to improve regional harmonization, cross-border trade and transmission with the main focus on Angola. Key stakeholder support activities under OC3 for this quarter included:

- Provided technical advice to Angola's transmission company, RNT, in implementing the AfDB-funded 343 km, 400 kV transmission line project that will interconnect central and southern Angola. The key focus areas were monitoring the owner's engineer (OE) consultant's assignments and deliverables, reviewing the OE inception report and construction work plan, advancing the external auditor procurement, relaunching the resettlement action plan (RAP) consultant procurement, advancing the Gove Menongue feasibility studies consultant procurement, updating and finalizing the RNT/ENDE procurement plan and advancing the recruitment of the specialist consultants (engineering, environmental, social safeguards, procurement, gender, project management and financial management). The team also worked on finalizing the first drafts of the transition plans to guide RNT when SAEP's assistance comes to an end in September 2022
- Advised SAPP on all work being advanced by the lead consultant, Pegasys, as part of the Regional Transmission Infrastructure Financing Facility (RTIFF) Oversight Task Team, focusing primarily on the RTIFF energy and financial models

OC3 Top Achievements and Results

- Supported RNT to advance critical procurement processes, develop bidding documents and finalize the OE inception report
- Finalized the first draft of the RNT transition plan documentation as part of closing out support in Angola by 30 September 2022
- Assisted RNT to update and submit the procurement plan to reflect adjusted dates and the relaunch process of EPC contractor prequalification
- Coordinated training for SADC energy officials on electricity markets and power training on 6 May 2022
- Conducted two training sessions in Malawi for ESCOM production planning and system operations engineers to prepare ESCOM for the Mozambique–Malawi regional interconnection project
- Held in-person meetings with the SAPP CC that resulted in agreed next steps on production optimization model training and SAPP's US study tour

- Conducted a virtual workshop on regional and international energy markets for SADC energy officials on 6 May 2022
- Conducted two training sessions focusing on production optimization and operating in an interconnected system for the ESCOM planning and system operations engineers during the week of 20 June 2022
- Kickstarted planning for the SAPP environmental subcommittee members' US study tour planned for September 2022, which will focus on climate adaptation and resilience

2.3.2 COUNTRY AND REGIONAL HIGHLIGHTS

ANGOLA

▪ Supporting RNT's PIU to Advance the Central–South Transmission Project

SAEP continued to support Angola's transmission company, RNT, as it advances the AfDB-funded Central–South transmission project. In Q3, the core focus areas were on monitoring the OE's assignments and submitting the updated procurement plan, which included the relaunch of the RAP consultant's procurement, to the AfDB. SAEP also finalized the transition plan draft documents after USAID's review, input and approval. The document pack includes a detailed project plan that outlines tasks and procedures to be handed over to RNT as SAEP concludes its assistance in September 2022. SAEP then socialized the documents with the new AfDB Task Manager, Mario Batsana, and further updated the transition plan timeline after RNT and the AfDB agreed that the recruitment of the individual consultants needed to be fast-tracked.

From 5 to 14 April 2022, SAEP traveled to Angola for in-person delivery and site visits to the Lubango substation site and the transmission line route. During the trip, SAEP also engaged with the AfDB, RNT Board and US Embassy to give updates on the project and the end of SAEP support on 30 September 2022. The RNT senior leadership commended and acknowledged the assistance SAEP has provided since the inception of ESEEP I.

An overview of key events and outcomes from Q3 is detailed below.

- Under general project management, SAEP assisted the RNT PIU to:

- Enhance internal reporting of project-related activities/tasks. Each discipline (engineering, environmental & social, procurement, finance, power systems planning, legal and project coordinator office) continues to update its monthly report with set tasks and required actions and reports back to the broader PIU team during the monthly team calls between RNT and SAEP
- Coordinate the bimonthly OE meetings with the consultant to discuss project related updates
- Develop a procurement project Gantt chart for the RNT PIU procurement team to monitor activities and promote continuity after September 2022
- Update the 2022 master PIU work plan detailing project timelines and key milestones for 2022. This document aligns with the updated procurement plan, which was granted a NO in June 2022
- Continue updating the risks and issues registers for the different PIU sections during the respective weekly technical sessions
- Plan and prepare for the AfDB supervision mission held in the week of 9 May 2022 by developing the presentation materials with updates for each PIU section (engineering, environmental, social, project coordinator and procurement)

- Under recruitment of staff and procurement of services, SAEP assisted the RNT PIU to:

- Provide technical inputs into the EPC procurement bidding documents the OE is developing
- Review and finalize the OE inception report and the draft construction work plan



New Lubango substation construction site. Photo: SAEP

- Relaunch the RAP procurement under the quality cost-based selection (QCBS) procurement method and assist RNT PIU in drafting the update letters for the previously shortlisted consultants inviting them to a pre-proposal conference on 9 June 2022. During the conference, only three consultants attended, and all requested an extension of the proposal submission deadline to July 2022. The AfDB approved the extension
- Organize and coordinate the pre-proposal conference for the procurement of the Gove Menongue feasibility studies consultant held on 27 May 2022. The shortlisted consultants requested a deadline extension for the technical and financial proposals submissions to July 2022, which the AfDB approved
- Advance the recruitment of seven individual consultants who will provide hands-on support to the RNT PIU. The following are the major updates from Q3:
 - Procurement Specialist: RNT could not find suitable candidates based on the applications received during the first round of RFPs. The AfDB then requested that RNT relaunch this activity with an update to the Eols
 - Financial Specialist: The consultant accepted the financial proposal; however, the AfDB submitted comments which the consultant is currently addressing
 - Social Specialist: The evaluation process was restarted during this reporting period after RNT was able to retrieve a sufficient number of CVs to commence the evaluation report. The process had been paused due to the inability to initially attract suitable candidates
 - Environmental Specialist: The recruitment process will begin in Q4
 - Project Manager, Senior Engineering Specialist and Gender Specialist: SAEP assisted RNT in drafting and finalizing the TOR
- Under engineering, SAEP assisted the RNT PIU to:
 - Review the OE's final technical designs for the substations and transmission line. This process also included SAEP conducting a series of capacity-building sessions to equip the RNT engineering team to assess and monitor the work the OE will be submitting
- Under environmental and social, SAEP assisted the RNT PIU to:
 - Review the OE consultant's Environmental and Social Management Plan (ESMP)
 - Review all AfDB's comments and provide feedback on the environmental and social quarterly report
 - Finalize the first draft of the RNT Gender Action Plan (GAP)

MALAWI

▪ ESCOM Training (Malawi–Mozambique Interconnector)

From 20 to 24 June 2022, SAEP conducted a training series for ESCOM in Blantyre, Malawi, focusing on production optimization and phase one of operating in an interconnected system. In Years 2 and 3, SAEP had executed both trainings. In Year 5, the new ESCOM leadership requested that SAEP present these two topics again. Over 15 engineers from the production planning and system operations departments attended and provided positive feedback as to the content of the trainings. The trip also presented an opportunity for SAEP to discuss and plan the second phase of operating in an interconnected system training. This phase entails exposure trips for four nominated ESCOM engineers (two from production planning and two from system operations) to the SAPP Coordination Centre (in Harare, Zimbabwe), EDM National Control Centre (NCC) (in Maputo, Mozambique) and Eskom NCC (in Germiston, South Africa). These trips are scheduled for 15 to 19 August 2022.

SAEP has played an integral part in helping ESCOM prepare to operate the 1,000 MW regional interconnector project by training the utility's operational personnel to operate in an interconnected SAPP system once the Malawi–Mozambique 400 kV interconnector line is commissioned. Construction on the Mozambique–Malawi interconnector is expected to be completed in 2023.



In June 2022, SAEP conducted a training for ESCOM in Blantyre, Malawi, focusing on production optimization and phase one of operating in an interconnected system. Photo: SAEP

MOZAMBIQUE

- **Temane Transmission Project (TTP)**

SAEP continues to track the TTP's construction progress after it reached FC in December 2020. In Q3, following discussions with the TTP project team, SAEP started planning for a site visit to the construction sites, which will include SAEP leadership and USAID counterparts. The site visits are scheduled for 5 to 9 September 2022 to the Vilanculos substation and the transmission line project sites in the Inhambane province, the Chibuto and Maputo substations, and the Matalane substation.

REGIONAL

- **Support to SADC**

- **Energy Thematic Group (ETG) Meeting**

SAEP developed a presentation with updates on activities with regional impact for the 29th ETG meeting held on 24 May 2022. The updates highlighted activities across the different outcomes through work with utilities and regional institutions such as SADC and SAPP.

- **Support to SAPP**

- **The Regional Transmission Infrastructure Funding Facility (RTIFF)**

SAEP continued to advise and support SAPP as their consultant, Pegasys (supported by Zutari and Cliffe Dekker Hofmeyr), advances the development of the RTIFF – a priority SAPP initiative to help address funding challenges for transmission interconnectors across the SADC region. In Q3, SAPP shared the RTIFF financial and energy models with SAEP for comments and recommendations. This activity has included a series of in-person and virtual engagements with the RTIFF finance and engineering teams.

Furthermore, SAPP invited USAID/Power Africa to participate in SAPP's RTIFF roundtable at the Africa Energy Forum (AEF) in Brussels, Belgium, on 23 June 2022. SAEP drafted an event briefer for Power Africa Energy Office Director Lisa Walker, who served as a panelist. Her participation received high praise from the SAPP senior leadership and the RTIFF team, who noted the great insight she brought to the discussion.

- **SAPP US Study Tours**

SAPP reached out to SAEP requesting assistance on study tours to the US. SAEP agreed to assist with a tour focusing on climate change adaptation and resilience. The tour will be for 22 SAPP environmental subcommittee members who will visit different stakeholders across four cities from 19 to 30 September 2022. SAEP developed the draft trip program/outline, which SAPP senior leadership approved.

○ **SAPP Leadership Meetings**

On 28 June 2022, the OC3 team traveled to Harare, Zimbabwe, to discuss open activities and the forecast for the next three months with the SAPP Coordination Centre. The engagements focused on the overall assistance since Year 1 and the RTIFF. Ultimately, the meetings were productive and all outcomes/objectives were met:

- The SAPP generic production optimization model training will take place on 22 and 23 August 2022
- The dates for the US study tour for the environmental sub-committee members, focusing on climate change adaptation and resilience confirmed for 19 to 30 September 2022
- SAPP will publish the IPP guidelines SAEP had assisted SAPP to update for new prospective members on its website

2.3.3 ACTIVITIES AND RESULTS

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
Y5.03.01.01.REG	Prepare SAEP report for SADC ETG meetings	Willem Theron, Keith Katyora	10/01/2021 – 09/30/2022	USAID request	OC1, OC2, OC5	<ul style="list-style-type: none"> ● SAEP presentation to ETG 	Completed: No ETG meetings scheduled for Q4
Y5.03.02.01.REG	Maintain and enhance a generic system optimization model that can be used by SAPP to train its members	Michael Barry	7/25/2022– 09/30/2022	SAEP Initiative	Building on utility specific production optimization in Malawi Y2.03.05.02.M WI and Y3.03.05.02.M WI	<ul style="list-style-type: none"> ● Activity final report on all assistance provided to SAPP and its members 	In progress: SAEP team engaged SAPP with regards to the next steps of this activity. It was agreed that a refresher training would be organized with the SAPP sub-committee members (representatives from all the SAPP utilities). The tentative dates for this are 22 - 23 August 2022. Planning has commenced
Y5.03.03.01.MWI	ESCOM personnel operating in an interconnected system field visit to SAPP control center	Willem Theron, Keith Katyora	06/01/2022 – 09/30/2022	ESCOM LOC	Follow on from Year 4, OC5	<ul style="list-style-type: none"> ● Field visit plan ● Trip report ● Training/Close-out report 	In progress: SAEP delivered training in Blantyre, Malawi, to 15 ESCOM engineers from the planning and systems operations teams on the phase 1 (theory component) of the operating in an interconnected system. The training was well received with the trainees (and ESCOM leadership) commending the quality of the training content. During that same trip in Malawi, the second phase of the training was discussed, where it was agreed that ESCOM would nominate 4 engineers (2 from production planning and 2 from system operations) who would be taken on an exposure trip (by SAEP) to the SAPP Coordination Centre (in Harare, Zimbabwe), ESKOM National Control

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
							Centre (in Germiston, South Africa) and EDM National Control Centre (in Maputo, Mozambique). The trips will be happening in mid-August 2022
Y5.03.04.01.ANG *	RNT PIU Procurement Support for the Central-South 400 kV transmission Project	Carla Sousa	10/01/2021 – 09/30/2022	USAID, RNT and AfDB request	OC1, OC3 and OC4	<ul style="list-style-type: none"> Appointed OE consultant Appointed consultant to do the feasibility studies for the Gove-Menongue transmission line Appointed M&S Consultant Appointed RAP Consultant Appointed External Financial Auditor Appointed External Auditor for ESMS and ESMP Approved procedure to procure IT equipment Procurement of office space and furniture Procurement of Software Procurement of official translator Procurement of the Senior Engineering Specialist Procurement of the five Individual Specialists (Environmental, Social, Project Management, Procurement and Financial Management) Bidding documents for the EPC procurement 	In progress: During this quarter the following was advanced under procurement: finalization and submission (to the AfDB) of the procurement plan, advancement (and finalization) of the bidding documents for the EPC bids with the Owners Engineer procurement team, assistance with the following procurement activities – external auditor, IT equipment and office furniture, monitoring and supervision consultancy, Gove Menongue feasibility studies and the recruitment of the individual specialists (procurement, financial management, and social)
Y5.03.04.02.ANG *	RNT PIU Project Coordinator's Office Support for the Central-South 400 kV transmission Project	Willem Theron, Carla Sousa	10/01/2021 – 09/30/2022	SAEP Initiative	OC1, OC3 and OC4	<ul style="list-style-type: none"> Skills and knowledge transfer workshops Ongoing support through participation in the weekly project coordinator office meetings and monthly all RNT PIU team meetings Monthly report on assistance provided to the RNT PIU Management of activities and 	In progress: The main activities advanced during this quarter included the following: updated and monitoring of the risk and issues register; updated RNT Transition Plan document to reflect new changes arising from the engagements with the AfDB; coordination of the Owners Engineer monthly team meetings; and general project monitoring using the project Gantt chart which SAEP developed for RNT

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
Y5.03.04.03.ANG *	RNT PIU Environmental Advisory and Assistance for the Central-South 400 kV transmission Project	Taryn Bigwood	10/01/2021 – 09/30/2022	Leading practice and compliance with International Financial institutes operational safeguards		<p>support to the RNT PIU coordinator</p> <ul style="list-style-type: none"> Assistance in developing the project manual, ESMS, AfDB quarterly compliance reports and documents needed to recruit the EPC contractor, M&S consultant, the RAP implementation consultant, the E&S budget and capacity building plan Advise on the evaluation process in the recruitment of the OE, the EPC contractor, the RAP implementation consultant and the M&S consultants Assist with review of all the specific management plans developed by the OE and the gender mitigation framework Assist RNT with the first environmental and social project audit Assist RNT with the recruitment of the environmental auditor and the environmental and social safeguards specialists Provide high-level training and workshops on the ESMP conditions and any specific items that may require engagement and capacity building 	<p>In progress: During the reporting period the following tasks were performed,</p> <ul style="list-style-type: none"> Updated the RNT PIU master work plan and contributed to several internal trackers to advance and track environmental and social aspects of the PIU work Assisted RNT with developing material or review of material to present to the AfDB, such as the ESMS, the AfDB E&S quarterly report and the AfDB mission presentation from E&S Facilitated ad hoc progress meetings with the RNT PIU Environmental and Social team to keep them on track regarding environmental matters crucial to the project, such as project risks and progress on the development of the Environmental and Social Management System (ESMS), which was completed in Q3
Y5.03.04.04.ANG *	RNT PIU Engineering Support for the Central-South 400kV transmission Project	Keith Katyora, Rui Morgado, Pedro Machado	10/01/2021 – 09/30/2022	USAID, RNT and AfDB request	OC1, OC3 and OC4	<ul style="list-style-type: none"> Input to Enterprise Management System Software procurement Report of the single line diagrams for the overhead lines and substations (basic, conceptual, and preliminary designs) 	<p>In progress: During this reporting period the main activities advanced included: the review and approval of the Owners Engineer inception report (and construction work-plan), development of the bidding documents for the EPC (and review of the final engineering (substation and transmission) designs);</p>

