

# URBAN LEADS:

## Promoting Low Emission Urban Development Strategies in Emerging Economy Countries



„Joint implementation of the EU policy for energy security and sustainable development of urban areas“ - 14 May 2015, Zagreb

Giorgia Rambelli  
ICLEI Europe

# In the next 15 minutes...

- About URBAN LEADS
- Learning from each other
- Success stories
- Tips and tools
- Keep up to date

# Focus on local sustainable development

- **ICLEI Europe:** Regional office based in **Freiburg**, dealing with 40+ countries in wider Europe (also supported by ICLEI **Brussels** office).
- We engage in:
  - conducting **advocacy** (global / European / national level),
  - running **campaigns** (e.g. GreenClimateCities programme),
  - coordinator and partner in **projects**,
  - offering **services** – including capacity building
- Covenant of Mayors Supporter – ICLEI Europe is a **unique European network**, linked to a global network, addressing standards, develops protocols and tools, offers advice to municipalities and their partners.

ICLEI Europe is proud to be a Covenant Supporter



# Working with communities on urban sustainability

We consider a Sustainable Community to:

- strive to **reduce** its per capita **use of natural resources** to a level that endangers neither local nor global ecosystems, and at the same time,
- ensure that **political, economic and social** systems guarantee a **high quality of life for everyone**.



# PATHWAYS TO TRANSFER OF LOW-CARBON SOLUTIONS: THE URBAN-LEDS PROJECT

Urban Low Emission Development Strategies (Urban-LEDS)

# Urban-LEDS project at a glance

- **Title:** Promoting Low Emission Urban Development Strategies in Emerging Economy Countries (Urban-LEDS)
- International **mitigation project** funded by EC
- **Duration:** March 2012 – August 2015
- **Main objective:** Enhance the transition to low-emission urban development in cities in emerging economy countries: **Brazil, India, Indonesia, South Africa**
- Supported by experienced **European cities**
- **Implementation partners:**

# Why low emission development?

## Challenges

- Population growth
- Unplanned urban growth
- Air pollution
- Urban poverty
- Rising energy costs
- Backlogs in service delivery
- New infrastructure requirements
- Rising global greenhouse gas emissions
- Severe local climatic impacts



# Why low emission development?

## Opportunities

- Job creation
- Attract new investment / technical capacity
- Reduce costs (especially energy costs)
- Improve efficiency
- Create cleaner, healthier places
- Meet service delivery aims
- City profiling at national / international level
- Prepare for national legislation & funding
- Leapfrog old, dirty technologies
- Build new local partnerships and dialogues





# Climate investment at local level

- Most investments to reduce GHG emissions and adapt to climate change take place at the sub-national and local levels
  - 50 to 80% for mitigation
  - up to 100% for adaptation.

Source: UNDP

- Sub-national and local governments undertook 72% of total public investment in 2012 across the OECD area in terms of volume.

Sources: OECD, 2014

# Urban-LEDS project activities

- Guidance and technical support to local governments
- Capacity development of political leaders and municipal staff
- Process support – from methodology to reporting platform
- North-South, South -South exchange
- Global climate advocacy

# City selection

more than 50  
cities applied



## EUROPE

- Almada, Portugal
- Bologna, Italy
- Copenhagen, Denmark
- Gaziantep, Turkey
- Hannover, Germany
- Helsinki, Finland
- Warsaw, Poland
- Zagreb, Croatia

## BRAZIL

### MODEL CITIES

- Fortaleza
- Recife

### SATELLITE CITIES

- Betim
- Belo Horizonte
- Curitiba
- Porto Alegre
- Rio de Janeiro
- Sorocaba

## SOUTH AFRICA

### MODEL CITIES

- Steve Tshwete Municipality
- Kwa Dukuza Municipality

### SATELLITE CITIES

- Mogale City Local Municipality
- Nelson Mandela Bay Municipality
- Saldanha Bay Municipality
- Sol Plaatje Municipality
- uMhlathuze Local Municipality

## INDIA

### MODEL CITIES

- Rajkot
- Thane

### SATELLITE CITIES

- Coimbatore
- Gwalior
- Nagpur
- Panaji
- Pimpri-Chinchwad
- Shimla

## INDONESIA

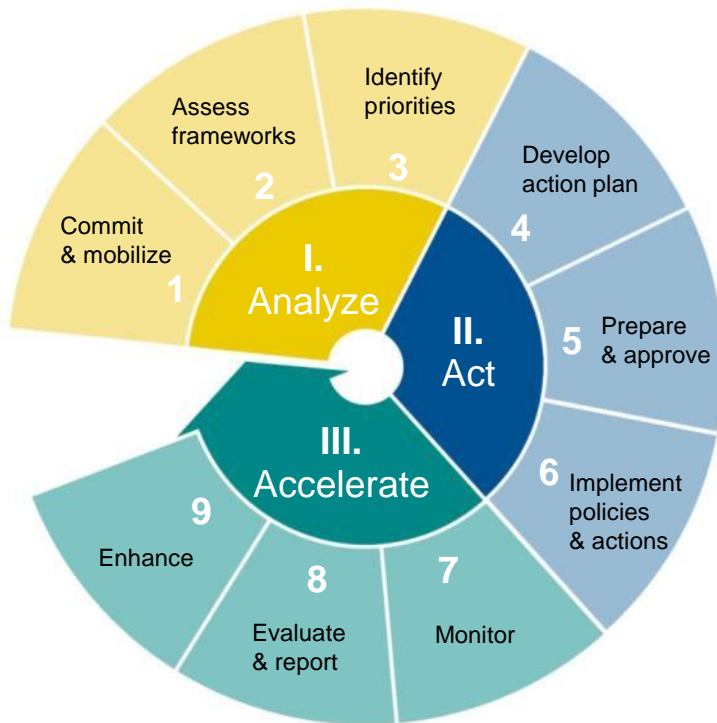
### MODEL CITIES

- Balikpapan
- Bogor

### SATELLITE CITIES

- Bontang
- Kabupaten Bogor
- Tangerang Selatan
- Tarakan

# GreenClimateCities methodology



Working methodology to help Local Governments create an adequate institutional framework for long-term **Urban Low Emission Development Strategy**, planning and projects.



