



Cities in Action - Update 2015

Low Emission Development in Brazil, India,
Indonesia and South Africa

Urban-LEDS project



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

Executive summary

The Urban-LEDS project supports local governments in emerging economies to make the right choices when addressing local development. By exploring innovative approaches to involve stakeholders, develop low emission development scenarios and improve institutional capacity to plan, act and monitor, ICLEI and UN-Habitat have guided first steps in several cities. The underlying principle used is to assess the status of existing policies, regulations, structures and procedures across the municipal government, proposing the fine-tuning or enhancement of sound practices, and creating new approaches where elements are missing. A guidance and support package has been provided to the 37 local governments involved in this project. This includes practical process guidance, technical and policy expertise, advise on vertically integrated climate action between different levels of government, and financing models. In all cases the local and national contexts are considered when developing tailor-made approaches.

This summary provides a snapshot of progress made since the start of the project in 2012, zooming in on a few highlights and celebrating progress made.

Contents

Executive summary	2
The project in brief	3
Main project activities	4
The Urban-LEDS Cities Network	6
Focus on 4 countries and their INDCs	8
City peer to peer exchange	9
Model City Fortaleza	10
Model City Recife	12
Model City Rajkot	14
Model City Thane	16
Model City Balikpapan	18
Model City Bogor	20
Model City KwaDukuza Municipality	22
Model City Steve Tshwete Municipality	24
Urban LEDS Network highlights	26
Additional resources	27

The project in brief

Project Basics:

- **Title:** Promoting Low Emission Urban Development Strategies in Emerging Economy Countries (Urban-LEDS)
- **Objective:** To enhance the transition to low emission urban development in emerging economy countries
- **Duration:** 01 March 2012 – 31 August 2015 (42 months)
- **Total Budget:** 6,700,000 € / Funding mechanism: European Union (EuropeAid/DCI-ENV/2011/269-952)
- **Implementing partners:** UN-Habitat and ICLEI
- **Keywords:** local climate action; greenhouse gas accounting; MRV process (Measurable, Reportable, Verifiable); stakeholder involvement; vertically integrated NAMAs (Nationally Appropriate Mitigation Actions); Local Government Climate Roadmap.

In each country, two Model Cities are assisted in formulating and adopting their Urban-LEDS, and share their experiences with Satellite Cities, which observe, learn and share their own experiences. Experienced European Cities support the process, sharing their own experiences and know-how.



Implementing partners



UN-Habitat: The United Nations Human Settlements Programme (UN-Habitat) is the United Nations’ agency for sustainable urban development. Through its World Urban Campaign, normative activities and technical support, it promotes the development of more compact, better integrated and connected cities that foster equitable, sustainable and low-emissions urban development, and that are resilient to climate change.



ICLEI – Local Governments for Sustainability: ICLEI – Local Governments for Sustainability (ICLEI), established in 1990, is the world’s leading network of over 1,000 cities, towns and metropolises in 88 countries, committed to building a sustainable future. By helping its Members to make their cities sustainable, low-carbon, resilient, biodiverse, resource-efficient, healthy and happy, with a green economy and smart infrastructure, it impacts over 20% of the global urban population.

Funder



The **European Union** is funding the Urban-LEDS project. In 2011 the European Union (EU) has outlined its Agenda for Change, guiding its development and cooperation activities. This supports actions that address poverty reduction and good governance, as well as inclusive and sustainable growth. All these issues are directly related to tackling climate change and transitioning towards sustainable energy. The Urban-LEDS project illustrates how the EU supports urban low emission development as an effective approach that brings together key stakeholders, working together under the leadership of local governments, to explore a better future for all.

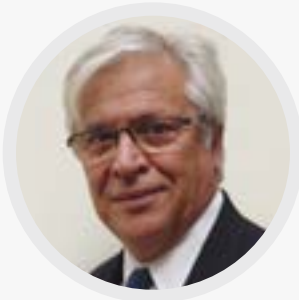
What is an Urban LEDS?

An 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. By exploring this, local governments can yield immediate, direct, cost effective and scalable greenhouse gas (GHG) emission reductions, while improving livelihoods for their citizens and businesses, also optimizing the use of local renewable energy and other resources.



Gino Van Begin
Secretary General,
ICLEI – Local
Governments for
Sustainability

“Every city and town can and should follow a low emission development pathway. By integrating this approach into every policy and action implemented by local government, from procurement to urban planning, benefits result for the local community, the country and the planet. ICLEI recommends that local governments consistently embed low emission, resilient and sustainable development strategies in all walks of life.”



Joan Clos
Executive Director,
UN-Habitat

“Many of the more cost-effective approaches to reducing GHG emissions occur in the urban context. Sustained by the well-structured framework of the Urban-LEDS Project, a number of the participating Model and Satellite Cities have indeed started to transform themselves and chart out pathways towards low-carbon urban development. Together with ICLEI, UN-Habitat stands ready to continue to help cities broaden and deepen their approaches to low emission urban development.”

Main project activities

Cities in Action

Local governments are taking the lead – exploring, planning, implementing, and evaluating Low Emission Development in their cities. They work with a wide range of stakeholders, and are supported by experts in many different fields. The Model Cities under development are sharing experiences with the Satellite Cities that observe, share and learn. International exchange between the cities supports South-South-North peer learning, also with European Cities engaging. More details on city activities and highlights are available throughout this report.

“Local to Global, Global to Local”

ICLEI, as the voice of local and subnational governments in the international climate negotiations – in its capacity as focal point of the **Local Governments and Municipal Authorities (LGMA) Constituency** at the United Nations Framework convention on Climate Change (UNFCCC) - and as facilitator of **the Local Government Climate Roadmap**, has been engaged in the international climate negotiation process since 2007. Working with other city networks, there was a call for recognition, engagement, and empowerment. Substantial progress has been made.

By the time of COP 21 the Roadmap is a chapter that will be successfully concluded, moving to focus on the post-2015 period to scale up and accelerate - also strongly linking to the **Sustainable Development Goals (SDGs)**.

National governments are encouraged to take a number of concrete actions to actively support their local governments' climate activities, such as engaging them in the preparation and implementation of low emissions development strategies and action plans, Intended Nationally Determined Contributions (INDCs), and Nationally Appropriate Mitigation Actions (NAMAs).



The **“Friends of Cities”** at the UNFCCC was established to create an avenue for national governments to engage in pivotal political discussions on local climate action, exploring how substantial progress can be made in the recognition, engagement and empowerment of local and sub-national governments. Starting a new phase in 2016, co-chairs (Parties) will lead discussions on vertical integration and scaling-up climate action.

What is effective vertical integration?

Urban planning, the built environment, the transport sector, waste and water management – currently all important greenhouse gas emitting sectors - typically can more easily be addressed by local government. Yet, they often do not have a mandate to deal with climate change or energy. Business-as-usual scenarios envisage that emissions in these sectors will continue to rise due to unmanaged energy and resource use, aggravated by urban growth. To effectively address this challenge, a change in approach is needed – aimed at optimizing the impacts of national and local climate strategies. This can be done by creating closer synergies in planning, coordination, implementation and monitoring, between all levels of government through effective vertical integration approaches.

Also referred to as sub-national integration or a multi-level governance approach, vertical integration means that different levels of government – from national/federal to state/provincial, other subnational and local government – regularly exchange, plan and coordinate activities that relate to planning, implementation and reporting.

The value lies in a frank, regular and structured exchange between peers that is well-coordinated. This implies not using a top-down approach, but rather considering the specific mandates and responsibilities of each level of government, and structuring a coherent approach.

Guiding Measurable, Reportable, Verifiable (MRV) climate action

Using Measurable, Reportable and Verifiable (MRV) systems are critical components of any future global, national and subnational climate action. In the Urban-LEDS project we are exploring a simple yet useful MRV system, linked to the **GreenClimateCities® program** (see page. 27) and built into the **carbonn® Climate Registry**, the global reporting platform for local and sub-national climate action. The aim is to scale-up local climate adaptation and mitigation action. A guidance and support package is provided to local governments:



Protocol

Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC)

The GPC is the world's most widely-endorsed GHG accounting and reporting standard for local governments. It provides a consistent and transparent way to measure emissions that conforms with the Intergovernmental Panel on Climate Change (IPCC) 2006 guidelines.



Tool

Harmonized Emissions Accounting Tool *plus* (HEAT+)

HEAT+ is a multilingual online GHG emissions inventory tool to help local governments account GHG emissions, and other pollutants, laying the groundwork for informed decision-making in formulating action plans. HEAT+ can support local governments to develop GPC compliant inventories.



Platform

carbonn® Climate Registry (cCR)

The cCR is the world's leading reporting platform to enhance transparency, accountability and credibility of climate action (mitigation and adaptation) of local and subnational governments. Voluntary reporting of commitments, performance (GHG inventories) and climate action - both mitigation and adaptation - as well as tracking co-benefits contribute to MRV-able climate action.

