



From strategy to delivery:

Measuring, Reporting, Verification (MRV) of Urban Low Emission Development

ICLEI's GreenClimateCities Handbook for Local Governments

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We warmly thank UN-Habitat for partnering with us on the Urban LEDES project – a great journey that resulted in this handbook and many other great resources.

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Foreword

Following the Paris Agreement of the COP 21, 2016 sees the start of a new era where climate action is accelerated, coordinated and properly financed.

Action is needed in all areas, by many actors. It is clear that local climate action in cities, metropolises, towns and districts around the globe is critical in this endeavor, to ensure bottom-up results are achieved, that in turn support national and global objectives. Yet we also know that local governments cannot do this alone, they need support and engagement from all levels of government, as well as the private sector.

This GreenClimateCities handbook was specifically developed for local governments – as the level of government that works closely with local communities, with citizens, as well as with local business and industry. It was compiled by a multi-disciplinary team of experts who have worked with local governments around the globe and who understand the complexities in creating a low emission development pathway for a whole community, across multiple sectors, working with huge numbers of stakeholders.

Guidance provided here can be used in cities of all shapes and sizes, in any part of the world, at any level of development.

This handbook aims to guide the local government's approach to effectively address climate change, with a strong focus on mitigation. Yet, it can also be used for integrated sustainable development, stimulating the local green economy, and many other topics, using climate action as an entry point.

We hope to stimulate confidence among local leaders, who are called on to engage and help define the urban low emissions development pathway with their municipal staff, citizens, businesses and industries. This needs to be a joint effort under inspired leadership.

The handbook can also help to enhance the understanding of key partners of the role of local governments, especially national governments. The guidance offered here can easily connect to national processes to show how local climate action is (or can be) connected to the Nationally Determined Contributions (NDCs), potentially even to help raise the level of ambition.

With the adoption of the Paris Agreement in December 2015 at the climate COP21 (21st Conference of the Parties), national governments have committed to strive to limit the temperature increase to 1.5 degrees Celsius (°C) above pre-industrial levels. Their Intended Nationally Determined Contributions (INDCs) - starting as a promise - should now form the foundation of the respective countries' climate and development strategies and action plans in the post-2015 period.

This is the perfect time to (re)explore effective vertical and horizontal integration between all levels of government, discovering together how to better coordinate, communicate, plan, implement, monitor and report with and to each other. This directly connects to the process for Measuring, Reporting, Verification (MRV) of local climate action, as outlined in this handbook. The GCC MRV guidance can freely be used by local governments in any country, helping to track developments – ideally easily docking onto national processes and reporting.

I wish all local governments success in applying this GCC guidance when analyzing, acting and accelerating low emission development in their communities. I encourage you to show leadership, foresight, determination and perseverance. From strategy to delivery, wishing you a successful journey!

Maryke van Staden

Manager of ICLEI's Low Carbon City Agenda

ICLEI's international coordinator of the Urban-LEDS project

1. Introducing the GreenClimateCities program

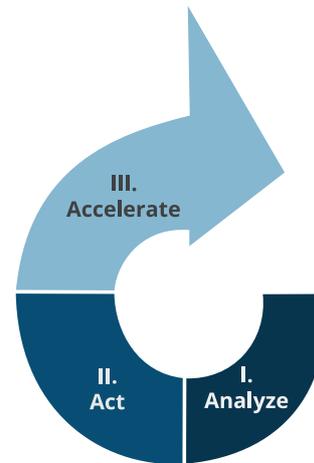
This document addresses local decision-makers and municipal staff who are involved in leading, planning, implementing, monitoring and communicating urban low emission development.

The GreenClimateCities (GCC) program provides a comprehensive *process methodology and framework* to guide and support local governments in defining, adopting and embedding a Low Emission Development (LED)¹ pathway - helping to bring together people, policy, finance and technology to shape the transition. The aim of the program is to guide the integration of this pathway into existing urban development policies, municipal strategies, plans and processes, and to develop new elements should these be necessary.

The success factors of such an approach: it should be locally driven, cross-sectoral, evidence-based and following an inclusive approach.

The GCC program, designed by ICLEI and building on more than two decades of experience, helps local communities address challenges and explore opportunities when tackling climate change, dealing with urban and economic sustainable growth, enhancing their green economy, and redefining their green infrastructure. It can be used by any local government, regardless of its location, the size of its community, the level of development, or its experience in addressing climate change mitigation.

This logical GCC process is linked to a simple *tailor-made process* for Measuring, Reporting and Verification (MRV) for local government to demonstrate to its council, community, partners and funders - in a transparent and credible way - its capacity, institutional commitment, and results achieved in terms of climate change mitigation and other sustainable development benefits.



1.1 Why the GCC?

Local climate and energy action is proceeding across many cities and towns. However, this is in many cases not coherently planned or managed, but rather dealt with on an ad hoc basis and where capacity is available. Thus, it is difficult to ensure impact, continuity and to track progress.

Moving from ad hoc to a comprehensive coherent approach, the GCC framework and its associated MRV process can be used by any local government to:

- **develop** institutional capacity for Low Emission Development;
- **enhance** the understanding of local potentials, strengths and challenges;
- **create** (or adapt) processes and structures to integrate Low Emission Development into urban planning, policies and projects, across municipal departments and sectors;
- **engage** and empower stakeholders in a meaningful, inclusive way;
- **approve** an effective strategy to meet objectives and targets;
- **strengthen** enabling conditions by adopting/adapting policies and regulations;
- **introduce** mechanisms for delivery of programs and projects over time;
- **improve** monitoring and reporting capacity; and
- **demonstrate** results and progress in a transparent and credible way.

¹ Not to be confused with light-emitting diodes (LEDs), a low emission development (LED) includes the use of LEDs.



GCC work session during Urban-LEDS 2nd International Networking Seminar in Bogor, Indonesia, May 2015

The uniqueness of the GreenClimateCities process

Developed and tested in different regions in various sized cities, building on more than 2 decades of experience, conceptualized as an a-political process, it aims to benefit the local community now but also beyond the current political cycle, by:

- **applying** a “climate” or “low emission development” lens to all municipal activities and initiatives
- **establishing** broad stakeholder buy-in
- **achieving** early tangible benefits through pilot projects and collecting “low-hanging fruit”
- **developing** a robust, politically-neutral approach that addresses a global challenge² (acting in partnership)
- **framing** and connecting local efforts to the follow-up of the Paris Agreement and national commitments (Nationally Determined Contributions - NDCs)

What is MRV?

Measuring, Reporting, Verification

- ✓ The term “Measuring, Reporting, Verification (MRV)” was coined in the Bali Action Plan of COP13 in 2007³, introducing the principle for both developed and developing countries in the context of enhancing climate change mitigation action at the national and international level.
- ✓ *Measuring – monitor, quantify and track progress*
- ✓ *Reporting – record and state progress publicly to inform and provide transparency*
- ✓ *Verification – confirmation of developments and an impartial check for accuracy*

² Tackling climate change is a priority, as per conclusion of the COP 21 on 12 December 2015. The final wording of the Paris Agreement was adopted by consensus by all 195 UNFCCC participating member states and the European Union - <http://www.cop21.gouv.fr/>

³ <http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf>

1.2 Exploring MRV – what and why

By implementing the Measuring, Reporting, Verification (MRV) approach of the GCC process, local governments can benefit in various ways, at different levels.

At national level:

- **Support the Nationally Determined Contributions:** By following a simple, objective and practical MRV process, the local government can present its plan and progress to the next level of government, showing how it contributes to national targets (this can help determine whether these are part of or “on top of” the ambitions of the NDCs).
- **Ensure vertically integrated action and reporting:** Each level of government has a specific mandate and responsibility. To coordinate effectively, the local MRV process can directly feed into national processes, also showing coherency between local and national plans and impacts.
- **Attract national and international funds:** Prove with MRV’ed data that policies and projects are in place, effective and lead to GHG emission reductions and other impacts.

At local level:

- **Track impacts and benefits of local climate action:** on the economy, environment, society, etc, as affirmation that the pathway is correct or signaling a need for correction.
- **Increase transparency of local action:** By recording its targets, and reporting activities and performance of GHG inventories, the local government shares progress publicly, ensuring information is provided to key stakeholders, showing the strategy is in place and the approach leads to results.
- **Increase credibility of local action:** By following the latest standard for accounting and reporting, namely the Global Protocol for Community-scale GHG Emissions Inventories (GPC) and by publicly reporting, e.g. on the carbonn Climate Registry, a local government can show its compliance and be transparent, thereby giving confidence in its plans, actions and reported results.
- **Identify good practice:** Determine where specific successes are achieved (pin-point the value i.e. the “benefits”) and explore replication in other areas.
- **Create an enabling environment:** Many policies that contribute to the coherence and effectiveness of a climate action plan or Urban LEDES do not necessarily have a direct linear impact on GHG reductions. Yet, these are essential to create enabling conditions for their delivery (e.g. capacity-building, improvement of administrative procedures, awareness raising, regulation, etc. will have impacts on institutional capacity, consumer behavior, market development. The GCC MRV tracks such activities and helps identify gaps.



Opening session during Urban-LEDS 2nd International Networking Seminar in Bogor, Indonesia, May 2015

1.3 The GCC approach in brief

The GCC⁴ process methodology is essentially a management system process. In a nutshell, it follows three logical Phases:

- **“Analyze”** (commit, explore where you are, assess what impacts on you);
- **“Act”** (plan, implement, monitor and report), and
- **“Accelerate”** (show your successes, optimize the approach and scale up).

It is similar to Environmental Management Systems ISO 14001 or Energy Management Systems ISO 50001⁵. As such, it outlines a process which is *robust*, but which also offers ample *flexibility* for the user - in this case the local government - to adjust its implementation depending on local circumstances and context.

Linking phases to reality: the GCC process is conceptualized to explore reality in a structured approach, to explore improved synergies and coordination of climate action, to achieve results.

It does not prescribe. It guides. The GCC process methodology is *not necessarily linear*, but does recommend an approach that is logical for the local government (which may engage at any stage of the process). Whether you are just starting or are already an advanced city in terms of low emission development, the GCC program has something to offer you.

In parallel, the GCC MRV process however does *require* certain management actions and outputs. These are kept simple and useful to ease the burden of reporting, yet also to ensure transparency and credibility. Following the GCC framework and its MRV process give assurance that the implementation of the Urban Low Emission Development process meets the quality criteria defined.

Local governments interested in joining ICLEI’s GCC program should contact the relevant ICLEI office⁶ in their region to obtain details on how to engage in the GCC program. This handbook is however free for use by any local government, also those who do not wish to join the GCC program.

MRV developed in the Urban-LEDS project



As part of the Urban-LEDS project, 8 Model Cities in emerging economy countries were supported with their Urban Low Emission Development Strategies using the GCC methodology. They provided input into this guidance, helping to ensure that a generic approach is relevant to any city or town.

4 <http://www.iclei.org/gcc>

5 <http://www.iso.org/iso/home/standards/management-standards>

6 <http://www.iclei.org/contacts>

1.4 How to use this handbook

The methodology is presented in three phases – “Analyze”, “Act”, and “Accelerate” - each unfolding into three steps, in turn detailing guidance in 3 sub-steps. The sub-steps provide a level of detail that helps progress on specific crucial elements. Guidance is generic enough to make it useful in any context, yet specific enough to define actions needed to progress.

Note that the GCC process was developed as a reiterative approach, with each completed cycle showing progress made, but also by starting the process again, to further enhance, improve and re-explore new ways of refining and scaling up.

For each step you will find:

- Each phase provides a simple overview of the *aim and primary outcomes* of that phase.
- *A brief description.*
- *A list of resources* to support implementation. These may be used, as needed and are not mandatory. Not all resources are provided free of charge. Where direct links are not made available, please contact ICLEI (these are normally exclusively offered to local governments that have joined ICLEI’s GCC program).
- *An MRV box* which indicates required actions (“**Measures**”) and deliverables (“**Reporting material**”) for each step of the GreenClimateCities process.
 - Measures using the operative word “**should**” are required actions that must be successfully implemented in order for the step to be considered completed under the GCC program.
 - The term “**may**” indicates recommended actions, where its completion is not required, but suggested to enhance results.
- *Verification criteria* are provided for the local government’s self-evaluation or for a third party verifier to ensure the successful completion of the GCC required actions and deliverables.

Underpinning the GCC’s **flexible approach**, this guide does not indicate a strict sequence for the implementation of the GCC steps. Local governments engage in some GCC steps in parallel or in a different order non-linear supporting a long-term cyclical approach.

Underpinning **cross-cutting** aspects, there are certain tasks which are relevant throughout the entire process. The timing of some tasks may depend on the local culture and processes. As you work through the process you may discover issues which were not identified initially, therefore requiring that certain decisions be revisited and reviewed at key points. The aim is to ensure that the support structures for climate planning are in place.

Below is a **simple process checklist** that can support you in identifying optimal timing for activities. It is recommended that this list be revisited at the end of each phase:

1.5 GCC process checklist - check per phase:

<i>Categories</i>	<i>Questions</i>	<i>Yes /No</i>	<i>Comments</i>
<i>Core team</i>	<ul style="list-style-type: none"> Do you have the most relevant departmental / sectoral representatives included in your core team? The people who lead and drive the process. Do you need to invite additional individuals in case of changed circumstances? 		
<i>Information flow</i>	<ul style="list-style-type: none"> Is the level and quality of information provided to the local leaders adequate to ensure informed decision-making? Are senior staff in all municipal departments informed about the process? Are all staff informed of progress and their roles in the process? Is there new information, or a better understanding of climate issues or elements impacting on the process, which should be communicated? If so, to whom, how and when? 		
<i>Capacity building</i>	<ul style="list-style-type: none"> Is capacity development of decision-makers needed on any topic to ensure they can engage, lead and guide? Is staff capacity building necessary to successfully complete this phase? 		
<i>External stakeholders</i>	<ul style="list-style-type: none"> Have relevant key stakeholders been identified and invited to participate? Is the process of engagement clear and in place? 		
<i>Consultation</i>	<ul style="list-style-type: none"> Have you reached a point where you need to consult more widely or address a particular group(s) before moving to the next phase? 		
<i>Communication</i>	<ul style="list-style-type: none"> What main messages need to be shared and with whom? 		
<i>Reporting</i>	<ul style="list-style-type: none"> Is it time to report back to the Mayor, Council or management? Do key stakeholders need specific reports? Has public reporting been dealt with? 		
<i>Leadership</i>	<ul style="list-style-type: none"> Who is your “champion” in the Council? In the municipality? Do you have the full support from the Mayor, the Council and Heads of Departments? If not, do you know why not and how to address this? Who else can support and champion you in specific forums? 		

An explanation of the **key terms** used throughout this guide can be found in Appendix 1. All documents referenced are listed in the **references** section, and relevant weblinks are provided in the footnotes.



Coastline in Fortaleza, one of the Brazilian Urban-LEDS Model cities

2. Guidance on the GreenClimateCities process

PHASE I: *Analyze*

“What is my starting point? What are my main challenges, barriers, and opportunities?”

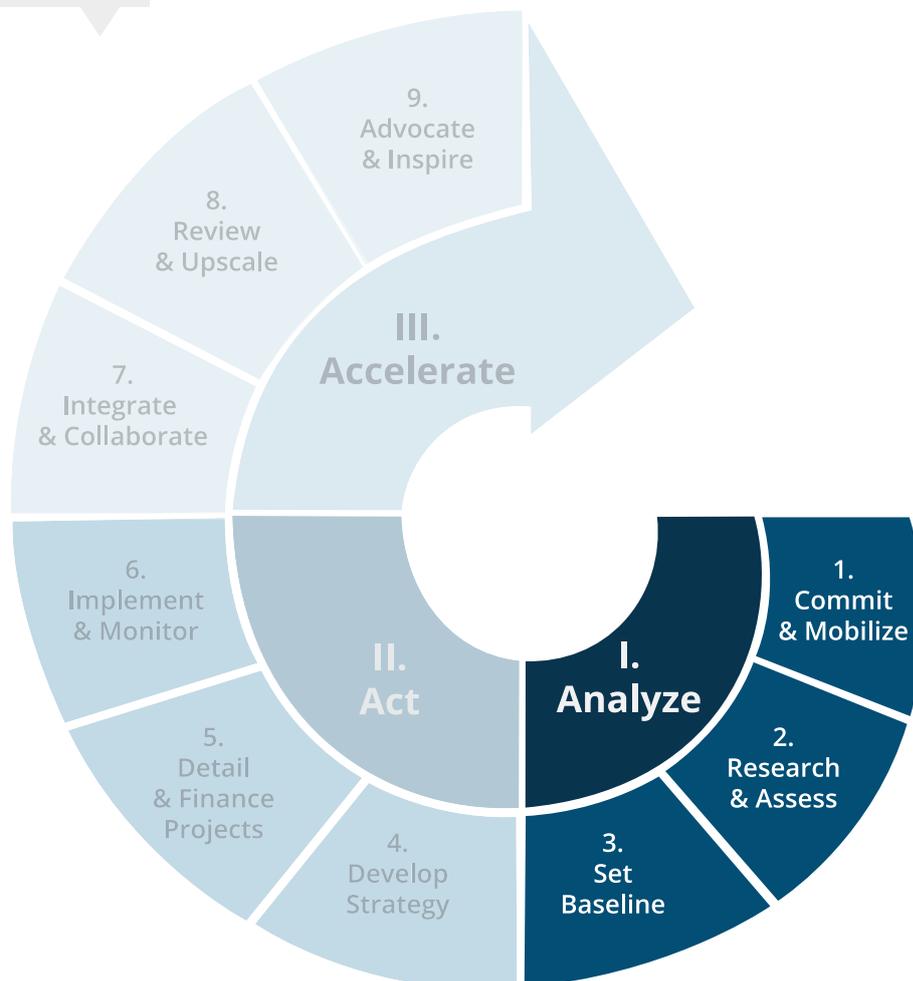
Do I have the overview of available skills-sets?”

