



Final Evaluation
**Promoting Low Emission
Urban Development Strategies**
in Emerging Economy Countries'
(Urban-LEDS)

December 2016



The Urban-LEDS project is funded by the European Union.

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**Final Evaluation
Urban-LEDS Project
Synthesis Report**

First published in Nairobi in December 2016 by UN-Habitat
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An electronic version of this publication is available for download from the UN-Habitat website at <http://www.unhabitat.org>

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Acknowledgements

This Final Evaluation of the Urban-LEDS Project consolidates and assesses the information gathered from the documents provided by ICLEI and UN-Habitat, dialogue with Country Teams and senior management, and responses to a questionnaire provided to the Country Teams in each of the participating countries. This Final Evaluation has been made possible by the dedicated participation of the Urban-LEDS Project Country Teams in Indonesia, India, South Africa and Brazil and with the support of Maryke van Staden of the ICLEI World Secretariat and Robert Kehew of UN-Habitat.

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Image Credits: Africa images Grace Stead all others Earl Kessler Cover Image: Night Lights in the City of Recife Brazil

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Acronyms and Abbreviations

APEKSI	Indonesian Local Government Association
AS	ICLEI Africa Secretariat
BAPPENAS	Ministry of National Development Planning
CB27	Capitals of Brazil 27 States
cCR	carbons Climate Registry
CNG	Compressed Natural Gas
COMPACT	Compact of Mayors
COP	Conference of Parties
COP 20	UN Climate Conference in Lima in December 2014
COP 21	UN Climate Conference in Paris in December 2015
DEA	Department of Environmental Affairs (South Africa)
EC	European Commission
EU	European Union
ESCO	Energy Savings Company
GCC	ICLEI's GreenClimateCities program
GHG	Greenhouse Gas
GIB	Global Infrastructure Basel
GIZ	German Cooperation Development Agency
GPC	Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories
IADB	Inter-American Development Bank
ICCC	International Conference on Climate Change
ICLEI	ICLEI-Local Governments for Sustainability
INDC	Intended Nationally Determined Contribution
ISOCARP	International Society of City and Regional Planners
JnNURM-BSUP	Jawaharial Nehru Urban Renewal Mission-Basic Services for the Urban Poor
LED	Low Emissions Development
LEDS	Low Emissions Development Strategies
LOCS	Local Climate Solutions for African Congress
MoU	Memorandum of Understanding
MRV	Measurable Reportable Verifiable
NAMAs (V-NAMAs)	Nationally Appropriate Mitigation Actions (Vertical)
NGO	Non-Governmental Organization
PAG	Project Advisory Group
PPP	Public-Private Partnership
RMC	Rajkot Municipal Corporation
SALGA	South African Local Government Association
SAMS	ICLEI South American Secretariat
SAS	ICLEI South Asia Secretariat
SEA	Sustainable Energy Africa
SEAS	ICLEI South East Asia Secretariat
SIER	Synthesis Interim Evaluation Report
UFPE	Federal University of Pernambuco
UNFCCC	United Nations Framework Convention on Climate Change
Urban LEDS	Urban Low Emission Development Strategies
V-NAMAs	Vertically Integrated NAMAs (see above)

Executive Summary

To support cities in emerging countries address climate change, UN-Habitat and ICLEI-Local Governments for Sustainability (ICLEI), with the support of the European Union (EU), implemented the Project: 'Promoting Low Emission Urban Development Strategies in Emerging Economy Countries' (Urban-LEDS). ICLEI had the principal project implementation responsibilities working through its ICLEI country offices with World Secretariat support. UN-Habitat had administrative responsibilities, supervised independent consultant initiatives and participated in focused technical activities through partner institutions.

This Final Evaluation of the Urban-LEDS Project was carried out during the period May – September 2016. The Objective of the Project is "to enhance the transition [of cities] to low emission urban development in emerging economy countries." (ICLEI Project Brochure) UN-Habitat, ICLEI and the European Commission (EC) agreed to regularly monitor the progress of the Project. The Final Evaluation by Earl Kessler, Consultant to UN-Habitat, will be submitted to the European Commission and is the final step of UN-Habitat's responsibilities to coordinate the evaluation for the Project as per the Agreement of Cooperation between UN-Habitat and ICLEI. The Project began in March 2012 and ended in March 2016 (48 months). The total Project budget provided by the European Commission was €6.7 million Euros.

The primary purpose of this Final Evaluation assesses the achievements of the overall Objective "Cities in emerging economy countries adopt Urban Low Emission Development Strategies," the Expected Accomplishment (EA), the two sub-EAs, and results. Sub-EA 1 of the Project was to adapt a national-level approach to city-level low emissions strategies development. This was to be accomplished through the preparation of LED strategies in Project Model Cities and where possible in Satellite Cities. The evaluation will also focus on Project results to establish, by design, a vertically integrated project approach that addresses climate change issues between different levels of government. This includes advocacy and support activities at the global level. (Sub-EA 2) The Expected Accomplishments of the Urban LEDS Project have been achieved in an outstanding manner.

The methodology followed to arrive at the above conclusion was presented in the Terms of Reference: "the Consultant will undertake an intensive, primarily desk review of the project outputs, also taking into account the recent process-focused interim evaluation. As needed

to obtain documentation and to more clearly establish the contribution of Urban-LEDS activities to results, the consultant may visit one Urban-LEDS country (depending on EC requirements) and may visit the main implementing partner ICLEI World Secretariat (Bonn, Germany)." The methodology assessed change developed at the city level that was sought and achieved through capacity building, city-to-city exchanges, hands-on pilot actions and activities including emissions inventories to identify priority areas for interventions and strategy development, and to understand, assess, design and implement LED technical and behavior change activities in the target cities.

This final evaluation also sought to gather lessons, to inform possible future engagement by the EC and others in the area of cities and local government climate change mitigation. The evaluation assessed the Project considering the cross-cutting themes as indicated by UN-Habitat - human rights, youth, gender and climate change-related aspects. A desk review of documents presented in the Reference Section was carried out. The review was complimented by interviews, a questionnaire prepared by this evaluator, and information exchanges between this evaluator and the ICLEI Country Teams, project partners and UN-Habitat Staff.

A field mission was carried out during August 5-9, 2016 to Rajkot, India, an Urban-LEDS Model City, for a first-hand review of progress there and what was accomplished in the four-year period of the Project. The information gleaned for the Mission is presented through out the Final Evaluation. The focus of the Final Evaluation was on major outputs and results that build on the Urban-LEDS project interim evaluation that was more focused on process and methods to engage in LED. In particular this Final Evaluation focused on "qualitative" aspects of the Project referencing the "quantitative" aspects of the project documented in Urban-LEDS: Cities in Action 2012 – 2016 Final Report. This included assessing the adoption and implementation by participating cities of low emission development strategies, bylaws and pilot programs that act to inform broader city-level strategies, governance and plans.

The Urban-LEDS Project established through the Green Climate Cities process a "Work Package" Methodology that provided the guidance necessary in a highly satisfactory manner to achieve the Expected Accomplishments (EAs) of the Project. The work packages included: WP 1. Project management; WP 2. Designing Urban-LEDS; WP 3. Implementing Urban-LEDS; WP 4. Global Exchange

Framework; WP 5 Urban-LEDS Support; WP 6. Global Database of Urban NAMAs; and WP 7. Global Climate Advocacy. The Project results are presented in Section IV. The evaluation criteria of UN-Habitat were also employed to review the achievements of the Urban-LEDS Project and are comprised of Relevance, Efficiency and Effectiveness, Sustainability, Impact and Integration of cross-cutting themes that are addressed below:

Urban-LEDS Project Achievements

The overall project Objective and corresponding Expected Accomplishments (EAs) were accomplished in a **highly satisfactorily** manner – the adoption by participating cities of low emissions development strategies, as well as, by-laws, programs and the different other means used to arrive at a city strategy.

1. Sub-EA 1 Strategies and Urban-LEDS Supported Activities

Strategies were the end result sought and the culmination of the Phase 1 of the Urban-LEDS Project. They were accomplished in a highly satisfactorily manner. Of the eight Model Cities seven have produced their version of a city LED strategy as either a stand-alone document, city legislation or as part of the city development plan; likewise one Satellite City (Panaji) produced a LED strategy, for a total of eight.

Of the strategies produced thus far by Model Cities six have been approved by City Councils; likewise Panaji's strategy was approved in June 2016. Steve Tshwete produced a "position statement" to be incorporated into the city's Integrated Development Plan. (IDP). The application of the guidance in and implementation of the strategies is the next step. Strategy implementation would be one priority of a Phase 2 of the Urban-LEDS project, as pointed out in the section below on consolidation. The priorities featured in the Strategy documents covered a range of activities that relate in their majority to energy efficiency. The experiences coupled with the Project's training and emphasis on emissions control geared pilot efforts to energy efficiency, transport and green buildings.

2. Sub EA 2. Global Outreach and Engagement

The major results and issues from the 'global' Sub-EA 2, included participation in international and regional events, contributions to the technical development of the LED concept and impacts on the Project through global exposure.

Urban-LEDS served a useful role in the global dialogue through its example to reduce global emissions. It provided the Urban-LEDS experience in support of vertically integrated applications of tools and methodologies for the promotion, recognition, reporting, verification and integration of actions and information generated by cities. The training and guidance provided in the Project and by the World Secretariat and UN-Habitat Office/Nairobi prepared cities to share their efforts at international and regional events. City experiences also fed into South-South and South-North LED dialogue. ICLEI, featuring the Urban-LEDS project results, served as the focal point for Local Governments and Municipal Authorities (LGMA) at the United Nations Framework Convention on Climate Change (UNFCCC) as well as served as the advocate/facilitator of the Local Government Climate Roadmap, a responsibility that contributed to the recognition of local and subnational governments as Non-Party Stakeholders in the Paris Agreement and the COP 21 Decision.

Global validation played a strong role in sustaining city initiatives and commitments. The Project rightfully provided support for and organized capacity building and events that allowed cities to tell their stories, gain insights into work others were doing and provide the vocabulary for participation. Cities have claimed their share of importance, illustrated through successful Projects like Urban-LEDS, and gained support through the establishment of the Friends of Cities (FOC) at the UNFCCC. FOC can facilitate dialogue on the political dimension of those authorities and responsibilities that will support local climate action made real by Urban-LEDS Projects.

UN-Habitat Evaluation Criteria

The following presents an assessment of the Urban-LEDS Project seen through the UN-Habitat Evaluation Criteria:

Relevance

The Urban-LEDS project is **highly relevant**. The Project proved its relevance through the global, national and local recognition it received for its focus, process and results. The Project approach and focus featured green development, energy efficiency, climate change mitigation, and the impact of cities' and their emissions on green house gas levels. Importantly, the Project also made the case for local governments as legitimate and essential partners in an urbanizing world by demonstrating their capacity and interest to develop in an energy-efficient manner through planning for a green future. The selection of medium sized

cities as Project Model and Satellite Cities recognized the growing consensus that it will be the smaller and medium sized cities that will grow faster than the mega-cities as in the past. It also recognized that these cities need to be prepared now to address their population and economic development issues in a way larger cities have not in the past thereby breaking new ground. Local governments are facing the need to become competitive. LED, as promoted by Urban-LEDS, enhances the competitiveness and resilience of cities - quality of life, environmental and built environment amenities and the health of cities. The relevance of the Project featured the reporting on emissions that raised the visibility and importance of low emissions development along with and as a component of broader sector issues including housing, water and transport.

Efficiency

The Urban-LEDS Project implementation was **highly efficient**. It structured right-sized country core staffs that managed their limited budgets for the outstanding set of results achieved. The Country Teams utilized financial resources to their best advantage and differently to support strategic inputs to activities. South-South-North exchanges with European and regional cities illustrated an idea and provided hands-on technical assistance to expand the vision and awareness of participating national and local officials that maintained Project momentum.

The efficiency of implementation addressed expectations, avoiding delays, building confidence in the partners that the project will deliver and capacity in Project management to do so. Investments in exposure, project implementation and consultation paid off in results. Urban-LEDS was able to attract and train interns to grow them into support staff to understand LED concepts and contribute to Project activities. Financial management facilitated the resource flows from UN-Habitat to ICLEI Country Teams and activities required to keep demonstrations going, staff interventions current and training and networking initiatives as scheduled. The support to LED Project “champions” was an efficient way to maintain focus and sustain activities as in KwaDukuza, South Africa and Recife, Brazil and Rajkot, India. ICLEI as keeper-of-the-record for emissions control in the carbonn Climate Registry (cCR) system played a critical role as mentor for and reporting of emissions inventories’ results through the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC). The tenacity displayed by Country Teams staff in working through the

complexities of approvals, contracts and implementation contributed to the efficiency of the initiatives undertaken.

Effectiveness

The **highly satisfactory** effectiveness of the Urban-LEDS project was a function of the clarity of purpose, the GreenCimateCities (GCC) process implemented as guidance, and the tools and staff support provided. The results as recorded in the ICLEI Urban-LEDS: Cities in Action, Low Emissions Development in Brazil, India, Indonesia and South Africa, 2012 – 2016, Final Report (Final Report) attest to the effective guidance, technical support and abilities of the Country Teams to lead partner local governments in strategy development and pilot activities implementation.

Along the way key indicators diversified focus areas based on priorities informed through emissions inventories and assessments of technical issues. Priority topics included fuel conversion, renewable energy and energy efficient assessments that for example, began as municipal building energy efficiency (Brazil), building regulations (India), environmental improvement (Indonesia) and behavior change (South Africa). The focus on local leadership was strategic and successful in promoting effective project implementation. Change was articulated through training that required national and local government buy-ins to the GCC sequence for priorities identification and the understanding of the vertical integration purpose of the Project that translated policy into practice.

The Project has produced strategies in seven of the Model Cities, six of which approved by their City Councils. Panaji India, a Satellite City, prepared and approved its strategy as well. The Project initiated strategy development through emissions inventories carried out in 30 cities that attests to the effective structure established in the GCC. Careful monitoring of each of the GCC Phases by the ICLEI World Secretariat tested their effectiveness. These successful efforts made the case for low emissions development to governments and their constituencies to define terms, create awareness, identify priorities, create methods and mechanisms and reach out to other local governments.

Project success bodes well for a follow on project to consolidate gains made; *apply* strategies prepared and approved; learn from and inform others of the experiences; and create international as well as national interest in other cities as partners. The leadership, guidance and connectivity provided by the Urban-LEDS Project Advisory

Groups - a result of Project design – supported the effective participation of the Project's partners.

The array of pilot efforts of the Urban-LEDS Project validated their investments for their effectiveness and their contributions made to a global audience. To be able to report on the improvements made and the impact on emissions by the actions taken is a strength of the project.

Sustainability

The **satisfactory** sustainability of project achievements was addressed head-on from the beginning of the project. Approaches to sustainability varied in the Country Programs and represent a useful compilation of ideas for the replicability of LED efforts as well as the continuity of the current project commitments. Sustainability was approached from not only the financial support required from Project, local and national sources for capital investments but from the knowledge base created and the long-term maintenance of projects implemented.

Project momentum was established through awareness, technical exchanges and political support that validated the study tours, training and technical assistance financed through the Project. Sustainability was addressed through the involvement of the private sector in Balikpapan, Indonesia and the Energy Savings Company (ESCO) in Thane, India and Doornkop Community Centre solar array in SteveTshwete (South Africa). Sustainability was also addressed by cultivating political will in the Model Cities of Urban-LEDS South Africa.

In Recife and Rajkot the city budgets will provide additional support through annual budgets to sustain the program. In KwaDukuza, the Hot-box roll-out to households was through ward councilors in a train-the-trainers activity to scale up the passive cooking hot-box project; and in Bogor the mayor installed the first lamp of its smart street lighting project. Project installations such as solar water heaters, solar street lights and solar PV panels were included into the municipal asset registers in South Africa to ensure their long-term maintenance and upkeep.

Nurturing partnerships as sustainable, inclusive strategies garnered the human, technical and the financial resources necessary to implement behavior change efficiently and effectively and scale up successes. Working relationships included an array of international, national and local development entities, NGOs and technical support groups such as the GIZ, SEA, SALGA, SA Energy Network, South

Afica and the University of Pernambuco in Recife, Brazil. Sustainability will depend on the continuity of engagement and outreach of the Model and Satellite Cities that figured into the ICLEI and UN-Habitat agenda for a Phase 2 of Urban-LEDS. Partnerships also addressed expectations and the management of short-term results. Local Governments and the private sector entities they worked with brought visibility to LED actions and contributed to their effectiveness and awareness of changes happening.

Impact

Urban-LEDS has had **outstanding** impact through the Country Programs. Impact includes political will to change behavior through the Mayors in South Africa's Program that restructured concepts, perceptions and experiences regarding energy efficient living, fuel efficient environments and participatory planning. LED made the case for becoming competitive and the changes required. The impact included policies, building codes and regulations as well as changes in institutional behavior, rewards and strategies. Impact was felt in the variegated environmental improvement projects and public transport models demonstrated in river restoration in Recife and the historic area upgrading in Bogor, the rent-a-bicycle projects in Fortaleza and the urban forestry program in Balikpapan to create carbon sinks to address climate change; and fuel efficient bus services. The impacts address city-wide applications of LED awareness and change and green building regulations and codes, roof-top gardens, and green building awards, guidelines and certifications. Impact at the global level manifested itself through the awards to Rajkot for its energy efficient project at COP 20 and the impacts at COP 21 that made the compelling case for local governments as legitimate and essential partners in LED policy and practice.

The impacts of the pilot projects have resulted in applications that grew pilot efforts into city-wide of programs through green building laws and regulations, guidance for energy efficient, LED street lighting, solar water heating and climate resilience planning. The success of the pilot efforts stimulated project partners to innovate and source funds form a variety of public and private programs and entities. India, as other country programs, built on the success of the pilot projects to leverage resources and scale each into a broader application: the 300 street light conversion to LED bulbs grew to a 52,000 conversion managed by an ESCO; the Decentralized Treatment System has funding to be implemented in two selected slum areas lacking sewage treatment; the school solar panel program implemented in

one school will grow to 10 and then to an additional 120; and solar water heaters have been made mandatory based on the success of the pilot effort.

Inspired by the Urban-LEDS Tour to Copenhagen, the Municipal Council of Recife approved the Green Roof Law on 16 December 2014. This law requires buildings with more than four floors to have their roofs covered with native vegetation. The law also applies to any commercial building with more than 400 square meters. This law institutionalizes Recife's focus on its urban environment and the environmental assets it contains to improve the quality of life for the city. Green building advocacy backed by a green building certificate, bike lanes and river transport restoration, rainwater capture, energy efficiency, sustainable design and recyclables are the tangibles that received Urban-LEDS support.

Integration of UN-Habitat cross-cutting themes

1. Gender: while not specifically called out Urban-LEDS impacted gender issues especially through capacity building as well as the South Africa project to use a locally produced passive cooker that did not require the presence of the woman head of household or her daughter. The cooker allowed for a woman to engage in other activities either inside the house or out. As the LED orientation evolves from energy efficiency into more complex situations such as urban development and the transport issues that affect the mobility of women explicit reference to gender is warranted.

2. Environment/climate change – related aspects: Urban-LEDS is designed to improve the environment by addressing climate change issues. It measured impacts and emissions; it created awareness of what can be done about behavior and use of resources; it demonstrated how to clean up waterways and brown fields and it proposed public modes of transportation to begin to limit the use of petrol-run vehicles. It encouraged the use of green materials and offered training and capacity building to measure, report and verify progress being made in environmental improvements. Examples of environmental actions include: the solar energy projects in Rajkot, GHG emissions inventories in the Model and Satellite Cities to establish an environmental context and data baseline to identify priorities; and prepare focused projects for environmental improvement - green legislation on building design and materials, solar water heaters and clean energy; improved public transport through green fuels and a green bus

systems and mobility options to the automobile as river transport; and the innovative decentralized waste water treatment pilot project, among others.

3. Youth was addressed through school education programs.

At Doornkop in SteveTshwete (South Africa) the local youth organization received training and was engaged to implement the solar PV panel project, as well as installation of ceilings in the buildings. Young professionals also obtained training in their career introduction in the South Africa Country Team. Human rights was not formally addressed in the Project.