Solutions Gateway

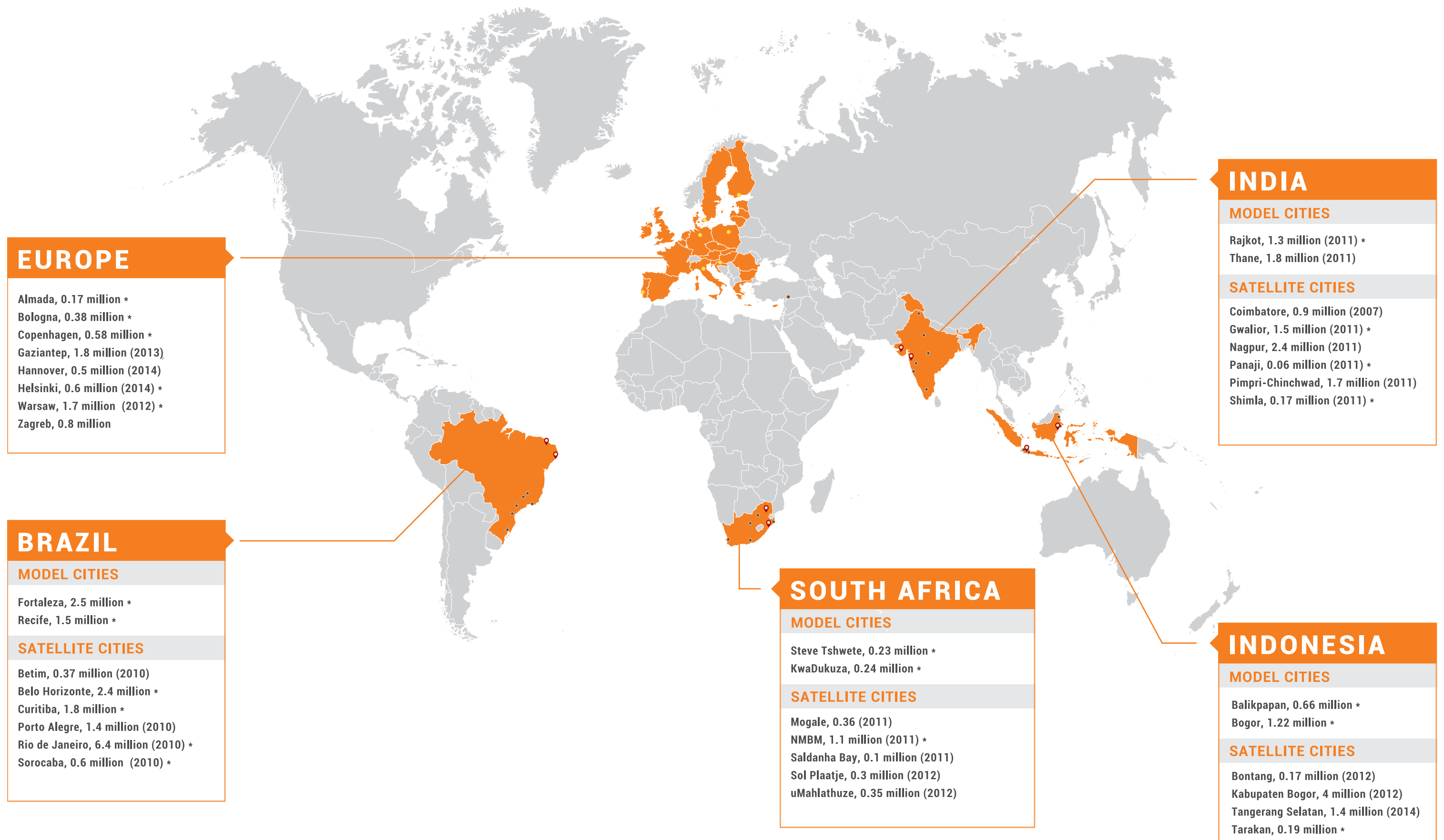
This online resource platform for Local Governments offers guidance and support on tackling urban development challenges and **helps deliver climate change mitigation results and enhance local sustainable development**. Taking an integrated approach, the Solutions Gateway describes the essential and enabling conditions to optimize the effectiveness of Solutions and generate synergies between: policy, regulation, governance, capacity building, awareness raising, stakeholder engagement, financing.



Pool of Experts

This global network of experts can provide strategic, technical, organizational and financial advice to support Local Governments in the definition and implementation of LEDS. It includes **experts from research and academia, consultancies, the business sector, NGOs, local and national governments**. The Pool of Experts addresses key urban development challenges such as energy, transport, waste, smart urban infrastructure, buildings, urban planning, poverty, finance, climate change mitigation, procurement, etc.






* Compact of Mayors Commitments

📍 Model Cities ● Satellite Cities ● European Cities

Focus on 4 countries and their INDCs


Brazil

 200 million inhabitants

Brazil's voluntary commitment to climate change, as stated in its Intended Nationally Determined Contribution (INDC) submitted to the UNFCCC in 2015, is to reduce GHG emissions by 37% below 2005 levels by 2025 and 43% below 2005 levels by 2030. Furthermore, Brazil will increase the use of renewable energy sources and shift towards the decarbonization of its economy by the end of the century.


Today, Brazil's energy mix already comprises 40% of renewables providing 75% of its electricity supply. To sustain and accelerate this transition and achieve its INDC commitments, Brazil acknowledges the important role of local governments and their contribution to tackling climate change.

India

 1.21 billion inhabitants

In its INDC submission, India commits to three objectives for 2030: to reduce the country's GDP emission intensity by 33% to 35% from 2005 levels; to install 40% cumulative electric power from non-fossil fuel based energy sources; and to increase tree cover to create an additional carbon sink of 2.5 to 3 GtCO₂e. To achieve these targets, India commits to a number of policies and actions, many of which are highly relevant to cities and local governments, such as the introduction of cleaner and more efficient thermal power generation strategies, increasing renewables in the energy generation mix, reducing emissions from the transport and waste sectors and promoting energy efficiency in the industrial, transportation, buildings and utilities sectors. The Indian INDC further recognizes the need to implement capacity building programs.


Indonesia

 247 million inhabitants

In its INDC, Indonesia commits to a 29% emission reduction from the Business-As-Usual (BAU) emissions scenario by 2030 (expected BAU emission level for 2030 is 2,881 GtCO₂e). Indonesia commits to an additional 12% reduction from BAU by 2030 subject to the provision of international support. The country is also committed to a mixed energy use policy to bring renewables to 23% of the energy mix by 2015.

To reach these targets, the government is committed to a comprehensive strategy to build capacities at the local level and enhance policies in the field of urban waste and wastewater management, especially waste-to-energy.

South Africa

 51 million inhabitants

The INDC submitted by South Africa to the UNFCCC describes the nation's commitment as a "Peak, Plateau and Decline (PPD)" GHG emissions trajectory range from the Business-As-Usual trajectory range. The starting year of the PPD trajectory range is 2020. Emissions will peak between 2020 and 2025 and then decline in absolute terms to a range between 398 and 614 MtCO₂e between 2025 and 2030.

This commitment applies to all sectors of the South African economy and can be expected to have implications for local government policies and actions.

City peer to peer exchange

Global exchanges have been organized between cities, including their political representatives and technical experts to provide international sharing experiences and opportunities for capacity development. Through these mechanisms cities were able to share their progress and address issues, to deepen their understanding of low emission development concepts and to gain insights from their peers. However, a key reason to organize such exchanges is to motivate each other and establish personal connections.

European Study Tour

In April 2014, 14 cities took part in the **European Study Tour in Almada, Copenhagen and Hannover**. The tour was a successful peer-learning and experience sharing exchange. The Mayor of Recife (Brazil) for example was impressed by the bicycle lanes developed in Europe and bicycle lanes will be a significant part of the river restoration program in Recife. The city of KwaDukuza (South Africa) recognized the value of witnessing innovative projects in other cities and that European experiences need to be contextualized to local conditions when exploring replication

International Networking

Two international networking seminars were organized in **Nelson Mandela Bay, South Africa (2013)** and in **Bogor, Indonesia (2015)**. The seminars brought together Urban LEDS cities to share achievements, map priorities and identify solutions, tools and strategies. In Bogor, exchanges addressed climate change, reporting, emissions commitments and LEDS in the context of future urban growth. The key issues explored included effective strategic planning and stakeholder engagement, embedding measurable, reportable and verifiable (MRV) climate action processes into low emission development. Access to finance and how Urban-LEDS cities may contribute to raising the global climate ambition in the run up to the COP 21/CMP11 in Paris, France and beyond was also a hot topic.

Other networking, experience sharing and training opportunities are offered to the Urban-LEDS cities in parallel of regional and international events such as: the ICLEI World Congress, the Local Climate Solutions for Africa Congress and the COP21.

From top to bottom:

Model and Satellite cities visit a wastewater treatment plant in Almada, Portugal, April 2014.

Urban LEDS cities and ICLEI staff during the First International Networking Seminar in Nelson Mandela Bay, November 2013.

Panel of mayors and UN-Habitat during the Second International Networking Seminar in Bogor, Indonesia, May 2015.

Urban LEDS cities and ICLEI staff on a field visit in Bogor, Indonesia, May 2015.



Model City Fortaleza

Brazil

Low carbon vision:

Become a sustainable city able to make economic growth compatible with environmental conservation, guaranteeing the use of renewable energy and with an effective waste management policy. Fortaleza has to take responsibility and leadership to drastically reduce GHG emissions, becoming an eco-efficiency, resilient city.

Commitments:

In November 2015, the Municipal Low Emission Development Policy and Low Carbon Action Plan were sent for council approval. The commitments included are to reduce GHG emissions by 5% by 2015, 10% by 2020 and 20% by 2030 from BAU project emissions based on 2012 baseline emissions.