# Commit and mobilize

- National Advisory Groups created and convened
  - Formal project partners delegations
  - National government
  - Local governments and their associations
  - Promoting vertical integration of climate policies and plans to improve effective delivery and results on the ground
  - 
  -

ANAMMA  
APEKSI  
CB27  
CDIA  
DBSA  
GIZ  
IADB  
IGEP  
KfW  
NBI  
SACN  
ALGA  
SEA  
WBCSD  
WRI  
WWF  
...



# Assess frameworks (I)

- Key indicators
- Governance structure
- Climate action framework


Urban-LEDS project implementation: Brazil 

Urban-LEDS project implementation: India 

Urban-LEDS project implementation: Indonesia 

Project activities    Country associates    Project resources    **Country profile**

Indonesia in numbers

Urban-LEDS project implementation: South Africa 

Project activities    Country associates    Project resources    **Country profile**

Essential to understand the structural context and constraints

For example: power generation, generally outside the mandate of Local Governments...

	51190000 (2012)
	42 hab/km2
	0.62
	52.3%
Human Development Index (HDI)	0.629 (2012)
Gross Domestic Product (GDP) per capita	7,508 USD (2012)
GINI index	63.1 (2009)
No. ICLEI Member local governments	20 (2013)
Primary energy sources distribution	Coal: 61% Oil: 25% Biomass: 9% Gas: 2% Nuclear: 2% Hydro: 1%
Annual energy consumption	2627 million GJ (2008)
National GHG emissions	560 MtCO <sub>2</sub> e (2010)
Contribution to global GHG emissions	
International ranking as GHG emitter	14th (2008)

# Assess frameworks (II)

About Fortaleza

Fortaleza is the capital of Ceará State, Brazil. The city was founded on April 13th, 1726. It is now the 5th most populous city in Brazil, with a population of 2,452,185 (2010). Fortaleza has a land area of 314.93 km<sup>2</sup> (2010), and from 2000 to 2010 its population growth was 14.29%.



- About the city
- About the Local Government
- Sustainability journey to date
- At a glance:  
development indicators
- Energy profile
- GHG emissions
- Mitigation actions
- GCC implementation
- Urban-LEDS
  - Challenges
  - Priorities
  - ...

City profile   GHG emissions reporting   Activities reporting   GreenClimateCities status   **Urban LEADS**

## Urban LEADS

### Main factors for city selection

ICLEI SAMS has identified many potential activities to implement Urban LEADS particularly regarding Waste Management and Renewables as these are areas prioritized by the current municipal administration. Urban Mobility is also one of the main themes in the city agenda. The selection also took into account that the Northeast region in Brazil has lacked opportunities for cooperation on sustainable urban projects and is one of the fastest growing regions in the country. It is a great opportunity to jointly address social development, low emissions strategies and resilience. Fortaleza expressed in its submission the acknowledgement that climate change is an urgent issue and a priority in its agenda.

☑ State capital of Ceará, located in North-eastern Brazil.

☑ Rapid population and urban growth (2002-2012: +360.000 inhabitants)

☑ Co-host of FIFA World Cup 2014. The city was part of the "Carbon Footprint for 2014 Brazil World Cup and beyond", implemented by Useful Simple Projects (USP) in partnership with ICLEI and with the financial support of the British Embassy.

### City's main challenges

Restructure of current administration, financing

☑ Prepare to co-host the FIFA World Cup 2014.

☑ Asymmetric geographic distribution of income and infrastructure. Growth in the number of illegal settlements in the urban area, particularly near coastal and forested lands.

☑ Waste and wastewater management deficit. Inefficient waste management system, contamination of river basins and the urban beaches by slurry

☑ Rapid growth in the vehicle fleet creating serious problems in the urban mobility.

### Main LED priorities of the city /city's aspirations

The actual city administration has a vision that seeks a sustainable city able to make compatible the economic growth with environmental preservation, guaranteeing the use of renewable energy and an effective waste management policy.

☑ Interested in strengthening capacity on climate change and environment.

☑ Intends to incorporate the National Policy on Climate Change and to establish a legitimate strategy for sustainable development.

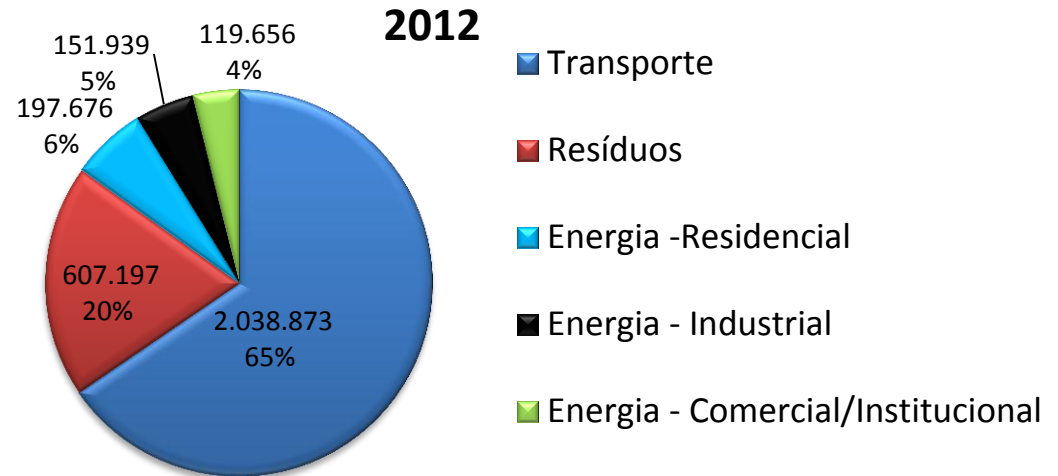
**Essential to understand the local context and constraints**