Lessons Learned

The lessons from the past four years of endeavor include:

- a) Investments need to be made in strategic pilot activities to illustrate key actions for low carbon development and in training and exposure of staff and partners to new project ideas through study tours, staff exchanges, technical assistance and monthly reports, webinars, Skype calls and information exchanges as part of strategy development.
- b) The Urban-LEDS Tool Kit needs to be prepared in the local languages Early on in the process for country project implementation. Feedback from local government and Project partners was that local language materials allowed smaller cities to engage as well as private sector partners offering a neutral platform and entry point for interested businesses. Working at the city and, especially, at the community levels requires that written materials, communications and project design and implementation documents be in the local language.
- c) Staff levels within local governments, ICLEI Country Teams and UN-Habitat support offices need to be addressed at the outset of a project to address design and implementation expectations. While not wanting to overload staff budget line items, it is essential that Projects to have sufficient staff to guide, inform and support Project strategy development and especially activities implementation. A core staff can provide the continuity required and specialists can be brought in as needed. Implementation requires additional staff and capacities.
- d) Awareness building, training, and capacity building activities need to be implemented to create a constituency, transfer knowledge and validate solutions understood, implemented and reported up through national and international channels. The

- repetition of training and demonstration of training content in pilot activities can cement understanding and support the behavior change sought in planning and strategy development.
- e) LED training needs to be integrated into local/ regional schools, universities and NGOs as part of their institutional commitments to sustainable LED. Sustainability can be supported through comprehensive, inclusive project training, capacity building, and reporting on Project activity development and implementation as part of professional training. Project “champions” can take a lead role in institutionalizing and providing training initiatives to other cities expressing interest in LED strategy development in partnership with local technical and training entities.
 - f) Training needs to be initiated in finance, bankable/ commercially viable project development and incremental growth of pilot efforts as a part of LED strategy development. Lessons from Rajkot are that leadership can be creative and pro-active in sourcing funds for project implementation and scaling up; that successful pilot activities provide the basis to access existing national and state government programs such as Smart Cities in India that grow a limited city budget; and that translating strategy to action reinforces commitment to change. Project budgets need to reflect the extent and type of activities envisioned for a project.
 - g) Training needs to be carried out for finance entities to learn how to work with a new clientele – small and medium sized cities - one that represents an enormous potential for investment in the near future. Training in financing the growth of secondary cities has been too long neglected. As Maryke van Stadan stated in her June 13, email, *“Our problem is that we need to work with partners that indicate they are finance experts, such as the GIB, and it backfires on us as they do not understand the local governments and their approach. I have found the same to be the case in another small project we are working on where finance experts actually query why a city needs a climate action plan as this is just more complicated.*
 - h) The Metrics by which change and progress are measured needs to be clear. They need to contribute to understanding what actions mean to reduce GHG, to quantifying results and to explaining why one-bulb-changed does make a difference. The impact of metrics can be a catalyst to scaling up pilot efforts

to city-wide and regional systems and programs.

- i) Project budgets need to reflect the extent and type of activities envisioned for a project, the expertise required and the timeframe allotted for design and implementation.

Recommendations

The following recommendations are made in the spirit of taking a successful Project to its next level. The recommendations are presented as global, national, local and Project management.

A. Global Project Activities

1. The Secretariats of ICLEI and UN-Habitat organize a “View-from-the-Cities.” The View would bring representatives from the Country Teams’ partners and Field Offices together to re-live the project; provide feedback on what worked and what did not; identify consolidation activities in the current set of Model and Satellite Cities; and make recommendations as input to Project expansion to other countries and financing for a follow-on Project. One important recommendation by Country teams and partners was to expand the South-South exchanges.
2. ICLEI’s World Secretariat with UN-Habitat formalized Project reporting through standard formats to present learning from Country Programs, facilitate compare/ contrast assessments, provide examples of innovative activities to be fed into the array of the Solutions Gateway and identify diverse funding sources for project design and implementation. Reporting could also cite other LED and climate resilient program experiences to enrich and deepen exposure and discussion.
3. ICLEI and UN-Habitat with EC support, position themselves as facilitators between the demand and the supply of project finance. TAP - The Transformative Actions Program - be evolved to serve as a Climate Project Development Company. The link between projects – good, commercially viable projects - and investors requires a concerted effort and a company dedicated to investment-quality projects. Finding finance experts that understand local governments was indicated as key to making an entity such as TAP work.
4. UN-Habitat should advance a built environment/urban planning and resilience advocacy program to grow the opportunities of LED endeavor. A broader LED agenda would present a more integrated understanding of the LED concept and offer solutions to broader concerns.

B. National Engagement

5. National level partners and PAG members should play important roles in advocating LED methodologies based on national contexts. ICLEI and UN-Habitat methodologies and tools, reporting and accounting guidance and action initiatives should correspond to short, mid- and long-term actions.
6. ICLEI and UN-Habitat, National level partners and PAG members provide guidance on consolidating LED policies and strategies into national and regional programs, projects, green legislation, regulation and enforcement. The effort should also focus on creating financing and implementation support through a national Pool of Experts able to work with international counterparts.

C. Local Engagement

7. ICLEI Country Teams support Model and Satellite City leaders to create a directory of national leaders, sources of finance for activities, staff and capital investments. The important role of national support for local actions makes a difference. The Directory would be the link between levels of society. A working partnership with a local technical entity and/or university can provide the staff support and guidance and consolidate information on LED processes, results and projects in Project Notes.
8. The Urban-LEDS trained staff and partners, Country Project “champions” and staff be considered a resource benefit of the Project not to be lost after Project completion. Urban-LEDS is a training effort for/with local entities that should not lose the expertise created. An example is the position created in Recife, Brazil for the Climate Change Manager.
9. Urban-LEDS Model Cities and other Satellite Cities be encouraged to establish LED resource offices that engage in outreach to other local governments and respond to requests for assistance; and create working groups of similar sized and interested cities. The working groups, with ICLEI support, can serve to increase staff size through cooperation to prepare projects, implement activities and monitor and evaluate initiatives. Working group meetings can be scheduled in a sequence and rhythm that the working groups establishes to make it work.

D. Project Management

10. EC, ICLEI and UN-Habitat design follow-on and future Projects that integrates implementation of pilot activities identified in the strategies developed into the EAs. That would require that project design allocate time and resources to support strategy applications.
11. ICLEI and UN-Habitat recognize explicit geo-political differences and similarities in project design and include local mechanisms in guidelines and checklists as institutional memory and guidance.
12. UN-Habitat explicitly address housing, the usual orphan of development, calling out LED with respect to self-help actions, density technologies and local building materials markets, home furnishings and technologies, energy efficiency, and micro-finance mechanisms. A guidebook on “urban planning” for low emission development would be a contribution to the diversity of the LED concept and its activities.
13. Country Teams review existing, and identify future, staffing requirements for consolidation and follow-on projects that include staff levels and skills.



Solar Panel installation in South Africa Urban-LEDS



Introduction

To address climate change mitigation by cities in emerging countries, UN-Habitat and ICLEI-Local Governments for Sustainability (ICLEI), with the support of the European Commission (EC), implemented the Project: 'Promoting Low Emission Urban Development Strategies in Emerging Economy Countries' (Urban-LEDS). ICLEI had the principal project implementation responsibilities working through its ICLEI country offices with World Secretariat support. UN-Habitat had administrative responsibilities, supervised independent consultant initiatives and participated in focused technical activities. UN-Habitat, ICLEI and the European Commission agreed to regularly monitor the progress of the Project. This Final Evaluation to be submitted to the European Commission is the final step of the UN-Habitat's responsibilities to coordinate the evaluation for the Project.

The Final Evaluation of the Urban-LEDS Project will assess the accomplishments of the Project to adapt what was a national-level approach - low emission development strategies and activities - to urban areas and the city-level. (Sub-EA 1) The evaluation will also focus on Project results to establish, by design, a vertically integrated project that addresses climate change issues between different levels of government. This includes advocacy and support activities at the global level. (Sub-EA 2) The Project began in March 2012 and ended in March 2016 (48 months). The total Project budget provided by the European Commission was €6.7 million Euros.

The Objective of the Project is "to enhance the transition [of cities] to low emission urban development in emerging economy countries." (ICLEI Project Brochure) This is to be accomplished through the preparation of low emissions development (LED) strategies in Project Model Cities and where possible in Satellite Cities. Change developed at the city level was sought and achieved through capacity building, city-to-city exchanges, hands-on pilot actions and activities including emissions inventories to identify

priority areas for interventions, and to understand, assess, design and implement LED technical and behavior change activities in the target cities.

This Final Evaluation of the Urban-LEDS project assesses the achievement of the overall Objective, the Expected Accomplishment (EA), the two sub-EAs and results. The Final Evaluation builds on the Urban-LEDS project interim evaluation that was more focused on process. In particular this final evaluation will focus on major outputs and results and the "qualitative" aspects of the Project referencing the "quantitative" aspects of the project documented in the "Urban-LEDS: Cities in Action 2012 – 2016 Final Report" (Final Report). This will include assessing the adoption and implementation of low emission development strategies, bylaws and action programs by participating cities that act to implement broader city-level strategies and plans by local governments.

This evaluation will also seek to gather lessons to inform possible future engagement by the EC and others in support of energy efficient and climate resilient cities.



Overview

UN-Habitat and ICLEI with the support of the European Commission, implemented the Project: 'Promoting Low Emission Urban Development Strategies in Emerging Economy Countries' (Urban-LEDS). The Project's Objective was: "To enhance the transition to low emission urban development in emerging economy countries"; its Expected Accomplishment (EA) was: "Cities in emerging economy countries adopt Urban Low Emission Development Strategies". This EA was divided into two Sub-Expected Accomplishments - Sub-EA 1 that primarily reflects city and national scales of activities, and Sub-EA 2 that primarily reflects global activities, as follows:

Sub-EA 1. Selected model cities adopt Urban LEDS strategies, implement demonstration activities, and share their experience with a wider group of satellite cities.

Sub EA 2. The global climate concern is enhanced through the promotion, recognition, recording, verification and integration of actions and information generated by cities in reducing global emissions shared at international and regional events and in South-South-North LED dialogue.

The Urban-LEDS Project is a comprehensive undertaking to address climate change mitigation by cities in emerging countries. To this evaluator the Project has accomplished a dual purpose that is reflected throughout project design and its implementation. The stated Project purpose was to call attention to Low Emissions Development and to work with cities to prepare and implement LED Strategies and activities as the project calls for. The other purpose manifested in the Global and Regional Dialogues and Project Events in which ICLEI and UN-Habitat participated is to make the case for local governments as legitimate and essential partners with national governments, international technical and finance entities and the private sector to address climate change impacts and make a difference. As reported by Urban-LEDS Brazil in its material prepared for this final evaluation:

“Although throughout project implementation we faced resistance at the national level to engage local governments in the national mitigation agenda, a relevant milestone was achieved in 2015 with the Brazilian Intended Nationally Determined Contribution (INDC). The final document presented to the UNFCCC, includes the phrase “Brazil recognizes the importance of the engagement of local governments and of their efforts in combating climate change”, as well as references to transportation in urban areas, energy efficiency and renewable energy targets.”

The Project supports the role of local governments, by design, through its structure of vertical integration, addressing climate change between different levels of government, and includes advocacy and support activities at the global level. The recognition of local governments as legitimate partners, while to some intuitively obvious, to others required an official sanction. That sanction was confirmed at COP 21.

“The voices of local and subnational governments have, in fact, been heard. The Paris Climate Package, which includes both the Paris Agreement and the COP 21 decisions on implementation, explicitly recognizes and engages local and subnational governments in climate action – a significant success for cities and regions around the world. The Paris Agreement, signed by 177 national leaders in April 2016, will enter into force as soon as at least 55 Parties accounting for 55 percent of global emissions ratify the Agreement through national processes.” (ICLEI COP 21 Report – p. 8)

Now sanctioned, the accomplishments of cities can be integrated into national progress towards and reporting on low emissions actions and issues as willing partners that bring the local experience to the attention of a global audience. Many local governments have, in theory, been given expanded responsibilities for the development of their cities and the future of urban growth. Authority to act is another issue for those at a sub-national and national level resist giving up control. State Governments in India have yet to devolve authority to cities to generate resources for the capital investment needs of their development plans. Decision-makers use concerns of “moral hazard” as a reason or excuse to continue to limit access by cities to capital markets for the loss of control it represents.

In “The Paris Climate Package: A Basic Guide for Local and Subnational Government May 2016,” ICLEI presented its efforts at the COP 21 that leveraged the outstanding Urban-LEDS Project results to give local governments credibility and the confidence to assume responsibilities for making their cities climate efficient and resilient. Those at COP 21 embraced local governments as partners. Clear examples of the potential of cities to engage in LED included activities in Recife, Brazil and Rajkot, India. Recife was granted R\$ 250.000,00 (US\$78,125) from the Global Environment Facility (GEF) for a pilot effort to retrofit a public building for its Sustainable Building Stamp Programme. With the savings demonstrated from solar panels installed with Urban-LEDS support the experience was used to develop indicators on energy and cost-benefit for other sites. In Rajkot, India the street lighting program to convert lights to LED bulbs grew from a pilot of 300 lights and resulted in the local government addressing the 52,000 lights that illuminate the city through an innovative Energy Savings Company (ESCO) financing mechanism.

The Urban-LEDS Project has demonstrated that the usual top-down, national-level approach to urban development and resolving issues can be inclusive, that is, working with cities for positive results. From the ICLEI Urban-LEDS: Cities in Action Report, accomplishments show that the project is a success. The Main Findings section of this Evaluation will address those results and methods, especially those of special interest including: the GreenClimateCities process, the Solutions Gateway, the carbonn Climate Registry (cCR)Climate Registry format, GHG inventories and the metrics that define and dimension them.

3

Evaluation Approach and Methodology

This Final Evaluation of the Urban-LEDS Project approach and methodology reflect the guidance provided in the Terms of Reference, that is, “the Consultant will undertake an intensive, primarily desk review of the project outputs, also taking into account the recent process-focused interim evaluation. As needed to obtain documentation and to more clearly establish the contribution of Urban-LEDS activities to results, the consultant may visit one Urban-LEDS country (depending on EC requirements) and may visit the main implementing partner ICLEI World Secretariat (Bonn, Germany). This evaluation will also seek to gather lessons, to inform possible future engagement by the EC and others in the area of cities and climate change mitigation.....and the evaluation will also consider an assessment of Cross cutting themes as indicated by UN-Habitat - human rights, youth, gender and climate change-related aspects.” A field mission was carried out during August 5-9, 2016 to Rajkot, India, an Urban-LEDS Model City, for a first-hand review of progress there and what was accomplished in the four-year period of the Project. The information gleaned for the Mission is presented through out the Final Evaluation.

That said the Evaluation takes a “qualitative” approach referencing the “quantitative” approach of the Urban-LEDS Final Report to assess the adoption by participating cities of low emission development strategies – an important type of early project outcome. The Evaluation assessed the Project and its activities through the UN-Habitat’s Evaluation Criteria. The Evaluation Criteria assess the achievements and activities of the Project by their Relevance, Efficiency, Effectiveness, Sustainability, Impact and the Integration of UN-Habitat Cross-Cutting Themes. Each criterion is illustrated by examples from the Project.

The evaluation continues, as indicated in the TOR, to carry out “the primary objective of this Final Evaluation of the Urban-LEDS project to assess the achievement of the overall Objective, the Expected Accomplishment (EA), the two sub-EAs, and the “major outputs.”In this way the focus of the present evaluation will be upon major outputs and results, in contrast to the interim evaluation which (as was deemed appropriate for a mid-course evaluation) was more focused on process and activities.” The Final Evaluation will test the stated Project Objective: “To enhance the transition to low emission urban development in emerging economy countries” from national governments to cities; its Expected Accomplishment (EA) is: “Cities in emerging economy countries adopt Urban Low Emission Development Strategies”.

With the UN-Habitat’s Evaluation Criteria and the assessment of each Sub-EA through issues and accomplishments identified in the readings and the Field Mission as well as in the exchanges carried out with the Country Teams, a comprehensive view of the Project’s achievements was

provided. Sets of Questions were prepared and sent out to the Country Teams and senior management of ICLEI and UN-Habitat to serve as a basis for discussion of results and the “what-worked” and “what-did-not.” These questions are included in the Annexes of this Final Evaluation. Questions, were organized in (1) global, (2) national, (3) local and (4) project management sections. The present evaluation assesses outcomes achieved, and captures lessons that have a direct bearing on a possible Phase 2 of the Project. To that end, the questions below regarding the Phase 1 process (e.g, was the best use made of European resource cities? Was engagement in international processes optimal?) will seek to capture lessons with direct bearing on a design of Phase 2. The issue of intended and unintended impacts will be addressed in Section VI Impacts. The specific activities related to the pilot activities and strategy development are considered “intended” results and the gains that are derived from partner innovation and awareness, instigated by the Project, contributed to “unintended” results that displayed the commitment of the Country Teams’ partners to the Project.

Limitations: Limitations on the preparation of the Final Evaluation relate to the fact of a single evaluator working in the timeframe allotted to prepare a draft Final Evaluation first for review and then incorporate comments made. Other limitations include the level to which Country Teams and Project sponsors provide timely input to the preparation process. While a desktop Evaluation is certainly feasible, one that has the participation of the Country Teams and sponsors will make it that much more valuable. The Evaluation outline provided in the TOR is presented in Annex II.



Main Findings

The Urban-LEDS Project has successfully demonstrated the way forward for a green, resilient future urban growth led by local governments. It represents a major shift in urban development strategy and behavior. Continued support is essential if the strategies, LED committees, working groups and offices created are to be institutionalized; the skills gained designing and implementing the pilot activities are consolidated into behavior; training received becomes curriculum for future technical and management skills development; and the awareness of LED in the community grows into true understanding and action. This militates for a Phase 2 Urban-LEDS. The possibility of an Urban-LEDS Phase 2 Project is being explored with the EC. As currently proposed this Phase 2 Project would include components both of: (i) consolidation of work in existing Urban-LEDS countries and cities, as well as (ii) introduction of the Urban-LEDS Project and tools into new countries and cities. A Phase 2 project could work with country tools such as the Climate Fund of the Federal Government of Brazil managed by the National Development Bank (BNDES) and developed in the first year of the project with participation of ICLEI/South America Secretariat (SAMS) on the committee.

The Fund offers loans specifically to cities. An Urban-LEDS 2 could work with cities to develop bankable, commercially viable LED projects and programs. Follow on could also support work with the Government of India's Smart Cities Project and the off-book mechanisms cities have developed including ESCOs and Public-Private Participation Programs (PPP). Balikpapan, Indonesia has leveraged the Corporate Social Responsibility fund for support to a waste management project. These openings to new sources of funds are a result of Urban-LEDS work with its partners to expand the realm of possibilities for local government to carry out strategies they have developed.

The main findings of the Urban-LEDS Project presented below reference the UN-Habitat Evaluation Criteria as well as a programmatic lens that evaluates the Project's activities and achievements. The UN-Habitat's Evaluation Criteria identify key attributes that offer a qualitative appreciation of the overall Project illustrated with examples of key actions, supportive legislation, sustainable policies and LED guidance. The attributes assess the achievements and activities of the Project by their Relevance, Efficiency, Effectiveness, Sustainability, Impact and the Integration of UN-Habitat Cross-Cutting Themes.

Urban-LEDS Project Accomplishments

The following is the Final Evaluation of the accomplishments of the Project through assessments of its Expected Accomplishments of Sub-EA 1 and Sub-EA 2 illustrated with results. Urban-LEDS built into its project design resources for Model and Satellite Cities' action activities. (For a detailed listing of the actions enabled by the Urban-LEDS Project see the ICLEI Urban-LEDS Final Report.) What is important for this Final Evaluation is the connectivity between the Project parts to educate and demonstrate low emissions and climate change concepts and issues to urban growth in cities especially smaller and medium-sized cities.

The selection of activities reported here are examples of how pilot activities influenced national and local officials; created global interest and made the case for cities in global venues for climate action; grew pilot activities into locally financed programs; and illustrate the need for follow-on to implement strategies and validate expanding the LED focus of cities from energy efficiency to engage in a broader array of low emissions and climate resilient activities. From each Country Program's Model and Satellite cities innovative actions grew. The Urban-LEDS-facilitated

activities represented a valuable resource to ICLEI and UN-Habitat as it engaged in global events and exchanges. The impact of the pilot efforts informed and illustrated strategy development and served to communicate to others what can be done.

South Africa explained its approach of how its process flowed in its response to the Final Evaluation Questionnaire that was similar to other Country Teams start up and implementation. "A first step would need to be to set up quality data collection mechanisms that are easy, accessible and nice to work with and are immediately valuable in their own right, producing digestible informatics for better local planning and decision making. [The emissions inventory became the starting point for all the teams.] This data, captured over time, can lead to valuable tracking of trends and report on LED progress, but along the way, it needs to deliver additional and more immediate value to the cities. A lot of awareness raising and education at all levels are still needed, and here this data collection mechanism can be geared to play a significant role. It will have to be non-traditional and innovative with high levels of community access and involvement in order to succeed."

4.1 Sub-EA 1 Strategies and Urban-LEDS Supported Activities

4.1.1 Strategy Development

City-level Low-Emission Development Strategies were the end result sought by the Urban-LEDS Project. They were accomplished in a highly satisfactory manner. Of the eight Model Cities seven have produced their version of a city LED strategy as either a stand-alone document, city legislation or as part of the city development plan. Of the strategies produced thus far 6 have been approved by City Councils. Panaji, India a Satellite City also produced its LED strategy that was approved in June 2016. Steve Tshwete produced a "position statement" to be incorporated into the city's Integrated Development Plan (IDP). The Table below summarizes the status of strategy approval. Supporting the implementation of the guidance in the strategies as well as expanding the project to new cities and countries would be the gist of a Phase 2 of the Urban-LEDS project as pointed out in the section below on consolidation. The priorities featured in the strategy documents covered a range of activities that relate in their majority to energy efficiency, emissions sensitive mobility, solar energy, and LED lighting at the city level and in the home.