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
						<ul style="list-style-type: none"> Report on all comments provided to procurement documents Monthly summary report of all engineering related activities Engineering work plan to track all deliverables and actions before the commencement of work by the OE consultant 	and capitalization of the PIU engineering members, as part of the transition plan post-September 2022. These training's included MS projects design and implementation, and bidding documentation approvals
Y5.03.04.05.REG	Assistance on the Angola-Namibia interconnector	Willem Theron, Keith Katyora	06/01/2022 – 09/30/2022	SAEP initiative	Y3.03.05.01.A NG, RTIFF	<ul style="list-style-type: none"> Status and continuous updates to SAEP internal team and RNT Training and workshop materials Final Report 	In progress: SAEP managed to have engagements with the RNT Director of Power Systems Planning, who approved for SAEP to conduct training workshops on the ANNA interconnector, focusing on commercial and bilateral agreements. The workshops are planned for end-July 2022
Y5.03.05.01.REG*	Assistance to SAPP on the Regional Transmission Infrastructure Financing Facility (RTIFF) Phase 2	Willem Theron, Keith Katyora, Jason Alvarado, Colbye Prim	10/01/2021 – 09/30/2022	SAPP and World Bank request	N/A	<ul style="list-style-type: none"> Stakeholder engagement plan Written feedback on SAPP consultant's work 	In progress: SAEP continues to advise and support SAPP as their consultant, Pegasys (supported by Zutari and Cliffe Dekker Hofmeyr), advances the development of the RTIFF - a priority SAPP initiative to help address funding challenges for transmission interconnectors across the SADC region. During this reporting period the SAEP team started with the review of the RTIFF energy and financial models. This process included working sessions with the SAPP RTIFF members

Please see Appendix J for information on all SAEP activities

2.4 OUTCOME 4: RENEWABLE ENERGY AND ENERGY EFFICIENCY TECHNOLOGIES AND PRACTICES LOCALLY DEMONSTRATED AND SCALED

2.4.1 STAKEHOLDER ENGAGEMENT

This quarter, the SAEP Outcome 4 (OC4) team continued to work with industry associations to improve governance and operational issues facing solar companies, particularly in the off-grid sector. SAEP also kicked off new activities with two utilities and a municipality association on topics including energy efficiency, renewable energy uptake and off-grid electrification planning. Additionally, SAEP continues to support activities assessing the viability of battery energy storage to further enhance renewable energy integration and adoption, reviewing electricity laws and evaluating productive use equipment opportunities. Key stakeholder support activities under OC4 for Q3 of FY22 included:

- Continued to support ESCOM with the integration of variable renewable energy into the grid through training as well as scoping broader support on how batteries or other systems could provide much needed ancillary services
- Met with the three remaining SHS Kick-Starter grantees to discuss progress on its operations under the updated business plan that was discussed during Q2. SAEP also conducted meetings with local Malawi banks, the National Bank of Malawi, and SunFunder (international bank) to discuss potential funding opportunities
- Hosted the second Zambia Consumer Affordability Subcommittee meeting in FY22. During this meeting, SAEP presented updated insights into affordability challenges, including updated sales and price data, proposed specific next steps to engage with Ministry of Energy officials to present the challenges and host an open discussion
- Kicked off support to three SALGA municipalities, George, Bushbuckridge and Emalaheni, in providing technical assistance for off-grid electrification planning and solution development. SAEP plans to use current electrification data, forecasted population growth and current development plans to identify electrification solutions and a phased approach for implementing the solutions
- Commenced light-touch support to EWSC and Lusaka Water Supply and Sanitation Company (LWSC) on energy efficiency and renewable energy. SAEP will help EWSC assess solar PV feasibility at several of their facilities. Additionally, SAEP will help LWSC improve energy efficiency of their facilities and increase consumption of renewable energy

OC4 Top Achievements and Results

- Connected 68,752 households in Malawi to solar power, of which, 6,125 connections were through the SHS Kick-Starter grant program and connected 27,593 households in Mozambique, 3,797 households in Madagascar and 28,516 households in Zambia through continued support to the SHS industry
- Developed a report introducing BESS technology and applications, which SALGA distributed to 57 municipalities
- Completed the handover of the RTM tool and provided a live training/demo and process document to FUNAE to detail the steps to update the RTM tool
- Facilitated two trainings to ESCOM grid operators on how to utilize underfrequency load shedding schemes and BESS to mitigate the output fluctuations as a result of variable renewable energy
- Supported CENORED to issue an RFP to qualifying bidders to procure alternative energy sources with either a solar PV and battery storage plant or solar PV with an allowance for retrofitting battery storage

2.4.2 COUNTRY AND REGIONAL HIGHLIGHTS

ESWATINI

▪ EWSC Energy Efficiency Implementation – Light-touch Support

SAEP kicked off Year 5 support for EWSC by reviewing the energy efficiency and renewable energy recommendations from the Year 4 final report. SAEP agreed to support EWSC's efforts in conducting a financial feasibility assessment for solar PV at several facilities to reduce energy consumption from the EEC, reduce energy costs, increase renewable energy consumption and improve system reliability and resilience. SAEP plans to deliver recommendations in a final report in September 2022.

MADAGASCAR

▪ The Madagascar Mini-Grid Development Grant

Progress on the Madagascar Mini-Grid Development Grant is still slow. The main challenge continued to be the inability of two of the three grantees to get their imported equipment cleared and released by customs, due to a change in tax laws that has resulted in duties. This has disrupted the timelines of the delivery of equipment to sites as well as the overall project timelines.

Autarsys remains committed to continuing the construction of the planned mini-grids in Befandriana and Fortadrevo. Autarsys' customs clearance of equipment that arrived from Germany in Madagascar in March 2022 is ongoing. Madagascar's rural electrification agency, *Agence pour le Développement de l'Électrification Rurale* (ADER), has begun the clearance and verification process of the equipment in consultation with the Ministry of Energy, Ministry of Finance and Customs expected to be finalized by 30 July 2022 as per the projections provided by Autarsys

Hydro Ingénierie Etudes et Réalisations (HIER) received the equipment for extending Tsarazaza's mini-grid distribution networks in June 2022, and customs clearance is also still in progress. HIER is negotiating with the Ministry of Transport to reduce the storage costs and with the Ministry of Finance to finalize the customs clearance and release the equipment from the port. SAEP also requested USAID Madagascar to engage with the ministries on expediting the approvals.

Funding was allocated to Henri Fraise Fils & Cie (HFF) to build a solar mini-grid in Manaratsandry village. Unfortunately, there have been continuous delays because the land initially allocated for the development of the mini-grid was rescinded by the mayor of the village. HFF has not kept the SAEP grants team abreast of this issue and its mitigation measures. This initial delay, compounded by problems with customs clearance and global supply chain issues impeding the acquisition of necessary materials, makes it highly unlikely that HFF will be able to complete the activities within the award period. After taking various escalation approaches to address the grantee's delays and non-responsiveness, SAEP decided to terminate the grant agreement due to unsatisfactory performance in implementing their project. In Q3, SAEP finalized a termination request for this grantee's grant and issued it to USAID for approval.

- **Baobab+ Technical Assistance**

During the quarter, SAEP concluded its planned activities with Baobab+. SAEP provided Baobab+ with training material modified for a mobile application the company uses to train sales agents as part of their onboarding process. The content is now integrated into the existing Baobab+ system and mobile app. This mobile app assistance follows on from earlier training on salesforce effectiveness that had been provided to Baobab+ - initially delivered virtually and thereafter reinforced through in-person training. SAEP will continue to provide light-touch support to Baobab+ during the last quarter.

- **SACREEE Engagement with the MEH**

The Ministry of Energy (MEH) asked SAEP to support them to communicate with the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) to ask for assistance with its Barefoot College project. Some donors are pulling out from the project. The Barefoot College project is a gender project (rural electrification by women). The project was initially planned to electrify many villages spread over the country. The main sponsors are the United Nations Development Program and World Wildlife Fund. These two organizations decided to prioritize other activities and exclude the project in Madagascar and the MEH has no budget to take it over. SAEP arranged introductions between the MEH and SACREEE and will continue to serve as a conduit between the two entities to compensate for the language differences.

- **Jirama Electrification PMO and Mini-grid Hybridization**

SAEP continued to engage Jirama on a couple of activities that are in the work plan. The first is an electrification project management skills intervention and the second is assistance with the utility's Green Cities project. Scopes for both activities have been drafted and will be delivered in Q4.

MALAWI

- **Renewable Energy Industry Association of Malawi (REIAMA) Technical Assistance**

SAEP continued assisting REIAMA's VAT and Import Duty Task Force during the quarter. The task force's goal is to support the off-grid sector to advocate for the correct implementation and application of VAT and Import duty exemptions for solar products. As a follow-up to the in-person meeting in Lilongwe during Q2, SAEP worked with REIAMA to try to set up a meeting with several stakeholders, including the Ministry of Finance, Ministry of Energy, Malawi Bureau of Standards, and Malawi Revenue Authority. The meeting aims to discuss some of the challenges that renewable energy companies face when importing renewable energy products and how this group can pave the way forward to improve the consistent application of VAT and Import Duty. SAEP drafted several materials in preparation for the meeting, including a detailed agenda, an invitation to send to stakeholders, a slide deck to drive the discussion, and pre-read materials to present the challenges and potential next steps. This meeting has not yet been scheduled and SAEP will push to have the meeting for Q4 FY22.

SAEP worked with MAEVE, a local NGO that promotes fuel-efficient technologies in Malawi, to host business development training through the REIAMA platform as part of REIAMA's membership offering. The training was delivered in person at the Riverside Hotel in Lilongwe, Malawi, on 19 May 2022. MAEVE facilitated the sales force effectiveness (SFE) training to REIAMA members, targeting off-grid company sales agents, to increase agent's sales capabilities. The training was highly interactive and included several role-playing sessions with the 18 participants to help participants recognize themselves as educators, marketers and salespeople to effectively promote the growth of their companies with multi-job flexibility. Based on the post-training surveys, participants had an overall positive reaction to the training. SAEP drafted a training report as part of this assistance if more details are needed.



With SAEP's support, MAEVE facilitated SFE training to REIAMA members, targeting off-grid company sales agents, to increase agent's sales capabilities. Photo: SAEP

- **Rockefeller Global Energy Alliance for People and Planet (GEAPP) Productive Use Energy**

SAEP continued regularly checking in with Rockefeller's Global Energy Alliance for People and Planet (GEAPP) stakeholders to discuss the support and scope of work for the Power Sector Forum and the Productive Use Energy (PUE) financing analysis. During Q3, SAEP discovered that GIZ EnDev has started on a PUE scope for Malawi covering a i) supply side intervention, including an RBF grant and business development support to companies; ii) demand side intervention to include marketing support and awareness raising to improve the PUE enabling environment. Under the demand side intervention, EnDev has begun a market intelligence analysis to review over 45 value chains in Malawi. Given this scope, it is unlikely that the PUE financing analysis GEAPP had proposed will begin during FY22 due to the overlapping scopes of both efforts. To continue supporting the PUE market, SAEP provided a detailed report to GEAPP outlining data and findings from SAEP's Q2 site visit to Agricane's irrigation schemes. GEAPP is planning to support several ag-energy mini-grid projects in Malawi. With SAEP's Agricane report, GEAPP can utilize the data and findings to decide on the appropriate ag-energy project to choose. Given the work that GIZ and GEAPP are doing on productive use, SAEP will not be providing any direct assistance in this area and thus will mark this activity as complete as another agency is covering this work. SAEP has submitted information for Agricane and will count that as completing this activity.

- **SHS Kick-Start Program and Other Off-Grid Support for Malawi**

SAEP continued to check in with the three remaining SHS Kick-Start grantees: SolarWorks!, VITALITE and Zuwa Energy, and other companies outside the Kick-Start grant, SunnyMoney and Yellow. Throughout Q3, SAEP met with each of the remaining Kick-Start grantees to discuss progress on its operations under the updated business plan discussed during Q2. During these conversations, grantees informed SAEP that the same challenges remain, including supply chain challenges, overall economic slowdown and challenges in obtaining foreign exchange and overall cash flow/funding opportunities.

In Q3, SAEP reached out to local Malawi banks and SunFunder (international bank), with which the Kick-Starter grant partnered in 2018. SunFunder was eager to hear from SAEP and set up an additional call with Zuwa Energy to discuss potential funding opportunities, but SAEP is not yet sure what has come from this discussion. In addition, SAEP had a call with the National Bank of Malawi (NBM). NBM was transparent in its experience in the sector and informed SAEP that they are reluctant to provide additional funding unless provided with a strong guarantee. After internal discussions, SAEP decided to extend the Kick-Starter grant support period of performance to September 2022 but will be closed out at the end of the fiscal year.

▪ 350 MW Mpatamanga Hydropower Project Support

During this reporting period, SAEP continued its support to the Government of Malawi (GoM) as transaction advisor on the 350 MW Mpatamanga (Peaking) Hydropower Project. GoM has been working with a consortium of EDF and Scatec (the bidders) to agree on a Relationship Agreement (RA) that would appoint the bidders as project sponsor, following the reception of a bid for project sponsor by the bidding consortium on 17 September 2021. Formally appointing project sponsors is an important step in the process of preparing a funding application's disclosure package to the World Bank BoD who will need to approve the large International Development Association (IDA) loan that will be used to provide low-cost funding to the project.

The RA serves as the guiding agreement between the co-developers (GoM, the bidders and International Finance Corporation) and dictates the allocation of risks, development costs, development responsibilities and the financial return that would be afforded to the sponsor. SAEP worked with GoM's legal counsel Herbert Smith Freehills (HSF) to advise the government on the appropriate risks that it could accept and recent market precedents. SAEP served on the financial working group who worked to prepare a proposed joint development budget. As GoM will be utilizing World Bank funding for its contributions to the project, all procurements that GoM will fund, must adhere to the strict World Bank procurement guidelines. SAEP worked with the bidders to identify and ringfence items that could be funded under these guidelines and developed a mechanism to be used in the case of GoM contributions being below (or above) the required 30% of the total budget by FC.

The RA is nearing an agreed form and negotiations are expected to be completed by the end of July 2022. There are a handful of items that remain open for negotiation and SAEP will travel to Lilongwe in early July, to support GoM in closing out these items.

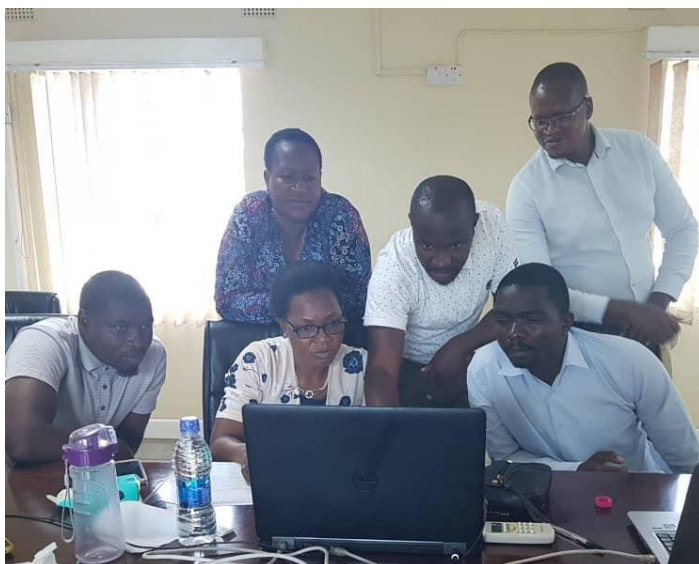
The next quarter's support will focus on signing the RA and applying for funding of GoM's development costs up to Financial Close. Refer to section 2.8 for more details on the Mpatamanga project.

ESCOM vRE Training

In Q3, SAEP conducted the final two trainings for ESCOM to assist the utility in managing the grid with increased vRE. The first training occurred from 25 to 28 April 2022 and covered managing and modelling underfrequency load shedding (UFLS) as a result of increased vRE on the grid. The training specifically focused on:

- UFLS scheme modeling and relay selection
- UFLS relay settings and stage modeling
- Establishing how the current ESCOM UFLS is set up and modeled
- Updating the model using current field data

The second training from 7 to 9 June 2022, focused on BESS. The training provided background on the applications and how to conduct load flow modelling for BESS, dynamic modelling of BESS in DigSilent and how to optimally site BESS to improve primary frequency response. Over 15 ESCOM grid operations specialists attended the trainings on mitigating the effects of increasing vRE on the grid.



