



**CLIMATE &  
CLEAN AIR  
COALITION**  
TO REDUCE SHORT-LIVED  
CLIMATE POLLUTANTS

# Interacting with Cities and City Networks in CCAC – MSW Initiative

IFAT SIDE EVENT

Waste Management & Circular Economy  
International: New Instruments to Mobilize  
Climate Protection Potentials

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# ORIGINS OF THE COALITION

The CCAC was formed on 16 February, 2012, to mitigate the impacts of short-lived climate pollutants and address near-term climate change. The Coalition is a unique initiative to support fast action and make a difference on several fronts at once: public health, food and energy security and climate.

















The founding seven members of the CCAC: the governments of Bangladesh, Canada, Ghana, Mexico, Sweden and the United States, and the United Nations Environment Programme (UN Environment).



# WHAT ARE SHORT-LIVED CLIMATE POLLUTANTS?

SLCPs are substances with relatively short lifetime in the atmosphere and a warming influence on near-term climate.

SUBSTANCE	ANTHROPOGENIC SOURCES	LIFETIME IN ATMOSPHERE	IMPACTS/MITIGATION
			LOCAL REGIONAL GLOBAL
BLACK CARBON (BC)		DAYS	  
METHANE (CH <sub>4</sub> )		12 YEARS	  
TROPOSPHERIC OZONE (O <sub>3</sub> )		WEEKS	  
HYDROFLUOROCARBONS (HFCs)		15 YEARS (WEIGHTED BY USAGE)	

They are powerful climate forcers and dangerous air pollutants, and are detrimental to human health, agriculture and ecosystems.



# WHAT ARE THE IMPACTS OF SLCPs?



Harm public health



Reduce food security



Warm the atmosphere



Increase ice and snow melting



Disrupt weather patterns

SLCPs have negative impacts on:

- *Public health*
- *Food security*
- *Global warming*
- *Ice and Snow melting*
- *Weather patterns*

SLCPs threaten economic security of large populations throughout the world.



# CCAC INITIATIVES



AGRICULTURE



BRICKS



COOKSTOVES &  
HEATSTOVES



DIESEL



OIL & GAS



HFCs



WASTE



ASSESSMENTS



FINANCE



SNAP



URBAN HEALTH

7 sectoral and 4 cross-cutting initiatives





# SLCP Sources from MSW

## Methane

produced from food and garden waste kept in anaerobic conditions.

Black Carbon  
produced from burning of waste  
and transport by *dirty* diesel vehicles



# WASTE INITIATIVE

## Mitigating SLCPs from Municipal Solid Waste



### Objective

- Reduce emissions of SLCPs across the municipal solid waste sector by providing a comprehensive package of resources, technical capacity building, and a global network of cities to facilitate the design and implementation of locally appropriate actions.

### Added value of the Initiative:

- Working directly with cities
- Support from partners
- Mobilizing experts from all over the world





# Reducing emissions from the waste sector results in many benefits for local communities

## Short-lived climate Pollutants



Black carbon emissions  
from vehicles and  
equipment



Black carbon emissions  
from open burning and  
landfill and dump fires



Methane emissions  
from landfills and  
dumps

## Solutions



Efficient waste  
collection, transport,  
and handling



Preventing  
waste burning



Organic waste  
management



Landfill gas  
capture

## Benefits



### ENVIRONMENTAL

- Reduced impact on climate change
- Air quality protection
- Water quality protection
- Litter reduction



### SOCIAL

- Improved public health
- Worker protection
- Improved health and safety for the informal sector
- Improved aesthetics



### ECONOMIC

- Job creation
- Resource conservation
- Costs reduction
- Energy generation

Learn how the Climate and Clean Air Coalition is helping cities reduce short-lived climate pollutant emissions from the municipal solid waste sector:

[ccacoalition.org/waste](http://ccacoalition.org/waste)



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# Waste Initiative Strategy



## Components of the Strategy

- 1. City Action:** work with a targeted group of cities towards implementation of actions to reduce SLCPs from the waste sector (clustered cities).
- 2. National capacity building:** Strengthen national frameworks to reduce SLCPs at the city level.
- 3. Scale up action** beyond Waste Initiative cities through self-directed action (toolbox):
  - Create and deploy a standardized and internationally vetted set of tools to scale up the results of components 1 and 2
  - Inform key networks and forums to catalyze broader action



Knowledge platform  
to support cities and governments in  
short lived climate pollutant reduction.

