



# Low Emissions Development Program

## QUARTERLY REPORT

SOUTH AFRICA LOW EMISSIONS DEVELOPMENT (SA-LED)  
PROGRAM

1 APRIL – 30 JUNE 2018



July 31, 2018

This publication was produced for review by the United States Agency for International Development. It was prepared by Chemonics International Inc.

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**Contract No.** AID-674-C-15-00005

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## ACRONYMS

AD	Anaerobic Digestion
AB	Agama Biogas
CD	Capacity Development
CHDM	Chris Hani District Municipality
CLEER	Clean Energy Emission Reduction
CoCT	City of Cape Town
CoP	Chief of Party
CoT	City of Tshwane
DBSA	Development Bank of South Africa
DEA	Department of Environmental Affairs
DFI	Development Finance Institution
DM	District Municipality
DNA	DNA Economics
DST	Department of Science and Technology
EEDSM	Energy Efficiency Demand Side Management
EE	Energy Efficiency
GDED	Gauteng Provincial Department of Economic Development
GHG	Greenhouse Gas
GoSA	Government of South Africa
ICF	ICF
ICLEI	Local Governments for Sustainability (International Council for Local Environmental Initiatives)
IDC	Industrial Development Corporation
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
LED	Low Emissions Development
LEDS	Low Emission Development Strategies
LES	Linkd Environmental Services
LM	Local Municipality
M&E	Monitoring and Evaluation

MOU	Memorandum of Understanding
MRV	Measuring, Reporting, and Verification
NCCRWP	National Climate Change Response White Paper
NGO	Non-Governmental Organization
NMBMM	Nelson Mandela Bay Metropolitan Municipality
PMO	Project Management Office
PPA	Purchase Power Agreement
PPP	Public Private Partnership
PV	Photo Voltaic
RE	Renewable Energy
RFP	Request for Proposal
SA	South Africa
SACN	South African Cities Network
SA-LED	South Africa Low Emissions Development Program
SALGA	South Africa Local Government Association
SDM	Sedibeng District Municipality
SEU	Significant Energy Users
SoW	Scope of Work
SSEG	Small-Scale Embedded Generation
TA	Technical Assistance
TGH	The Green House
ToC	Theory of Change
UMDM	Umgungundlovu District Municipality

# INTRODUCTION

## GOAL

The South Africa Low Emissions Development (SA-LED) Program is a \$14.9 million, five-year USAID-funded initiative aimed at supporting the Government of South Africa to achieve its green growth objectives.

## OBJECTIVES

SA-LED is working to strengthen the capacity of the public sector to plan, finance, implement, and report on low emissions development projects and to accelerate the adoption of low emissions technologies in both the public and private sectors. A particular focus is to increase the flow of investments into LED projects and to increase the size and quality of the LED project pipeline.

## SECTORS

To support the implementation of South Africa's Climate Change Response Policy, SA-LED focuses on near-term priority flagship sectors: Renewable Energy, Energy Efficiency and Energy Demand Management, Waste Management, and Transport.

## PARTNERS

The USAID SA-LED Program was co-created in conjunction with the South African Department of Environmental Affairs (DEA) and the Department of Science and Technology (DST).

South Africa is embarking on an ambitious effort to use Low Emissions Development (LED) as a means to reduce its substantial greenhouse gas (GHG) levels in a sustainable and equitable way. To do so will require transformational change at multiple levels and sectors, including mitigating key capacity bottlenecks and coordinating with a diverse set of actors who contribute to LED project development.

While South Africa's 2011 National Climate Change Response White Paper presents ambitious cross-sectoral mitigation goals, significant obstacles remain in translating its vision into actual LED projects. Many South African municipalities not only lack the management skills to move projects through the pipeline, but also a clear structure for coordinating between the municipal and the national department level has not yet been articulated. Moreover, these institutions do not yet have an understanding of the operational and planning implications of provisions of the White Paper and have had issues translating national DEA recommendations into actionable projects. South African investors also do not have a sophisticated understanding of LED technology or the legal and regulatory framework surrounding green investment and therefore perceive such investments as risky. Addressing these challenges requires translating LED concepts into replicable projects, proving their success, and scaling up.

The United States Agency for International Development (USAID) South Africa Low Emissions Development Program's (SA-LED) goal is to support the primary objectives of emissions reductions, LED capacity development, and LED market development at sub-national level through a technical assistance framework which consists of five broad categories of interventions. The five categories of technical assistance interventions described below illustrate SA-LED's value-add to the LED sector in South Africa. Communications and Outreach is a crosscutting function that supports the distribution of lessons learned, training manual development, and knowledge management across each of the five intervention areas.

SA-LED is now in a position where it has firmly established its role and value-add in the low emissions development/climate change mitigation sector in South Africa. It has also become a key partner with the Department of Energy (DoE) in assisting municipalities to prepare the required business plans in order to obtain funding from the department for energy efficiency interventions in municipal infrastructure. We are also proud of the integrated approach that we take when working with municipalities - we do this by looking at how LED can be institutionalized in municipal systems and processes, providing technical and capacity building support to enhance LED planning and project implementation.



## **RESEARCH AND ANALYSIS**

In fiscal year (FY) 2016, SA-LED, working with consortium partners, DNA Economics, The Greenhouse, Linkd Environmental Services, and ICF, finalized a series of research studies on the LED sector which identified key blockages, mapped out available funding mechanisms, and assessed capacity needs to inform forward programming and improve LED outcomes. This research and analysis focused particularly on demonstrating the



socio-economic benefits of LED initiatives. SA-LED will continue with such research and analysis as required and integrate learning captured during implementation into the annual work planning process to ensure that the Program adapts to developments in the sector.



## **LED PROJECT DEVELOPMENT**

The SA-LED team continues to support municipal LED initiatives across each of the four flagship sectors in unblocking and progressing projects that face challenges and providing technical assistance that will help bring projects to financial close or Request for Proposal (RFP) award. This technical assistance support includes conducting feasibility assessments; mobilizing finance; evaluating LED technology options; and providing legal, financial, and engineering technical assistance to LED projects.



## **CAPACITY DEVELOPMENT**

Based on one of the research assessments on LED skills and capacity within municipalities that was completed at the end of FY 2016, SA-LED is embedding experts and conducting formal training with municipal partners in addition to implementing projects together in a learning-by-doing LED project implementation approach.



## **ENABLING ENVIRONMENT**

SA-LED is helping to create an enabling environment that institutionally supports LED efforts across local, provincial, and national government. SA-LED provides technical and financial support to industry and government in setting new standards for emerging technologies, supporting the development of a more cost-effective and simpler tool for reporting GHG emissions from LED projects, and in supporting the development of new LED funds and tools to streamline LED project development.

The SA-LED Advisory Committee, which is composed of senior officials of key national government departments, has played a key role in shaping the enabling environment activities of the Program. This Committee has met 5 times since the inception of the Program and serves as a key platform for integrating LED across the various levels of government.