*SAEP trained ESCOM in managing the grid with increased vRE.
Photo: SAEP*

SAEP also presented to ESCOM an overview of the output data from the JCM Salima solar PV plant, examples of cloud coverage and weather patterns impacting solar PV plant output and two US case studies of how utilities have added mitigation measures to manage increasing vRE penetration on the grid. During further engagements with ESCOM Chief Operating Officer, Maxwell Mulimakwenda, SAEP briefed him on the vRE grid integration studies support to ESCOM. Mr. Mulimakwenda requested SAEP to assist ESCOM in its restructuring process being finalized through a functional review. Additionally, he requested SAEP's support in assessing ESCOM's procurement of ancillary services in the absence of an ancillary department that will be established in the near future. SAEP is currently assessing the additional support opportunities for ESCOM and doing so in coordination with GEAPP and other donors.

MOZAMBIQUE

- **Implementation of Mozambique Fiscal Incentives for Solar Products to Improve Affordability**

SAEP continued to work with BRILHO to socialize the econometric study on fiscal exemptions produced in Year 4 with key stakeholders. SAEP engaged with MIREME, ARENE and the Mozambique Energy Fund (FUNAE) to review policy options.

To date, SAEP has gained buy-in for the implementation of these policy recommendations from the MIREME technical council and is preparing to present to the Minister's Advisory Council. During Q2, a new minister was appointed to MIREME, slowing down SAEP's progress to present to the advisory council. In Q3, SAEP continued to face challenges in obtaining a meeting time with the advisory council. MIREME has appointed Antonio Saide as the new Vice Minister who is from FUNAE. SAEP has a strong relationship with Mr. Saide and is hopeful to obtain a slot to speak on the advisory council in Q4. SAEP continues to work closely with USAID/Mozambique to strategize on the appropriate method to engage with the new minister.

- **Technical Assistance to FUNAE Private Sector Division**

SAEP worked closely with FUNAE to deliver on the scope of work (SOW) signed in Q2, which covers two activities: i) Handover of the RTM tool and ii) support to the implementation of a private sector support unit (Division of Financing and Assistance to the Private Sector). During Q3, SAEP handed over the RTM tool to FUNAE and provided a live training/demo and process document to FUNAE to detail the steps to update the RTM tool. Furthermore, SAEP kicked off the work to support the implementation of the private sector support unit. SAEP drafted an inception report, which lays the foundation for the engagement and covers SAEP's understanding of the envisaged SOW for undertaking the specific activities under this engagement, the progress of preparatory work already undertaken and the way forward to successfully execute the assignment. During Q4, SAEP will conclude its support to FUNAE by delivering the final deliverable outlining recommendations for the new division and host a training with FUNAE to discuss the recommendations.

NAMIBIA

- **Follow-up Support to CENORED with Battery Storage**

In Q3, SAEP continued to support CENORED Okahandja in its procurement of an IPP for 10 MW of alternative energy sources with either a solar PV and battery storage plant or solar PV with an allowance for retrofitting battery storage. SAEP assisted to develop and review the EoI document, which will help CENORED Okahandja select the preferred bidders for the RFP stage. The Program had previously assisted the utility with assessing the viability of using battery storage to reduce its electricity costs. Although the EoI has been evaluated, no awards have yet been made. SAEP will continue to monitor.

In Q3, SAEP provided CENORED with additional comments on CENORED's solar PV and battery storage RFP. SAEP had previously advised CENORED that a number of issues and errors were noted in the RFP drafts originally provided. CENORED indicated the new RFP was sent for approval through its governance structure. On 29 June 2022, SAEP provided CENORED with clarification comments. The RFP was issued to successful EoI bidders. SAEP will continue to monitor the project.

SOUTH AFRICA

- **SALGA Battery Energy Storage Systems (BESS) Implementation**

SAEP continues to support SALGA municipalities to increase their understanding of the capabilities of BESS. SAEP wrote and delivered the “An Introduction to Battery Energy Storage Systems” report to SALGA during Q3. SALGA distributed the report to 57 municipalities on 20 June 2022. The report included details on the different types of BESS technology, BESS market development and trends, applications of BESS, benefits of stacking services and applications, siting considerations for BESS and highlighted 13 use cases. SAEP plans to deliver the next report on BESS use cases in Q4. It will review 10 different BESS case studies and their applications in greater detail. Additionally, in Q4, SAEP will provide a model for municipalities to assess the viability of BESS and a workshop to review the reports and case studies. Overall, the reports, workshop and model will provide municipalities with greater insight into the benefits and costs of BESS and how to assess whether BESS might improve their distribution systems.

- **SALGA Municipality Off-grid Electrification Technical Assistance and Capacity Building**

SAEP kicked off off-grid electrification support to SALGA municipalities in Q3. SAEP drafted and released the call for participation requesting municipalities to apply for technical assistance in identifying off-grid electrification solutions. Thirteen municipalities responded to the call for participation. From these 13, SAEP and SALGA selected three municipalities, Bushbuckridge, George and Emalaheni to support. While SAEP plans to develop targeted solutions for these three municipalities, SAEP and SALGA selected the municipalities due to their diverse range of requirements and growth, so that the solutions and corresponding capacity building workshops SAEP delivers would be relevant to most municipalities. Between 20 and 27 June 2022, SAEP conducted kick-off meetings with each municipality to discuss the off-grid electrification technical assistance SAEP plans to provide in coordination with SALGA. SAEP gathered additional information such as the municipalities’ electrification plans and number of households they need to electrify. During Q4, SAEP plans to develop electrification plans for each municipality based on their future growth and best solutions to address electrification. Additionally, SAEP will host a workshop for any interested municipalities on the process of developing electrification plans.

- **Eskom Support in Developing Mini-grids in South Africa**

In Q3, SAEP began engaging Eskom on potential assistance to mini-grids. Eskom is exploring mini-grid technology to provide electricity access to rural communities that reside far from the grid and areas where access to do maintenance has proven difficult in the past. The Eskom team identified 30 sites in different provinces which they believe would benefit from mini-grid technologies. The majority of the sites were in KZN (potential of 1,000 connections), Eastern Cape (possibility of 1,056 connections) and Limpopo (no connections identified). Eskom and SAEP discussed areas of collaboration and the most efficient ways of executing the mini-grid projects. Eskom wants SAEP’s support in enhancing existing planning reports, including site visits, studies on renewable energy and battery storage possibilities, simulations of the mini-grids and grid impacts and social engineering for the affected communities. Due to the time intensity of the tasks above and the sustainability of the Eskom mini-grid project, SAEP is engaging with other counterparts (South Africa’s Council for Scientific and Industrial Research and DMRE) to understand the role that they can potentially play in assisting Eskom. This will help with the sustainability of the project. SAEP assistance aims to help Eskom produce reports that are private sector investor ready and also enhanced for the Eskom governance structures to approve. SAEP will finalize the SOW in Q4 and commence work.

ZAMBIA

- **Program Management Support to the Solar Industry Association of Zambia (SIAZ) and the Off-Grid Task Force (OGTF)**

In Q3, SAEP hosted a Consumer Affordability Subcommittee meeting. This was the second OGTF meeting in FY22. SAEP presented updated insights into affordability challenges, including updated sales and price data. SAEP collected the price data through a data request to SHS companies in the Zambia market and further analysis to present average system price over the past two years. The group discussed specific next steps to engage with Ministry of Energy officials to present the challenges and host an open discussion. A ministry official joined the subcommittee meeting at the end and was eager to share these results with broader ministry stakeholders. Following the meeting, SAEP conducted further research on affordability insights in Zambia and drafted a presentation to synthesize findings from several affordability studies present in the market, including the SAEP Affordability Report, a 60 Decibels Verification and Customer Insights of Beyond the Grid Fund for Zambia (BGFZ) report and the Oxford Poverty and Human Development Initiative (OPHI) report. This report

was sent to the subcommittee stakeholders, including the Ministry of Energy representative. During Q4, SAEP will aim to engage with the ministry to set up a discussion with broader stakeholders to discuss the findings.

In parallel, SAEP had discussions with the Africa Clean Energy Technical Assistance Facility (ACE-TAF) on the upcoming completion of the ACE-TAF program in Zambia. During Q3, SAEP attended ACE-TAF's launch of the completed customs handbook at the Taj Pamodzi Hotel in Lusaka, Zambia. The handbook contains detailed explanations with codes and pictures of the various equipment and components that are imported by SHS and mini-grid companies. It has been created to help the Zambia Revenue Authority and clearing agents easily recognize equipment/components that are VAT and duty exempt to foster consistent application at the borders.

▪ **Lusaka Water Supply and Sanitation Industrial Energy Efficiency – Light-touch Monitoring of Implementation**

Due to changes in LWSC executive leadership, SAEP support to LWSC was delayed. SAEP met with LWSC on 29 June 2022 to review recommendations for energy efficiency and renewable energy improvements from the final report SAEP delivered in Q1 of 2022. SAEP plans to finalize topics for support in Q4 and deliver recommendations by September 2022.

▪ **Alternative Energy Solutions for Health Facilities in Zambia**

During Q3, SAEP and ACE-TAF discussed the potential transition of some of ACE-TAF's activities, of which one is an intervention to support Zambian rural health clinic electrification. Prior to closing out its program, ACE-TAF will complete an energy audit report for the electrification of rural health clinics and work with the Ministry of Health on an action plan to implement the interventions. SAEP is interested in championing this work when ACE-TAF exits the market. During Q4, SAEP will continue to get clarity from ACE-TAF and the Ministry of Health on the specific activities to be carried out.

2.4.3 ACTIVITIES AND RESULTS

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
Y5.04.01.01.REG	Transaction Advisory services for SAEP transaction pipeline	Clarence Oelofse	10/01/2021-09/30/2022	SAEP Initiative	N/A	<ul style="list-style-type: none"> Biweekly and quarterly reports Power Africa Transaction Tracker (PATT) monthly updates 	In progress: Refer to appendix A – Transactions Tracker
Y5.04.01.02.MDG	Ad-hoc TTS for Energy Companies in Madagascar	Henri Randriamanana	10/01/2021-09/30/2022	SAEP Initiative	Y4.04.01.03.MDG	<ul style="list-style-type: none"> Biweekly and quarterly reports PATT monthly updates 	In progress: no update for this quarter
Y5.04.01.03.MWI*	Transaction advisory services to GOM for Mpatamanga project	Jorry Mwenechanya	10/01/2021 – 06/30/2022	GoM and IFC Request	Y4.04.01.04.MWI	<ul style="list-style-type: none"> Finalized PPA and IA Appointment of a project sponsor PATT monthly update Quarterly reports 	In progress
Y5.04.01.04.NAM	TA to CENORED for procurement of energy from new solar plants	Clarence Oelofse	10/01/2021 – 06/30/2022	CENORED Request	Y4.04.01.02.NAM	<ul style="list-style-type: none"> Review and comments to procurement documents for final procurement round Biweekly and quarterly reports 	In progress: CENORED reduced the target capacity of the solar PV facility from 10 MW to 7 MW. CENORED still to decide on final decisions for options going forward. SAEP awaiting further support requests from CENORED
Y5.04.01.05.RSA*	City of Cape Town (CoCT) tariff design for the IPP program	Clarence Oelofse	01/15/2022 – 9/30/2022	CoCT Request	Y4.04.01.12.RSA	<ul style="list-style-type: none"> Reviewed tariff financial model In-model comments 	In progress: Partial tariff analysis included as part of the SAEP assistance on the Paardevlei Solar PV

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
						<ul style="list-style-type: none"> Supplementary written comments on the model 	financial model and model training
Y5.04.01.06.RSA*	CoCT risk and commercial review of draft final PPA	Clarence Oelofse	01/01/2022 – 9/30/2022	CoCT Request	Y4.04.01.10.RS A	<ul style="list-style-type: none"> In-line comments of PPA document Supplementary written comments on the PPA Close-out Report 	In progress: Following SAEP suggestions, PPA discussions held with the major local lenders. Specific PPA comments were provided and PPA updates considered by CoCT
Y5.04.01.07.RSA*	Follow-on project finance support to SALGA municipalities	Clarence Oelofse	11/15/2021 – 09/30/2022	SALGA request	N/A	<ul style="list-style-type: none"> Customized financial modelling and / or support for tariff calculations Customized technical advisory support to build on initial assistance 	In progress: SAEP team presented a workshop in Mpumalanga targeted at capacity building and Just Energy Transition for SALGA members. Financial model aspects and bankability covered as part of the workshop.
Y5.04.01.08.RSA*	CoCT High level pre-feasibility of a 60MWac Solar PV Facility at the Paardevlei site, Somerset-West	Clarence Oelofse	01/01/2022 – 6/30/2022	CoCT Request		<ul style="list-style-type: none"> Financial model in support of pre-feasibility study Written supplementary notes Close-out Report 	In progress: SAEP is supporting the city with a high-level pre-feasibility of a 60 MW solar PV facility at the Paardevlei site, Somerset-West. The original 50 MW capacity was increased to 60 MW due to the size of the site area. Following further model discussions during the reporting period, SAEP provided an updated model to the CoCT on 7 June 2022. SAEP assisted CoCT with various model training sessions
Y5.04.01.09.RSA*	CoCT Financial modelling input to 10MW Atlantis Solar Feasibility Study	Clarence Oelofse	10/01/2022 – 09/30/2022	CoCT Request	Y4.04.01.11.RS A*	<ul style="list-style-type: none"> Reviewed Financial Model 	In progress: SAEP provided a financial model and model training to CoCT as part of the Paardevlei solar PV project assistance. The model was developed in order to also be used for the Atlantis project. Awaiting information from CoCT for project kick-off
Y5.04.01.10.BOT	Botswana Technical and Steering Committee Coordination Megasolar	Themba Modise	10/01/2022 – 06/30/2023	USAS transition	NA	<ul style="list-style-type: none"> Agendas for meetings Meeting notes 	New. This activity will start when USAS ends
Y5.04.01.11.BOT	Other RE transaction assistance Botswana	Themba Modise	10/01/2022 – 06/30/2023	USAS transition	NA	<ul style="list-style-type: none"> Biweekly and quarterly report inputs Training documents as applicable 	New. This activity will start when USAS ends
Y5.04.01.12.NAM	Namibia Technical and Steering Committee Coordination Megasolar	David Jarrett	10/01/2022 – 06/30/2023	USAS transition	NA	<ul style="list-style-type: none"> Agendas for meetings Meeting notes 	New. This activity will start when USAS ends
Y5.04.01.13.REG	Megasolar donor coordination for regional market study	TBD	10/01/2022 – 06/30/2023	USAS transition	NA	<ul style="list-style-type: none"> Donor meeting agendas Meeting notes 	New. This activity will start when USAS ends

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
Y5.04.03.01.NAM	Follow-up support to CENORED with battery storage	David Jarrett	10/01/2021 – 09/30/2022	CENORED Request	Y4.04.03.01.N AM	<ul style="list-style-type: none"> • Reports on support for (1) the RFP rounds; (2) negotiation of implementation agreements; (3) ad hoc engineering and transaction matters. • Biweekly and quarterly reports • Comments on procurement documents for Eol procurement round 	In progress: SAEP continued to support CENORED Okahandja in its procurement of an IPP for 10 MW of alternative energy sources with either a solar PV and battery storage plant or solar PV with an allowance for retrofitting battery storage. The support progressed from the development and review of the Expression of Interest (Eol) document which will help CENORED Okahandja select the preferred bidders for the RFP stage. The Program had previously assisted the utility with assessing the viability of using battery storage to reduce their cost of electricity. SAEP has been providing support and although the Eol has been evaluated, no awards have yet been made. SAEP will continue to monitor
Y5.04.03.02.RSA*	SALGA: Assist municipalities to assess the viability of deploying battery storage and other new technologies in their systems	David MacPherson	10/01/2021 – 08/05/2022	SALGA Request	Y4.04.03.03.RS A	<ul style="list-style-type: none"> • A report on the viability of integrating battery storage technologies into municipal grids; example, techno-economic assessment model for assessing battery storage viability • Assessment of legal and regulatory environment for BESS in SA • Workshop for municipalities 	In progress: SAEP delivered the first report to SALGA, an Introduction to BESS, on 21 June 2022. SAEP plans to develop a report highlighting additional case studies for applications of BESS, deliver a model to assess the viability of BESS, and conduct a workshop reviewing the reports in Q4
Y5.04.03.05.RSA	SAEP and DBSA collaboration	Sibulele Dlova	06/01/2022 – 09/30/2022	Power Africa MOU with DBSA	N/A	<ul style="list-style-type: none"> • Training reports 	In progress: SAEP initiated discussions with UKPACT who are supporting municipalities that want to apply for EGIP funding from the DBSA. The intention is to find a meaningful intervention for SAEP, given the program's time and budget constraints. SAEP, UKPACT and DBSA will have a joint meeting to discuss an SAEP scope of work
Y5.04.03.03.MWI	Monitoring and Evaluation, and supplementary support for ESCOM vRE integration	Jorry Mwenechanya	11/01/2021 – 09/30/2022	ESCOM Request	Y4.04.03.02.M WI	<ul style="list-style-type: none"> • Inception Report • Training plan • Revised network model • Training report 	In progress: The final training of ESCOM staff on vRE covered the modelling of Battery Energy Storage Systems. At the request of the