Table 1: City Strategies Typology

CITY	STRATEGY FORM	COMMENTS
Fortaleza, Brazil	Legislation: Climate Change Bill including low emissions development policy	Mayor signed the Climate Change Bill, which includes the city's LED policy, commitments and actions in December 2015 – to be approved by the City Council.
Recife, Brazil	Legislation: Municipal Climate Change and Sustainability Bill	Decree enacting the City's Action Plan and Target, This Decree, N°29.219 as approved by the Council was published in the Diário Oficial 12 November 2015.
Rajkot, India	Stand alone document: Low Emission Development Strategy (2019-2020)	Approved by the Commissioner (March 2016) approved by the City Council August 12 2016.
Panaji, India	Stand alone document: Low Emissions Development Strategy	This is a Satellite City that has prepared its Strategy as input to the Integrated Development Plan 2016 – 2021 - ratified and adopted the Panaji Low Emission Development Strategy in June 2016
Thane, India	Stand alone document: Low Emission Development Strategy	LED Strategy with the Smart Cities Proposal for the city is not yet approved - – submitted in April 2016 for approval (decision pending)
Balikpapan, Indonesia	City 5-Year Development Plan: includes a Low Emission Development Strategy	LED Strategy City Action Plan for Emissions Reductions approved and imbedded in National Action Plan and The Provincial Action Plan (City's 5-Year Mid-Term Development Plan for Balikpapan (RPJMD 2016-2020).
Bogor, Indonesia	City 5-Year Development Plan (RPJMD) including LED Strategy	Adopted in November 2014 recognizes climate change mitigation, adaptation and disaster risk reduction as strategic priorities for the period 2014-2019.
KwaDukuza, South Africa	Low Emission Development Strategic Framework and Action Plan	The Municipality approved the Development Strategic Framework and Action Plan (part of the Integrated Development Plan (IDP) in January 2016
Steve Tshwete, South Africa	Low Emission Position Statement	An LED Position Statement was prepared for approval by the Municipality not a full Strategy, to be embedded in the city IDP

In Recife, Brazil the development of the LED strategy followed the GCC method. The results of its first GHG inventory was its starting point along with the assessment of existing projects with potential to reduce carbon emissions within the city. Recife institutionalized its commitment to LED and addressing climate change. The city created an inter-sectorial working group (GECLIMA) and a Municipal Climate Change Committee (COMCLIMA) both legally formalized that coordinated the process. The LED Strategy was validated by COMCLIMA after consulting with other stakeholders - civil society and other relevant sectors. The Mayor validated the plan and after further analysis of different scenarios increased the reduction targets suggested by COMCLIMA. In December 2015 the Mayor signed a Decree adopting the LED Action Plan into the Climate Change Law setting the emission reduction targets.

South Africa saw a mixed result after a concerted effort to work with both Model Cities to prepare strategies. KwaDukuza developed its strategy but Steve Tshwete prepared a position statement, not a strategy, despite three years of active engagement. To move forward on climate change and low emissions development in South Africa was a challenge for Urban-LEDS. The city strategies to move towards climate sensitive energy continue to struggle in the context of South Africa's historic dependency on coal, its principal source of energy, with a monopoly energy utility that has as its business model the sales of electricity through local governments to the community (with profit financing the local government operations in some areas). This impacted where the level of decisions and magnitude of change were beyond the scope of the Project, but one that definitely needs attention – how CAN low emissions development occur in coal-dependent countries?

The list of strategy priorities in the majority of the project's Model Cities ranged from addressing mobility and bus transit systems through fuel conversions, bike lanes and rent-a-bike programs to energy efficiency in construction and buildings, street lighting, innovative waste treatment and recycling to urban planning, land use and spatial development. However it was energy efficiency upon which most of the pilot efforts and activities experimented. The urban planning and spatial development interests remain a fertile ground for attention in a Urban-LEDS Phase 2. Much as the Capibaribe Park project in Recife expanded the array of LED actions to include an urban dimension with its non-motorized transport system and participatory environmental restoration features, it was the exception. In Bogor a historic area to be upgraded was also an urban activity that aspired to be green. The upgrading of a heritage site and its environmental amenities included upgrading the waterway that bordered the site and developing a green transport route to green amenities in Bogor including featuring its botanical garden. Urban-LEDS successfully demonstrated the potential of an "urban focus" through the diverse set of illustrative urban actions that serve as examples in global and local events of the important relationship between low emissions design of the built environment and climate change.

City Strategies also consolidated a presence in existing national programs. The Balikpapan City Action Plan for Emissions Reductions was approved and imbedded in the National Action Plan and the Provincial Action Plan for Emissions Reductions. In Rajkot, strategy development and implementation successfully sought opportunities to get strategy implementation going by building activities into national programs including Jawaharal Nehru Urban Renewal Mission-Basic Services for the Urban Poor (JnNURM-BSUP) housing schemes, Low Carbon Mobility Plan, Slum-free City Action Plan and the Smart City program agenda as well. The implementation timeframe for the proposed strategy action under the LEDS action plan was five years, from 2015-16 to 2019 – 20. The approved Rajkot Strategy is representative of the other LED strategies approved. It articulated sector-wise solutions for the Residential Sector, Commercial and Institutional Sector, Manufacturing and Construction Industries Sector, Municipal Services (especially water supply, sewerage, street lighting, transportation and solid waste management), and municipal corporate buildings and vehicles.

Model City strategies were key to building a local constituency and budgetary support for low emissions development. In Rajkot, strategy development was instrumental in the formation of a stakeholder committee for cross-departmental collaboration. Strategy development was seen as a conduit to and the connectivity between existing climate and low emissions development initiatives for Rajkot including the updated City Development Plan, Solar City Master Plan, and draft budget document.

For their Low Emission Development Strategies, both Bogor and Balikpapan in Indonesia focused on strengthening their city development planning to support the national emission reduction target by setting up local emission reduction initiatives. Both cities based their emission reduction activities on their GHG emission analysis that targeted sustainable urban transport, energy efficiency in building, smart street lighting and waste management. The Bogor Five Year Development Plan has approved in November 2014, and the Balikpapan emission reduction action plan was approved in August 2016.

4.1.2 Urban-LEDS Supported Activities

Each country program received financial support for pilot efforts and managed those resources to outstanding effect. The actions carried out created a base on which larger endeavor and impact was built such as the legislation passed in Recife's Municipal Green Roof Law for all new buildings more than 4 floors and commercial buildings of more than 400m² be covered in native vegetation. In Rajkot, LED street lighting and building regulations for solar water heaters were adopted and laws passed. Technology to measure gains was installed as meters in schools. In Bogor mobility innovations included its "Walkability" Campaign of 22.5 kilometers of pedestrian and cycle paths.

Bogor experimented with cleaner fuels for its micro-bus system using cooking oil converted to biodiesel for the city rapid transit system. In Balikpapan, an innovative Corporate Responsibility program leveraged political and financial support for waste management methane capture including waste-to-energy feasibility studies to capture energy from market waste.

The ICLEI Urban-LEDS Final Report consolidated the list of accomplishments Urban-LEDS supported. This Final Evaluation updated the information in the Final Report with inout provided by the respective Country Teams.

Accomplishment highlights include:

- Seven Model Cities and one Satellite City have prepared an LED strategy as programmed, of which 6 have been approved by their City Councils. One Model City prepared an "LED position statement".
- 60+ pilot projects implemented.
- 79 MtCO₂e in planned reductions reported in cCR. The global reporting format is another success of the project.
- 30 community GHG inventories reported. The inventory was an essential activity of project design.
- 22 TAP projects identified by 11 cities: TAP is the Transformative Actions Program established to improve capital flows to local and subnational governments to support access to climate financing and connecting cities, with financing partners - a project pipeline.
- Seven Signatories of the Compact of Mayors (to be absorbed by January 2017 into the nascent Global Covenant of Mayors for Climate and Energy) highlights a resurgent local government movement support by ICLEI, UN-Habitat and the Project.
- 58 climate commitments captured GHG reduction, renewable energy and/or energy efficiency commitments.

Source: Urban LEDS Final Report

These pilot activities are detailed and referenced throughout the Final Evaluation. The experiences and learning that the accomplishments achieved informed strategy development, identified priority sectors, engaged in and grew pilot activities into programs, and established targets for carbon reduction.

Urban-LEDS successfully identified opportunities to advance the LED agenda through institutional change and support. In Brazil, in June 2015 ICLEI facilitated an invitation to the National Front of Mayors (FNP) President and Mayor of Urban LEDS Satellite City Belo Horizonte, Marcio Lacerda, to participate in the workshop "Modern Slavery and Climate Change: The Commitment of the Cities" in the Vatican. Six Brazilian Mayors attended the event (including Urban LEDS Satellite Cities Belo Horizonte, Porto Alegre and Curitiba). Urban-LEDS supported FNP in the organization of a declaration of Brazilian Mayors in response to the call in Pope Francis' Encyclical. This was the first time FNP issued a position about the climate agenda. Mayor Lacerda, in his role as FNP president, then led the

mobilization of voluntary commitments from 38 Brazilian Mayors to the Compact of Mayors. FNP engaged in several meetings with the National Government as preparation for COP 21. This led to the first official preparatory meeting by the Ministry of External Relations exclusively dedicated to local and subnational governments in November 2015. Mayors were invited to the Brazilian Embassy during COP 21, when Mayor Lacerda delivered a document from Brazilian Mayors co-signed by FNP, ICLEI SAMS, CB27, ANAMMA and FONARI to Minister of Environment Izabela Teixeira. The document included references to the role of cities in strategies to face climate change, to what Brazilian Cities were already implementing, to pledges at COP 21, to pledges for a revision of the governance mechanisms of the climate change policy in Brazil, and for more access to capacity building and financing mechanisms. (Source: ICLEI SAMS response to the Final Evaluation Questionnaire)

Implementation of pilot activities, outreach and sourcing non-traditional funding sources was an outstanding unintended impact that built on Urban-LEDS strategy work. Urban-LEDS grew the realm of possibilities for local government leaders. The buy-in by the political leadership in Rajkot, India and Brazil's principal cities resulted in leadership, policy and financial support for LED. In Rajkot, the City Commissioner is the advocate for scaling up the successful pilot activities especially the LED street lighting initiative. From the pilot activity of 300 lights, the Commissioner grew a program to change the 52,000 lights of the city to LED, managed through an ESCO that is now being finalized. This is but one example of the effectiveness of the Project in India. Other examples include the school solar panels and awareness initiatives and the decentralized waste treatment system that will be replicated in 2 slum locations. The implementation of the street light program is in itself a demonstration of effective project development. The LED lights are sized to the post spacing making the cost savings attractive to the private sector groups competing for the management and maintenance contracts issued by the city.

The Urban-LEDS Project successfully addressed the Expected Accomplishments through the different planning and pilot project development systems, reporting mechanisms, country team structures, and technical support that constituted the Urban-LEDS Project. It leveraged resources from other programs looking for investment opportunities because of the technical and financial soundness of the pilot initiatives and prepared its Model and Satellite city partners to be advocates for LED urban development.

4.2 Sub EA 2. Global Outreach and Engagement

Urban-LEDS played a productive role in the global dialogue to reduce global emissions through the local level activities it supported and the results achieved. ICLEI presented the Urban-LEDS experience in support of vertically integrated applications of tools and methodologies for the promotion, recognition, reporting, verification and integration of actions and information generated by cities. The training and guidance provided in the Project prepared cities to share their efforts at international and regional events. City experiences also fed into South-South and South-North LED dialogue. ICLEI serves as the focal point for Local Governments and Municipal Authorities (LGMA) at the United Nations Framework Convention on Climate Change (UNFCCC) as well as serves as the advocate/facilitator of the Local Government Climate Roadmap a responsibility that led to the recognition of local and subnational governments as Non-Party Stakeholders in the Paris Agreement and the COP 21 Decision to which Urban-LEDS served as a successful example of city capacities.

National governments have also recognized cities and regions in their Nationally Determined Contributions (NDCs), which encourage and foresee action at the local and subnational levels. The Low Emissions Development Strategy of Rajkot will contribute to India's Intended Nationally Determined Contributions submitted to the United Nations Framework Convention on Climate Change in October 2015.

4.2.1 International and regional events

Urban-LEDS supported engagement in the following global events:

- UNFCCC Conferences of the Parties – COP-20 and COP-21;
- the ICLEI World Congress 2015; and
- Metropolitan Solutions 2014

ICLEI/South Africa reported that “there was great value in including project Mayors into the delegation that went to COP 21 in Paris and the ICLEI World Congress in Seoul, South Korea (2015). This exposed the mayors to the international stage and gave them valuable insight into the bigger picture and the inter-connected of issues to which local government can respond very effectively and with a combined voice. At the same time [their interventions] sensitized the global community to concrete climate actions on the ground being taken in cities in emerging economies.

This was specifically important to secondary cities, as most [big city mayors] have the [financial] capacity to travel internationally but the [mayors of] secondary cities do not often get this kind of opportunity to connect globally. Not only did it validate the need for their climate actions taken locally, but it also inspired and provided insight into what other cities in similar situations are achieving, while reinforcing the reality that “we are all in it together” and that cities and their leadership face many similar issues, regardless of their location and size.” Validation of Project accomplishments by global and national levels of climate concern is an important aspect of confidence building and credibility for local government leadership in LED. The ICLEI World Secretariat and the UN-Habitat Urban-LEDS Team/Nairobi presentation of the Urban-LEDS results at COP 21 established the importance of the Project, contributed technical support and oversight, and validated the role of cities as partners in LED.

Regional Events included the Urban-LEDS North-South and South-South exchanges that offered opportunities to the participants to discuss and exchange ideas about issues of mutual interest, project ideas and implementation problems. It was on-site advice that mattered. These regional events included:

1. 1st International Urban-LEDS Networking Seminar, Nelson Mandela Bay Municipality, South Africa November 2013;
2. 2nd International Urban-LEDS Networking Seminar Bogor, Indonesia May 2015; and
3. Local Climate Solutions for Africa Congress (LOCS), 2015.

Global and regional engagement fed guidance into the Project and benefited from the Project feeding experiences and methods into relevant forums on reporting, additions to the Solutions Gateway and practical, hands-on training material, among others. ICLEI, UN-Habitat and Country Teams carried out joint efforts that produced results. The joint efforts included working with:

1. The World Resources Institute and C40 – to produce The Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC). The Protocol supports vertically integrated reporting following IPCC 2006 guidance and is embedded into the carbonn Climate Registry. HEAT+ and GHG training and inventory tools were upgraded to support GPC compliant reporting.
2. The GIZ – to produce the Vertically Integrated Nationally Appropriate Mitigation Actions (V-NAMA) guide.
3. The World Bank – to create a global training and

certification program for City Climate Planners to prepare professionals who will deal with GHG inventory compilation and LED Action Plan development, implementation and monitoring.

4. The International Renewable Energy Agency (IRENA), International Solid Waste Association (ISWA), and Alliance to Save Energy – to develop solutions for the Solutions Gateway as either pooled solutions or resources, peer reviewed solutions or offer technical support.
5. UN-Habitat and ICLEI were instrumental in forming two new multi-stakeholder 'city' initiatives that were launched at the UN Climate Summit in September 2014 - the Compact of Mayors and the Cities Climate Finance Leadership Alliance (CCFLA).

*Source: Urban-LEDS Narrative Report # 3,
01 March 2014 – 28 February 2015*

4.2.2 Impacts on the Project through Global Exposure

Recognition was an important impact of global exposure. The Rajkot award at COP 20 was a stimulant to all for the recognition it brought in a global arena. Recognition supports sustainability and scaling up as well. Urban-LEDS project investment in representation at global events such as the COP 21 resulted in cities becoming legitimate partners in LED and the process of GHG reduction. With city representation acknowledged at the global level with global entities in global discussions, cities entered into those deliberations as welcomed voices to the chorus, in fact influencing the tune sung.

Experiences and lessons from global exposure included shared views on approaches to waste-to-energy systems, green buildings, district energy systems and sustainable transportation solutions. The opportunity of global engagement and study tours resulted in successful peer-learning and experience-sharing discussion. It was also the case that experiencing other city strategies and actions expanded the agenda of cities to include a broader array of activities. The Mayor of Recife, Brazil, for example, was impressed by the green roofs project in Copenhagen, which inspired the city's 2014 Green Roof Law. Bicycle lanes will be an important part of the river restoration program in Recife, also inspired by Copenhagen. Examples now exist that cities can use to engage in green urban development, carbon sink programs, green land and infrastructure development guidelines, policy and projects and inclusive

housing and transport.

South Africa reported a view held by the other Country Teams as well, that "While the international trips help to showcase different options, the downside is that this is limited to one or two people per municipality. The actual engagement throughout the process was limited, of course limited by funding and engagement opportunities but also partially due to the huge difference in realities and levels of development and access to resources on the ground. We believe there is significant value to connect North-South as the world is a highly inter-connected place and becoming more so daily – the one big village notion – but overall we find that there is far more value found in South-South exchanges due to a better understanding of local circumstances. Both are valued and needed and the balance in Urban LEDS was about right, there was more opportunity for South-South connect (there could be even more) while the North-South connect was still available and added value all around. Perhaps a different mechanism can in future be utilized for North-South connect, like one global event (e.g., meet at next ICLEI World Congress) instead of costly individual trips between North-South. The South-South visits and engagements should be enhanced in future." (Source: South Africa Response to Final Evaluation Questionnaire.)

The Brazil Country Team reported that the Ministry of Cities, responsible for urban development policies in Brazil, was targeted as a key stakeholder at the national level for scaling up Urban-LEDS experiences. A representative was invited through Urban-LEDS to participate in the LEDS Global Partnership regional workshop for Latin America, held from 12-15 October 2015, along with a representative of the Ministry of Environment and Urban LEDS model city Recife. During the event, the Ministry of Cities showed particular interest in the ISOCARP proposal for low emission development zoning and additional meetings continued to explore synergies. A joint project was designed for sustainable development for Brazilian Cities as part of the new urban agenda including incentive mechanisms The project is currently seeking funding.

Global validation played a strong role in sustaining city initiatives and commitments. The Project rightfully provided support for and organized events that allowed cities to tell their stories to a wide audience, gain insights into work others were doing and provide the vocabulary for participation. Cities have claimed their share of importance, illustrated

through successful Projects like Urban-LEDS, gained support through the establishment of the Friends of Cities (FOC) at the UNFCCC, and the Non-Party Stakeholders as well as joined the Compact of Mayors, Local Governments and Municipal Authorities (LGMA) among others. FOC can facilitate dialogue on the political dimension of LED - those responsibilities and the authorities necessary to carry out the expanded role of local governments made real during this Urban-LEDS Project.

4.3 UN-Habitat Evaluation Criteria

4.3.1 Relevance

The Urban-LEDS project is highly relevant. The Project proved its relevance through the global, national and local recognition it received for its focus, process and results. The Project approach and focus featured climate change mitigation, green development, energy efficiency and the impact of cities and their emissions on greenhouse gas levels. The Project also made the case for local governments as legitimate and essential partners in an urbanizing world by demonstrating their capacity and interest to develop in an energy-efficient manner through planning for a green future. The selection of medium sized cities as Project Model and Satellite Cities recognizes the growing consensus that it will be the smaller and medium sized cities that will grow faster than the megacities as in the past. Also recognized was that these cities need to be prepared now to address their population growth issues in a way larger cities have not, thereby, breaking new ground - their housing and built environments' demands; the source and amount of investments to be made; the education for awareness at the community level; and the transport systems that will service the increasing population.

Urban-LEDS provided the guidance and support that made a difference in the selected Project cities and towns. The Project established strategies and policies to guide the way; demonstrate through action programs what can be done; and showed the way to others through outreach and participation in global and regional events. Local governments are facing the need to become competitive. LED as promoted by the Urban-LEDS approach enhanced the quality of life, environmental and built environment amenities and health of cities. That makes a strong contribution to a city's competitiveness - a highly relevant issue.

Indicative of the importance cities placed on the issue of low emissions development is the fact that all 8 Model Cities and a number of Satellite Cities developed their greenhouse gas (GHG) emissions inventories guided by the Global

Protocol for Community- based Greenhouse Gas Emissions Inventories (GPC) and created an evidence-based information system upon which to develop priority areas for action. Engaging with and understanding the GPC is facilitating a standard, city-based GHG approach to accounting and reporting community-scale GHGs globally. At COP 21 Urban-LEDS results were presented and validated support for the message on the preamble of the Paris Agreement that recognizes the need for stronger engagement with Non-Party Stakeholders, promising to involve local and subnational governments in actions on capacity building, adaptation and loss-and-damage. A coordinated approach can relate the increasing number of agreements, agencies and networks for LED improvements. This would include the EC Covenant of Mayors, Compact of Mayors, Compact of States and Regions, United States Conference of Mayors and US Mayors Climate Protection Agreement, the Lima – Paris Action Agenda, Friends of Cities, among others. This would require an action agenda to consolidate and coordinate efforts to avoid top-down conflict, redundancy and technical one-size-fits-all approaches. Global networks and events could advance cities as solutions partners through an award program for LED.