Municipalities

Private sector:  
service/technology  
providers

National/  
International NGOs,  
IGOs and Academia

National  
Governments



# How the Waste Initiative Works with Participating Cities



## Stage 0 *Letter of Intent*

- The city is ready to mitigate SLCPs from the waste sector
- City joins CCAC Waste Initiative

## Stage 1 *City Assessment*

- City collects waste-related data and develops baseline of emissions SLCPs of current MSW management in the city.

## Stage 2 *Action Plan*

- City develops course of action for mitigating SLCPs from the waste sector.

## Stage 3 *Work Plan Design*

- City identifies activities and projects that will lead to reduced SLCP emissions from the MSW sector.
- City assesses its financial readiness.

## Stage 4 *Project Planning*

- City prioritizes and plans a MSW project that will lead to the reduction of SLCPs emissions.
- City prepares and submits proposals to financial institutions and other funding sources.

## How Cities Participate in the MSW Initiative



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- Collect and assess MSW **data** through City Waste Assessment Tool
- Conduct work plans to identify the **appropriate opportunities** for managing waste sustainably, from the generation to the maximum recovery
- **Measure SLCP emissions** through Emissions Quantification Tool
- Receiving **capacity building** support through workshops, webinars, and access to online resources, such as free expert advisory services
- City pairing / **mentorship** / link to international waste networks
- Obtain **technical** and **financial analysis** supporting SLCPs mitigation **projects**





# WASTE INITIATIVE

## Highlights on Progress and Achievements to Date

- **75 cities** in the network and outreach to over **177 cities**
- **MSW city data assessments (37)**
- **Work plans (18)**  
In progress: **Six** (Coimbatore, New Delhi, Curitiba, Medan, Quito, Puerto Varas)
- **Implementation of activities** of different work plans, including
  - Two pilot projects in Penang
  - Two pre-feasibility studies: Penang and Viña del Mar (includes business model)
  - In progress: Financial workplans: Sao Paulo, Bogota and Arequipa.
- **Tools** including:
  - **Available:** Solid Waste Emissions Estimation Tool (SWEET), OrganEcs, Landfill Gas (LFG) Project Screening Tool
  - **In Development:** Anaerobic Digestion Project Screening Tool
- Capacity building through **workshops and webinars**
- **6 Regional city networks:** South America, Central America, India, South East Asia, Francophone Africa, South East Europe/Middle East/Central Asia
- City pairings through city-exchanges (6)