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
							ESCOM Chief Operating Officer, SAEP identified a resource to provide support on short and long-term system planning to ameliorate adverse impacts from vRE integration.
Y5.04.05.01.SWA	Ministry (MNRE) Energy Efficiency light-touch Action Plan Support	Jorry Mwenechanya	10/01/2021 – 09/30/2022	Ministry Request	Y4.04.05.02.SWA	<ul style="list-style-type: none"> Final recommendation and progress report on adoption and implementation Ad-hoc advisory memos to MNRE Light-touch support as MNRE implements the new institution 	In progress: No activity in this quarter. The establishment of the new institution is delayed because the University lacks the necessary resources.
Y5.04.05.02.ZMB	LWSC light-touch monitoring of implementation	Jorry Mwenechanya	11/01/2021 – 09/30/2022	LWSC request	Y4.04.05.06.ZMB	<ul style="list-style-type: none"> Reports on the progress of implementation of (1) an improved energy management system; (2) revised standard operating procedures Reports on financing and implementation of solar PV plants at the three main pumping sites. Quarterly report updates 	In progress: SAEP met with LWSC to review recommendations from the last energy efficiency report. In Q4, SAEP plans to finalize technical assistance to LWSC.
Y5.04.05.03.SWA	EWSC light-touch monitoring of implementation	Jorry Mwenechanya	11/01/2021 – 09/30/2022	EWSC request	Y4.04.05.01.SWA	<ul style="list-style-type: none"> Quarterly report updates to track and monitor the implementation of recommendations from Years 3 and 4 	In progress: During Q3, EWSC agreed to SAEP supporting the review of EWSC's outdated, high-level solar PV+BESS assessment. SAEP is currently gathering and reviewing assumptions from the initial report. SAEP plans to deliver recommendations in September 2022
Y5.04.05.04.MGD	Assistance to the Madagascar industry association (SIM) with Industrial Energy Efficiency Program Phase 2	Henri Randriamanana	10/01/2021 – 09/30/2022	SIM Request	Y4.04.05.05.MDG	<ul style="list-style-type: none"> Walk-through energy assessment reports Project proposals for funding 	In progress: Work was delayed due to activity lead taking a leave of absence during Q3. SAEP plans to complete the activity in Q4.
Y5.04.06.01.ZMB	Program Management Support to SIAZ and OGTF	Chris Mubemba	10/01/2021 – 09/30/2022	SIAZ Request	Y4.04.06.13.ZMB	<ul style="list-style-type: none"> Quarterly reports OGTF Subcommittee Action Plan Affordability initiatives and tools summary report 	In progress: SAEP hosted a Consumer Affordability (CA) Subcommittee meeting. This was the second CA OGTF meeting in FY22. SAEP presented updated insights into affordability challenges, including updated sales and price data collected from SHS companies. SAEP also conducted further research on affordability insights in Zambia and

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
							drafted a presentation to synthesize findings from several affordability studies present in the market
Y5.04.06.02.ZMB	Zambia Operational support to SHS companies and mini-grid developers	Mary Van Leuven	10/01/2021 – 09/30/2022	SAEP Initiative	Y4.04.06.14.Z MB	<ul style="list-style-type: none"> Quarterly progress reports 	In progress: SAEP continues to check in on the status of SHS companies' operations in Zambia on a regular basis and provided gender mainstreaming training to 5 off-grid companies in Zambia during Q3
Y5.04.06.03.ZMB*	Alternative energy solutions for health facilities in Zambia	Chris Mubemba, Jamie Evans	10/01/2021 – 09/30/2022	Avencion Request	Y4.04.06.11.Z MB	<ul style="list-style-type: none"> Report on assistance provided by SAEP Quarterly progress reports 	In progress: SAEP Country Manager, Zambia travelled with Avencion staff from Lusaka, Zambia to Livingstone and Kazungula, in the Southern Province of Zambia to carry out a site visit at the Kazungula Level I District Hospital. They met with the Zambian Ministry of Health officials at the hospital. The site visit established that there was only one source of supply from ZESCO and that there was a need for backup power to be provided using solar PV with batteries in order to ensure that the patients' data management system (SmartCare), kept running during the ZESCO outages of supply. The backup would also provide power for lighting, refrigeration of vaccines/medicines and supply to critical equipment in the operating theatre, maternity wards and the intensive care units during the outages. The next step would have been for Avencion to design the system and for SAEP to review the design with a view to Avencion proceeding with the installation. Unfortunately, the SAEP participation was curtailed due to non-responsiveness of Avencion.
Y5.04.06.04.MWI	Malawi: Operational support for SHS Kick-Starter grant awardees and other SHS companies	Mary Van Leuven	10/01/2021 – 09/30/2022	SAEP Initiative	Y4.04.06.06.M WI	<ul style="list-style-type: none"> Quarterly progress reports Final Impact Report 	In progress: SAEP continues to check in on the status of the companies' operations to support the remaining 3 companies that have not achieved their Kick-Starter goals – SolarWorks! VITALITE, and Zuwa Energy. During

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
							this period, SAEP provided gender mainstreaming trainings to all the grantees as well as other off-grid companies we work with in Malawi.
Y5.04.06.05.MWI	REIAMA technical assistance	Mary Van Leuven	10/01/2021 – 09/30/2022	REIAMA Request	N/A	<ul style="list-style-type: none"> 2 SFE training completed; Training materials handover REIAMA Strategic Plan Document VAT/Import Duty Sensitization Training Materials; two VAT/Import Duty Sensitization Trainings completed 	In progress: SAEP continued assisting REIAMA's VAT and Import Duty Task Force. SAEP worked with REIAMA to try to set up a meeting with several stakeholders, including Ministry of Finance, Ministry of Energy, Malawi Bureau of Standards, and Malawi Revenue Authority to discuss some of the challenges that renewable energy companies face when importing renewable energy products, and how this group can pave a way forward to improve the consistent application of VAT and Import Duty. This meeting has not yet been scheduled and SAEP will push to schedule the meeting for Q4. Furthermore, SAEP worked with MAEVE, a local NGO that promotes fuel-efficient technologies in Malawi
Y5.04.06.07.MWI	Rockefeller SPX Task Force Design and Implementation Support	Jorry Mwenechenya	11/15/2021 – 09/30/2022	RF SPX	N/A	<ul style="list-style-type: none"> Progress reports and meeting notes from stakeholder engagements with Rockefeller and SPX 	In progress: SAEP continues to engage with Rockefeller and has agreed to support the implementation of the Power Sector Forum through general support and technical research to the group. Thus far, there have not yet been any Power Sector Forums held for SAEP to support. SAEP continues to engage with Rockefeller to collaborate on any upcoming Forums
Y5.04.06.08.MDG	Donor coordination forum support	Henri Randriamanana	10/01/2021 – 09/30/2022	Ministry Request	Y4.04.06.03.M DG	<ul style="list-style-type: none"> Donor coordination meeting notes 	In progress: No updates from the quarter
Y5.04.06.10.MDG *	Madagascar mini-grid catalytic grant program	Henri Randriamanana, Jamie Evans	10/01/2021 – 06/30/2022	SAEP Initiative	Y4.04.06.04.M DG	<ul style="list-style-type: none"> Status updates Ad-hoc technical assistance Periodic reports from grant awardees 	In progress: HIER and Autarsys continue to experience customs clearance issues. SAEP is working with the US Mission in Madagascar to resolve the issues and get the equipment released for transportation to site. A proposal has been made for the HFF grant to be cancelled due to counterpart unresponsiveness

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
Y5.04.06.14.MOZ	Mozambique: Operational support to SHS companies, and mini- and micro-grid developers	Mary Van Leuven	10/01/2021 – 09/30/2022	SAEP Initiative	Y4.04.06.08.MOZ	<ul style="list-style-type: none"> Quarterly progress reports 	In progress: SAEP continues to check in on the status of SHS companies' operations on a regular basis, including SolarWorks! and ENGIE Energy Access (formerly Fenix International).
Y5.04.06.15.MOZ	Support implementation of fiscal incentives for solar products to improve affordability	Mary Van Leuven	10/01/2021 – 09/30/2022	SHS company request/ Continuation of previous USAID Program	Y4.04.06.09.MOZ	<ul style="list-style-type: none"> Quarterly progress reports on support provided Support to the government to operationalize the fiscal incentives implementation roadmap from Year 4 Support to the government during deliberations on incentives and roadmap expected to be finalized during the second quarter of Year 5 	In progress: SAEP Team engaged with the Ministry of Mineral Resources and Energy (MIREME), ARENE, and FUNAE in a review of the econometric study developed with BRILHO in Y4 and worked closely with USAID/Mozambique to enhance the level of engagement from the government to advance the implementation of key policy reforms. During Q3, SAEP continued to face challenges in obtaining a meeting time with the advisory council. A new Vice Minister was appointed at MIREME, who came directly from FUNAE. The SAEP team has a strong relationship with the new Vice Minister and is hopeful to obtain a slot to speak on the advisory council in Q4.
Y5.04.06.16.MOZ	Support FUNAE to enhance effectiveness as resource for private sector	Mary Van Leuven	11/1/2021 – 09/30/2022	FUNAE request, connections attribution		<ul style="list-style-type: none"> Biweekly and quarterly report updates Reference guides for proposed support services 	In progress: SAEP Team, including Deloitte Mozambique, continued to deliver on the SOW in Q3. The SOW will conclude in Q4. The Inception Report and Handover of the RTM tool were completed in Q3. A final deliverable and workshop will be held with FUNAE in Q4.
Y5.04.06.19.RSA*	SALGA Municipality Off-grid Electrification	David MacPherson	03/01/2022 – 09/29/2022	SALGA Request	Y4.04.06.10.RSA	<ul style="list-style-type: none"> A report identifying the off-grid opportunities for accelerating electrification in remote areas 	In progress: SAEP kicked off support with SALGA during Q3. SAEP selected three municipalities to assist in developing and planning off-grid solutions - George, Emalahleni, and Bushbuckridge. SAEP met with each of the municipalities to gather information and is in the process of identifying future requirements for each municipality.
Y5.04.06.20.RSA	Support with the development of mini-grids in South Africa	Sibulele Dlova	06/01/2022 – 09/30/2022	SAEP Initiative	N/A	<ul style="list-style-type: none"> A report outlining support provided to Eskom with advancing mini-grids in South Africa 	In progress: USAID introduced SAEP to Eskom to identify areas of collaboration SAEP to assist them enhance existing planning reports

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning / Buy-in	Linkages / Dependencies	Deliverable(s)	Activity Status
							where site visits have not been done, studies on renewable energy and storage have not been conducted, simulations of the mini-grid have not been conducted and social engagements for the affected communities have not been done. SAEP engaged with CSIR and DMRE to discuss opportunities for their collaboration with Eskom. The aim of the SAEP assistance is to help Eskom produce reports that are private sector investor ready and also enhanced for the Eskom governance structures to approve. SAEP is will finalize the SOW in Q4 and commence work

Please see Appendix J for information on all SAEP activities

2.5 OUTCOME 5: INCREASED HUMAN AND INSTITUTIONAL CAPACITY

2.5.1 STAKEHOLDER ENGAGEMENT

In Q3, Outcome 5 (OC5) continued to provide human and institutional capacity support across the program working with specific counterparts and supporting initiatives to share lessons across the region. Key activities under OC5 in Q3 of FY22 included:

- Supported SALGA to convene councilor inductions in the Western Cape and Mpumalanga provinces. Through the inductions councilors now have the capacity to exercise their oversight role on the municipal energy and electricity mandate
- Continued to make progress on JET activities, which includes signing of LOCs with Technical Vocational Education and Training (TVET) colleges and finalizing concept notes on training for women working in the energy sector and municipal JET readiness workshops. The TVETs will deliver technical training in renewable energy for 100 women
- Commenced customized support on energy planning for municipalities, focusing on two categories i) early stage (those requiring energy needs assessment and energy plans) and ii) advanced stage (those requiring support with the procurement of power)
- Hosted two webinars as part of the quarterly lessons learned webinar series on the topics of i) Utility Planning for Climate Resilience and ii) the RTM geospatial tool. Additionally, SAEP shared its experience on vRE integration work through a webinar for Power Africa, which contributed to the continued sharing of lessons and Program profiling

OC5 Top Achievements and Results

- Convened webinars on Utility Planning for Climate Resilience, the RTM geospatial tool and vRE, collectively attended by over 100 participants
- Advanced collaborations on the Just Energy Transition (JET) by signing LOCs with two TVET colleges in Mpumalanga to provide renewable energy training for women
- Supported SALGA to convene councilor inductions

2.5.2 COUNTRY AND REGIONAL HIGHLIGHTS

REGIONAL

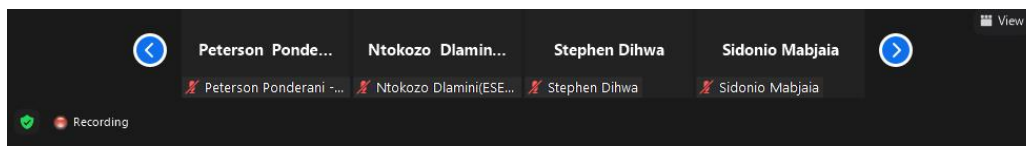
- Support to RERA**

In this quarter, RERA signed an MoU with the Public Utilities Regulatory Commission (PURC) who will support RERA in developing and updating training material. This came after SAEP facilitated engagements between RERA and various learning institutions in Q2, including PURC. Through the partnership, RERA will be able to update its existing training material and develop new material in line with industry standards to implement capacity building interventions in the region. SAEP will continue supporting RERA in the next quarter by developing a digital template with clear criteria to use for the selection of regulator candidates who will participate in the training programs.

▪ **Support to SADC**

On 6 May 2022, OC5 supported OC3 to convene the virtual SADC electricity markets and power trading training, in partnership with SADC. The workshop aimed to provide SADC senior officials with insight into the key principles and elements of electricity markets. A total of 65 participants attended the half-day event and returned positive feedback from the participants. The program was divided into two sessions:

- Session 1: Strategic focus – aimed at gaining an understanding of what an electricity market is, its advantages and disadvantages, the benefits and risks and institutional arrangements. The session included a plenary with SAPP Director, Steve Dihwa, SAEP Marketing Trading Expert, Martin Lin and the OC3 Lead as moderator
- Session 2: Technical focus – entailed a deep dive on electricity market formation, structures, operations and safeguards. SAEP Trading Expert, Mark Sims, presented this session



ELECTRICITY IS UNIQUE

Variable supply and demand	<ul style="list-style-type: none"> ✓ Supply – variable renewable energy, seasonal variation, i.e. hydro availability, thermal plant availability ✓ Demand – instantaneous increase in demand by customers, customer plant trips
Supply = demand at all times	<ul style="list-style-type: none"> ✓ To maintain system integrity and security the supply and demand have to be equal continuously
Supply = demand at all places	<ul style="list-style-type: none"> ✓ Electricity is only useful if it available where it is required – the grid has to be available and sufficiently meet demand where it exists
Storage is limited and expensive	<ul style="list-style-type: none"> ✓ Until recently, the only real grid-level storage was pumped storage ✓ Battery technology is improving and becoming rapidly more affordable, which can make electricity much more flexible
Demand is inelastic	<ul style="list-style-type: none"> ✓ The demand does not change significantly due to changes in the price

These unique qualities require:

- High degree of control and data flow
- Highly skilled and complex operations
- Careful management of system and energy availability

A screenshot of the SADC electricity markets and power trading training.