The relevance of the emissions inventories promoted through Urban-LEDS and the local government and Project websites was pointed out in South Africa's Response to the Final Evaluation Questionnaire on the need for a sustainable source of information that facilitates learning and ideas exchanges. With access to quality data, an issue across Africa and the other regions in the developing world, the standardization of emissions reporting is an important lesson and contribution to report preparation. "The quality of reporting reflects the quality of the data." In Recife, the Capibaribe Park construction along 31km of the Capibaribe River was based on a detailed information base developed with faculty and students of the University of Pernambuco as well as extensive citizen engagement. Emissions inventories contributed to the promotion of non-motorized transport and ecosystem preservation building two solar stations for boats that can also serve electric cars and bicycles. Two boat routes (11km and 2.9km) will be developed as water-born transport to serve a projected 8,000 passengers every month and achieve a GHG emission reduction potential of 3,227 tCO₂e/year.

The relevance of the Project featured the reporting on emissions that raised the visibility and importance of low emissions development along with and as a component

of broader sector issues including housing, water and transport. ICLEI's role in data development was outstanding for its links to emissions and for the interpretation of data to remedy issues identified through Solutions Gateway project development. That tools such as the Solutions Gateway are relevant AND can be improved was made clear in one comment from ICLEI Team/South Africa: "I don't think that the Solutions Gateway was used effectively [by us]."

This could simply be due to "Monday Morning Syndrome" where people are excited about what they learn and the possibilities available, but when they are back in office on a Monday morning after the training, it is business as usual with the same problems that need to be addressed and there is simply no time for extra stuff. It has potential to become more useful over time as people get more familiar with it, but something like this needs time to be built into a useful body of easily accessible knowledge and then it takes more time to be used widely, given the pressing realities of lack of capacity and resources at the local level in most municipalities where there is little time for forward thinking amidst crisis and reactive management." (Source: ICLEI South Africa Response to Questionnaire.) Urban-LEDS addressed the The Monday Morning Syndrome, or the-every-day-pressures that-consume-my-day, providing on-site mentoring to support the application and behavior change training often advocates.

4.3.2 Efficiency

The Urban-LEDS Project implementation was highly efficient. It structured right-sized country core staffs that managed their limited budgets for the outstanding set of results achieved. The Country Teams utilized financial resources to their best advantage to support strategic inputs to activities with planned exchanges to European and regional cities to illustrate an idea, provide hands on technical assistance to expand the vision and awareness of participating national and local officials, and maintain momentum. The efficiency of implementation addressed expectations, avoiding delays, building confidence in the partners that the project will deliver and capacity in Project management to do so. Investments in international exposure and regional consultation paid off in results.

Project management by the ICLEI World Secretariat and UN-Habitat and ICLEI Country Teams was outstanding. This conclusion was reached through the comments provided to the Final Evaluation Questionnaire and through the interviews and assessments of results carried out by this

evaluator. Regular Project Management Meetings (PMGs) were held via web-conferencing, attended by key staff of all ICLEI offices involved to coordinate activities. Support to project planning and monitoring and coordination and communication was consistent, constructive and timely. Regular coordination calls, meetings by the Project Steering Committee (PSC) and Project Management Groups (PMGs) were held to coordinate activities and update partners. Work plans were used as management tools to update, plan and track developments. Updated work plans outlined activities and constituted a real-time guide for implementation. Financial reporting by all ICLEI offices was informed through the required financial audits conducted as appropriate and provided systematically to UN-Habitat.

Urban-LEDS was able to attract and train interns to grow them into support staff to understand LED concepts and contribute to Project training and implementation of activities. Financial management facilitated the resource flows from UN-Habitat to ICLEI Country Teams and activities required to keep demonstrations going, staff interventions current and training and networking initiatives as scheduled. The support to Urban-LEDS Project "champions" was an efficient way to maintain focus and sustain activities as in KwaDukuza, South Africa and Recife, Brazil and Rajkot, India and Bogor, Indonesia. In KwaDukuza, that support supported the identification of priorities linking its strategy development to their budget process and the Integrated Development Plan (IDP) with budget allocated to specific actions.

The training of local officials, community members and Project Partners provided, by design, the methods and capacity to measure change to report up to global interests. ICLEI as keeper-of-the-record for emissions control – carbonn Climate Registry in the cCR system played a critical role as mentor for and reporting of emissions inventories' results using guidance provided through the GPC.

The efficiency of the ICLEI country teams' staff was outstanding. Their mastery of the local context and LED content made the teams the go-to support for their local governments and other partners that built their confidence and capacity. ICLEI/India built its institutional capacity through Urban-LEDS to include implementation of pilot activities in addition to its role in project design and monitoring, evaluation, report writing and technical studies. The application of ideas through pilot initiatives to local government contexts is now a part of ICLEI/India's new project development efforts. The tenacity displayed by

Country Team staff in working through the complexities of approvals, contracts and implementation contributed to the efficiency of the initiatives undertaken. In observed monitoring during a field Mission for the Final Evaluation in Rajkot, India the discussion with the builder of an innovative decentralized wastewater treatment system was constructive and technically clear. In South Africa, a formal assessment of all staff on the project was conducted as part of the ICLEI Africa annual performance review process and in terms of the ICLEI Africa HR policy approved by the ICLEI Africa Board of Directors. Outstanding performance was rewarded through performance-related bonuses.

4.3.3 Effectiveness

The Urban-LEDS project design and implementation was highly effective. The Project's effectiveness was a function of the clarity of purpose, the GCC process implemented as guidance, project monitoring and the tools and staff support provided. The results as recorded in the ICLEI Urban-LEDS Final Report attest to the effective guidance, technical support and abilities of the Country Teams to lead partner local governments in strategy development and pilot activities implementation. Along the way, the diverse context of the participating cities was reflected in the cities' focus areas. Priorities were informed through evidence-based assessments including emissions inventories and assessments of technical issues of fuel conversion, green power, solar and energy efficient technologies that grew into municipal building energy efficiency (Brazil), building regulations and city-wide LED street lighting investments (India), environmental improvement (Indonesia) and leadership behavior change (South Africa). The focus on local leadership was strategic and successful in promoting effective project implementation. Change was articulated through training that required national and local government buy-ins to the sequence of priority identification that translated policy into practice and the understanding of the vertical integration purpose of the Project. Support to local leaders provided the guidance and built the confidence to innovate as in Rajkot to identify external financial support for scaling up – a major achievement.

That the Project has produced strategies in eight project cities, six of which approved by their City Councils, as well as, carried out emissions inventories to kick-start strategy development in 30 cities, attests to the effective structure established in the GCC. Careful monitoring of each of the GCC Phases by the ICLEI World Secretariat tested their effectiveness. The review of GCC Phase 3 looked at how it effectively guided monitoring and reporting as part of

the Project's advocacy for vertical integration and capacity to feed into the finalized version of the Measurement, Reporting and Verification (MRV) GCC guide.

In Brazil, ICLEI-SAMS and partners worked with the National Adaptation Plan (NAP) that resulted in the final plan text, acknowledging as the first principle of the plan the need to "establish vertical integration of adaptation guidelines and measures in the three spheres of the federation..." Specific objectives of the NAP included the creation of an information platform for project funding and the creation of an inter-federation working group to monitor and advocate for LED activities.

Successful pilot activities were effective for their hands-on experiences that made the case for low emissions development to governments and their constituencies. Pilot activities clarified terms, created awareness, identified priorities, created methods and mechanisms and reached out to other local governments. Fortaleza built on its pilot solar experiences to create the Minha Casa Minha Vida Program (My House My Life) for solar water heating and electricity for its low-income families, a priority target group of the city. This bodes well for a follow-on project to consolidate gains made; apply strategies prepared and approved; learn from and inform others of the experiences; and create international as well as national interest in other cities as partners. In South Africa a letter of support was provided by DEA to acknowledge the work done through Urban-LEDS, with a request to continue working together because of the Project's effectiveness,

The leadership, guidance and connectivity provided by the Urban-LEDS Project Advisory Groups - a result of Project design – supported effective Project implementation and built capacity for participation of the Project's partners, especially at the outset of Urban-LEDS. In Brazil the Sustainable Cities Program, Nossa São Paulo Movement a civil society movement proposed commitments from mayoral candidates with a series of sustainability indicators that included GHG emissions as an indicator and is now working with ICLEI-SAMS on a guidance publication on climate mitigation and adaptation to committed cities.

A highlight of Project effectiveness was the leadership development program called "Walk the Talk" in South Africa. Mayors from the seven Model and Satellite Cities engaged as leaders addressing sustainable energy self-financing improvements in their own homes, demonstrating practical,

cost effective improvements for their constituencies. Project effectiveness proved the case for LED; several cities allocated budgetary resources to the preparation of LED strategies, training and pilot project development and GHG inventories. The Municipal Council in Fortaleza, Brazil institutionalized its interest in and the importance of LED. The Municipal Climate Change Forum (FORCLIMA) was legally formalized to co-develop the LED process. FORCLIMA carried out four workshops that addressed its priorities: 1- Assessment of Existing projects, 2-Low Carbon Urban Planning/How to build a Low Carbon Fortaleza, 3-Low Carbon Future/SWOT analysis of strategic sectors (i.e. Transport, Waste, Energy , Sustainable development- Construction and Green Areas) for emission reductions, 4-Development of strategic targets and guidance for sectors.

The KwaDukuza Municipal (KDM) officials set up a team and built capacity which was not present prior to the project through leadership of the KwaDukuza “champion” Sikhumbuzo Hlowane with support from the mayor. KDM appointed an intern to assist on a fulltime basis and this became a permanent position by the end of the project. Steve Tshwete Municipality did not have the same level of support but both STLM and KDM identified the need for the development of Green Building Guidelines which were also linked to a Municipal Action Plan to drive the effective implementation moving forward. This has now been made available to other interested municipalities in South Africa that would like to adapt it for their own needs.

The array of pilot efforts of the Urban-LEDS Project validated their investments for the contributions made to a global audience. To be able to report on the improvements made and the impact on emissions by the actions taken is a strength of the project.

4.3.4 Sustainability

The sustainability of project achievements was addressed from the beginning of the project and was satisfactory. Approaches to sustainability varied in the Country Programs and represent a useful compilation of ideas for the replicability of LED efforts, as well as, the continuity of the current project commitments. In Fortaleza, Brazil, the city allocated budget to sectorial secretariats for selected activities as opposed to setting up an Urban-LEDS program budget. This integrated LED into the participating secretariats thereby promoting support continuity and sustainability. The city has also acquired external loans for selected actions in 2016.

Sustainability was approached from not only the financial support required from local and national sources for capital investments but from the knowledge base created. Documentation of pilot initiatives was shared in national and international forum. Priority actions identified through the Urban-LEDS process as capital investment opportunities were presented at Global Infrastructure Basel 2015 and at COP 21 in the TAP Pavilion. Project momentum was established through awareness that validated the study tours, training and technical assistance supported through the Project. Partnerships with the private sector were innovations in support of sustainability. Sustainability was addressed through the involvement of the private sector in Balikpapan, Indonesia. In Balikpapan, the Corporate Social Responsibility (CSR) Forum allocated funds for the Manggar Waste Management Facility to develop a methane capture pipeline that will electrify 40 households. The Energy Savings Company (ESCO) in Thane, India was established to grow the pilot activity to 10,000 energy efficient street lights; the ESCO in Rajkot will make the 52,000 street lights LED and represent a major accomplishment of the Project, and importantly the city as being an LED player. The sustainability of the new LED bulbs will be accomplished through the management contract for the system for a 5 year period, time enough to prove the worth of the changes and transfer the project method and technology to other cities. Rajkot as an outreach Corporation has success to demonstrate to others now calling upon it for assistance. Outreach is positive and sustainable.

Sustainability was also addressed by cultivating political will in the Model Cities of Urban-LEDS. In Recife and Rajkot the city budgets will provide additional support through annual budgets to sustain their programs. In KwaDukuza, the Hot-box roll-out to households was through ward councilors in a train-the-trainers activity to scale up the hot-box project; and in Bogor the mayor installed the first lamp of its smart street lighting project. In South Africa, all the participating cities implemented a small community showcase project that demonstrated not only concepts and the technical products of LED but the management responsibilities to maintain them. To ensure the long-term maintenance and upkeep of the solar water heaters, PV panels or other technical items the recipient, either the municipality, school or community center, had to ensure that these items were included into their asset register with suitable security, insurance and maintenance in place.

Nurturing partnerships as sustainable, inclusive strategies garnered the human, technical and the financial resources necessary to implement behavior change efficiently and effectively and scale up successes. The institutional arrangements in the City of Recife are indicators of sustainability that bode well for follow-on. Recife created an inter-secretarial working group, GECLIMA, and the Municipal Climate Change Committee, COMCLIMA, that were subsequently formalized and facilitated the Urban-LEDS process as a participatory experience that produced its LED Action Plan.

Working relationships included an array of international, national and local development entities, NGOs and technical support groups such as the GIZ, SEA, SALGA and the University of Pernambuco in Recife, Brazil. The GIZ support for the V-NAMA guidance document was critical to strengthening the involvement of sub-national governments in national mitigation strategies and action with policy recommendations, case studies and tools.

Support groups and partners were engaged by Country Team outreach and the Urban-LEDS Project Advisory Groups - a result of Project design. The Urban-LEDS Indonesia PAG was an active advocate that brought together entities that would not have met if the PAG and not invited them to do so. Partnerships also addressed expectations and the management of short-term results. The ESCOs in Thane and Rajkot addressed the expected results of the energy efficiency initiatives promoted by those local governments as did the partnership in Balikpapan. Local Governments and the private sector entities they worked with brought visibility to LED actions and contributed to awareness of changes happening. Local government websites feature results and experiences derived from the Urban-LEDS effort and serve as a useful tool for other local governments also interested in LED. Current Model and Satellite Cities' participation in a Phase 2 project or other activities, events, conferences, seminars and/or technical assistance will serve them to review and refresh their interest, efforts, activities and skills. The momentum now achieved by the Model and Satellite cities to scale up is evident in the sourcing of funds for implementation. The Commissioner in Rajkot was clear when he described how he was extending his limited budget through existing national programs such as Smart Cities and working with the private sector as ESCO entities and developers through innovative resource management. To be avoided is the one-off demonstration initiative in the belief that

the brilliance of the ideas and efforts alone will carry on into scale. That the Rajkot pilot efforts have leveraged funds to scale up is the sustainability sought for LED.

The institutional framework for climate change in Indonesia supports coherence and policy integration of national and subnational entities in planning, implementation, monitoring and financing. Presidential Regulation Number 61 of 2011 in the National Action Plan for Green House Gas Emission Reduction mandated implementation of emission reduction planning in central, provincial and local governments. This specific regulation promoted a key role for local government to develop local action plans for GHG emission. Urban LED Model and Satellite cities in Indonesia established a climate change-working group chaired by the City Planning Agency (BAPEDA) responsible for action plan financing and mainstreaming the action plan into city midterm development plans. (Source: ICLEI/ Indonesia response to the Final Evaluation Questionnaire.)

The Urban-LEDS Project thus achieved a notable level of sustainability. That said, a limited amount of follow-on 'consolidation' support to the first set of Urban-LEDS cities is recommended as part of an Urban-LEDS Phase 2, should the EC decide to fund such (see Section VI below).

4.3.5 Impact

Urban-LEDS continues to have impact through the Country Programs. The Project's impact on local government leadership has created confidence through the successful implementation of pilot efforts. Balikpapan, Rajkot, KwaDukuza and Recife are examples of creative leadership supported by the Project that scaled up successful pilots into programs by designating own-source funds and accessing resources off-budget. Urban-LEDS has broadened the realm of possibilities for LED urban management, growing local government capacity to think beyond traditional sources and solutions that makes the effort at strategy development real; reinforces the concept of LED as an integral aspect of an urban development agenda and translates theory into action. Examples include:

In Thane, the city's inclusive energy efficiency program of street lighting through an ESCO that affected 10,000 streetlights, including 522 energy efficient street lights in slum areas. This program also installed energy efficiency lighting in schools. It included an innovative climate change low carbon education program that ranged from building awareness in 15 schools to a municipal drivers training program.

In Rajkot: experimentation in energy efficient technologies including solar photovoltaic systems for schools; low-carbon decentralized waste water treatment facility (DTS) now under construction and efficient street lighting; and support for a public bike-sharing plan pre-feasibility study. As with any change the context becomes critical and the Country Team in India is keenly aware of the requirement to monitor progress. Conversations with contractors as witnessed by this evaluator to assure that progress moves ahead and issues are resolved as they appear. The positive working relationships created in India with its contractors and stakeholders allows for constructive interventions to address problems and continue to make LED environmental improvements. During this evaluator's mission to Rajkot the DTS was being affected by the recent casual dumping of plastic waste from a small enterprise that was affecting the sound functioning of the treatment system. The waste was blocking the screen that filters water to the treatment facility. Now identified and discussed with the contractor, a resolution will be found. ICLEI monitoring is part of the accomplishments that is being transferred to the Corporation staff to continue the environmental improvement efforts.

Impacts include political will to change behavior through the Mayors in South Africa's Program that restructured concepts, perceptions and experiences regarding energy efficient living, fuel efficient environments and participatory planning. Energy efficiency contributions to becoming competitive supported behavior and institutional change. The institutional support in Brazil by Urban-LEDS impacted policies and programs through pilot efforts and advice to entities preparing position papers and action plans.

Fortaleza continues to increase its bike lanes and bike-sharing scheme. Fortaleza will engage in a procurement process for its electric car-sharing scheme. In March 2016 the city started its landfill methane capture program and in April 2016 started the consultancy for the Sustainable Building Stamp. The Recife LED Strategy was validated by the municipal climate change committee, COMCLIMA; the Recife Mayor validated the plan and requested further analysis to increase the reduction targets suggested by COMCLIMA. In December 2015 the Mayor signed a Decree adopting the LED Action Plan into the Climate Change Law and set the emission reduction targets. In India, the Panaji Commissioner officially acknowledged the successful completion of the ISOCARP spatial planning assistance mission and reiterated the commitment of Panaji to use

the expert recommendations to strengthen its LED strategy as part of the City Development Plan (CDP), as well as the Master Plan for the Holistic Development of the City (Holistic Plan). In Bogor, Indonesia the low emissions urban development plan was approved by the City Council; the 2015 budget includes resources to: (i) revitalize the Bus Rapid Transit system, and (ii) convert minibuses from the use of fossil fuels to compressed natural gas (1000 minibuses) and electricity (50 minibuses).

Rajkot's success with the solar panel water heating system led the State Government to pass a regulation making solar panels mandatory. Impact was made in the variegated environmental improvement projects and public transport models demonstrated in river restoration in Recife and the historic area upgrading in Bogor, the rent-a-bicycle projects in Fortaleza and fuel efficient bus services. The impacts of the Projects have resulted in applications that grew pilot efforts into city-wide of programs through green building laws and regulations, guidance for energy efficient, LED street lighting, solar water heating and climate resilience planning. Inspired by the Urban-LEDS Tour to Copenhagen, the Municipal Council of Recife approved the Green Roof Law on 16 December 2014. This law requires buildings with more than four floors to have their roofs covered with native vegetation. The law also applies to any commercial building with more than 400 square meters. The law institutionalizes Recife's focus on its urban environment and the environmental assets it contains to improve the quality of life for the city. Green building advocacy backed by a green building certificate, bike lanes and river transport restoration, rainwater capture, energy efficiency, sustainable design and recyclables are the tangibles that received Urban-LEDS support.

In South Africa the publications and tools prepared in the project were widely disseminated and cited at national platforms. Urban-LEDS was viewed as a unique and well-respected contributor to unlock the potential of cities in the LED environment and is highly regarded in South Africa. ICLEI is committed to seek ways to continue the initiative in South Africa and take this work to other countries in Africa. The Model Cities and their experiences in the Project can be resources for outreach. The KwaDukuza and Steve Tshwete Municipalities issued Green Building Guidelines approved in February 2016 and are now being prepared in other municipalities in South Africa. In KwaDukuza the local government LED champion facilitated a "do-as-I-do" approach at the city level through paper recycling in

municipal buildings. At the household level the impact of the pilot “hotbox” project saw the municipality build on the success of its pilot and prioritized the immediate rollout of 500 hotboxes (insulated passive cookers) to members of the local community. The cookers support local citizens to reduce their energy consumption costs and fire hazards associated with cooking, while improving their health, reducing food wastage and offering flexibility of time for women to pursue other activities.