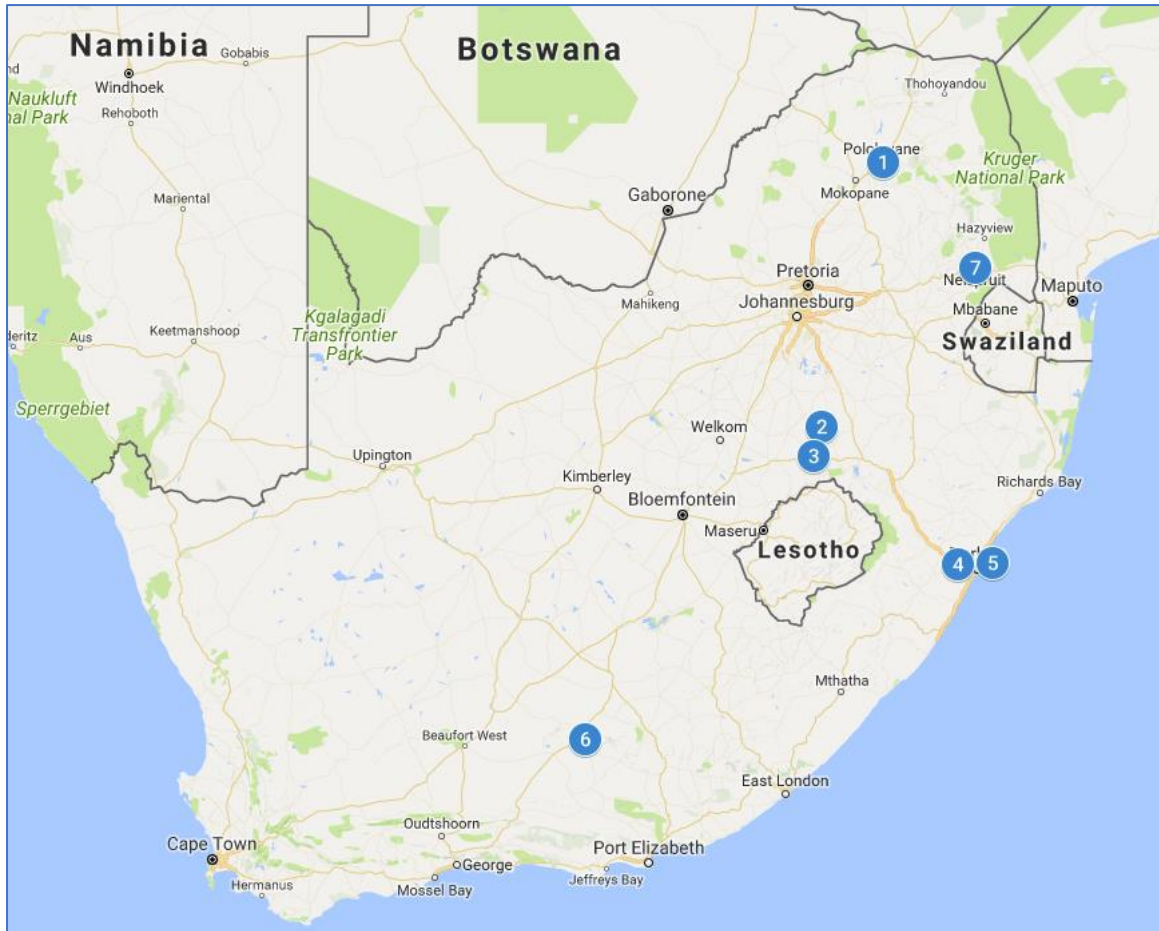
## **MEASURING, REPORTING AND VERIFICATION OF GHG EMISSIONS**

SA-LED is supporting municipalities to perform project-level greenhouse gas emissions analysis, using USAID's Clean Energy Emission Reduction (CLEER) Tools developed by consortium partner ICF International, where applicable, and to articulate the co-benefits of LED projects. The Program is working with the DEA on the development of the department's

Monitoring and Evaluation (M&E) Sectoral Guidelines for the Energy, Industrial Processes and Product Use (IPPU), Transportation, Waste, and the Agriculture, Forestry and Land Use (AFOLU) sectors. In addition, the Program is developing Measuring, Reporting, and Verification (MRV) reports and supporting local GHG emissions reporting.

## LED PROJECT DEVELOPMENT

During this quarter, the SA-LED team continued to provide technical support to low emissions development projects and to undertake the procurement of specialists to support the technical and financial implementation of projects. The goal of supporting the projects outlined below is to gain a representative experience providing technical assistance to municipalities across municipal type (metro, district and local municipality) and across climate change flagship sectors (renewable energy, energy efficiency, waste management, and sustainable transport). Figure 1 below provides a geographical representation of where technical assistance is currently being provided. Key progress for the quarter is outlined below. Three new projects and four existing projects were supported during Quarter 3.



1	<b>Polokwane Municipality</b>
2	<b>Nketoana Municipality</b>
3	<b>Dihlabeng Municipality</b>
4	<b>Ethekwini Municipality Solar PV on Reservoirs</b>
5	<b>Ethekwini Municipality Conduit Hydro-power</b>
6	<b>Blue Karoo Trust Fish Farm</b>
7	<b>Mpumalanga Schools Biogas Project</b>

Figure 1: Map of South Africa indicating location of LED projects with progress made in Quarter 3.

## ENERGY AUDITS IN POLOKWANE MUNICIPALITY BUILDINGS

Polokwane Local Municipality submitted its application for funding under the Department of Energy's (DoE) Energy Efficiency and Demand Side Management (EEDSM) Program for the 2018/19 fiscal year. Under this program, the DoE provides grant funding to municipalities to implement energy efficiency initiatives within the municipal infrastructure. The DoE requested the municipality enlist the services of an independent consultant to conduct energy audits so that they could develop a sound business plan for the grant funding. The municipality requested technical assistance from SA-LED in supporting the audits. Specifically, SA-LED supported the energy audits through training on energy audits and assisting the municipality with completing various DoE templates, such as Extended Baseline, Business Plan, and Financial Analysis. The templates were submitted to the DoE by the municipality together with the narrative for the Request for Proposal (RFP) that the EEDSM Coordinator prepared. Because of the energy audits, the municipality will be replacing 134 400 watt High Pressure Sodium floodlights at the stadium and cricket grounds with 120 watt LED floodlights. This will result in energy savings of 28,728 kWh/a (45%) which translates to a financial saving of ZAR 25,539 per annum.

The energy audits started with a one-day in-service training in basic energy auditing on April 18, 2018 to a total of 18 participants, including students and lecturers. The training focused on what was required to conduct the audit within the allocated time. The training offered basic background information that the college course work does not currently cover, and represented and offered an example from which the Capricorn Technical Vocational Education and Training (TVET) staff could develop a more comprehensive audit course. 10 students who had received the training had the opportunity to immediately apply the skills and knowledge they had acquired by conducting the energy audits for 20 buildings.

The training was aimed at developing the following skills:

- Identifying different lighting types
- How to classify lights
- How to determine operating hours and project feasibility
- How to use excel and excel workbook sharing
- Accurate data capturing
- Designing an audit and data capturing sheet



Figure 2. Students receiving training on how to conduct an energy audit

Polokwane was behind in conducting the Energy Efficiency Awareness campaign as part of the 2017/18 EEDSM workplan. The problem was that the municipality lacked technical capacity to design materials that would be used for the campaign. SA-LED stepped in to develop poster designs, which the municipality adapted and printed for a total of 300 posters, 300 flyers, and five banners, thus helping the municipality to spend ZAR 60,000 of grant funding allocated for this activity before the project's close. Figure 3 on the right illustrates one of the poster designs.

### NKETOANA AND DIHLABENG LOCAL MUNICIPALITIES FACILITIES ENERGY AUDITS

In addition to the support provided to Polokwane, SA-LED also provided support to Nketoana and Dihlabeng municipalities in Thabo Mofutsanyana District, Free State Province, to prepare their 2018/2019 applications for funding under the DoE's EEDSM Program.

The District municipality is the one managing the EEDSM funds on behalf of the municipalities within the District. Energy audits of municipal building in these municipalities were carried out June 25 – 27, 2018. The results of these audits were used to develop business plans, which were submitted to the DoE in accordance with the department's application procedures. The energy audits that SA-LED conducted identified possible energy efficiency opportunities. Based on an estimated energy cost of ZAR1.01 Kwh/a for both municipalities, the energy consumption savings of approximately 42,820 Kwh/a for Nketoana are possible from the current consumption of 77,855 Kwh/a and represent a total of ZAR 35,416 energy savings while Dihlabeng has an estimated energy consumption savings of 179,274 Kwh/a (58%) from 430,888 Kwh/a, resulting in a total of ZAR 254,353 energy savings. See the figures below. As per DoE's guidelines, municipalities should begin their tendering process in July 2018 with project implementation beginning thereafter up to June 2019 when the project is scheduled to end. Municipalities are required to submit monthly progress reports to the DoE monthly (using reporting templates developed by the DoE), on project implementation.