SOUTH AFRICA

▪ **SALGA and SAEP Collaboration**

SALGA remains an essential and active counterpart in the delivery of SAEP activities in South Africa to support the advancement of renewable energy and increased access to electricity in municipalities. To share information about these topics with municipal leadership, SAEP supported SALGA councilor inductions during Q3. Around 50 councilors, consisting of mayors, members of mayoral committees and portfolio committee members for technical services, attended the inductions in the Western Cape and Mpumalanga. SAEP presented the progress of implementing activities under the SALGA/SAEP collaboration and participated in overall discussions. Following the induction, councilors will be better equipped to provide oversight and make decisions on the municipal electricity and energy mandate. Given that municipal generation capacity is a new development and to give municipalities clarity in the development of projects, SAEP initiated the establishment of a municipal new generation capacity working group to be co-led by SALGA, its members and other central

government key stakeholders such as National Treasury. The working group will serve as an advisory body to municipalities that require advice and guidance as they navigate the procurement of power.



The Cape Agulhas councilor induction in the Western Cape. Photo: SAEP

▪ **Just Energy Transition (JET)**

SAEP made good progress on its JET activities in Q3. SAEP has three main JET activities that are being advanced and actively scoped with early stages of implementation beginning this quarter.

- **JET technical training to women in electrical and renewable energy fields**
USAID recommended that SAEP look for opportunities to provide technical training and skills development in Mpumalanga province to support JET with a particular focus on including women in this new economy as it develops. In response to this request, SAEP began executing partnerships and scoping the services with institutions in Mpumalanga province. As part of upskilling women in the energy sector, SAEP signed LOCs with the Ehlanzeni and Nkangala TVET colleges in Mpumalanga province. The colleges will train 100 women who are qualified artisans or electricians to specialize in renewable energy as selected by the respective colleges in consultation with SAEP. During the training, the TVET professors will also receive training, so that they can continue to provide training on the topic into the future. It is anticipated that the training will start in September 2022 after subcontracting is finalized with the service providers that will deliver the training to and at the TVETs. During this period, the team also work to build a relationship with the Energy and Water Sector Education Training Authority (EWSETA), the accreditation institution for energy and water training in South Africa. EWSETA is interested in potentially supporting these trainings by providing funding to the students for stipends. SAEP will continue to explore this relationship in the next quarter.
- **JET Women in renewable energy training program**
The main objective of this training is to position women in the energy sector to be key players in the design, management and implementation of energy transition efforts in the public and private sectors, research and non-profit sectors. SAEP has worked to identify a local NGO, African Women in Energy and Power (AWEaP), who will start with the delivery of the eight-week training in collaboration with Wits University. The training is targeted at mid-career level women across the different energy sectors that can play a role in the energy transition in South Africa. SAEP is excited to get this training kicked off in the next quarter.
- **JET municipality readiness and awareness workshops and toolkit**
To equip Mpumalanga municipalities on how to integrate JET considerations into their energy plans, SAEP administered a JET needs assessment in Q2. In Q3, SAEP finalized a concept note and SOW for delivery of the JET municipal toolkit. The team also began to plan for the municipal JET readiness workshops with Mpumalanga municipalities to begin in Q4. A toolkit to be used during and after the workshops will be developed. The trainings will be in person and led by SAEP with support from SALGA Mpumalanga and other provincial entities.

KNOWLEDGE SHARING

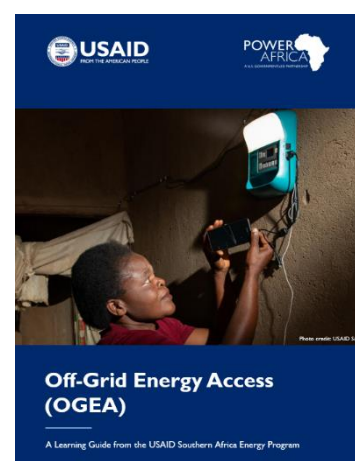
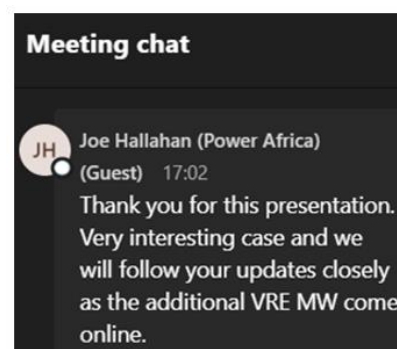
SAEP Lessons Learned Webinar Series

SAEP successfully hosted two webinars in Q2. The first webinar on vRE, took place on 28 April 2022 and was internal to Power Africa with 15 participants. The webinar shared results from SAEP's support to the Malawi power sector in assessing the impacts of vRE on the power grid and how utilities are preparing for future vRE integration. SAEP spoke about the ESCOM vRE integration studies SAEP conducted to support ESCOM transmission and distribution planners and planning and operations staff to integrate significant vRE without loss of system reliability. Findings from the studies will help other utilities in their planning for vRE integration.

The second webinar held in Q3 on 2 June 2022 discussed the SAEP-developed RTM geospatial tool. The tool uses geospatial data and techniques to map population, density, electrification and road infrastructure data, which provides the private sector solar companies with the ability to prioritize geographic markets with the highest potential for expansion or deeper market penetration, and thereby develop robust RTM strategies. Three companies (Zuwa Energy, Yellow and ENGIE Energy Access) shared their experiences with using the tool in Malawi and Mozambique. All three reported substantial growth in their businesses pointing to the usefulness and success of using the tool. Over 35 participants attended.

Learning Guides (LGs)

During this quarter, SAEP finalized two LGs for public release in the next quarter. The Off-Grid Energy Access (OGEA) LG summarizes lessons learned from SAEP's support to sub-Saharan Africa's off-grid sector. The Utility Performance Management (UPM) LG is directed at utility management and SADC representatives seeking to improve utility performance. The LGs bring together topic-specific information, innovative approaches, and resources developed through SAEP's activities in the Southern Africa energy sector.



2.5.3 ACTIVITIES AND RESULTS

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
Y5.05.01.01.REG	vRE Webinar	Nachi Majoe	10/01/2021-05/13/2022	SAEP proposal building on previous SADC battery event	OC4	<ul style="list-style-type: none"> Concept note and project event plan Dialogue presentation 	Completed
Y5.05.01.02.REG	Dissemination of Year 4 Learning Guides	Nachi Majoe	10/01/2021-08/31/2022	SAEP initiative	N/A	<ul style="list-style-type: none"> Upload of LGs onto regional institution websites Document releases 	In progress: USAID and Power Africa cleared 2 LGs: Off-Grid Energy Access and Utility Performance Management and 508 compliant documents were uploaded to the DEC. Currently awaiting approval to publicly releasing the LGs through social media and a document release note.
Y5.05.01.03.REG	Quarterly Lessons Learned Webinars	Nachi Majoe	10/01/2021-09/30/2022	SAEP initiative	All Outcomes	<ul style="list-style-type: none"> Presentation materials for 4 events to disseminate lessons learned from SAEP 	In progress: A webinar took place on 2 June; the topic was Route to Market Geospatial Tool. It was attended by 34 participants across the region and there were

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
							three panelists from companies that used the tools and they shared their experiences, successes and recommendations for improvements.
Y5.05.01.04.REG	SAEP impact video	Nachi Majoe	07/29/2022 – 09/30/2022	SAEP initiative	All Outcomes	<ul style="list-style-type: none"> One video summarizing SAEP results 	In progress: Awaiting USAID to approve the SOW
Y5.05.02.01.REG	Refresh and review of RERA training curriculum	Nachi Majoe	10/30/2021 - 08/31/2022	RERA Request	OCI	<ul style="list-style-type: none"> Review report and analysis for path forward 	In progress: In line with Task 1 of the SOW, SAEP facilitated the signing of an MOU between RERA and Public Utilities Regulatory Commission (PURC)
Y5.05.02.02.REG	SADC electricity markets and power trading training	Nachi Majoe, Willem Theron	02/01/2022 - 06/30/2022	SADC Request	OC 3	<ul style="list-style-type: none"> Training materials Capacity building report 	Completed
Y5.05.02.03.RSA*	Support municipalities with approaches and required activities for entering into long-term PPAs with IPPs	Nachi Majoe	10/01/2021 – 08/31/2022	SALGA Request	Y4.04.01.08.RS A	<ul style="list-style-type: none"> Training materials: Learning Guide 	In progress: SAEP supported municipalities through the SALGA Councilor inductions which were held as follows: Western Cape: 19 May 2022 Mpumalanga: 25 May 2022
Y5.05.02.04.RSA	SALGA & SAEP Support program to Mpumalanga Municipalities	Nachi Majoe, Sibulele Dlova	01/03/2022 – 09/30/2022	SALGA Request	N/A	<ul style="list-style-type: none"> Training material and training report 	Completed
Y5.05.04.02.RSA	JET Municipality Readiness and Awareness	Krystal Chindori-Chininga	08/01/2022 – 11/18/2022	SAEP initiative	OC5, OC4	<ul style="list-style-type: none"> Municipality JET integration toolkit/informational packet Municipality JET informational workshops 	In progress: SOW is being internally approved. SAEP have had partnership conversations with the Green Cluster Agency and SALGA, both of which have voiced support and willingness to support on these and future JET activities. Our first workshop is tentatively planned for 23 August 2022
Y5.05.04.03.RSA	JET Knowledge Exchange	Krystal Chindori-Chininga	06/01/2022 – 08/30/2022	SAEP initiative	OC5, OC4	<ul style="list-style-type: none"> Webinar series 	On hold
Y5.05.04.04.RSA	JET Capacity-building for Women in Energy	Krystal Chindori-Chininga	05/01/2022 – 09/30/2022	SAEP initiative	OC5, OC4	<ul style="list-style-type: none"> Training material and curriculum Training report inclusive of review of barriers to entry for women in renewable energy Webinar on women in energy 	In progress: The clearance process for the service provider (African Women in Energy and Power, AWEaP and Wits University) is in progress. The registration portal has been created, professors and training facilitators confirmed, marketing strategy has been developed and some press releases have been drafted
Y5.05.04.05.RSA	JET technical training to women in electrical / RE field	Nachi Majoe, Krystal Chindori-Chininga	07/01/2022 – 03/31/2023	SAEP initiative	OC5, OC4	<ul style="list-style-type: none"> Training material and training report 	In progress: LOCs were signed with 2 of the 3 TVET Colleges in Mpumalanga. The attached draft RFP is being finalized and will go

Activity No	Activity Title	SAEP Activity Manager(s)	Start-End Date	Reasoning /Buy-in	Linkages/ Dependencies	Deliverable(s)	Activity Status
							to market in the week of 11 July

Please see Appendix J for information on all SAEP activities

2.6 PROGRAM MANAGEMENT OFFICE

In this third quarter of year 5, the Program Management Office (PMO) team continued to support activity implementation and amplify impactful SAEP results across the region. The PMO team also continued to work with the various outcomes in reaching the life-of-project set targets with a large focus on beginning to think about program close-out as a number of activities will be wrapped up in the next quarter.

The PMO also developed and submitted numerous program deliverables to USAID/Southern Africa and Power Africa during FY22 Q3. These deliverables include:

- **Biweekly Status Reports:** SAEP submitted biweekly reports throughout the quarter (April to June 2022). These biweekly reports provide biweekly program updates and are sent to the COR for SAEP program management purposes
- **FY22 Q2 Report:** USAID/Southern Africa approved the FY22Q2 Report on 26 May 2022
- **FY22 Q3 Success Stories:** SAEP drafted two success stories (*Geospatial Tool Maps the Way to Improved Market Expansion for Off-Grid Companies in Southern Africa* and *Mitigating Wildlife and Energy Infrastructure Collisions in Southern Africa*) and submitted these for approval as part of this FY22Q3 report. Refer to Appendix F
- **Development Information Solution (DIS) Report:** SAEP submits a DIS report to USAID/Southern Africa on a quarterly basis. This report aims to build a portfolio management system for USAID to facilitate evidence-based decision-making. The FY22Q2 data was uploaded to the USAID DIS online platform on 2 May 2022 and approved by the COR on 14 May 2022
- **USAID Development Experience Clearing House (DEC):** The USAID DEC is the largest online resource for USAID funded technical and project materials for international development. The aim is to strengthen USAID's development projects, activities and programs by making these development experience documents available to USAID offices and the public worldwide. SAEP uploads all approved deliverables to the DEC on a quarterly basis. All deliverables produced by SAEP during Q2 were uploaded to the DEC on 24 May 2022
- **Power Africa Information System (PAIS) Reporting:** PAIS is an online reporting platform for Power Africa implementing partners to submit quarterly data. SAEP updated the PAIS online platform with current data covering FY22Q2 on 28 April 2022
- **Power Africa Tracking Tool (PATT) Update:** PATT is an online platform that tracks all Power Africa transactions. During Q3, SAEP updated PATT regularly. The current status is 16 active transactions, 45 on hold and 2 proposed. Since the Program's start date, 35 transactions have reached FC and are not counted as part of the total transactions tracked by SAEP, and 25 transactions are online and have reached COD
- **Environmental Review Forms (ERFs):** An ERF is a USAID environmental compliance form that is required for all implemented activities. By the end of Q3, 67 activities have been reviewed by the Environmental Specialist and allocated to USAID for review and approval

PMO Top Achievements and Results

- USAID/Southern Africa approved the SAEP's FY22 Q2 Report and two success stories on 26 May 2022
- Supported OC5 to successfully deliver three webinars
- Organized gender procurement and tender process training for around 50 women entrepreneurs in collaboration with the DMRE
- Publicly released the *Mainstreaming Wildlife and Incident Management into Utilities in Southern Africa* manual through Power Africa's social media platforms on 6 June 2022

2.6.1 COMMUNICATIONS AND OUTREACH

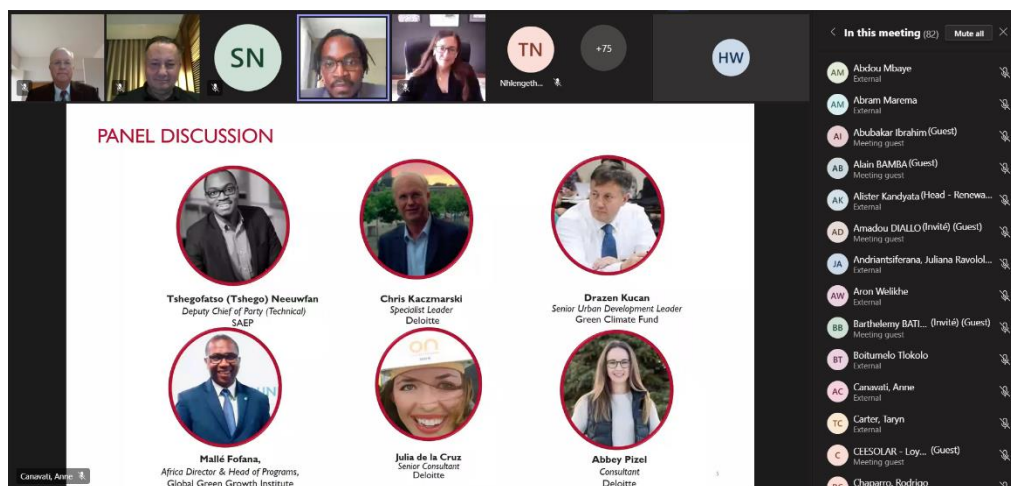
The SAEP communications team supports the Program’s messaging with external audiences through different platforms. In Q3 of Year 5, the communications team developed and disseminated innovative content and material to promote SAEP's work and enhance USAID and Power Africa's visibility across the region.

The following are key outcomes from Q3:

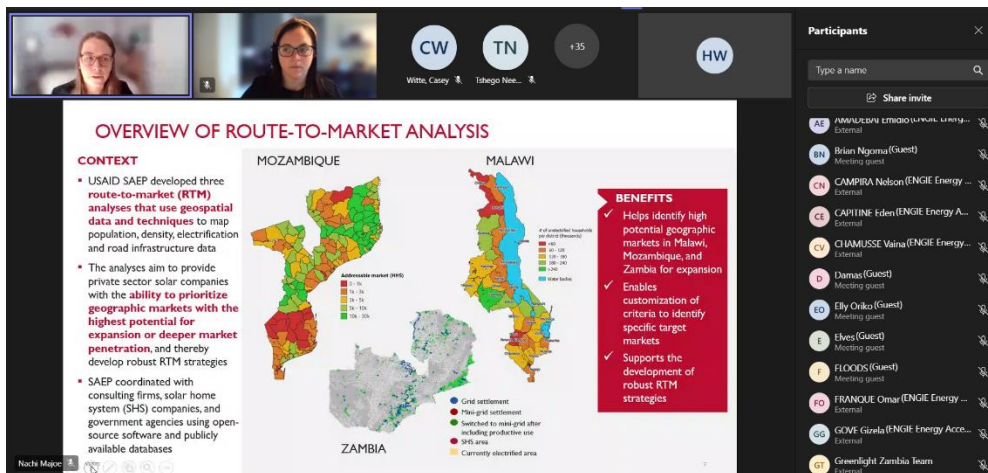
▪ Events

The communications team assisted with the organization and implementation of the following virtual events (webinars) and one in-person event:


- **Webinar: Financing Energy Sector Climate Resilience, 26 April 2022**
 - On 26 April 2022, SAEP hosted the second webinar under the climate resilience series titled **Financing Energy Sector Climate Resilience**, which aimed to provide power utilities, ministries, local governments and regulators with insights on how to access climate finance, adopt green budgeting methodologies and learn about innovative tools to identify and secure finance for advancing climate resilience in the energy sector. Participants were familiarized with the application process and requirements of financing institutions and had the opportunity to ask panelists questions. Over 100 participants attended.