# Assess frameworks (III)

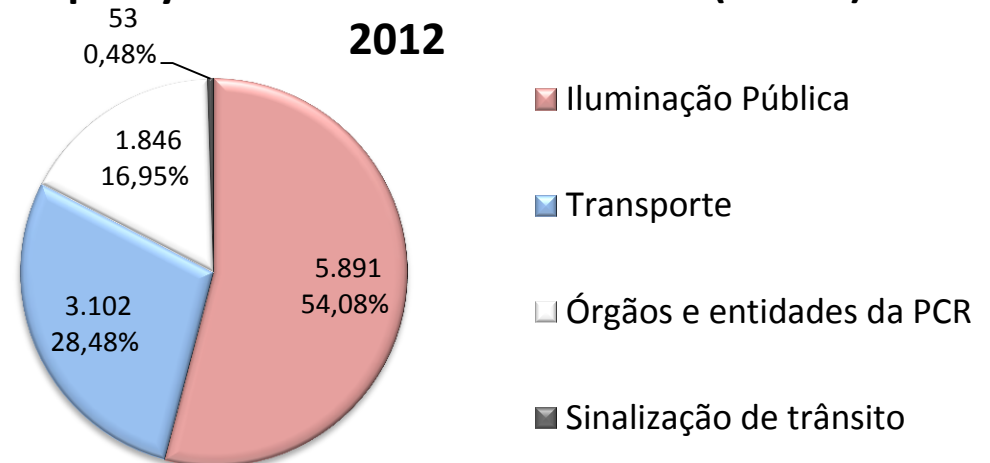
- Community

**Recife's GHG emissions inventory (tCO2e)**



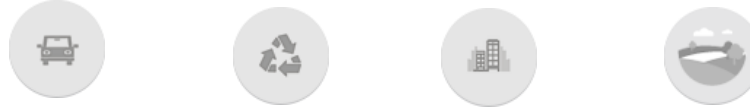
- Local government operations

**Municipality of Recife's GHG emissions (tCO2e)**



# Identify priorities

- Recife



- Fortaleza



- Kwadukuza



- Steve Tshwete



- Rajkot



- Thane

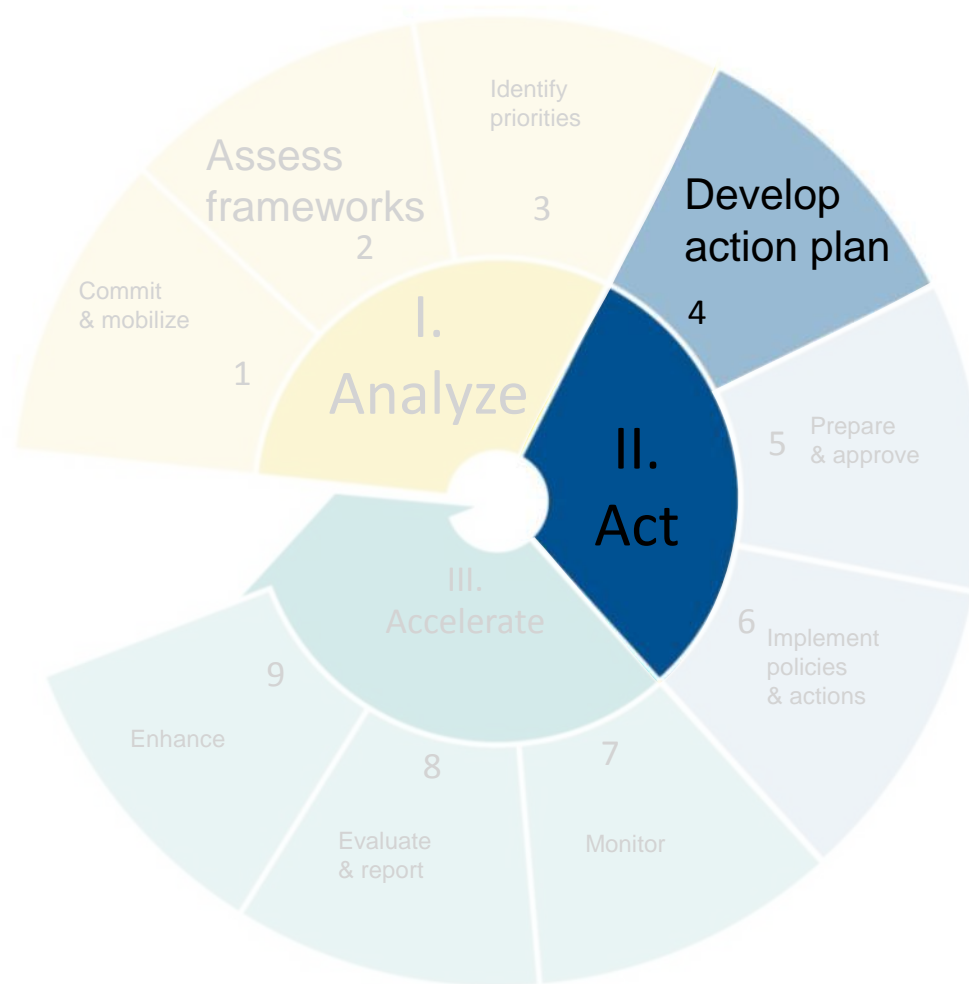


- Balikpapan



- Bogor





# Preparing the LEADS plan

- Identify potential measures
- Feasibility assessment
- Multicriteria assessment
- Screen measures
- Select Key Performance Indicators (KPIs)

