

QUARTERLY REPORT

SOUTH AFRICA LOW EMISSIONS DEVELOPMENT (SA-LED) PROGRAM
I JANUARY – 31 MARCH 2016



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Cover photo: Rea Vaya Bus Rapid Transit Station in City of Johannesburg. (Credit: Bablu Singh)

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ACRONYMS

AD Anaerobic Digestion

AB Agama Biogas

CCRWP Climate Change Response White Paper

CD Capacity Development

CLEER Clean Energy Emission Reduction

CoCT City of Cape Town

CoP Chief of Party

CoT City of Tshwane

CSIR Council for Scientific and Industrial Research

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

EE Energy Efficiency

EIA Environmental Impact Assessment

GDEG Gauteng Provincial Department of Economic Development

GHG Greenhouse Gas

GoSA Government of South Africa

GTAC Government Technical Advisory Centre

IA Implementation Agreement

ICF ICF International, Inc.

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

NGO Non-governmental Organization

NMBMM Nelson Mandela Bay Metropolitan Municipality

O&M Operations and Maintenance
PIR Project Intermediate Result
PMO Project Management Office
PMP Performance Monitoring Plan
PPA Purchase Power Agreement

PPP Public Private Partnership

PV Photo Voltaic

RE Renewable Energy

REI4P Renewable Energy Independent Power Producer

Procurement Program

RFP Request for Proposal

SA South Africa

SACN South Africa Cities Network

SA-LED South Africa Low Emissions Development Program

SALGA South Africa Local Government Association

SDM Sedibeng District Municipality

SoW Scope of Work

UDM

SSEG Small-Scale Embedded Generation

TA Technical Assistance
TGH The Greenhouse

YI Project Year 1: 18 May 2015 – 30 September 2016

Y2 Project Year 2: 01 October 2016 – 30 September 2017

Umgungundlovu District Municipality

EXECUTIVE SUMMARY







During this quarter several low emissions development (LED) projects were initiated in partnership with municipalities. The team conducted a review of a waste-to-energy feasibility study, supported the establishment of a US \$ 20 million debt facility for rooftop PV developers, commenced research on global and local LED best practice, developed a proposal to streamline greenhouse gas emissions (GHG) project reporting and began a series of strategic dialogues to create an enabling environment for the faster implementation of LED projects. These dialogues included the inaugural meeting of the SA-LED Advisory Committee and an NGO/Academic Roundtable.

The South Africa Low Emissions Development Program (SA-LED) had an exciting quarter that included its first technical assistance to a municipality on a LED project. Other highlights included the creation of a debt facility for LED projects, and the alignment of the SA-LED program with national, provincial, and local government LED working groups and forums.

The key enabling environment activities supported during the quarter and summarized in the enabling environment section are as follows:

- Aligning SA-LED activities with relevant South African academic research and NGO work in the LED space.
- Supporting the Urban Energy Network, a network convened by the South African Local Government Association, the South African Cities Network and Sustainable Energy Africa. The aim of this network is to provide municipal partners with updated information and the latest research on national and local policy relating to sustainable energy development.
- Developing practical working arrangements with the key national and provincial mechanisms for triggering a large-scale transition to a low carbon economy.
- Supporting standards development in nascent renewable energy industries in South Africa through a partnership with the South African Bureau of Standards (SABS) and the Council for Scientific and Industrial Research (CSIR).

SECTION I.

INTRODUCTION



SA-LED

GOAL

The South Africa Low Emissions Development (SA-LED) Program is a \$14.9 million, five-year USAIDfunded 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).

The USAID South Africa Low Emissions Development Program's goal is to support the primary objectives 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.

RESEARCH AND ANALYSIS

The SA-LED team is conducting research to: I) understand the legal, financial, and regulatory barriers to LED project implementation; 2) understand LED capacity constraints in both the public and private sector; 3) understand why commercial and development banks do not lend meaningfully to subnational LED projects in South Africa; 4) understand best practice in LED project development both locally and globally; and 5) understand how the most effective donors and projects measure and evaluate their low emissions development activities.

LED PROJECT DEVELOPMENT

The SA-LED team is supporting 10 municipal LED initiatives during 2016 across each of the four flagship sectors to unblock projects that are stuck and to provide technical assistance that will help bring projects to financial close or RFP award. Additional interventions include conducting feasibility assessments; mobilizing finance; evaluating LED technology options; and providing legal, financial, and engineering technical assistance to LED projects.

CAPACITY DEVELOPMENT

Based on an initial baseline assessment of LED skills and capacity within municipalities, SA-LED will embed experts and conduct formal training with municipal partners in addition to implementing projects together in a learning-bydoing LED project implementation approach. The program will also use peer-to-peer learning and integrate LED into municipal development plans.

ENABLING ENVIRONMENT

SA-LED will help create an enabling environment that will institutionally support LED efforts across local, provincial, and national government. Support will be provided in creating networks, setting standards, market development, financial frameworks, development of vertical LED/National Cooperative mechanism, and input from an Advisory Committee.

MEASURING, REPORTING, AND VERIFICATION OF GHG EMISSIONS

SA-LED will support municipalities to perform project-level greenhouse gas emissions analysis and to articulate the co-benefits of LED projects. In addition, the program will develop MRV reports and support national and local emissions GHG reporting.

SECTION II.

RESEARCH AND ANALYSIS

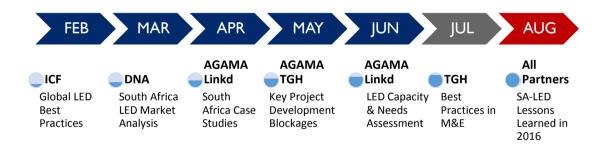
Following the successful consortium partner workshop held in December 2015, a second consortium partner workshop was held at the end of January 2016 to finalize scopes of work for the five research studies as well as to finalize a partnering approach to conducting primary and secondary research.

The five studies began in February and the first deliverables of each of the studies were submitted to the SA-LED team in March 2016. At the time of writing, the team was reviewing the draft findings of secondary research and working with the consortium partners to identify key stakeholders in South Africa to interview for primary research to begin in April.