- **Webinar: Integrating and Managing Variable Renewable Energy on the Power Grid, 28 April 2022**
 - On 28 April 2022, SAEP shared results from assessing the impact of vRE on the power grid as well as how utilities are preparing for the impact of future VRE integration. Around 18 participants were in attendance.
- **Podcast: World Migratory Bird Day recorded on 13 May 2022**
 - SAEP's Environmental Specialist served as a speaker in BirdLife International's podcast for World Migratory Bird Day on 14 May 2022. SAEP and the East Africa Energy Program spoke about the work Power Africa is doing to help utilities mitigate wildlife and energy interactions.
- **Webinar: Route-to-Market (RTM) Geospatial Tool, 2 June 2022**
 - On 2 June 2022, SAEP shared the impact and lessons learned from the RTM Geospatial Tool. The tool uses geospatial data to map population, density, electrification and road infrastructure data to help SHS companies identify high potential geographic markets for expansion. More than 35 participants attended the webinar.



- **Knowledge Products**
 - **Learning Guides (LGs).** SAEF is developing LGs that bring together topic-specific information, innovative approaches and resources developed through SAEF’s activities in the Southern Africa energy sector. On 13 June 2022, Power Africa approved the Off-grid Energy Access (OGEA) LG, and the ii) Utility Performance Management (UPM) LG. On 21 June 2022, both the OGEA and UPM LG were made 508 compliant. In addition, the communications team developed i) a document release note, ii) social media posts and iii) a social media graphic for each of these two LGs. The LGs will be released in Q4.
- **Other PR Materials**
 - **SAEF Writing and Style Guide.** During Q3, the communications team updated SAEF’s Writing and Style Guide and shared it with the team on 16 May 2022. The guide serves as a reference for technical writing on all SAEF deliverables and formal communication.
 - **Energy Net Africa Energy Forum (aef) Photo Competition.** SAEF entered EnergyNet’s [aef Photo of the Year competition](#) and one of SAEF’s photos was shortlisted under the category **Energy in action** - Using energy for work; energy in motion; energy in the community.

Category: Energy in Action [Using energy for work; energy in motion; energy in the community]	
Photo Label	Description
<p>Electricity access is crucial for Avelino Martins’ carpentry business in Luanda, Angola.</p> 	<p>Avelino Martins needs to power his angle grinder to build cabinets to sell and improve his livelihood. Productive energy uses do not include only large-scale appliances such as agricultural grain mills and water pumps. A small appliance can also unlock income.</p>

- **Briefing documents.** During Q3, the communications team drafted key messages for the U.S. Ambassador to Malawi, David Young, when speaking to the Government of Malawi about Malawi’s power sector.
- **Brochures.** Developed a concept note and drafted content for a brochure about the SHS Kick- Starter Program for Malawi, which is currently with the COP for review. The brochure will serve as a guideline for implementing partners or other organizations who would like to initiate/develop a similar initiative.

- **Social Media**

Developed social media posts on the following topics, which Power Africa posted on its social media platforms:

- Malawi's 20 MW Golomoti Solar PV and Battery Storage Project becoming operational, which went live on 11 May 2022
- SAEP's RTM geospatial tool webinar taking place on 2 June 2022. These posts went live on Power Africa's social media platforms on 25 May 2022
- The release of the *Mainstreaming Wildlife and Incident Management into Utilities in Southern Africa* manual, which went live on Power Africa's social media platforms on 6 June 2022

- **LinkedIn**

- Updated the [SAEP LinkedIn page](#) on a regular basis by creating content for new posts and reposting or amplifying news. The LinkedIn page reached 9,250 followers by 30 June 2022. Content is frequently liked, celebrated and shared by followers.

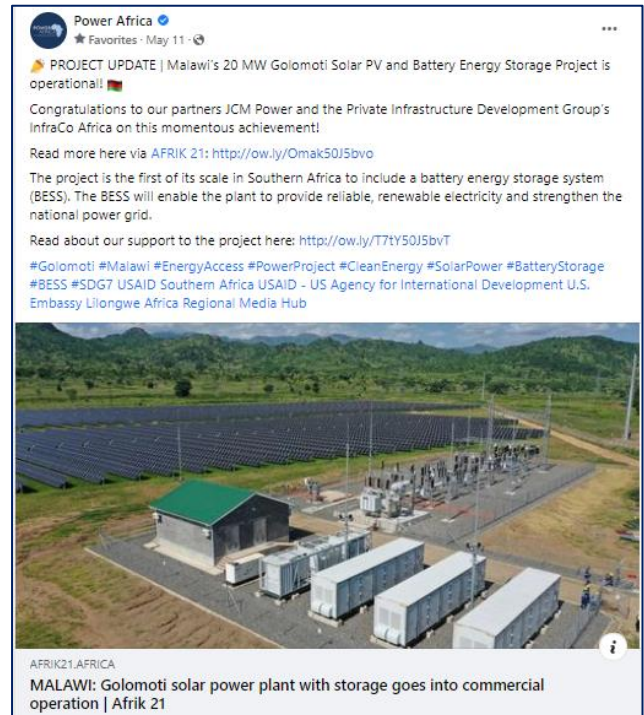
- **Alternative Media/Blog Posts**

Developed the following articles for Power Africa's online publishing platform, Medium:

- [Saving Energy Helps Eswatini's Water Utility Cut Costs and Emissions](#), which went live on 11 May 2022, and.
- [The Portuguese version of the article on SAEP's support to RNT in Angola](#), which went live on 19 April 2022.

- **Copy Editing**

- Continued to review and edit major deliverables in various publication forms for readability, spelling, grammar, accuracy, punctuation and consistency



2.6.2 PERFORMANCE MONITORING

The Program Performance Management function coordinates interconnected tasks from knowledge management services, monitoring and evaluation (M&E) and program management support tasks. These tasks include tracking and monitoring the performance of SAEP's activities, data management, archiving activity-related documents and deliverables, providing performance feedback that will enable evidence-based decision-making and reporting on various performance indicators. In this quarter, the performance monitoring team completed the following tasks:

- **WRIKE (Project Management Tool):** SAEP continued to use WRIKE as the project management tool in tracking and coordinating all SAEP activities. During this quarter, WRIKE induction training was provided to new team members and refresher training to team members upon request.
- **USAID Power Africa Tracking Tool (PATT) Customer Relationship Management (CRM) Tool:** Continued to upload all engagement summary meeting details on the PATT CRM.
- **Uploaded Deliverables on USAID Platforms:** SAEP reported 32 deliverables and uploaded 3 reports (labelled Tier 5: Public) and 2 success stories to the DEC.
- **Contractor Performance Assessment Reporting (CPAR):** SAEP had a CPAR assessment for the period March 2021 to April 2022. The PMO team provided SAEP performance data and deviation narratives where it was required and also submitted the spreadsheet with all activities that were completed ahead of the due date for the CPAR assessment period.
- **Data Quality Assessments (DQA):** In June 2022, SAEP conducted on-site DQAs for on- and off-grid companies in Zambia, Malawi and Mozambique. The PMO team was in Zambia from 6 to 10 June 2022, in Malawi from 13 to 17 June 2022 and in Mozambique from 20 to 24 June 2022. The verifications also

included a field visit component where the views of the customer on the product were sought. In April 2022, SAEP initiated the DQA on “Number of Institutions with Improved Capacity” indicator. This was done virtually with each of the selected counterparts receiving a list of questions through SurveyMonkey. Conducting DQAs on the data reported is a USAID requirement to validate the data’s accuracy.



The PMO team conducting DQAs with EDM in Mozambique from 20 to 21 June 2022. Photo: SAEP

- **Connections Data:** The connections DQA was conducted on-site in Malawi, Mozambique and Zambia, followed by debriefing sessions with the USAID missions.
 - **Zambia (6 – 10 June 2022)** – The DQAs in Lusaka were done with seven companies, namely; ENGIE International, RDG, WidEnergy, Kazang Solar, SolarAid, Greenlight Planet and VITALITE
 - **Malawi (13 – 17 June 2022)** – In Lilongwe, the DQAs included verifications with five companies, namely; SolarWorks!, Green Impact Technologies, VITALITE, Zuwa Energy, SunnyMoney and Yellow Solar
 - **Mozambique (20 - 24 June 2022)** - In Maputo, SAEP conducted DQAs with: EDM, SolarWorks! and ENGIE
- **Institutions With Improved Capacity Data:** The purpose of this DQA exercise was to understand, from counterpart’s point of view, the impact of SAEP’s support in improving the capacity of each institution. SAEP selected institutions for whom SAEP had conducted capacity building. These DQAs were done virtually through SurveyMonkey with a list of questions being sent out to SAEP’s counterparts in April 2022.
- **Survey Development:** Developed surveys and evaluation forms related to the following activities:
 - Gender mainstreaming training for SHS companies (Malawi and Zambia)
 - SADC electricity markets and power trading training
 - SALGA call for participation – off-grid electrification
 - Revenue management follow-on training with municipalities
 - Operating in an interconnected system for ESCOM phase I
 - Production optimization model
- **Data Verification: Malawi SHS Kick-Start Program for Malawi (Milestone 12):** Verified and approved the Milestone 12 SHS sales data submitted by the grantees. The data was for the period April to June 2022. The verification process entails confirming the sales numbers reported by the grantees against each company’s CRM extract followed by a technical review.
- **Implementing Programs Learning and Sharing Meeting:** On 17 May 2022, the M&E teams from WAEP, SAEP and NPSP had their quarterly meeting to share experiences and best practices. This session discussed, i) using the Development Data Library (DDL) and ii) M&E and learning updates from the Power Africa M&E team and, for this quarter, the focus was specifically on the request from Power Africa for implementing programs to make inputs into the performance indicator reference sheet (PIRS) for the “Aggregate Losses” indicator.
- **USAID Reporting Platforms:** Adhered to the USAID and Power Africa monthly and quarterly reporting requirements by collating and uploading all monthly/quarterly data and deliverables on the standard reporting platforms. The reporting platforms are listed below:
 - DIS – Development Information Solution (quarterly reporting)
 - PATT – Power Africa Transaction Tracker (weekly, monthly and quarterly reporting)
 - PAIS – Power Africa Information System (quarterly Reporting)
 - TEAMS – Training & Exchanges Automated Management System (quarterly reporting)

2.6.3 GENDER INTEGRATION

In Q3 of Year 5, the SAEP gender team worked on the following activities:

- **SHS Companies Gender Sensitization Trainings in Malawi and Zambia:** From 21 to 29 June 2022, SAEP conducted eleven separate in-person gender sensitization trainings, five in Lilongwe, Malawi and six in Lusaka, Zambia. The purpose of these trainings was to provide SHS companies with an overview of how gender relates to the SHS value chain; how to promote gender practices within a company's internal operations; how to reach a more diverse customer base; and the overall benefits that gender mainstreaming can provide SHS companies. In Malawi, SAEP held these trainings with SolarWorks!, SunnyMoney, Yellow, Zuwa Energy and Green Impact Technologies. Each session had nine attendees on average (43 participants total), with over 50 percent of the participants being women. SAEP held these trainings in Zambia with RDG Collective, VITALITE, Kazang, WidEnergy, ENGIE, and Solar Industry Association of Zambia (SIAZ) members. Each of these sessions had eight attendees on average (47 participants in total), with nearly 60 percent of the participants being women. Overall, the participants were very engaged and the trainings generated meaningful conversations about current company practices and how to integrate gender in these spaces to promote more diversity and equity. The training content provided concrete actions each company could take to prioritize gender diversity and equality at their company. Following the training, SAEP offered to provide direct support to companies on specific gender initiatives they would like to initiate in Q4. Many companies have already verbally indicated an interest in this support.



Gender sensitization training with SHS companies in Lilongwe, Malawi. Photo: SAEP

- **RDG Collective Gender Action Plan (GAP):** Following the development of a GAP in Year 4, SAEP has continued to assist RDG Collective Zambia with deliverables focused on gender. RDG is a multinational, for-profit company that designs, manufactures, distributes and finances SHS. SAEP visited RDG's offices in Zambia on 30 June 2022 and delivered a three-hour training on gender mainstreaming RDG's recruitment, hiring and retention practices. SAEP's Gender Specialist provided hands-on training to three RDG gender representatives. The team reviewed current practices and brainstormed new ways to bring gender to the forefront of these spaces and promote gender diversity among their staff. The training focused on how these practices apply to both head office staff and field agents to promote equity throughout the company. Following this training, SAEP will work with RDG in Q4 to deliver a training-of-the-trainers training on gender sensitization.

- **South Africa DMRE Support for Women Entrepreneurs in Procurement Tender Processes:** SAEP hosted a gender mainstreaming procurement tender process training in collaboration with the South African DMRE for female small business owners from 27 to 30 June 2022 in Pretoria, South Africa. The purpose of the training was to improve women entrepreneurs working in the energy sector's knowledge in procurement tender processes to enable them to bid and win tenders for their companies. More than 50 women attended the training.

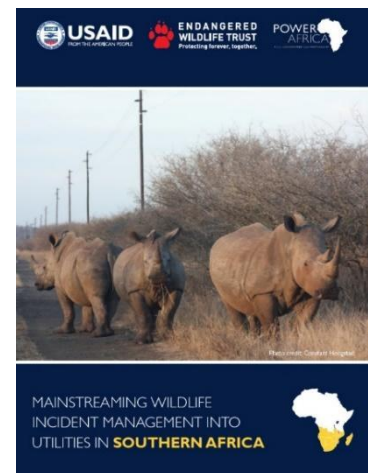


South Africa DMRE Support for Women Entrepreneurs in Procurement Tender Processes Training from 27 to 30 June 2022

2.6.4 ENVIRONMENTAL MITIGATION AND MONITORING

During Q3 of Year 5, the SAEP Environmental Specialist completed the following:

- **Endangered Wildlife Trust (EWT) Energy and Wildlife Engagement Activity**
 - In Q1, EWT developed a *Mainstreaming Wildlife Incident Management into Utilities in Southern Africa* manual. This manual aims to assist all utilities in Southern Africa in making better decisions to avoid, manage and mitigate wildlife and energy interactions, which will save utilities money in the long run. On 5 June 2022, the manual was publicly shared through social media posts on Power Africa's social media platforms. A virtual presentation of the manual will take place in Q4 in the form of a webinar
 - EWT continued work with EDM in Mozambique to finalize the rollout of a four-part program aimed at equipping utilities to prevent or minimize instances where wildlife collides with and damages electricity infrastructure. This assistance will reduce revenue losses due to outages and costs resulting from replacing damaged equipment. EWT developed a *A Complete Guide to the Management of Wildlife Interactions on Electrical Infrastructure in Mozambique* handbook. In Q3, the electronic version of the handbook was presented to EDM and EWT supported EDM in integrating it into their business
 - The Environmental Specialist served as a speaker in a podcast hosted by BirdLife International in celebration of World Migratory Bird Day. The purpose of the podcast was to create awareness on how to strike a balance between conservation and development. The Environmental Specialist shared SAEP's insights and experience working with EWT on the energy and wildlife activities



- **Support to RNT in Angola under OC3**
 - In Q3, the Environmental Specialist assisted OC3 to:
 - Review the project specifications and draft environmental plans developed by the Owner’s Engineer (OE) and advised RNT on OE environmental and social (E&S) requirements. This task is critical to the success of the project as all work completed by the OE needs to meet the AfDB operational standards. The Environmental Specialist’s guidance to RNT helps mitigate non-compliance risk and promotes implementation following AfDB compliance requirements
 - Updated the RNT Project Implementation Unit (PIU) master work plan and contributed to several internal trackers to advance and track E&S aspects of the PIU work
 - Assisted RNT with the development of material to present to the AfDB, such as the Environmental and Social Management Plan (ESMS), the AfDB E&S quarterly report and the AfDB mission presentation
 - Facilitate ad-hoc progress meetings with the RNT PIU E&S team to keep them on track regarding environmental matters crucial to the project, such as project risks and progress on the development of the ESMS, which was completed in Q3
 - Provided input on the SAEP transition plan as we close out support to RNT
 - Commenced the final review of the Gender Action Plan (GAP) and GAP tools. All documents will be issued to RNT in Q4. RNT will be able to apply the GAP on the 400 kV South-Central Transmission line project from inception to operation, with the aim to uplift women and reduce inequality
- **Other Activities**
 - Continued environmental reviews on all SAEP SOWs and reminded activity managers to perform the appropriate environmental due diligence for each activity proposed in the SAEP Work Plan
 - Completed all SAEP activity ERFs
 - Developed a SHS waste management report for USAID. The purpose of the report was to identify the constraints to managing SHS waste in Malawi and propose mitigations, including ways for USAID to assist the SHS companies with waste management
 - Reviewed the Musina Dam pre-feasibility study and developed a note for USAID on possible SAEP support on this study
 - Provided support to East Africa Power (EAP) by reviewing a ToR for consultancy services for environmental studies for the Mbongozi Hydropower Project in Malawi as part of SAEP’s broader transaction advisory support to EAP

2.7 FINANCE AND OPERATIONS

During this quarter, the SAEP Finance and Operations (F&O) team continued to focus on all aspects of project finance, statutory reporting, project administration, recruitment, performance evaluation, subcontracting, Independent Consulting Agreement (ICA) management and grants management in a hybrid delivery environment. Travel continued to and from SAEP’s focus countries with guidance from the Deloitte Home Office (HO) Risk Committee, based on the necessity for in-person meetings.