# Global peer-learning network

- 1st International networking event, Nelson Mandela Bay (NMB), Nov 2013

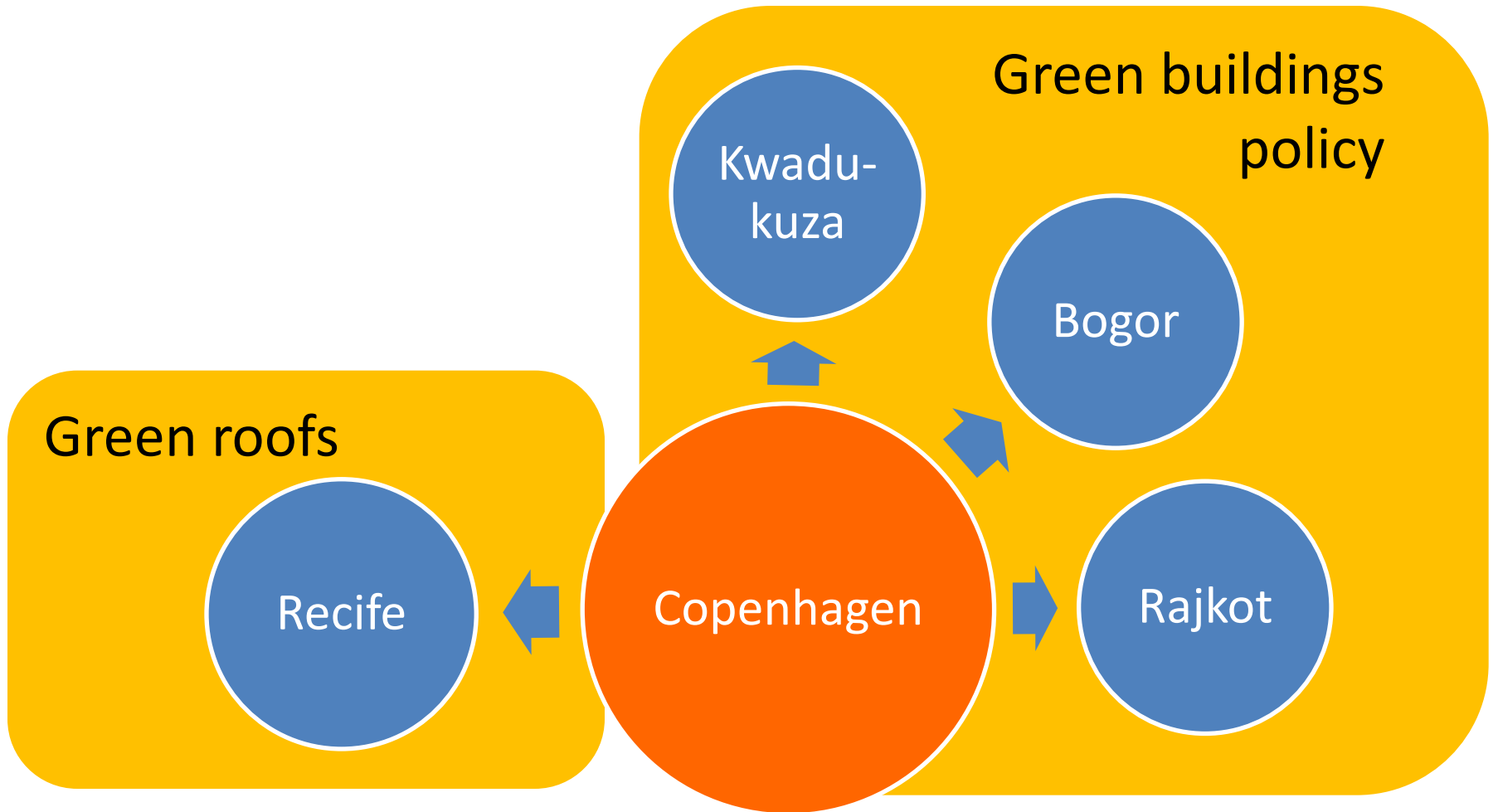


# Global peer-learning network

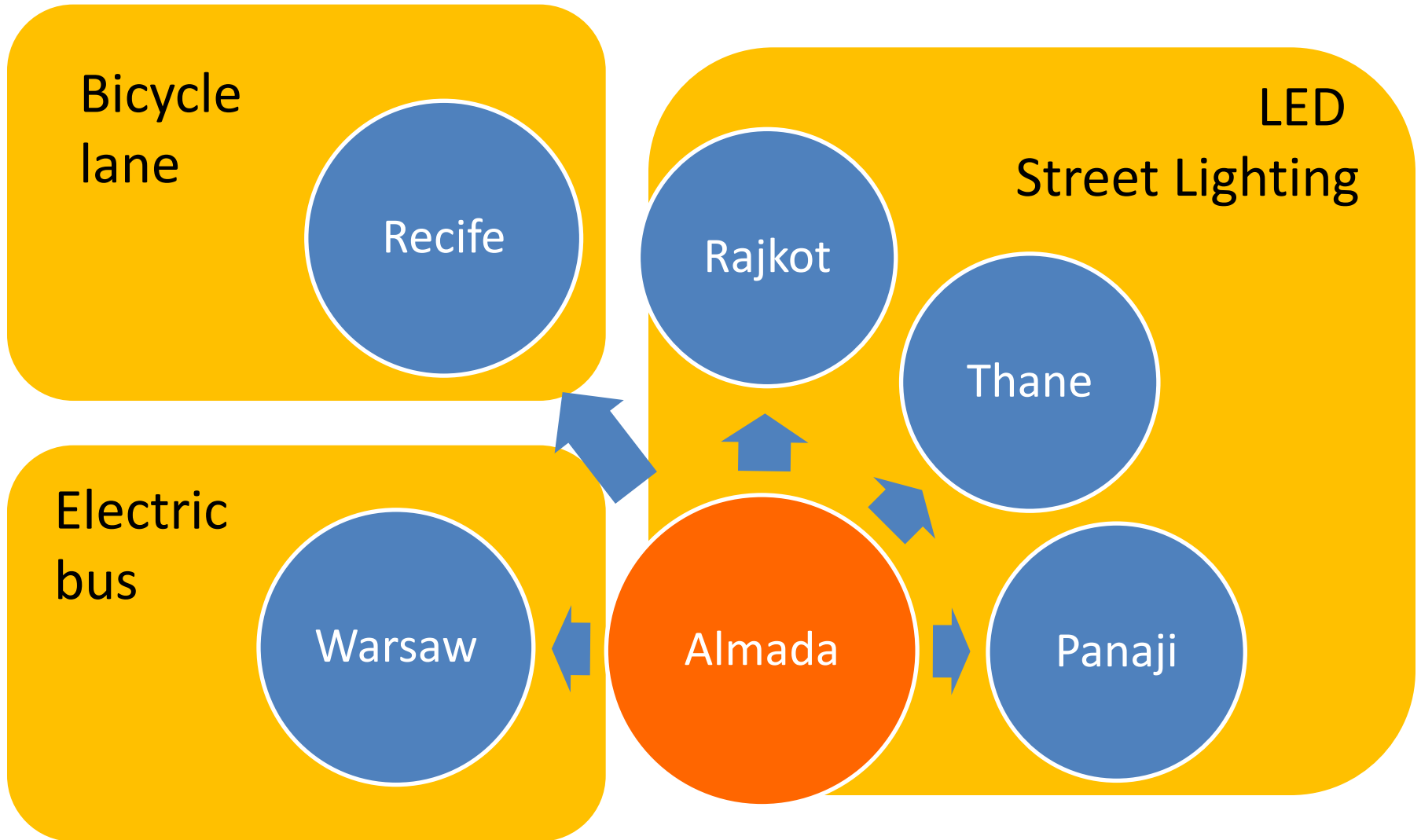