The intention of the research is to provide practical input to ensure that SA-LED's technical assistance approach is data-driven, leverages best practice, supports what is working in the South African LED market, and develops solutions to areas of the market not-functioning.

The research will be used to not only develop a programmatic rollout of technical assistance but will be also be used to: develop the Year 2 Work Plan develop technical assistance training materials, manuals, and outreach tools to disseminate in 2017.

RESEARCH AND ANALYSIS TIMELINE



Most of the research and analysis activities started in late February and early March. As such, these activities are on-going and the results are not yet available. Updates will be provided in the next quarterly report.

SECTION III.

LED PROJECT DEVELOPMENT

Following work planning, an initial ten activities, listed in the table below, were selected to gain experience in a diverse variety of municipalities, regions, sectors, types of technical assistance, and phases of the LED project development cycle.

During the first quarter of 2016, the SA-LED team explored opportunities with two additional municipalities: eThekwini (water, waste, energy efficiency) and Knysna and the Eden District Municipality (business process modeling / cost of waste services analysis).

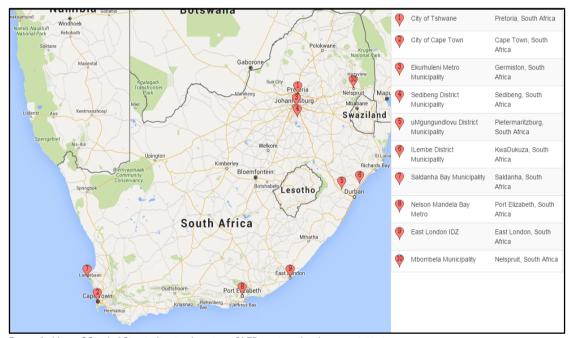


Figure 1: Map of South Africa indicating location of LED project development initiatives

TABLE I. INITIAL LED PROJECT DEVELOPMENT INITIATIVES

MUNICIPALITY	TYPE/ PROVINCE	SECTOR/ SUBSECTOR	INTERVENTION	PHASE	BLOCKAGE
Nelson Mandela Bay	Metro Eastern Cape	Renewable Energy / Private Sector Rooftop PV	IDC debt fund support + Engineering feasibility support	Feasibility & financial close phase	Lenders unwilling to take PPA risk
City of Cape Town	Metro Western Cape	Waste (Wastewater)/ Energy Efficiency	Conduct an energy efficiency audit and identify RE potential	EE & RE feasibility study phase	Technical Capacity & Expertise
City of Cape Town	Metro Western Cape	Transport / Electric Bus	Develop an Operations & Maintenance (O&M) electric bus manual	Concurrent with e-bus RFP	Global Experience Only
Ekurhuleni	Metro Gauteng	Renewable Energy / Public Sector Rooftop PV	Support the development of an RFP and its adjudication	RFP writing & RFP award phase	Technical Capacity & Expertise
Sedibeng	District Municipality Gauteng	Waste / RE Municipal Waste- to- Energy	Technical review of a feasibility study + develop project finance structure	Secure funding or project finance	Technical & Financial Capacity
llembe	District Municipality KZN	Renewable Energy Private Sector Bagasse /Biomass	Secure common agreement on a project development approach by public & private sector players	Legal & financial due diligence	Off-take agreement is not bankable
Umgungundlovu	District Municipality KZN	Renewable Energy / Anaerobic Digestion	Resource confirmation study + secure participation of area chicken farmers	Due diligence on resource	Private & public sector trust and cooperation
Buffalo City	Industrial Development Zone Eastern Cape	EE & RE	Develop strategy to create an energy self- sufficient industrial park	Pre- feasibility phase	First effort to take an IDZ off-grid in SA
Tshwane	Metro Gauteng	Waste / RE	Landfill gas to energy / PV	Feasibility study	Implementation Capacity
Mbombela	Local Municipality Mpumalanga	LED Planning	LED planning & LED capacity building	Planning phase	Institutional Capacity

QUARTERLY HIGHLIGHTS

In February and March, the SA-LED team began to provide technical assistance to three projects, namely, Nelson Mandela Bay Metropolitan Municipality, Sedibeng District Municipality, and Eden District Municipality.

NELSON MANDELA BAY METROPOLITAN MUNICIPALITY (NMBMM)

The first project meeting took place on 10 February in Port Elizabeth to advance the implementation of a rooftop PV pilot project that is attempting to overcome multiple blockages that exist at municipal level in the small-scale embedded generation (SSEG) space in South Africa. SA-LED aims to implement the activities outlined below, each of which will be firsts in the country should the pilot prove successful:

I. Pilot a new debt facility created specifically for SA-LED rooftop PV projects that will for the first time, provide project finance debt to rooftop PV projects that to date have only been able to secure asset-backed commercial debt (asset backed means that the project must have assets in its name in order to be able to secure a loan)

- 2. Pilot a guarantee mechanism from the USAID's Development Credit Authority to stimulate development bank debt and then hopefully commercial debt into the South African rooftop PV market.
- 3. Pilot a wheeling license approach to deliver willing buyer-willing seller, private sector to private sector green energy and to secure NERSA approval of non-own-use rooftop PV. To date all installations have been financed by the building owner for own-use/internal building energy demand.
- 4. Wheeling will also test a new approach that generates significant revenues for municipalities as opposed to a traditional rooftop PV project that would cost the municipality both customers and revenues. (173 South African municipalities are electricity service authorities which means that they hold an electricity distribution licence and are allowed to buy electricity from the national power utility, ESKOM, place a mark up on it and re-sell it to residents and businesses within their jurisdiction. The income from these electricity sales is used to subsidise other municipal services such as fire stations and transport infrastructure. Accordingly, large scale uptake of rooftop PV for own use in these municipalities is likely to result in a loss of electricity sales and thus revenue for the municipalities.)
- 5. Gain investor confidence (both debt and equity providers) in a new privatesector market for green energy where there is neither an Eskom PPA nor an explicit National Treasury of South Africa guarantee.
- Pilot the long-term lease of government rooftops for projects financed and developed by the private sector. The project might also pilot the use of private-sector rooftops to sell green energy to municipal utility endcustomers.