The impact of the community showcase projects in South Africa built reality into the theory about climate change and low emissions development. As examples an 18kWp solar PV array, solar street lights and solar water heater were installed at the Doornkop Community Centre (Steve Tshwete Municipality) which previously had no electricity. This has had a significant impact on the lives of the local community, while also providing the municipality with a practical showcase of what can be done. This was also combined with hosting the Doornkop Renewable Energy Expo that provided the local community with a better understanding of renewable energy options. The final outcome was that the Doornkop Community prepared its low emission development plan for implementation.

The impact of the results of pilot projects in India demonstrated how momentum there, as in the other country programs, built on the success of the projects to leverage resources and scale each into a broader application. A demonstration project of converting 300 Street lights to LED bulbs expanded to a conversion of 52,000 bulbs, managed by an ESCO. Likewise the Decentralized Treatment System now has funding to be implemented in two selected slum areas lacking sewage treatment; the school solar panel program implemented in one school will grow to 10 and then to an additional 120 schools; and solar water heaters have been made mandatory based on the success of that pilot effort. Fortaleza built on the pilot solar experiences to create the Minha Casa Minha Vida Program (My House My Life) for solar water heating and electricity for its low-income families, a priority target group of the city.

Impacts at the global level manifested through Urban-LEDS at COP 20 and at COP 21 made the compelling case for cities as legitimate and essential partners in LED policy and practice. These results are validation of the relevance of the project and the constituency it created.

4.3.6 Integration of UN-Habitat cross-cutting themes

Gender: while not specifically reported on but intended, Urban-LEDS impacted gender issues especially in capacity building activities and targeted pilot efforts. Training activities were inclusive by design. In the South Africa project the passive cooker was developed specifically to not require the presence of the woman head-of-household or her daughter; it allowed a woman to engage in other activities either inside the house or out. The roll-out of cookers helped women with reduced cooking time and promote energy efficiency in their homes. In the KwaDukuza community showcase project in the Groutville Community, 20 orphanage homes of the Stanger Child Welfare Association, managed by women, were chosen to benefit from small-scale technologies to promote sustainable living. This includes the passive cookers to reduce energy for cooking, light emitting diode mobile lights and compost containers. Solar streetlights and water heaters were also part of the project.

The access to renewable energy in Doornkop (South Africa) also had a significant impact on women as there are Community Development Workers who need to charge and use their phones to record and submit proof of the work that they are doing, so that they and their teams can get paid. The solar street lights at the community center also lights up the area and makes it safer for women who need to travel back from town after sunset,

The South Africa team considers its program had “a strong focus on the environmental side of things linked to adaptation, but to a lesser degree gender and human rights. However... the roll out of the community showcase projects... were all gender sensitive and pro-poor, providing facilities to the poorest and most vulnerable within local communities. Human rights were addressed by the very nature of the project as it addressed access to a cleaner environment along with energy and associated access to resources in a way that will be less harmful on the environment, speaking very directly to the spirit of the SA Constitution.” (Source/: South Africa Response to the Final Evaluation Questionnaire.)

The Government of Indonesia has issued guidance on mainstreaming women and gender issues into climate planning. Women played key roles in the Model Cities in Indonesia. The working group to draft the emissions inventory and the reduction action plan were staffed 40% by women; this reflects a significant increase of women in policy development.

Explicit reference to gender is warranted as LED programming evolves into complex programs such as urban development, infrastructure delivery, housing, and transport issues that affect the mobility of women.

Environment/climate change – related aspects: Urban-LEDS was designed to improve the urban environment by addressing climate change issues. It measured impacts and emissions; it created awareness of what can be done about behavior and the use of resources; it demonstrated how to clean up waterways and brown fields and it proposed public modes of transportation to begin to limit the use of petrol-run vehicles. It encouraged the use of green materials and offered education programs through schools, training and capacity building to measure, report and verify progress being made in environmental improvements. The care homes in Groutville in KwaDukuza and Mphe-Thuto Primary School in Mogale both expanded their food gardens and added compost to feed the soil. Mogale and Grootkloof both installed rainwater-harvesting tanks that are used for watering gardens. In Rajkot, an innovative decentralized wastewater treatment system was demonstrated successfully. The DTS will be built in slum areas that lack sewage treatment - a significant environmental improvement. In Balikpapan, the city further

developed its urban forest resource and open green spaces for local carbon sequestration. Fortaleza created an Urban Afforestation Plan as a carbon sink implementing a program to plant 200,000 trees by 2030.

In Recife, Brazil environmental improvements also included urban forestry to expand carbon sinks planting 45,000 trees, the restoration of the Capibaribe river for transport services and recreational areas once lost to the city. Share-bike programs are expanding based on the model Urban-LEDS supported. Street and traffic lights were retrofitted as pilot efforts that grew into city-wide programs. Nationally, in 2015 the National Association of Municipal Environmental Departments (ANAMMA) established a partnership among the municipal environmental departments that included information sharing, position building and a goal to seek opportunities to support Municipalities in sustainability agendas, including climate change. ICLEI coordinated with ANAMMA to bring the voice of Brazilian cities to COP 21 that included a climate change agenda. The support to ANAMMA created an interest in and the importance of climate change in their portfolio of 5 main areas presented to the Ministry of Environment. Prior to this, ANAMMA had never discussed the climate change agenda.

5

Review of the ICLEI Green Climate Cities process from the perspective of the UN-Habitat Guiding Principles for City Climate Action Planning as Project Guidance and Technical Assistance

This review of the GreenClimateCities (GCC) process through the lens of the UN-Habitat Guiding Principles for City Climate Action Planning (GP) relates the *action guidance* of the GCC to the *attitudinal interests* of the GP. The principal components of each of the protocols are presented below.

The GreenClimateCities process is a *flexible guidance and action tool* recommending methods, sequence and actions.

The GCC is comprised of three major steps – 1. Analyze, 2. Act, and 3. Accelerate – each step is further defined by seminal actions:

Analyze

1. Commit and mobilize
 - 1.1 - Secure initial commitments
 - 1.2 - Set up institutional structure
 - 1.3 - Identify and engage stakeholder groups
2. Research and assess
 - 2.1 - Assess government context
 - 2.2 - Assess local context
 - 2.3 - Collect energy and activity data
3. Set Baseline
 - 3.1 - Develop GHG Inventory
 - 3.2 - Analyze and forecast
 - 3.3 - Compile Baseline Synthesis Report

Act

4. Develop strategy
 - 4.1 - Set urban development vision and priorities
 - 4.2 - Generate and screen potential LED programs and projects
 - 4.3 – Prioritize, set targets and approve Strategy
5. Detail and finance Projects
 - 5.1 - Detail LEDS programs and projects
 - 5.2 – Test and Demonstrate
 - 5.3 – Select financing model and secure funding
6. Implement and monitor
 - 6.1 - Develop enabling policies and regulations
 - 6.2 – Implement LED programs and projects
 - 6.3 – Monitor and Report

Accelerate

7. Integrate and collaborate
 - 7.1 - Collaborate and integrate horizontally
 - 7.2 - Collaborate and integrate vertically
 - 7.3 – Connect with similar cities worldwide
8. Review and upscale
 - 8.1 - Refresh data, review assessment and analysis
 - 8.2 – Evaluate the LED Strategy
 - 8.3 - Update Urban LEDS Action Plan

9. Advocate and Inspire
 - 9.1 - Report achievements and advocate
 - 9.2 – Showcase, inspire others and gain recognition
 - 9.3 - Advocate globally for local action

These Seminal actions are refined to a total of 27 steps.

5.2 UN-Habitat's Guiding Principles for City Climate Action Planning

The Guiding Principles prescribe what city climate action planning should be. CCAP should reflect attitudes and behaviors that are: 1. Ambitious, 2. Inclusive, 3. Fair, 4. Comprehensive and Integrated, 5. Relevant, 6. Actionable, 7. Evidence-based, 8. Transparent and Verifiable

Each of these attributes are further articulated as defined in the Guiding Principles document:

- 1. Ambitious** - Setting goals and implementing actions that evolve iteratively towards an ambitious vision
- 2. Inclusive** - Involving multiple city government departments, stakeholders and communities (with particular attention to marginalized groups), in all phases of planning and implementation
- 3. Fair** - Seeking solutions that equitably address the risks of climate change and share the costs and benefits of action across the city
- 4. Comprehensive and Integrated** - Coherently undertaking adaptation and mitigation actions across a range of sectors within the city, as well as supporting broader regional initiatives and the realization of priorities of higher levels of government when possible and appropriate
- 5. Relevant** - Delivering local benefits and supporting local development priorities
- 6. Actionable** - Proposing cost-effective actions that can realistically be implemented by the actors involved, given local mandates, finances, and capacities
- 7. Evidence-based** - Reflecting scientific knowledge and local understanding, and using assessments of vulnerability and emissions and other empirical inputs to inform decision-making
- 8. Transparent and Verifiable** - Following an open decision-making process, and setting goals that can be measured, reported, independently verified, and evaluated

5.3 Observations and recommendations

Correlating the GCC set of actions with the GP set of attributes is value added. It can refine, guide and detail the actions taken in the GCC through those attributes that reflect the vision, values and purpose of the local government in preparing its strategies and actions for LED. The pace of execution of the GCC is a function of the implementing agency and offers the opportunity to reflect on actions to be taken to knowingly build in the sensitivities that the GC advocates. Should there be a checklist of the GP attributes that accompanies the GCC, those implementing the process can reference, build-on and design their efforts to reflect them. Take "Inclusive", for example. This is an attribute that few would argue against, however, what does it mean to the activity being implemented? How to be inclusive is the issue and how to program activities to be so with budget is the challenge. Thinking programmatically about the GCC with the support of the Solutions Gateway, TAP and training would want to reflect the GP attributes identified. The utility of a Checklist will depend on the intent of the local government.

The Checklist can also be a useful reminder, a prompter if you will, of critical activities and attitudes that will need to be addressed for example in "evidence-based" planning and

project design. To be "evidence-based" would require that the existing information base be validated, consolidated and updated as necessary. If found lacking on data for "inclusive" project development, focused assessments and analysis would be carried out if evident-based inputs are valued. To this evaluator "Fair" is an interesting attribute and as defined to relate to climate change and its impacts and costs is but one application. "Fair" could also address gender issues such as access to finance, services, the distribution of resources like water and power, and maintenance of infrastructure.

The GCC is a comprehensive, flexible guide to LED programming. In its training offerings, the GP checklist could be a useful addition to the orientation to strategy development GCC so ably advocates. Both ICLEI and UN-Habitat staff training would do well to carry out sessions in which the GCC and the GP are discussed. Reflection on the combination will support behavior change in the staff that then is communicated to the local and national government partners of the Urban-LEDS Projects and beyond. The detailing of GCC with GP attributes is value-added in the global dialogue on LED as well, for the attributes of concern are global issues. The GreenClimateCities process clearly provided access to tools and steps to be taken in a flexible yet focused manner for strategy development.

6

Recommendations for limited consolidation activities in current countries and cities, and the introduction of Urban-LEDS into new countries and cities, as a Phase 2.

The Urban-LEDS Project was implemented over a 4-year period - 2012 - 2016. To be clear, the Project accomplished its Expected Achievements as reported in this Final Evaluation in a highly satisfactory result. The Achievements - the city strategies and pilot actions - are the “first steps” in a sequence of support and activities that carry the initiative forward.

“Next steps” include: implement the strategies prepared and approved; institutionalize the experiences into formal regulations, laws and investment programs and systems; scale-up successful pilots and reach out to other local governments also interested in LED for their future growth. To that end, as included in the Terms of Reference, recommendations for limited “consolidation” activities and Project expansion include:

A. Phase 1 of the Urban LEDS Project called for LED strategies to be prepared, approved and included in the development plans and management of local governments. LED Strategies were developed. The next step is to consolidate that experience and apply the strategies – articulate action programs from them supported by the Solutions Gateway and other programmatic support methods broken out into short-, medium- and long term activities; seek financing from TAP, domestic capital markets and own-source resources for commercially viable, bankable projects; and learn from the efforts to apply that learning to implement and update the organic strategies created. External support – ombudsmen from a national and international Pool of Experts - made available to review progress in the application and implementation of the strategies developed can make a difference; offer a sounding board for problems and problem solving; and document what has transpired.

B. Scaling up of the Project to new cities will benefit from “Project Notes” of the existing set of Urban-LEDS cities. Support to do so may be required and, at the least, guidance from the ICLEI World Secretariat and UN-Habitat of a format for Project Notes is recommended. Project Notes will be a useful tool for outreach, training and capacity building for community groups, professional training in universities and education to youth in schools. The preparation of Program Notes can also consolidate the experiences each of the Model Cities had and can refresh and review what it had experimented; how priority areas

and issues can be institutionalized into local law, guideline and regulation; and what needs to be modified in the next iteration of its LED strategy. Project notes can be uploaded on local government and Urban-LEDS websites to provide easy access to other interested parties and institutions.

C. A “View-from-the-Cities” event that brings together Model City and Satellite city leaders and stakeholders to provide their feedback and recommendations to a follow-on Project. A View-from-the-Cities would lay out what worked and what might need improvement. Having the representatives all together would make for a cross-cultural and multi-sectoral perspective for future Project design and implementation, support network development and technical support on an exchange basis.

D. Project implementation and financial support workshops that would look at TAP and other sources for technical and financial support - a methodological event to review the domestic capital market and its potential for capital investment in city LED actions. National urban development and climate change programs are a resource to be investigated in a systematic assessment to identify areas of mutual interest. This would be an element of support to systematically and strategically scale up pilot activities with Model and Satellite Cities in 3-5 year mid-term and long-term strategy implementation plans.

E. Consolidation of an Urban-LEDS Toolkit to feed into ICLEI/UN-Habitat Project offices to bring together Project-wide inputs. A tool kit will also be a useful tool to address the Sustainable Development Goals as part of the post-2015 Agenda and COP 21. The connection between local low carbon programs and the Nationally Determined Contributions (NDC) will benefit from an Urban-LEDS follow-on project to support scaling up low carbon development strategies, their implementation and NAMAs.



Evaluative Conclusions

The Evaluative Conclusion is that the Urban-LEDS project performance was highly satisfactory, applying the UN-Habitat's Evaluative Criteria discussed in Section IV Main findings and summarized in the Table that follows:

Table 2: Evaluative criteria summary

EVALUATIVE CRITERIA	RATING
Relevance	Highly Satisfactory
Effectiveness	Highly Satisfactory
Efficiency	Highly Satisfactory
Impact	Highly Satisfactory
Sustainability	Satisfactory

The following observations are conclusions reached on critical elements of the Urban-LEDS Project to assert its positive conclusion and may guide the preparation of a follow-on Urban-LEDS Project 2.

Urban-LEDS successfully provided a platform of training, strategy development guidance and technical assistance that was designed to create awareness of LED concepts; train in the meaning, measurement and management of emissions to establish a base line of information starting with emissions inventories; establish priorities for actions; access and/or call in expertise as needed through the Pool of Experts created for Urban-LEDS; and report actions taken to establish a way forward to transition to a green urban future. The Urban-LEDS program in Indonesia worked with GCC, however, its approach was to contextualize the global tools with the national existing tools and regulations.

With experience gained in emissions inventories through training in the understanding and application of HEAT+, the ICLEI GHG emissions inventory tool, reporting became the issue. Reporting GHG emissions was resolved through the development by ICLEI of the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC). It provided an emissions inventory reporting format for consistent, comparable data development to track improvements and issues to be reported to the carbonn Climate Registry (cCR), the principal world reporting platform, to increase the accountability, transparency and credibility of local and subnational governments. The guidance and technical assistance provided depth and breadth to the city-centered focus of Urban-LEDS.

The ICLEI GreenClimateCities methodology was comprehensive, inclusive and replicable that led to the outstanding Project results. The virtue of the Project is that it provided guidance and experiences to the implementing agencies and players at the different levels of government

and from different institutions that avoided second guessing as to what was meant and what to do and how. The Country Teams determined their individual paths to arrive at the understood purpose of explaining what low emissions development is; why it is important; and how to build that understanding into policy, practice and strategy. The tools promoted during the exercise of the Project as well as the reporting methods were successful in creating confidence in and capacity of the city government and its partners in thinking about and addressing LED issues. The country teams understood the need to be available and, as needed, carry out Project training and capacity building overtime, reinforcing ideas and developing skills for awareness, technical capacity and pilot project implementation. Demonstration activities and the expected outreach of Model Cities to Satellite cities were designed strategically by the ICLEI World Secretariat and the Country Teams so that Model Cities engaged, interpreted and instructed strategy development but limited to the budgets available. Availability of additional funds for activities for outreach would have supported greater levels of activities in satellite cities.

7.1 Vision

The vision of the Urban-LEDS Project was a clear statement of its intent to support the transition to low emission urban development in emerging economy countries through the preparation of low emission development strategies in selected Model Cities. The Urban-LEDS Project established, by design, a focused, vertically integrated program to integrate interests at international, regional, national and local levels through explicit actions to be reported as contributions to the global effort to reduce greenhouse gas emissions and address climate change. The tools promoted in the program support, reflect and inform the vertical mandate of the Project. Websites and newsletters were created as the principal means of sharing news, experiences and ideas. The carbonn Climate Registry – the new standard for greenhouse gas reporting and accounting – is informed through The Global Protocol for Community-scale Greenhouse Gas Emissions Inventories (GPC). The GPC was embraced by all of the Country Programs and training provided the skills to apply the Protocol. A clear example is the Director of Mitigation and Emissions of the Department of Environmental Affairs/South Africa prepared a “Provincial Roadshow” to create an awareness of and train government and civil society staff to employ the new protocol.

The Urban-LEDS project successfully articulated a process to guide and implement a comprehensive, vertically integrated project, one that made the case for LED to target local

governments and their national and civil society partners. Importantly, at the global level, the Urban-LEDS Project also successfully made the case for local governments as legitimate and essential partners to address climate change at UNFCCC COP 20 and COP 21. Critical to the vision of Urban-LEDS is the opportunity to “Grow-the-World” of not only the leadership and staff of the Country Teams but the local leaders and practitioners through training and capacity building with partners in Europe in North-South exchanges and their regions in South-South engagement.

The schedule of Project Networking Meetings as those in Nelson Mandela Bay, South Africa and Bogor, Indonesia worked to bring South-South discussions into play, not as a frivolous undertaking or jargon, but exchanges of guidance and content and the networking paid off. The contacts at these meetings supported exchanges on topics of mutual interest. Of equal importance is the exposure of the Project and its players to international events. The COP 20 and COP 21 venues raised the visibility of local efforts that fed enthusiasm and input to expand the activities in each of the country programs.

Partnerships were an important part of the vision of Urban-LEDS. This includes engaging with the LEDS Global Partnership, URBELAC and the Emerging and Sustainable Cities Initiative (ESCI) through the Inter-American Development Bank (IADB). Several other synergies continued, namely with WWF in its Earth Hour City Challenge (EHCC), with UNEP addressing municipal policy on district energy and renewables, as well as the GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) on the V-NAMA project (vertically integrated Nationally Appropriate Mitigation Actions). Each of these partnerships has led to useful contacts and results that supported the project.

7.2 Process

The Urban-LEDS process presents a logical, programmatic and action oriented methodology that is based on and applies the ICLEI GreenClimateCities methodology comprised of three phases – Analyze (commit, explore your context, assess potential impacts), Act (plan, implement, monitor, and report) and Accelerate (show your successes, optimize the approach and scale up) - each Phase articulated into steps to guide progress and implementation described above. As recommended the effort to relate the GCC and GP can be value-added.

The key words in the GCC served as guidance and reminders of what is needed to be done and why. The ICLEI Tool Kit,

training initiatives, protocols, templates and formats provided Country Teams a successful structure that brought consistency to Project implementation, and by design, allowed for cross-country dialogue, comparisons and exchanges. The Tool Kit and support also served to identify training and capacity-building activities to enhance understanding and contribute to the purpose of reporting up into global accounting formats. The Global Protocol for Community-Scale Greenhouse Gas Emission Inventories required training and in South Africa it was provided through significant support from the national government interested in the global applications and impacts the LED project created. The result in India and South Africa, as in Indonesia and Brazil, was each Country Team understanding and able to carry out their emissions inventory, as well as gather, collate and report their findings and data through the Protocol to the cCN.