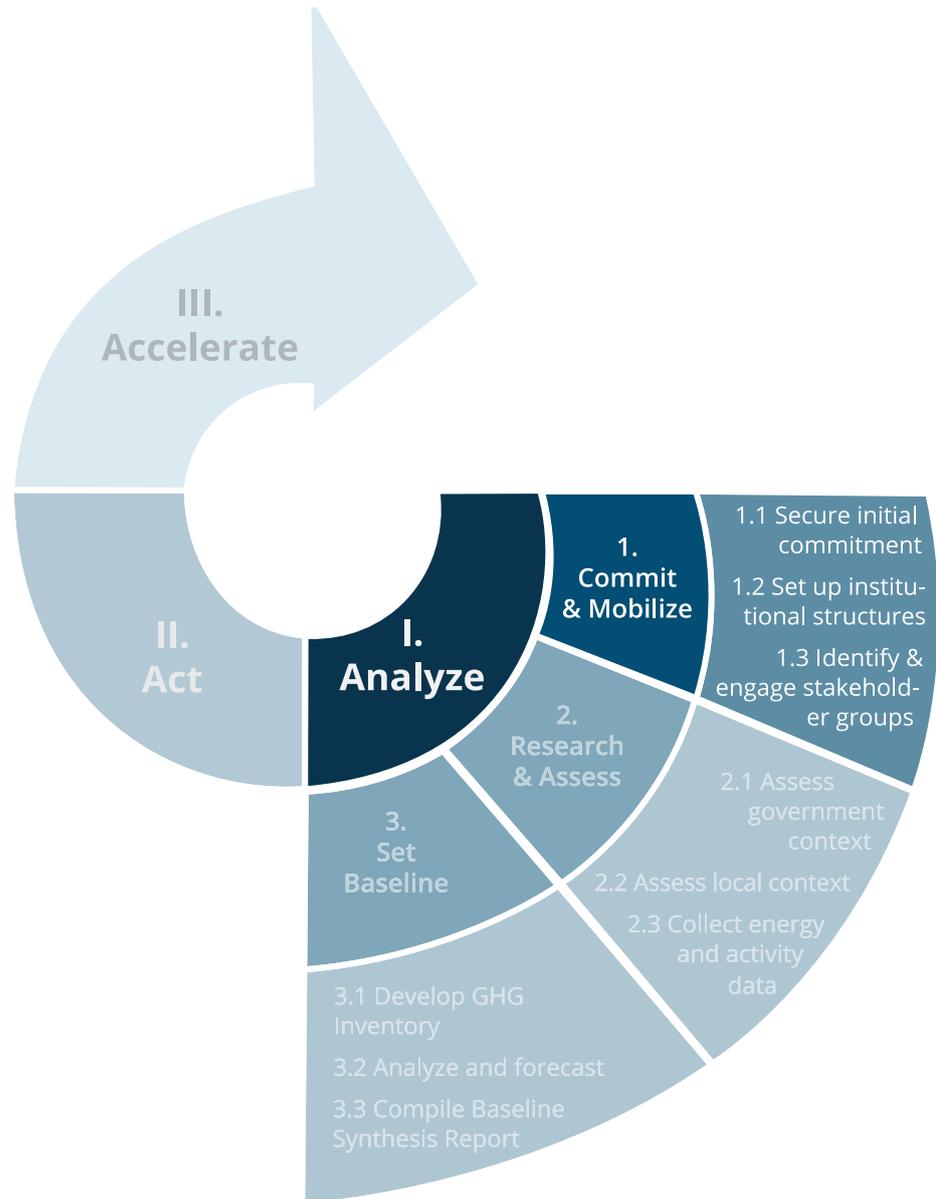
Aim:

- The Analyze Phase informs policy and strategic decision-making at the start of the process (or when starting a new cycle).

Primary Outcomes:

- Local government political commitment to the process of Low Emission Development (LED) for the local community and its own local government operations.
- Process buy-in by key actors within the local government, community and other relevant levels of government.
- A clear understanding of the current local situation, constraints and capabilities within the wider national, regional and international framework, also of expected future trends should there be no Low Emission Development Strategy.



STEP 1: Commit & Mobilize*Primary Outcomes:*

- The local government is publically committed to the strategic direction, acknowledging its importance and starts the process of Low Emission Development.
- Institutional arrangements are made, and all departments understand their responsibilities in the LED process.
- Key stakeholders are identified and engaged.

1.1 Secure initial commitment

Preparation/Pre-requisite

- The political will to start a Low Emission Development process
- The political will to start the GCC program

Primary outcomes

- Political commitment by the local government to a Low Emission Development process

The local government commits to Low Emission Development principles to underpin all community development processes.

This commitment should ensure that the leadership, both political and administrative, understand and support the LED process. This can be achieved by:

- Organizing introductory meetings with the leadership, integration into the agendas of different departments, a statement of intent at Mayoral or Council level (e.g. Council Resolution), an internal communications brief provided to all staff, and other ways of communicating the commitment.
- Nominating a political and staff champion to drive and support the program within the Council and in the municipality.
- Conducting local media work to inform the community.
- Making a public commitment via one of the international commitments (e.g. Compact of Mayors, Covenant of Mayors) which can inform goal-setting.

It is vital to ensure senior political buy-in at the start of the process and to provide clear leadership throughout. This requires the involvement of the Council and managers of all municipal departments.

The Mayor and/or Council should give the official “go-ahead” to institutionalize the process and legitimize action by municipal staff.

Municipal staff need to be engaged early in the process, as they will be required to support planning, implementation, monitoring and communicating developments.

Resources:

- Connect to relevant global / regional / country commitments, e.g. Compact of Mayors **and/or** the Covenant of Mayors¹
- Join the GreenClimateCities program² to obtain detailed multi-disciplinary guidance
- Template: Mayoral / Council Announcement

1 <http://www.compactofmayors.org> and <http://www.covenantofmayors.eu>
 2 <http://www.iclei.org/gcc>

MRV for Sub-step 1.1 Secure initial commitment

Measures

- ✓ Secure political commitment to low emission development process.
- ✓ Officially (re)initiate the GCC program.
- ✓ Release a formal external announcement from the Mayor or Council through local (and national) media.
- ✓ Brief all local government departments and staff through internal communication.
- ✓ Ensure LED is integrated into agenda items of local government meetings and included in public communications.

Reporting documentation

- ✓ Council decision (public statement) committing to urban Low Emission Development - to inform the community, media and municipal staff.
- ✓ Letter from the Mayor to request joining the GCC program.

1.2 Set up institutional structures

Preparation/Pre-requisite

- Official go-ahead for the LED process (1.1), enabling the administration to act

Primary outcomes

- Team set up to coordinate the LED process
- All departments know their roles and responsibilities in the process

The formation of necessary governance arrangements helps to establish a clear structure, process and procedures within the local government.

Create an Internal Low Emission Development / Climate Core Team and define its responsibilities to coordinate the Low Emission Development process. This could either be a new unit or a new mandate for an existing team. Responsibilities should include:

- draft and propose a Low Emission Development Strategy
- prepare the city-wide greenhouse gas (GHG) emissions inventory and forecast
- manage energy and GHG information
- verify actions and track project level GHG emission reductions and other sustainability benefits

Key municipal departments should be involved (including Finance, Planning, Sectoral departments, and Communications) to provide input into and steer the process in their area of responsibility. It is advisable to establish a structure(s) that addresses the following roles: (i) policy and strategy, (ii) implementation management, and (iii) sectoral planning and coordination.

The Climate Core Team needs to define and consult on themes and topics, which may include:

- City development vision, objectives and short- to long-term goals
- Exploring the scope: What are the city's development priorities? How can the city develop in a low emissions and sustainable way? Will low emissions principles and actions form a standalone plan and/or be integrated into other municipal strategies and policies? Etc.
- Timeline, resources, budget, authority, and accountability
- Team composition (multi-sectoral, multi-departmental, multi-jurisdictional)
- Structure, roles, responsibilities, and decision-making processes
- Monitoring and reporting process, office terms, and meeting schedule

Representatives from (external) organizations responsible for municipal services such as energy, water, waste and transport utilities should be included in relevant working groups. A focal point should be appointed to provide coordination and act as main point of contact.

Resources:

- Template: Forming a Climate Core Team / Steering Committee / Task Force
- Example: Essen, Germany: klima | werk | stadt | essen, Creating a new climate culture in times of economic austerity (ICLEI Case Study n. 170)¹
- Example: Freiburg im Breisgau, Germany: Long-term strategies for climate protection in Green City Freiburg (ICLEI Case Study n. 104)¹
- Example: Betim, Brazil: Community based local action (ICLEI Case Study n. 147)¹

¹ www.iclei.org/casestudies

MRV for Sub-step 1.2 Set up institutional structures

Measures

- ✓ Assign key roles and responsibilities, considering this can ensure the quality of the LED process. One person may play several roles. Example of functions: LED Coordinator / LED Planner / GHG Inventory Accountant / Information Manager / GHG Inventory Verifier

Reporting documentation

- ✓ List with composition of the Political Steering Committee and Climate Core Team (or equivalent structure) with tasks defined.

1.3 Identify & engage stakeholder groups

Preparation/Pre-requisite

- Official go-ahead for the LED process and city level (step1.1) and identification of key sectors (1.2)

Primary outcomes

- Commitment from the local government to work in partnership with the community
- Stakeholder groups and contacts to other local, regional and national governments established
- Secured buy-in from groups indispensable to success of the LED process

Identifying and involving essential partners and key stakeholders in the community ensures an inclusive process, encourages buy-in and contributes to achieving success of the strategy.

An analysis is conducted to identify key individuals, representatives and stakeholder groups, also to gain a clear understanding of their interests, sphere of influence and potential role. This is a starting point to ensure all relevant stakeholders are addressed and invited to engage in pertinent processes, e.g. through a Multi-Stakeholder Forum. This effort should consider not only local stakeholders, but also regional and national government departments and agencies that may be relevant for the LED process.

The design of stakeholder involvement, both formal (institutional) and informal, should be outlined and their roles explored with them. This should be captured in a Stakeholder Engagement and Communication Plan, to be updated regularly. The intention is to foster and track crucial partnerships, without which success cannot be achieved. A willingness to work closely with external groups is essential.

The Stakeholder Engagement and Communication Plan is the basis for an ongoing process of engagement and consultation, which will also be relevant to and support several steps of the GCC methodology, e.g. involvement in the future scenario planning processes to identify possible future growth and development paths (see sub-step 4.1).

Resources:

- Stakeholders & consultation tool
- Template: Stakeholder Engagement and Communication Plan
- Example: Dortmund, Germany: Participatory energy transition – effective public relations for comprehensive climate action, (ICLEI Case Study n. 171)¹
- Example: Bottrop, Germany, InnovationCity Ruhr – Model City Bottrop: revitalizing an industrial region through low-carbon redevelopment and active public-private partnerships, (ICLEI Case Study n. 169)¹
- Example: Fortaleza, Brazil - Analyzing for informed action: the case for Integrating GHG greenhouse gas Inventories and Technical Studies as a key decision making tools (ICLEI Case Study n.192)¹

¹ www.iclei.org/casestudies

MRV for Sub-step 1.3 Identify and engage stakeholder groups

Measures

- ✓ Identify relevant stakeholder groups and their interests.
- ✓ Draft a stakeholder engagement and communication plan.

Reporting documentation

- ✓ List of key stakeholders
- ✓ Up-to-date Stakeholder Engagement and Communication Plan

Verification Criteria

- ✓ Is the official commitment and announcement endorsed or approved by Council?
- ✓ Is the key administrative role assigned to the most relevant department or agency?
- ✓ Do the listed stakeholders represent all the influential groups in the community?

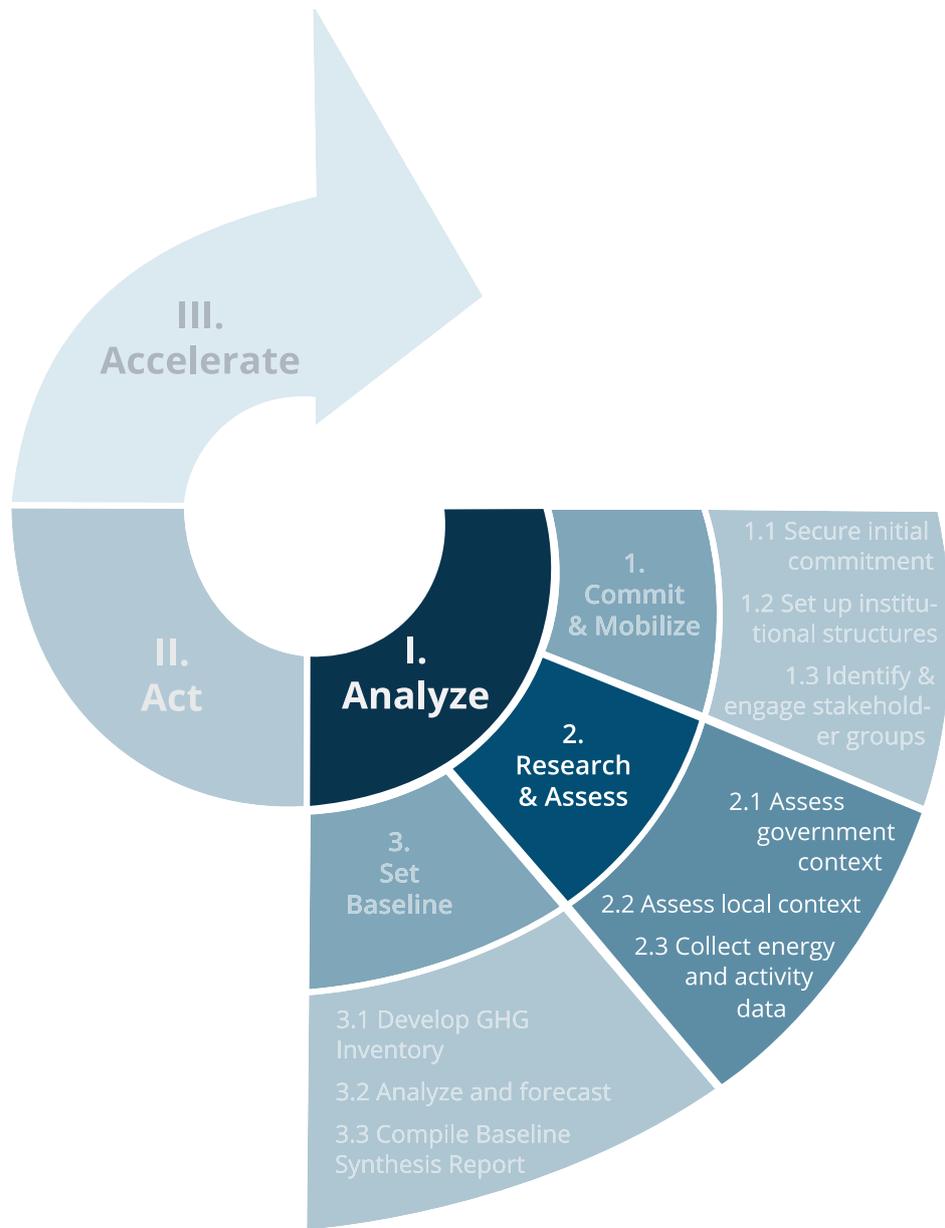
Good practice case

View of the City of Recife, Brazil



As On 3 September 2013, Mayor Geraldo Julio created by decree a Municipal Sustainability and Climate Change Committee in Recife, Brazil. This was designed as a participatory forum for the city to establish goals and define routes towards low emission development. The Committee includes seven Secretariats of the Municipality, as well as representatives from civil society, universities and the private sector. Recife received support to engage in the GCC program through the Urban-LEDS project.

STEP 2: *Research & Assess*



Primary Outcomes:

- Map of internal and external social, economic, environmental and political conditions relevant to the city and how these may influence low emission development, with key challenges, barriers and opportunities identified.
- Assessment of the local government's ability to act and leverage existing mandates, policies, plans, projects and resources towards low emission development.
- Assessment of city staff awareness and capacity, with a capacity building plan.

2.1 Assess government context

Preparation/Pre-requisite

- Internal responsibility and resources for information management are assigned (1.2)

Primary outcomes

- External social, economic, political and environmental conditions that may influence LED identified

The local government needs to understand external issues impacting its LED process, to determine where it can act, what could support or potentially block action.

This review requires exploring issues at various levels - the international / regional / national and sub-national levels – addressing plans, policies, targets, funding opportunities, ongoing programs and projects. The assessment should also cover legal, economic, social and environmental contexts.

International contexts are also relevant, e.g. the Paris Agreement¹, as decisions could impact on the local level. Further, international good practice may inspire and guide (e.g. see ICLEI cases and cases in the Solutions Gateway², centralizing good practice to support replication of proven approaches and policies).

The national and sub-national government contexts provide the framework for local government operations and the local community (e.g. defining boundaries, mandates, etc...). It is important to understand enabling factors, as well as those that may block or restrict action.

Resources:

- Template: Country Profile
- Recommended reading: National Climate Action Plan

1 <http://www.cop21.gouv.fr/en> and assessment of the impact on the local level through the ICLEI Webinar on 23 February 2016 ppt and video recording, with a blog on From Paris Agreement To Habitat III: A Global Preview Of Sustainability In 2016

2 <http://www.solutions-gateway.org> – an online knowledge sharing platform for local governments addressing low emission development

MRV for Sub-step 2.1 Assess government context

Measures

- ✓ Review the national context relevant to the local government's geographic, development, environmental, political, governance, policy and regulatory status.

Reporting documentation

- ✓ Completed Country Profile

2.2 Assess local context

Preparation/Pre-requisite

- Internal responsibility and resources for information management are assigned (step 1.2) and knowledge of national and regional context obtained (step 2.1)

Primary outcomes

- Local social, economic, political and environmental context mapped
- Overview of the capacity and awareness level of municipal staff
- Municipal staff capacity building and awareness-raising plan

A self-assessment of the mandates, roles and capabilities of both the local government and the local community is necessary to understand the situation, opportunities and constraints to action within the jurisdiction. It is also necessary to identify community needs and drivers for change.

This review requires collecting and compiling information on local policy, governance, economic, social and environmental conditions, which can be supported by a benchmarking and scoping questionnaire.

The information and indicators compiled will enable identification of existing service-delivery gaps, socio-economic development needs, or low performance of essential systems. Future interventions in those sectors may offer opportunities for major shifts towards low carbon development. The indicators used should also cover local energy resources such as organic waste, solar, wind or geothermal energy.