Figure 3. Example of a poster design

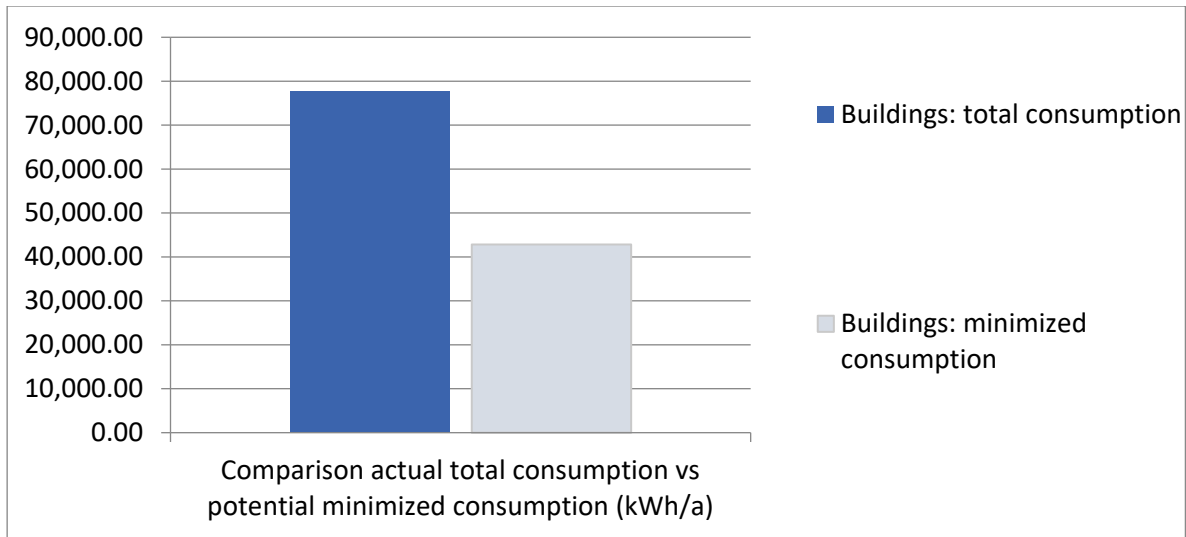


Figure 4. Nketoana - Estimated Energy Consumption Savings

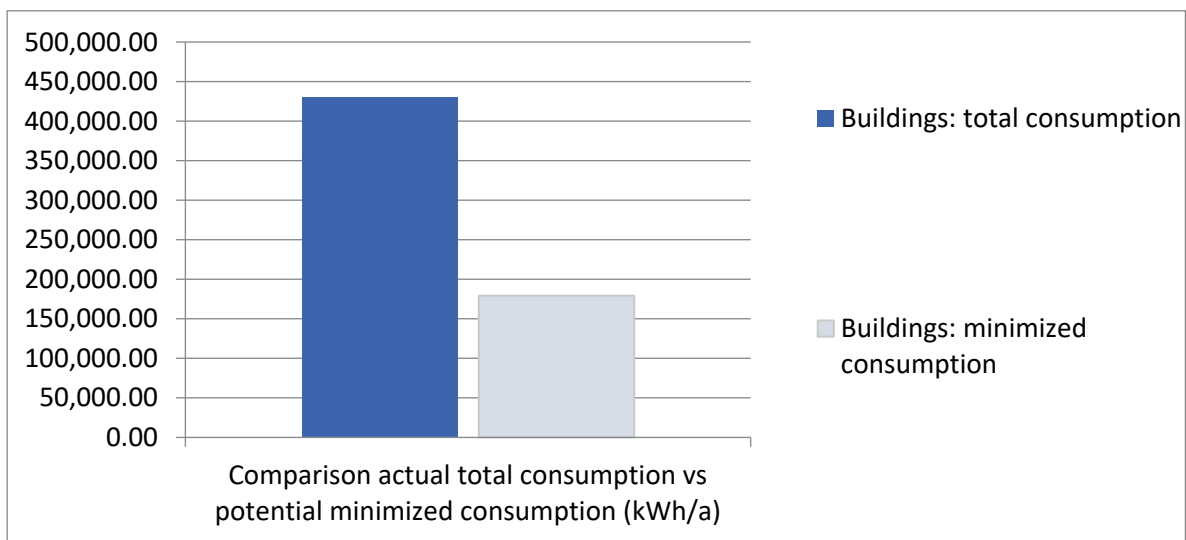


Figure 5. Dihlabeng – Estimated Energy Consumption Savings

## EXISTING PROJECTS

### ETHEKWINI METROPOLITAN MUNICIPALITY – SOLAR PHOTO VOLTAIC (PV) ON RESERVOIRS

At a meeting held on May 4, 2018, SA-LED presented the initial findings from the solar yield assessments conducted on 52 municipal reservoir sites. The assessments were conducted for system sizes greater than 100kWp from a list of 440 initial sites and resulted in 52 sites being modelled. The largest potential installation would be an 826kWp system having an Alternating Current (AC) capacity of 750kW and producing 1,288MWh of energy per annum. The minimum potential generation was limited to 100kWp for the smallest sites. Completing the installation of all 52 projects would result in a total installed peak DC capacity of 9.8 MW. Another important aspect in determining the final potential installations per site would be the AC capacity of the nearest grid connection.

The financial feasibility and possible procurement approaches for the solar PV systems were also discussed during the meeting. While eThekweni Water and Sanitation (EWS) had initially planned to procure the solar PV panels through a Private Public Partnership (PPP), SA-LED proposed that the department evaluate a range of procurement options based on the financial and economic assessments that will be carried out as a next phase of the assessment. National Treasury was supportive of the idea of first completing the technical feasibility and economic assessments providing an evaluation of a range of project procurement options including the PPP route. The evaluation should indicate the pros and cons of the different procurement options and recommend the option that results in the best returns to the municipality.

At a progress update meeting held on June 7, 2018, SA-LED presented the final solar yield assessment findings and the associated financial model from the 52 preselected reservoir sites. Most of the identified smaller sites were found to be not financially viable. The Net Present Value (NPV) decreases with the system size, i.e. the bigger sites had a positive NPV compared to smaller ones. EWS suggested that SA-LED investigate the impact of bundling the project sites together given that some of the smaller sites did not look economically feasible if developed on their own compared to the larger sites. SA-LED will submit its final technical and financial analysis report to EWS in July modelling the sites preferred by the municipality.

#### **ETHEKWINI METROPOLITAN MUNICIPALITY – CONDUIT HYDROPOWER**

As part of the conduit hydropower project, the municipality confirmed that they would like SA-LED to assist with developing technical options analysis for the mini-hydro sites on their Northern Aqueduct.

As SA-LED was in the process of completing a status report on the developments and operations of the Western Aqueduct, it was agreed that SA-LED would support the municipality with a technical options analysis (or feasibility study) on the hydropower potential of the Ashley Drive and Wyebank break pressure tanks on the Western Aqueduct. It was also confirmed that SA-LED would move forward with the appointment of an international hydropower PPP advisor as well as a civil engineer with experience on small hydropower projects.

At a progress meeting held on June 7, 2018, SA-LED presented a “pre-feasibility” understanding of the operational status of the break pressure tanks on the two preferred sites, Ashley Drive and Wyebank, for the installation of the hydropower turbine and generator units. SA-LED conducted the study to gain a better understanding of what SA-LED, on behalf of EWS, would be procuring as part of the RFP. Through consultations with the joint venture company currently building the break pressure tanks, it was made clear to SA-LED that the technical options analysis, or feasibility study, would have to be based on the technical design of the break pressure tanks. Since no water has flown through the pipelines, the feasibility study will be based on projected flows and pressures of the water given that no practical monitoring of water flow is possible. In engineering terms, it is still possible to develop a project based on the design parameters. SA-LED will further develop the request for proposal (RFP) in consultation with EWS and hopes to have the RFP advertised locally in South Africa by the end of July 2018.

In addition to the above developments on the Western Aqueduct, SA-LED will proceed with conducting a technical options analysis for mini-hydropower generation on the Northern Aqueduct. SA-LED plans to conduct a site visit to EWS’s selected potential mini-



hydropower generations sites on the Northern Aqueduct in July. The site visits will allow for SA-LED's hydropower engineer to assess the additional technical monitoring of water flows and pressures needed for each site to enable the completion of the technical feasibility study.

SA-LED plans to extend technical assistance to EWS to conduct solar yield assessments at the department's Ottawa Road depot. As part of this assistance, SA-LED will assist with an energy audit at the Phoenix Wastewater treatment plant, which is adjacent to the depot. EWS intends to use electricity generated at the depot to power the Phoenix Wastewater treatment plant. This decision follows a site visit conducted by EWS, eThekweni's Energy Office, the DoE, USAID, and SA-LED on June 6, 2018.

A monthly project progress update meeting is scheduled for July 24, 2018 following the site visits to the Northern Aqueduct.

### **BLUE KAROO TRUST FISH FARM**

During May, SA-LED continued the monitoring of the pilot Waste Water Repair (WWRS) and Anaerobic Digester (AD) Systems at the Blue Karoo Trust Fish Farm through periodic site visits and remote feedback from farm staff to the water and biogas experts. The WWRS algal raceways appear to be operating efficiently and data continued to be collected to inform the design of a repair system for a full scale commercial fish farm.

As part of the on-going technical assistance SA-LED provides to the Blue Karoo fish farm, the farm has requested support in creating a video to showcase the success of their business model and to market cat fish as nutritious meat. In June, the SA-LED team visited farm and filmed a communications video that promote the Blue Karoo Trust Fish Farm as a successful business model that other companies around the country could replicate. As the fish farm is an excellent example of a transition to a green economy through inclusion of an entire community, the video promotes SA-LED's goals in job creation and incorporation of women and youth into business models by promoting the farm's successful model. The video will be finalized for release in the next quarter.



Figure 6 – The technical and communications team on site filming the fish farm documentary

## **MPUMALANGA SCHOOLS BIOGAS PROJECT**

The Mpumalanga Provincial Department of Economic Development and Tourism is working in partnership with SA-LED to roll out biogas digesters to three schools in Mpumalanga Province. During this reporting period, the digesters were installed, and SA-LED provided three months of continuous technical support to the three schools where the biogas installations have taken place to ensure successful implementation and adoption of the technology. SA-LED consortium partner AGAMA Biogas conducted a total of 15 site visits to assess issues facing the staff and gave guidance and proposed corrective actions to resolve the issues as the schools adopted the routine of using the biogas systems.

