



Low Emissions Development Program

QUARTERLY REPORT

SOUTH AFRICA LOW EMISSIONS DEVELOPMENT (SA-LED)
PROGRAM

1 JANUARY – 31 MARCH 2019



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Cover Photo: Municipal workers from respective energy departments attending the SSEG workshop training, in Pretoria.

DISCLAIMER

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ACRONYMS

AD	Anaerobic Digestion
CD	Capacity Development
CDA	Cacadu Development Agency
CHDM	Chris Hani District Municipality
CSIR	Council for Scientific and Industrial Research
CN	Cape Nature
CoCT	City of Cape Town
CoP	Chief of Party
CoT	City of Tshwane
DEA	Department of Environmental Affairs
DEDEAT	Department of Economic Development, Environmental Affairs & Tourism
DM	District Municipality
DoE	Department of Energy
DST	Department of Science and Technology
EEDSM	Energy Efficiency Demand Side Management
EEPBI	Energy Efficiency in Public Building Infrastructure Program
EWS	eThekwini Water and Sanitation Unit
EE	Energy Efficiency
GGES	Green Goal Energy Strategy
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoSA	Government of South Africa
HVAC	Heating, ventilation and air conditioning
ICLEI	Local Governments for Sustainability (International Council for Local Environmental Initiatives)
IDP	Integrated Development Plan
ICAT	International Climate Action Transparency

ITP	Integrated Transport Plan
kV	Kilo-Voltage
LED	Low Emissions Development
LEDS	Low Emission Development Strategies
LPG	Liquid Petroleum Gas
LM	Local Municipality
MCCMS	Mpumalanga Climate Change Mitigation Strategy and Implementation Plan
M&E	Monitoring and Evaluation
MISA	Municipal Infrastructure Support Agency
MOU	Memorandum of Understanding
MRV	Measuring, Reporting, and Verification
NGO	Non-Governmental Organization
PMC	Project Management Committee
PPP	Public Private Partnership
PSC	Project Steering Committee
PV	Photovoltaic
RFP	Request for Proposal
SACN	South African Cities Network
SA-LED	South Africa Low Emissions Development Program
SALGA	South African Local Government Association
SANEDI	South African National Energy Development Institute
SARChi	South African Research Chair
SEA	Sustainable Energy Africa
SoW	Scope of Work
SSEG	Small-Scale Embedded Generation
TA	Technical Assistance
TOR	Terms of Reference
UoSA	Use of Systems Agreement
WESSA	Wildlife and Environment Society of South Africa
WWTW	Wastewater Treatment Works

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's transition to a low-carbon economy illustrates the typical dichotomy facing developing economies: joining the global fight against climate change, while advancing economic growth and social development.



South Africa has embarked on an ambitious effort to use LED to reduce its GHG emissions in a more sustainable and equitable way. To do so will require 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. South Africa's Climate Change Bill is currently in the process of being formally legislated. The Bill was born out of the 2011 National Climate Change Response White Paper, which outlined cross-sectoral mitigation goals for South Africa. It aims "to build the Republic's effective climate change response and the long-term just transition to a climate resilient and lower carbon economy and society in the context of an environmentally sustainable development framework; and to provide for matters connected therewith." At the inception of this Program, SA-LED aimed to respond to the provisions of what was articulated in the White Paper. Now, SA-LED aims to align its technical assistance with the principles pending the Climate Change Bill.

South African municipalities are currently challenged by the lack of adequate skills to move LED projects through the project development pipeline. A more coherent structure for coordinating at the municipal and national department levels needs to be articulated. These institutions need to be better equipped to operationalize and adequately plan for the implications of provisions within the Climate Change Bill in order to translate the Department of Environmental Affairs' (DEA) recommendations into actionable projects. Moreover, South African investors continue to perceive LED investments as risky. Investors pursuing investment in the energy sector need to acquire a more sophisticated understanding of LED technology and the legal and regulatory framework surrounding green investment. SA-LED seeks to play a catalytic role and bridge the gap between public institutions and LED investors, as well as showcase the potential for LED to deliver a multifaceted development impact.

The Program has been working to remedy these challenges by providing technical assistance, capacity building, financial advisory services, and support in sourcing external finance to help the Government of South Africa (GoSA) advance LED projects through the project development cycle in high priority sectors. The sectors identified by the GoSA as "near-term priority flagship programs" include waste management, transport, energy efficiency and energy demand management, renewable energy, and water conservation and demand management.

The GoSA has committed to reaching their Nationally Determined Contribution goals to the Paris Agreement on Climate Action. South Africa has also committed to adopt appropriate mitigation actions to enable a 34% deviation below the 'Business as Usual' emissions growth trajectory by 2020 and a 42% deviation below the 'Business as Usual' emissions growth trajectory by 2025. This level of effort will enable South Africa's GHG emissions to peak between 2020 and 2025.

THE SA-LED APPROACH



South Africa has committed to implement a nationally determined climate change response, including mitigation and adaptation actions that represent the nation's fair contribution to the global climate change response. Central to the approach adopted by the government is an emphasis on LED to reduce its substantial greenhouse gas (GHG) emissions levels in a sustainable, equitable, and just manner. 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.

South Africa's Climate Change Bill (2018) acknowledges the important role of the sub-national government sphere (province and local) in achieving the country's national climate change response. While the current version of the Climate Change Bill recognizes the role of municipalities in climate change mitigation, it does not explicitly establish sectoral emissions targets for municipalities. However, the Bill does require mayors of municipalities to undertake climate change needs and response assessments within a year of the promulgation of the Climate Change Bill. This will be followed up by the development of municipal climate change response implementation plans which are expected to include measures or programs (LED projects) relating to both adaptation and mitigation.

SA-LED's work in Year 4 and 5 builds on the successes and milestones of the first three years of the Program. Examples of the Program's progress to date are included within this report. A driving factor of the work for Years 4 and 5 is ensuring long-term value from the embedded technical advisors within the municipalities.

The focus of the Program for Year 3 was on project development and capacity enhancement. While SA-LED's original objectives remain, two key and interrelated approaches that emerged from the Program's work planning session in July 2018 will guide all activities and technical assistance during the final phase of implementation. The two approaches are that of "*supporting municipalities to prepare for and implement climate change response implementation plans*" and "*ensuring sustainability of technical assistance.*" These approaches will be supplemented with robust knowledge sharing activities, LED tool development and dissemination, and thorough project handover processes.

At present, many South African municipalities lack the capacity to move projects through the pipeline. Additionally, a clear structure for coordination between the sub-national government spheres and the national government climate change mitigation mandate has yet to be articulated. These institutions do not yet have an understanding of the operational and planning implications of provisions of the Climate Change Bill 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.

SA-LED will play a role in ensuring municipalities have the tools and capacity to prepare and implement climate change response implementation plans. This will be accomplished through continuing to provide technical assistance to municipalities to build their capacity through various measures including workshops, tailored training, and peer-to-peer exchanges.

Through increasing the municipalities' knowledge surrounding climate change, its effects, and mitigation measures, in addition to the relevant tools that are available and how to utilize them, SA-LED will position municipalities to respond to the mandates of the Climate Change Bill, including response implementation plans.

RESEARCH AND ANALYSIS



While research and analysis including conducting market research and identifying project blockages and best practices played a vital role in the early years of the Program, these activities will have less of an emphasis in Years 4 and 5. Having completed the majority of this work, SA-LED will focus on utilizing case studies, communications products, best practices, and lessons learned to inform its approach toward capacity development, financial work, knowledge sharing activities, and the development of tools to ensure municipalities are positioned to apply the knowledge and skills once the SA-LED Program ends.