Initiatives and projects already being undertaken are identified and used to gauge local capacity and resources, such as technical expertise and technology providers. It is also important to assess the local government's capacity to undertake or lead relevant actions considering existing expertise and experience, budget commitments, information management systems, etc. A staff awareness survey may also be conducted.

Where relevant, the review should cover the same elements as sub-step 2.1, but addressing the local level. This is essentially a SWOT analysis (i.e. identifying **st**rengths, **w**eaknesses, **o**pportunities and **t**hreats) or a SOAR analysis (**st**rengths, **o**pportunities, **a**spirations, and **r**esults) in all areas that could impact the urban low emission development process. Explore if policy reviews, technical and scientific studies or guidance exists at local, regional or national levels.

Resources:

- Template: City Profile
- Template: City staff awareness questionnaire
- Template: LED benchmarking and scoping questionnaire
- City "climate profile" generated through reporting on the global reporting platform: carbonn® Climate Registry (CCR)¹

¹ <http://carbonn.org> - the carbonn Climate Registry is a global reporting platform for local and subnational governments – cities, towns, states, provinces and regions - on climate change mitigation and adaptation. Free use for all local or subnational governments. Reporting includes: commitments and targets; GHG inventories and developments on adaptation & resilience; and actions.

MRV for Sub-step 2.2 Assess local context

Measures

- ✓ Engage relevant departments and functions in completing the LED benchmarking and scoping questionnaire.
- ✓ Start a benchmarking process using the City Profile.
- ✓ Conduct general awareness and collect capacity surveys to scope the levels of awareness and capacity of key staff involved.
- ✓ Conduct SWOT / SOAR analysis workshop(s) with local community stakeholders on the city's internal and external development conditions.

Reporting documentation

- ✓ Completed LED benchmarking and scoping questionnaire.
- ✓ Completed city profile on the carbonn Climate Registry.
- ✓ List of key city development challenges, barriers and opportunities.
- ✓ Municipal staff capacity building and awareness raising plan.
- ✓ Results of SWOT / SOAR analysis.

2.3 Collect energy and activity data

Preparation/Pre-requisite

- Internal responsibility and resources for information management and GHG accounting are assigned (1.2) and knowledge of local and national context obtained (2.1 and 2.2)

Primary outcomes

- Data collection and information management system established
- Data gap analysis
- Quality control procedure for GHG emission inventory established
- Procedure established for reviewing and improving data quality
- Demonstrate energy and cost savings potential in LG operations to staff

Data is needed to compile a greenhouse gas (GHG) emissions inventory and to enable the preliminary evaluation of possible climate change mitigation measures at community scale. This requires a significant data collection effort.

To ensure data collection is done in a targeted and effective way the following steps are recommended:

- set the GHG inventory boundaries, including the baseline year
- identify the sources of GHG emissions
- decide on the calculation methodologies to be used (preferably standardized approaches)
- select an appropriate tool to develop the GHG inventory
- identify data needs and data sources based on the local context and statistics

Data to be collected includes “Activity Data”, such as energy consumption, kilometers / miles travelled, waste generated, as well as other parameters such as fuel economy, waste composition, etc. Contact with internal (local government departments) and external sources of information (e.g. utilities or the national statistics bureau) are necessary to gather the information needed.

The data collection process should be documented and a data management system should be used to ensure transparency and consistency over several years. It is important to follow guidelines for data collection and analysis using a widely recognized GHG inventory standard such as the Global Protocol for Community-scale GHG Emissions Inventories - GPC¹, to ensure a robust methodology is used. This will add to the credibility and transparency of the whole LED process, also making the results comparable to those of other cities. This first round of data collection may be difficult due to incomplete data, lack of data or insufficient quality of data. These challenges imply that the first iteration of the GHG inventory may not be comprehensive or completely accurate. Nonetheless, it is an important step, so continue and ensure these issues are captured to ensure transparency of process and support future improvements – conduct a data gap analysis. Improving data collection should be addressed in the following cycles, moving towards optimal data access and high quality reliable data. When checking the quality of community-scale data, consider the usefulness of the activity data to evaluate possible GHG reduction measures in the next GCC steps. It may be worthwhile investing more resources to get good quality data from the onset, particularly in sectors where measures are already planned. To demonstrate energy and cost savings potential in the local government operations it is recommended to determine energy consumption patterns and expenditure, as well as existing initiatives to reduce energy consumption and emissions. This will contribute to institutional buy-in and empowerment, and will help to show leadership.

Resources:

- Template: Data collection spreadsheets (includes activity data for energy, waste, etc), including offline data collection sheet for local government operations - energy consumption and corresponding costs, disaggregated by activity type
- Guidance on how to develop a GHG inventory at city-scale: Global Protocol for Community-scale (GPC)
- Pool of Experts² – GHG emissions subgroup
- Example: Activity Data Sheet to assess quality and completeness of data (available in English and Bahasa)
- Example: Balikpapan, Indonesia – From analysis to opportunity: employing the GreenClimateCities methodology for low emission development (ICLEI Case Study n. 183)³

1 The GPC enables cities and communities to consistently measure and report GHG emissions and develop climate action plans and low-emission urban development strategies. The GPC was released in December 2014 by the World Resource Institute (WRI), ICLEI and the C40 Cities Climate Leadership Group to standardize the approach to measure and report city-wide GHG emissions <http://www.iclei.org/gpc> and <http://ghgprotocol.org/city-accounting>

2 <http://tinyurl.com/poolofexperts> - The Pool of Experts is a multi-disciplinary network of professionals who could provide local governments with expertise on urban Low Emission Development, created within the framework of the Urban-LEDS project.

3 www.iclei.org/casestudies

MRV for Sub-step 2.3 Collect energy and activity data

Measures

- ✓ Establish procedures and requirements for GHG inventory building and verification.
- ✓ Activity data collected and validated.
- ✓ Data management system established and validated.
- ✓ Conduct a data gap analysis.

Reporting documentation

- ✓ Activity and energy data collated and publicly reported on the cCR – Note: this is a requirement for the Compact of Mayors
- ✓ Approval of the regulation on the frequency, requirements and procedures for developing and verifying the city-scale GHG inventory.

Verification Criteria

- ✓ Has the country and city profile been completely filled out?
- ✓ Has the SWOT / SOAR analysis been conducted and were all identified key stakeholders involved?
- ✓ Is the capacity building and awareness raising plan aligned with the local government's needs and based on the SWOT / SOAR analysis results?
- ✓ Has a data gap analysis been conducted to inform the next iteration of the GHG inventory?
- ✓ Was the regulation for the GHG inventory development published by the local government?

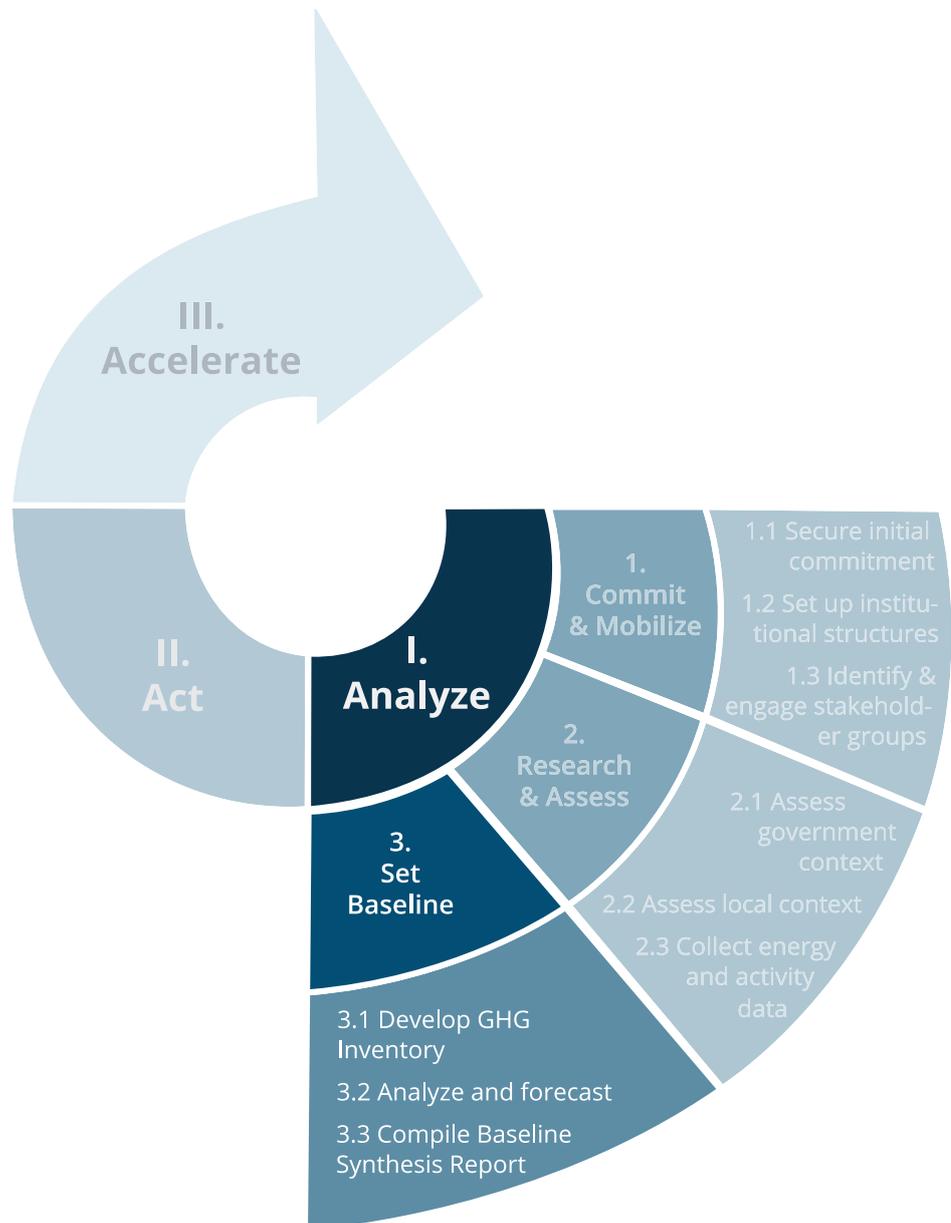
Good practice case

KwaDukuza's socio-economic indicators informed its Low Emission Development Plan (South Africa)



After selection as one of the 8 Urban-LEDS Model Cities, the local governments completed Step 2 of the GCC methodology by developing a Country and City Profile. These (available on the Urban LEDES website¹) summarize their national and local political and socio-economic contexts, helping to explore their priorities in-context when developing the Low Emission Development Strategy. Such profiles inform the assessment and planning steps. A summary of the city profile of KwaDukuza Municipality, South Africa, is embedded in its Low Emission Development Strategic Framework and Action Plan and was made available for public consultation.

1 www.urban-leds.org: examples of the country profile for India and city profiles of Rajkot and Thane

STEP 3: Set Baseline*Primary Outcomes:*

- Key GHG emitting sectors and sources in the city identified, with the expected GHG emissions evolution trend in the absence of a LED Strategy (BAU scenario for comparison).
- Identified areas and sectors with potential for GHG mitigation considering existing and projected emissions as well as local capabilities and mandates.
- Comprehensive overview of the baseline reviews, city snapshot, emissions analysis and forecast

3.1 Develop GHG Inventory

Preparation/Pre-requisite

- GHG inventory boundaries set, including year, geographic area, sectors, greenhouse gases, etc. (2.3)
- Activity and energy data collected (2.3)

Primary outcomes

- Identify the key GHG emitting sectors and sources in the local community
- Identify key emitting activities in local government operations

Conduct a periodic review of GHG emissions – both for local government operations and the whole community - following a widely recognized GHG emissions inventory protocol to contribute to the quality and credibility of results.

The development of the GHG inventory includes identifying the most relevant emission factors and calculation formulae, using them in conjunction with the Activity Data and other parameters (sub-step 2.3) to calculate emissions.

A suitable GHG inventory tool may be used to ease the calculation of the GHG inventory.

An assessment of the accuracy and completeness of the data used should be undertaken.

The GHG inventory calculation should include the calculation of total emissions from local government operations (normally presented as a percentage of overall community emissions). These are usually only a fraction of the total, nonetheless it is important to calculate these GHGs. Not only does it make good business sense to understand where the local government should prioritize internal measures, but it can also help to demonstrate leadership towards the community.

In this sub-step a system is established for periodic review and quality control of GHG emissions (e.g. annually or every second year) to report internally and externally. It requires creating and formalizing a team to deal with the task, identifying review periods and reporting structures.

Resources:

- Tools: ClearPath ¹ and HEAT+², ICLEI's greenhouse gas quantification software with GHG inventory and action planning functions
- Guidance on how to develop a GHG inventory at city-scale: Global Protocol for Community-scale Greenhouse Gas Emission Inventories (GPC)
- Guidance on how to deal with GHGs from local government operations: International Emissions Analysis Protocol (IEAP)³
- GHG inventory examples: carbonn® Climate Registry (cCR)
- Pool of Experts – GHG emissions subgroup

1 <http://www.clearpath.global/> - The ClearPath Global basic GHG inventory module is a no-cost, online GHG inventory tool for local governments worldwide, made available to support the Compact of Mayors.

2 <http://www.iclei.org/heatplus> - The Harmonized Emissions Analysis Tool plus (HEAT+) is ICLEI's multilingual online emissions inventory tool to help local governments to account Greenhouse Gas Emissions (GHGs), Common Air Pollutants (CAP) and other Volatile Organic Compounds (VOC).

3 http://e-lib.iclei.org/wp-content/uploads/2016/03/IEAP_October2010_Color.pdf

MRV for Sub-step 3.1 Develop GHG Inventory

Measures

- ✓ Follow the approved rules and regulations to compile a community-scale GHG inventory, including a local government operations GHG inventory.
- ✓ An independent (ideally 3rd party) review and verification of the GHG inventory and supporting data is recommended (optional).

Reporting documentation

- ✓ Community scale GHG inventory, with a description of data source and methodology used publicly reported on the cCR.
- ✓ Local government operational GHG inventory, with a description of data source and methodology used publicly reported on the cCR.

3.2 Analyze and forecast

Preparation/Pre-requisite

- Community-scale GHG inventory calculated and emissions by sector are reported (step 3.1)

Primary outcomes

- Understanding the future socio-economic and environmental scenarios
- Understanding expected GHG emission trends in the absence of a LED strategy by the local government

Analyze the most significant sources of emissions and develop a forecast how future community-scale GHG emissions will evolve without the existence of a Low Emission Development Strategy.

Forecasting how the current situation will evolve in a “Business As Usual” (BAU) scenario is crucial. Not only will this help to inform on trends if no action is taken, but it can also identify potential future service-delivery gaps or low systems performance.

A BAU scenario can show where to assimilate Low Emission Development into infrastructure planning and programming processes. It can also help to answer questions such as: Will the projected population growth result in service gaps in water supply, sanitation or energy? Will projected industry growth exceed the capacity of the power grid?

Existing studies and projections may be available at national, regional, or local level. Data needed includes a forecast of population growth, economic activity, energy consumption and supply, waste management, water management, etc. This is necessary to also inform the GHG emissions forecast.

Developing a BAU scenario may require defining assumptions to estimate expected growth rates of sectorial emissions (transport, residential, industrial processes, etc.), also taking into account the expected evolution of population, economy, activity levels and emission factors.

This step will need desktop research, obtaining advice from the relevant planning department or agency, and other levels of government.

A sensitivity analysis and comparison with assumptions used in similar projection scenarios is recommended.

The BAU baseline can then be plotted using an Excel file, or the tool used to calculate the GHG emissions inventory (e.g.: HEAT+ or ClearPath).

Resources:

- Tool: Greenhouse gas quantification software and forecast modules: Clear Path or HEAT+

MRV for Sub-step 3.2 Analyze and forecast

Measures

- ✓ Following the approved rules and regulations, forecast GHG emission trends for potential development scenarios.

Reporting documentation

- ✓ Publication of GHG emission projections covering at least the target year and business as usual for potential development scenarios, describing assumptions made (*this requirement may be fulfilled by including these contents in the output of 3.3*)

3.3 Compile Baseline Synthesis Report

Preparation/Pre-requisite

- Local government's mandates and capabilities, challenges, and opportunities for LED identified (2.1 and 2.2).
- Energy and other data collected (2.3).
- Largest GHG emitting sectors and trends identified (3.1 and 3.2).

Primary outcomes

- Benchmarking of city performance.
- Areas and sectors with highest potential for GHG mitigation identified, also considering local capabilities and mandates.

The Baseline Synthesis Report brings together the findings of Steps 2 and 3. It provides a comprehensive overview of the baseline reviews, city snapshot, emissions analysis and forecast

The report will define the baseline to be used as starting point to evaluate progress over time. This analysis will also provide essential information for defining priorities and targets in step 4, as it will identify major energy-consuming and GHG-emitting sectors in the community. Further it will clarify the national and international frameworks.

The synthesis report may not yet require formal Council approval, but provides an opportunity to inform political debate, administrative review and provide initial recommendations.

A benchmarking process, ideally initiated in sub-steps 2.1 and 2.2, should now be consolidated to enable a comparison of the local government's performance to other cities (e.g. in the country or of a similar type), as well as to enable evaluation of performance over time. This benchmarking process will contribute to identify urban systems where performance could be improved.

Resources:

- Examples: Baseline assessments on climate action and Sustainable Energy Plans reported on the carbonn Climate Registry (cCR) – <http://carbonn.org/>

MRV for Sub-step 3.3 Compile Baseline Synthesis Report

Measures

- ✓ Arrange for a review by stakeholders to comment the GHG inventory and emissions forecasts.
- ✓ Based on the GHG inventory and emissions forecasts, compile the Baseline Synthesis Report, including a BAU scenario based on forecasts which support the city development plan.
- ✓ Consolidate the benchmarking process using data and information collected in steps 2 and 3.