During the quarter, SA-LED also began the process of appointing a civil engineering consulting firm to conduct an analysis of the structural integrity of the roofs of approximately 50 municipal buildings. Three partner rooftop PV development firms in parallel started to conduct a solar yield analysis of the buildings based on orientation, pitch, and shading.

Also during this quarter, NMBMM and Power X, the NERSA-licensed green energy wheeling company, negotiated a contract to lease public building roofs to private rooftop PV developers for the duration of a 20-year power purchase agreement (PPA). It is hoped that this legal document developed by one of the major law firms that were involved in the national Renewable Energy Independent Power Producers Procurement Program (REI4P) and the municipality will serve as a basis for future agreements between municipalities and private developers.

Power X finalized a PPA for the NMBMM project in March and the three rooftop

LED PROJECT DEVELOPMENT INDICATORS

Indictors 1-5, 11

- I. No. of LED projects assisted.
- 2. No. of individuals with improved project development capacity.
- 3. Value of funds mobilized to support LED project development.
- 4. No. of emissions reductions analyses completed.
- 5. Total projected quantity of GHG emissions reduced or avoided as a result of the implementation of projects supported by SA-LED.
- II. No. of project proposals supported by SA-LED that include gender and youth socio-economic analysis.

PV developers (Eldo Energy, Genergy, and Emergent Energy) participating in the pilot began negotiations on the PPA with the expectation to come to agreement in May. SA-LED, the municipality, PowerX, and the three rooftop PV developers agreed to a process to short-list public buildings for a small all-equity pilot for phase one, most likely under 500 kW per developer.

Once the new US\$ 20 million (R 300 million) debt facility for rooftop PV developers has been finalized (see Section V below) the facility will run an open procurement process that will govern how many developers are able to secure debt for a larger scale phase two, hopefully totaling over 10 MW with average project sizes of 2 MW across multiple roofs.

The estimated date of financial close is August 2016 but that is dependent upon the Development Credit Authority (DCA) of USAID finalizing its partial risk guarantee term sheet with the local facility by July 1, 2016.

SEDIBENG DISTRICT MUNICIPALITY

SA-LED's consortium partner AGAMA Biogas (Pty) Ltd. was appointed to provide a technical review of the scoping studies / feasibility study of waste-to-energy projects in Sedibeng and the West Rand Municipal Areas conducted by Utho Capital (Pty) Ltd in 2014 for the Gauteng Department of Economic Development.

The purpose of the technical review is to evaluate if it is practical to move forward with a waste-to-energy project. If this review does not find any fatal flaws and confirms the resource and the technology application, the SA-LED team will provide follow on technical assistance to Sedibeng to accelerate the implementation of a waste to energy project.



Figure 2: Photo taken during site visit to Boitshepi landfill site in Sedibeng District Municipality depicting the extent of the problem regarding the working conditions of waste pickers at the landfill site.

EDEN DISTRICT MUNICIPALITY

Following on initial meetings with the Western Cape Economic Development Forum in the previous quarter, project work with the Eden district municipality looks promising. At a meeting held in George on 7 March, three overarching areas were identified for potential SA-LED support; (i) a district level landfill site for composting wood chips and other garden refuse to be located in Mossel Bay; (ii) 6 project opportunities in the waste management sector within Bitou and Hessequa municipalities, as well as (iii) a potential cleaner production project with a private food processing (frozen foods) company in George.

These projects are of strategic significance as they contribute systemic modelling, organizational change, GHG, as well as youth and gender co-benefits opportunities to our current "learning-by-doing" work. The Eden district municipality, as well the Bitou municipality, have included these projects in their budgets and strong champions in place who have demonstrated that they push the boundaries to bring about positive change in their municipalities. All these opportunities will be explored for specific SA-LED technical assistance interventions in the next quarter.

SECTION IV.

CAPACITY DEVELOPMENT

During the quarter, SA-LED's consortium partners, Linkd Environmental Services and Agama Pty. Ltd. began conducting a LED capacity needs and assets assessment in over thirty South African municipalities. Findings of this capacity assessment will enable the SA-LED program to have a better understanding of the capacity constraints and capacity development opportunities that exist. The findings will be used to draw up a comprehensive capacity building plan to be rolled out in Year 2.

The capacity assessment study will also function as a baseline assessment of municipal LED capacity against which progress in providing capacity development can be measured. Reference will be made to general capacity building efforts as well as project specific capacity building efforts of the SA-LED program in order to distinguish the appropriate features for tracking in subsequent monitoring and evaluation (M&E) tools.

The needs assessment will also review the implementation of capacity building initiatives run by different agencies and the types of training programs used by local government. The findings from this assessment will provide further insights into the needs of local government, identify lessons learned, and make practical recommendations for further capacity building interventions.

Through the LED best practices analysis, capacity building initiatives implemented globally will be explored and used to inform/strengthen SA-LED's capacity building efforts.

QUARTERLY HIGHLIGHTS

CAPACITY BUILDING IN SUSTAINABLE TRANSPORT

During the quarter, the SA-LED team met with Sustainable Energy Africa (SEA) and Dr.

, a sustainable transport specialist associated with the University of Cape Town, to explore the potential for SA-LED to support various capacity development initiatives for municipalities in the area of sustainable transport, particularly transport planning.

At the meeting participants agreed that a

CAPACITY DEVELOPMENT INDICATORS

Indictors 6, 7, 11, & 13

- 6. No. of GoSA officials trained in various aspects of LED.
- 7. No. of GoSA officials demonstrating improved LED technical skills and knowledge.
- 11. No. of project proposals supported by SA-LED that include gender and youth socio-economic
- 13. No. of municipalities as a result of SA-LED that incorporate principles of LED planning into their Integrated Development Plans.

scoping study is required to assess gaps in the area of capacity development in transport planning. While there is much work needed to capacitate municipalities in the area of transport modelling, there are also numerous opportunities for advocacy and campaigning regarding public transport. Other needs or possibilities that were

identified are: (i) Network meetings for sharing of information; (ii) Mentorship programs; and (iii) Formal qualifications in transportation planning.