## **NEW INITIATIVES THAT HAVE STARTED IN QUARTER 3**

### **SUPPORT TO DEPARTMENT OF ENERGY ON COMBINED HEAT AND POWER PLANTS**

This quarter, the DoE requested assistance from SA-LED in developing specifications for retrofit combined heat and power (CHP) plants to be operated at three different waste water treatment plants (WWTP) in municipalities in South Africa. CHP is the use of a heat engine to generate electricity and useful heat at the same time—in this case the power source will be biogas from the wastewater treatment plants. SA-LED is in the process of appointing engineers to develop these technical specifications.

The engineers will draw up a detailed tender specification for the supply of a retrofit plant and the associated infrastructure and services to enable the feasible implementation according to the site-specific requirements of the three wastewater treatments plants,

namely: Zeekoegat in City of Tshwane, Kingstonsvale in City of Mbombela, and Hartebeestfontein in City of Ekurhuleni. The scope of work for the engineers to develop the specifications is in draft form and will be finalized with the DoE and the respective municipalities in Quarter 4.

## **IDENTIFICATION OF POTENTIAL LED INITIATIVES FOR TECHNICAL ASSISTANCE**

On June 25, 2018 SA-LED held a formal project selection meeting during which the Hessequa, Tulbagh (Witzenberg Municipality), and Chris Hani District Municipality projects were selected for SA-LED technical assistance support. Details on each project are as follows:

### **HESSEQUA LOCAL MUNICIPALITY ENERGY EFFICIENCY PROJECT AND SOLAR PV**

#### **Initiatives Selected to be Supported:**

- 1. Hessequa Local Municipality - Energy Efficiency and Solar PV**
- 2. Witzenberg Local Municipality – Waste Management**
- 3. Energy Audits at Chris Hani District Municipality WWTW**
- 4. Energy Audits in Enoch Ngijima Local Municipality**

On June 14, 2018, SA-LED had a meeting with Hessequa Local Municipality officials. The municipality presented a list of projects with which they wanted support. At a technical team meeting held on June 25, 2018, it was agreed that SA-LED would support optimisation of their existing PV plant, solar yield analysis and energy audits of municipal buildings, and energy audits of waste water treatment works.



*Figure 6 Hessequa Municipality Waste Water Treatment Works*

## **WITZENBERG LOCAL MUNICIPALITY**

Through SA-LED's work with Eden District Municipality, officials from Witzenberg Local Municipality approached SA-LED for assistance with its waste management in the municipality. The current municipal landfill services five towns: Tulbagh, Prince Alfred, Hamlet, Op die Berg, Woolseley and Ceres.

The municipality has budgeted for an additional landfill, but they would first like to mitigate the problems with the first landfill. SA-LED will conduct a waste characterisation study for the municipality in order to identify the waste streams and how to divert waste from the landfill.

## **ENERGY AUDITS AT CHRIS HANI DISTRICT MUNICIPALITY WWTW**

The waste water treatment works in the Chris Hani District municipality are not currently functioning efficiently and the municipality has approached SA-LED for assistance with identifying the operational challenges and solutions to overcome them. SA-LED plans to conduct an energy audit of the waste water treatment works.

## **ENERGY AUDITS IN ENOCH NGIJIMA LOCAL MUNICIPALITY**

After conducting a GHG inventory, SA-LED found that the municipality has a 37% loss of electricity. In order to combat the loss, the municipality has requested that SA-LED conduct energy audits on various municipal infrastructures.

## CO-BENEFITS

Co-benefits work in Quarter 3 centered on moving forward with an analysis on the solar PV installation in the Ekurhuleni Metropolitan Municipality and initiating two co-benefit analyses linked to the Eden District Municipality Waste program.

### 1) *Solar PV on Municipal Buildings*

The Ekurhuleni Metropolitan Municipality's (EMM) Alternative and Renewable Energy Division is currently managing the installation of the 2MW solar installation that was awarded using a tender that SA-LED assisted in compiling.

ZWR Mechanika is the private contractor appointed to install the solar PV on the municipal buildings. They have agreed to work with SA-LED to gather information for the co-benefits analysis. A questionnaire was sent to the contractor and a site visit will be conducted in July.

The contractor has completed installation of the first 500kW installation. The full installation of the 2MW plant should be complete by June 2019. This offers SA-LED the opportunity to monitor the installation and record the co-benefits.



Figure 7 Solar PV Installation at Ekurhuleni Metropolitan Municipality Office

### 2) *Eden District Municipality Waste Program*

Following a workshop with stakeholders held in George on April 17, 2018, it was agreed that SA-LED would need to be strategic about which waste streams to focus on for the next two co-benefits analyses. The Eden District Municipality is supportive of the idea of

doing co-benefits studies, as it will help to motivate support for solutions that have potential socio-economic benefits.

Most of the organic waste streams in the Eden District originate from the following sources:

- Household garden and municipal cuttings
- Abattoirs
- Saw Mills
- The furniture industry
- Alien invasive clearing
- Sewage sludge

SA-LED is currently using the existing reports and research to do a desktop comparative study that will help SA-LED and the Eden District Municipality select the two sectors on which to focus. It is anticipated that a decision will be made, and field work research and interviews completed in July.

## CAPACITY DEVELOPMENT

Throughout FY2018, SA-LED's activities around capacity development have increased and the project has started assessing how recipients of capacity development activities apply the knowledge and skills that they have acquired from activities aimed at closing capacity gaps.

### **CAMBRIDGE INSTITUTE FOR SUSTAINABILITY LEADERSHIP - BUSINESS AND SUSTAINABILITY EXECUTIVE PROGRAMME**

SA-LED funded the participation of five senior officials from three municipalities—Kheis, Kwadukuza and Makana—in the Cambridge Institute for Sustainability Leadership 2018 Prince of Wales's Business and Sustainability Executive Program, which was held on May 6-9, 2018 in Stellenbosch. The municipalities were selected based on their project involvement with SA-LED.

The objective of the Executive Program was to equip senior executives from the private and public sectors with the knowledge and techniques to address key sustainability challenges in a practical way. The course encouraged participants to review their current business models and set a vision for what success looks like in the future. Participants completed the course with a sense of inspiration, understanding, and confidence to define and respond to pressing social, economic, and environmental priorities within their workspaces.

#### **The three-day program covered the following themes:**

- A deep and critical understanding of the key challenges and opportunities from global sustainability trends.
- The global trends and their impact on organizations, such as food, water, energy, natural resource, security, consumption, supply chains, finance and investment.
- The regulatory, finance, market, supply chain and technology shifts and the risks and opportunities.
- An organization's purpose, its role in working with others and its business case for sustainability.
- Operationalizing sustainability by setting strategies, exploring new business models and innovations, engaging customers, investors and policy makers, building capacity

and measuring value. Each cohort identifies new material priorities and starts framing tailored responses based on innovation and collaboration.

- How to frame a vision for a sustainable organization and lead the organization down this path, shaping the culture and bringing others on board. What is the emerging social and environmental context for business?
- Developing Strategy.
- Engaging stakeholders, communicating and reporting.
- Personal change.

The five municipal officials successfully completed the three-day course. Formal feedback from the five participants about the course and the learnings was very positive. Participants indicated that their knowledge on integrating climate change into municipal systems and project development increased.

As a follow up to the course, all three municipalities have requested SA-LED to support them with conducting organizational capacity assessments (OCA) as a way of assessing their LED planning/project implementation readiness. The assessments for the three municipalities are scheduled for the month of September 2018. The ongoing monitoring of the course participants in the workplace will provide SA-LED with feedback on the impact and value of this capacity development intervention in the municipality.

## ENABLING ENVIRONMENT



The SA-LED Program recognizes that in order to play a catalytic role in scaling the uptake of LED projects in South Africa, considerable work must be done across legal, financial, policy, and regulatory boundaries.

Numerous government departments, existing networks, donor agencies, development finance institutions, and private industry have done excellent work for many years to support the same goals. Instead of reinventing the wheel, SA-LED is working to leverage these existing efforts.

During the quarter under review, several meetings and collaborative efforts were undertaken to consolidate working relationships and support with key stakeholders.

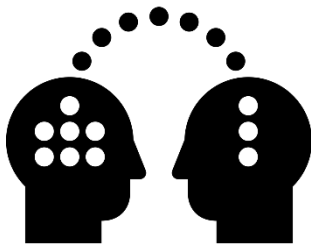
### FINANCE STRATEGY WORKSHOPS

In this quarter, SA-LED, together with consortium partners LinkD Environmental Services, finalized the baseline research for the program's finance strategy, and conducted two working sessions in April and May respectively to: (i) present the research to SA-LED and USAID stakeholders and (ii) workshop next steps and a strategy framework with a targeted group of finance stakeholders. During the workshop held in Pretoria on April 26, 2018, three main aspects of the research were presented, namely: (i) municipal feedback on SA-LED projects' needs for finance, as well as SA-LED's role in applying technical assistance for project preparation and financial feasibility; (ii) engagement of private sector financial institutions to determine their appetite for funding low emission development projects in municipalities; and (iii) a brief overview of global best practices to investigate potential innovative financing mechanisms that may apply to the South African LED context. The team presented relevant case studies where innovative financing mechanisms were used to take

projects to financial close. The research highlighted that amidst a very “busy” financial sector with many stakeholders and other DFIs searching for green finance solutions, SA-LED should collaborate with existing platforms/entities and focus on adding value to and closing gaps in the financing of LED projects. In research also indicated that SA-LED offers a strong project development base from which to deploy technical assistance for project preparation for financial feasibility. The research further resulted in a focused list of entities that expressed clear interest to work with SA-LED including Rand Merchant Bank, First National Bank (commercial bank), and the African Development Bank. These entities expressed interest in financing LED projects and are prepared to work with SA-LED to make this happen. SA-LED will collaborate with others – specifically GIZ – to investigate how and under which conditions funders are interested in working with SA-LED.