Reporting documentation

- ✓ Description of stakeholder consultation process and result
- ✓ Baseline Synthesis Report
- ✓ Updated City Profile
- ✓ City performance reported on the cCR (including sectoral indicators for benchmarking purposes)

Verification Criteria

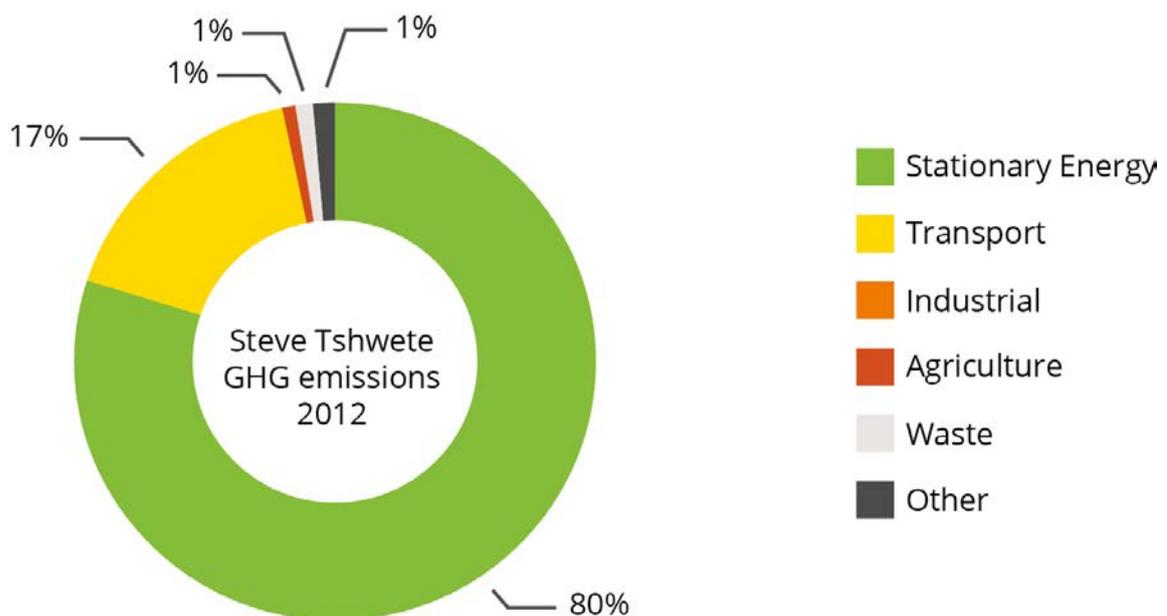
- ✓ Was the GHG inventory compiled according to rules and regulations published by the LED Coordinator and/or the City Council?
- ✓ Was the Global Protocol for Community-scale GHG Emissions Inventories (GPC) used, to enable comparison with other local governments?
- ✓ Was the GHG inventory and forecast and Baseline Synthesis Report open for consultation with stakeholders before a final version was released?

Tip:

Now that you have reached the end of phase 1, a review is recommended to ensure all the critical aspects are covered. The **Process Checklist** (in section 1.4) can be a good starting point for this – feel free to adjust it to your needs.

Good practice case

Steve Tshwete's first community GHG emission inventory



Steve Tshwete Municipality in South Africa, in partnership with ICLEI, developed its first greenhouse gas inventory using data from a baseline year of 2012. Various data sources were used to perform a detailed analysis of the urban energy used and emissions released. These sources included electricity data, liquid fuel and waste data - provided by the municipality or by service providers. The GHG inventory, reported on the carbonn@ Climate Registry, reveals that the city emits just over 3.7Mt CO₂e (megatons of carbon dioxide equivalent). It shows that electricity is the dominant energy carrier used in the municipality (55%) and is responsible for 82% of CO₂e emissions (electricity in South Africa is generated by power stations burning low calorific value coal). The highest emitting sectors are industry and mining which contribute over 72% of the total GHG emissions, followed by transport (17%) and residential buildings (6%).

2. Guidance on the GreenClimateCities process

PHASE II: *Act*

“Where to start?
What to do?”

And who should be
involved?”

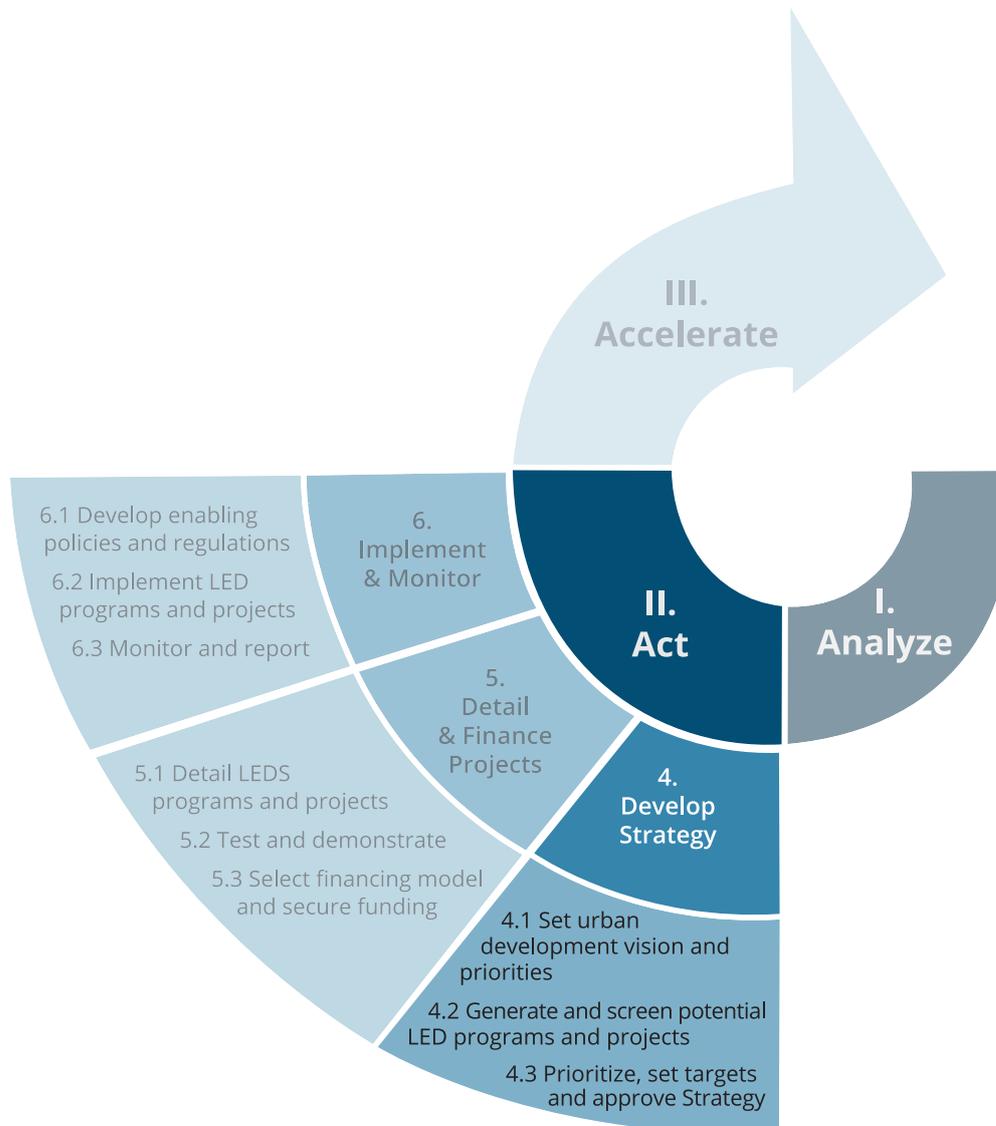
Aim:

- The “Act” Phase outlines the planning and implementation approach taken.

Primary Outcomes:

- Low Emission Development Strategy (LEDS) adopted.
- Detailed Action Plan finalized and implementation of LED programs and projects commenced.
- System established for LEDS monitoring, reporting and verification.



STEP 4: Develop Strategy*Primary Outcomes:*

- Commonly accepted LED vision developed with a list of priorities for the community.
- Low Emission Development Strategy and Action Plan drafted considering the LED vision, priorities, challenges, barriers and opportunities, with proposed targets and key performance indicators.
- Low Emission Development Strategy approved by the City Council.
- Official LED commitment(s), such as GHG reduction targets, published.

4.1 Set urban development vision and priorities

Preparation/Pre-requisite

- LED challenges, barriers and opportunities identified (2.2).
- GHG inventory and forecasts developed (3.2).
- Baseline Synthesis Report compiled (3.3).
- Departments know their responsibilities in the LED process (1.2).
- Stakeholders and their interests mapped (1.3).

Primary outcomes

- General understanding among municipal staff and key stakeholders on development conditions, challenges, barriers and opportunities.
- Commonly accepted City LED development vision and priorities.

The local government and stakeholders work together to define a common understanding of what LEDS means for their community. A preliminary strategic statement is developed, containing a draft vision and key strategic objectives. The recommended strategic priorities are accepted by relevant stakeholders.

The local government has existing priorities in various areas. These should be retained and enhanced with low emission development / climate change priorities. Key questions that can help establish conceptual and practical links between socio-economic development and climate change are explored to form the initial basis of priority setting. For example, exploring whether the city's current development strategy is fit for purpose; does it deal with uncertainty? Can it position the local government to take full advantage of opportunities posed by low emission development? These issues should be explored to outline initial priorities with key stakeholders.

To achieve this, a major workshop(s) needs to be organized involving all relevant line functions and departments, ideally also key external stakeholders, using the Baseline Report as input to inform the debate. This will help to collectively brainstorm on identifying strategic priorities (through a "climate lens") and possible changes to existing development strategies and plans. Further meetings / focus groups may be required at the departmental level to develop these ideas.

The process is also used to enhance awareness and build capacity on additional opportunities to meet development priorities / need for a change in an LED direction, with stakeholders contributing to the strategic development process, thereby obtaining ownership.

Resources:

- Guidance: Solutions Gateway¹, including Solution Packages and case studies
- Pool of Experts – <http://tinyurl.com/poolofexperts>
- Examples: Scenario planning workshop report from Steve Tshwete Municipality (by ICLEI Africa)
- KwaDukuza and Steve Tshwete Local Municipalities, South Africa: from scenario planning to low emission development action. (ICLEI Case Study n. 188)²
- Visions from other cities' plans and strategies in the carbonn® Climate Registry

1 www.solutions-gateway.org
 2 www.iclei.org/activities/resources/publications/iclei-case-studies.html

MRV for Sub-step 4.1 Set urban development vision and priorities

Measures

- ✓ Update the list of local community stakeholders based on results from Steps 2 and 3.
- ✓ Organize workshop(s) involving relevant line functions and departments to form a development vision and define a priority list of low emission development actions, based on the Baseline Synthesis Report.
- ✓ Organize workshop(s) with stakeholders and the local community to form a development vision and define a priority list of low emission development actions, based on the Baseline Synthesis Report.

Reporting documentation

- ✓ Description of workshop(s), incl. participants list, agenda and key results
- ✓ Documented city LED vision and priorities (preliminary version)

4.2 Generate and screen potential LED programs and projects

Preparation/Pre-requisite

- Identified LED challenges, barriers and opportunities (2.2).
- Forecast scenarios (step 3.2) and Baseline report (3.3).
- Draft City LED vision and priorities (4.1).

Primary outcomes

- Potential programs and projects that are aligned with the city's vision and priorities are identified and screened.

This macro-level analysis sub-step is designed to identify and prioritize potential programs and projects that would help to meet development and climate priorities overall.

A collaborative workshop is conducted to identify both sectoral and cross-sectoral actions (“solutions”) that can assist the local government in reaching its new low emission development vision. Ideas may come from:

- “Problem” areas identified in the Baseline Synthesis Report
- Existing ideas from staff and stakeholders
- Relevant case studies and good practice
- Creative mind-mapping or problem-solving processes to think “outside of the box” and align ideas to local objectives and strategies.

A SWOT / SOAR analysis may be conducted to explore feasibility from a financial, regulatory and technical perspective. Further, it is useful to explore their relevance to addressing specific priority areas (e.g. social justice/poverty reduction/climate resilience), whether these can be delivered from an institutional perspective (essentially a “reality check”), and whether a positive impact can be tracked across a range of indicators.

An additional workshop should be organized to get stakeholders’ input to the screening and prioritization of different programs and projects, using a multi-criteria decision tool (such as the CLIMACT Prio Tool¹), to help identify which criteria are most important in the local context and for the different stakeholder.

Potential solutions can be screened using a range of criteria including:

- Estimated GHG emissions reduction potential compared to BAU
- Alignment with national or sub-national level priorities and programs
- Technical feasibility – high / medium / low
- Financial feasibility – high / medium / low
- Potential co-benefits (social, economic, environmental, institutional, etc.)
- Timeline (short term / medium term / long term)
- Resilience criteria
- “Do No Harm” principle
- Public acceptance

Screening may also take into consideration forecast scenarios and sensitivity analyses developed, not just for BAU (sub-step 3.2) but also for the impacts of mitigation measures, as part of a risk assessment.

Resources:

- Pool of Experts²
- Guidance: Solutions Gateway³, namely Solution Packages and Solutions (including a Reality-check section)
- Project Concept Note template (example from Indonesia)
- Tool: CLIMACT Prio tool (multi-criteria decision analysis tool)

1 The CLIMACT Prio tool is a resource to support decisions with regard to planning, prioritization and selection of Low Emissions Development Actions and Strategies http://www.ihs.nl/education/ihs_programmes/msc_in_urban_management_development/urban_environment_and_climate_change_uecc/climact_prio_tool/

2 <http://tinyurl.com/poolofexperts>

3 www.solutions-gateway.org/

MRV for Sub-step 4.2 Generate and screen potential LED programs and projects

Measures

- ✓ Propose a list of possible solutions based on a comprehensive assessment of their potential environmental, social and economic impacts.
- ✓ Arrange workshops with the implementing departments, relevant stakeholders and experts to assess the solutions proposed by the LEDS Planner.

Reporting documentation

- ✓ List of potential programs and projects, including their overall rating on technical and financial feasibility, expected impacts and other selected criteria.
- ✓ List of stakeholders and experts involved for the assessment process.

4.3 Prioritize, set targets and approve Strategy

Preparation/Pre-requisite

- Draft LED vision and strategic priorities (4.1).
- List of potential programs and projects (4.2).

Primary outcomes

- LED Strategy approved by the Council.
- Political mandate for further detailing LED programs and projects to continue the LED process.
- Official target published.

Potential programs and projects are prioritized and the LED Strategy and corresponding Action Plan are drafted, including a GHG reduction target and other strategically relevant targets. This step successfully concludes with Council approval of the LED Strategy and Action Plan.

The development and approval of a LED Strategy is usually an iterative process, which involves several rounds of drafting, submitting, discussion and approval, or review and amendment. Often the Council will approve the development of a general strategy, requiring more detailed studies and program development. It is important that relevant stakeholders are actively involved in this process. To prepare the LED Strategy draft, additional workshop(s) should be organized involving all relevant line functions and departments in the local administration. Key stakeholders should be engaged at certain moments to help assess the quality of the proposed projects and prioritize them against a pre-determined set of indicators.

Targets are needed to move towards a specific outcome. A community-wide GHG reduction target should be set to underpin the LED Strategy. The reduction target may be aspirational (showing leadership and ambition), political (aligned with local or national policies and pledges), or technical (based on calculations of reduction potential of each measure). Target setting may occur either at this stage in the process or after aggregating potential reductions from the fully detailed projects and programs after step 5.1.

Additional targets may also be set using other climate change mitigation and socio-economic indicators (e.g. percent improvement of access to energy by 2020 or job creation). The local government should address energy savings, energy generation (where applicable), cost savings, and any other outcomes/outputs that are deemed strategically relevant such as, for example, air quality parameters (e.g.: particles, nitrogen oxides, etc.) and public perception indicators. Key Performance Indicators (KPI) are developed to support evaluation of the main targets and will be used during implementation to monitor progress. Information on how and when the KPIs will be measured, reported and verified should also be included.

A workshop could be organized (e.g. using the GRIP scenario tool) to future-proof the LED policy package being put forward and to identify if there are risks or weak signals that need to be tackled to achieve the intended targets. This process will also help bring together stakeholders and develop consensus-driven future scenarios that take a holistic approach to the city's energy-systems.

2 Developed for Asian cities, this toolkit is nonetheless useful for local governments in any part of the world to address infrastructure investment - http://cdia.asia/wp-content/uploads/2014/09/CDIA-toolkit-project-programming-prioritization_2010.pdf

Resources:

- Guidance: Solutions Gateway¹, specifically each Solution's recommended indicators section, as well as Enabler, Required and Multiplier Actions
- Project prioritization tool: CDIA's City Infrastructure Investment Programming and Prioritization Toolkit²
- Future energy scenarios tool: GRIP³
- Guidance: Existing LED Strategies and Action Plans – examples (other examples available on the cCR):
- KwaDukuza Local Municipality: Low Emission Development Strategic Framework and Action Plan
- Vancouver City Council: Renewable City Strategy
- Reporting platform: carbonn® Climate Registry (cCR) – <http://carbonn.org/>
- Examples: Seoul, Republic of Korea The “One Less Nuclear Power Plant” initiative (ICLEI Case Study n. 154)⁴
- Bogor, Indonesia - Embedding an low emissions approach into the 5-year spatial plan (ICLEI Case Study n.186)

1 www.solutions-gateway.org

3 The Greenhouse Gas Regional Inventory Process (GRIP) - Forming an Emissions Inventory, Energy Scenarios and Plans with Stakeholders - http://www.iclei.org/fileadmin/PUBLICATIONS/Agendas/LowCarbonCity/100_RE/GRIP_Flyer_ICLEI.pdf

4 www.iclei.org/casestudies

MRV for Sub-step 4.3 Prioritize, set targets and approve Strategy

Measures

- ✓ Organize workshop(s) to screen and prioritize the solutions identified.
- ✓ Draft the Low Emission Development Strategy and Action Plan, including the priority programs and projects identified.
- ✓ Draft an implementation schedule for the LED Strategy, with key milestones and performance indicators to be tracked during implementation.
- ✓ Report the low emission development commitment and action plan to the carbonn Climate Registry.

Reporting documentation

- ✓ (Draft) LED Strategy and Action Plan.
- ✓ LED Strategy, including targets and key performance indicators.
- ✓ Council approval of the LED Strategy and targets.
- ✓ LED Strategy reported as an Action on the cCR.
- ✓ Targets reported as commitments on the cCR.