The SA-LED PMO will discuss these opportunities and may initiate some capacity development activities in this area of work.

EMBEDDING TECHNICAL EXPERTISE

Mbombela Municipality. A draft memorandum of understanding (MOU) was developed to potentially embed a technical expert with Mbombela Local Municipality in the Energy, Sustainable Development and Expanded Public Works Program (EPWP) Department, under the Deputy Municipal Manager's Office. The technical expert would work in the following areas:

- I. Assist the Senior Manager: Energy, Sustainable Development and EPWP with coordinating climate change and energy related work by other departments. It is envisaged that the embedded technical expert will spend a number of days per month working within the municipality.
- 2. Provide support to the Senior Manager: Energy, Sustainable Development and EPWP in finalizing the municipality's climate change policy.
- 3. Work on integrating the climate change policy (LED policy) into the municipal Integrated Development Plan (IDP) and other municipal systems.
- 4. Support the municipality in the implementation of its renewable energy and energy efficiency initiatives.
- 5. Work on building the capacity of newly recruited technical personnel in the Energy, Sustainable Development and EPWP Department.

Arrangements to embed the technical expert will be finalized in the upcoming quarter.

Department of Economic Development, Environmental Affairs, and Tourism — Eastern Cape. SA-LED intends to embed a consultant within the Eastern Cape Provincial Government in 2016 to support local municipalities develop and implement LED projects. The provincial government has a very good working relationship with its district and local municipalities and is in an excellent position to identify potential projects, blockages, and opportunities across the province. SA-LED will also provide support to the province to integrate low emissions development into its Provincial Growth and Development Plan (PGDP).

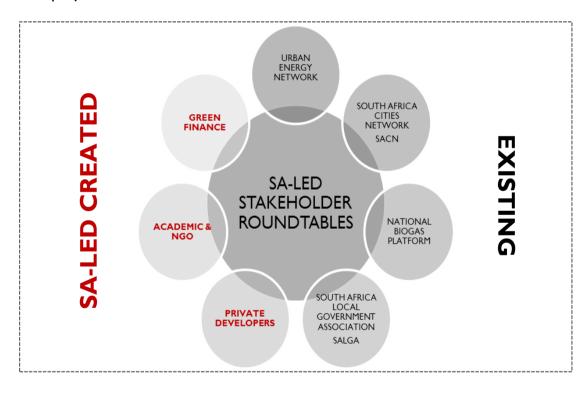
SECTION V.

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 we are pursuing. Accordingly, SA-LED is working to leverage these existing efforts.

SA-LED at this time is leveraging the following networks and organizations (below in black) and is creating three forums that include both roundtables and workshops (below in red) to inform its LED activities and to foster an enabling environment for LED projects.



QUARTERLY HIGHLIGHTS

During the first quarter of 2016, the SA-LED team held: an academic and NGO roundtable at the Sustainability Institute of the University of Stellenbosch; supported a network meeting of the Urban Energy Network to discuss, amongst others, smallscale embedded generation at the municipal level; participated in a meeting of the National Biogas Platform (this meeting is reported on in Section VIII of this report); and held the first meeting of the SA-LED Advisory Committee with senior officials from eight national government departments.

ACADEMIC/NGO ROUNDTABLE

As part of ongoing LED market development and stakeholder engagement activities, SA-LED hosted a roundtable for academia and NGOs in Lynedoch, Western Cape on 3 March 2016. USAID dignitaries, distinguished academics, as well as some 39 workshop participants, immersed in the unique surroundings of the Sustainability Institute that forms part of the Lynedoch Ecovillage, contributed to SA-LED's work in this space. The roundtable aimed to (i) align SA-LED activities with relevant South African research and NGO work in the LED space, (ii) strategically influence the program's technical assistance offering to municipalities, and (iii) strengthen research and analytical work with (among others) practical NGO learning, expert modeling, and high level vertical integration initiatives.

The keynote address by Professor , Academic Director of the Sustainability Institute, highlighted the critical importance of sustainable infrastructure and resource efficiency in dealing with quickly urbanizing cities in Sub-Saharan Africa, and the catalytic role that low emissions development plays in this regard. Panelists, representing academia and NGOs, voiced support for low emissions development work by strategically targeting areas for collaboration, most notably:

- Change-making in municipalities for low emission development implementation.
- Institutionalization of sustainability, particularly lessons learnt from other cities (locally and globally).
- Recognizing human development in the context of GHG mitigation.
- Integrating the complexities of working in South Africa's municipal space through system dynamics modeling.
- Establishing a firm vision of what a low carbon transition could look like at the municipal level and using innovative marketing skills to sell this vision to senior officials.

The morning session resulted in the following areas in which attendees thought there were potential SA-LED collaboration opportunities:

- Sustainable transport, and related behavior-change campaigns and ecomobility.
- Energy, climate change and clean energy.
- Tree planting initiatives, and clean cook stoves.
- Resource flows analysis and modeling.
- Community projects under the REI4P.
- Biofuels projects.
- M&V of energy efficiency projects.
- LED capacity building and SME development.
- Sustainable architecture.
- Wind projects and integrated community development initiatives.

In the afternoon participants zoomed in on practically supporting SA-LED collaboration activities at Government level, in integrating public and private sector support for municipal level low emissions development, and identifying innovative technologies and implementation strategies in taking SA-LED forward in South Africa. Outcomes of the workshop include a commitment between SA-LED and various academic and NGOs to collaborate around ongoing initiatives, particularly capacity building activities and system dynamic/ organizational change modeling at municipal level with the University of Stellenbosch's School of Public Leadership.

SA-LED ADVISORY COMMITTEE MEETING

The inaugural SA-LED Advisory
Committee Meeting was held on 9
March 2016. The role of the Advisory
Committee is to establish an interdepartmental and inter-disciplinary
platform where high-level, South African

ENABLING ENVIRONMENT INDICATORS

Indictors 2 & 10

- 2. No. of individuals with improved project development capacity.
- 10. No. of stakeholder organizations reached with SA-LED communication products and engagements.

governmental representatives are able to provide both strategic guidance to the SA-LED Program as well as alignment on initiatives within their respective departments that could help SA-LED meet its goal of advancing low emissions development in South Africa.