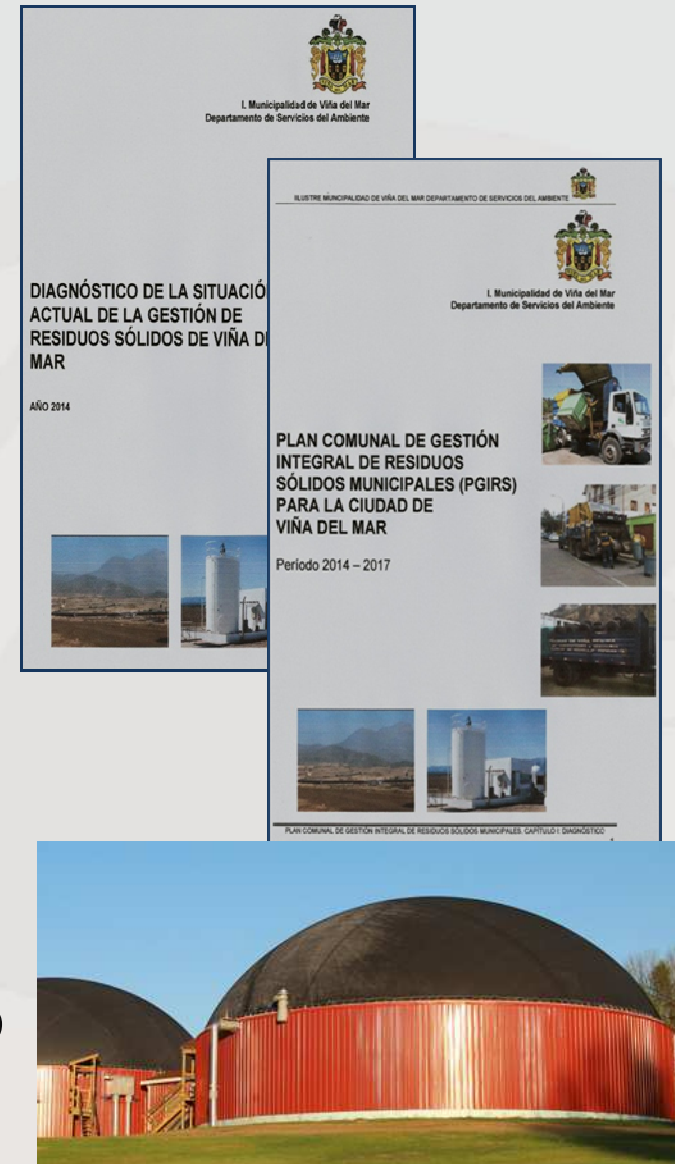


# Viña del Mar, Chile

Implementer: CCAP

- Stages of City Work of the Initiative
  - Stage 1: Assessment
  - Stage 2: Technical Work plan
  - Stage 3: Elaboration of an implementation and financial plan for 1.3 MW biodigester (US \$6 million investment)
- PPP with city and investor, with the support of Canada and the Chilean government
- First joint industrial-municipal project to process organic waste

*City exchange with Stockholm, Sweden, in 2014*



# Penang, Malaysia

Implementer: GEC

- Stages of City Work of the Initiative
  - Stage 1: Assessment & Action Plan
  - Stage 2: Technical Work Plan
  - Stage 3: Financial Work Plan
- Project: “Organic Waste Diversion and SLCPs Avoidance” .
  - Activity 1: Feasibility Study for MRF and Bio-Digester at the Pulau Burong landfill
  - Activity 2: Pilot project for upscaling of food waste diversion from the landfill in George Town
  - Activity 3: Stakeholders’ Workshop to disseminate findings of Activities 1 and 2 and next steps.

*Penang visited several cities in Japan in 2016 to learn about different waste treatment technologies.*