Verification Criteria

- ✓ Were senior economic development and planning-related policymakers/staff involved?
- ✓ Did key stakeholders buy into the approved LEDS?
- ✓ Have the potential low emission development solutions been assessed by competent experts?
- ✓ Have all the comments received from experts been properly addressed?
- ✓ Does the LEDS focus not only on government operations but also on community GHG emissions?
- ✓ Does the strategy present an estimate of the reduction or avoided GHG emissions?
- ✓ Does the strategy define indicators and a monitoring process that will enable the evaluation of its implementation?
- ✓ Does the strategy define a process for its revision, and to retain knowledge and lessons learned?
- ✓ Are the commitments publicly reported on the carbonn Climate Registry to showcase the city's leadership?

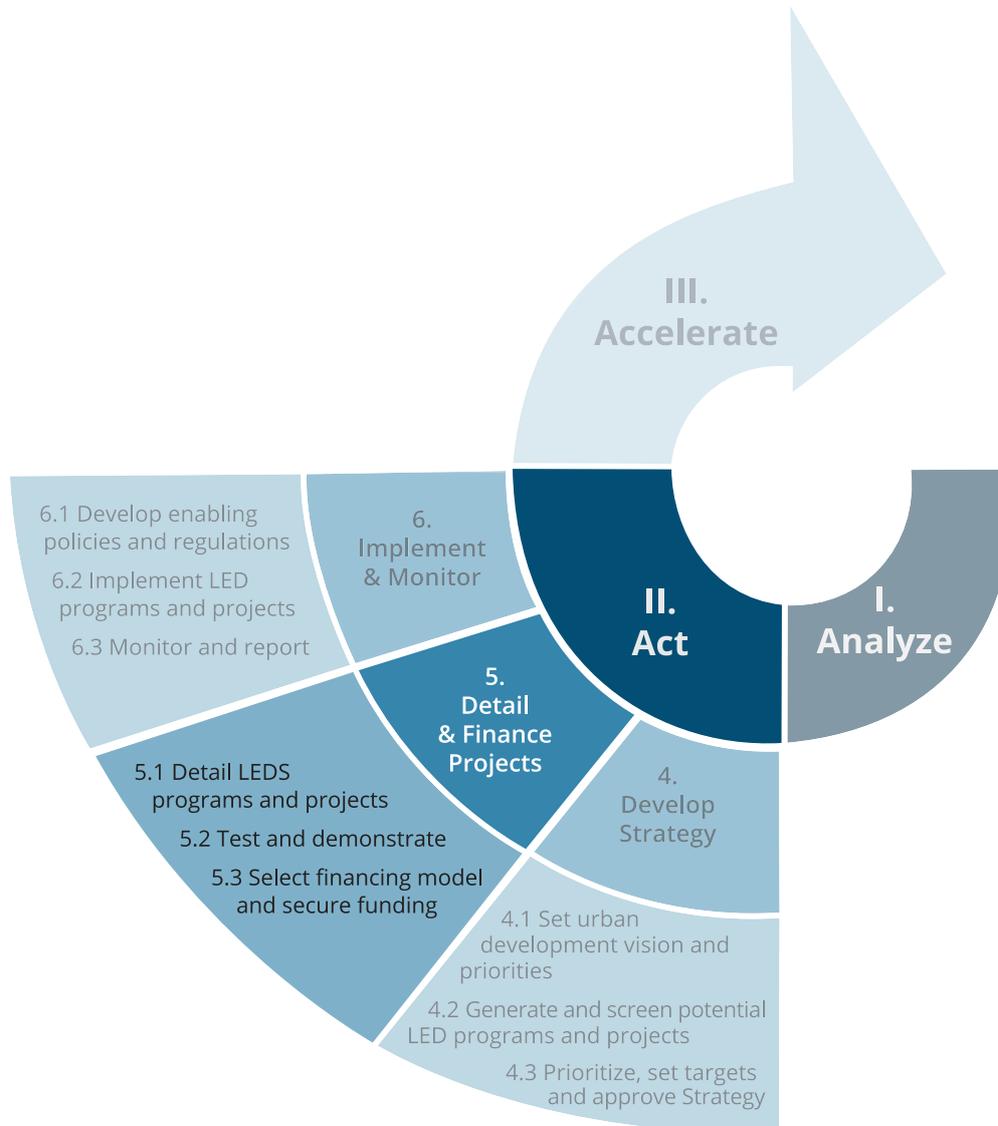
Good practice case

Multi-stakeholder consultation processes in Bogor, Indonesia



Starting with a greenhouse gas inventory guided by the Global Protocol for Community-scale Greenhouse Gas Emission Inventories (GPC) and following the GCC methodology, the Model City of Bogor, Indonesia, was able to identify its priority emitting sectors and set a course for low emission sustainable development. Following a unique multi-stakeholder consultation effort, the local government reviewed its existing spatial planning frameworks and successfully embedded its Low Emission Development Strategy (LEDS) within the City's 5-year Mid-Term Development Plan. It is blazing the trail for long-term sustainable transportation, green building, waste management and resilience to climate change.

STEP 5: Detail and Finance Projects



Primary Outcomes:

- LED programs and projects are further detailed, also with technical and economic feasibility assessed.
- Viability and effectiveness of new LED concepts are tested and demonstrated at the local level; early results helping to raise awareness, build stakeholder engagement and momentum.
- Financially secured LED projects and action plans are ready to be implemented.

5.1 Detail LED programs and projects

Preparation/Pre-requisite

- List of potential solutions or programs for priority areas (4.2).
- LED Strategy and targets approved (4.3).

Primary outcomes

- Feasible LED project designs are identified and detailed.

The programs and projects included in the approved LED Strategy are now further developed. Capital infrastructure projects are detailed and structured to enable their feasibility assessment.

The development of feasibility studies and detailed engineering designs require expertise which may need to be outsourced. As this may signify a relevant financial effort for the local government, typically project development is done in stages. Pre-feasibility studies are developed based on preliminary engineering designs and can then be used to leverage partnerships for more detailed project development and feasibility studies.

Partnerships can be very useful as a means of supplementing or complementing city resources and expertise, for example by engaging the business community or local universities and research institutions. Partnering can also be an effective mechanism for distributing risk. Alliances with other groups embarking on a similar course of action can also build momentum, support scale and visibility. Action undertaken by regional clusters of councils could be considered to address cross-boundary activities and generate economies of scale required to make the project(s) viable.

Where pre-feasibility / feasibility studies indicate the project is not viable, alternative project designs need to be considered in a process that may require several iterations. The estimated GHG emissions reduction potential of the projects and programs (sub-step 4.2) should be updated considering the revised designs.

Additional studies may be necessary prior to licensing, funding and implementation depending on the nature of the project, the sustainability requirements defined in the LEDS and the existing legal framework, such as a Social and Environmental Impact Assessment and corresponding monitoring and mitigation plans.

Resources:

- Pool of Experts¹
- Guidance: CDIA's pre-feasibility module
- Guidance: Solutions Gateway², including Solution Packages and specific Solutions with defined Enabler, Required and Multiplier Actions (Policy, Regulation, Technology, Finance, etc.), and potential climate change mitigation.

¹ <http://tinyurl.com/poolofexperts>

² www.solutions-gateway.org

MRV for Sub-step 5.1 Detail LED programs and projects

Measures

- ✓ Working with relevant departments, assess in-house availability of required technical and financial expertise to detail the projects included in the approved LEDS, and confirm that external expertise is engaged where needed.
- ✓ For all the capital projects included in the approved LEDS, coordinate the development of preliminary project designs and pre-feasibility studies with relevant departments.
- ✓ Establish partnerships to support identification of viable project designs, and further project development and implementation.
- ✓ Update the estimates of GHG emissions reduction potential of projects and programs.

Reporting documentation

- ✓ Project pre-feasibility and/or feasibility studies.
- ✓ Feasible LED projects reported as Actions on the cCR, including estimated GHG emissions reduction potential.

5.2 Test and demonstrate

Preparation/Pre-requisite

- Identified LED challenges, barriers and opportunities (2.2).
- Baseline report (3.3).
- Draft Urban LEDS and Action Plan (4.3).

Primary outcomes

- Early results that help build and maintain engagement of the administration and key actors.
- Demonstrate effectiveness of LED concepts in the local context, while identifying and minimizing potential risks.
- Create interest material for the media (stories, case studies, newsbits, media releases, etc.).
- Raise public awareness and influence desired behavior changes.

Conduct pilot projects to test and showcase the effectiveness of new LED concepts in the local context; evaluate results and showcase successful pilots.

Pilot projects can be initiated at various points throughout the GCC process to demonstrate practices or procedures (“soft” measures) as well as technology and infrastructure (“hard” measures).

By testing concepts at the local or neighborhood scale, potential risks and technical problems can be identified and mitigated before larger investments are made. It may also help to demonstrate the commitment and capacity of the local government to potential funders. Assets may be considered as co-funding in later stages when financing is negotiated.

Pilot projects are particularly important to motivate and create momentum at the early stages of the planning process, by showing results. This will help political leaders to better understand the benefits to their constituency and will assist in enrolling cooperation of important stakeholders. Look for opportunities to operate pilot projects with partners who could potentially be long-term supporters of the LEDS, such as NGOs, other levels of government, funders etc., and use the pilots to build these relationships.

When evaluating the pilot project, pay particular attention to:

- identification and mitigation of risks
- opportunities to refine the technical specifications
- participant response and perception of benefits
- feedback from city leaders, key actors and end users.

The estimated GHG emissions reduction potential of the projects and programs (sub-steps 4.2 and 5.1) may need to be updated considering the pilot project results and the draft LED Strategy may be revised accordingly.

Resources:

- ICLEI Case Study Series, the carbonn® Climate Registry, and the Solutions Gateway¹ can be used as vehicles to disseminate local good practices and achievements at a global scale
- Example: Steve Tshwete South Africa - Doornkop Community Solar Solutions (ICLEI Case Study nr. 187)²
- Rajkot, India - Decentralized waste water treatment system for open streams (ICLEI Case Story n. 02)³

1 www.solutions-gateway.org
 2 www.iclei.org/activities/resources/publications/iclei-case-studies.html
 3 www.iclei.org/activities/resources/publications/iclei-case-stories.html

MRV for Sub-step 5.2 Test and demonstrate

Measures

- ✓ Ensure local pilot projects are conducted with engagement of relevant departments and stakeholders.
- ✓ Monitor and evaluate the pilot projects and check if the project performs in line with the original design criteria and anticipated benefits.
- ✓ Showcase results of successful pilot projects and ensure that the pilot projects' results feed-in to project design before large scale implementation.
- ✓ Encourage replication of successful pilot projects.

Reporting documentation

- ✓ Report pilot project and its results on the carbonn Climate Registry.

5.3 Select financing model and secure funding

Preparation/Pre-requisite

- Clear understanding of the economic and financial features (5.1) and LED potential of selected projects (5.1 and 5.2).

Primary outcomes

- Clear business plan for selected LED projects.
- Clear understanding of the financial opportunities and innovations available to implement projects.
- LEDS detailed projects are approved and financed.

For each LED program or project an appropriate financing model is selected and possible sources of finance are listed. Contacts are pursued to secure funding.

In most cases, resources (human capacity and capital investment) are needed to effectively implement a program or project and to monitor developments. Not all measures require huge upfront capital investment, but many will deliver cost savings over time provided initial investments are secured. A wide variety of funding sources, innovations and ideas may have to be explored to successfully implement the actions identified in the Strategy and Action Plan. As part of this process, it may be necessary to re-scope or restructure a proposed project.

The most critical decision is to determine whether particular LED programs and projects can be funded from the local government's own resources or require external financial assistance or investment. A workshop(s) may be organized involving all relevant line functions and departments in the local administration to help assess the local government's financial capacity for future capital projects. CDIA's City Infrastructure Investment Programming and Prioritization Toolkit can support this process. This may be done for the overall LED Strategy prior to its final approval (sub-step 4.3). External grant or donor funding may be available (e.g.: national fund or subsidy, international soft loan or grant). Private sector partners may also be interested through joint ventures, Public-private-Partnerships (PPPs) or loans. Specialist advice may be needed to source appropriate finance. When seeking funding outside of the local government's own budget, particularly to leverage private sector finance, the local government should demonstrate the financial attractiveness of the proposed project (so-called "bankable projects"). Under these circumstances, after confirming the technical and financial feasibility of individual capital projects (sub-steps 5.1 and 5.2), a business model and cost-recovery mechanism should be planned. A business plan should include basic information about:

- | | |
|--|--|
| <ul style="list-style-type: none"> • project vision and strategy • project's customers, products or service • market analysis • project developer's credibility • project cash flow forecast • project capital statement • project collateral | <p><i>Resources:</i></p> <ul style="list-style-type: none"> • Guidance: Financing Decision-Making Support Tool in the Solutions Gateway, as well as guidance on Enabler and Multiplier Actions within specific Solutions • Guidance: Making carbon markets work for your city, UN-Habitat 2012 • Tool: CDIA's City Infrastructure Investment Programming and Prioritization Toolkit |
|--|--|

The local government should determine whether any changes to policies or regulations are required. It may have mandates to set up a regulatory or policy framework that enhances the financial viability of the LED projects. The projects may be bundled into investment "packages" or "portfolios" that optimize scale, technical feasibility and financial attractiveness - reflecting financial, policy and technological requirements.

As part of the funding agreement, KPIs should be defined for the project as part of a specific MRV system (this feeds into sub-step 6.3). Some of these KPIs will feed-in to the calculation of the LED Strategy's high-level indicators. Municipal staff may need training for monitoring, reporting and verification under certain projects' funding programs. Assess training needs and develop a training program for specific target groups, both internal to the Local Government and for other stakeholders as adequate (e.g.: energy utilities, municipal contractors, etc.).

MRV for Sub-step 5.3 Select financing model and secure funding

Measures

- ✓ Develop a business plan for each selected LED capital project.
- ✓ For each LED investment project, identify an appropriate financing model and possible sources of finance.
- ✓ In coordination with the relevant departments, ensure a process is implemented to secure funding for all selected LED capital projects.
- ✓ Publish a monitoring system to track performance of specific projects and programs, create project-specific MRV systems, or at least a Monitoring and Evaluation (M&E) process. For projects funded by entities other than the local government, these specific MRVs may need the funder's approval.
- ✓ Assess training needs, build a training program and awareness raising activities on the MRV system(s) for local government staff and key stakeholders.
- ✓ Assess results of the training program and certify qualified local government staff and key stakeholders as having acquired the relevant skills.

Reporting documentation

- ✓ LEDS projects approved, budgeted and funded.
- ✓ Investment portfolio and/or list of financing models selected (for the different projects or programs).
- ✓ Funded LED projects reported as Actions on the cCR.
- ✓ M&E process defined for all LEDS programs and projects.
- ✓ MRV process(es) defined in the context of funding arrangements, or on a voluntary basis.

Verification Criteria

- ✓ Is the city's LEDES integrated with municipal development planning processes, for example in planning by-laws and decision-making processes?
- ✓ Have the city's LEDES priorities been integrated into budgets?
- ✓ Have institutional mechanisms been put in place to aid delivery over time?
- ✓ Is there a list of financial models that have been considered and a transparent explanation on the financial model selected for each LED project?
- ✓ Is there a transparent and comprehensive document describing the competitive advantage of the financial model chosen, including: a description of the model; the advantages of the model; the disadvantages of the model and the basic requirements?
- ✓ Has a Monitoring and Evaluation system be established for each program and project?

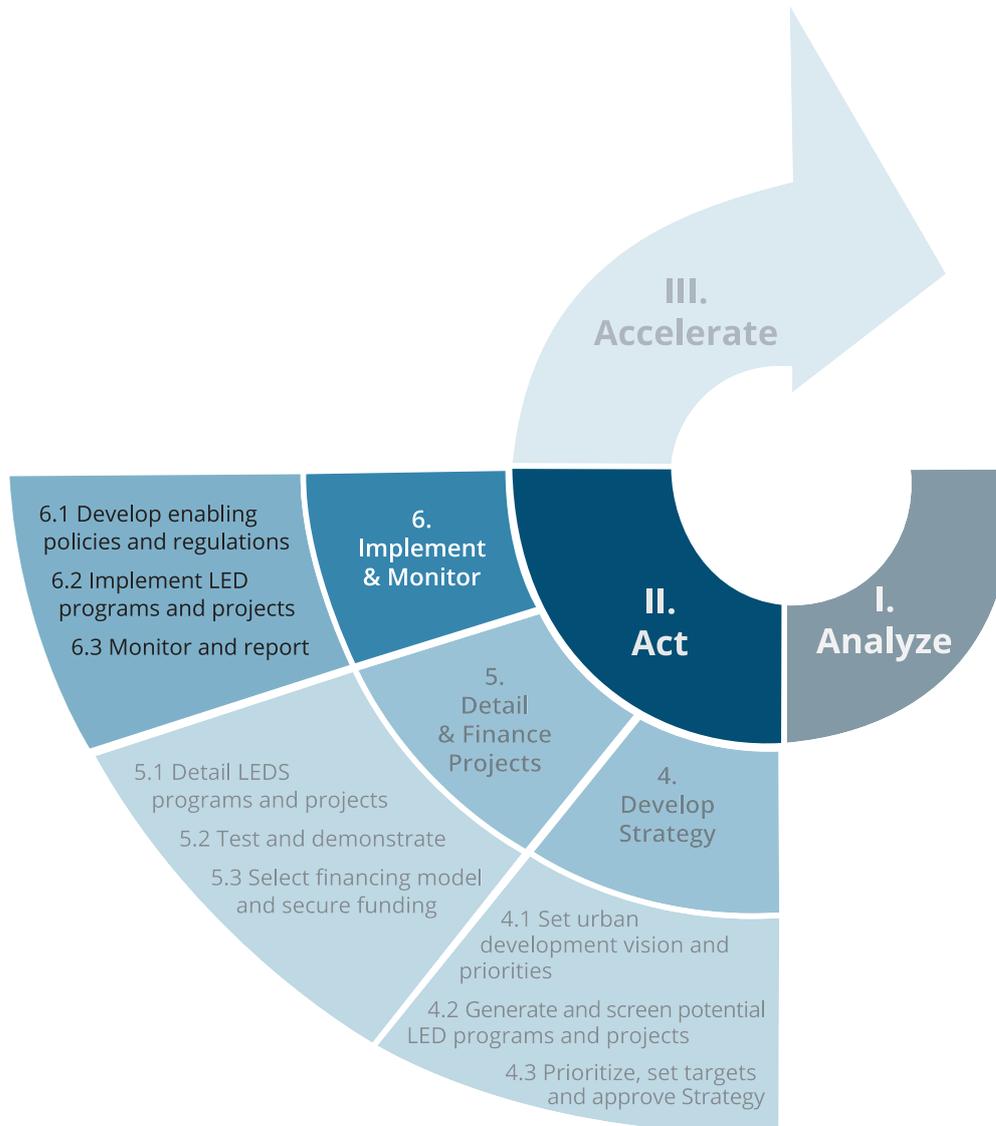
Good practice case

Coastline in Fortaleza, one of the Brazilian Urban-LEDES Model cities



Upon joining the Urban-LEDES project as a Model city, the Planning and Environment Secretariat of the Municipality of Fortaleza, Brazil, established a Climate Change Forum (FORCLIMA) to discuss the city's LEDES. Thematic working groups on energy, transportation, waste and construction were created. With the support of the ICLEI South America Secretariat, a sectoral analysis and emissions scenarios were presented as basis for sectoral guidelines which should be prioritized in the city's Low Carbon Development Plan. Following this, detailed measures were identified and their GHG emission reduction potential until 2030 estimated. These included for example burning landfill gas in Caucaia (7.2 MtCO_{2e}), retrofitting 80% of public buildings by 2030 (64 ktCO_{2e}), a Bus Rapid Transit (BRT) System of 70km for 2030 (2.8 MtCO_{2e}).