During the meeting representatives from USAID Southern Africa provided insights into the objectives of the SA-LED Program and the history of collaboration between the United States and South Africa. The PMO presented the Program's Technical Assistance approach, the research studies that have been commissioned, and the LED projects and capacity development interventions that are being implemented in 2016.

The following government departments were represented at the meeting, or submitted apologies:

- Department of Energy.
- National Treasury.
- Department of Transport.
- Department of Environmental Affairs.
- Department of Science and Technology.
- Department of Trade and Industry.

Members of the committee provided insights on existing government initiatives that SA-LED could leverage for LED project development. Of particular note, the Department of Energy's representative requested project level data from SA-LED to inform the department's biomass strategy and to share with NERSA to inform the Regulator's small-scale embedded generation regulations. The representative from National Treasury's expressed a desire to work with SA-LED on encouraging municipal purchase of renewable energy from independent power producers and on sustainable transport at municipal level.

The SA-LED team will schedule one-on-one meetings with each of the Advisory Committee members in order to discuss potential collaboration with their respective departments in more detail.

URBAN ENERGY NETWORK

As part of SA-LED's efforts to collaborate and strengthen existing LED networks, the program funded the Urban Energy Network Meeting ("Municipal Roundtable") held on 16 – 17 March in Johannesburg. The Urban Energy Network is co-convened by Sustainable Energy Africa (SEA), the South Africa Local Government Association (SALGA) and the South African Cities Network (SACN). SA-LED introduced its program and existing project pipeline with the network as well as invited members to participate in the research and municipal capacity assessments currently in progress.

The meeting was attended by representatives from 12 municipalities, the Department of Energy and National Treasury, SALGA, ESKOM, and various donor agencies and NGOs.

The goal of the network meeting was to:

- Provide municipal partners with updated information and the latest research on national and local policy work underway relating to sustainable energy development.
- Provide municipal partners with support tools and materials.
- Provide an opportunity to network and build links amongst municipal partners and between local government and relevant stakeholders.

The main topics discussed were: the role of municipalities in renewable energy (RE) generation; municipal urban energy-National Treasury knowledge sharing links; new municipal energy services approaches; and municipal own-use of renewable energy.



The meeting provided an opportunity for SA-LED to

Figure 3: Participants engaging in discussion at the Urban Energy Network Meeting.

showcase its technical assistance approach to new municipalities that the team had not yet engaged with. The meeting was also an opportunity for the municipalities represented to provide useful comments on the technical assistance. As a result, some municipalities expressed interest in receiving technical assistance from the PMO and follow up discussions will be held with these municipalities.

In addition, the discussions provided an opportunity for local government to gauge the support of national government for its renewable energy goals and approaches and identified gaps that the SA-LED team can support and/or exploit to facilitate a more rapid adoption of renewable energy at a local level. Lastly, the meeting was a great opportunity for the PMO to introduce the LED capacity development and

needs assessment study in order to gain buy in from municipalities to participate in the study.

FINANCIAL AND REGULATORY ENABLING ENVIRONMENT EFFORTS

One of the key developments of the SA-LED program during the quarter was the close collaboration between the program and the Africa Private Capital Group of USAID to leverage Development Credit Authority (DCA) partial risk guarantees to jump-start commercial lending in small-scale renewable energy projects in South Africa.

During the quarter, the DCA developed a credit enhancement term sheet for a local facility that once approved will result in the creation by the facility of a US\$ 20 million (R 300 million) debt facility for private rooftop PV project developers.

Without net-metering legislation and a clear regulatory framework, the guarantee would facilitate the first commercial loans to private developers of rooftop PV projects in South Africa. In March, the facility and the DCA agreed to terms and it is expected to be signed during the upcoming quarter. USAID and SA-LED are working together to increase the size of the facility and to apply the debt facility to more renewable energy subsectors.

Additional efforts to develop a financial framework or mechanism for stimulating private finance into small-scale renewable energy projects include:

- The SA-LED team is working with USAID to explore opportunities to provide guarantees to Standard Bank to create a new lending approach for South African commercial banks to rooftop PV developers that does not rely upon project finance cash flows or asset-backed lending by the building owner.
- SA-LED is exploring ways to provide credit enhancement support to pension fund debt to encourage the uptake of renewable energy project finance instruments by pension funds and property management firms.
- SA-LED is exploring supporting some of the Development Bank of Southern Africa's Green Fund project pipeline where projects have not reached financial close due to lack of capacity or funding for feasibility studies

During this quarter, SA-LED has played a role in facilitating discussions between the Council for Scientific and Industrial research (CSIR), the South African Bureau of Standards (SABS), and GIZ's South African German Energy Program (SAGEN) to ensure that a political and technical process is in the place that will result in the development of a rooftop PV standard for grid integration that will guide the safety and regulation of this new market in South Africa. The lack of a standard has been a major blockage to market uptake of rooftop PV. A meeting has been scheduled for early April to finalize the approach and to determine how to structure collaborative support across SA-LED, GIZ SAGEN, and USAID's regional energy efforts with CSIR playing a key technical role.

GREENHOUSE GAS MRV

SA-LED consortium partners, the Greenhouse and ICF International, began research on global best practice in GHG accounting and reporting at a subnational level. In addition, SA-LED is working with the Department of Environmental Affairs' Climate Change Monitoring and Evaluation Unit to develop a system or tool to aggregate and integrate municipal and provincial GHG reporting into DEA's national reporting system.