LED PROJECT DEVELOPMENT



LED project development including conducting feasibility studies, evaluating LED technology, and unblocking projects was a high priority during the first three years of implementation. While LED project development will continue to be a prominent focus of SA-LED's technical assistance, the Program will concentrate on activities and support that ensures that municipalities are positioned to package LED projects for financing and implement LED projects once SA-LED closes. This will be achieved through a combination of capacity building and knowledge sharing activities; the development and/or dissemination of a variety of tools, methodologies, best practices, and case studies; and formal project handover processes.

CAPACITY DEVELOPMENT



As referenced in each of the other forms of technical assistance, capacity building will drive the majority of SA-LED's activities in Years 4 and 5. Overall, SA-LED will aim to ensure municipal officials are equipped with the knowledge, skills, and tools required to implement the Climate Change Bill, bring LED projects to technical and financial feasibility, and implement LED projects effectively.

ENABLING ENVIRONMENT



In FY2019, fostering an enabling environment for the robust pipeline of LED projects continues to be a major emphasis. SA-LED is achieving this by providing municipalities with regulatory technical assistance, utilizing research and analysis to inform project design and implementation, and providing support in mobilizing finance to achieve market integration of LED projects.






MEASURING, REPORTING, AND VERIFICATION OF GHG EMISSIONS



SA-LED continued supporting municipalities to perform project-level GHG emissions analysis using [USAID's Clean Energy Emission Reduction \(CLEER\) Tool](#) developed by consortium partner ICF International where applicable, and to articulate the multiple-benefits of LED projects. In FY18, the Program revised the GHG mitigation sections of the DEA's M&E Sectoral Guidelines for the combined Energy and Transportation, and the Industrial Processes and Product Use sectors. In addition, the Program supported select municipalities to align their local GHG inventories with internationally recognized reporting protocols.

KEY ASSUMPTIONS

Assumptions explain the underlying logic behind SA-LED's expectations of the connections between different components of the pathway-of-change. The underlying assumptions of the Program are as follows:

-  1) Implementation of LED initiatives will ultimately contribute towards reducing relative levels of GHG emissions.
-  2) Provision of capacity building and technical assistance to targeted municipalities will result in increased investment in LED initiatives.
-  3) Assistance to mainstreaming LED initiatives into municipal planning, programming and budgeting processes will result in increased uptake of LED projects at the municipal level, for example generation of renewable energy, improved waste management, and efficient public transport systems.
-  4) Municipalities are key actors in developing and implementing climate change mitigation policies and programs as they are located at the interface of local action, through their service delivery mandates, and national commitments.
-  5) Implementation of LED initiatives has the potential to support economic development and job creation for women and youth.

SA-LED's progress for FY2019 is detailed in the following sections. The report provides information on progress for projects that will lead to a reduction in GHG emissions, capacity building with respect to LED, and activities to promote an enabling environment for the uptake of LED projects. Given the present position of the life of program (LOP), the report will also focus on projects that are currently scaling down.

LED PROJECT DEVELOPMENT

During this quarter, the SA-LED team continued to provide technical support to low emissions development projects and to undertake the engagement 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 geographic representation of where technical assistance is currently being provided. Key progress for the quarter is outlined below. Two new projects and four existing projects were supported during Quarter 2.

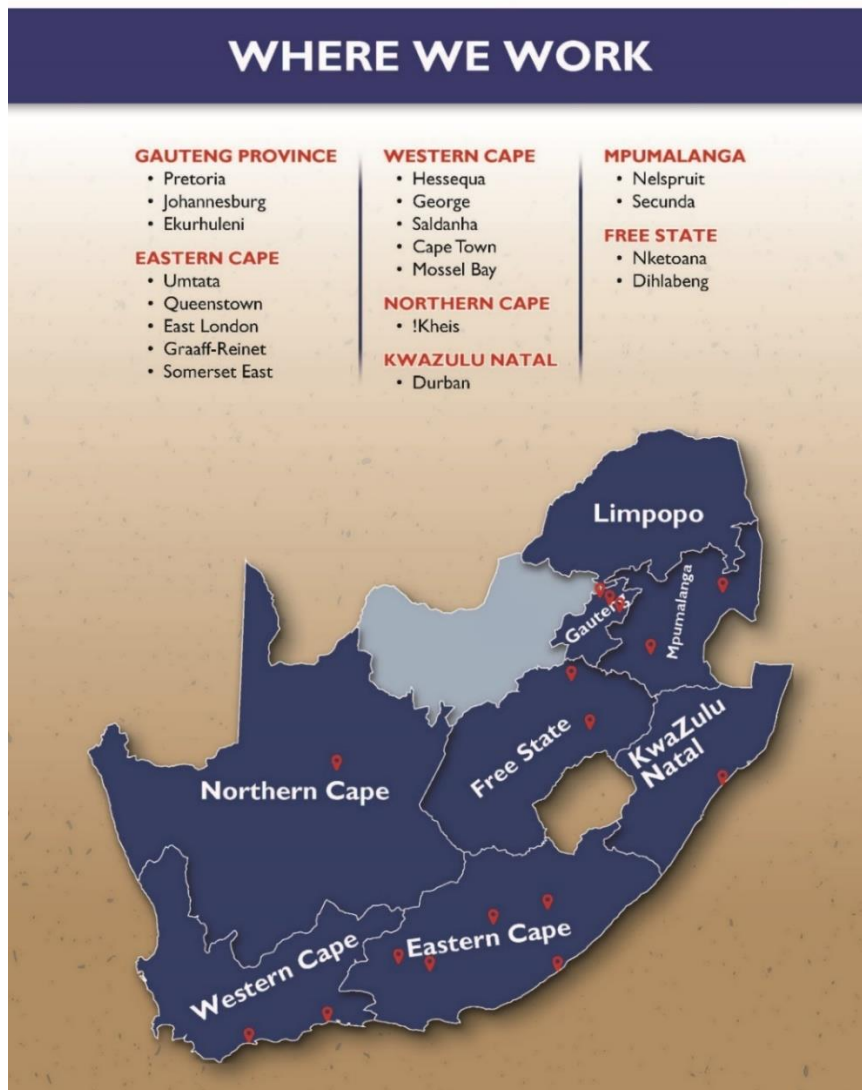


Figure 1: Map of current projects are located throughout the country.

NEW PROJECTS

CAPE NATURE LED IN PROTECTED CONSERVATION AREAS, WESTERN CAPE

This quarter, SA-LED continued its engagement with the Western Cape Provincial Environmental Conservation Unit, Cape Nature, on potential areas of collaboration between the two organizations to prioritize technical interventions. Cape Nature is a public institution mandated to promote and ensure the conservation of biodiversity in the Western Cape Province.

In January 2019, and as a follow up to the December general site visit, SA-LED met with Department of Public Works and Cape Nature officials on-site to discuss the timing and parameters of the technical interventions suggested for the site. The objective of Cape Nature's partnership agreement is to provide multi-dimensional technical assistance to the development of facilities for protected areas and strategic programs. Post the first site visit, the goal of this meeting was to move ahead with the technical aspects of achieving environmentally sustainable design with an emphasis on their waste and water facilities, storm water system, retrofitting of existing buildings, advising on green development for new building facilities, and mainstreaming LED into the education department's strategies and operations. The largest, most immediate opportunity is to intervene whilst the Department of Public Works (DPW) is on site busy repairing and maintaining below-ground infrastructure as during maintenance the pipes are dug open and SA-LED consultants can assess the infrastructure directly, instead of working off specifications and plans, which provides a more accurate assessment. In addition, certain parts could be left open for Cape Nature to, for example, insert a hydro turbine before closing up the infrastructure gain, thus mitigating costs of re-opening buried infrastructure. SA-LED identified the following on-site technical options. Key recommendations are:

- Build a retention pond/dam to capture run-off water. In this drought-stricken area it is essential to not let all run-off water go to waste in the main municipal drainage systems, i.e. retain a suitable amount of water onsite to feed the Waste Water Treatment Works (WWTW) and other grey-water needs (if filtered and prepared correctly rainwater could be harvested as potable water).
- Build in-line (in the main water pipe coming from the mountain that uses gravitation flow – non mechanical – to reach the site) hydro power generation using small-scale/pico hydro systems. These systems are used in South Africa and has demonstrable efficacy.
- Use water from the retention pond to feed the WWTW and pools.
- Obtain technical inputs to get the WWTW in functional state, more importantly ensure that it pumps and mechanical components of the WWTW is energy efficient.
- Assess potential for solar PV installations on the WWTW, and retrofitting buildings that are thermally inefficient
- Upgrade derelict “normal chlorine” pools into eco-pools that use wetland filtering to maintain water quality.