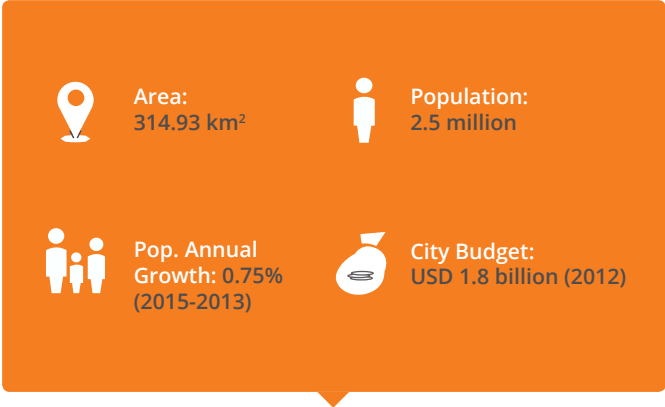
Low Emission Development Strategy:

The City has developed its Low Carbon Development Policy Plan with involvement of the Climate Change Forum (COMCLIMA), organized by the City's Planning and Environment Secretariat and with the support of ICLEI South America. The priority sectors identified include transportation, energy, waste and construction.

The LEDS Action Plan is an important instrument of the Municipal Environmental Policy. The new LED Policy Plan will prioritize some of the actions already outlined in other plans and policies, hence increasing the potential GHG emission reductions.

Status of process

Develop a community GHG inventory	completed
Establish a vision	completed
Set a target	in progress
Consult stakeholders and communities	in progress
Develop an action plan	in progress
Implement policies and actions	in progress
Track and monitor results	in progress



Community GHG emissions inventory:

Final energy consumption in the community:

Data available only for electricity consumption (per inhabitant): 2.794.880 MWh (2007)

GHG emissions from the community:

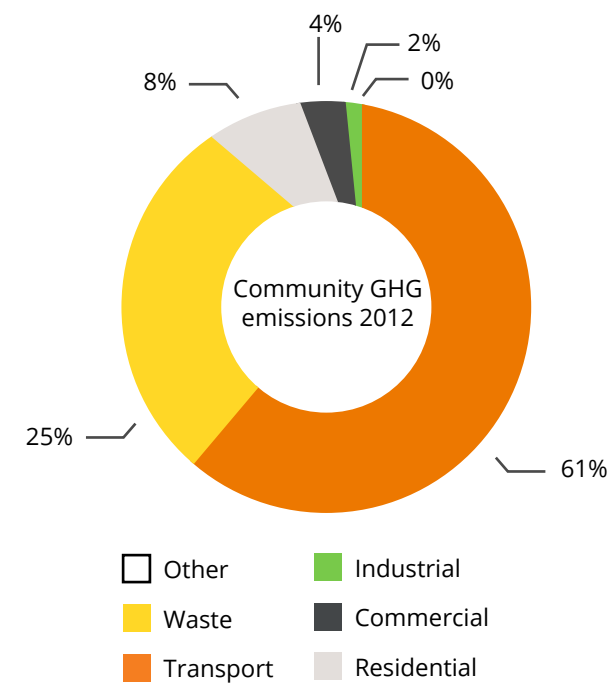
3.827.521 tCO₂e (2012)

Main economic activity:

Tourism, Industry, Commerce

Main priority sectors for Low Emission Development:

Waste, Mobility, Urban Planning and Spatial Development, Street Lighting, Renewable Energy



LED actions enabled by the Urban-LEDS project :

Fortaleza's first GHG inventory - Completed

Fortaleza has successfully developed a GPC compliant GHG inventory. This process has resulted in a better understanding of data collection sources and the identification of priority sectors for emission reduction.

Bike sharing, low emission transport - Ongoing

In December 2014, Fortaleza's first bike sharing scheme was launched. In 2015 it has a total of 55 stations throughout the city. Located near public transport terminals and places of public interest, the system serves 1900 users for a variety of purposes and an estimated emission reduction of 9'520 tonnes CO₂e/year.

Approach to Municipal Integrated Waste Management - Ongoing

In 2011, Fortaleza produced 1'758 million tons of waste (an average of 4.8 thousand kg/day) which are sent to the Caucaia landfill. A Municipal Integrated Waste Management Plan, including a separation and recycling process was launched in December 2012 for R\$ 900 million (about USD 372 000). Once fully financed and operational, the plan is expected to reduce waste by 137'165 tonnes/year, starting in 2020.

Recycling Attitudes Program - Ongoing

This environmental education program, implemented in 377 schools, will promote sustainable recycling processes to improve resource efficiency, social equity and the creation of green jobs (also addressing waste pickers). The City Administration is supporting 13 local recycling collection points and 39 waste picker cooperatives. The estimated waste reduction potential of the program is 6'000 tonnes/year after 2015.

Fortaleza Afforestation Plan - Ongoing

This plan was established to increase tree cover in the municipality to capture CO₂ and yield additional benefits with the creation of green spaces, the improvement of air quality and overall quality of life for citizens. In 2014-2015, 20'267 trees have been planted, which corresponds to a rate of 4m²/habitant in 2014 and 8m²/habitat in 2015. Another 35'000 trees will be planted by December 2016. The estimated emission reductions are 350 tCO₂e/year for 2015, 1'200 tCO₂e/year for 2020 and 2'400 tCO₂e/year in 2030.

Minha Casa, Minha Vida (My Home, My Life) - Ongoing

Fortaleza also runs a program called "Minha Casa, Minha Vida" for installing solar systems on low-income homes for water heating (solar thermal) and electricity (photovoltaics).

Energy Efficient Schools - Ongoing

Most recently an efficient building pilot project was launched, with 13 schools being made more energy efficient. The city is currently hiring construction companies and Acqua certifiers for the first pilot.



"Fortaleza aims to develop a municipal governance model based on social inclusion, participation, cooperation, and having transparency and sustainability as the transversal elements in public administration. The Urban-LEDS project offers a platform to help us obtain the leadership, technical know-how and methodologies to implement appropriate policies."

Roberto Cláudio,
Mayor of Fortaleza

www.fortaleza.ce.gov.br



Model City Recife

Brazil

Low Carbon Vision:

Committed to be a model of social and economic development based on sustainability. To this end Recife has developed a Municipal Policy on Climate Change and Sustainability to guide actions on sustainability and climate change mitigation and adaptation. These activities are part of its Current Government Program (2013-2016). Recife also aims to be a leader in the Brazilian North-eastern region.

Commitments:

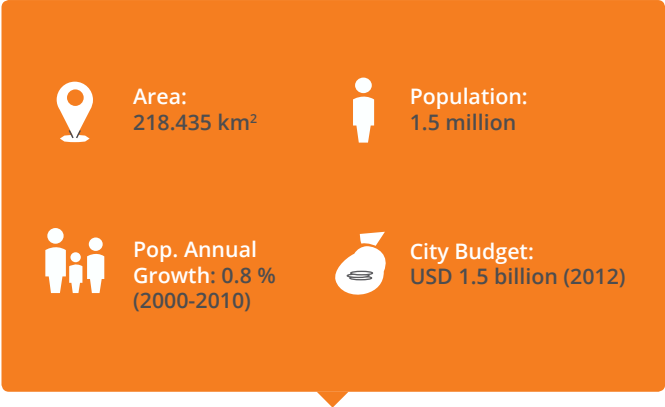
The city is currently exploring with the Council a GHG emission reduction commitment of 20,4% by 2030 based on 2012 emission levels.

Low Emission Development Strategy:

The Low Emission Development Strategy and Action Plan are currently under review before adoption by the City Council.

Status of process

Develop a community GHG inventory	completed
Establish a vision	completed
Set a target	in progress
Consult stakeholders and communities	completed
Develop an action plan	completed
Implement policies and actions	in progress
Track and monitor results	in progress



Community GHG emissions inventory:

Final energy consumption in the community:

Data available only for electricity consumption (per inhabitant): 2.794.880 MWh (2007)

GHG emissions from the community:

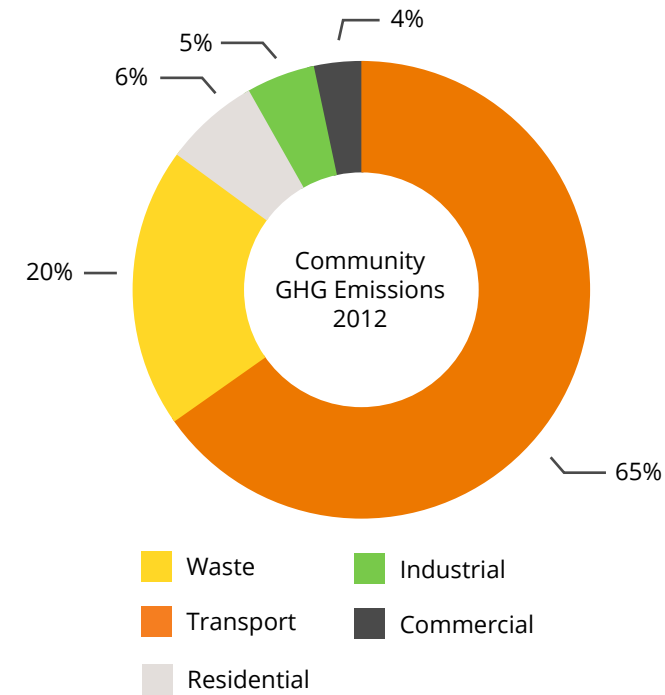
3.115.341 tCO₂e (2012)

Main economic activity:

Industry, Services, Fishery, Tourism

Main priority sectors for Low Emission Development:

Transport, Mobility, Urban Planning/Spatial Development, Green Spaces, Waste, Buildings



LED actions enabled by the Urban-LEDS project :

Municipal Integrated Waste Management Plan - Ongoing

The Recife Metropolitan Region produces and sends 4,982.30t of waste everyday to one landfill, of which only 0.17% is recycled. As a result, a Municipal Integrated Waste Management Plan was developed along with a campaign to collect electronic waste and a domestic composting program. Waste separation and recycling systems are also being explored. In January 2013 the municipal landfill was equipped to capture biogas and generate energy. Approximately 136'000 tCO₂e were avoided in 2013 and 140'000 tCO₂e in 2014. Recife's LED Action Plan includes waste reduction to avoid an additional 53'194 tCO₂e/year.