- European Study Tour, April 2014



# Replicating low-carbon solutions



# Replicating low-carbon solutions





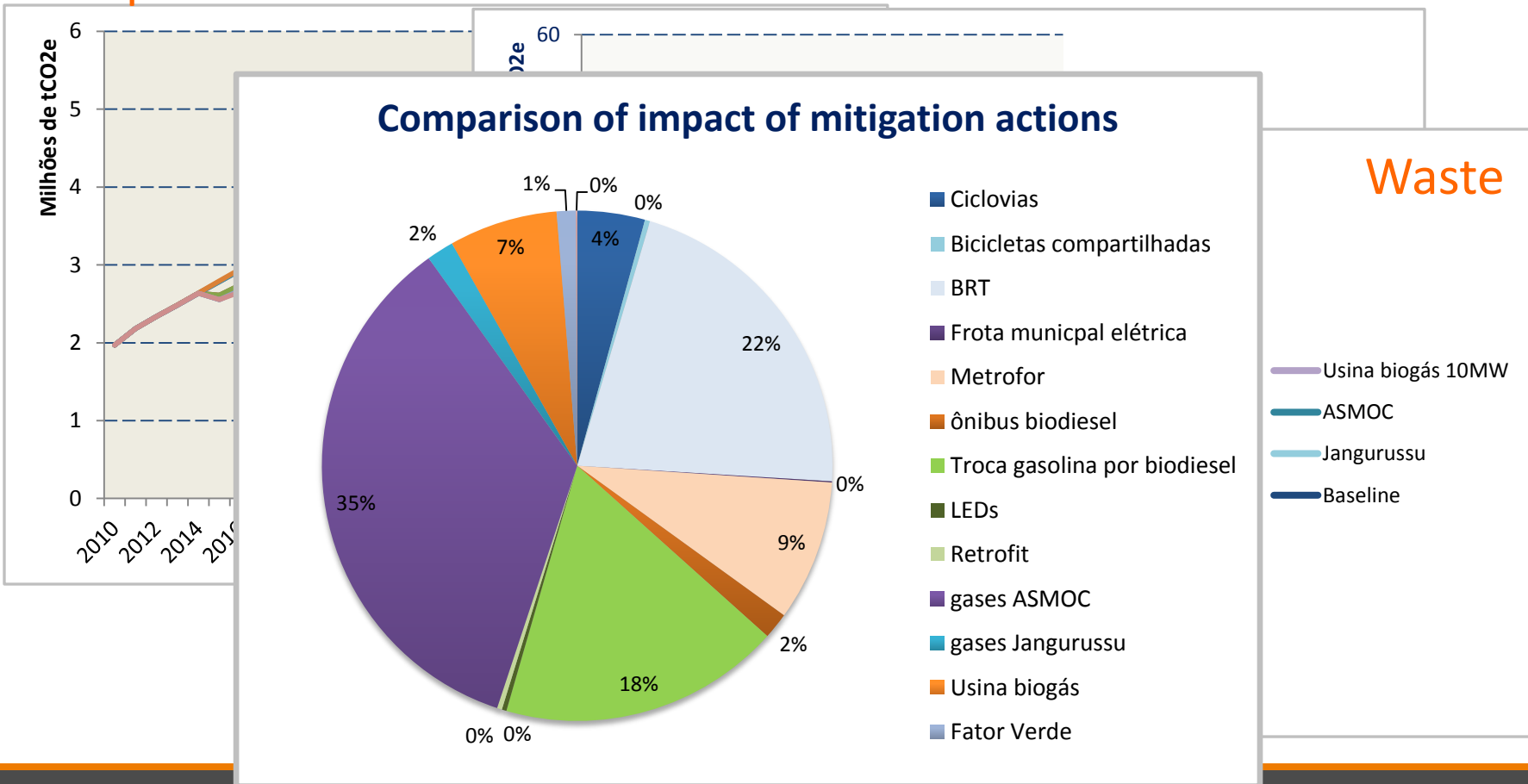


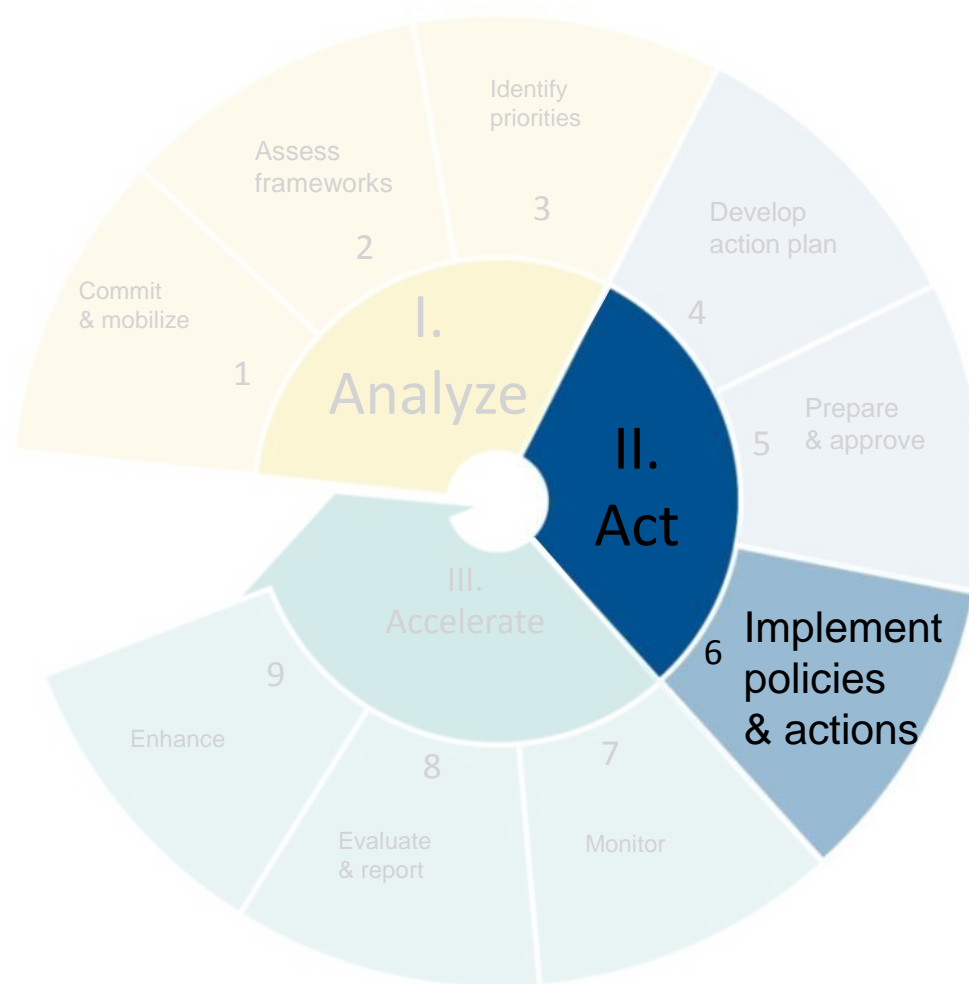
# Preparing the LEDS action plan: impact projection