After the in-house assessments, the SA-LED consultants will be on site in the following quarter to provide technical assistance to the site team. It is envisioned that the technical components (feasibility studies of the recommendations) will commence directly following the signature of the MoU, which is currently being drafted. Technical activities are expected to be completed by the end of August.

WASTE CHARACTERIZATION STUDIES IN SALDANHA MUNICIPALITY

Saldanha Bay Municipality is a local municipality located on the West Coast of South Africa, approximately 140 kilometres north of Cape Town. It forms part of the West Coast District Municipality (DC1), situated in the Western Cape Province. The municipality covers an area of 2015 km² and a coastline of 238km. Saldanha has the largest natural port in Africa and the area is earmarked as a regional motor for the development of the Western Cape Province.

Following SA-LED's successes in conducting waste characterisation studies for numerous municipalities in South Africa, the Program will support Saldanha to understand and maximize the potential benefit of their 'construction and demolition' waste stream. This project further marks the first formal collaboration with ICLEI Local Governments for Sustainability – an entity that also supports cities to promote sustainability across the board. ICLEI will also be the partner to take the work forward, once SA-LED exits the market. Moving forward SA-LED will:

- Conduct a study to define specific construction and demolition waste sources by type and volume in the Saldanha Municipal Area (7 towns).
- Identify existing stakeholders, initiatives, analysis of potential solutions and opportunities to use the highly re-usable and re-cyclable materials.

SA-LED's 'Cradle to Cradle Construction and Demolition Waste Stream' analysis will ultimately support Saldanha to include a waste stream as a potential revenue stream in their planning and waste management processes. SA-LED has already met with the municipality and conducted site visits to assess the baseline of the project. It is envisioned that the project will start in the next quarter and be completed by September 2019.

EXISTING PROJECTS

CACADU DEVELOPMENT AGENCY (CDA): FINANCIAL ENERGY ADVISORY IN MAKANA

SA-LED has provided technical assistance to the CDA of the Sarah Baartman District Municipality in the Eastern Cape since the signature of the MoU in January 2017. The project provided the Makana Local Municipality with a sustainable energy advisor to support the municipal implementation of a Use of Systems Agreement (UoSA) for generation of renewable electricity within the municipality's electrical distribution network. In this quarter, the advisor supported the completion and municipal implementation of a Use of Systems Agreement (UoSA).

The intention of the project is to wheel renewable, solar, biomass and waste, and potentially hydro and wind-based electricity from generators connected to the local municipal network to other areas on the grid. Makana municipality is financially constrained with much work required on basic service delivery activities, including electricity, water and waste. It is anticipated that the mutually beneficial agreement that SA-LED helped broker between the local municipality, private power producers, green energy customers, and power trader(s) will assist in improving the level of electrical services in the town and surrounding district. Procurement of electricity by local municipalities at a significantly increased scale is currently critical to the sustainability of the South Africa energy sector.

CACADU DEVELOPMENT AGENCY: GREENING THE MOHAIR VALUE CHAIN, EASTERN CAPE PROVINCE

SA-LED provided ongoing support to various public and private sector stakeholders in the Eastern Cape Province, including the Provincial Veterinary Services, Eastern Cape Rural Development Agency, and BKB Limited (a key stakeholder in the South African agricultural sector with focus on wool and mohair brokerage services) to green the South African mohair value-chain. In this quarter, SA-LED provided technical assistance to complete a set of guidance documents to support the greening of mohair production and thus making the value chain more environmentally sustainable and socially responsible.

These documents include the Mohair Sustainability Standard and the Animal Welfare Protocol, which details components on rangeland, energy, animal conservation, waste, and water management as well as occupational safety and health and labor law. With a standard and protocol tool in place, international buyers may now pay a premium for green mohair. These instruments will support emerging farmers to comply with certified processes that will enable them to understand the value of 'green' mohair, and potentially benefit from a highly lucrative industry. Technical assistance to the CDA, which focused on working with emerging farmers to empower them to access a potential green mohair value-chain, concluded this quarter with a final guidance document.

The next step for the project is to finalize the macro-economic study that links SA-LED's work directly with the South African and global economy. SA-LED consortium partner DNA Economics will finalize this study in Quarter 3. This study will focus specifically on incorporating macro-economic and trade implications of a "green" mohair value chain into SA-LED's work.

KNYSNA WASTE COST OF SERVICES STUDY

In this quarter, SA-LED finalized its technical assistance to the municipality through the completion of a Waste Cost of Services Study report. The report recommends various waste management options and details the findings of completed feasibility studies.

This work is informed by national policies on waste management. The Western Cape Provincial Department of Environmental Affairs and Development Planning indicated that only regional landfill sites will be approved in the future. In general, all types of waste are dumped on the large landfills that are – for many municipalities – not well maintained and operated. Illegal and unscrupulous dumping cause several negative socio-economic-environmental impacts. Understanding the cost of managing waste and potential reduction of waste streams banned from landfills, as well as the technology and management options around this, is therefore crucial for municipalities. Transport reduction, sustainable disposal of waste, at-source waste reduction and closer-to-source waste reduction, separation processes, efficient human resource application, and public-private cooperation in waste reduction and sustainable disposal will all mitigate greenhouse gas reduction.

This information allows the municipality to introduce a sustainable system that would be effective, efficient, and positively impact global warming by actively seeking ways to minimize the excessive production of greenhouse gases. The next step is to finalize the report to be effective as a communication product that will showcase the sustainability of SA-LED's technical assistance once the Program closes, as well as a legacy product to share with similar groups in the future.

ETHEKWINI SOLAR PHOTOVOLTAICS (PV) ON RESERVOIRS

During this quarter, SA-LED received the long-awaited grid infrastructure upgrade cost estimates from the eThekweni Electricity Department. With this information, SA-LED worked on updating the financial model developed for the 5MW solar PV on reservoirs project. The financial model developed also had to incorporate additional data and financial parameters as requested by National Treasury's PPP Unit and eThekweni Water and Sanitation Unit (EWS).

Now that the estimates for six of the eight sites have been received, they will help determine the cost of connecting the solar PV panels to the municipal grid network. These estimates will clarify the cost associated with upgrades or new transmission infrastructure required to evacuate power from the reservoir sites. This information will be used to finalize the feasibility study for submission to the EWS in the next quarter, and it is hoped that the municipality will then follow the prescribed National Treasury's Public Private Partnerships (PPP) process to procure the project. The current estimated project development cost is R70 million. Once developed, this project is expected to result to a GHG mitigation of 86,470.40 tCO₂e (between 2019 – 2030).