Public Light Emitting Diode (LED) Lighting - Ongoing

Street and traffic lights were retrofitted with LED in a pilot area of Recife's historical center for USD 1.7 million in order to reduce energy use by 50-70%. The city is now expanding this program. To finance it, Recife will use energy costs savings. The program could reduce up to 1'278 tCO₂e/year.

Expanding carbon sinks - Ongoing

Afforestation is a priority of Recife's urban and environmental development policy. Between 2013 and 2015, 45'000 trees have been planted for an estimated GHG reduction potential of 1'200 tCO₂e/year.

Improving EcoMobility - Ongoing

Cars have been banned from certain streets on weekends to encourage biking. 500 Municipal vehicles will be replaced by vehicles running on biofuel (pending council approval). Exclusive bus corridors will improve daily passenger transit and reduce travel time by 3h on average within Recife and the Metropolitan Region. This initiative is estimated to reduce emissions by 41'018 tCO₂e/year. The first electric car sharing scheme in Brazil will be implemented with support of the national government

Capibaribe River Navigability Project - Ongoing

Two boat routes (11km and 2.9 km long) are explored as an additional transport option for 8'000 passengers/month. These routes will be integrated to the metropolitan transport system and their tickets will be valid throughout. Estimated emission reductions are 3'227 tCO₂e/year.

Green buildings - Adopted

In 2014, a municipal law on Green Roofs was adopted requiring buildings with more than 4 floors and all commercial buildings of more than 400m² to have roofs covered with native vegetation. A code and certification system for private (commercial and residential) and public buildings was also adopted. Due to start in 2016, the program will focus on rainwater capture, energy efficiency, sustainable design, and the segregation of recyclable materials in buildings.

Spatial Planning Technical Assistance - completed

Technical assistance was provided by an accredited spatial planning expert from the International Society of City and Regional Planners, who analyzed and recommended strategies to improve mobility and urban infrastructure in Recife. Guidelines were provided to revise the City's Master Plan and implement "made in Recife" Urban LEDS. The reviewed Master Plan will be delivered in January 2016 for a first consultation.



"We have made the commitment to a social and economic model structured on a sustainable basis. The Urban-LEDS initiative is a key factor in helping us to meet our targets."

Geraldo Júlio,
Mayor of Recife

www.recife.pe.gov.br



Model City Rajkot India

Low carbon vision:

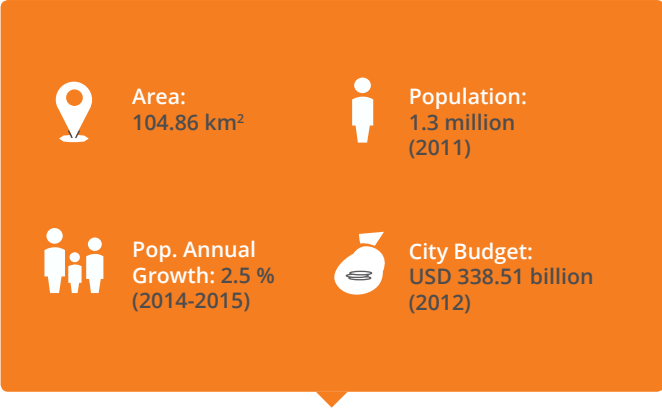
The Rajkot Smart City Mission is to transform Rajkot into a Sustainable, Modern, Affordable, Resilient and Technology-driven (SMART) city by provision of quality infrastructure and efficient service delivery; a city where citizens actively collaborate with government to improve their lives and the future of the city.

Commitments:

As part of the Solar Cities Program, Rajkot has committed to reduce its conventional energy use by 10% between 2008 and 2013. Building on this, the city is currently finalizing a Low Emission Development Strategy, will be adopting commitments on this basis, and considering becoming a carbon neutral city.

Low Emission Development Strategy:

The Strategy is being finalized to integrate the Smart City Proposal and will be submitted to the City Council for adoption in the near future.



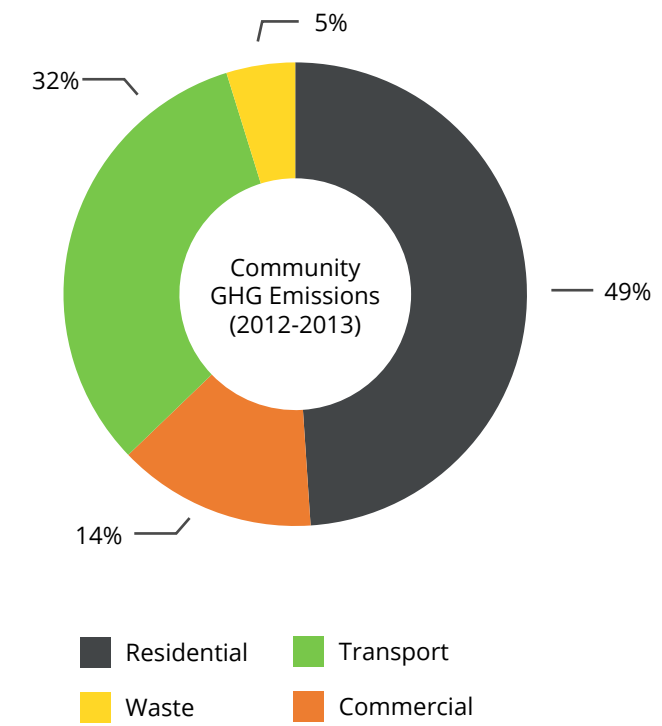
Community GHG emissions inventory:

Final energy consumption in the community:
17,355,606 GJ (2012-2013)

GHG emissions from the community:
1,692,692 tCO₂e (2012-2013)

Main economic activity:
Oil Engine & Machine Tools, Foundry Industry, Engineering and Automobile Industries, Castor Oil Industries.

Main priority sectors for Low Emission Development:
Street Lighting, Sewage, Water Supply, Transport



Status of process

Develop a community GHG inventory	completed
Establish a vision	completed
Set a target	in progress
Consult stakeholders and communities	completed
Develop an action plan	in progress
Implement policies and actions	in progress
Track and monitor results	in progress

LED actions enabled by the Urban-LEDS project :

GHG emissions inventory - Completed

Recently, the city completed its first GPC compliant GHG inventory. The GHG inventory prepared for the baseline year 2012-2013 helps assess energy consumption and GHG emissions across key sectors and municipal services. It is the first step towards developing strategies and undertaking interventions to reduce GHG emissions.

Solar photovoltaic (PV) systems for schools - Ongoing

A solar PV system of 20kW peak capacity is presently being installed at the Sarojini Naidu municipal high school to provide uninterrupted energy, while also serving as an education pilot for the students. The installation of this system will be completed by end of November 2015, with a potential energy generation of 30,000 kWh and GHG emission reduction of 25 tCO₂e annually.

Piloting low-carbon waste water treatment - Ongoing

A feasibility assessment for a decentralized wastewater treatment system (DeWATS) has been conducted and a pilot project of 100 kilolitres per day is under construction (expected delivery in December 2015). The biogas generated by a DeWATS system can substitute the use of liquid petroleum gas therefore reducing emissions and offsetting emissions from electricity use for pumping and centralized sewage treatment.

Energy efficient street lighting replacement - Ongoing

This energy efficiency intervention includes conducting a feasibility study and retrofitting 291 streetlights with LED in selected streets. The installation will be completed by end November 2015 and will result in energy savings of about 132,254 kWh and GHG emissions reduction of 109 tCO₂e annually. Other benefits include increased illumination and safety, security and reduced maintenance costs. The City intends toexpand this project.

Sustainable transport - Ongoing

Approximately 10% of trips made in Rajkot are by bicycle. The Rajkot Municipal Corporation wants to encourage more bicycle usage and with the support from local institutions, has introduced a bicycle sharing system with an initial four stations located at important nodes in the city. Encouraged by the success of this system and to complement the ongoing efforts to strengthen city bus system and help people shift towards sustainable transport modes, the city intends to implement and expand this scheme in a phased manner. A pre-feasibility and appropriate publicly owned and privately operated business model have been developed.

Energy efficient water pumping- Ongoing

Analysis and discussions during the baseline assessments and GHG Inventory preparation have highlighted that energy consumption in water pumping is a critical area. Rajkot intends to address this by undertaking investment grade energy audits for its pumping stations.