F&O Top Achievements and Results

- SAEP received VAT refunds from SARS for the period January to April 2022
- SAEP obtained a letter of good standing from the South African Department of Labour on 4 June 2022

In early April 2022, the President of South Africa, Cyril Ramaphosa, announced lifting the country’s ongoing COVID-19 national state of disaster, while transitional measures remained in place, such as the wearing of facemasks indoors, travel regulations and limited gatherings. These transitional measures were intended to enable the country to deal with the fourth and fifth Coronavirus waves as a stopgap measure. As with the previous waves, the fifth wave did not pose the same challenges to the South African health system as the previous ones. On 22 June 2022, a notification was published in the South African Government Gazette by the Health Minister, Joe Phaahla, who repealed the country’s COVID-19 regulations and abolished COVID-19 restrictions such as the use of face masks, social gatherings and travel restrictions.

The SAEP Pretoria office remained open during Q3 for meetings where applicable and to support individuals affected by load shedding and who needed reliable internet access. The SAEP team continues to work in a hybrid work environment where the team can work remotely or at the office depending on the need for the work.

2.7.1 FINANCE AND STATUTORY REPORTING

In Q3 of Year 5, SAEP:

- Completed all Pay-as-You-Earn (PAYE) and Value-Added Tax (VAT) returns for the quarter and paid all PAYE to the South African Revenue Service (SARS). SARS has refunded VAT returns for January to April 2022 to SAEP, while May and June 2022 returns are still undergoing the 2022 audit. On 4 June 2022, SAEP obtained a letter of good standing from the South African Department of Labour.

2.7.2 SUBCONTRACTING

In Q3 of Year 5, SAEP:

- Processed contract modifications for the following independent consultants: Raj Addepalli, Jose Cavaretti Sikhumbuzo Gqoli, Mpeli Rampokanyo and Henri Randriamanana. These modifications extended the consultants' periods of performance and added funding to their contracts to sustain their ICAs through Year 5 of the project
- Finalized a new ICA for Bandile Jack to serve as the On-Grid Electrification Specialist in support of OC2 and processed a subsequent contract modification to clarify payment currency in South African Rand
- Finalized a new ICA for Sisanda Mqwebedu to serve as a Revenue Management Specialist in support of OC2
- Finalized a new ICA for Inka Schomer to serve as a Gender Action Plan Specialist
- Processed a modification to Consultec's subcontract, amending the due dates of a portion of the deliverables in the statement of work and payment schedule to account for delays in working with the counterpart, RNT
- Processed Task Order II for subcontractor CrossBoundary to enable the subcontractor to continue working with SAEP on Mpatamanga and fund the delivery of new subcontract deliverables. The Indefinite Delivery, Indefinite Quantity (IDIQ) contract for CrossBoundary was also modified in accordance with the Task Order II, to extend the period of performance of the IDIQ as well as add deliverables and align funding to the subcontract and increase the subcontract ceiling accordingly
- Processed a modification to Deloitte South Africa's subcontract, providing a subcontract ceiling increase and adding a labor category to the Zambia rate card

2.7.3 PROJECT STAFFING

SAEP continued to identify staff to support the completion of SAEP activities. Please refer to Appendix G for the SAEP Organizational Chart and a table of resources, detailing consultants who contributed to SAEP activities during this quarter. During Q3, the Project Management Office Lead, Dr. Albert Ikhile, left the program. Given it is the end of the program, the role will not be filled and instead the PMO team members will report directly to the COP.

In Q3, the following short-term technical assistance (STTA) positions were filled:

- On-Grid Electrification Specialist
- Revenue Management Specialist

SAEP recruited for the following positions expected to be filled in Q4:

- Senior Transmission Financing Specialist. Amongst other activities, the specialist will provide technical assistance with transmission financing, which will include reviewing all technical documentation developed by the SAPP RTIFF team (SAPP, Members and Consultant) and the RTIFF financial model
- Grid Operation Specialist. The specialist will work with ESCOM system operation and system planning staff to implement the recommendations of a previous assessment SAEP conducted
- Power Geographical Load Forecast (GLF) Specialist. The specialist will support the DMRE-appointed service providers responsible for completing Provincial Electrification Master Plans with specialist analysis and support on load forecasting



Farewell for the PMO Lead, Albert Ikhile, in Pretoria, South Africa

2.7.4 PROCUREMENT

Key procurement initiatives that occurred during Q3 include:

- Procuring a service provider to make the following SAEP documents **508 compliant**: i) The Utility Performance Management LG, ii) Off-Grid Energy Access LG, and the iii) Mainstreaming Wildlife and Incident Management into Utilities in Southern Africa manual

2.7.5 GRANTS

▪ Madagascar Mini-Grid Development Grant Program

As part of Power Africa's Madagascar Mini-Grid Development Grant, SAEP awarded USD \$1.3 million to three companies in November 2020 in support of Madagascar's goal to reach a 70% access rate to electricity by 2030. SAEP awarded grants to Autarsys Madagascar, *Hydro Ingenierie Études Et Realisations* (HIER) and Henri Fraise Fils & Cie (HFF). The grants were intended to assist mini-grid developers who have obtained concessions from the Agency for Rural Electrification Development (ADER), but struggle to secure financing to reach FC. Developers with existing mini-grids are expected to use the grant funding for infrastructure required to connect additional households to the grid. Due to delays experienced by the companies, SAEP extended the period of performance of the Madagascar Mini-Grid Grant Program from 30 January 2022 to 30 September 2022 by issuing Modification 01. Unfortunately, many of the companies have faced challenges related to import/customs duties because the law related to exemption for solar products changed after SAEP issued the grants, and the increased costs were unexpected for the companies. For a few of the grantees, these changes occurred after their equipment was ordered and shipped. Others have had other delays, which are described below:

- **Henri Fraise Fils & Cie (HFF)**
 - SAEP has plans to cancel the grant to HFF due to it being behind schedule and non-responsive. SAEP has developed a termination request for this grantee's grant, which will be issued to USAID in Q4
 - In Manaratsandry village, HFF plans to build a solar mini-grid. Earlier this year, HFF began the environmental survey and submitted it to SAEP on 15 March 2022. This report entails gathering all project-related information and timelines to indicate how long it will take to complete the respective projects. However, there have been continuous delays in the completion of these projects because the land initially allocated for the development of the mini-grid was rescinded by the mayor of the village. There has been minimal communication from HFF to keep the SAEP grants team abreast of this issue and its mitigation measures. This initial delay, compounded by problems with customs clearance and global supply chain issues impeding the acquisition of necessary materials, makes it highly unlikely that HFF will be able to complete the activities within the award period. In addition, HFF has not submitted the required financial and quarterly reports on time. Various escalation approaches were taken to address these delays. The SAEP grants team conferred with JIRAMA regarding HFF's performance on other projects. During these discussions, JIRAMA confirmed that HFF had demonstrated similar poor performance in meeting the agreed-upon schedule on other projects that HFF has partnered on with JIRAMA
- **Autarsys**

In Befandriana and Fortadrevo, Autarsys remains committed to continuing the construction of the planned mini-grids; however, has also experienced delays:

 - Befandriana: This was scheduled to be completed by May 2022 but is delayed and updates will be given in Q4
 - Fortadrevo: Autarsys completed the construction of the Energy Storage Container (ESS) for Fortadrevo in Germany. The ESS system arrived in the Madagascar Port from Germany on 22 March 2022. ADER has begun the clearance and verification process of the equipment in consultation with the Ministry of Energy, Ministry of Finance and Customs, but this process is taking longer than expected. This customs clearance process is expected to be finalized by 30 July 2022 as per the projections provided by Autarsys
- **HIER**

HIER received the equipment in June 2022 for extending Tsarazaza's mini-grid distribution networks, but the equipment is currently in customs custody.

 - A change in legislation excluded the equipment from being exempt from customs duty, resulting in the levying of duties. HIER obtained the approval for the waiver of duty

- Customs and HIER are finalizing the process through ADER, who has written to the Ministry of Finance to expedite the customs process. A letter has also been sent to the Ministry of Transport to negotiate the reduction of storage costs
- SAEP has sought the assistance of the USAID Madagascar Mission to facilitate the finalization of these processes

- **Solar Home System (SHS) Kick-Start Program for Malawi**

SAEP awarded a results-based grant of USD \$2 million to four SHS companies – SolarWorks, Yellow, VITALITE and Zuwa Energy – in Malawi in July 2019 to improve access to electricity. In total, the companies have connected 103,910 households by the end of June 2022. SAEP will release USD \$94,285.00 for the most recent Milestone (12), bringing the total grant funding outlays to USD \$1,443,700.00.

The three remaining grantees (VITALITE, Zuwa Energy and SolarWorks!) have not yet reached their milestones continue to struggle to source products for the Malawi market, given the broader supply chain disruptions and delays related to the COVID-19 pandemic. These challenges have contributed to lower than projected sales volumes. As a result, SAEP extended the grant agreements to September 2022 (Modification 6). No other terms of the grant agreements were modified.

2.8 TRANSACTION AND ADVISORY SERVICES

2.8.1 STAKEHOLDER ENGAGEMENT

SAEP continued to engage IPP developers, utilities, regulators and investors in the energy sector on a variety of issues to remove barriers impeding their success. SAEP’s transaction advisory services included helping developers raise capital, conducting due diligence on behalf of investors, helping power project developers navigate often fragmented regulatory regimes, preparing and negotiating PPAs and providing capacity building to South African municipalities; all work that is catalytic in helping power transactions reach fruition and translating to new generation capacity and connections. The full pipeline is outlined in further detail in Appendix A. Highlights from Q3 are:

- Continued to work alongside developers and procurement entities, providing leading practices and tools to help remove barriers and enable projects to more rapidly reach FC
- Continued assisting the CoCT with various initiatives, including the financial modeling required for the prefeasibility studies of the 50 MWac Paardevlei solar PV project and discussions around a potential loadshedding mitigation program
- Advised the Government of Malawi in its negotiation of the Relationship Agreement (RA) and facilitated multiple virtual and an in-person negotiation sessions between the government and the bidder. Following the signing of the RA, the government can officially appoint the bidder as project sponsor for the 350 MW Mpatamanga Hydropower Project

Transactions Top Achievements and Results

- Supported the Government of Malawi to advance relationship agreement negotiations with the bidder for project sponsor of the 350 MW Mpatamanga hydropower project
- The 20 MW Golomoti solar PV project plus battery energy storage successfully reached commercial operations
Provided transaction advisory to several CoCT projects relating to renewable energy purchase, generation and energy efficiency

2.8.2 TRANSACTION PORTFOLIO

The table below lists the current portfolio of transactions that SAEP is supporting. The table is organized by the project status, as follows:

- Completed TTS: Projects have already received SAEP advisory support and are reflected in the M&E metrics of the program
- Active Targeted Transaction Support (TTS): Projects are receiving comprehensive support from SAEP under a discrete SOW
- Transaction Advisory (TA): Projects are receiving light-touch advisory services
- Inactive: Projects were supported by SAEP, but required no support in this reporting period

- Tracking/Scoping: Projects to which SAEP did not provide advisory support during this period, but are included in the transaction pipeline as SAEP is in frequent contact with these projects and is exploring areas where support could be provided

Status	Project Name	Country	Project Type
Completed TTS	EGENCO asset expansion <ul style="list-style-type: none"> Tedzani III station Mapanga station Lilongwe B station 	Malawi	5 MW – Hydro 28 MW – Diesel
	EOSOL (now ANKA) Madagascar Segment I	Madagascar	0.62 MW – Mini-grid
	Golomoti Solar PV	Malawi	18 MW – Solar PV
	Nkhotakota Solar	Malawi	26 MW – Solar PV
	Lilongwe Solar	Malawi	25 MW – Solar PV
	Naamacha Wind Farm	Mozambique	60 MW – Wind
	Redstone Solar Power project	South Africa	100 MW – Solar PV
	City of Cape Town Rooftop PV SSEG Program	South Africa	50 MW – Solar PV
	West Rand Urban Solar Farm	South Africa	10 MW – Solar PV
	GBA Swaziland Riverbank	Eswatini	10 MW – Solar PV
	EEC Lavumisa	Eswatini	10 MW – Solar PV
	Kanyama	Zambia	100 MW – Hybrid (96 MW) Wind and 4 MW Solar)
	Malawi–Mozambique Interconnector	Malawi	1,000 MW – Transmission
	Temane Transmission Project	Mozambique	900 MW – Transmission 420 MW – Gas
GET FIT Hydro - Mini Hydro	Zambia	100 MW – Hydro	
BPC Solar PV	Botswana	100 MW (2x50) – Solar PV	
Active TTS	ANKA (formerly EOSOL) Madagascar: Segment 2 (1.5MW), Segment 3 (0.85MW)	Madagascar	2.35 MW – Mini-grid
	Mpatamanga Hydro Electric Project	Malawi	350 MW – Hydro
	Nchalo (Illovo) Solar IPP Project	Malawi	10 MW – Solar PV
	Alten Energy Solar and BESS	Mozambique	40 MW – Solar & 40 MW BESS
	Oshakati Premier Electric	Namibia	5 MW
	CENORED	Namibia	10 MW Solar PV + 10 MWh storage
Transaction Advisory (TA)	Lubango Solar PV	Angola	35 MW – Solar PV
	Themis Sahofika	Madagascar	192 MW – Hydro
	RSSC Grid-Tied Solar PV Plants	Eswatini	10 MW – Solar
	Mbongozi Power	Malawi	41 MW – Hydro
	City of Cape Town (CoCT): Support: IRP and IPP procurement	South Africa	>100 [TBC] MW Renewable
	CoCT support by SAEP: Loadshedding mitigation programme	South Africa	200 MW Gas