ECODISTRICTS FINANCE PROCESS IN PAARL, WESTERN CAPE

In this quarter, SA-LED integrated two work streams, namely technical EcoDistricts work and SA-LED's finance processes, to provide a value-adding legacy product. SA-LED finalized the appointment of a financial consultant who will provide technical assistance to support the municipality to seek financial outcomes for its EcoDistricts social housing project. Paarl as a designated EcoDistricts site in the Drakenstein Local Municipality (LM) and SA-LED is working with a local accredited EcoDistricts Professional who will advise the municipality on how to register their social housing project under the. EcoDistricts Protocol. Matching

financial outcomes to EcoDistricts social housing design could subsequently be used by other municipalities across the country wishing to implement the EcoDistricts Protocol. The EcoDistricts protocol is a standardized and accredited process by which cities and towns could plan and design ecologically sound, climate friendly and inclusive precincts. .

It is an opportunity to establish a basic set of guidelines, decision tools, and case study material. In addition to the design process, SA-LED has identified the opportunity to integrate private sector finance into the design process by modelling a practical finance instrument – uniquely tailored to the specific social housing site/project – that will allow immediate integration and mainstreaming possibility of this work in the market. This work is planned to be concluded in August 2019. In this quarter, SA-LED worked with the municipality to coordinate the concept of finance modelling with the municipality. It is expected that this work will be completed by end November 2019.

The Drakenstein LM has been identified as a strong candidate for the first South African project application of the EcoDistricts Protocol in the EcoDistricts training processes that were rolled out in City of Cape Town and Johannesburg. Following two training sessions with these metros - that was attended by Drakenstein LM, SA-LED and the EcoDistricts teams identified Drakenstein as adhering to a number of enabling characteristics to make it a suitable candidate for technical assistance. SA-LED will complete its EcoDistricts work in South Africa by providing technical assistance to the Drakenstein LM to ensure sustainability of this technical assistance in South Africa. This work is supported by a collaboration of stakeholders, including USAID SA-LED, the Western Cape Economic Development Partnership, Drakenstein Municipality, and vital public and private sector stakeholders who play key roles the decision-making processes.

With the goal to provide “Neighbourhoods for All”, the Municipality has decided that the EcoDistricts urban regeneration methodology provides a comprehensive framework to guide urban and community development that focusses on social inclusion, environmental sustainability and resilience. While sustainable approaches to precinct planning are not new, EcoDistricts offers a few distinct advantages; namely that it is flexible (i.e. far less prescriptive than traditional green building rating systems) and draws all decision makers – especially the community – into the planning and implementation process. Municipal managers who attended the EcoDistricts training in Cape Town recognized that the successful application of EcoDistricts to Paarl could deliver several important benefits, locally and across South Africa:

- Develop an independently driven, progressively oriented, context-appropriate urban vision aligned with the National Development Plan, climate change response strategy and unify a diverse group of local stakeholders;
- Build-in practical measures to secure local resilience in the environment and underpinning ecology, including resource efficiency (green buildings, improved water infrastructure) and distributed renewable energy systems;
- Increase the supply of affordable housing, especially units catering to the gap market which constitutes a third of households in SA.

OR TAMBO MUNICIPALITY: RECYCLABLES MAPPING AND ENERGY EFFICIENCY PROJECT, EASTERN CAPE

SA-LED is providing technical support and capacity building to the OR Tambo District Municipality through the mapping of recyclables in the District, as well as through support with the Energy Efficiency Audit on the Port St. Johns Municipal buildings.

Three milestones have been completed to date: the baseline report on recyclable mapping has been finalized, the activities and timelines have been agreed upon and reflected in the implementation plan, and the confirmation of the roles and partnerships have been agreed upon as reflected in the Memorandum of Understanding that was shared with the OR Tambo District.

SA-LED met with the OR Tambo Project Steering Committee in March 2019 for the second quarterly Project Steering Committee meeting. The quarterly meeting was held to give project updates, confirm the Terms of Reference (TOR) for the Project Steering Committee (PSC) and any other matters relating to project planning and implementation. The next steps for the duration of the project were discussed and agreed upon. The Waste characterization or recyclables mapping will be finalized in September 2019, with the SA-LED consultant gathering information from April 2019 and visiting the project sites. The [USAID Clean Energy Emission Reduction \(CLEER\) Tool](#) training will include all staff involved in billing, electricity, and environment, and will take place in July 2019. The collection of data for the Energy Efficiency Audit will start immediately, with a site visit scheduled in April 2019 and the Audit taking place in June 2019. Relevant stakeholders were identified, and their contact details were shared with all PSC members.

The members of the PSC were decided. It was agreed that SA-LED, as technical lead, will act as Secretariat for the duration of the implementation of activities and liaise with the OR Tambo Waste Manager, the Chair the PSC Meetings, and the Department of Economic Development, Environmental Affairs & Tourism (DEDEAT) Regional Manager or a delegated official. Henceforth the Steering Committee's name will be The OR Tambo DM Environment and Development Project Steering Committee. PSC will meet quarterly for the duration of project.

GOVAN MBEKI LOCAL MUNICIPALITY: INTEGRATED TRANSPORT PLAN

The National Land Transport Act 5 of 2009 makes it a legislative requirement that all Local Municipalities must develop an Integrated Transport Plan (ITP) in line with the National Land Transport Master Plan. The ITP will form the Transport Sector Plan for the Municipal Integrated Development Plan.

In May 2018, the Govan Mbeki Local Municipality's Spatial Planner approached the SA-LED team for assistance with the development of an Integrated Transport Plan (ITP). Discussions ensued, and SA-LED committed to support the development of the ITP. Various meetings were held with the Local and District Municipality to establish support from Gert Sibande District Municipality. These meetings also discussed support from the Mpumalanga Provincial Transport Department. At present, legislation dictates that Provincial Transport, for every Province lead the development of the District Vision and Masterplan for Transport. However, due to financial constraints, it was eventually established that the Govan Mbeki Municipality could not fulfill the requirements to develop an Integrated

Transport Plan. In Govan Mbeki municipality, there was no communication between the two municipalities. It was only with the assistance of SA-LED that this transpired.

In support of the Govan Mbeki local Municipality, the Gert Sibande District Municipality procured a transport study, which is an integral part of the ITP. The current study has huge gaps and the information in the study cannot be used because the current information collected is incomplete. In this quarter, as part of SA-LED's efforts to build the capacity of the Municipality to develop their Integrated Transport Plan, the Program has redesigned the scope of technical assistance. The support provided to the Municipality will focus on building capacity to develop key components of the ITP and facilitating the launch of the local and district Transport Forum. During Quarter 3, SA-LED will begin capacity building, and the process of launching the Forum (including establishing an MoU, stakeholder engagement, and developing of Terms of Reference). The support is expected to be phased out in Quarter 4.

GEORGE LOCAL MUNICIPALITY: WATER/WASTEWATER TREATMENT WORKS ENERGY EFFICIENCY AUDITS

SA-LED has been providing the George Local Municipality with technical assistance since March 2018. George Municipality requested for SA-LED to assist with upgrading a wastewater treatment works (WWTW). The municipality requested that SA-LED conduct energy efficiency audits so that they could assess where they are losing electricity on the WWTW. Furthermore, the energy audits were conducted in efforts to identify opportunities for energy-saving and a reduction in the operational costs of managing the WWTW.

Since September 2018, SA-LED effectively provided technical assistance to George Local Municipality for the preparation of an application to the Department of Energy for their Energy Efficiency Demand Side Management (EEDSM) funding. The application included various recommendations for energy efficiency initiatives such as the optimization of bioreactors, including aeration and associated pumps.

The EEDSM application was approved in March 2019, with an amount of R16 million granted from 2019 until 2022. The money will be disbursed in three payments; the first payment of R5 million will be granted in 2019/2020, the second of R5million in 2020/2021, and the last of R6 million in 2021/2022. The Municipality will be meeting with the SA-LED consultant in Quarter 3 to discuss which projects will be funded from the EEDSM funds, with a focus on Outeniqua and Gwaing WWTW plants.