QUARTERLY HIGHLIGHTS

The Department of Environmental Affairs' Climate Change Monitoring and Evaluation Unit requested assistance from the SA-LED Program to support the development of a simplified system to enable subnational entities (local government and provincial government) to report their GHG emissions and actions. The tool/system, should this technical assistance move forward, will help streamline the measurement, reporting and verification (MRV) of greenhouse gas (GHG) emissions at a sub-national level. The tool will address the information requirements of the various GHG reporting platforms, primarily the national climate change M&E system as set out in the National Climate Change Response White Paper (NCCRWP) as well as other community-wide reporting platforms such as the carbonn Climate Registry (cCR) which is the preferred platform of local municipalities. Importantly, the GHG reporting system should be consistent and comply with international GHG mitigation project accounting standards while meeting the needs of national government.

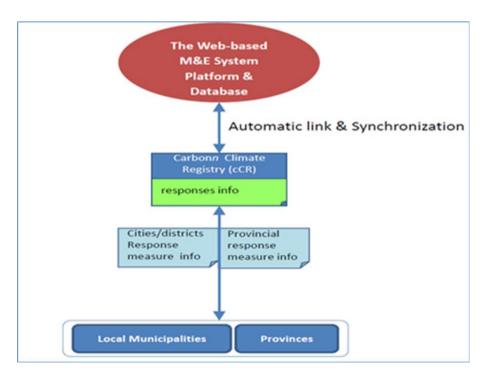


Figure 4: DEA's ideal for a local government and provincial data sharing network.

These various international standards have all adopted the Global Protocol for Community-Scale GHG Accounting (GPC) developed by the World Resources Institute (WRI), ICLEI, and the C40 Cities Climate Leadership Group (C40), in collaboration with the World Bank, UNEP, and UN-Habitat.

Although a number of systems are available, the Department of Environmental Affairs aims to align their reporting system with the cCR, the world's leading reporting platform, in order to enhance the transparency, accountability and credibility of the climate actions of local and subnational governments. The cCR was

designed as the global response of local and subnational governments towards MRV climate action.

To ensure consistency in accounting for GHG reductions at the project level, the tool will have to aid the reporting of the aggregate impacts of subnational actions in addition to reporting emissions inventories. The national system is intended to consist of a simple Excel

GREENHOUSE GAS MRV INDICATORS

Indictors 5 & 8

- 5. Total projected quantity of GHG emissions reduced or avoided as a result of the implementation of projects supported by SA-LED.
- 8. No. of new or enhanced MRV plans produced.

based project level GHG calculation tool that could be applied to different GHG reduction projects across all sectors. Through SA-LED's support, the Department of Environmental Affairs' can leverage USAID's Global Climate Change Initiative's (GCCI) Clean Energy Emission Reduction (CLEER) Protocol and calculators which establish standardized methodologies and a set of calculators for determining if and how GHG reductions should be reported for direct emissions. This will be useful in reporting municipal actions under section seven of the cCR template - the section dedicated to the capture of information from individual projects.

A concept note in response to DEA's request was submitted to the DEA in early March 2016. SA-LED is currently waiting for feedback from the department on a way forward with respect to the proposed scope of work. In the meantime SA-LED has been consulting with both municipalities and provincial departments on their willingness to adopt such a tool/approach.

SECTION VII.

MONITORING AND **EVALUATION**

With the Monitoring and Evaluation Plan finalized at the start of the quarter, focus shifted to establishing data collection protocols and a strategy for capturing baseline assessments.

SA-LED developed a reporting framework to track progress on the indicators and guide the development of data collection tools, including consideration of USAID tools such as the Human and Institutional Capacity Development (HICD) tool as well as the Organization Capacity Assessment (OCA).

The SA-LED Performance Management Plan (PMP) summary sheet was refined to align with USAID Performance Review indicators, as well as the Standard Climate Change Indicators in Program Element 4.8: Environment.

The program is developing the case study research methodology to capture the more subtle aspects of introducing change in municipalities in collaboration with USAID's M&E unit. Case studies are valuable for capturing institutional and political dynamics that are not easily translated into straightforward quantitative metrics, and information and the lessons learned from them will be documented throughout the project development cycle. This information will be disseminated in different formats tailored to various audiences through the communication and outreach function of the program.

QUARTERLY HIGHLIGHTS

Reporting Dashboard. A relational database has been developed to inform the design of Chemonic's cloud based software tool called ChemResults, adapted from the widely used reporting dashboard called DevResults. It will be used for consolidation and storage of data. This will facilitate cross-referencing of indicators, as well as identification of trends and correlations and it will provide an online knowledge management repository and monitoring dashboard.

Baselines. SA-LED has developed a Scope of Work for consortium partner The Greenhouse to review best practices in M&E of LED programs in South Africa, Africa and Latin America, with a particular focus on the quantification of co-benefits in order to convincingly present correlations between program results and its interventions, including taking into account the impact on gender and youth, as well as other socio-economic effects.

The research will involve a review of existing M&E approaches on LED programs and compile a report on best practice with recommendations to the SA-LED team for collecting data and developing an M&E strategy for the program. ICF International, as part of a global best practice review of LED projects, will also undertake a similar M&E exercise based on its LEDS experience in Asia and Latin America.

SECTION VIII.

COMMUNICATIONS AND OUTREACH

In the past quarter, 67 stakeholder organizations were reached with communication products and engagements.

OUARTERLY HIGHLIGHTS

From a strategic perspective, the SA-LED Program will complete its municipal institutional capacity assessment and its "learning-by-doing" project technical assistance in September 2016; thereafter training materials and a structured program of technical assistance will be developed.

COMMUNICATIONS & OUTREACH INDICATORS

Indictors 9 & 10

- 9. No. of communication products produced by SA-LED.
- 10. No. of stakeholder organizations reached with SA-LED communication products and engagements.

The SA-LED team showcased the Program's activities and technical assistance approach at various stakeholder meetings. One such event, which was key in terms of getting buy-in for the Program's activities from municipal councilors, was the South African Local Government Association's (SALGA) Gauteng Provincial Climate Change Working Group meeting which was held on 19 February 2016. The Program's activities were received positively by the municipal councilors present at this meeting. One of the key outcomes of SA-LED's participation in this meeting was the identification of an opportunity to embed an expert to provide technical assistance to the Gauteng SALGA provincial office.