The working session in May focused on translating the research outcomes into a strategy framework. Specific consultants and stakeholders were identified to support SA-LED in tackling the finance work and narrowing down opportunities to explore (keeping in mind that the program has approximately 18 months left in which to provide financial outcomes). Since May, SA-LED continued to refine the strategy by meeting with selected stakeholders identified through the research. The financial strategy will be finalized in the coming quarter.

## **ATTENDANCE AT CONFERENCES/MEETINGS**



### **MEETING WITH HARAMBEE**

On April 20, 2018, SA-LED met with Harambee Youth Employment Accelerator, an independent, not-for-profit social enterprise that works with individual businesses, government agencies, local and international donors, industry sector associations, youth-serving organizations, assessment specialists, behavior change experts, and technology providers to help tackle youth unemployment.

In May 2017 SA-LED employed an intern through WWF South Africa’s Environmental Leaders internship program, which places aspiring environmentalists with organizations around the country. The intern’s contract came to an end in April and SA-LED met with Harambee Youth Employment Accelerator to inquire about employing a new intern. SA-LED is also exploring the possibility of partnering with Harambee in hiring unemployed graduates for conducting energy audits.

Harambee is a USAID funded initiative as well and therefore partnering with them would showcase how different programs can work together towards a common goal.

### **MEETING WITH DEPARTMENT OF EDUCATION REGARDING BIOGAS DIGESTERS IN SCHOOLS**

On April 24, 2018, SA-LED met with [REDACTED] from the Department of Education to discuss the rationale for raising awareness of and integrating the biogas into schools, to discuss what educational initiatives USAID is involved in locally, and to identify the possible opportunities for collaboration. The concept behind biogas in schools is to provide public schools on the national feeding scheme an alternative fuel to cook food for learners. The co-benefits of having a biogas digester at a school include reduced costs of liquefied petroleum gas used for cooking and improved quality of life for the learners and the surrounding community due to the reduction of waste, rats, and associated health problems. [REDACTED] suggested that SA-LED implement a pilot study that could provide



baseline data to demonstrate operational savings over a longer period of time by demonstrating how schools manage and maintain the biogas digesters. He also offered to propose 10 schools from various provinces to form part of the pilot study. It was agreed that the results of the pilot study will be presented in a follow-up meeting in about 12 months' time. It will be at this meeting where the way forward for a national roll-out can be discussed.

## **ICLEI MEETING**

On May 10, 2018, the SA-LED team met with the ICLEI team in Cape Town to discuss areas of collaboration for the two organizations, as they both work in the same space—local governments and climate change. The meeting proved successful with the following focus areas agreed upon:

1. The two organizations would host a Talanoa Dialogue together with cities in August 2018.
2. SA-LED and ICLEI's mutual focus on supporting green finance is a key point of collaboration. Through an MoU the two entities will focus on developing a pipeline of bankable project proposals that could be used to attract finance.
3. Project support - where ICLEI would identify relevant projects to conduct feasibility studies for and SA-LED would deploy its technical assistance to the projects, by appointing experts to conduct the necessary technical or financial feasibility studies.
4. Knowledge sharing – SA-LED and ICLEI to share information about work that has been done by the respective organizations. SA-LED and ICLEI will have small working sessions during which specific needs and opportunities of specific municipal projects will be identified. The aim is to use existing work from each organization in order to avoid duplication of the development of knowledge products and allow for the-value addition of collaborating on developing new products that are missing from the municipal knowledge repertoire.

Going forward, the team agreed to work on the MoU and meet in mid-June to discuss the formulation of a project plan and pipeline.

## **MEETING WITH DEPARTMENT OF ENERGY AND CITY OF TSHWANE**

On May 11, 2018, SA-LED met with the Department of Energy and the City of Tshwane's Water and Sanitation Department, Electricity Department and the City Sustainability Unit to discuss SA-LED's technical assistance to Tshwane in drawing up detailed tender specifications for the supply of a retrofit CHP plant at the Zeekoegat wastewater treatment plant. SA-LED will provide this support to enable the viable implementation of a CHP and DoE will be providing funding for the capital expenditure associated with the development of the CHP plant from the Department's EEDSM fund. Under the 2018/19 EEDSM funding allocation to the City of Tshwane there is already a budget set-aside for conducting environmental impact assessments (EIA) on this project. There hasn't been a clear indication of additional funding timelines from DoE.

## **MEETING WITH EASTERN CAPE DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENTAL AFFAIRS AND TOURISM (DEDEAT)**

From the 5<sup>th</sup> to the 6<sup>th</sup> of June SA-LED met with DEDEAT to: (i) Finalize interventions for the OR Tambo District Municipality waste management and characterization work; (ii) Secure the leveraged finance from the European Union and National treasury for the Eastern Biogas Schools project (extension of the Mpumalanga biogas schools project), and discuss the specific schools to be included in this work; as well as (iii) Negotiate an MoU

with the Chris Hani Development Agency (CHDA), and discuss the details of taking the Enoch Ngijima WWTW to Energy project forward. The Chris Hani District Municipality work enjoys high level political support from the Mayor, as well as the councilor, Councilor September who regularly thanks SA-LED for continued and meaningful support.

### **MEETING WITH DEPARTMENT OF ENVIRONMENTAL AFFAIRS (DEA)**

On May 29, 2018, SA-LED and USAID met with the DEA to discuss the following:

1. Monitoring, Reporting, and Verification guidelines (covering the Energy, Transport and Industrial Processes and Product Use sectors): It was agreed that DEA will send final comments to SA-LED by mid-June.
2. Agriculture Forestry and Other Land Use (AFOLU): DEA will convene a technical brainstorming session with its internal MRV specialists to determine how to take the development of the AFOLU and Waste sector MRV guidelines forward. SA-LED indicated that given the many discussions held on prioritization of mitigation measures, with its consortium partners at ICF, SA-LED can only participate to provide inputs on their experiences but not be involved in the next phases of this work.
3. DEA, is working with ICLEI to host a local Cities and Regions Talanoa Dialogue, which is aimed at building the capacity of government officials on the different levels of inventorying, from national to subnational level. SA-LED will be invited to support or participate in this much needed intervention.

### **POLOKWANE LOCAL MUNICIPALITY**

SA-LED facilitated an introductory meeting between the Municipal Manager (MM) of Polokwane Local Municipality and USAID Officials on May 31, 2018. The purpose of the meeting was to brief the MM on the activities that SA-LED is supporting the municipality with and to also request his support. The meeting began with USAID explaining the context on why and how SA-LED is working with the municipality. This was followed by a detailed description of the activities that SA-LED supports.

As a follow up to the meeting, SA-LED shared the following documents with the MM: signed MoU with the municipality, a summary of activities that SA-LED is supporting the municipality with as well as the organizational capacity building report to make the MM aware of the strengths and weaknesses of various departments within the municipality. SA-LED still has to work with the municipality to help them finalize their Green Goal Energy Strategy, share the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) report on feasibility studies conducted for the WWTW with the MM, and assist the municipality with drafting a scope of work for an administrative assistant to be hired by the municipality.

### **MEETING WITH HESSEQUA LOCAL MUNICIPALITY**

On June 14, 2018, SA-LED's Chief of Party, [REDACTED] and Capacity Building and Stakeholder Engagement Specialist, [REDACTED], met with representatives from Hessequa Municipality to explore areas of potential LED planning and project development support. This meeting was in response to a request from the municipality to meet with the SA-LED Program team, following a presentation made by [REDACTED], SA-LED's Senior Project Development Specialist, at the Eden District Energy Forum meeting held in George on April 17, 2018. Hessequa Municipality requested SA-LED support on projects in the following streams: municipal waste management (cost of services study), energy efficiency in wastewater facilities, solar yield assessments in selected municipal buildings,

development of a municipal energy efficiency strategy, and the optimization of the municipality's existing solar PV systems at its wastewater treatment plant. The SA-LED technical project selection team indicated it would extend technical assistance to Hessequa's requested energy audits of wastewater facilities and the solar PV projects. The other project technical assistance requests will be considered in future project selection meetings. The municipality also requested that SA-LED engage the DoE EEDSM Program to seek an explanation on why the municipality has not been receiving any funding to implement energy efficiency retrofits.