The GCC process focused on:

1. Design of the LED program and its implementation in the country
2. Selection of Urban LEDS Model cities and finalization of bilateral agreements
3. Identification of Satellite cities
4. Recruiting and training key experts for each Model city
5. Researching existing Model city strategies and priorities to establish pilot project start ups
6. Support to local governments to implement the GCC methodology to carry out Urban LED activities starting with conducting an assessment of relevant context and the emissions inventory and identify and implement instructive demonstration projects.
7. Establish reporting protocols and project documentation formats to place on their websites and the Urban-LEDS Global Website

A view of GCC from ICLEI/South Africa is that, “the GCC methodology provided a clear overview of what is needed, but when this was reviewed [at the Urban-LEDS International Networking event] in Indonesia in 2015 it was clear that it is only a guideline. A lot of detail is needed in getting through the different steps and the strategy needs to be localized to ensure that it is effective, linking to the local requirements such as South Africa’s Integrated Development Plans.” This view of integration of strategies into local plans and processes is echoed in the other countries as well. This need motivated local government officials in India to connect LED with the Indian Smart Cities Project and in Indonesia Bogor’s mayor connected his strategy and pilot efforts with national development plans.

The Urban-LED methods were highly successful in supporting an awareness and educational process that translated concepts and policies into an action agenda. The illustrative activities the cities identified from the discussions carried out between the Country Teams and their partner national and local governments were critical to the buy-in of the local government staff, important to the effort.

Training and capacity building were critical components of the process and successful in building awareness and integration of LED principals and understanding into strategy development. The eight European cities identified as support cities were potential support to grow-the-world and expand what is seen as important and possible. Their use was sporadic but effective. The ICLEI staff and local officials and partners form a very rich pool of experience to support South-South-North expansion of the Project especially the City Champions that emerged during Project implementation.

7.3 Tools and training

The Urban-LEDS Project used its tools and training strategically. The Project benefited from carefully crafted capacity building supported by selected skills diversity involving energy experts, urban planners, social development advocates and climate change and environmental improvement developers. The Project successfully provided training opportunities and support in implementation to accomplish the purpose of the Project – build awareness, an LED constituency, strategies and actions and capacity to institutionalize, legislate and enforce compliance. Training also focused on capacity to document emissions as part of an emissions data baseline that allowed progress to be charted and quantified for those that required quantifiable indicators as proof of change.

The training modules successfully built informed capacity to implement, record and evaluate actions taken. The training modules offered are included in Annex I. The quality of tools and training was validated by the skills levels that operated in Project implementation. Country programs also created a training regime. The Brazil coordinating committee, COMCLIMA, carried out six workshops as part of its capacity building program: 1- Assessment of existing projects, 2-Low Carbon Urban Planning/How to build a Low Carbon Recife, 3-Low Carbon Future/SWOT analysis of strategic sectors (i.e. Transport, Waste, Energy and Sustainable Development) for emission reductions, 4-Development of strategic targets and guidance for

sectors, 5- Validation of scenarios and setting emission reductions target, 6- Selection of strategic projects for implementation). To be able to report on the improvements made and the impact on emissions by the actions taken, an understanding of the metrics for reporting was a strength of the project. With strategies as the principal Project end-product, how Country Teams approached strategy development was a local choice, one that could apply the GRIP tool to construct scenarios as in South Africa.

ICLEI South Africa recommended that:

The Project worked well where the “deep dive” was only at two cities with learning experiences to other cities, but could have focused more on a network between cities who can support each other (even as part of a larger network). This was done through supporting the attendance of the Urban Energy Network, but this was only achieved toward the end of the project. It is suggested that there is a stronger focus on a network support system in the future.

7.3.1 The Solutions Gateway

Of the tools that ICLEI developed through the Project it is the Solutions Gateway that represented a major contribution to understanding and action. The Solutions Gateway is comprised of sections that identifies the issue to be addressed; the main impacts from an activity; benefits and co-benefits; project ideas; and access to additional information to go deeper into an issue and activity. While it provided specifics to support the translation from Theory/ Policy to practice, it provoked the Country Teams to adapt the project ideas to local context. The Solutions Gateway represented an outstanding source for how-to and purposeful information that contributed to understanding why an action is recommended and what impact it can have in reducing greenhouse gases. The Solutions Gateway is an organic tool, one that provides benefits, as well as, receives benefits from the growing set off actions cities are taking. It also offered guidance to cities on financing options to implement their low carbon and climate-resilient programs. The Solutions Gateway was an inclusive, learning tool, one that provided clear guidance to project leaders and technicians. As it grows it can include new experiences and ideas on how to lower emissions and address climate resilience. It can also include area specific examples of pilot efforts. ICLEI as gatekeeper of the Solutions Gateway sees growth in the Solutions Gateway agenda a must to remain vital and informed. The Solutions Gateway influenced the understanding and ability of Model and Satellite City leadership and staff to identify priority actions with explicit

project ideas. It attests to the ability of the Project to contribute innovation to the LED dialogue at an international level. The Urban-LEDS Project offered an array of initiatives that made contributions to a global audience as in COP 21.

Partnerships were considered tools as well to good effect in the Project. Urban-LEDS Africa worked with SEA and others to co-host a web-based open-source platform for LED solutions for African cities. The South Africa Country Team decided for more Africa-specific information. Understanding context, local government capacity and cultural context were deciding factors on establishing technical and programmatic guidance. For the Solutions Gateway ICLEI South Africa recommended breaking out area-specific guidance more attuned to the context of African cities, project ideas, approaches and implementation methodologies. For ICLEI/South Africa "the Solutions Gateway was not used effectively and this could simply be due to "Monday morning syndrome" where people are excited about what they learn and the possibilities available, but when they are back in office on a Monday morning after the training it is business as usual with the same problems that need to be addressed and there is simply no time for extra stuff. It has potential to become more useful over time as people get more familiar with it, but something like this needs time to be built into a useful body of easily accessible knowledge and then it takes more time to be used widely, given the pressing realities of lack of capacity and resources at the local level in most municipalities where there is little time for forward thinking amidst crisis and reactive management." (Source: South Africa Response to Final Evaluation Questionnaire)

Reporting was an important Project tool. It demonstrated an in-depth understanding of the initiatives undertaken and worked as the principal means of communicating innovations. Examples worth considering for replication elsewhere include the following:

- Reporting on the street lighting project in Recife that presented information on the impact of energy reduction and documented the process executed to accomplish the pilot effort.
- The Capibaribe river project lighting system built the sensitivity of users to the environment around them.
- The fuel substitution program for the municipal green bus line of Bogor, Indonesia quantified its emissions reductions.
- The innovative decentralized water treatment project at the Jilla Garden in Rajkot showed energy savings and environmental improvement.

- The scenario planning process employed in the South Africa Project.

The Urban-LEDS South Africa Program brochure is an excellent example of the material produced to communicate what the project was about. The issue of access to data and the quality of data was an issue the Project addressed through its reporting protocols and monthly reports. The emissions inventories and training included data collection to support transparency, establishing priorities and the possibility of monitoring project development. As a new area of endeavor emissions data needed to be seen as leading to solutions and funding for those solutions as South Africa reported to compete with the traditional areas of concern like infrastructure and housing.

7.3.2 European Study Tour

The European Study Tour "Low Carbon Solutions in Europe" took place in April 2014. The cities of Almada (Portugal), Copenhagen (Denmark) and Hannover (Germany) hosted 13 Urban-LEDS cities. The Study Tour resulted in political and technical dialogue that generated actions in the Model and Satellite Cities and beyond. The Mayor of Recife, Brazil, for example was impressed by the green roofs project in Copenhagen, which inspired the city's 2014 Green Roof Law. Bicycle lanes will be an important part of the river restoration program in Recife, also inspired by Copenhagen. As reported by the Brazil Country Team the feedback from Brazilian cities on technical visits to European Cities was very positive. The Mayors of Steve Tshwete and KwaDukuza both attended the ICLEI World Congress in Soule, which they indicated provided them with new insight around sustainability issues. This corroborates the views expressed that the international travel served the purpose of awareness and exposure to new ideas more than technical issue resolution.

Staff exchanges with European project cities offered important opportunities to grow-the-world of the Model City representatives. Exchanges went to Bologna, Helsinki, Warsaw, and Zagreb. The exchanges displayed the impacts of political will and community participation in specific project actions and comprehensive planning initiatives that fostered low-carbon growth policies and practice. The staff exchanges exposed representatives to the value of political will and a programmatic dialogue on green building technologies, energy efficient buildings, renewable energy and urban mobility concepts including bike lanes, electric and efficient fuel transport that resonated with those from Bogor and Balikpapan to Recife and Kwadukuza.

South Africa reported that Urban-LEDS spawned an interest in the financing and provision of green municipal infrastructure. "The Saldanha Bay case study was compiled to unpack the issues that municipalities face when National Government drives development without a full understanding of the local issues, as well as considering alternative mechanisms for implementing more sustainable (green) infrastructure. This has sparked a set of meetings with key national players such as the Department of Treasury and development partners as well as very lively round table discussions which aim to influence the budget process (ie National Government provides Municipal Infrastructure Grants to Local Governments without encouraging greener options). The wheels turn slow, but the process is underway and this initiative is continuing after the closure of the Urban-LEDS project." (ICLEI South Africa Response to the Final Evaluation Questionnaire)

7.4 Structure

The Structure of the Urban-LEDS Project militated for a successful endeavor. The vertically integrated vision translated into identifiable project elements and engagements that operated at the global (COP 21), Regional (the URBAN-LEDS Regional Exchange and Networking meetings in Nelson Mandela Bay, South Africa and Bogor, Indonesia), National and Local levels. The ICLEI responsibility for Project implementation and UN-Habitat responsible for administrative and selected technical assistance initiatives resulted in clear lines of responsibility and reporting. The Urban-LEDS Project established, by design, a focused, vertically integrated program to promote and implement low emissions development managed through the Project Work Packages. That the Project is vertically integrated became a marker for how Country Teams carried out their emissions inventories, reported their progress on activities, and trained and built capacity of their staff, partners and counterparts. The program structure included eight European countries - Croatia, Denmark, Finland, Germany, Italy, Poland, Portugal, and Turkey - supporting city initiatives on strategy and pilot development activities as technical and political resources. The continued value-added participation of UN-Habitat and the ICLEI World Secretariat to its Regional Offices and Model and Satellite City was critical to strategy preparation.

The ICLEI Country Teams were well selected; engaged in a learning-by-doing approach as they advised their partners on concepts, policies and actions and groomed staff and local governments to represent the accomplishments at

global, regional, national and local events and exchanges. The Country Teams contracted by ICLEI proved to be efficient, effective and broad thinkers able to explain technical concepts and articulate actions that led pilot efforts into broader applications.

At the national level, Project Advisory Groups were formed to function as a national voice in the Project, provide guidance and source support. The PAGs were reported to be useful at the outset of the Project but in India the PAG was less useful after initial interactions on scope and focus as in South Africa. South Africa also reported that within ICLEI Africa support is available from the network of technical partners established as part of the project, but as ICLEI Africa is project based, continuity is highly dependent on further project financing in this field. The South Africa PAG was not found to be highly effective for they weren't sufficiently engaged during the course of the project "but from our side, we also did not fully utilize options for engagement with it."

Success flowed up into national decisions to establish policies, standards and norms, and guidelines that built onto the successful demonstration of LED concepts at the city level. County Teams were both effective and efficient. Their staff size and expertise varied according to the technical and administrative needs of the Project. ICLEI regional offices were an asset for Project guidance and implementation for the availability of staff to engage in the program, as well as the opportunity of space for interns and topical specialist consultants. As Projects grow the Urban-LEDS Project budget for staff will need to be increased. The creation of staff positions indicated a high level of commitment in KwaDukuza and Steve Tshwete.

In KwaDukuza a climate change officer was recruited and the Economic Development and Planning team mainstreamed climate change adaptation and mitigation into their work. More work is reported to be done in KwaDukuza to broaden the thinking within the municipality that climate change was not merely an environmental matter, but a key cross-cutting area of concern and opportunity for the municipality. Steve Tshwete also created an environmental officer position. Prior to Urban-LEDS there were no dedicated staff for environmental issues and improvement. The Environment was the responsibility of the waste management department with limited capacity to carry out the environmental functions of the municipality.

7.4.1 Model Cities

The concept of country Model Cities created focus for strategy development and dimensioned efforts. Model Cities also built outreach and scaling up into the implementation of the Project. With each Model City, Satellite Cities were identified as next steps and phases of LED development. The Model and Satellite cities identified followed a demand driven method that produced two model cities per country and an array of Satellite cities that responded to a request for an Expression of Interest from cities that espoused their interest in Renewable Energy/Energy Efficient projects. The potential city partners were analyzed according to their interests, expressed issues, action programs undertaken or being considered, and technical and financial resources to be dedicated to the program as staff, budgetary support as needed and political will to implement change.

The responses were analyzed and scored with the top two selected as the Model Cities and the others as Satellite Cities. The Model City selection process was highly successful; local governments responded with enthusiasm and ultimately budgetary support to continue working on LED. Model City relations with Satellite Cities needs to be encouraged through out implementation to transfer information, encourage networking and contribute to South-South-North relations, events and reporting. The expectations of Satellite Cities can be addressed by inclusive activities to create awareness of LED concepts and actions and through short-term, focused pilot initiatives. Satellite Cities and other local governments interested in low emission development can benefit from Model City efforts to spread the word through the websites created through the Urban-LEDS project as in Rajkot.

There were eight Model Cities:

Brazil: Recife and Fortaleza

South Africa: KwaDukuza and Steve Tshwete

India: Rajkot and Thane

Indonesia: Bogor and Balikpapan

7.4.2 Satellite Cities

The role of Satellite cities in the Project was as a secondary set of experiences. They represented opportunities for the Model Cities to reach out and include them in ways found feasible. Country Teams had different views on how to address the Satellite cities – South Africa focused on the

model cities, but with the community showcase projects considered them as equal partners and shared the resources between different cities. Brazil found that the designated “secondary cities” were more than active participants and could be engaged in outreach and strategy development at their own expense. Satellite Cities became partners and replicated actions with their own resources. India provided support within its budget to two satellite cities as did the Indonesia Country Team.

In all there were 21 Satellite cities:

Brazil: Betim, Belo Horizonte, Curitiba, Porto Alegre, Rio de Janeiro, and Sorocaba

South Africa: Mogale, Nelson Mandela Bay, Saldanha Bay, SolPlaatje, uMhlathuze

India: Ciombatore, Gwalior, Nagpur, Panaji, Pimpri-Chinchwad, Shimla

Indonesia: Bontang, Kabupaten Bogor, Tangerang Selatan, Tarakan

These Satellite cities are primed to be a new wave of activities either “officially” in a Phase 2 of the Project or as local outreach endeavor as reported by the Rajkot commissioner. Should there be a Phase 2 of the Urban-LEDS Project these anointed cities would be sure to contribute to an LED agenda. Local officials have participated in training and capacity building to report in the cCR. Demonstration projects in the different Satellites are summarized in the ICLEI Urban-LEDS Final Report and include; solar panels for heating and energy supply for lighting retrofits in public buildings and schools selected to reach a broader audience and it worked; insulated cookers, training, urban forestry and carbon sink plantings.

Panaji benefited from external technical support for its LED urban growth strategy; and community education centers offered programs for community awareness and buy-in. In Brazil, the Model and Satellite Cities explored opportunities and exchanged technical knowledge proactively. Recife and Belo Horizonte worked together on the Recife Sustainable Building Stamp; Betim - Sorocaba on Cycle Paths integrated with the Bus System; Fortaleza-Sorocaba on Urban Afforestation; Rio de Janeiro and all Brazilian Capitals on Advocacy through CB 27; Porto Alegre- Rio de Janeiro and Recife on GHG Inventory.

Box 1: Secondary City Activities in South Africa Urban-LEDS

In South Africa the only satellite city which actively contributed with their own resources was Nelson Mandela Bay - the largest of all the local municipalities. Staff size was a constraint in others where staff was already stretched in their current positions. South Africa reports "that while the Project did not meet all the needs of the satellite cities (needs are vast and far ranging) it certainly exceeded its initial commitments to these cities and delivered tangible and lasting results to city officials and executives in tools, capacity building, access to information, networking and policy options and to the communities in 4 of the 5 satellite cities, exceeding also our own expectations for satellite delivery at the beginning of the project. "

The decision to roll out the community showcase projects in satellite cities too, was a great one. The community showcase project was a very effective tool to demonstrate in a practical manner what can be done. As an example, uMhlathuze previously did not own any solar PV, but now their one library runs on PV and they can see the savings of the lighting retrofit and learnt about the process of installing and managing the PV at the library. This has sparked future allocation of funding towards more solar PV on other municipal buildings. Mogale Municipality had just completed their Climate Change Action Plan, but had no funding to implement this and the ULEDS community showcase at Mphe Thuto School was done in line with their action plan and they could "claim" it as a showcase on what can be done.

We were able to deliver tangible results in 6 of the 7 ULEDS cities and in this way stretched the footprint and impact of the project considerably. The cities were much more than distant satellites and in fact very actively came on board the project with lasting community benefits and demonstration projects which has sparked policy review and inspired their leaders to further commitments. The approach in Saldanha was different but there too, the green infrastructure study is currently informing the development of the area very directly and provides the municipality with a powerful tool to engage developers around low carbon solutions far beyond the lifespan of the project.

Source: South Africa Response to the Final Evaluation Questionnaire

Outreach to the Satellites cities and their engagement in Model City activities became ad hoc because of budget constraints and staff limitations. How the Country Teams managed the expectations surely created upon being designated a Satellite is worth a review. As reported by the Brazil Country team and others more ample budgets for city exchanges could have extended benefits further. These concerns coincide with those about TAP and the expectations created in spite of what is said about what its limits are. In India the Satellite Cities participated with expectations the program could only partly meet. In Panaji and in Gwalior there were successful activities but the other cities came up short. Should the ICLEI Country Teams encourage their Model Cities to carry out outreach programs as part of their payback for the benefits they derived from Urban-LEDS, and/or should the Model or other cities establish themselves as an LED Resource City, expectations may be met and LED projects can go to scale. The potential is there to develop.

7.4.3 Pool of Experts

The Urban-LEDS Project anticipated the need to provide technical and managerial support to the cities. A Pool of Experts on low emissions development was developed

over time as a multi-disciplinary resource of professionals available on an as-needed basis to bring their expertise to the broad array of issues the cities might encounter. It was commented that a functioning Pool of Experts of necessity would be an on-going effort as country programs evolved, needs identified and a match of external expertise with local need made could not be fully identified at the outset of implementation but as implementation occurred.

Comments from two ICLEI Country Teams (India and South Africa) indicated that the Pool of Experts idea is useful but "that voices from the local level is a better way to go." In South Africa the Pool of Experts was considered to be potentially an extremely useful mechanism, especially if it could have been created at the actual implementation offices. The South Africa Country Team did not utilize experts outside South Africa but much of the work that was outsourced as done by experts in South Africa who are internationally recognized as leaders in their field. Knowledge of the local context and language capability were also considered important factors that militated more for a locally derived Pool of Experts than an international one, especially at the project design and implementation level. UN-Habitat called upon ISOCARP to work with

Recife, Brazil and Panaji, India to review many aspects of its urban planning and future growth scenarios. The result was the ISOCARP expert report "The Way to go for Recife Brazil: Implementing spatial guidelines to support low emission urban development." Panaji has adopted the recommendations made by the ISOCARP planner.

7.4.4 TAP

The Transformative Actions Program (TAP) was launched in April 2015 with a view to present a range of projects at the COP 21 to draw attention to the need for increasing access to project financing for cities and regions to apply their strategies for low-carbon and climate-resilient urban development and governance processes. TAP is a project pipeline and promotional initiative that complements the Solutions Gateway that provides examples and orientation to local and subnational governments translating their strategies into action programs. The Urban-LEDS project

considered TAP an opportunity to begin to prepare bankable projects for financing by innovative finance mechanisms. The experience of the city of Bogor at the Global Infrastructure Basel (GIB) is instructive of what needs to be done. While the city arrived for interviews on the projects it had prepared for TAP the response was "disappointing" for the city. The expectation of financial support was not forthcoming. European city support can expand to address a project investment agenda explicitly to open access to a stream of resources sourced from international and domestic capital markets.

The range of TAP projects is another indicator of how Urban-LEDS has leveraged interest and resources for action activities. Access by cities to TAP and the process to gain support will need to be worked out for expectations will be high as local government capacity grows. Box II presents the priority projects presented to TAP during COP 21.

Box 2: Priority TAP Projects

Brazil

Fortaleza:

Fortaleza Online: provide automated licensing services for construction to reduce bureaucracy and eliminate exclusion.

City Water Project: 16,000 connections to the waste-water drainage and treatment system

Trees on my Sidewalk project: to reforest the urban area and address the urban heat island effect.

Jangurussu: Create an urban park The "Urban Sustainable Complex" to correct ground water contamination from an informal landfill.

Recife: Vulnerable areas mapping project to develop an integrated sanitation project.

India

Rajkot:

A Bicycle Rental Scheme to contribute to the emissions reduction levels proposed in the in the LED strategy.

Smart Housing Scheme to provide environmentally friendly infrastructure through a public-private partnership

Indonesia

Balikpapan:

Balikpapan Monorail and tram to provide a public transport system where now there is none and increase mobility from the outlying areas to the center of the city.