**Example: Fortaleza**

## Transport

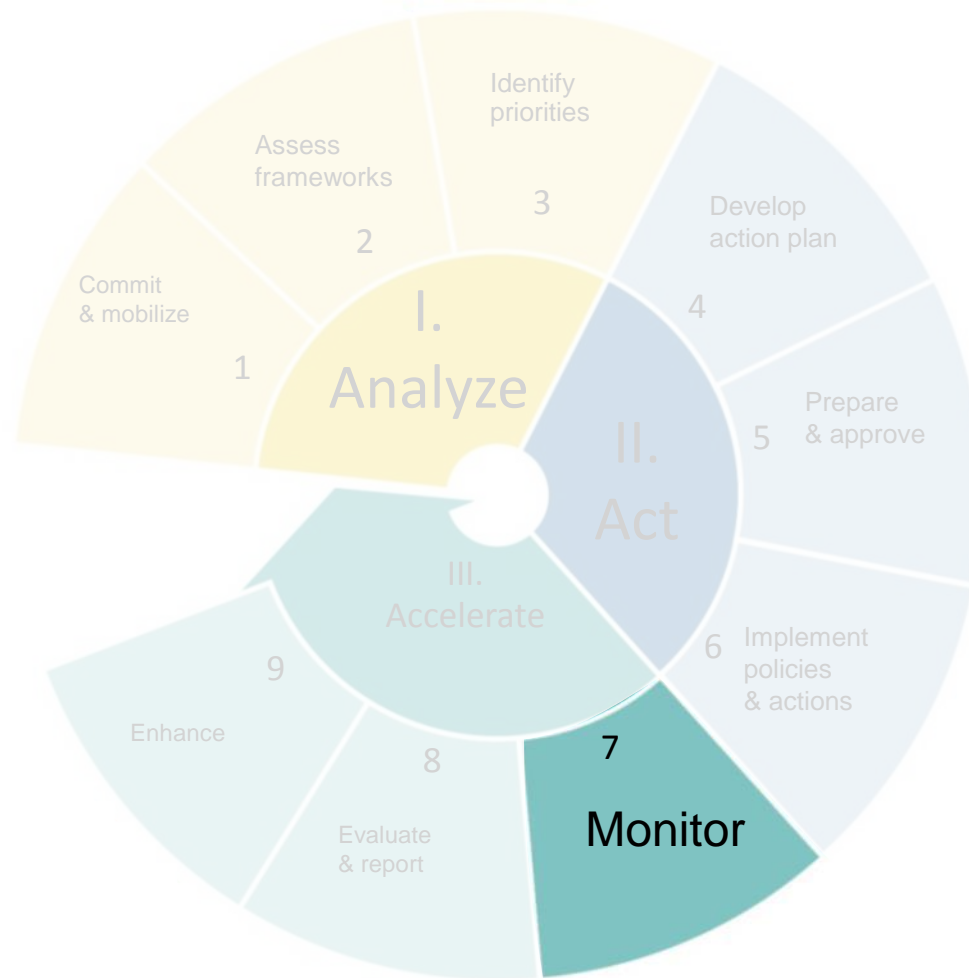
## Energy- public sector





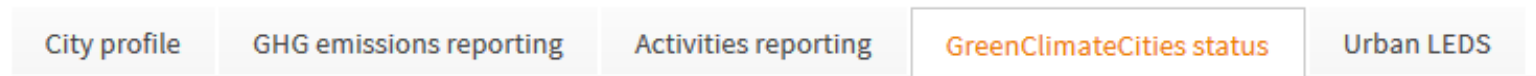
# A few early results

- Bogor
  - Creation of Municipal workgroup by decree
  - 2014 budget includes Urban-LEDS activities
- Recife
  - Decree requires periodic GHG emissions inventory, Feb 2014
  - Green roofs law, Dec 2014
    - Inspired by Copenhagen's example

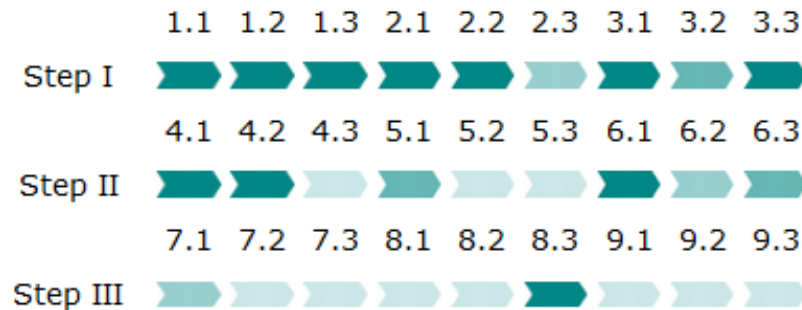


# Urban-LEDS project

- GCC implementation



GCC tracking for Bogor



GreenClimateCities methodology - Legend



- Urban-LEDS guide will include GCC MRV system



# Reporting local climate action



**1092**  
COMMITMENTS  
(ENERGY &  
CLIMATE)

**2.28Gt**  
CO<sub>2</sub>e  
REPORTED  
ANNUAL GHG  
EMISSIONS

  
**MORE THAN**  
**12%**  
OF THE WORLD'S  
URBAN POPULATION

**500**  
REPORTING  
LOCAL AND  
SUBNATIONAL  
GOVERNMENTS

  
**44**  
COUNTRIES