“Rajkot is committed to pursue a low emission pathway and address the emissions from our municipal services. We have identified a set of priority low emission strategies and we are actively undertaking a range of actions to address our local issues and leverage the opportunities that the Urban-LEDS brings to us.”

Rakshaben Raghubhai Boliya, Mayor of Rajkot

www.rmc.gov.in



Low carbon vision:

Moving towards a low carbon economy by exploring various innovative technological solutions and integrating them into city level activities to ensure the better delivery of services to the citizens of Thane city.

Commitments:

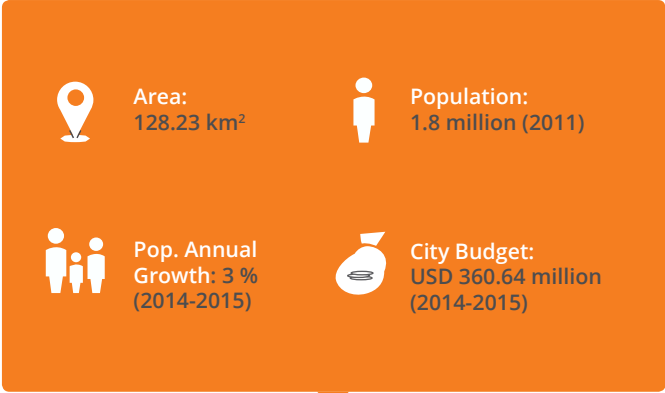
Under the Solar Cities Programme, the local government committed to increase energy efficiency by 7% between 2010 and 2015. Currently it is finalizing its low emission development strategy, subsequent to which commitments will be adopted by the Council.

Low Emission Development Strategy:

Baseline assessments have been carried out and the baseline GHG inventory developed. A Low Emission Development Strategy addressing local priorities and in consonance with the Smart Cities Proposal for the city is currently under preparation.

Status of process

Develop a community GHG inventory	completed
Establish a vision	completed
Set a target	in progress
Consult stakeholders and communities	completed
Develop an action plan	in progress
Implement policies and actions	in progress
Track and monitor results	in progress



Community GHG emissions inventory:

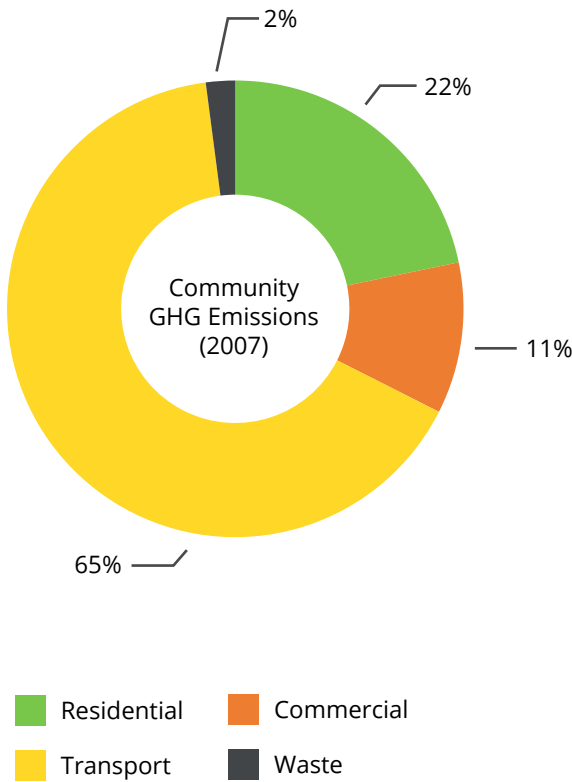
Final energy consumption in the community:
12,185,583 GJ (2012-2013)

GHG emissions from the community:
1,857,108 tCO₂e (2007-2008)

Main economic activity:
Secondary Sector – Industry, Manufacturing, Metalworking Industry, Vehicles, Electrical Equipment, Chemicals, Food, Paper

Main economic activity:
Industry, Manufacturing, Metalworking Industry, Vehicles, Electrical Equipment, Chemicals, Food, Paper

Main priority sectors for Low Emission Development:
Renewable energy and energy efficiency in buildings; street lighting; water supply; waste to energy



LED actions enabled by the Urban-LEDS project :

Energy-efficient street lighting - Ongoing

An energy performance contract with an Energy Service Company will be used to finance the retrofit of 10'000 street lights. The energy efficient luminaires have the potential to reduce energy use by 60 % (i.e. 4.5 Million kWh/year) and GHG emission by over 3'700 tCO₂e/year at a total cost of around INR 150 Million. This pilot intervention will help improve illumination levels, realize large-scale energy efficiency and system modernization for better operation and maintenance of street lighting, while reducing costs of the local government.

Energy efficient street lighting in slum areas - Ongoing

Over 500 existing street lights will be replaced with energy efficient LED lights in selected low income areas of Thane. It will improve the illumination and safety in these areas, reduce electricity use by 40%, save about 277'000 kWh, and reduce GHG emission by 227 tCO₂e annually. This action is linked to a larger scale programme for the retrofit of 10'000 streetlights. This small-scale project has been completed and its performance is being monitored.

Low Emission Measures in school - Ongoing

The Vartak Nagar school wishes to become more efficient, reduce its energy bills and ultimately become 100% energy sufficient. The measures implemented in the school include the installation of a 15 kW grid interactive roof top solar PV system, the energy efficient retrofit of lighting equipment and installation of smart meters for monitoring. Grid energy consumption will reduce by 54,000 kWh annually and GHG emissions by approximately 44 tCO₂e/year. The implementation is underway and is expected to be completed by December 2015, making the school a live laboratory of low emission solutions, for students and other schools.

Municipal drivers training program - Ongoing

The Thane Municipal Transport department together with the Petroleum Conservation Research Association (PCRA) and in association with ICLEI South Asia, has conducted a Driver Training Program for 100 drivers on good driving practices (in June and July 2015). The good driving practices inculcated will help realize financial savings and improve road safety. Preliminary assessments indicate potential fuel efficiency improvements of nearly 13%. This program continues.

WWF Earth Hour City Challenge (EHCC) 2014-2015 National Capital Winner - Achieved

Thane was awarded EHCC National Capital for India for its ambitious community commitments to increase renewable energy by 6%, to increase energy efficiency by 7% between 2010 and 2015, to reduce emissions from buildings and curb traffic congestion.

Climate Change Low Carbon Practices Awareness Program - Ongoing

This awareness raising program is being implemented in 12 schools for a total of over 2000 students and will be extended to 20 schools.



"The Thane Municipal Corporation continues to play a lead role in accelerating the transition to low emission development under the Urban-LEDS project. Our staff has been inspired by the knowledge sharing network offered by this project and we are implementing pilot projects which will provide a platform to scale up similar interventions across the city."

Sanjay Bhaurav More,
Mayor of Thane

www.thanecity.gov.in



Model City Balikpapan Indonesia

Low carbon vision:

Making Balikpapan City livable and environmentally sound, to be realized based on an orientation towards a green social economy.

Commitments:

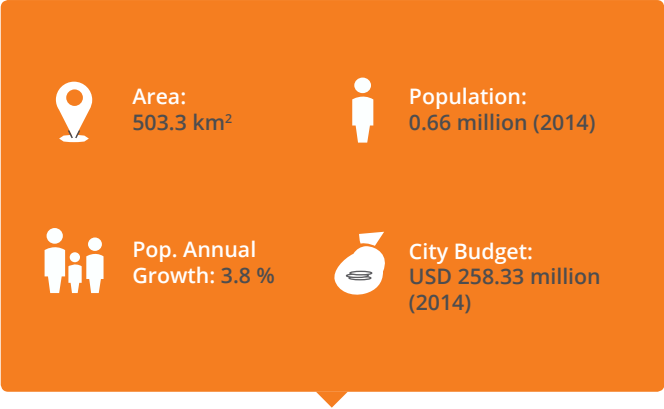
The City finlized its GHG inventory in 2015 and identified the following priorty LEDS and sectors for emission reduction: to provide mass public transporation facilities in order to reduce the number of private vehicles from 128 to 16 buses; and develop a green building pilot project including solar panels and rainwater utilization for government and private buildings.

Low Emission Development Strategy:

Municipal elections will take place in December 2015. For this new administration, the city government’s Urban LEDS working group is designing a 5-year mid-term development plan and LEDS Strategy in the form of a City Action Plan Emission Reduction. The document includes 4 priority sectors for emission reduction: transportation, commercial and institutional buildings, waste management and waste water, as well as resilience.