To finance these measures, local governments include their own municipal budget, funding from development banks and multilateral organizations, PPPs, and Energy Service Company (ESCO) models, to mention but a few options. Fortaleza presented three projects to potential funders at the Global Infrastructure Basel (GIB) Summit 2015 in Switzerland. It also submitted 8 projects under the Transformative Actions Program (TAP) Fortaleza, featured on the TAP platform, which focus on waste management, water management, natural resource management and biodiversity, urban planning and sustainable transport. For example the BRT segment connecting Parangaba and Mucuripe has a total budget of R\$ 265,5 million which will be covered by the State and Federal governments.

STEP 6: Implement & Monitor*Primary Outcomes:*

- Enabling conditions are established to support implementation of selected projects (e.g. policy, regulation, administrative procedures, capacity building, etc.).
- Implementation of LEDS programs and projects in partnership with entities selected for delivery.
- Monitoring and evaluation system is created for each program and project, with Measuring, Reporting and Verification taking place to address funders' requirements or on a voluntary basis.

6.1 Develop enabling policies and regulations

Preparation/Pre-requisite

- Approved programs and projects (5.3).
- Municipal staff training and awareness implemented according to earlier plan (2.2).

Primary outcomes

- Enabling conditions are established to support implementation of selected projects.
- Capacity building needs of city staff and other agencies identified and addressed.

Prepare, approve and implement targeted policies and regulations to maximize the effectiveness and benefits of the planned programs and projects. These may include enabling policies and regulations required to successful finance LED projects, as well as other enabling and multiplier actions such as capacity building.

An essential step is to identify any existing policies or regulations which may impede the successful implementation of the Strategy and to recommend an amendment or propose new policies / regulations to facilitate the Strategy roll-out.

It is also essential to identify whether necessary policies and regulations are missing. For example, an integrated waste management plan following the 3R hierarchy (reduce, reuse, recycle) cannot be put in place successfully without a policy to phase out waste dumps that ensures closure or upgrading of existing landfill and prohibits the establishment of new dump sites. This identification process should be informed by the government and local context reviews developed in sub-steps 2.1 and 2.2.

This step also connects to the regulatory or policy framework adjustments identified in sub-step 5.3 to enhance the financial attractiveness of the LED projects. Such adjustments may be generic such as improving the transparency of contracting procedures, but may also be sector specific. Examples include: improving the viability of an Urban Water Supply System project by regulating water tariffs to ensure long-term costs coverage and operability of the system; a Bus Rapid Transit (BRT) system may not be viable in the long-term without putting in place a Transit Oriented Development (TOD) policy to ensure projected ridership and economic viability.

This review will mainly focus on legal and procedural issues, but should also support the building of internal capacity and awareness over the long term, contributing both to enable and to multiply the effectiveness of the LED projects in delivering the expected results in terms of GHG emissions reduction and other benefits for the community.

Resources:

- Template: City staff awareness questionnaire
- Template: Capacity building needs assessment form
- Pool of Experts¹
- Guidance: Solutions Gateway² – in specific Solutions the Enabler, Required and Multiplier actions are recommended
- Reporting: carbonn Climate Registry (cCR)³
- Example: Barcelona, Spain- Using solar energy – supporting community energy self-sufficiency (ICLEI CS nr. 173)⁴
- Belo Horizonte, Brazil - Certification standards for fighting climate change: the “Sustainable BH” Seal (ICLEI Case Study nr. 185)⁴

1 <http://tinyurl.com/poolofexperts>
 2 www.solutions-gateway.org
 3 <http://carbonn.org/>
 4 www.iclei.org/casestudies

MRV for Sub-step 6.1 Develop enabling policies and regulations

Measures

- ✓ In coordination with all relevant departments, identify policies and regulations which may impede or be missing yet required for the successful implementation of the strategy.
- ✓ Recommend amendment or new policies or regulations to facilitate the strategy.

Reporting documentation

- ✓ Approval of enabling policies and/or regulations.
- ✓ Policy, regulatory and other enabling Actions reported on the cCR.
- ✓ Description of the training program, including topics covered and module structure.
- ✓ Results of the training and awareness raising activities in terms of number of participants and assessment results.

6.2 Implement LED programs and projects

Preparation/Pre-requisite

- Selected projects are approved and financed (5.3)
- Specific enabling conditions are put in place prior to implementation of projects as needed (6.1)

Primary outcomes

- Partnerships and alliances established with entities selected for delivery
- Implementation commenced

Detailed plans are now prepared for approved LED priority projects and implementation commences in partnership with entities selected for delivery.

This detailed planning could relate equally to large infrastructural projects, for example in the transport sector, but also to smaller, lower-cost but equally valuable measures such as internal municipal energy reduction initiatives or community engagement campaigns. Preparation of project plans may require assistance from technical experts.

Consideration should be given to:

- The responsible entity and leading person
- Project design and documentation
- Scheduling (e.g.: construction and implementation schedule, time of commission, etc.)
- Budget, financing, procurement, contract management
- Need for detailed supplementary studies (techno-economic feasibility, environmental impact assessment, etc.)
- Risk management plan
- Operational and ongoing maintenance regimes.

In preparing procurement processes for products, services and projects, it is important to consider the adoption of sustainable public procurement (SPP) policies and practices. For example to include low-emission award criteria in tendering evaluation and technical specifications in the contract, etc.

Resources:

- Tool: Stakeholders & consultation tool
- ICLEI's Sustainable Public Procurement guidelines:
 - Buying green! - A handbook on green public procurement¹
 - Procura+, a support campaign for local governments engaging in sustainable public procurement²
- Example: Curitiba, Brazil – a model in Transit Oriented Development (ICLEI Case Study n.190)³
- Medellín, Colombia - A new approach to solid waste management: matching problems with solutions (ICLEI Case Study nr. 179)³

1 <http://ec.europa.eu/environment/gpp/pdf/handbook.pdf>

2 www.procuraplus.org/en/about-procura/procura-manual/

3 www.iclei.org/casestudies

MRV for Sub-step 6.2 Implement LED programs and projects

Measures

- ✓ In cooperation with relevant departments, select competent external entities and establish partnerships for project implementation.
- ✓ Through relevant procurement procedures and in cooperation with the relevant departments, the Coordinator should select and subcontract companies or consultancies to participate in the LEDS implementation, as needed.

Reporting documentation

- ✓ List of partnerships and their role in solution implementation.
- ✓ List of subcontracted entities and their role in solution implementation.

6.3 Monitor and report

Preparation/Pre-requisite

- LEDS approved with targets and KPIs (4.3).
- LED programs and projects approved and financed, and corresponding KPIs (5.3).
- M&E process defined for all LED programs and projects (5.3) and overall LEDS (4.3).
- MRV process(es) defined in the context of financing arrangements or on a voluntary basis (4.3 and 5.3).
- Implementation of LED programs and projects in partnership with entities selected for delivery (6.2)

Primary outcomes

- Monitoring and Evaluation system in place for each LED program and project (5.3) and for the overall LED Strategy (4.3).
- MRV system(s) in place as defined in financing agreements (5.3).

The local government will implement a monitoring and evaluation (M&E) system for internal assessment of the implementation of all LED programs and projects and of the LED Strategy. Progress is tracked against overall objectives and specific targets using defined KPIs.

Each individual program / project should be monitored and evaluated according to its specific KPIs. This will enable the introduction of corrective or additional measures to ensure results. Such KPIs will also support achieving the overall LED Strategy KPIs. The evaluation of the LED Strategy/s implementation could be done by a cross-departmental team, potentially including external stakeholders, or by an external expert.

Project-specific M&E systems may feed into project-specific Measuring, Reporting and Verification (MRV) system(s). An MRV process is typically defined upstream when financing arrangements are made (see sub-step 5.3), and will vary depending on the requirements of the financing entity (e.g. requiring specific indicators, timelines, etc.). Climate change mitigation funding will typically require measurement based on regular GHG accounting. The MRV process can also be developed by the local government on a voluntary basis. It should include:

- Measuring indicators that are linked to the implementation of actions and their impact (define data to be captured and by whom, which stages need to be reviewed, set milestones).
- Reporting: according to requirements of the financing entity.
- Verification system: local government self-verification of emissions and/ or third party verification, after identification of verifiers and acceptance of the MRV system by the national/local government. Verification should ideally be overseen by an external or 3rd party to ensure transparency and an objective assessment.

An MRV process may already exist in some countries, with the local government reporting to the national or sub-national government. Here, a technical consultant may be required to help the local government develop a tailor-made MRV system. The MRV process is implemented with regular reporting feeding into relevant processes. The M&E and /or MRV system forms an important input into Step 8 "Review & Upscale".

Resources:

- Reporting platform: carbonn® Climate Registry¹
- Relevant national reporting guidelines
- Internationally recognized guidelines for GHG MRV (e.g. IPCC Guidelines for National Greenhouse Gas Inventories, GPC)²
- Examples: Copenhagen, Denmark - The Nørrebrogade Project: revitalizing a major road corridor for enhanced public transport and urban life (ICLEI Case Story n.01)²

1 www.carbonn.org

2 www.iclei.org/casestudies

MRV for Sub-step 6.3 Monitor and report

Measures

- ✓ Implement monitoring and evaluation procedures defined in step 5.
- ✓ Collect and supervise monitoring results from the individual project implementers.
- ✓ Periodically compile monitoring and evaluation reports.

Reporting documentation

- ✓ Periodic publication of monitoring and evaluation results.
- ✓ Report progress on actions on the cCR.

Verification Criteria

- ✓ Are enabling policies and regulations in place to make project financing attractive and optimize results?
- ✓ Have institutional mechanisms been established to support delivery over time?
- ✓ Has a training and awareness raising program been designed and implemented?
- ✓ Were skills of local government staff improved through training and awareness raising?
- ✓ Are the selected project implementers competent for tasks assigned?
- ✓ Is the selection of subcontractors consistent with the local government's procurement rules?
- ✓ Is the implementation of LEDS being monitored and reported?

Tip:

Time to refer to the **Process Checklist** in section 1.4!

Good practice case

Solar photovoltaic installation in Thane, India



The Thane Municipal Corporation in India, one of the Urban-LEDS Model Cities, has identified a number of priority actions. One of these is the training of drivers of the Thane Municipal Transportation department. 100 Drivers benefitted from the “public bus driver training program” to promote safer and fuel-efficient driving practices, considering the transport sector is one of the most challenging to deal with. Since its completion in July 2015, this program has already improved fuel efficiency by nearly 13%, as documented through a monitoring and evaluation process.

2. Guidance on the GreenClimateCities process

PHASE III: Accelerate

“How can I scale up?”

Who should be involved in this?

Which benefits can my local government get from this?”

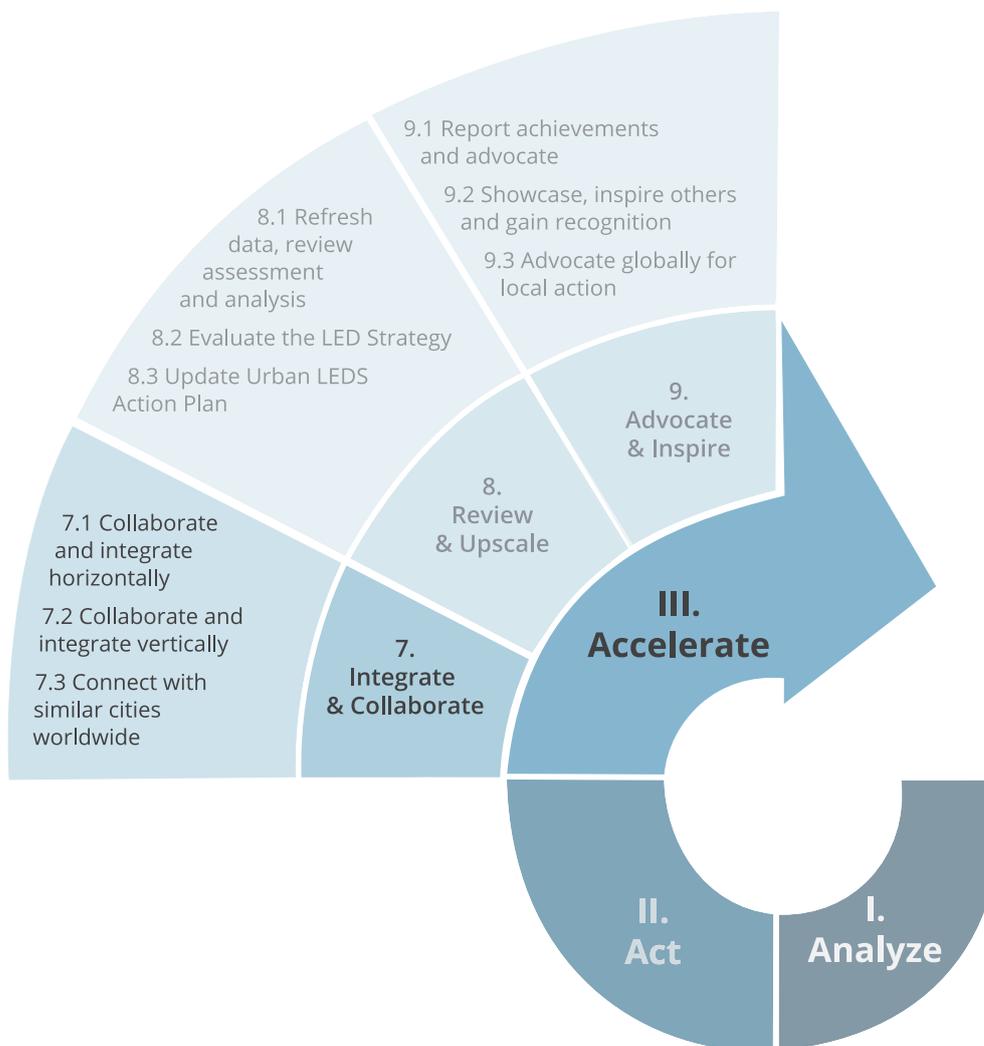
Aim:

- The “Accelerate” Phase outlines actions which can enhance and upscale implementation of the urban LED Strategy, and lay the groundwork for a new cycle of the process, based on an understanding of successes and mistakes made that can be rectified.
- It should be noted that the steps in the Accelerate phase are cross-cutting by nature. They should be considered and explored throughout the entire GCC process to promote integration, generate synergies, build momentum, and maximize sustainability benefits: institutional, socio-economic, environmental, and climate change mitigation. Step 7 in particular is not necessarily to be implemented in the sequential order here indicated, but rather throughout the previous steps as relevant depending on the local circumstances and measures being developed.

Primary Outcomes:

- The local government showcases its best practices, gains recognition and inspires others to take action.
- The local government explores enhancement of the national framework, helps remove barriers and gains improved access to financing, also with enhanced cooperation and coordination with neighboring local governments and with other levels of government.
- The local government connects to global processes and frameworks through advocacy, representation and dialogue with key global partners.



STEP 7: Integrate & Collaborate*Primary Outcomes:*

- Integration of policies and urban infrastructure potentially also beyond the administrative borders of the local government to increase systems coherence, service delivery quality, remove barriers and improve access to funding.
- Enhanced vertical integration of coordination and cooperation between different levels of government.
- Enhance cooperation with partner cities around the globe.

7.1 Collaborate and integrate horizontally

Preparation/Pre-requisite

- Stakeholder Group and contact to other local governments set-up (1.3).

Primary outcomes

- Cooperation agreements with other local governments.
- Integration of vital urban infrastructure systems that are cross border.

Communicating and cooperating with neighboring communities (cities, towns) to promote coherence and sustainability of urban plans, systems and services through joint cooperation and coordination of processes and with service providers.

Horizontal integration refers to cooperation and coordination between different local governments in an area (e.g. a province or a region). This has the potential to significantly contribute to systems efficiency, specifically coherence and sustainability for vital urban infrastructure that does not end at administrative borders, such as transportation. Here the coordination of interfaces, timetables, ticketing and operators is necessary to increase the use of public transport, non-motorized modes and even car sharing.

Horizontal collaboration with neighboring municipalities may also enable a local government to achieve the necessary scale for a strategy which might not be viable for a city, e.g. regional waste management facility, bulk purchasing consortium for renewable energy, or sustainable public transport networks.

Resources:

- Guidance: Solutions Gateway¹, specific Solution sections on Enabler and Multiplier actions (Governance and Stakeholder engagement sections)
- Experts Group: Pool of Experts²
- Study tours, staff exchanges.