### **MEETING WITH GEORGE MUNICIPALITY**

SA-LED met with George Municipality representatives on June 14, 2018, after the above meeting with Hessequa Municipality. The meeting was intended to review progress on the municipality's willingness to receive SA-LED's support on conducting energy audits in the municipality's wastewater treatment facilities as well as conducting solar yield assessments on the municipality's selected buildings. The municipality indicated that they are still interested in receiving SA-LED's technical assistance. SA-LED will include the investigation of the energy efficiency improvements that could be brought to the ultrafiltration plant at the municipality's bulk water treatment plant (clean water) as part of the energy audits in wastewater facilities. In addition to the above projects, the municipality requested SA-LED to extend the scope of the energy audits in wastewater facilities by providing technical review support on the design specifications for wastewater infrastructure upgrades in the municipality.

SA-LED discussed with the municipality collaborating on sustainable transport planning initiatives on which the municipality is currently working on. For example, the "Go George" bus rapid transit system is also supported by the Western Cape Provincial Government's Transport Planning Department. George Municipality is currently developing an integrated public transport ticketing initiative. The municipality expressed an interest in participating on the SA-LED proposed sustainable cities study tour to Australia.

### **WORKSHOP ON SMALL-SCALE EMBEDDED GENERATION IN GAUTENG MUNICIPALITIES**

SA-LED participated in a workshop on small-scale embedded generation (SSEG) within Gauteng Municipalities on June 28, 2018. The workshop was hosted by the Gauteng Province's Green Economy Directorate. The objectives of the workshop were as follows:

- Engage with municipalities in Gauteng Province on the various support mechanisms available towards successful implementation of SSEG systems
- Get an update from all municipalities on their progress towards implementation of SSEG – with the view to identify specific support requirements.

The workshop was a useful opportunity to learn what the municipalities in the Gauteng Province are doing regarding SSEG.

### **EDEN DISTRICT MUNICIPALITY WASTE MANAGEMENT AND GREEN ENERGY SUPPORT**

Based on SA-LED's technical assistance to the Eden District Municipality, the District requested a more sustained SA-LED presence in their Green Energy Forum meetings held every second month. In May, SA-LED facilitated interaction with municipal officials, including, but not limited to, setting-up meetings and coordinating site visits to the municipality. In this Quarter SA-LED continued and finalized the waste characterization work, with inclusion of alternative waste treatment technologies that could be applied to organic waste streams in

EDM. This evaluation will be based on existing alternative waste treatment frameworks, specifically, the Department of Environmental Affairs' Alternative Waste Treatment Guide: <http://awtguide.environment.gov.za/> and project proposals for alternative waste treatment received by the District. This work is now ready for the next phase, which is the modelling of the waste work in order to develop a decision-support platform for the District Municipality going forward

## MPUMALANGA BIOGAS IN SCHOOLS LAUNCH

On June 21, 2018, the Mpumalanga Provincial Department of Economic Development and Tourism hosted a launch of the biogas at schools project, which was supported by SA-LED. SA-LED's support included project management, development of training material and provision of training, and technical assistance with implementation and adoption of the technology. SA-LED's assistance meant that the provincial department was able to fund the installation of one biogas digester in a school in each of its three districts. The Mpumalanga MEC for Finance, Economic Development and Tourism, [REDACTED], hosted the launch and USAID Southern Africa's Regional Director for Environment Education and Democracy (REED), [REDACTED] and Programme Officer, [REDACTED], also participated in the event.

The program launch included details of how the biogas pilot projects were implemented, including how the schools were selected, the training of officials, as well as small, medium and micro enterprise opportunities and technology transfer to the local communities. The involvement of the Department of Agriculture, Rural Development Land and Environmental Affairs and the role of the Department of Education was also highlighted during the event.

SA-LED is supporting the further roll out of biogas digester projects across the country. The installed projects will result in savings on energy purchases plus associated reduction of GHG emissions, as these schools currently use liquefied petroleum gas (LPG) or wood for cooking. A further benefit of these digesters is that the waste from the vegetable gardens and cooking at these schools is diverted away from landfills and is instead disposed of in the digesters. The digestate from the digesters is also used as organic fertilizer in the vegetable gardens at these schools and the rainwater that is harvested is used in the vegetable gardens, thus ensuring a closed loop feedback system.



Figure 4. Attendees of the launch viewing the biogas



Figure 5. [REDACTED] presents to those present at the launch

## AFRICA ENERGY FORUM IN MAURITIUS

This quarter, SA-LED's Capacity Building and Stakeholder Engagement Specialist [REDACTED] attended the 2018 Africa Energy Forum (AEF) Conference held in Le Morne, Mauritius between June 19-22, 2018. The primary value of attending this conference was the opportunity to engage directly with leading decision-makers in both the public and private sectors who are driving clean energy market development in sub-Saharan Africa. AEF has been very successful at creating a place and time for senior- and mid-level policy makers and public officials from across sub-Saharan Africa to meet and discuss with private investors, developers, suppliers, donors, and expert consultants the path forward for increased electrification. [REDACTED] learned how their work in green municipal development may be able to tap into larger public and private funding sources for small-scale low emissions development projects at the sub-national level and was able to interact with other US Government agencies represented at the conference, including the Power Africa Program. As a follow up, SA-LED plans to meet with ABSA's Investment Banking-Resources and Project Finance Unit as they expressed an interest in exploring supporting municipal LED projects in South Africa.

## TECHNICAL ASSISTANCE IN RELATION TO DEVELOPMENT OF STRATEGIES AND POLICIES FOR LOW EMISSIONS DEVELOPMENT

Moving forward, SA-LED will report on technical assistance in relation to the development of strategies and policies for low emissions development. This work is linked to SA-LED indicator 11.



An initiative that relates to this indicator is SA-LED's support to DEA on the development of sector guidelines for monitoring GHG emissions. The Department of Environmental Affairs has developed updated versions of the Monitoring and Evaluation sector guidelines for the Energy, Industrial Processes and Product Use (IPPU), Transportation, Waste sectors, and has developed a draft version for the Agriculture, Forestry and Other Land Use (AFOLU) sector. In response to DEA's request that SA-LED provide comments on the guidelines, consortium partners ICF and The Green House provided consolidated SA-LED comments to DEA in late 2016. Due to staff turnover and a shortage of DEA staff, DEA has requested further SA-LED support to revise the GHG mitigation portions of the sector guidelines.

The other current initiatives that cover this type of technical assistance are:

- Buffalo City Metropolitan Municipality LED Roadmap
- GHG Inventory and Development of Climate Change Strategy Action Plan for Govan Mbeki Local Municipality
- GHG Inventory and Development of Climate Change Mitigation Strategy for Chris Hani District Municipality
- Updating and finalization of Polokwane Municipality's Climate Change Strategy.

Notable progress on some of these activities are reported below.

### **DEVELOPMENT OF CLIMATE CHANGE STRATEGY ACTION PLAN FOR GOVAN MBEKI LOCAL MUNICIPALITY**

SA-LED had a workshop with Govan Mbeki Local Municipality on May 23, 2018 to discuss the draft Climate Change Strategy Action Plan that has been developed for the municipality. All discussions from the workshop will be noted and captured into the Action Plan and circulated to the municipality for discussion and inputs. The Action Plan will be finalized in July 2018.

### **APPROVAL OF CLIMATE CHANGE STRATEGY ACTION PLAN FOR CHRIS HANI DISTRICT MUNICIPALITY**

SA-LED worked with the embedded candidate in the CHDM to finalize the District's Climate Change Strategy. The strategy work is an outcome of the formal Organizational Capacity Assessment (OCA) that SA-LED conducted in 2017. In order to update the Climate Change Strategy's SA-LED worked to integrate different municipal departments, as well as local authorities around low emissions development work, and this resultant increased capacity will be measured through a follow-up OCA in the 4<sup>th</sup> Quarter. To help finalize the strategy, SA-LED provided comments which got incorporated into the draft strategy that was submitted and presented to Council for approval. Council approved the strategy on June 27, 2018 with the caveat that further comments may be incorporated into the strategy. A final strategy is due at the end of August for implementation.

### **GOVAN MBEKI LOCAL MUNICIPALITY INTEGRATED TRANSPORT PLAN**

During the provision of technical assistance to Govan Mbeki Local Municipality in developing their Climate Change Action Plan, the Spatial Development team in the municipality requested assistance in the development of their Integrated Transport Plan (ITP). The SA-LED team met with the Spatial Planning Team in Pretoria to discuss how SA-LED could support the municipality with developing their ITP. They reported that they are in the process of appointing a company that would be doing a transport impact assessment on the taxi and bus usage. This information would be used in the development of a situational analysis, which will be included in the ITP. Going forward, the SA-LED team recommended that they get buy-in from senior management at the Municipality.