NEW INITIATIVES

HESSEQUA LOCAL MUNICIPALITY: ENERGY AUDITS AND WASTEWATER TREATMENT WORKS

In October 2018, the SA-LED team and project consultants visited various sites in the Hessequa Local Municipality to gain a better understanding of the scope of work to be undertaken by the Program. They visited the Water and Wastewater Treatment plant in Riversdale and the two municipal buildings that the municipality identified as potential sites for Solar PV installation. In December 2018, the consultants visited the sites for the two projects and met with the Municipal official, [REDACTED].

The team had a second meeting planned with the Wastewater Treatment Plant Manager.



Figure 2 Hessequa Municipality.

The Manager did not arrive for the meeting, though the consultants continued with the site visit and made observations. Since January 2019, numerous requests were made to the Municipality for the necessary lab data for the Process Engineer to prepare his report and to substantiate what he observed at the Wastewater Treatment Plant in Riversdale.

The Municipality has not responded, and it has been decided that the support to the Municipality for the energy efficiency evaluation on the

Wastewater Treatment will be withdrawn going forward.

HESSEQUA LOCAL MUNICIPALITY: SOLAR PV FEASIBILITY STUDY

At a site visit in December 2018, SA-LED was taken to the two municipal buildings that the Municipality had identified for the installation of solar PV. On initial inspection, the two buildings were found to be appropriate and the Municipality provided the necessary data to complete the feasibility study. A draft feasibility report was sent to the Hessequa Local Municipality on March 27, 2019. The Program currently awaits a response from the Hessequa Local Municipal Electrical Manager.

The consultants have indicated that the judgement of a structural engineer is required to confirm whether the two municipal buildings are strong enough for Solar PV installation, prior to finalizing the feasibility study report. It is anticipated that the solar PV feasibility study will be finalized in Quarter 3. The SA-LED team has also assisted the Municipality in sourcing funding from the Local Government Sector Education Training Authority (LG SETA) for a Mechanical Engineering Intern, who will have a 24-month contract at the Hessequa Local Municipality from May 1, 2019.

MULTIPLE BENEFITS FRAMEWORK

MULTIPLE-BENEFITS GARDEN ROUTE MUNICIPALITY ABATTOIR

In response to national waste goals to divert organic waste from landfill, SA-LED has been supporting the Garden Route District Municipality (GRDM) to characterize the volumes, flows, composition and potential use of alternative technologies to process the organic waste. With technical assistance provided, the GRDM will be able to make informed decisions regarding the use of their waste to add value to their operations, specifically when constructing new organic waste facilities, integrating technologies with multiple environmental and social benefits, including the opportunity to implement alternative technologies such as green waste composting, anaerobic digestion, and wet organic waste recycling.

In February 2019, SA-LED presented to the World Resources Institute (WRI) about the Program's work from the past 18 months and how multiple benefits can be applied to the global context through the International Climate Action Transparency (ICAT). WRI expressed interest in multiple benefits case studies developed by SA-LED and its partner, ICF International. WRI also expressed a desire to integrate the case studies into the ICAT process. Garden Route District Municipality (GRDM) Abattoir was among the multi-benefits cases presented.

Abattoir waste was identified through multiple waste characterization analyses as the most problematic food waste type to manage in the Western Cape due to its hazardous nature and negative impacts on the environment and human health. A possible solution to manage the potential negative impacts is anaerobic digestion, which generates biogas that can be used to produce heat and/or electricity, as well as a by-product that can be used as fertilizer. Diverting abattoir waste from landfills into anaerobic digestors can reduce greenhouse gas (GHG) emissions through methane capture and renewable biogas energy generation. The construction and maintenance of the anaerobic digester facility will also create local jobs.



Figure 3 George Municipality Landfill. (Source: George Herald Local Newspaper)

The SA-LED assessment of multiple benefits found that treating the GRDM's abattoir waste using an anaerobic digester can reduce GHG emissions by 5,700 tonnes of CO₂e per year. These reductions would come from avoided electric utility emissions, avoided fertilizer application, and soil carbon change. Using anaerobic digestion technology would also divert about 9,700 tonnes of abattoir waste from the landfill annually, extending the new landfill's lifespan approximately three years. The operation and management of the new anaerobic digester has the potential to create two permanent jobs with an additional 53 jobs in the first year from the construction phase. Anaerobic digestion is also less expensive than landfilling – when calculated over 10 years, anaerobic digestion saves R 32 per tonne of waste. This would result in annual savings of over R 313,000.

In Q3, SA-LED will be packaging all multiple-benefits assessments and case studies for integration in the World Resource Institute processes, as well as to serve as developing communication products as a legacy for the Program.

CAPACITY DEVELOPMENT

CHRIS HANI DISTRICT MUNICIPALITY

Through an agreement with the Eastern Cape Provincial Government Department of Economic Development, Environmental Affairs & Tourism (DEDEAT), SA-LED has been providing long-term technical assistance to the Chris Hani District Municipality (CHDM) through embedded support, specifically the appointment of an SA-LED technical facilitator. This form of technical assistance is proving very successful as the on-site technical assistance and capacity building activities are resulting in thorough integration of LED concepts and interventions in several core service delivery and development processes of the District Municipality.

The embedded SA-LED Technical Facilitator in the Municipality is working on several activities that are a direct result of the implementation of the climate change strategy that SA-LED supported development of. Specifically, the activities include support to the DEDEAT 30 biogas schools project (scaling up the biogas in schools pilot projects SA-LED supported in Mpumalanga), as well as the conversion of the district's largest WWTW in Enoch Ngijima Local Municipality to a biogas-to-energy solution.

In Q2, SA-LED supported the biogas in schools project by working with local consortium partner AGAMA Biogas to identify, select, and start preparing schools for the biogas intervention and training. Several site visits were conducted, and ten schools have been selected to proceed with the biogas-food garden-water harvesting solutions.

In addition, the SA-LED facilitator investigated and conducted several site visits for the WWTW project in Enoch Ngijima. The Program further facilitated interaction between core engineering departments and private sector partners to go on site, assess the situation (baseline form which SA-LED will intervene), and make recommendations on how to technically proceed with the biogas-to-energy solution.

The critical next step for the (CHDM) is to secure existing municipal budget funds to repair the infrastructure around and in the plant. This will include repairing pumps and pipes, as well as cleaning out the settlement tanks. In April and May 2019, SA-LED will meet with the engineering department and other relevant departments to finalize these engineering processes before commencing with the technical assistance in May 2019. The technical assistance will focus on a feasibility study to capture gas for energy generation from the WWTW.

POLOKWANE MUNICIPALITY

The process of replacing Polokwane's current 250W high pressure sodium streetlights to light emitting diode continued this quarter as part of implementing the municipality's activities for the 2018/19 DoE Energy Efficiency Demand Side and Management (EEDSM) grant. To date, 544 (46%) of streetlights have been replaced. SA-LED's EEDSM coordinator compiled energy efficiency awareness campaign messages focused on showing the public how they can save energy, which were then submitted to the Polokwane graphic designer to be developed into posters.

Preparations for submitting the Polokwane Green Goal Energy Strategy to the Council Portfolio Committee continued. SA-LED's EEDSM coordinator prepared three documents

to accompany the submission: i) a report on the background of the strategy; ii) a summary memo to the municipal manager on the strategy and iii) a list of projects to be implemented as recommended in the strategy together with associated budget estimates and sources of funding.