1 www.solutions-gateway.org

2 <http://tinyurl.com/poolofexperts>

MRV for Sub-step 7.1 Collaborate and integrate horizontally

Measures

- ✓ Ensure representatives from other local governments are engaged in the LED sectoral working groups as relevant to the coherence and sustainability of the urban systems and services. This engagement should start as early as in sub-step 1.3 and continue throughout the GCC process, including crucial stages such as defining a common LED vision, identification and screening of potential solutions, detailing projects, securing financing and joint implementation (steps 4-6).

Reporting documentation

- ✓ Organogram that outlines the approach to horizontal integration.
- ✓ Regular news on horizontal cooperation, coordination and integration.
- ✓ Report on the carbonⁿ Climate Registry and indicate how you are horizontally integrated.

7.2 Collaborate and integrate vertically

Preparation/Pre-requisite

- Stakeholder Group and contacts to regional and national governments set-up (1.3).

Primary outcomes

- Systems and procedures that support cooperation among levels of government.
- Integration of vital urban infrastructure systems that do not end at administrative borders.

Vertical collaboration and integration with other levels of government and national agencies can enhance the local government's ability to implement its LED Strategy. Simultaneously it helps align policies to those of the national government, while supporting the achievement of national targets and commitments.

Vertical integration, also referred to as sub-national integration or a multi-level governance, means that different levels of government regularly exchange, plan and coordinate activities that relate to planning, implementation and reporting to increase the effectiveness of policies and programs. This helps identify gaps in resources and capacity, to address local needs and to build-on local strengths, structuring an overarching coherent approach that is locally adequate. Conversely, local governments can play a crucial role for the achievement of national low emission development targets and commitments.

Vertical integration also has the potential to contribute significantly to coherence and sustainability for vital urban infrastructure that does not end at local administrative borders. Because local governments operate within the national/regional policy and infrastructure frameworks, it is to their advantage to use available opportunities and channels for vertical communication and coordination, or require that these are created. By doing so, local governments may be able to address issues around enabling framework conditions (sub-step 2.1) and access external financing. It may also provide additional technical, financial and political support for leader cities testing innovative strategies, technologies, systems and practices – for national up-scaling should these be successful.

Resources:

- V-NAMA guidance: Policy Recommendations, Case Studies and Tools for the integration of sub-national actors in national mitigation actions, GIZ (2014)¹

¹ www.iclei.org/casestudies

MRV for Sub-step 7.2 Collaborate and integrate vertically

Measures

- ✓ Ensure representatives from all levels of government are engaged in the LED sectoral working groups as relevant to the coherence and sustainability of the urban systems and services. This engagement should start as early as in sub-step 1.3 and continue throughout the GCC process, including crucial stages such as defining a common LED vision, identification and screening of potential solutions, detailing projects, securing financing and joint implementation (steps 4-6).

Reporting documentation

- ✓ Organogram that outlines the approach to vertical integration.
- ✓ Regular news on vertical cooperation and integration.
- ✓ Report on the carbonn Climate Registry and indicate how you are vertically integrated.

7.3 Connect with similar cities worldwide

Preparation/Pre-requisite

- Explore formal or informal twinning relationships.

Primary outcomes

- Membership to city network(s) or to thematic workgroup(s).

Joining city networks or associations within a country, region or internationally and thematic groups such as the Global 100% Renewable Energy Cities and Regions Network can bring multiple benefits to the local government and its city.

Networking can create opportunities to share information and knowledge on approaches to tackling challenges and finding suitable solutions, connecting to peers and mobilizing colleagues in new areas of work. Differing contexts influence how concepts are applied, but an exchange on successful (and not so successful) approaches is valuable for political leaders and for technical staff. It can provide confidence when a local government is exploring new technologies and innovative practices. It can help identify pitfalls and problem areas in time. Sharing offers an opportunity not only to communicate experience and expertise that can help other cities, but can also position the local government as a leader in the respective field.

Local government networks can help connect cities with similar characteristics, with shared needs or challenges. Participation in global networks give local governments access to peers whom they may not have been aware of, also exposing new ideas, novel directions and innovative approaches that can open new avenues of development.

Emerging resources for local governments include new online solutions and marketplace sites – offering neutral space where guidance on potential solutions and tools are centralized for ease of access.

Resources:

- Guidance: Solutions Gateway¹
- Pool of Experts²
- Examples of thematic communities and initiatives available through ICLEI:
- Examples of thematic communities and initiatives available through ICLEI:
 - Compact of Mayors and Covenant of Mayors
 - Global 100% Renewable Energy Cities and Regions Network
 - Global District Energy in Cities Initiative
 - Building Efficiency Accelerator

1 www.solutions-gateway.org

2 <http://tinyurl.com/poolofexperts>

MRV for Sub-step 7.3 Connect with similar cities worldwide

Measures

- ✓ The local government joins a network(s) and/or thematic workgroup(s).

Reporting documentation

- ✓ News on membership in city network and/or thematic workgroup.
- ✓ News on exchanges with other cities resulting from participation in network / workgroup

Verification Criteria

- ✓ Were other relevant local governments successfully engaged in the development of your city's Urban LEDS?
- ✓ Did other levels of government engage in coordinated activities to optimize low emission development across a number of cities and towns?
- ✓ Was the LEDS approved framed developed considering the context of national policies and international commitments?
- ✓ Is the local government engaged in global reporting and advocacy activities?
- ✓ Is the local government a member of city networks and/or engaging in thematic workgroups to further exchange with peers?

Good practice case

Public reporting through various initiatives helps draw attention to commitments and good practice.

carbonn® Climate Registry 5 Year Overview Report (2010 - 2015)

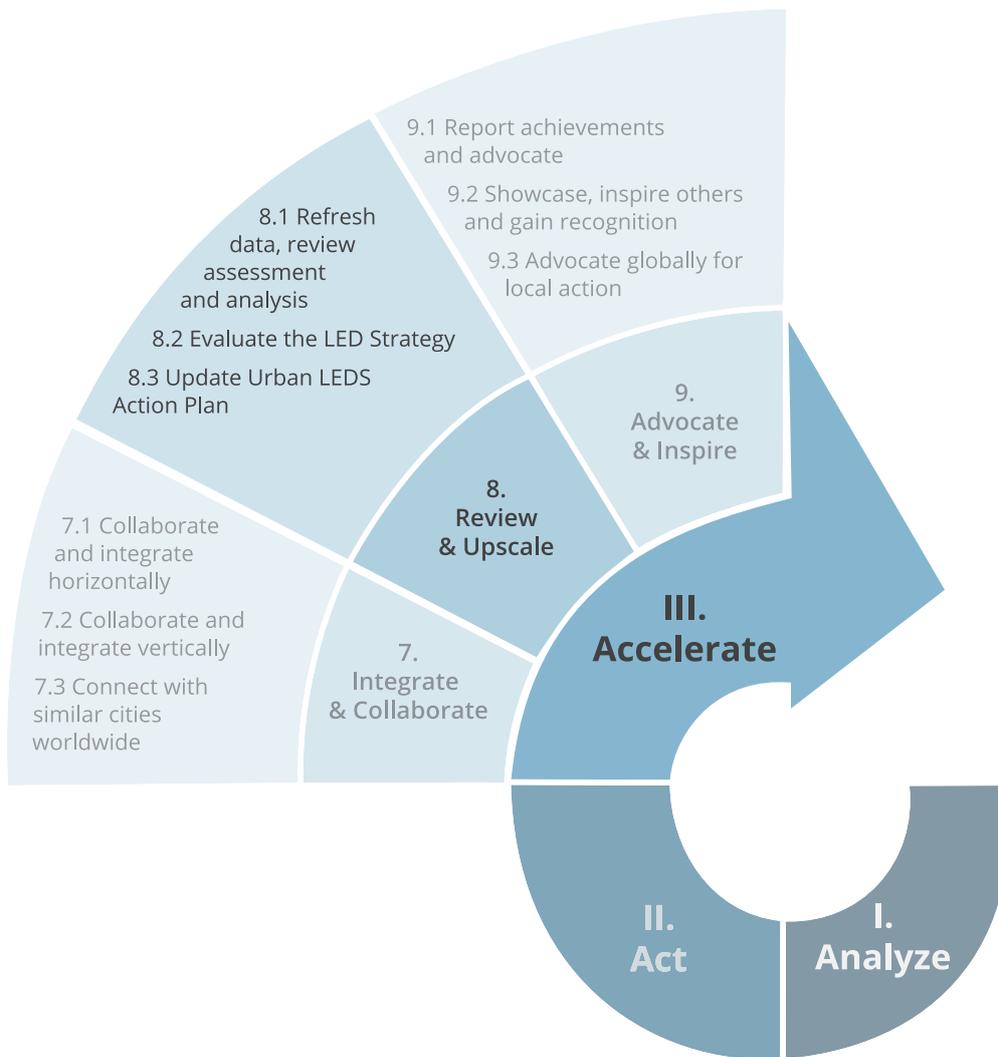


To draw attention to the impacts of national and local climate strategies, the GCC supports the close cooperation and integration in planning, coordination, implementation and monitoring, between all levels of government through effective vertical integration approaches. This already starts early in the GCC process, during step 1 Commit & Mobilize.

Illustrated through the Urban-LEDS project, Project Advisory Groups were created to help shape the project's approach from a strategic (national) perspective and to contribute to the project's successful implementation. Invited organizations included national / federal government, local government associations, national and international finance agencies and public and private expert organizations such as universities and non-governmental organizations. For example in Brazil, the national Project Advisory Group (see Country Associates tab), came together at several events, and includes the Brazilian State Capitals (CB27), the Ministry of Environment and the Ministry of Foreign Affairs.

MRV of local climate action is an important step towards vertical integration. It was a key element of global climate advocacy during the Urban-LEDS project. For example, the commitments, performance (GHG inventories) and actions were reported by Urban-LEDS cities in the carbonn® Climate Registry (cCR) and used in the Local Government Climate Roadmap to feed into the global climate negotiations of the United Nations Framework Convention on Climate Change (UNFCCC).

STEP 8: Review & Upscale



Primary Outcomes:

- Periodic evaluation of LEDS implementation and identification of additional measures to ensure the city stays on track to achieve its LEDS targets.
- Gathering lessons learnt and knowledge for the next iteration of the GCC process, ensuring the integration of the LEDS with existing municipal planning processes.
- Replication and scaling-up of LED programs and projects which have proven to be successful in the local context.

8.1 Refresh data, review assessment and analysis

Preparation/Pre-requisite

- LED Strategy's KPIs defined (4.3).
- KPIs of LED programs and projects defined (5.3).
- Monitoring and reporting systems of the LEDS, its programs and projects in place (6.3).

Primary outcomes

- Comparison of recorded implementation and performance with planned progress towards LEDS targets.
- Timely adoption of additional or "corrective" measures to ensure performance levels according to the LEDS Action Plan.
- Updated and improved GHG inventory.

To ensure the city stays on track to achieve its LEDS targets, periodic review of LEDS monitoring data is needed. This step involves revisiting earlier assessments of the local government and its contexts, for example to identify changes in legislation. It is also an opportunity to update and improve the quality of energy and activity data.

Step 8 is a highlight in the GCC cycle as it underpins the continuous improvement approach of the process. It also enables introducing adjustments to account for changing circumstances and deviations on expected performance.

Monitoring data and reports from individually implemented LED programs and projects are streamlined and analyzed to calculate the project-specific KPIs. Based on these, the overall LEDS KPIs are calculated and analyzed. A comparison against the planned progress is then needed.

A periodic update and review – e.g. annual or bi-annual - of the GHG inventory should be conducted. An appropriate time for this is when the LED solutions have been implemented for at least one year, and values should then be compared with the Baseline Emissions Inventory.

The process should also be used to improve data collection sources and coverage to optimize the inventory. This can subsequently be used to identify further GHG reduction opportunities. The management system set-up at sub-steps 2.3 and 3.1 will define the optimization process.

Resources:

- M&E and MRV systems approved for individual LED programs and projects, and for overall LEDS
- Tools: as in steps 2.1 to 2.3
- Tools: ClearPath¹ and HEAT+², ICLEI's greenhouse gas quantification software with GHG inventory and action planning and reporting functions
- Guidance on how to develop a GHG inventory at city-scale: Global Protocol for Community-scale Greenhouse Gas Emission Inventories (GPC)

1 www.clearpath.global/

2 www.iclei.org/heatplus

MRV for Sub-step 8.1 Refresh data, review assessment and analysis

Measures

- ✓ Periodically streamline the monitoring data from LED programs and projects and calculate project-specific KPIs and the overall LEDS KPIs.
- ✓ Periodically generate a report comparing performance against LEDS targets, including unexpected changes in circumstances such as legal framework or capacity.
- ✓ Carry out periodical updates of the GHG inventory and forecast.
- ✓ Develop a GHG forecasting report to illustrate the LEDS influence on GHG emissions.

Reporting documentation

- ✓ Updated GHG inventory (LG operations and Community-scale) reported on the cCR.
- ✓ Updated City Profile reported on the cCR.

8.2 Evaluate the LED Strategy

Preparation/Pre-requisite

- LED Strategy's KPIs defined (4.3).
- KPIs of LED programs and projects defined (5.3).
- Monitoring and reporting systems of the LED Strategy, its programs and projects in place (6.3).
- Review of monitoring data and KPIs of the LED Strategy and implemented LED programs and projects (8.1).

Primary outcomes

- Lessons learnt and experiences are recorded: successes, challenges, gaps and barriers.
- Recommendations for the next iteration of the GCC process.
- Recommendation for successful programs and projects replication and/or up-scaling.

An assessment of the implementation of the overall Strategy and specific actions is conducted to ensure the city stays on track to achieve its LED targets. During this evaluation, identify barriers which impede the achievement of LED targets as well as successful programs and projects for potential replication or up-scaling. Corrective measures should be timely adopted as needed.

Using results from the monitoring review and verification (sub-step 8.1), this evaluation should build on a systematic and comprehensive review process of systems, processes, capacities, partners and actions. It is an assessment of targets versus results, in accordance with the developed M&E process.

This assessment will help to identify successes, challenges, gaps and barriers in meeting the overall objectives set out in the Urban LED Strategy. It will assist in analyzing the degree to which the process has been institutionalized and integrated into city planning.

During this evaluation process, identify barriers which impeded the implementation of LED measures or the achievement of LED targets. These barriers should be removed to support mainstreaming low emission development into all planning, processes and projects. During this review process, it is also an opportunity to identify successful programs and projects that could be replicated and up-scaled to increase the impacts of the LED.

This will be a locally-specific process, documenting the mechanisms required to meet this goal, including key staff responsibilities, processes, criteria and impact assessments required.

Resources:

- Tools: ClearPath and HEAT+, ICLEI's greenhouse gas quantification software with GHG inventory and action planning and reporting functions

MRV for Sub-step 8.2 Evaluate the LED Strategy

Measures

- ✓ Periodically generate a report on the implementation of the LED Strategy and fulfillment of its targets, identifying successes, challenges, gaps and barriers with recommendations.

Reporting documentation

- ✓ LED Strategy periodic evaluation and progress report, with recommendations.

8.3 Update Urban LED Action Plan

Preparation/Pre-requisite

- Monitor LEDS programs and projects (6.3).
- Periodic streamlined review and analysis of monitoring and verification data and reports (8.1).
- Periodic LEDS evaluation and progress report (8.2).

Primary outcomes

- Urban LEDS Action Plan reviewed.
- Replication and up-scaling of successful concepts.
- Recommendations for next LED planning cycle.
- High interest material for the media (stories, case studies, news, media releases, etc.).
- Raising public awareness and influencing behavior change.

The lessons learnt and recommendations that emerge from the evaluation of the LED Strategy are used to accelerate progress in a targeted way, to overcome barriers, replicate and up-scale successful approaches.

The recommendations that result from the LED Strategy's periodic evaluation may lead to revisiting certain steps of the GCC process. For example, where barriers to successful implementation have been identified, actions can be explored at different levels, such as:

- Developing additional enabling policies and regulations (sub-step 6.1)
- Engaging additional or alternative partners for funding and implementation (sub-steps 5.3 and 6.2)
- Revisiting program and project design (sub-step 5.1)
- Deepen stakeholder engagement and awareness raising (sub-step 5.1)

Outline a strategy for replication and/or up-scaling of proven LED concepts. An action can be replicated by implementing at a similar local scale in different locations over the city area or it can be scaled-up by implementing at a larger scale (links to sub-step 5.2). Opportunities arising from horizontal and vertical collaboration, as identified in step 7, can also contribute to scaling-up in neighboring communities or at national level. Actions that are identified to multiply the impact of the LEDS, and "corrective" actions to ensure the LEDS targets are met, should be embodied in the LEDS Action Plan through a scheduled update. The LED Strategy and Action Plan approved in sub-step 4.3 should define the duration of the planning cycle, as well as the frequency for intermediate evaluation and reviews.

On reaching this sub-step, with an updated Country and City Profile, an optimized GHG inventory with a new forecast, and having demonstrated results, the local government is well positioned to identify new sector areas, as well as to revise priorities and actions. Increased scale can be implemented incrementally by incorporating additional activities and funding in annual work programs and budgets. Lessons learnt and recommendations for next LED planning cycle should be documented, also taking into account changes in the national and international contexts.

Resources:

- Examples: Existing LEDS and Action Plans (available in cCR)
- Reporting platform: [carbonsn@Climate Registry \(cCR\)](http://carbonsn@climate-registry.org)¹
- Develop your city's case study: ICLEI case study template and ICLEI Case Study Series².

1 <http://carbonsn.org/>
2 www.iclei.org/casestudies

MRV for Sub-step 8.3 Update Urban LED Action Plan

Measures

- ✓ Periodically review and update the LED Action Plan, outlining "corrective" measures to overcome existing barriers and including additional measures to multiply the impacts of successful programs and projects.
- ✓ Develop case studies and news stories of successful LEDS programs and projects implementation, replication and up-scaling.
- ✓ Document lessons learnt and develop recommendations for the next LEDS planning cycle.
- ✓ Prepare a new cycle of LEDS planning.
- ✓ Final reporting to Council and stakeholders on progress towards LEDS targets.
- ✓ Communicating activities on success and impacts to mobilize support.