### **MPUMALANGA PROVINCIAL GREENHOUSE GAS INVENTORY AND CLIMATE CHANGE STRATEGY**

SA-LED is developing a GHG inventory for the province. The methodology follows subnational GHG reporting protocols, specifically the Global Protocol for Community-Scale GHG Inventories (GPC). The inventory is a precursor to the development of the Mpumalanga Provincial climate change strategy. SA-LED will also support the development of this strategy which will be finalized in July.

## **CHALLENGES, CONSTRAINTS, AND LESSONS LEARNED**

One of the important lessons learnt during the quarter is that SA-LED can play a key role in supporting municipalities in making decisions about procurement of low emissions technologies. For example, does a municipality procure and build a PV system on its own or pass the risk on to a private sector partner through a public-private-partnership approach? The Program will continue to assist municipalities with this kind of decision making as it moves into the final quarter of FY2018 and the final two years of operation.

As the Program moves into its final two years of operation, decisions regarding prioritization of activities will have to be taken. This may mean that the Program has to relay the message to potential partners that their proposed initiatives cannot be supported. During the planning for the final two years it will be important for the Program to assist the municipalities it has been supporting, with the means to take forward the work that SA-LED has started. This could mean indicating to these municipalities' further donor programs that could support them or better still, work with them to ensure that there is funding made available to support implementation of low emissions activities. The SA-LED team will also focus on packaging projects to obtain finance during the last quarter of FY2018 and the remaining years of the program.

## ANNEX A. DEFINITIONS

**DISTRICT MUNICIPALITY** There are 47 Category C or District Municipalities which are made up of several local municipalities that fall under one district (between three to six local municipalities form a district council). The District Municipality coordinates development and service delivery in the entire district.

**LOCAL MUNICIPALITY** There are 231 Category B or Local Municipalities which share responsibility for service delivery with District Municipalities.

**METROPOLITAN MUNICIPALITY** There are 8 Category A or Metropolitan Municipalities representing the largest cities. These municipalities have a population of 500,000 and above.

**MRV** The implementation of climate change mitigation actions in a “measurable, reportable and verifiable” manner.

**SALGA** South African Local Government Association is an autonomous association of 278 municipalities with its mandate derived from the Constitution of the Republic of South Africa. This mandate defines SALGA as the voice and sole representative of local government. SALGA interfaces with parliament, the National Council of Provinces, cabinet, as well as provincial legislatures.

**V-NAMA** refers to vertically integrated nationally appropriate mitigation action as conceptualized by German Society for International Cooperation, Ltd. (GIZ) and has since been adopted by the United Nations Framework Convention on Climate Change (UNFCCC) as a globally accepted term for local mitigation action.



## ANNEX B. INDICATORS AND MILESTONES

The table below provides a summary of progress towards the achievement of SA-LED's targets for FY 2018 and over the life of the Program. Progress on activities as laid out in the SA-LED Workplan for FY 2018 is also described in the table. The table is laid out in such a way that it is easy to see how the activities of the Workplan contribute towards the achievement of the Program's indicators.

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Targets	Progress FY18	Annual Performance Achieved to Date (in %)	Comments
							Q3		
<b>Ultimate Outcome</b>	<b>Reduced greenhouse gas emissions through implementation of SA-LED initiatives</b>								
Intermediate Outcome I: Increased investment in LED									
KRA: Innovative LED projects identified, supported, and facilitated	Number of LED projects provided with technical assistance	20	6	5	4	3	225%	SA-LED provided technical assistance to a total of 7 projects – <b>3 new projects</b> : i) Polokwane Facilities Energy Audit, ii) Nketoana Local Municipality Facilities EEDSM Audits, iii) Dihlabeng Local Municipality Facilities EEDSM Audits. <b>4 Existing projects</b> : i) Ethekewini Solar PV on Reservoirs, ii) Ethekewini Conduit Hydro-power, iii) Mpumalanga Schools Biogas Project vi) Blue Karoo Trust Aquaculture	
KRA: Reduced emissions potential in strategic sectors demonstrated	Projected quantity of GHG emissions in metric tons of CO <sub>2</sub> e, reduced or avoided by 2030	100,000 tons	0	70,942 tons	<b>10,000 tons</b>	20,014	200%	GHG emissions reductions from Govan Mbeki energy efficiency high mast lighting, Polokwane, Dihlabeng and Nketoana energy efficiency in buildings audits.	
	MW of clean energy generation capacity	10MW	0	2.96 MW	<b>4MW</b>	0	0%	eThekewini Solar PV sites still have to be selected	

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Targets	Progress FY18	Annual Performance Achieved to Date (in %)	Comments
							Q3		
<b>Ultimate Outcome</b>	<b>Reduced greenhouse gas emissions through implementation of SA-LED initiatives</b>								
		supported by SA-LED assistance <sup>1</sup>							
Immediate Outcome 1.1: Improved project preparation									
Activity	Results Statement	Comment of Progress							
Activity 1.1.1	Provide technical assistance to projects to strengthen LED development	SA-LED provided technical assistance to the following projects: Polokwane; Nketoana and Dihlabeng energy efficiency audits as part of the DoE EEDSM program; eThekweni solar PV on reservoirs; eThekweni Conduit Hydro-power Project; Mpumalanga Schools Biogas Project and Blue Karoo Trust Aquaculture.							
Activity 1.1.2	Evaluate potential projects via screening criteria	During the quarter, SA-LED screened and identified four projects: Hessequa Local Municipality energy efficiency project, Tulbagh, Waste Water Treatment Works Energy at Chris Hani District Municipality and Energy efficiency audit in Enoch Ngijima.							
Activity 1.1.3	Development of a robust pipeline of LED projects	The Department of Energy (DoE) requested SA-LED to provide technical assistance by developing detailed engineering designs and tender specifications for three Combined Heat and Power (CHP) plants. The department intends to provide funding to CHP plants' development under its Energy Efficiency and Demand Side Management (EEDSM) Program. The CHP plants are located in the following municipalities: City of Mbombela, City of Tshwane, Ekurhuleni Metropolitan.							
Activity 1.1.4	Analyze the current selection criteria and develop additional criteria to pursue strategic technologies	Activity is completed							
Activity 1.1.5	Develop business case studies of specific LED technologies	ICF completed a business case study on the Durban Solid Waste (DSW) landfill biogas for vehicular use project. The product is still undergoing review and will be reported in Q4.							

<sup>1</sup> This is an LED project, with energy being one of the aspects in which we work. As such, SA-LED will contribute to Power Africa goals and share monitoring and reporting data from our energy projects with Power Africa. The annual targets for this indicator are not true "targets" we hope to meet necessarily but this is rather a "monitoring indicator" to make sure we can report on any clean energy generation projects SA-LED ends up supporting.

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Targets	Progress FY18	Annual Performance Achieved to Date (in %)	Comments
							Q3		
<b>Ultimate Outcome</b>	<b>Reduced greenhouse gas emissions through implementation of SA-LED initiatives</b>								
KRA: Resources from Development Finance Institutions (DFIs), Public Sector Finance funds (such as the SA Green Fund), and Private Sector Finance mobilized or Leveraged	Value of funds in USD mobilized or leveraged to support LED projects	US\$206M	US\$200M	US\$ 201,356,145	<b>US\$ 2M</b>	0	2%	SA-LED will check with DoE on whether funds unlocked through the energy audits can be counted.	
Immediate Outcome 1.2: Increased financial support to LED projects									
Activity	Result Statements	Comments of Progress							
Activity 1.2.1	Support co-benefit analyses in support of municipal decision making in the allocation of budget to LED technologies	Co-benefits work started on Ekurhuleni Metropolitan Municipality's 2 MW solar installation that was awarded using the SA-LED assisted tender and Eden District Municipality Waste Program. The co-benefits document for Cacadu Development Agency Mohair Supply Chain Greening is awaiting approval.							
Activity 1.2.2	Share information on the revenue implications of small scale embedded generation models	Starting in Q4, SA-LED will collaborate with the GIZ-SAGEN Program, the South African Local Governance Association (SALGA), and Sustainable Energy Africa (SEA) to rollout a number of 3-day training workshops (still to be confirmed). These training exercises will be followed up by 'on-site', individual municipal support, where the respective municipalities will be supported to develop SSEG application assessment and oversight systems. This will include assessing at least 2 applications in each of the supported municipalities to test system functionality.							
Activity 1.2.3	Continue to work with the GBCSA finance working group to accelerate private sector investment in green buildings	Decision has been taken to include this work in SA-LED general finance strategy.							
Activity 1.2.4	Provide financial advisory support to projects to increase	SA-LED hosted two workshops for key financial stakeholders. The workshops focused on the packaging of low emissions projects by sector and presented the research outcomes of Phase I of the SA-LED financial strategy. The quarter also saw the completion of a draft Finance Strategy and a meeting with the ADB							