The MoU that started with Polokwane municipality on April 26, 2017 is coming to an end on April 23, 2019. As a result, SA-LED began planning and preparing for Polokwane capacity building activity close out this quarter. SA-LED has been providing capacity building to Polokwane local municipality through an embedded Energy Efficiency Demand Side and Management Coordinator (EEDSM) whose contract is ending on April 30, 2019.

As part of preparing to absorb the EEDSM coordinator position into the municipality, a new organogram proposing two EEDSM positions (including the coordinator) has been approved by the municipality and is awaiting budget approval. These positions will be advertised in the new financial year, starting in July 2019. The Energy Services Assistant Manager, [REDACTED], has written a memo to the Municipal Manager indicating the urgency of the two EEDSM positions. Polokwane municipality urgently needs EEDSM positions as the Energy Services is applying for two more EEDSM projects – energy efficiency in public buildings and Wastewater Treatment Works. There are also two solar projects in the pipeline, including rooftop solar PV and solar farm projects. SA-LED will formally close out Polokwane activity with a meeting scheduled for April 30, 2019.

SSEG MUNICIPAL WORKSHOP TRAINING

There has been a substantial expansion in renewable energy in recent years, particularly in small scale embedded generation (SSEG). Industry numbers indicate that more than 300 megawatts installed capacity of SSEG in the form of solar rooftop PV systems are connected to South African municipal grids. In this regard, municipalities have a vital present and future role to play when it comes to the approval, integration, and management of solar systems connected to their networks to ensure that safety, power quality, and revenue impact issues are properly dealt with. SA-LED, in partnership with GIZ, the South African Local Government Association (SALGA), The Innovation Hub, Department of Energy (DoE), Sustainable Energy Africa (SEA), and Council for Scientific and Industrial Research (CSIR) supported the Gauteng based SSEG training in Q2.

The SSEG skills development training was convened over 5 days (25-29 March 2019) at the Innovation Hub, Pretoria. The overall objective of the training was to enhance the knowledge and skills of municipal officials in operationalizing the various aspects of SSEG systems assessment, metering and billing, illegal systems and related aspects. A total of 65 municipal officials representing 15 different municipalities from the Northern regions attended the training workshop. Participating municipalities were:

- City Power
- Rustenburg
- Steve Tshwete
- Msunduzi
- Erkhuruleni Metro
- Rand West City
- J.B Marks
- Emalahleni
- KwaDukuza
- George
- Ephraim Mogale
- Gamagara
- Mkhondo
- Ray Nkonyeni
- City of Tshwane

Other participating municipalities and organizations included Gauteng Provincial Government, Green Economy Department, Eskom, Department of Energy (DoE), and Municipal Infrastructure Support Agency (MISA). The training covered topics including

Elements of Municipal SSEG Process, Different Solar PV systems, By-law and Policy for SSEG Guidelines, SSEG Policy, Metering for SSEG Guideline and others.

It is important to note that City of Tshwane and Ekurhuleni Metro attended this training, although they will not be receiving additional support as part of the current SSEG Development process. These two municipalities already have their SSEG systems in place. Additionally, although George Municipality was represented at the Northern region training, the municipality is actually counted as part of the Southern region municipalities. This means that some of the municipality's representatives will join the training planned for Port Elizabeth on April 8-12, 2019.



Figure 5 Attendees of the SSEG workshop at Innovations Hub in Pretoria.

The training covered topics which included: Elements of Municipal SSEG Process, Different Solar PV systems, By-law and Policy for SSEG Guidelines, SSEG Policy, Metering for SSEG Guideline and others.

Each participating municipality was expected to develop an Action Plan (sample below) during the training. This action plan is what will be utilized to provide structured support to individual municipalities. The action plans will have to be signed by senior management in each municipality as an indication of the participating municipality's commitment to receiving this support.

ACTION PLAN for _____ Municipality to establish a functioning SSEG process

Date: _____

Area	Status (at end of training)	Actions to finalise	Support needs from GIZ/SEA/CSIR team
Policy (Requirements doc) finalise and adopt			
Tariff approved			
Meters procure / specify			
Application processing capacity building			
Commissioning capacity building			
SSEG contract			
By-law			
Grid impact studies			
Information for public develop & disseminate			
Record keeping			
(other)			
(other)			

Developed by: 1: _____ 2: _____ 3: _____ 4: _____

Sign-off by Head of Department: _____

Name: _____ Date: _____

Figure 6 The action plan for SSEG Processes

Every municipality attending the training left the workshop with its own set of customized documents to take through their council approval processes. These templates were customized under guidance from the Association for Municipal Electricity Utilities (AMEU), to facilitate application and subsequent changes within their municipalities. The customized documents include:

- Requirements for SSEG – Conditions and application process to become an embedded generator in the Municipality
- Application Form for the Connection of Embedded Generation
- SSEG Commissioning Report
- SSEG Decommissioning Report
- SSEG Application Control Document
- SSEG Application Process Flow
- By-Law and Policy for SSEG Guidelines
- SSEG Policy
- Contract for Connection of Embedded Generation (Connection Agreement)
- Approved Photovoltaic (PV) Inverter List
- Registration Warning Letter
- SSEG Acceptance Letter
- SSEG Recording Template (SSEG Registration)
- General Information for Public from the Municipality

The collaborative efforts with partner organisations GIZ, DoE, SALGA and SEA will ensure continued support to municipalities beyond SA-LED program life cycle on the expansion in renewable energy through SSEG.

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

MPUMALANGA CLIMATE CHANGE FORUM

The South African national government has developed various policies in response to the challenges of climate change. Chapter 3 of the draft National Climate Change Bill 2018 requires provincial governments to undertake climate change needs assessments and develop implementation plans for their provinces to be reviewed at least once every five years. The support from SA-LED will enable Mpumalanga Province, considered to be the largest emitter in the country, to respond to national legislation around climate change and public participation in policy development. Mpumalanga has been at the forefront of broader national climate change mitigation strategies, including leading climate change forums within the Province.

As part of its technical assistance to the Mpumalanga Department of Agriculture, Rural Development, Land, and Environmental Affairs (DARDLEA) in developing the provincial Climate Change Mitigation Strategy and Implementation Plan (MCCMS), SA-LED and consortium partners Linkd Environmental Services and The Green House held their first stakeholder consultation workshop on February 12, 2019 in Middelburg, Mpumalanga Province. The purpose of this stakeholder workshop was to open a platform for stakeholders to inform and engage in the process of developing the MCCMS. The workshop focused on the approach being taken to develop the MCCMS, providing an overview of the status quo report, brainstorming a mission and vision for the strategy, and gathering information on potential greenhouse gas (GHG) mitigation measures applicable in the province. The draft status quo report will be updated and circulated to provincial stakeholders for review and comments following the first stakeholder consultation workshop.



Figure 7 Members of the Mpumalanga Climate Change Forum.

Discussions during the workshop were focused on the status of climate action in the province, sources of GHG emissions, and on which government spheres—national, provincial, or municipal—have the potential to influence activities in the different sectors.

This discussion helped the participants to get a better understanding on the different approaches to GHG inventorying at the national or subnational levels (such as regional or municipal boundary). It was critical to explain the difference between national GHG inventories and provincial or regional GHG inventories. The need to align the development of the different provincial plans and strategies was raised as an important intervention.

Additionally, there is currently an Environment Outlook Report being developed by engineering consultancy firm Gibb (Pty) Ltd., as well as an Integrated Waste Management Plan, Provincial Spatial Development Framework (SDF), and an Air Quality Management Plan (AQMP) in development to feed the strategy. SA-LED and its consortium partners discussed reviewing this current work that is underway to ensure alignment across all sectoral plans. Finally, SA-LED was encouraged to engage the South African Weather Services (SAWS) around the GHG inventory for the province.