# São Paulo, Brazil

Implementer: ISWA & ABRELPE

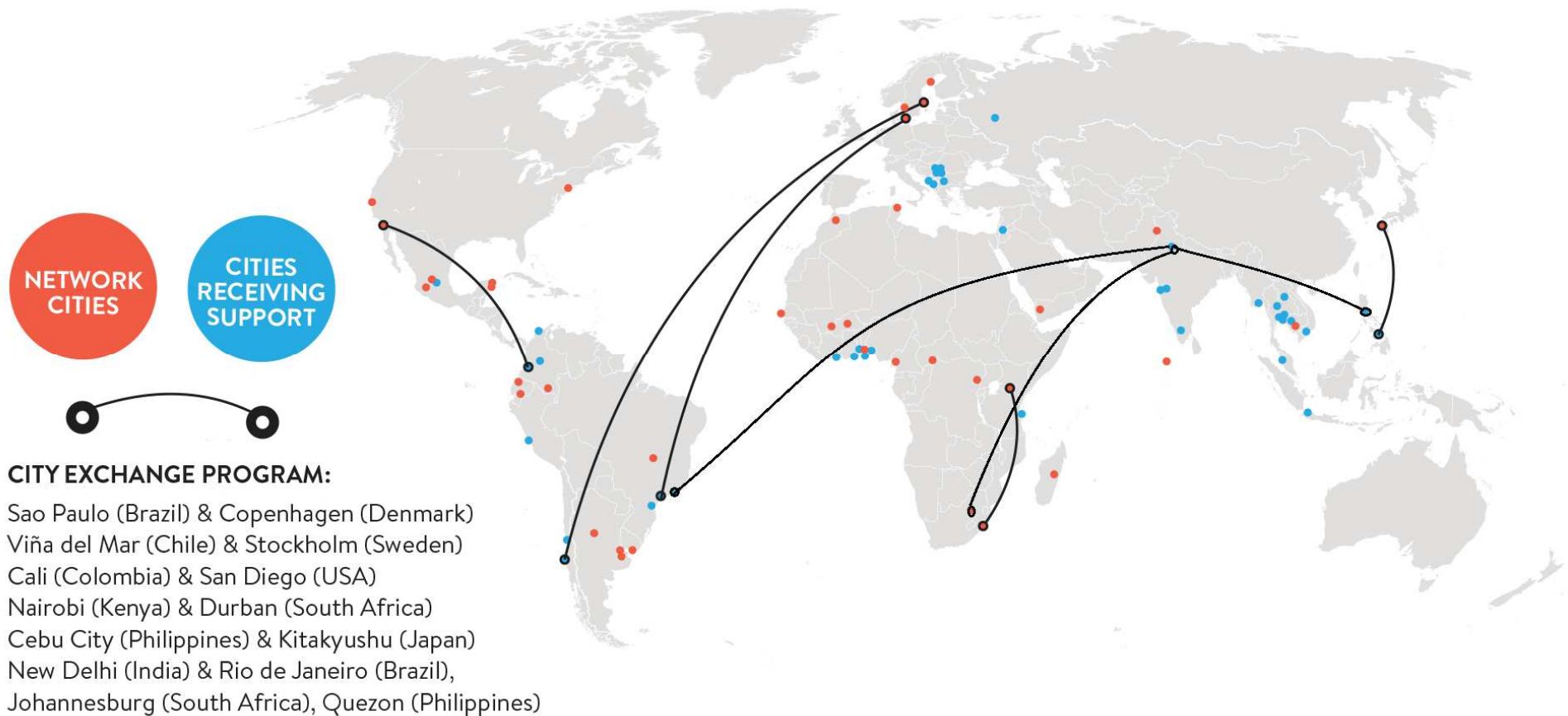
- Stages of City Work of the Initiative
  - Stage 1: Assessment & Action Plan
  - Stage 2: Technical Work Plan
  - Stage 3: Financial Work Plan
- Overarching project of an Eco-Park Waste facility for the treatment/recovery of mixed waste from households and biowaste separated at source from large generators. The foreseen capacity is 1,250 tons/day.
  1. Technical feasibility study
  2. Regulatory environment study
  3. Financial feasibility study

*City exchange with Copenhagen, Denmark in 2015*





# City Exchanges



# Regional City Networks



- South America & Mexico (22)
- SE Europe, Middle East and ... (19)
- Central America & DR (10)
- Francophone Africa (10)
- South East Asia (10)
- India (7)



## Knowledge platform to support cities and governments in short lived climate pollutant reduction.





Support and incentivize national, and local efforts to avoid CH<sub>4</sub> emissions by diverting organic waste from landfills



Regulate and incentivize the capture and utilization of methane from existing and new landfills



Eliminate open burning of waste and aim for universal collection by 2025

Launch a private sector partnership to divert biodegradables from large generators

Adopt a national goal of reducing food loss and waste by 50% by 2030

## CCAC High-Level Assembly Commitments



WASTE





# Thank you!

For further more information, contact:

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**LEARN MORE:**



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