Source: *Urban-LEDS: Cities in Action, Low Emissions Development in Brazil, India, Indonesia and South Africa, 2012 – 2016, Final Report.*

7.5 Results

The results of the Project clearly indicate that the message on the importance of LED was received by the participating cities and national governments. This initial phase of the Urban-LEDS initiative is one that will be carried on by ICLEI and UN-Habitat into the future. Strategies were developed as stand-alone documents as well as critical elements of local and national urban development plans based on the priorities and convictions of the players. The 60 pilot projects documented in the Urban LEDS Final Report by ICLEI presented an array of initiatives dominated by energy efficiency, mobility and solar power activities. A second Urban-LEDS Project can build on this success and enter into other equally innovative and important activities that broaden and deepen the LED agenda to include urban planning and the built environment aspects that also impact climate change, bring in additional sets of expertise, and reduce and improve emissions. How the strategies guide the future growth of cities and the services, transport and quality of life issues is the challenge of a follow-on project. The resulting new laws and regulations prepared as part of this Project and/or because of this Project in Rajkot, India; Recife, Brazil; Steve Tshwete, South Africa; and Bogor, Indonesia reflected buy-in by policy-makers.

ICLEI accomplished its aim to have the carbonn Climate Register (cCR) as the "preferred" reporting platform used to report climate action including GHG emissions inventories and climate commitments. In South Africa this linked local governments with National Government to improve vertical integration. The cCR was received very positively in South Africa and confirmed as the preferred approach for the DEA. The Urban-LEDS team was invited to provide training to municipalities across South Africa as part of a DEA provincial roadshow. ICLEI built on the opportunity to share information on the Urban-LEDS and demonstrate the cCR as a reporting platform. Follow up resources to further train interested municipalities is now a priority for ICLEI.

The success of the illustrative pilot activities of the Project became the "How" at the international events at which the Project was presented. Purposefully the indicative achievements of the Country Programs illustrated and articulated the global "Dialogues" without which new practitioners would wonder what the global declarations could mean and how one thinks programmatically about engaging in LED. To be able to report on the improvements made and the impact on emissions by the actions taken was a strength of the project. Events would benefit from

face-time with interested cities as the Project scales up to other cities and countries. On-site mentoring is a critical component of technical innovation and behavior change efforts. Reporting and communication was mandated as critical elements of the Project. Once again, by design, technical support and exchange were a hallmark of the Project from comments of Country Team leadership. Results also offer opportunities to showcase local leaders and through international and regional exposure, feedback and recognition accomplish the important issues of motivation and sustainability.

Strategy development in KwaDukuza was deemed successful because it was fully integrated into the IDP contributing to short and medium term planning, budgeting and actions. In addition to achieving the integration of the strategy into the main decision making mechanism of the Model Cities, the community showcase project significantly assisted to practically demonstrate LED actions at the local level. The project showed the cities what is possible in the short term while translating these interventions into very direct local community benefit. Action was taken, options were explored and implemented based on priorities identified by the cities with significant community input and direct value was delivered. The next priority expressed was reinforcement and access to financing for scaling-up priority projects.

7.6 Opportunities

The GCC proved to be a comprehensive, inclusive and replicable methodology that can be scaled up to other countries and cities interested in managing its activities and growth in a low emissions manner. The demonstrated effects of the country projects were documented in regular internal reports and their impacts quantified that validated the approaches taken. Energy efficiency was the focus of this first round of initiatives and understandable as the "low-hanging fruit" that created an understanding of the changes required. A broader array of activities was intimated in the support provided to the urban planning and historic area upgrading that brought together different sector interests – urban development, housing, transport, greening cities and health issues. Future LED initiatives can bring in additional technical and political support through the training and technical assistance channels already tested positive in this the Phase 1 of Urban-LEDS for green urban development, disaster preparedness and climate change initiatives.

The Decentralized Waste Water Treatment System pilot project in Rajkot India, and the plans to scale up that effort, is indicative of the opportunities to improve informal settlements, address environmental problems in selected areas and approach infrastructure as LED development. The policy implications were clear at the state-wide level and as national policy for slum upgrading. LED Policy opportunities were brought to the Urban-LEDS/South Africa Team because of the success of the partnership that had been established with the DEA. "The team was approached by the National Department of Environmental Affairs (DEA) to author a chapter to support national government monitoring and evaluation of climate change at the subnational level. This was a major opportunity to influence national policy and strategy made possible directly by the project. This work included collation and analysis of historic and current climate change mitigation work carried out by all cities, provinces and towns in South Africa. A letter of support was provided by DEA to acknowledge the work done through ULEDS with a request to continue working together." (South Africa Response to Final Evaluation Questionnaire.)

Policy and practice remain the proven mainstays and strengths of the Urban-LEDS Project.

7.7 Budget

The total Urban-LEDS budget provided by the European Commission was 6,700,000 Euros. According to agreements made to date, ICLEI received 5,468,373.62 Euros. ICLEI Regional Secretariats including ICLEI Europe received 3,399,067.78 Euros. UN-Habitat received 1,231,626.40 Euros.

The World Secretariat provided the four country programs relatively similar amounts with which to work. The funds covered expenses and activities. Expenditure categories included Personnel costs, Operating Expenditures, Pilot Projects, Trainings, Model Cities and Satellite Cities. Tracked by ICLEI as Subcontracts/Grants to Institutions, Training/Workshops and Seminars, Equipment and Furniture and Miscellaneous expenditures, the following table summarizes the amounts and distribution of the ICLEI budget.

Table 3: ICLEI Budget Expenditures

ICLEI TOTAL BUDGETED PROJECT TOTAL	AMOUNT IN EUROS 5,637,106.42	PERCENTAGE OF BUDGET 100%
World Secretariat	2,069,307.57	37.84
Brazil SAMS	837,000.42	15.31
India SAS	753.717.49	13.78
Indonesia SEA	645,076.68	11.80
South Africa AS	978,002.34	17.88
ICLEI Europe ES	185,271.12	3.39

The structure of a project requires adequate budget and Country Teams reported their budgets to be so. South Africa reported, as did the other Country Teams, that overall their project budgets were adequate. However, Country Teams highlighted the fact that budgets limited support for outreach. ICLEI South Africa's comment on the program budget was that, "overall the project budget was good, but additional allocation could have been made towards the establishment of a 'community of practice' which would have assisted with ongoing interaction after the event..... or it could have been incorporated into the budget at the outset if follow up and outreach was seen as important." The Country Team in India seconded that thought. However the demands on local government staff time for project implementation and advocacy could be at odds with the immediate service delivery obligations of the municipalities given their staff size and other pressing basic service delivery demands. ICLEI South Africa stated, "There was no ongoing 'network' beyond the project between these cities to help take the concept forward and this is something that is recommended in the future. It does require funding for co-ordination and travel, but should be considered if possible as it will encourage more pro-active involvement by cities." Budgets also need to include on-site mentoring resources to cement learning at the local level. Repetition of new ideas and methods require budget. Continuity not being assured even in a second phase scenario could have been addressed with a budget line item for support as matching funds with local government contributions.

Budget management description by ICLEI and Country Program expenditures are presented in Annex VII.



Lessons Learned

The lessons from the past four years of endeavor include:

1. Investments need to be made in strategic pilot activities to illustrate key actions for low carbon development and in exposure of staff and partners to new project ideas through study tours, staff exchanges, technical assistance and monthly reports, webinars, Skype calls and information exchanges as part of strategy development
2. The Urban-LEDS Tool Kit needs to be prepared in the local languages early on in the process for country project implementation. Feedback from local government and Project partners was that local language materials allowed smaller cities to engage as well as private sector partners offering a neutral platform and entry point for interested businesses. Working at the city and, especially, at the community levels requires that written materials, communications and project design and implementation documents be in the local language at an early stage.
3. Staff levels within local governments, ICLEI Country Teams and UN-Habitat support offices need to be addressed at the outset of a project to address design and implementation expectations. While not wanting to overload staff budget line items, it is essential that Projects have sufficient staff to guide, inform and support Project strategy development and especially activities implementation. A core staff can provide the continuity required and specialists can be brought in as needed. Implementation requires additional staff and capacities.
4. Awareness building, training, and capacity building activities need to be implemented to create a constituency, transfer knowledge and validate solutions understood, implemented and reported up through national and international channels. The repetition of training and demonstration of training content in pilot activities can cement understanding and support the behavior change sought in planning and strategy development.
5. LED training needs to be integrated into local/regional schools, universities and NGOs as part of their institutional commitments to sustainable LED. Sustainability can be supported through comprehensive, inclusive project training, capacity building, and reporting on Project activity development and implementation as part of professional training. Project "champions" can take a lead role in institutionalizing and providing training initiatives to other cities expressing interest in LED strategy development in partnership with local technical and training entities. Tracking Model City activities can contribute to a training agenda, feature local LED accomplishments and inform curriculum for LED studies at different levels.
6. Training needs to be initiated in finance, bankable/ commercially viable project development and incremental growth of pilot efforts as a part of LED strategy development. Project financing and resource generation, management and accountability need to be part of explicit support for pilot efforts, feasibility studies and demonstration and curriculum development. Lessons from Rajkot are that leadership can be creative and pro-active in sourcing funds for project implementation and scaling up; that successful pilot activities provide the basis to access existing national and state government programs, such as Smart Cities in India, that grow a limited city budget; and that translating strategy to action reinforces commitment to change.
7. Training needs to be carried out for finance entities to learn how to work with a new clientele – small and medium sized cities - one that represents an enormous potential for investment in the near future to finance the growth of secondary cities too long neglected. As Maryke van Stadan stated in her June 13, email, *"Our problem is that we need to work with partners that indicate they are finance experts, such as the GIB, and it backfires on us as they do not understand the local governments and their approach. I have found the same to be the case in another small project we are working on where finance experts actually query why a city needs a climate action plan as this is just more complicated."*
8. H. The Metrics by which change and progress are measured needs to be clear. They need to contribute to understanding what actions mean to reduce GHG, to quantifying results and to explaining why one-bulb-changed does make a difference. The impact of metrics can be a catalyst to scaling up pilot efforts to city-wide and regional systems and programs.
9. I. Project budgets need to reflect the extent and type of activities envisioned for a project, the expertise required and the timeframe allotted for design and implementation.



Recommendations

The following recommendations are made in the spirit of taking a successful Project to its next level. The recommendations are presented as global, national, local and Project management.

A. Global Project Activities

1. The Secretariats of ICLEI and UN-Habitat organize a “View-from-the-Cities.” The View would bring representatives from the Country Teams, partners and Field Offices together to re-live the project; provide feedback on what worked and what did not; identify consolidation activities in the current set of Model and Satellite Cities; and make recommendations as input to Project expansion to other countries and financing for a follow-on Project. One important recommendation by Country teams and partners was to expand the South-South exchanges. While exposure to European experiences was deemed worthwhile as a means to expand horizons and the-what-is-possible it was the South-South exchanges that made a difference to the partners.
2. ICLEI's World Secretariat with UN-Habitat formalized Project reporting through standard formats to present learning from Country Programs, facilitate compare/contrast assessments, provide examples of innovative activities to be fed into the array of the Solutions Gateway and identify diverse funding sources for project design and implementation. Reporting could also cite other LED and climate resilient program experiences to enrich and deepen exposure and discussion.
3. ICLEI and UN-Habitat with EC support, position themselves as facilitators between the demand and the supply of project finance. TAP - The Transformative Actions Program - be evolved to serve as a Climate Project Development Company. The link between projects – good, commercially viable projects - and investors requires a concerted effort and a company dedicated to investment-quality projects. For TAP the road to “evolve” to a “sustainable project development company” may be fraught with potholes. Finding finance experts that understand local governments was indicated as key to making an entity such as TAP work.
4. UN-Habitat advance a built environment/urban planning and resilience advocacy program to grow the opportunities of LED endeavor. A broader LED agenda would present a more integrated understanding of the LED concept and offer solutions to broader concerns. A suggested broader LED agenda includes: The development of LED future growth issues of green urban spatial planning, mixed-use development; the densification and retrofit of

the existing built environment. Phase 1 Project examples with broader potential are participation in the heritage improvement program in Bogor, Indonesia; the river and water body recovery programs in Recife and Fortaleza, Brazil and the decentralized wastewater treatment pilot in Rajkot, India; and the urban plan development in Panaji, India. How cities will grow in the future is an issue and unless the urban planning of cities takes on a low carbon and climate resilient development approach that addresses housing, mobility, land, local economic development and historic areas, among others, cities will stifle their growth.

B. National Engagement

1. National level partners and PAG members should play important roles in advocating LED methodologies based on national contexts. ICLEI and UN-Habitat methodologies and tools, reporting and accounting guidance and action initiatives should correspond to short, mid- and long-term actions. The CB27 in Brazil, Salga in South Africa, APEKSI in Indonesia, and Ministry of Urban Affairs in India were critical Project partners and represent a resource for the future.
2. ICLEI and UN-Habitat, National level partners and PAG members provide guidance on consolidating LED policies and strategies into national and regional programs, projects, green legislation, regulation and enforcement. The effort should also focus on creating financing and implementation support through a national Pool of Experts able to work with international counterparts. Innovation characterizes the implementation of LED Projects that requires follow-up, especially reviews of the new GPC reporting mechanism, the understanding of GHG metrics and accounting and the TAP finance program if they are to become habit and change behavior.

C. Local Engagement

3. ICLEI Country Teams support Model and Satellite City leaders to create a directory of national leaders, sources of finance for activities, staff and capital investments. The important role of national support for local actions makes a difference. The Directory is the link between levels of society. A working partnership with a local technical entity and/or university can provide the staff support and guidance and consolidate information on LED processes, results and projects in Project Notes.
4. The Urban-LEDS trained staff and partners, Country Project “champions” and staff be considered a resource benefit of the Project not to be lost after Project

completion. Urban-LEDS is a training effort for/with local entities that should not lose the expertise created. An example is the position created in Recife, Brazil for the Climate Change Manager. It was expected that cities create a governance structure that continue as inter-secretarial working groups or multi-stakeholders Committees on Climate Change.

5. Urban-LEDS Model Cities and other Satellite Cities be encouraged to establish LED resource offices that engage in outreach to other local governments and respond to requests for assistance; and create working groups of similar sized and interested cities. The working groups, with ICLEI support, can serve to increase staff size through cooperation to prepare projects, implement activities and monitor and evaluate initiatives. Working group meetings can be scheduled in a sequence and rhythm that the working groups establish to make it work.

D. Project Management

6. EC, ICLEI and UN-Habitat design follow-on and future Projects that integrates implementation of pilot activities identified in the strategies developed into the EAs. That would require that project design allocate time and resources to support strategy applications.
7. ICLEI and UN-Habitat recognize explicit geo-political differences and similarities for project design and include local mechanisms in guidelines and checklists as institutional memory and guidance.
8. UN-Habitat address explicitly housing, the usual orphan of development, calling out LED with respect to self-help actions, density technologies and local building materials markets, home furnishings and energy efficiency, home technologies and micro-finance mechanisms. A guidebook on "urban planning" for low emission development would be a contribution to the diversity of the LED concept and its activities.
9. Country Teams review existing, and identify future, staffing requirements for consolidation and follow-on projects that include staff levels and skills.



Decentralized Waste Water Treatment system in Rajkot India



The hotbox, an insulated passive cooker developed in South Africa

The challenge of LED will be how to address small industry and the informal sector such as this artisan potato chip factory in Rajkot. The fires are wood chips that spew out smoke and the work environment just plain unhealthy.



Annexes

Annex 1: Training offered by Urban-LEDS

III. Accelerate

II. Act

I. Analyze

The handbook "From strategy to delivery: Measuring, Reporting, Verification (MRV) of Urban Low Emission Development program" provides a description of each GCC step together with a list of resources, an MRV check, verification criteria and examples from the Urban-LEDS cities. Specific tools and guidance are referenced at every step of the process to facilitate its implementation. www.iclei.org/gcc [Free]

The Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) is the guiding protocol for local governments for greenhouse gas accounting at community level, ensuring that the results are Measurable, Reportable and Verifiable. It enables cities and communities to consistently measure and report GHG emissions and develop climate action plans. www.iclei.org/gpc [Free]

The Harmonized Emissions Analysis Tool plus (HEAT+) is ICLEI's online GHG emissions inventory tool, helping local governments calculate GHG emissions, Common Air Pollutants (CAP) and other Volatile Organic Compounds (VOC). It helps cities to: (i) record and forecast greenhouse gas emissions, (ii) to identify/review low emission development priority areas, and (iii) lay groundwork for informed decisions and formulate targeted action plans. <http://heat.iclei.org/> [Free]

GRIP is a scenario tool that supports the process of building sustainable future energy scenarios through facilitated dialogue and the engagement of stakeholders in a consensus driven way. www.sustainable-energy.org

The Solutions Gateway is an online platform providing guidance on Low Emission Development Solutions for local governments. By taking an integrated approach, proposed Solutions include information on the enabling and multiplying actions to optimize their effectiveness and generate synergies. www.solutions-gateway.org [Free]

The Financing Tool is a decision making map and financing tool database embedded in the Solutions Gateway, which supports local government users to explore possible financing options to realize their low emission development Strategies. www.solutions-gateway.org [Free]

The Pool of Experts is a global multi-disciplinary network of professionals with expertise on Low Emission Development and Local Governments – from strategies to technical sectoral expertise, to financing guidance and capacity building. It is free and open to recognized experts from business, industry, NGOs, research & academia, and all levels of government. <http://tinyurl.com/pool-of-experts> [Free]

The Transformative Actions Program (TAP) aims to support the development and implementation of climate projects by improving access to existing capital flows to cities and regions, catalyzing and accelerating additional capital flows, and maximizing investment in low-carbon and climate-resilient urban development and governance processes. www.tap-potential.org [Free]

Source: *Urban-LEDS: Cities in Action Final Report*

Annex 2: The TOR Final Evaluation Methodology

1. Interview relevant Project staff within UN-Habitat, ICLEI, and the EC, and review the ToR to identify and collect all necessary background materials required for the evaluation, and discuss the approach and evaluation methodology. Prepare short inception report.
2. Carry out a desktop review of Urban-LEDS materials. Review key program documents, outputs and deliverables, and relevant UN-Habitat-wide materials, including among others:
 - a) The Urban-LEDS Final Report now completed, GCC MRV Handbook, Urban-LEDS Country Team Project reports and materials.
 - b) Narrative Reports on progress of the Urban-LEDS Project
 - c) Urban LEDS Project website and online materials
 - d) Reference as useful Work Packages supporting the Urban-LEDS implementation
 - e) Minutes from Project Steering Group and Project Advisory Group meetings
3. Carry out an initial desk review of major Urban-LEDS outputs. Review key programme documents, outputs and deliverables, and relevant UN-Habitat and ICLEI materials, including:
 - Urban LEDS Project documents and cooperation agreements with ICLEI and the European Commission,
 - The 2012-13, 2013-14, 2014-2015 and 2015-2016 annual Narrative Reports on progress of the Urban-LEDS Project;
 - Major outputs related to all 7 Work Packages, including the "Definition of the Urban-LEDS concept" (Task 2.2); plus (when available) the draft version of the Final Public Project Report;
 - Urban LEDS Project website (www.urbanleds.org) and online materials;
 - Financial evaluations/reports available to date;
 - Minutes from Project Steering Group (PSC) and Project Advisory Group (PAG) meetings
 - UN-Habitat Strategic Plan 2014-19 and associated 2014-15 Work Programme.
 - Any other relevant material identified.
4. Interview relevant Project management of the UN-Habitat, ICLEI, and the EC to gain the perspective of the sponsors. A list of country contacts is prepared to confirm contact information. An announcement of the initiation of the Final Evaluation is to be made by ICLEI management to the Country Teams so that contact is cleared and supportive.
5. Gather information on Urban LEDS support to global processes and structures. This may include a visit to Bonn to meet with ICLEI Project management and review progress on the carbonn Climate Registry (cCR) and the Local Government Climate Roadmap; the evolution, accessibility and demand for the Solutions Gateway; and benefits from international meeting participation. Interviews with UN-Habitat project management will look at the impact of the Project on its global presence and participation in global events; its role and participation in the present Urban-LEDS Project; and an expanded role in a possible follow-on Project.
6. Interview selected Country Teams and local government leaders and stakeholders for their perspective on the Project - its successes, issues and lessons for a possible Phase 2. The set of persons interviewed will be more tightly focused than in the Interim Evaluation, but diligent efforts made to interview key persons. Stakeholders at the city-level, national level and international level will be identified with reference to persons interviewed in the Interim Evaluation (see Annex V of that document), supplemented by guidance from the Country Teams. Interviewees will be interviewed on-line and by Skype if possible. As relevant, the Country Team dialogues will determine how their activities have been documented to prepare a Project Record in Program Notes; to provide material to the Solutions Gateway; and to use in outreach and scaling up efforts.
7. Conduct strategic Missions to Bonn for consultations and an Urban-LEDS country to be mutually agreed upon as the Final Evaluation work evolves. The primary criteria for choosing a country to visit are that said country visit may: (i) hold especially interesting information on activities, methodologies and opportunities to scale up in a Phase 2 of the Project, (ii) shed light on the GreenClimateCities model from a perspective of the Guiding Principles for City Climate Action Planning, and (iii) provide additional documentation of results.
8. Assess the level of achievement of the Objective, the EA and two sub-EAs. Rate performance from 'highly satisfactory' to 'highly unsatisfactory' with reference to "Rating of Performance by Evaluation Criteria". Respond to "key issues" identified above (in Section C).