Another important opportunity to showcase SA-LED's technical assistance offering, to project developers in particular, was an invitation by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to provide a presentation at the February meeting of the National Biogas Platform. The National Biogas Platform is a voluntary network supported by GIZ to encourage knowledge sharing across different thematic areas in the sub-sector and attracts both public and private sector organizations. A follow-up meeting was held with GIZ after this Platform meeting and SA-LED has identified an opportunity to support some of the activities of the Platform, such as biogas for transportation and rural biogas initiatives.

ANNEX A. DEFINITIONS

DISTRICT MUNICIPALITY There are 47 Category C or District Municipalities and are made up of a number of local municipalities that fall under one district (between 3-6 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 and 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 (NCOP), cabinet, as well as provincial legislatures.

V-LED Vertical integration of Low Emissions Development involves cross-cutting dialogue and cooperation across sectors and different tiers of government.

V-NAMA refers to vertically integrated nationally appropriate mitigation action as conceptualized by GIZ and has since been adopted by the UNFCCC as a globally accepted term for local mitigation action.

WHEELING energy refers to the transfer of electrical power from one utility to another using the electrical grid - usually from an area with surplus to areas of higher demand. A NERSA trading license is required to wheel power via the existing transmission and distribution infrastructure.

ANNEX B. MILESTONES AND **INDICATORS**

EXHIBIT A. SUMMARY OF PROGRESS ON 2016 MILESTONES

ACT	IVITY/MILESTONE	PROGRESS: I JANUARY – 31 MARCH 2016
	ОВЈЕСТІVЕ	I: PROGRAM YEAR I MILESTONES
I.	At least I MOU signed within 9 months for SA- LED to provide technical assistance for a LED project(s) I	An MoU with Ekurhuleni Metropolitan Municipality to develop energy efficiency and rooftop PV projects was signed in mid-February 2016 per contractual requirement.
2.	At least 5 additional projects identified, assessed, and supported with project development assistance (including I project proposal and analyses completed)	During the quarter, the SA-LED team assessed the 10 projects identified in the last quarter and began developing scopes of work with its municipal partners for four LED projects. The SA-LED team began providing technical assistance to two of those projects during the quarter – Sedibeng District Municipality (waste management & waste-to-energy) and Nelson Mandela Bay Metro (rooftop PV). At least 5 scopes of work will be issued to consultants next quarter to support the development and implementation of 5 municipal LED projects.
3.	The development of the following deliverables designed to institutionally scale the program from October 2016 onwards:	
Municipal En (MEM)	gagement Methodology	To be developed in August after: I) experience has been gained working with municipalities on LED project implementation; 2) experience has been gained building LED capacity in municipalities; and 3) research data has been gathered and analyzed from the LED capacity and needs assessment in municipalities study.
National Co	operative Mechanism (NCM)	To be formally developed in July/August after experience with national government efforts to support LED projects. Research from Consortium Partners will also influence the development of the NCM from global best practice. In the meantime, the SA-LED Advisory Committee will play the primary role in guiding SA-LED on how best to leverage national GoSA departments to affect change in and support LED project activities at municipal level. The SA-LED team will also be supporting various intergovernmental efforts led by the National Treasury to jump start LED projects at local level as well as leveraging DEA's flagship program.
LED Finance Framework (LFF)		During the quarter, SA-LED facilitated an agreement between the Development Credit Authority (DCA) of USAID and a local facility to create a US\$ 20 million (R 300 million) debt facility to support the creation of a market in South Africa for debt provided to rooftop PV developers. Historically, commercial debt has only been provided to building owners with asset-backed finance. A DCA 50% partial risk guarantee is encouraging a market for rooftop PV project finance despite the lack of net metering legislation.
		The LED Finance framework has not yet been developed but could be a series of facilities like this first one detailed above or it could be a framework for collaboration between commercial banks,

¹The text of this milestone has been changed to be more aligned with the wording of the contract; "and financial advisory assistance" has been removed. The contract states: Signed memorandum of agreement for the development of at least one (I) LED project in South Africa within the first nine (9) months of the award. (I.E. BY 19TH FEBRUARY, 2016)

ACTI	VITY/MILESTONE	PROGRESS: I JANUARY – 31 MARCH 2016	
		development finance institutions, and international funds specializing in green or LED investments. It is likely that we will partner with the DBSA, the IDC, or National Treasury to create such an umbrella fund or mechanism to streamline the financing of LED projects at municipal level. Our research partners, DNA Economics and ICF International, will also conduct research on global and local best practice that will also inform the LFF.	
Project Deve	lopment Process Map	A Task Order has been developed for The Greenhouse to undertake this work as part of the "Key Blockages in the LED project Development Cycle" study that will be completed in June 2016.	
Prioritized List of Projects to Roll out Technical Assistance at scale		10 projects were shortlisted in November 2015, five of which will be implemented by September 2016. The experience with these projects will inform how we prioritize the selection of projects from October 2016 onwards. In addition, a task order to develop a formal project selection matrix will be developed as part of the "South Africa LED Lessons Learned in 2016: a summary of project and research experience" study. This matrix will be created in June – August and used to select projects to support from October 2016 onwards.	
LED Training Materials, Manuals, Tools, and Online Resources focused on project developers		The SA-LED team will develop a few training manuals and tools as part of the capacity building, LED project implementation, and research work that will be conducted in the first half of 2016. However, the majority of the materials and tools will be developed in the last quarter of 2016 for rollout to a larger municipal audience in 2017. The cityenergy.org.za website or Climatelinks.org website could serve as the repository for LED training materials until we receive feedback from stakeholders as to what is a more practical location for municipal officials. The Project Developer's workshops and research will also inform the development of training materials and tools.	
Embed in Mui	Peers and Consultants to nicipal Partners to e LED planning and d build LED organizational	A database of consultants has been compiled and an EOI was issued to the market that closed on March 9 2016. From this list of consultants, SA-LED will embed consultants to provide LED policy support, LED training, and integration of LED into IDP planning	
4.	Establish SA-LED Communications, M&E and Media plans, guidelines, information packs targeted at project developers	Communication and M&E plans were developed in the quarter ending December 31st 2015 and will be updated once the LED Project Developer Manual has been created in September.	
	OBJECTIVE	2: PROGRAM YEAR I MILESTONES	
5.	(At least) I technical specialist embedded in relevant office to provide both capacity development and technical project implementation support	As part of our capacity building efforts in our learning by doing period from February to June 2016, at least one technical specialist will be embedded with one of our partner municipalities. Mbombela Municipality, Sedibeng District Municipality, Polokwane, and the Eastern Cape Provincial government have been identified as suitable partners for such placements.	
6.	Roundtable constituted and convened biannually starting in project Quarter 3	A project developer's roundtable was held in December 2015 and an Academic and NGO roundtable of LED experts was held in March 2016 at the Sustainability Institute of the University of Stellenbosch. SA-LED plans two additional roundtables in 2016: a finance roundtable of LED investors (anticipated in August/September 2016) and a second project developer roundtable (July/August 2016). It is envisioned that future roundtables will be constituted to share components of the project developer's guide and to support efforts to integrate LED into Integrated Development Planning (IDP).	
7.			