The second follow-up stakeholder consultation workshops were held in two districts. Ehlanzeni District, Nelspruit held a workshop on March 25, 2019. Nkangala District, Middelburg held a workshop on March 26, 2019. At these follow-up workshops, participants were taken through the proposed mitigation scenarios for the province to solicit their inputs around priority mitigation actions across different sectors. The workshop also received inputs from all relevant parties on the draft (MCCMS), specifically focusing on the mitigation actions and activities identified in the implementation plan, roles and responsibilities across all players in the province, and an agreement on targets and timeframes.

The MCCMS will be completed by the end of May 2019 and it is expected to be approved by the Mpumalanga Provincial Government before the end of the year.

CHALLENGES, CONSTRAINTS, AND LESSONS LEARNED

The Program found Q2 to be more challenging than the past quarter with respect to working with municipalities. As 2019 is a general election year for the country, there were a lot of political changes at the national, provincial, and municipal levels. Most municipalities are very much engaged in campaigning for their political parties, and there is strong contest for people to retain their seats.

One of the challenges that SA-LED faced during this quarter included shortcomings in facilitating the gathering of necessary data from municipalities to push work forward. The collection and retention of data is not seen as a priority by many and is therefore not being completed and delivered. In eThekweni, for example, there is no metering of data conducted by the Municipality, which makes it difficult to obtain data necessary for project activities. Additionally, in Mpumalanga senior managers in Provincial Departments are not involved in the Climate Change Mitigation Strategy and Implementation Plan development, meaning that serious decisions cannot be committed to. The project is supporting the province to hold bilateral meetings with provincial department forums to secure their commitment for implementing mitigation actions included in the strategy.

Municipalities often believe they have limited or no funding, and therefore use SA-LED technical support to produce documents that are their legislated responsibility. However, funds are often available from Provincial Government Departments, though municipalities are not aware that they exist. There are also cases where some municipalities lack the capacity to implement products that SA-LED develops through technical assistance. With the project coming to an end and with reduced resources available, the project is focusing on educating the municipalities and building their capacity to ensure continuity.

Another constraint experienced during this quarter was that it was often difficult to plan knowledge sharing events with partners due to external factors and scheduling conflicts. Moving forward, in order to prevent work blockages, it will be important to have regular communication to ensure completion and continuity.

Overall, nearing the end of the project, SA-LED is continuing to provide assistance to the municipalities, ensuring that they are prepared to sustain this work once SA-LED closes.

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 legislature.

Annex B. Indicators and Milestones

The table below provides a summary of progress towards the achievement of SA-LED's targets for FY 2019 and over the life of the Program. Progress on activities as laid out in the SA-LED's FY 2019 work plan is also described in the table. The table is structured to illustrate how work plan activities contribute towards the achievement of the SA-LED's indicators.

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
Intermediate Outcome 1: Increased investment in LED										
KRA: Innovative LED projects identified, supported, and facilitated		Number of LED projects provided with technical assistance	20	6	5	11	4	2	125%	In Q2, SA-LED provided technical assistance to a total of 6 projects: 2 new projects i) Saldanha – Waste Characterization Mapping; ii) Cape Nature LED in Protected Conservation Areas 4 existing projects: i) eThekwini Solar PV; ii) Cacadu Development Agency (CDA) Makana Energy Advisory; and iii) Knysna Waste Cost of Services Study and iv) CDA Mohair Supply Chain Greening.
KRA: Reduced emissions potential in strategic sectors demonstrated		Projected quantity of GHG emissions in metric tons of CO ₂ e, reduced or avoided by 2030	100,000 tons	0	70,942 tons	438,243 tons	10,000 tons	86,500	865%	GHG emissions reported in this quarter are projected from eThekwini Solar PV. eThekwini hydro will be reported in the coming quarters.

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
		MW of clean energy generation capacity supported by SA-LED assistance ¹	10MW	0	2.96 MW	0.59M W	6MW	5 MW	83%	MW reported were generated from eThekweni Solar PV project.
Immediate Outcome I.1: Improved project preparation										
Activity		Comments of Progress								
Activity I.1.1	Provide technical assistance to projects to strengthen LED development	In this quarter, SA-LED supported a total of six (6) projects: i) eThekweni Solar PV on reservoirs ii) Saldanha – Waste Characterization Mapping; iii) Cape Nature Led in Protected Conservation Areas; iv) Cacadu Development Agency (CDA) Makana Energy Advisory; v) Knysna Waste Cost of Services Study and vi) CDA Mohair Supply Chain Greening.								
Activity I.1.2	Evaluate existing projects according to finance and multiple benefits criteria	In this Quarter, SA-LED focused on finalizing multiple-benefits case studies for submission to the World Resources Institute, as well as according to SA-LED’s case study outline for USAID, specifically the Garden Route Abattoir Case Study. SA-LED will finalize another two multiple-benefits assessments (i) Chris Hani District Municipality; and (ii) George Sustainable Transport to be reported on in Q4.								
Activity I.1.3	Maintain a robust pipeline of LED projects	Activity will be reported in Q4.								

¹ This is a 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 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
	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\$206 M	US\$200 M	US\$ 1,356,145	US\$ 3,286,435	US\$1.5 M	US\$ 385,713 M	26%	The amount reported is a combination of the following; i) 2018/19 Energy Efficiency and Demand Side Management (EEDSM) project management support provided by SA-LED's embedded EEDSM Coordinator based in Polokwane leveraged US\$ 28,571 ii) Energy efficiency audit work provided to George municipality's Waste Water Treatment Plants for 2019/20 EEDSM grant application leveraged US\$ 357,142
Immediate Outcome 1.2: Increased financial support to LED projects										
Activity		Comments of Progress								
Activity 1.2.1	Implement SA-LED finance strategy	In Q2, SA-LED proceeded to implement finance work, namely the collaboration with ICLEI to model the financial implications of EcoDistricts design interventions.								
Activity 1.2.2	Collaborate with DFIs, grant agencies, and government finance streams and other relevant finance stakeholders to	Final update will be given in Q4, SA-LED's perspective has changed to focus on one project-based finance application, instead of seeking further collaborations with other entities, as the time and budget remaining on the Program does not allow for such extensive technical assistance.								

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
	provide a financial offering									
Intermediate Outcome 2: Accelerated rate of implementation of LED initiatives										
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	2	11	2	27%	SA-LED supported training of City of Cape Town and Johannesburg's officials in EcoDistricts methodology in 2017 and 2018 resulting in: i) City of Cape Town setting up a Project Management Team to coordinate City interventions in the area, and structure engagements with the community. In addition, the EcoDistricts Protocol's emphasis on tracking performance is being embedded into the City's process from the initial phases. ii) City of Johannesburg beginning to engage with their colleagues in the environment unit, thus breaking down the	

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
										silos, raising levels of understanding and ownership of line functions/roles. Furthermore, a group of municipal officials were identified and prepared to support the facilitation of training.
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	5	4	1	25%	i) Chris Hani Climate Change Strategy which SA-LED supported (drafted and approved in FY2018) is now being implemented. Chris Hani municipality has appointed a project coordinator for Rural Sustainability project and has held an inception meeting with Wildlife and Environment Society of South Africa (WESSA) – implementation agent. ii) Work on Mpumalanga Mitigation Climate Change Strategy and Biogas Microdigester Guidelines is continuing.
Immediate Outcome 2.1: Mainstream LED into programming, planning and budgeting of municipal services										
Activity	Comments of Progress									