Reporting documentation

- ✓ Upload the updated LED Action Plan on the cCR.
- ✓ Report results of LED programs and projects as Actions on the cCR.
- ✓ Lessons learnt are documented (e.g.: case studies, guidance, etc.).
- ✓ Communication materials showcasing successful LEDS programs and projects, replication and up-scaling (e.g. news, press releases, videos, etc.).
- ✓ Recommendations for the next GCC cycle / LEDS planning process.

Verification Criteria

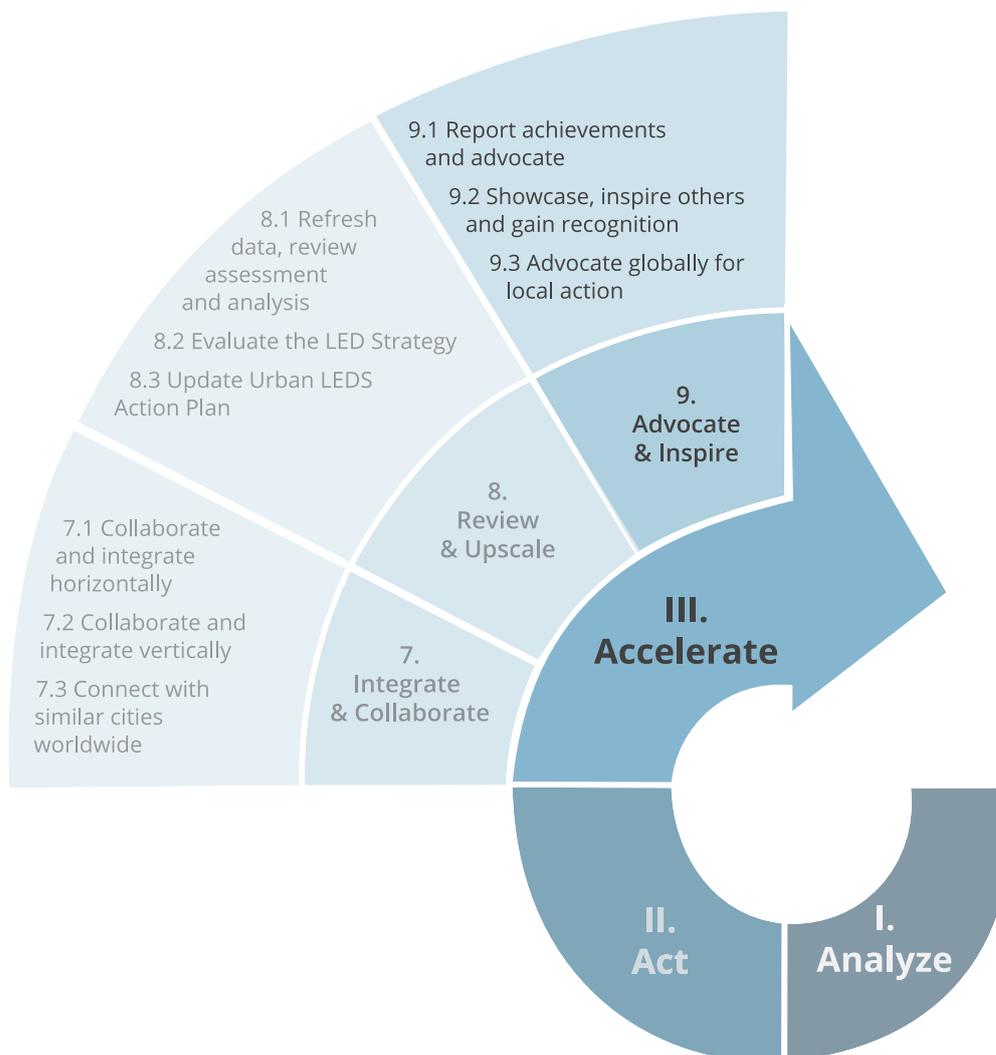
- ✓ Has implementation and overall performance been compared with the planned progress towards LEDS targets?
- ✓ Has the LED Action Plan been reviewed and updated considering the monitoring and evaluation results?
- ✓ Have lessons learnt been documented?
- ✓ At the end of the GCC cycle, have recommendations for a next GCC iteration been developed?

Good practice case

Commissioner (on the left) and Mayor of Rajkot (center) signed the district energy commitment with UNEP



Rajkot, an Urban-LEDS Model City in India, became the first pilot city of the Global District Energy in Cities Initiative (DES Initiative) as an opportunity to further and up-scale the city's efforts on the path to a sustainable and low emission development through modern district energy systems. This partnership will give Rajkot access to essential expertise and will allow the city to build on and benefit from the institutional framework for energy efficiency and renewable energy developed under the City's Urban LEDS. This agreement also gives Rajkot access to technical assistance for the development of a city-scale roadmap for development of district cooling covering policy, technology, finance and market development. By joining this global initiative and committing to share its experiences and lessons learnt, Rajkot is also contributing to the creation of an international community of practice and peer-learning between cities to advance modern district energy systems. (More details on www.iclei.org/districtenergy).

STEP 9: Advocate & Inspire*Primary Outcomes:*

- LEDS achievements reported globally with best practices contributing to global climate advocacy in recognition of the role and engagement of local governments.
- City is nominated for relevant national and/or international awards, and becomes renowned for its leadership.
- City leaders meet with global partners, international organizations and financial institutions to call for enabling framework conditions and support for local action.

9.1 Report achievements and advocate

Preparation/Pre-requisite

- None.

Primary outcomes

- LEDS achievements reported globally with best practices contributing to global climate advocacy in recognition of the role and engagement of local governments.
- Recognition of leadership.
- Connection to thought leaders and enablers.

Reporting on achievements can contribute to global climate advocacy while bringing additional visibility to local action and leadership. Part of this requires informing networks, engaging in collaborative efforts and publicly reporting data with progress in a transparent, standardized and recognized manner.

This In addition to satisfying the local government's formal reporting and accountability requirements, this sub-step also focuses on generating public and political support to gain momentum to prepare the ground for the "next generation" Urban LEDS cycle or to seek and secure additional funding.

The Transformative Actions Program is an opportunity to showcase the most ambitious, cross-cutting and inclusive local projects, also flagging the need for financing.

The local government will have decided on its data and reporting structure in sub-steps 4.3 and 5.3. By reporting on the global reporting platform, the carbonn® Climate Registry (cCR), international visibility is provided, also feeding data into the UNFCCC NAZCA platform, which registers commitments to climate action by companies, cities, subnational regions, and investors to address climate change. The cCR is the largest global database of local climate data, and is the reporting platform of 14 initiatives, also the official data platform of the Compact of Mayors and the Earth Hour City Challenge (EHCC). By reporting progress towards LED targets on the cCR, the local government is contributing to global efforts to recognize the critical role of cities in tackling climate change.

As indicated in sub-step 6.3, the local government may also need to report to national and sub-national governments using relevant reporting frameworks. In addition to the formal reporting outlined above, communication through social media and local media is encouraged, to share the news with other important target groups.

Resources:

- Platform: carbonn Climate Registry¹
- Platform: Other national / regional reporting processes
- Transformative Actions Program
- Non-State Actor Zone for Climate Action (NAZCA)

1 <http://carbonn.org/>

MRV for Sub-step 9.1 Report achievements and Advocate

Measures

- ✓ Report measures and performance on the carbonn Climate Registry.
- ✓ Organize workshops with relevant governmental stakeholders (local, regional, national), introducing key findings of the LEDS annual report.
- ✓ Share progress of the LEDS to relevant national or international agencies.

Reporting documentation

- ✓ Report on the carbonn Climate Registry.
- ✓ Description of stakeholder workshops, including topic, participants and workshop results.
- ✓ Collection of media clippings on global reporting and advocacy.
- ✓ (optional) City representation at the UNFCCC Climate Conference of Parties (COP).

9.2 Showcase, inspire others and gain recognition

Preparation/Pre-requisite

- Membership in city network(s) or thematic workgroup(s) (7.3).

Primary outcomes

- City is nominated for national and/or international awards for sustainable development.
- City becomes more renowned on the national and international level as a leading city in sustainability.

National and international recognition for the transformative work that the local government has done in its GreenClimateCities process can help focus on sustainability a priority for the local leadership. It can also make the city known to international actors who could help in further development, finance and/or implementation.

Resources:

- Earth Hour City Challenge

This step focuses on gaining national and international recognition for achievements through the city's GreenClimateCities process.

Various national and international awards exist for cities pioneering low emission or sustainable development. Being awarded can have multiple benefits for the local government and its city, as these acknowledge the work and impacts, raising the profile of the community and key actors in the process (e.g. recognition of the "champion"). Further, it can help to keep LED high on the agenda, but also to help justify it should there be political opposition or unsupportive constituencies. By becoming more known, the city may be able to attract a wider scope and better caliber of partnerships.

Participation in city networks may be helpful when pursuing awards and other forms of recognition, as these typically communicate opportunities and can also nominate members for appropriate awards.

MRV for sub-step 9.2 Showcase, inspire others and gain recognition

Measures

- ✓ The local government develops dedicated staff capacity to market and promote key achievements.

Reporting documentation

- ✓ News on showcased best practices and award received.

9.3 Advocate globally for local action

Preparation/Pre-requisite

- Membership in city network(s) or thematic workgroup(s) (7.3)

Primary outcomes

- City leadership meets directly with international organizations, agencies and financial institutions to advocate for the importance of local action and improved enabling framework conditions for local governments

In reaching the final step of the GreenClimateCities process, local governments have collected a wealth of information, experience and knowledge by strategically integrating Low Emission Development into their processes, procedures and institutions. This provides an advantageous position to advocate for sustainable local action at the global level.

Why address advocacy at the global level? There are many processes and frameworks started at the global level that impact on the local level, notably the Paris Agreement and the Sustainable Development Goals (SDGs). By undergoing a process of self-reflection and assessment, and making progress in an area of crucial importance, this is a good time to show where further improvements may be done within existing national and international frameworks.

With experience gained and by tracking impacts, the local government has demonstrated leadership through measured, reported and verified action. This makes the local government an ideal representative to advocate for the importance of local action in achieving national and international sustainability targets, also on behalf of its peers. Opportunities arise around large international events such as the Climate COPs or via invited participation on global advisory boards dealing with issues on sustainable (urban) development.

It is important to inform international organizations and financial institutions on barriers to local action exist due to current framework conditions, and where improvements could be made through modifications. This is also relevant when addressing more integrated multi-level governance that allows for open, constructive discussions among peers, as government representatives. Participation in city networks may again be helpful in obtaining access to meetings.

Resources:

- Local Governments and Municipal Authorities (LGMA) constituency at the UNFCCC¹
- Transformative Actions Program (TAP)²
- Sustainable Development Goal 11³

1 www.iclei.org/climate-roadmap/advocacy/unfccc/lgma-at-unfccc.html

2 www.tap-potential.org

3 www.un.org/sustainabledevelopment/cities/

MRV for Sub-step 9.3 Advocate globally for local action

Measures

- ✓ Seek opportunities to meet with and influence international institutions and agencies that shape global policy frameworks, taking advantage of membership to city networks.

Reporting documentation

- ✓ News reporting on outcomes of meeting with international institution or agency.

Verification Criteria

- ✓ Are local best practices and systems being showcased using all available channels?
- ✓ Were local government representatives invited to represent this level of government in international meetings?

Tip:

Refer to the **Process Checklist** in section 1.4.

Good practice case

Almada, a frontrunner of sustainable development



The city of Almada, Portugal is one of the 18 municipalities within the Lisbon metropolitan region and one of the country's frontrunners for sustainable development. As such it was selected as an Urban-LEDS network city, to share its expertise and experiences with other local governments engaging in low emission development. Almada is an ICLEI member and often engages in networking and advocacy activities, inspiring other cities in Europe and worldwide.

Almada's example of leadership and successful long-term commitment to climate change mitigation, is visible - having embedded this in its 10-year investment and budget plan covering all municipal departments. The city has implemented multiple low emission development solutions such as investing in non-motorized and public transport, energy efficient street lighting, the use of biogas from sewage sludge for energy cogeneration, sustainable storm water management, and many others.

As part of this strategy, Almada has established the "Almada Less Carbon Climate Fund" to finance energy efficiency and renewable energy investments. This fund is a voluntary financial scheme, whereby the carbon emissions resulting from the City Council's regular activities are evaluated from an economic standpoint, and such costs are then internalized with a compensation system. This has enabled various municipal departments to improve their performance without tapping into their own budgets. The Fund is also used to complement national and European funding and has contributed to successfully finance the implementation of Almada's Sustainable Energy Action Plan.

3. Congratulations, all phases concluded!

Congratulations on completing the first iteration of the GCC cycle!

You have made great progress towards Low Emission Development within your community. Now the next cycle starts ... Concluding the GCC cycle marks the beginning of a new cycle, until you have achieved a carbon neutral target.

The local government and community have progressed from the original starting point. It will now be easier to tackle more complex approaches, solutions and systems - be these policy, technical, financial, market and/or organizational.

The first LED Strategy will probably be fairly modest in terms of scale and scope, as your local government learns how to manage and optimize its LED approach. By the time the first GCC cycle is concluded, there will most likely also be new opportunities and challenges emerging within the Council, the community, and beyond. Explore these, respond to these.

Having built and demonstrated capacity and results, your city is becoming a more attractive partner to the private sector, to other local governments (for horizontal cooperation) and to other levels of government (for vertical coordination). We invite you to expand your cooperation network, to benefit from progress together.

Please provide ICLEI with feedback on your use of the GCC and MRV processes. We welcome constructive criticism and positive feedback!

You may also wish to explore another module, using the same process but from a different thematic perspective, such as resilience or biodiversity. Contact us for details.

The Urban-LEDS project:

Supporting local governments to make the right choices for local development

The Urban-LEDS project, funded by the European Union, and jointly implemented by UN-Habitat and ICLEI, has the objective of enhancing the transition to low emission urban development in emerging economy countries by offering the GreenClimateCities program to integrate low-carbon strategies into all sectors of urban planning and development.

Model Cities in Brazil, India, Indonesia and South Africa (2 in each country) received intensive support by multi-disciplinary teams, with 21 Satellite Cities guided in a "light touch" approach. A further 8 experienced European Cities shared their own experiences and know-how, also gaining new ideas from the South-South-North exchanges. Examples of the Urban-LEDS project cities are presented in this handbook for every GCC step. More information on <http://www.urban-leds.org>

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Appendix 1 - Explaining key terms used

- **Low Emission Development:** Based on the assumption that local governments using this handbook are interested in sustainable development, regardless of whether situated in the Global North or South, the term Low Emission Development (LED) is in part interchangeable with climate change mitigation, but has a stronger focus on combining (sustainable) development and developing a low emission pathway.
- **Urban Low Emission Development Strategy (Urban LEDS)** is a pathway for cities to transition to a low emission, green and inclusive urban economy, through its integration into city development plans and processes. The Urban LEDS is one of the main outcomes of the GCC program. It includes a vision for the future and sets forward targets for GHG emission reduction and development goals as well as the overarching policies and actions needed to achieve them. Through them, local governments can gain immediate, direct, cost effective and scalable greenhouse gas (GHG) emission reductions, while improving livelihoods for their citizens and businesses and optimizing the use of local renewable energy and other resources. An Urban LEDS could – and ideally should – connect to a Regional and National LEDS to ensure efforts are aligned and coordinated.
- **Action Plan:** This is a ready to implement list of actions, complete with financial feasibility, capacity, technical expertise, targets and indicators developed to implement the Strategy. Usually the Strategy will already include a high level version of the action plan, assigning responsibilities, resources and defining timelines within the administration, giving a mandate for staff to implement studies and processes that will lead to the subsequent development of fully fledged projects. Typically, the final action plan with fully detailed and budgeted projects will be completed as a subsequent step.
- **Solution or Solutions Package:** A process or coherent group of actions taken by the local government within the framework of the Low-Emission Development Strategy with the objective to achieve the strategy's goals. While “action” or “measure” is used to refer to individual projects or initiatives (e.g.: building a Bus Rapid Transit line), a Solution is rather programmatic in nature, covering different types of integrated actions such as infrastructure projects, policies, regulations, awareness raising programs, capacity-building trainings, etc. to maximize the effectiveness and results of the intervention (e.g. a program which includes a Bus Rapid Transit Line project and simultaneously revising zoning codes to promote Transit Oriented Development). Examples of Solutions and Solution Packages can be found in the Solutions Gateway (www.solutions-gateway.org).
- **Key Performance Indicators (KPI):** These are used in the LED Strategy to define main targets and will be used during implementation to monitor and evaluate progress. Effective LED Strategy KPIs will be SMART - Specific, Measurable, Accurate, Reasonable, and Time bound - and should cover energy savings, energy generation if applicable, GHG reduction and cost savings, and any other outcomes/outputs that the city deems strategically relevant. In addition to the LED Strategy KPI's, individual projects will also have a specific set of indicators. These should feed-into the high level indicators of the LED strategy and action plan.

This publication in brief:

Helping to bring together people, policy, finance and technology, ICLEI's GreenClimateCities (GCC) program provides a comprehensive process methodology and framework to guide and support local governments in defining, adopting and embedding a low emission development pathway into their urban development strategies, plans and processes, with a locally driven, cross-sectoral, evidence-based and inclusive approach.

The GCC process methodology and its associated Measuring, Reporting and Verification (MRV) framework were tested by the cities engaged in the Urban-LEDS project – we thank them for their support!

Urban-LEDS international network:



South Africa	Brazil	India	Indonesia
Urban LEDS Model Cities			
Steve Tshwete	Recife	Thane	Bogor
KwaDukuza Municipality	Fortaleza	Rajkot	Balikpapan
Urban LEDS Satellite Cities			
Saldanha Bay Municipality	Rio de Janeiro	Gwalior	Kabupaten Bogor
Mogale City Local Municipality	Porto Alegre	Shimla	Tangerang Selatan
uMhlathuze Local	Betim	Nagpur	Tarakan
Nelson Mandela Bay	Sorocaba	Coimbatore	Bontang
Sol Plaatje Municipality	Curitiba	Pimpri-Chinchwad	
	Belo Horizonte	Panaji	
Urban LEDS European Network Cities			
Almada, Portugal	Copenhagen, Denmark	Gaziantep, Turkey	Hannover, Germany
Warsaw, Poland	Zagreb, Croatia	Bologna, Italy	Helsinki, Finland

Interested in using the GCC? Please contact us



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