Status	Project Name	Country	Project Type
	CoCT support by SAEP: 50 MWac Paardevelei Solar PV project	South Africa	50 MWac Solar PV
	CoCT: Support on the Pilot Wheeling Project	South Africa	100 MW [Various]
	SALGA: Local governments and municipalities	South Africa	[TBC] MW – Renewable Energy
	City Power, Johannesburg (SALGA Follow-on Support)	South Africa	[TBC] MW – Renewable Energy
	Two MW Solar PV with BESS Chipili and Mansa Projects: CGM Power Group	Zambia	2x50MW Solar and 2x20MW BESS – Hydro
	Ngonye Falls Hydro	Zambia	180 MW – Hydro
	Mulembo-Lelya Hydro power project	Zambia	118 MW – Hydro
	Unika Wind Mphepo Power	Zambia	100 MW – Wind
Inactive	Mandimba Solar	Mozambique	50 MW – Solar
	Lichinga Solar	Mozambique	23 MW – Solar
	Rovuma Gas	Mozambique	250 MW – Natural Gas
	Gigawatt Park Phase 2	Mozambique	230 MW – Natural Gas
	Temane (Sumitomo)	Mozambique	100 MW – Natural Gas
	Shell Afungi GTL	Mozambique	50 MW – Natural Gas
	Yara Fertilizer	Mozambique	30 MW – Natural Gas
	Okahanja	Namibia	10 MW – Solar
	SA LNG	South Africa	3000 MW – Natural Gas
	EDF-Innowind: Scarlet Ibis	South Africa	15 MW – Solar
	Lazybend Renewables	South Africa	25 MW – Biomass
	Mondi - Biomass / Cogen Richards Bay plant	South Africa	48 MW – Biomass
	Plettenberg Bay Biomass	South Africa	25 MW – Biomass Generation
	ZTK Interconnector	Zambia	500 MW – Transmission
	Gigawatt Zambia Hybrid Project	Zambia	71 MW – Hybrid
Tracking / Scoping	Akuo Energy	Madagascar	2.9 MW – Solar
	Lesedi CBM	Botswana	50 MW – Natural Gas
	Kalahari CBM	Botswana	97 MW – Natural Gas
	Tati Solar PV	Botswana	50 MW – Solar PV
	Neo I – OnePower	Lesotho	20 MW – Solar PV
	Mohale's Hoek	Lesotho	30 MW – Solar
	Mazenod	Lesotho	40 MW – Solar
	Luweya River Phase I	Malawi	15 MW – Hydro
	Kanengo Solar	Malawi	20 MW – Solar
	Salima Solar	Malawi	60 MW – Solar
	Dondo Solar	Mozambique	50 MW – Solar
	Arcelor Mittal South Africa (AMSA) Solar PV Energy Procurement	South Africa	160 MW - Solar
	Sasol Renewable Energy Procurement	South Africa	600 MW – Multiple technology
	SunElex: Matjhabeng Solar	South Africa	66 MW – Solar

Status	Project Name	Country	Project Type
	Wonderkop Smelter	South Africa	40 MW – Energy Efficiency
	GET FiT Zambia Round I	Zambia	120 MW – Solar
	Kumi Kumi Zuba	Zambia	100 MW – Solar
	Kalahari GeoEnergy Geothermal Project	Zambia	10 MW – Geothermal
	Kabompo Hydro	Zambia	40 MW – Hydro
	Ngonye Solar	Zambia	88 MW – Solar
	Baynes Hydro Power Project	Namibia	600 MW – Hydro
	Asani Biogas	Mozambique	120 MW – Biogas
	Buroma Hydro	Angola	200 MW – Hydro
	Lupata Hydro	Angola	600 MW – Hydro
	Kafue Gorge Regional Training Centre	Zambia	10 MW Hydro & 7.5 MW Wind
	AMEA Power Wind Zambia	Zambia	100 MW – Wind

Full descriptions and the status of each project are given in Appendix A

2.8.3 COUNTRY AND REGIONAL HIGHLIGHTS

MALAWI

- **20 MW Golomoti Solar PV (Phase 1) PLUS 5MW/10MWh Lithium-ion BESS (Phase 2)**

On 10 May 2022, co-developers InfraCo Africa and JCM Power publicly announced the Golomoti solar power plant in Malawi successfully entered commercial operations on 1 March 2022. The project includes a 28.5 MWp solar array coupled with a 5 MW/10 MWh lithium-ion battery and will provide 20 MW of much needed power to Malawi's grid. The project is the first of its scale in Southern Africa to include a BESS. The BESS will enable the plant to increase its availability and reduce the impact of its variability on the national power grid. Golomoti is JCM's second renewable energy project in Malawi after the 60 MW Salima solar project entered commercial operation in October 2021. On 6 June 2022, President Lazarus Chakwera inaugurated the Golomoti project.

The United States Trade and Development Agency (USTDA) grant awarded in 2018 was targeted at covering costs through FC (including feasibility and an ESIA). The overall feasibility study for Golomoti was done by JCM in October 2018. In 2018, SAEP provided transaction advisory services to integrate BESS functionality into the project's financial model. SAEP developed a bankable financial model and assisted with optimizing Golomoti's storage capacities and the revenue structure of storage versus direct sales. The integration included new BESS sizing, usage, and cost features to determine the best financial and technical solution.



The 20 MW Golomoti Solar PV and Battery Energy Storage Project battery containers. Photo: JCM Power

- **41 MW Mbongozi Hydropower Plant**

Hydro Electric (HE) Power originally intended to develop the 41 MW Mbongozi hydroelectric project. The Government of Malawi, through the Ministry of Energy and HE Power, signed an IA in October 2013 and ESCOM and HE Power signed a PPA in June 2018. In December 2018, EGENCO provided HE Power with a non-binding EOI for EGENCO’s potential participation in developing and invest in the project. In July 2019, SAEP assisted EGENCO with transaction advisory support and a due diligence report. Following a term sheet signed between East African Power (EAP) and HE Power in 2021, EAP started the process for a 100% takeover as the project sponsor and developer. EAP is a utility-scale renewable energy developer specializing in hydro and solar power in emerging markets.

During Q3, SAEP reviewed project documents and the PPA entered into between the ESCOM and EAP and gave inputs to EAP concerning general project and specific PPA items. In June 2022, SAEP developed a report with inputs and suggested updates to the financial model. Mbongozi is currently reviewing the PPA and financial model comments. SAEP will continue with further reviews of the PPA, IA and financial model as needed.

- **350 MW Mpatamanga Hydropower Project**

During this reporting period, SAEP continued its support to the Government of Malawi (GoM) as transaction advisor on the 350 MW Mpatamanga (Peaking) Hydropower Project. GoM has been working with a consortium of EDF and Scatec (the bidders) to agree on a Relationship Agreement (RA) that would appoint the bidders as project sponsor, following the reception of a bid for project sponsor by the bidding consortium on 17 September 2021. Formally appointing project sponsors is an important step in the process of preparing a funding application’s disclosure package to the World Bank BoD that will need to approve the large International Development Association (IDA) loan that will be used to provide low-cost funding to the project.

The RA serves as the guiding agreement between the co-developers (GoM, the bidders, and IFC) and dictates the allocation of risks, development costs, development responsibilities and the financial return that would be afforded to the sponsor. SAEP worked with GoM’s legal counsel, Herbert Smith Freehills (HSF), to advise the government on the appropriate risks that it could accept and recent market precedents. SAEP served on the financial working group that worked to prepare a proposed joint development budget. As GoM will be utilizing World Bank funding for its contributions to the project, all procurements that GoM will fund must adhere to the strict World Bank procurement guidelines.

SAEP worked with the bidders to identify and ringfence items that could be funded under these guidelines and developed a mechanism to be used in the case of GoM contributions being below (or above) the required 30% of the total budget by FC.

The RA is nearing an agreed form and negotiations are expected to be completed by the end of July 2022. There are a handful of items that remain open for negotiation and SAEP will travel to Lilongwe in early July, to

support GoM in closing out these items. Most notably the list of items includes: the equity IRR afforded to the sponsor, GoM's ability to terminate the agreement should the project costs increase above an agreed limit, GoM's request for a final decision on the project design before EPC tender and premiums offered to developers during the development period.

Despite the RA still being negotiated, the bidders moved two full-time project resources to Malawi. The bidders' project director and the Environmental and Social (E&S) team lead both moved to Blantyre during this reporting quarter. With the E&S lead full-time in country, GoM could transfer many E&S responsibilities to the bidders. Some key items do need to remain the responsibility of GoM, however. Most notably, these include obtaining land for the resettlement of project affected people, compensation of resettled persons, and the rebuilding of a bridge across the Shire River at the Mpatamanga Gorge. This bridge, while not the direct responsibility of the Mpatamanga project was washed away during the 2019 hurricane and people in the Mpatamanga area have been severely affected by the loss of access to the other side of the river with many children unable to attend school since.

The next quarter's support will be focused on signing the RA and applying for funding of GoM's development costs up to FC. These costs will mostly be allocated to fund advisors to GoM and for operational costs of GoM's PIU. The funding application will be submitted directly to the World Bank's IDA as part of a Project Preparation Advance (PPA) under GoM's total IDA allocation.



In May 2022, SAEP organized a workshop in Lilongwe, Malawi, between GOM, the bidder and the World Bank's International Finance Corporation (IFC) to discuss and advance the open items in the RA. Photo: SAEP

▪ **Mozambique–Malawi Regional Interconnector**

On 21 April 2022, Mozambican President Filipe Nyusi and President of Malawi, Lazarus Chakwera, laid the first stone for the regional electricity interconnection between Mozambique and Malawi. The Mozambique–Malawi regional interconnector is a key project that would allow Malawi to connect to the rest of the SAPP energy trading market. The project involves the construction of a 400-kV transmission line through which Mozambique will supply Malawi with 50 MW of power.

SAEP has played an integral part in helping ESCOM prepare to operate the 1,000 MW regional interconnector project by training the utility's operational personnel to operate in an interconnected SAPP system once the Malawi–Mozambique 400 kV interconnector line is commissioned. From 20 to 24 June 2022, SAEP delivered training to ESCOM engineers in Blantyre, Malawi. The refresher training sessions focused on the production optimization tool and operating in an interconnected system. A total of 15 trainees, who had a great appreciation of the content and how it will be applied into their day-to-day work, participated

During the quarter, ESCOM introduced the EPC contractors, Larsen and Tourbo, for the interconnector project to the community members of Mbemba village in Malawi where the line will pass. The first step after these meetings is to construct a warehouse for equipment and a project office. The other EPC contractors, Gopa Intec and Asian Consulting Engineers, have also since kickstarted their tasks.

MOZAMBIQUE

- **Temane Transmission Project**

Construction for both the substations and transmission line is ongoing. During Q3, there were minor logistical delays; however, overall construction was not impacted, as all the contractors have a recovery plan in place. The construction companies of the relocation houses for the communities will be completing construction between August and December 2022. In September 2022, SAEP will visit the TTP project sites in coordination with TTP Project Coordinator Bruno Batista and EDM.

NAMIBIA

- **10 MW CENORED Hybrid Solar PV and BESS**

To reduce cost exposure, CENORED is implementing a strategy to integrate embedded distributed generation capacity within its network and reduce dependence on NamPower supply. CENORED has identified six solar PV sites for consideration and intends to procure solar PV-generated electricity from IPPs to install solar PV grid-connected systems. To manage the variability from these potential renewable energy plants, CENORED is also considering using BESS. The systems will be integrated into CENORED's network, for which they intend to run a bidding process for the ultimate selection of IPPs with all sites developed on an IPP basis. CENORED's Executive Manager of Engineering and Systems Development, Silvester Wayiti, is leading the project. In early April 2022, SAEP provided various comments to CENORED on the draft RFP, its appendices and the draft PPA. CENORED is still to confirm the RFP release date.

SOUTH AFRICA

- **City of Cape Town Transaction Advisory Support**

SAEP is assisting the city with a number of projects relating to renewable energy purchase, generation and energy efficiency interventions.

- **Support with the Procurement of Electricity from IPPs**

Based on SAEP suggestions, the city held PPA discussions with the major local lenders, including but not limited to ABSA, Nedbank, RMB, Standard Bank as well as institutions such as Future Growth; GIZ; Ninetone; Old Mutual and Sanlam. The CoCT Manager: Generation Development and Municipal Energy Efficiency, Shane Prins, reported that the CoCT is reviewing inputs received from lenders with the intention of updating/reviewing the RFP and PPA that was issued into the market in February 2022. SAEP assisted CoCT to review and interpret the lenders' comments. On 17 May 2022 the CoCT extended the response submissions due date of 26 May 2022 to 27 June 2022.

On 27 June 2022, the city received a high number (confidential at this stage) of bid submissions. The CoCT will evaluate the submissions to get an understanding of the number of quality bids complying with bid requirements.

- **Support with the Load Shedding Mitigation Program**

Given the Eskom supply shortfalls, the resultant load shedding, the CoCT wants to mitigate the impact of Eskom load shedding on its customers. The CoCT intends to procure power from IPPs like the Department of Energy's Risk Mitigation IPP procurement programme (RMIPPPP) and to procure transaction advisory services of a full-time transaction advisor. During the quarter, SAEP had several discussions with the city to give it a high-level understanding of various tender elements, such as the principles of potentially applicable technologies for such a program. There are several decisions that the CoCT should consider for such a project, including:

- PPA tariff structure
- Required dispatch profile
- Off-take commitments
- Foreign currency exposure
- Oil price exposure linked to imported fuel
- Delivery lead times for international fuel orders

- **Support on the 60 MWac Paardevlei Solar PV Project**

SAEP is assisting the city with a high-level pre-feasibility of a 60 MWac solar PV facility at the Paardevlei site, Somerset-West. In Q3, SAEP provided a detailed draft financial model to the CoCT for the Paardevlei project, including CoCT requested items such as i) a lease payment by the IPP to the CoCT for the land and ii) as an s-curve type split of capital expenditure.

On 18 May 2022, the SAEP Lead Transaction Advisor provided in-house financial model training to representatives of the CoCT. The CoCT advised that the original 50 MWac capacity would be increased to 60 MWac due to the size of the site area. Following further model discussions during the reporting period, SAEP provided an updated model to the CoCT on 7 June 2022 and continues to assist the CoCT with financial model clarifications, updates and training.

At the end of June 2022, the city stated that it recently had a cost estimate at budget level for its Atlantis solar PV project. Component costs of solar PV prices have gone up and based on these cost parameters, the Paardevlei solar PV project will potentially cost over ZAR 800 million (~USD \$47 million). SAEP will continue to support the CoCT on Paardevlei as the city decides whether to fund the project itself or tender it out as an IPP for funding by the IPP.

- **Support on the Pilot Wheeling Project**

On 31 May 2022, the CoCT launched a pilot wheeling project aimed at soliciting applications from entities selling electricity to an off-taker at a different location within the CoCT network, where the CoCT network will be used to wheel the power and charge a wheeling fee. The purpose of the pilot wheeling project is for the CoCT to test the market before opening its network up for wheeling. The pilot project will initially be for 12 months to check the billing systems, electrical interfaces, etc.

During meetings between SAEP and the CoCT, the city reported receiving several wheeling applications on 30 June 2022. The city will evaluate the applications, after which it will select entities to proceed with wheeling agreement discussions.

ZAMBIA

- **90 MW Unika Wind Power Project, Mphepo Power**

Mphepo Power's Managing Director, Linda Thompson, is leading the development of the 90 MW Unika Wind Power Project in Zambia. In November 2019, Mphepo Power installed a 120-meter meteorological mast to measure the wind potential for the wind power project. Following discussions between SAEP and Mrs. Thompson during April 2022, she reported that Mphepo is seeking a cash injection to get the project to FC and is currently speaking to additional equity investors for participation in the equity shareholding of the project. A PPA Heads of Terms has been signed with Africa GreenCo with the agreement of the final PPA targeted for the end of 2022 and FC targeted for 2023. The IA needs to be concluded whereafter unsolicited PPA negotiations with ZESCO can officially begin. Additional project challenges relate to supply chain issues and an increase in the costs of turbines. Project costs and funding terms will be critical in ensuring that an acceptable tariff can be reached with GreenCo. Mphepo has approached USTDA for financial support, but no success yet. Mphepo will revert to SAEP in the next reporting period on the status of correspondence with USTDA for financing assistance.

- **Two 50 MW Solar PV with 20 MW BESS Chipili and Mansa Projects: CGM Power Group**

CGM Power Group is developing the two 50 MW with 20 MW BESS Chipili and Mansa projects. Both projects will feed into the northern circuit of Zambia's energy network. During the first quarter of 2021, SAEP facilitated introductions between CGM and Climate Fund Managers (CFM) for potential cooperation and funding participation by CFM. On 13 June 2022, SAEP met with CGM regarding SAEP's review and comments on:

- The draft Joint Venture and Financing Plans for Chipili PV Solar Plant (to scale up to 200 MW) targeted to jointly collaborate in obtaining bankable PPAs, including GreenCo's next procurement phase
- The draft Joint Venture and Financing Plans for the transmission Special Purpose Vehicle (SPV).

Private financing for a transmission SPV remains a challenging process. SAEP requested additional information/documentation to better understand the envisaged SPV, especially the security, sustainability

and bankability of the revenues to the transmission SPV. SAEP is awaiting more information as well as detail on the intended contractual engagement between CGM and the SAPP and Congo state-owned Société Nationale d'Electricité (SNEL)