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
Activity 2.1.1	Provide technical assistance to municipalities to mainstream LED into programming, planning and budgeting	In this quarter, SA-LED provided technical assistance to six (6) municipalities: i) eThekweni Metro Municipality on Solar PV; ii) Sarah Baartman District Municipality supporting CDA Mohair Supply Chain Greening; iii) Makana Local Municipality on Energy Advisory; iv) Knysna Local Municipality on Waste Cost of Services Study; v) Saldanha Local Municipality; and vi) Cape Town Metropolitan Municipality on Cape Nature project.								
Activity 2.1.2	Implement SA-LED overarching capacity building plan	In this quarter, SA-LED in collaboration with GIZ/South African Local Government/Council for Scientific and Industrial Research/Department of Energy (SALGA/CSIR/DoE) hosted small scale embedded generation (SSEG) training for seventeen institutions (Rand West City, City Power, Rustenburg, JB Marks, Gamagara, Ephraim Mogale, Steve Tshwete, Emalahleni MPG, Mkhondo, Msundizi, Kwadukuza, Ray Nkoyeni, George, City of Tshwane, City of Ekurhuleni, New Castle and Department of Energy).								
Activity 2.1.3	Conduct institutional capacity building assessments of institutions working with SA-LED and develop institutional strengthening plans	Instead of assessing the overall progress for municipalities assessed previously – Polokwane, Chris Hani and Govan Mbeki - SA-LED is planning to conduct progress reviews against priority areas set out in the capacity building plans instead of having full organizational capacity re-assessments. This approach will help the program focus on the priority areas that were supported. Polokwane activity progress review is planned for April 2019 while Chris Hani and Govan Mbeki’s reviews are planned for August 2019.								
Activity 2.1.4	Implement institutional strengthening	In quarter 3, SA-LED is conducting progress review meetings with Polokwane municipality to assess the extent to which the capacity building plan was implemented. Polokwane’s Green Goal Energy Strategy is still awaiting submission to the Portfolio								

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
	plans for above mentioned assessed institutions	Committee. Chris Hani District Municipality has begun implementing their Rural Sustainability project and continues planning their waste to biogas project. Govan Mbeki municipality is being assisted with the integrated Transport Plan.								
KRA: Technical skills and strategic knowledge within relevant national, provincial or municipal government entities developed	Number of people trained in LED	130	33	117	400	20	55 (39 Male, 16 Female)	275%	In this quarter, SA-LED collaborated with GIZ/SALGA/CSIR/DoE to train municipal officials in SSEG.	
	Number of individuals receiving USAID SA-LED training who apply the new knowledge and skills	92	0	3	66	49	0	0%	Participant will be applying what they have learnt during SSEG training in the coming quarters. Sustainable Energy Africa (SEA) will conduct follow up hands-on support.	
Immediate Outcome 2.2: Increased municipal capacity for project assessment, design and development										
Activity		Comments of Progress								
Activity 2.2.1	Provide capacity building support to individuals to strengthen LED capacity	In this quarter SA-LED, in collaboration with SALGA/CSIR/DoE conducted training on SSEG systems development for seventeen institutions in Pretoria. During training, participants developed action plans on the status of documents developed during training, actions to be finalized and further supported. Two more trainings are planned for April – another SSEG for Southern municipalities in Nelson Mandela Bay and SANS 10400 XA in Johannesburg.								
Activity 2.2.2	Conduct study tours	The peer – to – peer learning exchange planned between George and Govan Mbeki will no longer happen as the program is nearing the end, the activity might not be fully completed on time.								
KRA: Key stakeholder knowledge and awareness of LED technologies and	Number of communication products	50	2	10	7	20	2	15%	Communication products reported– i) EcoDistricts blog;	

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
implementation strategies improved		produced by SA-LED								ii) Laying a Blueprint for Municipal Public-Private Energy Partnerships blog.
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	1	3	0	0%	SA-LED is still working on !Kheis mini hydro and Eden waste and green energy management case studies. 3 more technical products are planned to be reported in Q3-4.
Immediate Outcome 2.3: Strengthened municipal LED knowledge base										
Activity		Comments of Progress								
Activity 2.3.1	Develop and disseminate information on LED technologies and implementation strategies	SA-LED is supporting development of biogas microdigester guidelines for the National Biogas Platforms Microdigester working group. Once these are finalized, SA-LED in collaboration with SANEDI and DoE will disseminate the guidelines to institutions/ individuals interested in implementing biogas microdigester projects. Development of two more technical products on !Kheis mini hydro and Eden waste and green energy management are planned for Q3-4.								
Activity 2.3.2	Document best practices on different LED implementation approaches	Laying a Blueprint for Municipal Public-Private Energy Partnerships blog, detailing regulatory processes to be followed by municipalities for advancing public-private partnerships was finalized and published. This was drawn from lessons/experiences emerging from working on the eThekweni Solar and Hydro projects. As part of the program legacy, SA-LED will also be developing a case study on the project development process.								

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
	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	3	4	1	50%	No analysis was done in this quarter. SA-LED has identified four projects to be analyzed for multiple benefits in the coming quarters. .
Immediate Outcome 2.4: Increased LED credibility as a pathway to local economic development, including gender and youth										
Activity		Comments of Progress								
Activity 2.4.1	Integrate youth and women into SA-LED projects and activities	Polokwane municipality is finalizing the process of identifying schools to conduct energy efficiency awareness campaigns in, where Grade 7 and 8 students will be taught about the energy saving measures and related benefits. SA-LED is also targeting to train and involve youth and women in two projects being supported - Cape Nature and Biogas Schools in the Eastern Cape.								
Activity 2.4.2	Capture learnings on multiple benefits from projects supported	SA-LED finalized six (6) multiple-benefits case studies prepared for and presented to the World Resources Institute in February 2019.								
Activity 2.4.3	Roll out further multiple-benefits analyses for other SA-LED initiatives	SA-LED has identified four (4) more projects to be analyzed for multiple benefits in Q4 - i) Chris Hani District Municipality, ii) Drakenstein, iii) Cape Nature and iv) eThekweni Hydro.								
Intermediate Outcome 3: Improved quality of monitoring and reporting of GHG emissions at sub-national and project level										

Level of Results	Result Statements	Indicators	LOP Targets	FY16 Results	FY17 Results	FY18 Results	FY19 Targets	FY19 Progress Q2	Annual Performance Achieved to Date (in %)	Comments
Ultimate Outcome	Reduced greenhouse gas emissions through implementation of SA-LED initiatives									
KRA: GoSA skills to monitor, report, and communicate on GHG emissions improved	Number of people capacitated in GHG MRV	130 ²	0	38	53	29	0	0%	There was no training related to GHG measurement, reporting and verification this quarter.	
Immediate Outcome 3.1: Improved skills to monitor, report and communicate GHG emissions at sub national and project level										
Activity		Comments of Progress								
Activity 3.1.1	Support municipalities with project level GHG MRV	SA-LED will provide support to municipalities on a need basis where there is existence of specific LED projects. CLEER Tool training is planned for the OR Tambo municipality in Quarter 3.								
Activity 3.1.2	Support municipal level GHG inventorying	SA-LED updated the Mpumalanga Provincial Greenhouse inventory as part of the development of their climate change strategy.								
Activity 3.1.3	Support municipalities with implementing an energy management system	In Q3, i) SA-LED will commence monitoring energy consumption at the Ottawa Depot in eThekweni as part of the energy auditing and solar PV assessment support to the eThekweni Water & Sanitation department. This monitoring will help inform the establishment of an energy monitoring system that is a useful building block towards establishing an energy management system (EMS); ii) SA-LED visited City of Cape Town to learn how they established their energy management system (EMS) so that they can support Polokwane municipality to develop a similar system. As a result of the visit, Polokwane municipality was advised to start thinking about the EMS scope of work to establish what they want to achieve.								

² This is a general training target to which training in GHG MRV contributes.

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