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Targets	Progress FY18	Annual Performance Achieved to Date (in %)	Comments
							Q3		
<b>Ultimate Outcome</b>	<b>Reduced greenhouse gas emissions through implementation of SA-LED initiatives</b>								
	uptake of the guarantee facility	Principal Investment Officer, where opportunities for collaboration were discussed around pooled projects with high developmental benefits for the municipality and the community.							
Activity 1.2.5	Collaborate with DFIs, grant agencies, and government finance streams to access funding	This was achieved through the above activity.							
KRA: Capacities of the Public and Private Sectors to Identify, Develop, and Fund LED Projects in Strategic Sectors Strengthened	Number of institutions with improved capacity to address LED issues	20	0	2	7	0	14%	Work with various institutions is continuing but none can be reported as having improved capacity in this quarter.	
KRA: Public planning for LED improved	Number of laws, policies, regulations, or standards addressing LED formally proposed, adopted or implemented as supported by SA-LED assistance	10	0	1	4	2 (1 Proposed, 1 Approved), both strategies at sub-national	125%	SA-LED has supported Govan Mbeki Municipality with developing its Draft Climate Change Response Implementation Plan. This document is awaiting Council approval. The Chris Hani Climate Change Strategy has been approved by Council.	
Immediate Outcome 2.1: Mainstream LED into programming, planning and budgeting of municipal services									
Activity	Result Statements	Comments of Progress							
Activity 2.1.1	Provide technical assistance to municipalities to	In this quarter, SA-LED provided technical assistance to the following municipalities: Polokwane Local Municipality - Support with conducting the energy audits and Green Goal Energy strategy review; Chris Hani District Municipality – Continuing with the climate change strategy work; Govan Mbeki Local Municipality - Climate							

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Targets	Progress FY18	Annual Performance Achieved to Date (in %)	Comments
							Q3		
<b>Ultimate Outcome</b>	<b>Reduced greenhouse gas emissions through implementation of SA-LED initiatives</b>								
	mainstream LED into programming, planning and budgeting	change response and High Mast Lighting energy audits; Dihlabeng and Nketoana Local Municipalities - EEDSM audits for buildings; and eThekweni Metropolitan Municipality - Solar PV on reservoirs and Conduit Hydro-power.							
Activity 2.1.2	Implement SA-LED overarching capacity building plan	SA-LED continues to respond to municipal partners' capacitation needs and collaboration with other existing initiatives, such as the Cambridge Institute for Sustainability Leadership, the Urban Energy Network and National Biogas Platform and its different working groups. SA-LED will also collaborate with the GIZ-SAGEN Program, the South African Local Governance Association (SALGA), and Sustainable Energy Africa (SEA) to rollout several training workshops. These training exercises will be followed up by 'on-site', individual municipal support, where the respective municipalities will be supported to develop Small-scale Embedded Renewable Energy Generation (SSEG) application assessment and oversight systems. This will include assessing at least 2 applications in each of the supported municipalities to test system functionality.							
Activity 2.1.3	Conduct institutional capacity assessments of municipalities working with SA-LED and develop institutional strengthening plans	No institutional capacity assessment was conducted in this quarter. SA-LED is planning to do re-assessments for Polokwane, Govan Mbeki and Chris Hani municipalities in Q4. The plan is to also conduct one baseline Organizational Capacity Assessment in the reporting year.							
Activity 2.1.4	Implement institutional strengthening plans for above mentioned assessed municipalities	These will be developed and implemented once the capacity assessments above are conducted.							
KRA: Technical skills and strategic knowledge within relevant national, provincial or municipal government entities developed		Number of people trained in LED	130	33	117	31	59 (Male 28, Female 31)	700%	In this quarter, SA-LED conducted 3 trainings - Polokwane energy audits, Cambridge Institute for Sustainable Leadership (CISL) Executive and biogas schools.

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Targets	Progress FY18	Annual Performance Achieved to Date (in %)	Comments
							Q3		
<b>Ultimate Outcome</b>	<b>Reduced greenhouse gas emissions through implementation of SA-LED initiatives</b>								
		Number of individuals receiving USAID SA-LED training who apply the new knowledge and skills	92 <sup>2</sup>	0	3	<b>37</b>	10 (Male 5, Female 5)	75%	10 of the reported individuals are those trained in the basic audit course who immediately applied the skills and knowledge in phase 2 of Polokwane facilities energy audits.
Immediate Outcome 2.2: Increased municipal capacity for project assessment, design and development									
Activity 2.2.1	Provide capacity building support to individuals to strengthen LED capacity	In Q3 SA-LED's facilitated 2 trainings: i) Energy audits to Capricorn College for TVET students and lecturers and a couple of Polokwane Municipal officials; ii) Cambridge Institute for Sustainability Leadership Executive course.							
Activity 2.2.2	Support training opportunities for implementation of LED technologies	Training on conducting energy audits for Capricorn College TVET students and lecturers and Polokwane Municipal officials.							
Activity 2.2.3	Conduct study tours	No study tour was conducted during Q3. However, two study tours are planned for Q4: One to Australia where two South African municipalities will learn systems and processes for building transport resilience in low density cities; the second tour is planned for taking municipalities participating on the Department of Energy's combined heat and power (CHP), in wastewater treatment plants, project which SA-LED is providing technical assistance on the design of the CHP plants.							
KRA: Key stakeholder knowledge and awareness of LED technologies and implementation of strategies improved		Number of communication products produced by SA-LED	50	2	10	<b>20</b>	2	35%	SA-LED assisted Polokwane municipality with designing energy efficiency posters. There are a number of other products awaiting approval: i) Blue Karoo Marketing Video, ii) Blue Karoo Fish Farm article iii) Mohair Value Chain co-benefits and iv) SANS 10400-XA article

<sup>2</sup> Year 1 and 2 unmet targets have been added across the 3 outer year targets in this indicator.

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Targets	Progress FY18	Annual Performance Achieved to Date (in %)	Comments
							Q3		
<b>Ultimate Outcome</b>	<b>Reduced greenhouse gas emissions through implementation of SA-LED initiatives</b>								
KRA: Technical products to facilitate GoSA development and management of LED developed	Number of technical products developed to facilitate GoSA development and management of LED	8	1	2	2	0	0%	A few technical products are still in draft and will be reported in Q4.	
Immediate Outcome 2.3: Strengthened municipal LED knowledge base									
Activity 2.3.1	Develop and disseminate information on LED technologies and implementation strategies	ICF has completed developing the Municipal Fleet Costs and Environmental Impacts Calculator, which is a follow-up to the Life Cycle Assessment -Life Cycle Cost (LCA-LCC) study they did for Durban Solid Waste. The product is still undergoing review by the South African National Energy Development Institute (SANEDI)/the City of Johannesburg, City of Cape Town, City of Tshwane, C40 Cities and The Green House. The finalized calculator will be reported in Q4.							
Activity 2.3.2	Document best practices on different LED implementation approaches	The decision has been taken to take this work forward as legacy case studies during the remainder of the project years.							
KRA: Knowledge and awareness of the relationship between economic, gender, and youth implications of low emissions development increased	Number of projects supported by SA-LED that have co-benefits	10	0	2	4	0	0%	Co-benefits on the Mohair Value Chain document is awaiting approval. Work on the Ekurhuleni PV co-benefits has started. SA-LED still to select the two sectors to focus on for Eden District Municipality Waste Stream co-benefits.	
Immediate Outcome 2.4: Increased LED credibility as a pathway to local economic development, including gender and youth									
Activity 2.4.1	Integrate youth and women into SA-LED projects and activities	SA-LED contracted 10 students from Capricorn TVET College to conduct energy audits for Polokwane Municipality's buildings after undergoing training in basic audit in preparation for phase two of the audits.							

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Targets	Progress FY18	Annual Performance Achieved to Date (in %)	Comments
							Q3		
<b>Ultimate Outcome</b>	<b>Reduced greenhouse gas emissions through implementation of SA-LED initiatives</b>								
Activity 2.4.2	Capture learnings on co-benefits from projects supported	Co-benefits analyses of the greening of mohair value chain project is completed and awaiting approval. Two more analyses are underway: Ekurhuleni Solar PV and Eden District Municipality Waste Stream co-benefits.							
Activity 2.4.3	Roll out learnings from co-benefits to various SA-LED stakeholders	These will be shared as and when opportunities arise.							
KRA: GoSA skills to monitor, report, and communicate on GHG emissions improved		Number of people capacitated in GHG MRV	130 <sup>3</sup>	0	38	31	0	170%	No training took place in this quarter.
Immediate Outcome 3.1: Improved skills to monitor, report and communicate GHG emissions at sub national and project level									
Activity 3.1.1	Provide training on different GHG accounting practices	The 3 DEA officials are continuing with the online Diploma course offered by the GHG Management Institute and are at various stages of completion.							
Activity 3.1.2	Support the development of DEA's M&E sectoral guidelines	ICF is currently finalizing these guidelines for delivery to the Department of Environmental Affairs (DEA) at the end of July 2018.							

<sup>3</sup> This is a general training target to which training in GHG MRV contributes.



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