Status of process

Develop a community GHG inventory	completed
Establish a vision	completed
Set a target	in progress
Consult stakeholders and communities	completed
Develop an action plan	completed
Implement policies and actions	in progress
Track and monitor results	in progress



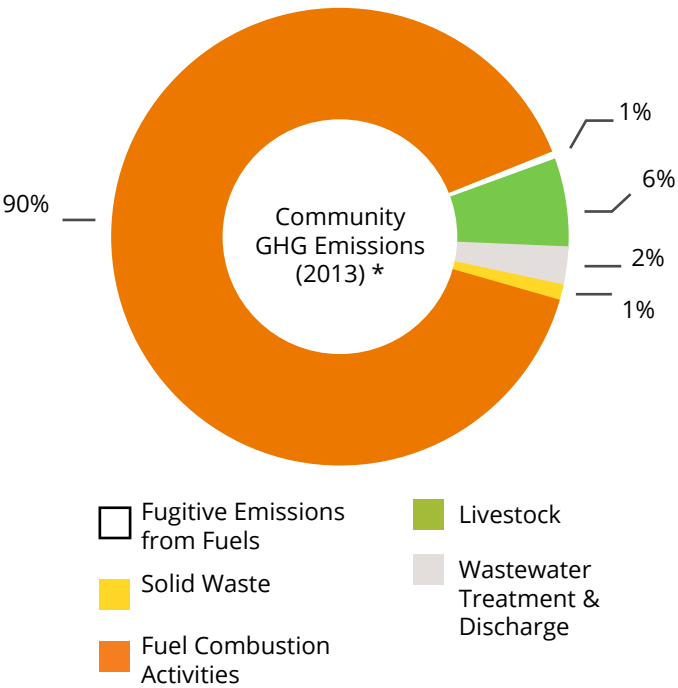
Community GHG emissions inventory:

Final energy consumption in the community:
1,321,557 GJ (2011)

GHG emissions from the community:
1,480,438 tCO2e (2013) *Scope 1 emissions

Main economic activity:
Trade and Services.

Main priority sectors for Low Emission Development:
Transportation, ommercial and institutional buildings, waste managemcent and waste water, as well as resilience.



LED actions enabled by the Urban-LEDS project :

First GHG inventory and identifying LEDS activities

Balikpapan has finalized its first community GHG emissions inventory. The current indicative results show that the highest emission contributor is the transport sector. Further, there is huge carbon sink potential from the city forest and open green spaces. The local government is incorporating LEDS principles and has identified LEDS activities (redevelopment of the Coastal Road precinct in accordance with LEDS principles; building and lighting retrofit activities; as well as waste management).

Allocating municipal budget - Ongoing

As a result of developing its GHG inventory, the local government has decided to allocate 400 million IDR(USD?) from the city budget, for the implementation of its low emission development strategy.

Energy efficient lighting - Ongoing

Energy-efficient lighting is a primary LEDS focus in Balikpapan, whether scaling up energy efficient street lighting to main and secondaty roads, or at the facility level through lighting retrofit activities. For example the Mayor issues a referral letter ordering the retrofit of government and public buildings.

Waste-to-energy: low carbon waste management - Ongoing

Detailed engineering feasibility studies have been development to equip the Pandansari Market and Marga Sari waste treatment facilities with carbon capture and storave systems. The implementation of these projects will tentatively start in 2016.

Corporate Social Responsibility - Ongoing

A range of actions are explored through the private sector Corporate Social Responsibility (CSR) committee, which has already allocated funding for the Manggar Waste Management Facility to develop a methane capture pipeline. The facility will electrify 40 households.



“Balikpapan City is very optimistic regarding the achievement of its emission reduction target by 2020 as a contribution to the national emission reduction target to reduce emissions by 29%. We must and will make it. The ICLEI GreenClimateCities program will help us to get there.”

**Rizal Effendi,
Mayor of Balikpapan**

www.balikpapan.go.id



Model City Bogor Indonesia

Low carbon vision:

Realize a clean and environmentally sound city based on developing a green economy with an emphasis on services that optimize the use of existing natural resources.

Commitments:

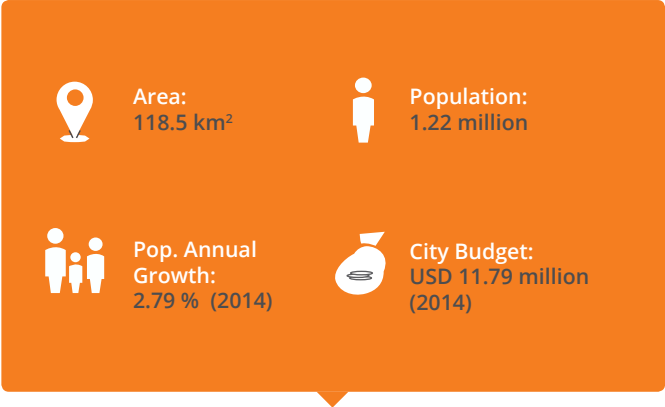
The City commits to an absolute reduction of GHG emissions of 0.58 tCO₂e by 2018, through a reduction in fuel consumption of 24'597 kiloliters, the improvement of the city's 14km-long Bus Rapid Transit system and shifting the bus fleet to using renewable energy in the form of CNG (200 buses by 2016 and 1000 by 2019). These measures will also improve air quality.

Low Emission Development Strategy:

In November 2014, Bogor's 5-year development plan (RPJMD) was enacted. The plan recognizes climate change mitigation, adaptation and disaster risk reduction as strategic priorities for the period 2014-2019. The RPJMD calls for emission reduction efforts in spatial planning policy, air pollution control, public transportation, pedestrianization, Green Building Standardization, integrated waste management and the retrofit of streetlights with LED.

Status of process

Develop a community GHG inventory	completed
Establish a vision	completed
Set a target	in progress
Consult stakeholders and communities	completed
Develop an action plan	completed
Implement policies and actions	in progress
Track and monitor results	in progress



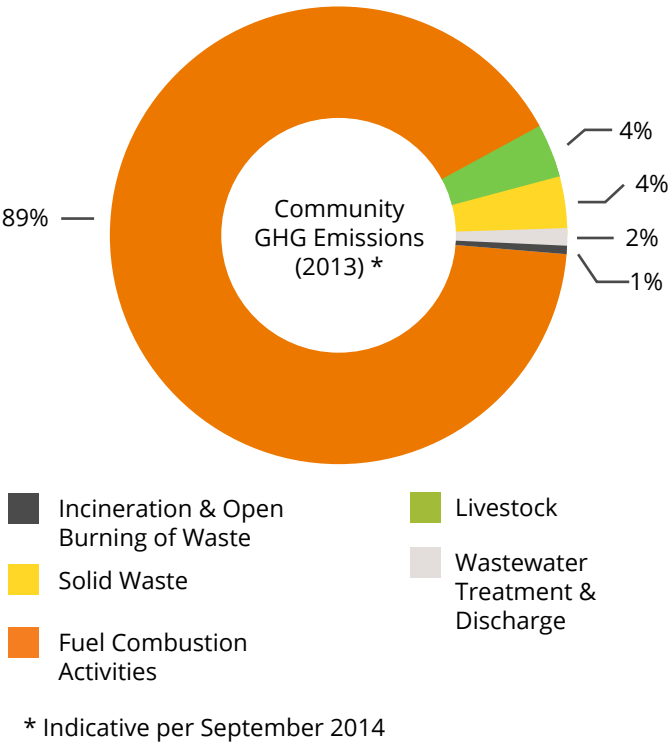
Community GHG emissions inventory:

Final energy consumption in the community:
5,550,235 GJ (2014)

GHG emissions from the community:
4,970,635 tCO₂ (2013) *Scope 1 emissions

Main economic activity:
Trade, Tourism, Services and some Industries

Main priority sectors for Low Emission Development:
Transportation, Energy Efficiency, Waste Management (recycling and waste-to-energy).



LED actions enabled by the Urban-LEDS project :

Sustainable transport budget - Ongoing

The city council decided at the end of November 2014 to allocate about 12 million USD (IDR 147.067 Milyar) to improve sustainable low emission transport in the city. This will support the revitalization of the Bus Rapid Transit (BRT) system "The Transpakuan" which serves 14 kilometers (km) of the city area. The buses will switch to using gas, as a low emission fuel option. Another objective is the conversion of a huge number of minibuses to either use gas (planned for 1000 minibuses) or electricity (50 minibuses). In order to implement this, the city will provide converter kits or devices to support the conversion of premium fuel to gas as well as to electricity. These actions will not only help the city reduce its emissions considerably, but also lead to better air quality and support the national government's goal of achieving its emission reduction targets.

Five -Year Mid-Term Development Plan (RPJMD) - Adopted

Following, a unique multi-stakeholder consultation effort, the local government reviewed its existing spatial planning frameworks and extensively integrated low emission development in the RPJMD. This plan provides a regional land-use and development framework as well as identifies key low emission development priorities: waste management, green building standards, planning to reduce vulnerability to climate-related risks, accessibility of urban facilities and quality of life.

Methane capture from communal sanitation plant - Ongoing

The communal sanitation plant of Bogor's residential area was equipped with a bio-digester to capture emissions of methane from domestic wastewater and converted it into a source of renewable energy for domestic use in cooking. As of 2014, the system served 47 locations.

Bogor's Walkability Campaign - Ongoing

Bogor has committed to building 22.5 kilometers of pedestrian paths by 2020. The first first phase of the project have been concluded. The newly built paths are equipped with tag tiles, bicycle lines, green areas and are completely integrated with public transport stations and public places of interest. A park-and-ride system is also planned.

Green Building Concept - Ongoing

Bogor is advancing in adopting the green building concept for new developments from 2015 onwards. The city has allocated funds in the annual budget to build the new House of Representative Building based on energy efficiency principles. In addition, a number of heritage buildings have been identified for retrofitting in the next 5 years.



"To shift Bogor City towards a low carbon development trajectory, the city will reduce GHG emissions by developing a set of environmental and low emission city regulations and policies. The city priorities are: to improve the quality of spatial planning and implementation; promote mass transportation, pedestrians and cyclists; and encourage urban development responsiveness to disaster risk and climate change impacts."