ACTI	VITY/MILESTONE	PROGRESS: I JANUARY – 31 MARCH 2016
	developed and disseminated (toolkits, manuals, training modules, screening matrices, etc.)	product to support municipal GHG reporting, and (3) a sector-based project developer guide - for instance a guide to project developers on how to implement rooftop PV or biogas projects.
8.	Stakeholder, Communications and M&E plans updated to reflect outcomes of GoSA workshops targeted at GoSA capacity building	Once capacity development and workshop activities commence, updating of plans will take place.
9.	Deploy short term GHG monitoring expertise to GoSA departments, municipalities, or developers	The aim is to deploy a GHG expert to at least 5 of the projects supported with technical assistance in 2016 to: a) Monitor how they collect GHG data; b) Conduct a GHG analysis of the LED project supported by SA-LED; and c) identify additional GHG technical assistance to support national and/or international reporting.
10.	Develop a component of the LED manual detailing best practice in LED project support from a national and provincial perspective covering tendering, finance, monitoring, and regulatory/policy issues	Best practice research and practical experience unblocking LED projects, issuing LED tenders, and helping LED projects secure finance will inform the component(s) developed in August-September 2016.

EXHIBIT B. SA-LED PROGRAM INDICATORS²

KEY RESULT AREA	#	INDICATOR	LOP TARGET	ANNUAL TARGET FY 2016	YTD PROGRESS	QUARTERLY PROGRESS
OBJECTIVE I: STRI	NGT	HEN PUBLIC SECTOR DEVELOP	MENT PLAN	NING AND PROJECT	DEVELOPMENT CAPAC	CITY
KRA 1.1 Innovative LED projects identified, supported, and facilitated	I	Technical assistance provided to LED projects.	20	6; Project Development Process Map	9 Projects identified (pgs. 5 & 6)	No additional projects identified in this quarter
KRA 1.2 Capacities of public and private sectors to develop fundable LED projects in strategic sectors strengthened	2	LED project development of supported organizations improved.	20	Prioritized list of project to roll out TA at scale	9 Projects identified (pgs. 5 & 6)	No additional projects identified in this quarter
KRA 1.3 Resources from development finance institutions and other public and private sector finance leveraged	3	Value of funds mobilized to support LED project development with USG assistance.	US \$30 M	LED Finance Framework	Facilitated US\$ 20 million (R 300 million) debt facility to support rooftop PV projects	Facilitated US\$ 20 million (R 300 million) debt facility to support rooftop PV projects (pgs. 6, 16, and 23)
KDA I 4 Dadward amining a pagagint in	4	Emissions potential analyses completed.	30		-	-
KRA I.4 Reduced emissions potential in strategic sectors demonstrated	5	Projected quantity of GHG emissions reduced or avoided through SA-LED support.	100,000 tons		-	-
OBJECTIVE 2: INCREASE P	UBLIC	SECTOR CORE COMPETENCIES	S THROUGH	TECHNICAL ASSIST	TANCE AND LEARNING	ACTIVITIES
KRA 2.1 Technical skills and strategic knowledge within relevant national, provincial, or municipal government departments and entities developed	6	Number of GoSA officials trained in LED.	130	I technical specialist embedded in relevant office	-	-
	7	Number of GoSA officials demonstrating improved technical skills and knowledge related to LED (outcome).	100	Recruit LED specialists/consultants to embed with municipal partners	-	-

² The Program is in a research and analysis phase until 1 October 2016 - at which time annual program indicators will be determined as the SA-LED team will then have a better understanding of the LED landscape and where SA-LED can make the most impact.

KEY RESULT AREA	#	INDICATOR	LOP TARGET	ANNUAL TARGET FY 2016	YTD PROGRESS	QUARTERLY PROGRESS
KRA 2.2 GoSA skills to monitor, report, and communicate on GHG emissions improved	8	Number of new or enhanced monitoring, reporting, and verification (MRV) plans produced.	25	Deploy short-term GHG monitoring expertise to GoSA dept, munis, or developers	-	-
KRA 2.3 Key stakeholder knowledge and awareness for low emission technologies		Number of communication products produced by SA-LED	50	Establish SA-LED communications & media plans, guidelines, and information packs for project developers	-	-
and implementation strategies improved	10	Number of stakeholder organizations reached through communication products and engagements.	100		235	67 (pgs. 13, 15, and 21)
KRA 2.4 Knowledge and awareness of the relationship between economic, gender, and youth implications of LED increased	11	Number of project proposals supported by SA-LED that include a gender and/or other sociodemographic analysis as part of their development process.	20		-	-
KRA 2.5 Technical products to facilitate GoSA development and management of LED developed	12	Number of technical products developed to facilitate GoSA development and management of LED.	8	3 LED technical products focused on capacity building developed and disseminated; a component of the LED manual detailing best practice in LED project support	-	-
KRA 2.6 Public planning for LED improved	13	Number of municipalities that incorporate principles of LED planning in their IDP's and allocate budget to LED-related activities as a result of SA-LED assistance.	10		-	-

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