# Key resource: Solutions Gateway

Addressing  
non-technological  
barriers to  
large-scale  
deployment of  
climate technology



<http://www.solutions-gateway.org>

# Solutions Gateway

## Low Carbon Solutions for Urban Development Challenges

- **Key features:**
  - Guidance on Low-Emissions Development
  - Based on proven technologies and practices
  - Developed by experts, and peer-reviewed
  - Integrated approach to maximize results
  - Tailor-made for Local Governments
  - Practice oriented resources



## Solution:

Process, or group of coherent actions, aligned with Local Government's roles, that deliver climate change mitigation and enhance sustainable development.





**Solutions Package (or Package):**  
Group of Solutions under a given theme, which complement each other by generating synergies and increasing impacts.



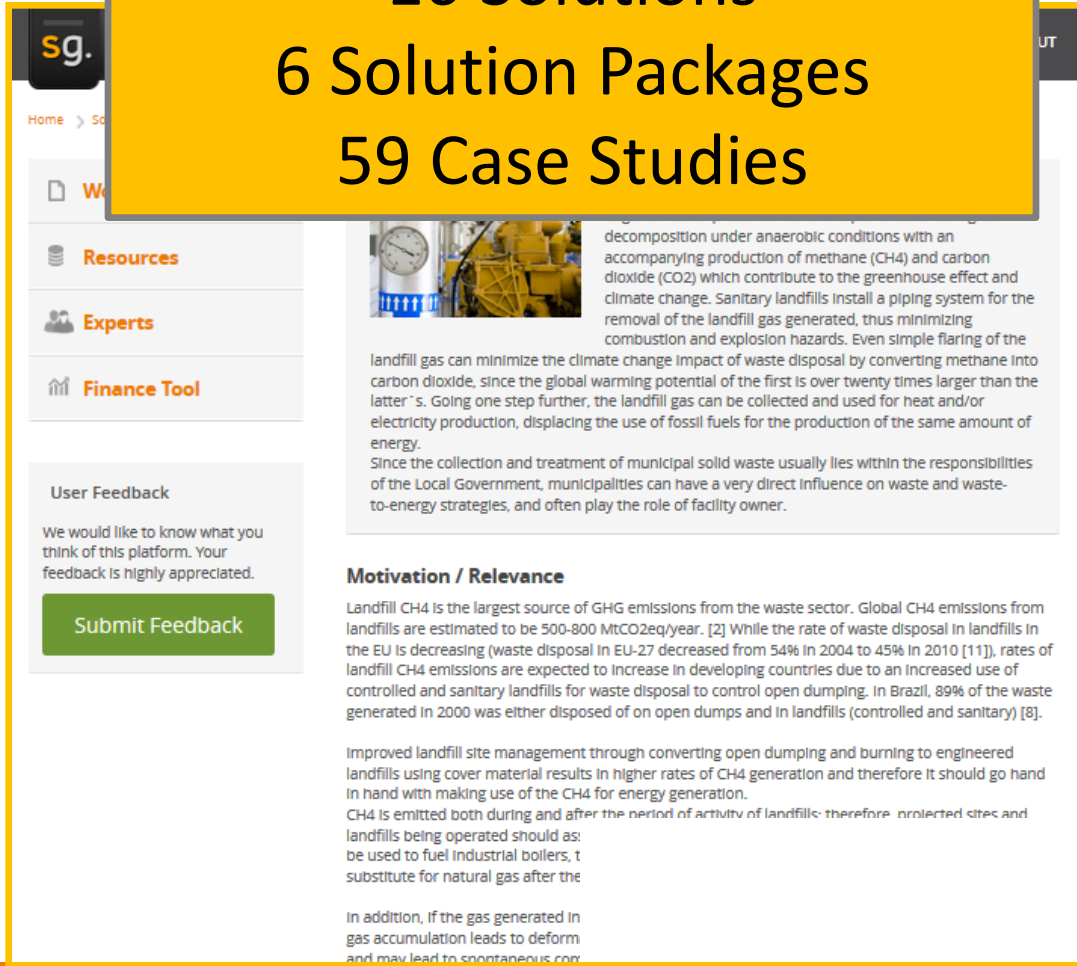
Case study:

Example of the implementation of a Solution or Package in a given city.

# Themes

- Energy utilities
- Transport
- Waste
- Water
- Buildings
- Cross-sectorial
- Local Gov Operations

The Solutions Gateway currently displays:  
**16 Solutions**  
**6 Solution Packages**  
**59 Case Studies**



The screenshot shows a web interface for 'sg.' (Solutions Gateway). On the left is a navigation menu with 'Resources', 'Experts', and 'Finance Tool'. Below it is a 'User Feedback' section with a 'Submit Feedback' button. The main content area features an article about landfill gas. The article includes a photo of industrial equipment and text explaining that sanitary landfills use piping to collect and use landfill gas (CH4) for energy, reducing methane emissions and climate change impact. It also mentions that local governments often manage waste-to-energy strategies.

**Motivation / Relevance**

Landfill CH4 is the largest source of GHG emissions from the waste sector. Global CH4 emissions from landfills are estimated to be 500-800 MtCO<sub>2</sub>e/year. [2] While the rate of waste disposal in landfills in the EU is decreasing (waste disposal in EU-27 decreased from 54% in 2004 to 45% in 2010 [11]), rates of landfill CH4 emissions are expected to increase in developing countries due to an increased use of controlled and sanitary landfills for waste disposal to control open dumping. In Brazil, 89% of the waste generated in 2000 was either disposed of on open dumps and in landfills (controlled and sanitary) [8].

Improved landfill site management through converting open dumping and burning to engineered landfills using cover material results in higher rates of CH4 generation and therefore it should go hand in hand with making use of the CH4 for energy generation.

CH4 is emitted both during and after the period of activity of landfills; therefore protected sites and landfills being operated should be used to fuel industrial boilers, substitute for natural gas after the

In addition, if the gas generated in gas accumulation leads to deform and may lead to spontaneous com

# Pool of experts created and used

- Access to world-class experts
  - Technical
  - Municipal
  - Financial
- Technical support services
- Strategic and financial guidance
- Capacity building
- Thematic subgroups aligned
- Cross-sectorial sub-divided:
  - Procurement
  - GHG emissions
  - Etc.

**Afri-Coast Engineers**  
**CEWEP**  
**CORE Sustainability Services**  
**Gbfor**  
**i-San**  
**IFEU**  
**IRENA**  
**ISOCARP**  
**Manchester University**  
**MCA Urban and Enviro Planners**  
**Net Energy**  
**Steadfast Greening**  
**Sustainable Energy Africa**  
**World Bank**  
**WRI**

# Practice oriented resources

 Experts

 Finance Tool



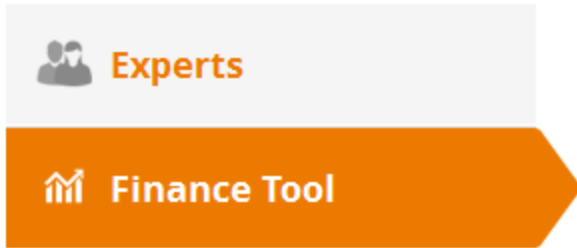
Pool of experts:

Network of experts who can provide guidance on strategic, technical, organizational and financial issues to support Low Emissions Development. Namely to build capacity to develop bankable project concepts

- Set-up as LinkedIn group
- Experts join as individuals



# Practice oriented resources



Finance tool:  
Helps Local Governments identify possible financing options to implement selected projects and realize their Low Emission Development Strategies. Includes a decision-making map and is supported by a database with case studies.

- Will be online by August 2015

What to finance?	How To Finance ?	Real sources and cases ?
Project Assessment tool	Financing Decision Making Map	Financing Tool Database
↓ Project 1 Project 2 Project 3	↓ Measure A Measure B Measure A	↓ Source X Source Y Case study Z
Street light replacing project Biogas digester +cook stove project	EPC between local government and company A International development fund+ CDM benefit	Case study from European city A Funding source X

# Thank you for your attention!

## Contacts

E-Mail: [giorgia.rambelli@iclei.org](mailto:giorgia.rambelli@iclei.org)  
[urban-leds@iclei.org](mailto:urban-leds@iclei.org)  
[urban-leds@un-habitat.org](mailto:urban-leds@un-habitat.org)

Websites: [www.urban-leds.org](http://www.urban-leds.org)  
[www.solutions-gateway.org](http://www.solutions-gateway.org)  
[www.carbonn.org](http://www.carbonn.org)