Bima Arya Sugiarto,
Mayor of Bogor

www.kotabogor.go.id



Model City KwaDukuza Municipality

South Africa

Low carbon vision:

By 2030 KwaDukuza will have successfully managed its transition to low carbon development and will be a distinctive urban launch pad for the Richards Bay / uMhlathuze Corridor, a job-rich green manufacturing, renewable energy and logistics hub, a thriving tourism destination, a model of integrated resource management and climate change adaptation, and a “Shaka¹-inspired interface” with its traditional hinterland.

Commitments:

The Municipality is committed to a reduction in municipal energy consumption of 8 % by 2018, to have a 100% of households using electricity for lighting by 2025. A community GHG emission reduction target is under discussion.

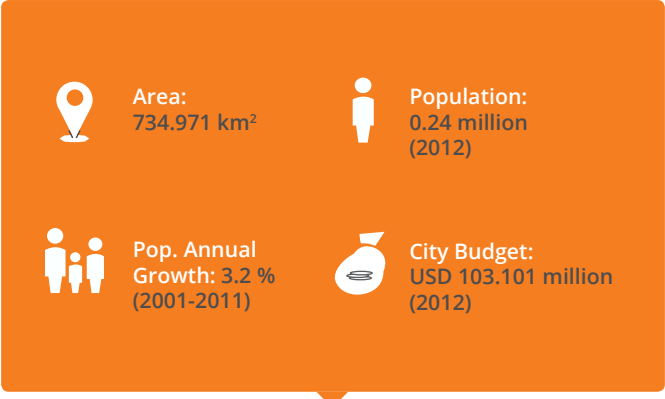
Low Emission Development Strategy:

KwaDukuza’s Low Emission Development Strategic Framework and Action Plan was open for public comment in November 2015, and is being finalized to be adopted by the City Council. The plan’s flagship objectives and strategies include: becoming a green economic and tourism hub, promoting a compact resource and energy efficient built environment enabling mobility and the access to safe reliable and affordable energy, and especially renewable, for all. It also promotes the protection of local natural resources, such as water and biodiversity to support local well-being and increase resilience to climate stress.

Status of process

Develop a community GHG inventory	completed
Establish a vision	completed
Set a target	in progress
Consult stakeholders and communities	in progress
Develop an action plan	completed
Implement policies and actions	in progress
Track and monitor results	in progress

¹ Shaka Zulu was a great Zulu warrior and king who united his people and showed leadership at a key moment in history.



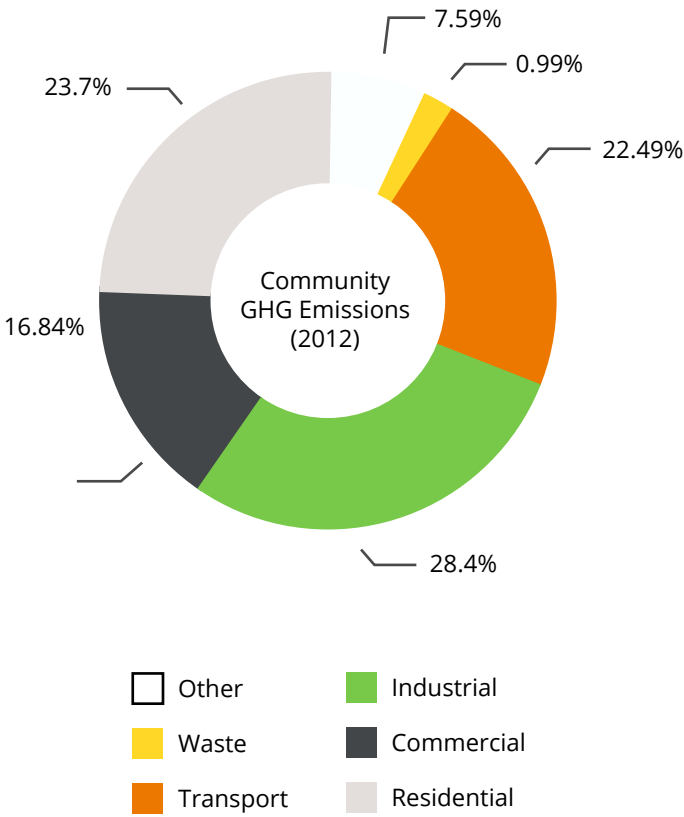
Community GHG emissions inventory:

Final energy consumption in the community:
5,316,698.57 GJ

GHG emissions from the community:
1,008,657.49 tCO₂e (2012)

Main economic activity:
Commerce, Service sectors, Agriculture.

Main priority sectors for Low Emission Development:
Green Economy, Green Building and Spatial Planning, Energy Poverty



LED actions enabled by the Urban-LEDS project :

Scenario planning to develop LEDS framework and action plan – Completed

Future scenario planning was used to craft a 2030 vision and objectives for the city using creative engagement techniques (cartoons and enactment of alternative futures) with municipal staff and local stakeholders, including 400 local residents . External eperst have also contributedT to the outcome strategic framework and action plan. Open for public comment in November 2015, they will be voted on by the City Council.

Integrate low emission development into strategic plans - Ongoing

The objectives and actions of the LEDS framework have been integrated into the upcoming City Development Strategy, the 2015-2016 Integrated Development Plan, and Electricity Master Plan. This integration ensures low emission development principles are carried through into statutory requirements and reporting in the longer term.

Pilot roll-out of “hotboxes” to households - completed

Hotboxes are passive insulated cookers. Their roll-out is aimed at reducing poverty, decreasing energy use and fire risk, and to promote gender empowerment. Some hotboxes were distributed to Ward Councilors who act as “train-the-trainers”.

Paper recycling system in municipal buildings - Completed

Recognising that leadership starts internally, the municipality has implemented a paper recycling system in a number of municipal buildings – involving a local contractor to remove and recycle the waste collected.

Green building guidelines development – Completed

A brand new set of green building guidelines has been developed with municipal and local developer involvement. The guidelines are to be used by all stakeholders to encourage greener building and spatial development practices. Dissemination is underway.

Municipal stall training and skills development - Completed

Municipal staff have been actively engaged in a number of capacity building opportunities, including international exchanges and study tours in Europe and Indonesia, domestic learning exchanges on green buildings with the City of Tshwane, attendance at the LOCS conferences. Multiple staff members have also completed a professional development course on sustainable urban energy in 2013 and 2014, and direct training from ICLEI Africa staff on GHG data collection and analysis. This has raised understanding and awareness among a large number of different municipal staff.

Community showcase project - In progress

In the Groutville Community, 20 orphanage homes of the the Stanger Child Welfare Association managed by women were chosen to benefit from small-scale technologies to promote sustainable living, including “Wonderbags” to reduce energy for cooking, LED mobile lights and compost containers. They also received support to create their own food gardens and the municipality sponsored the planting of trees. After completion, solar streetlights will lighten up the street and if feasible, solar water heaters will be installed in each home to reduce costs and energy use.



“Climate change is the most serious global challenge of our time. Being one of the local municipalities in the country to pitch for Compact of Mayors status is a re-affirmation of our commitment in the fight against climate change. Our vision statement holds true of our successful interventions on the climate challenge. There is a clear indication that we are a progressive city in the making, on our path towards a low carbon economy. Together we can do more!”

Ricardo Mthembu,
Mayor of KwaDukuza Municipality

www.kwadukuza.gov.za



Model City Steve Tshwete Municipality

South Africa

Low carbon vision:

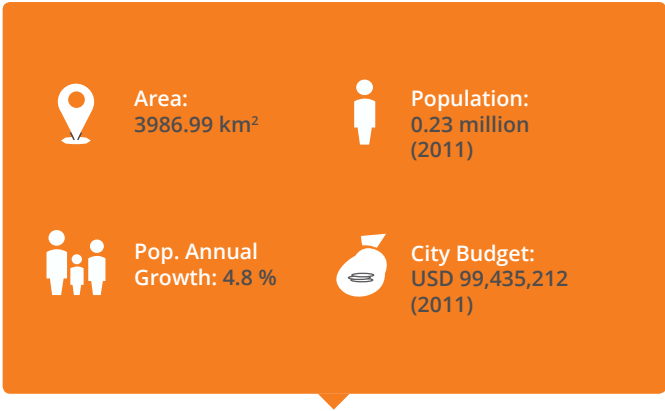
The city’s vision consists of becoming the best community-driven local municipality in the world for the provision of sustainable services and developmental programs. In 2030, Steve Tshwete will be an integrated, harmonious and green locality, with an empowered, prospering community surrounded by natural and fresh air, and enjoying crystal-clear, safe and clean water.

Commitments:

Targets are being discussed as part of the Low Emission Development Position Statement.

Low Emission Development Strategy:

The Steve Tshwete Municipality used a scenario planning process to develop a strategic 2030 vision and objectives. These are currently being packaged into a Low Emission Development Position Statement: a statement of intent to local communities and business on the municipality’s commitment to pursue sustainable development by 2030, while recognising that >70% of emissions in the local area come from industrial activities.