9. Develop conclusions and recommendations.
10. The Evaluator will establish contact with country program representatives identified by UN-Habitat and ICLEI evaluation supervisors. Local dialogue will be carried out to verify and validate useful data and information already gathered that to be requested by the Evaluator, as well as, clarify any and all issues and attitudes about the purpose of the Final Evaluation.
11. In response to comments received from ICLEI and UN-Habitat, prepare draft final report. (Expect more than one iteration to arrive at the draft final report.)
12. In response to comments received from the EC, along with any additional comments from ICLEI and UN-Habitat, prepare final report.
13. Along with representatives of ICLEI and UN-Habitat, visit Brussels for final debriefing with the EC

Annex 3: UN-Habitat Evaluation Criteria

(a) **Relevance.** The extent to which the objectives and implementation strategies of a development intervention are consistent with the organization's strategies and the requirements of beneficiaries, and also the extent to which they are responsive to the organization's corporate plan and human development priorities such as empowerment and gender equality. Also important is the extent to which a development initiative and its intended outputs and outcomes are consistent with national and local policies and priorities, and the needs of target beneficiaries.

(b) **Effectiveness.** A measure of the extent to which the initiative's intended results (outputs and outcomes) have been achieved or how likely they are to be achieved. In this context cost-effectiveness assesses whether or not the costs of an intervention/activity can be justified by the outcomes.

(c) **Efficiency.** A measure of how economically resources or inputs, such as funds, expertise and time, are converted to outputs/results. An initiative is efficient when it uses resources appropriately and economically to produce the desired outputs.

(d) **Impact.** The positive or negative changes produced by a development intervention, directly or indirectly, intended or unintended. Measuring the impact involves determining the effects of an activity on social, economic, environmental and other development indicators. Evaluation of impact is important because it generates useful information for decision-making and supports accountability for delivering results.

(e) **Sustainability.** The likelihood of an intervention to continue to deliver benefits for an extended period of time after donor funding or other form of external support is withdrawn. Interventions need to be environmentally, financially, socially and culturally sustainable.

Annex 4: Recife, Brazil GHG Reduction Measures:

The four sectors selected the following measures to reduce GHG emissions:

Transport: Impact Expected (tCO₂e/year)

1. LVT: 16.628
2. Navigability of Capibaribe River: 3.227 * from 2020 onwards
3. Biodiesel Buses: 264.500 *from 2030
4. Replacement of Gasoline for Ethanol in the Municipal Administration Fleet: 1.070 *in 2020
5. BRT System East-West/North-South: 62.500
6. Extension of cycle lanes: 30.880 *from 2015
7. Bike Sharing Scheme: 658 *from 2015
8. Campaign for replacement of gasoline for ethanol: 326.545 * from 2030

Energy: Impact Expected (tCO₂e/year)

1. Retrofit in the public lighting system: 7.076 *from 2030
2. Procurement of 2.150 Kwp in solar panels for public buildings: 361 *from 2015
3. LED lighting in public and commercial buildings: 20.838 *from 2030
4. Energy Efficiency in residential and commercial buildings: 4.609 * from 2030

Waste: Impact Expected (tCO₂e/year)

1. Recycling Increase: 78.247 * in 2030
2. Composting: 72.084 *in 2030
3. Biogas Capture: 180.673 *in 2017
4. Waste to energy: 417.864 *in 2030

The four sectors selected the measures to reduce GHG emissions in different time frames: by 2017, 2020 and 2037/2040

Annex 5: Global Engagement and results in the Urban-LEDS Brazil Project

National Front of Mayors (FNP): In June 2015 ICLEI mediated an invitation to FNP President and Mayor of Urban LEDS Satellite City Belo Horizonte, Marcio Lacerda, to participate in the workshop "Modern Slavery and Climate Change: The Commitment of the Cities" in the Vatican. 6 Brazilian Mayors attended the event (including Urban LEDS Satellite Cities Belo Horizonte, Porto Alegre and Curitiba) and ICLEI supported FNP in the organization of a declaration of Brazilian Mayors in response the call from Pope Francis, this was the first time FNP issued a position about the climate agenda. Following this event, Mayor Lacerda in his role as FNP president was a relevant political leadership for the mobilization of voluntary commitments from 38 Brazilian Mayors to the Compact of Mayors, and FNP engaged in several meetings with the National Government towards COP21, leading to the first official preparatory meeting by the Ministry of External Relations exclusively dedicated to local and subnational governments in November 2015, as well as a side event for Mayors at the Brazilian Embassy during COP 21, when Mayor Lacerda delivered a position document from Brazilian Mayors co-signed by FNP, ICLEI, CB27, ANAMMA and FONARI to Minister of Environment Izabela Teixeira. The document included references to the role of cities in strategies to face climate change, to what Brazilian Cities were already implementing, to pledges at COP21, to pledges for a revision of the governance mechanisms of the climate change policy in Brazil, and for more access to capacity building and financing mechanisms.

Group of 27 Secretaries of Environment of State Capital Municipalities in Brazil, CB27: Through participation of ICLEI in the meetings of the Forum and joint events, the project supported capacity building and dissemination of experiences of the model cities. CB27 leads a discussion on the support from the non-reimbursable line of the Climate Fund for GHG inventories of cities and has obtained the commitment of the Ministry for Environment to seek this in the next funding round. An offer of technical support to scale up the use of GCC is under negotiation.

Sustainable Cities Program, Nossa São Paulo Movement: The civil society movement to propose commitments from mayoral candidates with a series of sustainability indicators included GHG emissions as na indicator and is now working with ICLEI SAMS on a guidance publication on climate mitigation and adaptation to committed cities.

National Association of Municipal Environmental Departments, ANAMMA: In 2015, a partnership was also established with ANAMMA, including information sharing, position building and a goal to seek opportunities to support Municipalities in sustainability agendas, including climate change. Beyond supporting positions from Brazilian cities towards COP21 in coordination with ICLEI and FNP, ANAMMA included climate change agenda in their portfolio of 5 main claims to the Ministry of Environment, presented by ICLEI in meeting with the Secretariat of Institutional Articulation and Environmental Citizenship in the Ministry of Environment. ANAMMA also carries a formal role of representing Municipalities at the Council of the National Environment System (CONAMA/SISNAMA). Prior to this, ANAMMA had never discussed the climate change agenda.

Department of Federative Matters of the Secretariat of Brazilian Government (SAF): As a result of a dialogue opened through the project, a roundtable was added and ICLEI SAMS was invited to present the cities perspectives in the climate negotiations at a seminar hosted by the Department on 4-5 May 2015 on city participation on the post-2015 agenda. SAF is presently still working on a proposal for municipalization of SDGs in Brazil and ICLEI continues to explore synergies with such governmental initiative. Ministry of Science, Technology and Innovation (MCTI): MCTI is the national counterpart to the Global Environmental Facility for Sustainable Cities in Brazil, which selected as beneficiary cities the Federal District and the Municipality of Recife, Urban LEDS model city. Project draft included several activities on climate change.

Ministry of Cities: Responsible for urban development policies in Brazil, the Ministry of Cities was targeted in the period as a key stakeholder at the national level for scaling up Urban LEDS experiences. A representative was invited through Project Urban LEDS to participate in the LEDS Global Partnership regional workshop for Latin America, held from 12-15 October 2015, along with a representative of the Ministry of Environment and of Urban LEDS model city Recife. During the event, the Ministry of Cities showed particular interest in the ISOCARP proposal for low emission development zoning and additional meetings continued to explore synergies. A joint project was designed for the development of key sustainable aspects to be promoted for Brazilian Cities as part of the new urban agenda and mechanisms of incentive. The project is currently seeking funding.

Source: Urban-LEDS Brazil Program report to this evaluator

Annex 6: Partnerships Created in Urban-LEDS

The following partnerships illustrate the extent Urban-LEDS created working relationships to advance LED.

Brazil: ICLEI South America Secretariat (ICLEI SAMS)

The current national government approach is not yet fully supportive of coordination of policies with local level governments and to promotion of local policies for climate change mitigation. Nevertheless, a number of relevant channels are being explored for collaboration, with different structures of the Brazilian national government as well as through strengthened cooperation with other Brazilian city networks, as outlined below.

The **National Project Advisory Group (PAG)** held its first meeting in November 2014 during the *I National Journey on Cities and Climate Change: 5th meeting of CB27 and Project Urban LEDS*. The **CB27 (Group of 27 Capital Cities of States of Brazil)** is a potentially strong partner representing the 27 capital cities of Brazil, closely observing the Urban-LEDS project for potential replication. At this event the representative of the **Ministry for External Relations** reiterated that Brazil did not intend to present any further NAMAs to the UNFCCC and encouraged the team to pursue alternative options related to national level policies.

City representatives highlighted the importance of The **National Ministry of Environment** expressed the importance of action in cities. The Ministry sent 3 representatives to the *I National Journey on Cities and Climate Change: 5th meeting of CB27 and Project Urban LEDS*. Here Model Cities were given the floor calling for support from the national government. The result is an exploration by the Ministry with Recife regarding a pilot communications and awareness raising campaign for citizens on climate change. The Ministry established an Inter-ministerial team to build the National Adaptation Plan which includes adaptation at city level as one of the priorities.

The **Brazilian Forum on Climate Change** is a multi-stakeholder institution chaired by the Brazilian President. Its purpose is to advise national policy on climate change. ICLEI SAMS is a member and participates in Forum meetings to stress the importance of coordination of policies between all levels of government and inform about the Urban-LEDS project in Brazil.

Climate Fund (managed by Ministry of Environment): During the *National Journey* held in Belo Horizonte, the Climate

Fund representative clarified the rules for cities to access the grant portfolio. The process is highly bureaucratic, and rules do not support easy access.

Department of Federative Matters of the Presidency of the Republic: In early March 2014 a meeting was held the Department to explore potential collaboration in influencing the external Brazilian position, similar to the department's current engagement in the context of the SDG negotiations. As a result, ICLEI SAMS was invited to present the cities perspectives in the climate negotiations at a seminar the Department will host in May 2015 on city participation on the post-2015 agenda.

In the light of these developments, engagement with national city-networks and opinion leaders continue to explore avenues for city engagement in national policies, and options for scaling up actions. ICLEI SAMS is currently negotiating an MoU through Project Urban LEDS to offer technical support and access to tools to **CB27 cities** which have joined the Local Government Climate Roadmap and committed to actions by COP21 in the Belo Horizonte letter - a direct result of the Journey held in November 2014. This has huge potential to scale up mitigation at the local level. Additional agreements with the **National Front of Mayors** and the **National Association of Municipal Environmental Departments** are also being explored.

The **State of Pernambuco** has expressed its intent in supporting a phase 2 of the Urban LEDS program in the state; based on work being undertaken in the project in Recife.

South Africa: ICLEI Africa Secretariat (ICLEI AS)

The major national government partnership is with the South African **Department of Environmental Affairs (DEA)**. The focus of engagement has been through the Monitoring and Evaluation Unit of DEA. Through negotiations enabled by the Urban-LEDS project team, ICLEI has managed to secure a strong role for the carbonn Climate Registry (cCR) in the evolving climate change national Monitoring and Evaluation (M&E) system for all government levels. The system is the first of its kind in attempting vertically integrated reporting, using the cCR as the main reporting platform for sub- national government as part of the system. The focus is on action-level reporting.

ICLEI is currently representing Urban-LEDS and the cCR at a series of Provincial roadshows where the M&E system is being profiled and disseminated to sub-national governments. The

first engagement took place on 29 January 2015 in KwaZulu Natal. The cCR example of Model City KwaDukuza was showcased here. The second roadshow in Gauteng Province took place on 26-27 February 2015. This engagement saw Mogale, a Satellite City attend. A third event in Eastern Cape (home of Urban-LEDS city Nelson Mandela Bay) is scheduled for 10-11 March 2015, with a further 6 events planned in early 2015. Urban-LEDS is therefore enabling, in part, a national innovative vertically integrated M&E system to emerge in South Africa. Full implementation of this system is planned by 2017.

India: ICLEI South Asia Secretariat (ICLEI SAS)

Staff from ICLEI South Asia and Thane city participated in the “**Better Air Quality – 8th Regional Environmental Forum for Sustainable Transport**” conference held in Colombo, Sri Lanka – where the Urban LEDS initiative was presented by Thane Municipal Corporation. Understanding the inter-connections between the transport sector, health and climate change mitigation actions is critical for the city-level, as policies and actions in one area can affect the other. This underpins the integrated approach taken by the Urban-LEDS project, showing the range of local benefits from climate change mitigation action.

The **Gujarat State Government** has requested for and expressed its intent in supporting a phase 2 of the Urban LEDS program in the state; based on work being undertaken in the project in Rajkot city in Gujarat State.

The **Ministry for Urban Development** and the **Ministry of Environment Forests & Climate Change** are kept informed of project progress during regular meetings with them. With the new government in place contacts are being established to follow up previous discussions on the role of

local governments in addressing low emission development. Emani Kumar, Deputy Secretary General from ICLEI and Executive Director ICLEI SAS is part of the steering committee of the **Asia LEDS partnership**. This forum is regularly used to disseminate results of the Urban LEDS program in India and in other implementation countries.

For Indonesia: ICLEI Southeast Asia (ICLEI SEAS)

For the first two years of the Urban-LEDS project implementation, the country team had a very strong relationship with the **Indonesian National Climate Change Council** and its policy/science branch, the **Indonesian Centre for Climate Change (ICCC)**. The CEO of the ICCC is also Chair of the Project Advisory Group (PAG). ICCC and ICLEI made good progress in planning and designing an MRV mechanism which would enable cities to report their greenhouse gas emissions to the national GHG accounting system. The ICLEI-ICCC partnership also resulted in the signing of an MoU with the **National Chamber of Industry and Commerce (Kadin)** with plans to collaborate on identifying financing options for city actions.

However, since the inauguration of the new President of Indonesia in October 2014, there has been a comprehensive restructuring of key ministries and national agencies. Among others, this resulted in the merger of the **Ministries of Environment and Forestry** and the closure of the National Climate Change Council. Thus, the country team has lost its most significant national partner, at least in the short term. It is expected that the new supporting structures and agencies will be established later in 2015 when ICLEI will seek to re-establish a productive relationship. Currently it is not clear whether it will be possible to progress on the MRV components of the Urban-LEDS project, but city level activities continue uninterrupted.

Annex 7: Budget Expenditures

The following explanation of the Urban-LEDS Budget expenditures was provided by Katharina Rossberg, Head of Administration and Human Resources/ICLEI

Overview on funding spent

- The total Urban-LEDS budget provided by the European Commission is 6,700,000 Euros.
- According to the agreements made, ICLEI received 5,308,584€ to date. Out of this sum 3,213,797 Euros went to four ICLEI Regional Secretariats addressing in-country support in the 4 target countries and 185,271.12 Euros to the ICLEI European Secretariat. The ICLEI World Secretariat received the rest, amounting to 1,909,516 Euros.
- The final tranche of 159,789.61€ is still outstanding and shall be transferred to ICLEI upon project closure and final transfer by the EC.
- UN-Habitat received 1,231,626.40 Euros.

Budget set-up

- The Urban-LEDS budget process was that ICLEI had set up the original budget which was then confirmed by the European Commission.
- UN-Habitat, the main contract partner to the EC, confirmed this budget with minor modifications and confirmed most of it to be managed and spent by ICLEI.
- ICLEI then sent payment requests to UN-Habitat for the transfer of the allocated budget in tranches as per the signed agreements.

The Urban LEDS project is split into different (contractual) Phases (Phases I to III) between UN-Habitat and ICLEI. Although the total budget and duration of the project have been agreed to at the beginning of the project, ICLEI receives contracts (or to be more specific contract amendments) for the separate phases identified. The ICLEI World Secretariat coordinated the project in this way - and also worked with its Regional Offices using this system.

Each Phase is linked to a specific budget and tasks linked to the work, as part of the overall work plan.

Phase I started on 1 March 2012 and ended on 30 April 2014, when the ICLEI World Secretariat had spent all the funds for Phase I and respective tasks were implemented. As the Regional Offices were at different points of their

project implementation and related spending, and all partners wanted a reference date for accounting and being able to start the new phase, the decision was taken that for Regional Offices, Phase I would end on 31 Dec 2013 and remaining funds from this phase – for the Regional Offices - were allocated to Phase II (meaning that costs of this value would still be covered by funds from Phase I).

Phase II followed a similar process. It started on 1 January 2014 and ended on 31 March 2015 for the Regional Offices. Phase III thus officially started on 1 April 2015 (for the Regional Offices) and ended on 31 March 2016 with the end of the project. For the World Secretariat Phase II started on 19 February 2014 and ended on 30 April 2015, Phase III started on 1 December 2014 and ended with the end of the project on 31 March 2016.

The financial accounting has been finalized for the World Secretariat and all involved Regional Offices. As of 26 September 2016, the final tranche for ICLEI in the amount of 159,789.61€ to be transferred with the project closure, is still outstanding.

The World Secretariat provided the four country programs relatively similar amounts with which to work. In the course of the project, the decision was made to shift attributed budget from Brazil and the World Secretariat to Africa as Brazil did not spend its attributed budget due to the positive development of the exchange rate as well as difficulties in signing an agreement with IADB. At the same time beneficial investment opportunities presented themselves in Africa. The total shift amounted to 130.000€ out of which 112.314€ were redistributed from Brazil to Africa and the rest was financed through the WS.

According to ICLEI's financial controlling:

- Africa therefore received and spent the most with a budget of 978,002€
- followed by Brazil with 837,000€,
- India with 753,717€ and
- Indonesia with 645,076€.

All Regional Offices/country programs thus stayed within the initially planned budget. According to ICLEI's financial controlling:

- Africa underspent its revised budget (including the received additional 130.000€) by 479.67€
- Brazil underspent its revised budget by 118,072€. As this excessive underspending was predicted, the

final tranche was not transferred but redistributes (to Africa), resulting in a final underspending of only 5,758.41€.

- India underspent its budget by 106€.
- Indonesia underspent its budget by 71,560€ due to the non-utilization of implementation budget by the satellite cities. This was mainly due to the very long and complicated political processes in satellite cities, which meant that the process could not be finalized within the project duration.

Expenditures were tracked in four categories as shown in the following table. Subcontracts/Grants to Institutions is the Implementation Budget, which contains staff costs as well as costs for implementation in cities, studies, research and assessment, audits, institutional support and trainings. The Training/Workshops and Seminars category is actually the travel budget where all flights, per diems and other related travel expenses go in, as well as costs for visibility actions (website development, etc).

Urban-LEDS Program Expenditures

World Secretariat

Subcontracts/Grants to Institutions.....	1,725,884.09
Training/Workshops and Seminars.....	229,742.03
Equipment and Furniture	5,890.29
Miscellaneous	107,789.16
Operating Expenses Total	2,069,305.57
Personnel Costs	1,131,114.56
Other OE	938,191.01

Brazil/SAMS

Subcontracts/Grants to Institutions.....	694,030.81
Training/Workshops and Seminars.....	126,999.61
Equipment and Furniture	4,533.96
Miscellaneous	11,436.05

Pilot Projects

Pilot projects in Model cities.....	129,088.84
Pilot Projects in Satellite Cities	96,856.73

Operating Expenses

Personnel Costs	364,346.59
Other OE	246,708.26

India/SA

Subcontracts/Grants to Institutions.....	604,395.77
Training/Workshops and Seminars.....	132,186.35
Equipment and Furniture	3,227.54
Miscellaneous	13,907.84

Pilot Projects

Pilot Projects in Model Cities	295,825.66
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Operating Expenses

Personnel Costs	275,013.79
Other OE	182,878.04

Indonesia/SEA

Subcontracts/Grants to Institutions.....	522,499.45
Training/Workshops and Seminars.....	108,957.84
Equipment and Furniture	4,500.36
Miscellaneous	9,121.03

Pilot Projects

Pilot Projects in Model Cities	187,544.70
Pilot Projects in Satellite Cities	611.32

Operating Expenses

Personnel Costs	297,460.60
Other OE	159,460.06

South Africa/AS

Subcontracts/Grants to Institutions.....	848,854.51
Training/Workshops and Seminars.....	116,872.17
Equipment and Furniture	4,471.76
Miscellaneous	7,803.90

Pilot Projects

Pilot Projects in Model Cities	226,586.26
Pilot Projects in Satellite Cities	155,962.77

Operating Expenses

Personnel Costs	361,422.87
Other OE	234,030.45

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HS Number: HS/000/000

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