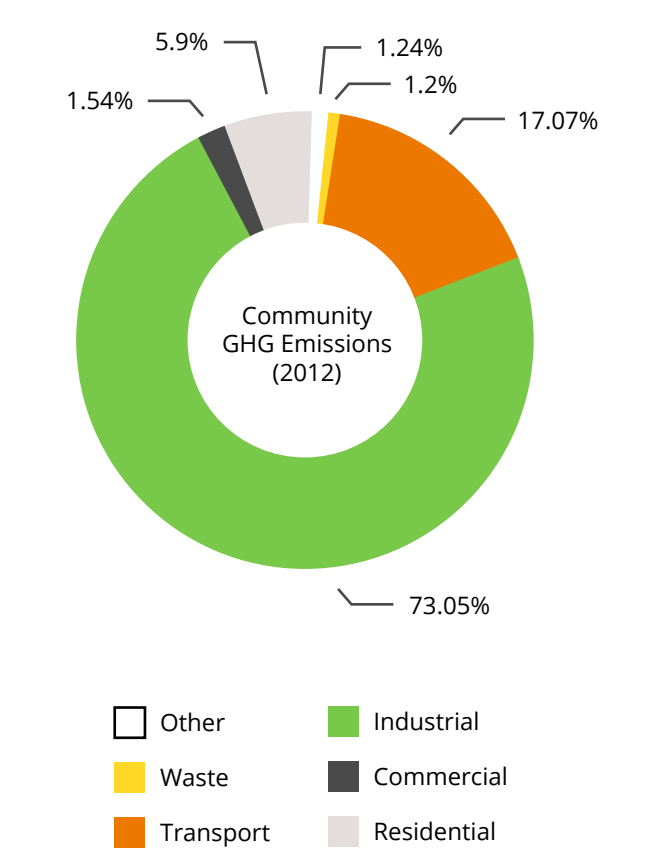
Community GHG emissions inventory:

Final energy consumption in the community:
19,810,709 GJ (2012)

GHG emissions from the community:
3,773,288 tCO2e (2012)

Main economic activity:
Coal Mining and Manufacturing

Main priority sectors for Low Emission Development:
Energy Efficiency, Community Engagement, Integrated Planning, Green Building and Spatial Planning



LED actions enabled by the Urban-LEDS project :

Greenhouse gas inventory conducted as baseline study using 2012 data - Completed

The aim of the inventory is to understand how much the different sectors contribute to local emissions in order to inform prioritization and planning. Figures were included in the annual review of the statutory municipal Integrated Development Plan. The data for 2012 has been completed and an infographic has been created to communicate results to the wider community.

Participatory scenario planning process - Ongoing

This process was used for the future scenario planning to craft a 2030 vision and objectives with municipal staff and stakeholders. In the course of the last year scenarios have been created with a preferred vision and underlying objectives. The outputs are being packaged into a 2030 Low Emission Development Position Statement with accompanying flagship actions.

Municipal stall training and skills development - Completed

Municipal staff have been actively engaged in a number of capacity building opportunities, including international exchanges and study tours in Europe and Indonesia, domestic learning exchanges on green buildings with the City of Tshwane, attendance at both LOCS conferences in 2013 and 2015. Multiple staff members have also completed a professional development course on sustainable urban energy in both 2013 and 2014, and direct training from ICLEI Africa staff on GHG data collection and analysis. This has raised understanding and awareness among a large number of different municipal staff.

Green building guidelines - Completed

A brand new set of green building guidelines has been developed for Steve Tshwete with municipal and local developer involvement. The guidelines are to be used by all stakeholders to encourage greener building and spatial development practices. Dissemination is underway.

Doornkop renewable energy expo and Community Solar Solution - Completed

With the support of Urban-LEDS the Doornkop Community installed the following solutions to equip the community center, old age home and creche: an 18kWp solar photovoltaic (PV) system, solar streetlights, solar water heating, LED lighting, insulation cookers (Wonderbags), mobile LED solar lights and ceilings. This has galvanized significant interest and excitement politically and in the community. The showcase was preceded by a renewable energy expo to raise awareness and educate people about renewable energy options.

Mayoral leadership showcase - In progress

Mayor Masina has taken part in an on-going leadership mentoring programme organized through the Urban-LEDS project. This involves one-on-one mentorship calls and visits by a trained sustainability leadership facilitator, encouraging reflection on the role of the Mayor in enabling sustainable development locally. It has led to increased engagement and interest by political leadership.



"I do not have adequate words to describe how it has been working with ICLEI. We have just unveiled the Doornkop off-grid solar system, and we have seen how the community stands to benefit. If you see the infrastructure that has been installed, if you see the lights on, the refrigerator can be used...you see that this is possible. So I can describe it as a very exciting experience."

Councillor Mike Masina, Executive Mayor of Steve Tshwete Municipality

www.stevetshwetelm.gov.za



Urban-LEDS Network highlights

GHG training in Satellite Cities

Curitiba and **Porto Alegre** in Brazil and **Nelson Mandela Bay Municipality** (NMBM) in South Africa have undertaken to develop GHG inventories, with the support of the Urban-LEDS project for training and capacity building on this complex issue.

NMBM completed its GHG inventory for 2012 emissions in both the government and community level. Under Urban-LEDS NMBM was able to attend professional development courses at ICLEI facilitated trainings and other events. The high-level results show that the municipality emitted 5.2Mt of CO₂e in 2012, with 73.3% of these emissions arising from electricity use. This has inspired the Municipality to bring the share of renewable energy in the supply mix to 15% by 2015.



Aerial view of Nelson Mandela Bay



Helsinki's South Harbour

Inspiring stories from European Cities

Helsinki: District Heating and Cooling

The City of Helsinki operates a world-renowned fully integrated District Heating and Cooling (DHC) system that uses Combined Heat and Power (CHP) and renewable energy, with overall energy savings of 80%. Renewable sources include seawater for both heating and cooling, sewage and even the buildings themselves are used as effective solar collectors.

Warsaw: Building and District Energy System

Leading the way in two inter-related areas of energy efficiency opportunity: buildings and district energy systems. Warsaw has Europe's largest district heating network. It spans an impressive 1,720 km, serves 70% of Warsaw's 1.7 million inhabitants, and covers 78% of the City's heating demand. This offers its users substantial benefits. Aside from its resource-efficient, low-carbon nature, the system is highly cost effective - 70% less costly than conventional electricity sourced systems in Poland. Increasing the share of RE in the fuel mix is the next step.



Conceptual building design in Warsaw

Copenhagen: Road revitalization for enhance public and bicycle transport

The Nørrebrogade road stretches over 2 km from the center of Copenhagen to its suburban periphery. The narrow design of the road places public transport users, cyclists and pedestrians in direct competition with private vehicles and results in regular traffic jams and related safety issues. To address this, the City launched the Nørrebrogade Project to revitalize this major transportation corridor, increase cycling and public transportation ridership, while reducing private automobile use by 50% in the area. The results of this first phase are inspiring: road transport has reduced by 45% and bicycle ridership has increased by 10%.

Additional resources



Climate change: Implications for Cities (ICLEI, University of Cambridge)

This document synthesizes the most pertinent findings for cities from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report.

http://www.iclei.org/fileadmin/PUBLICATIONS/Brochures/IPCC_AR5_Cities_Summary_FINAL_Web.pdf



GreenClimateCities@program (ICLEI)

The GreenClimateCities program is a step-by-step guide to local governments through local climate action planning and implementation. It also offers an MRV process (Measuring, Reporting, and Verifying) to track progress.

http://www.iclei.org/fileadmin/PUBLICATIONS/Brochures/ICLEI_GreenClimateCities_Brochure.pdf



Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (WRI, C40, ICLEI)

The Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) provides a robust framework for accounting and reporting city-wide greenhouse gas emissions (including all 7 Kyoto Protocol gases)

http://ghgprotocol.org/files/ghgp/GHGP_GPC.pdf



Vertically Integrated Nationally Appropriate Mitigation Actions (V-NAMAs) (GIZ, Ecofys, ICLEI)

This guidance includes policy recommendations, case studies and tools aimed at strengthening the involvement of sub-national governments in national mitigation strategies and actions.

http://www.iclei.org/fileadmin/PUBLICATIONS/Brochures/v-nama_-_guidance_on_vertically_integrated_namas_-_full_document_2014_01.pdf



Case Studies

Urban-LEDS related studies and stories include :

- Addressing future climate change by building institutional capacity - Shimla (India)
- Embedded energy generation experience in a South African metropolitan municipality - Nelson Mandela Bay (South Africa)
- The Nørrebrogade Project: revitalizing a major road corridor for enhanced public transport and urban life - Copenhagen (Denmark)

To browse the complete series of Urban-LEDS Case Studies, please visit: <http://urbanleds.iclei.org/index.php?id=casestudies>



Implementing partners

ICLEI World Secretariat

Kaiser-Friedrich Str. 7
53113 Bonn, Germany
E: urban-leds@iclei.org
T: @Urban_LEDS

UN-Habitat

P.O. Box 30030, GPO,
Nairobi, 00100, Kenya
E: urban-leds@unhabitat.org



The Urban-LEDS project is funded by the European Union. The views expressed in this brochure can in no way be taken to reflect the official opinion of the European Union.



Country contacts

Brazil

ICLEI South America Secretariat
E: urban-leds-brasil@iclei.org

South Africa

ICLEI Africa Secretariat
E: urban-leds-southafrica@iclei.org

Europe

ICLEI European Secretariat
E: urban-leds-europe@iclei.org

India

ICLEI South Asia Secretariat
E: urban-leds-india@iclei.org

Indonesia

ICLEI Southeast Asia Secretariat
E: urban-leds-indonesia@iclei.org