
This workshop was developed to provide capacity building support as well as provide a platform to these ‘high achiever’ cities and seed the ideas of enhanced ambitions through a series of master classes on varied themes and topics. The workshop was run on a ‘Mini-University’ format with six experts providing knowledge around six themes through a series of 45-min condensed classroom style – interactive lectures. The master classes were interspersed with case studies highlighting city experiences on those topics. The workshop aimed to facilitate the sharing of experiences and knowledge between the participating cities as well as identifying potential for future collaboration between the experts their organizations. Besides showcasing challenges, the workshop also aimed at identifying solutions for concrete challenges through the consultation with experts and colleagues from other cities.

In the run-up to the workshop, an extensive assessment and update of the attending cities through Survey Monkey was done. This exercise was to update the status as well as challenges around waste management for the cities participating in the Initiative. Due to time constraints, it was only conducted for the cities attending the workshop but the plan is to further roll this out to other cities, which couldn’t attend the workshop. The assessment also, provided insights on cities with highest potential and motivation to reduce SLCPs from waste and their future plans on developing waste infrastructure. Participants were asked to highlight the most pressing challenges and interests from a number of topics in order to select the themes for the Master Classes.

During the workshop, several CCAC Partners, experts as well as C40 staff assisted by facilitating and leading discussions to identify priorities together with the city representatives through the process of ‘city action
planning’. As one of the most important outcomes, several cities expressed their interest in follow-up activities and the elaboration of an implementable waste management action plan to reduce SLCPs. Lack of political interest, lack of financial resources as well as technical and resource capacity issues to design and implement waste actions were identified as main challenges.

To complement the one and half day workshop, C40 also, conducted an exclusive C40 Cities’ workshop on Friday, Sep 29th, for cities that are part of the C40 cities’ network. This day was more focussed towards group activities involving participants plan and design solutions or actions for a given scenario. One topic was around financing which was an extension to previous day’s discussions. The other topic was about community engagement in recycling programmes touching upon social, political and technological levers.

Workshop Objectives

- To provide a platform for CCAC Waste Initiative participating cities to share their leadership and progress and to foster the peer-to-peer collaboration between city Representatives to reduce SLCPs and improve solid waste management systems.
- To enhance technical capacity and expertise of attending city representatives on key subjects related to their practice area through focused sessions delivered by internationally recognized experts.
- To connect city participants with the global and regional solid waste industry and thought leadership, leveraging additional training, knowledge sharing and networking at the 2017 ISWA World Congress & WASTECON and through the additional site visits.
- To update city representatives on current and upcoming programmes being deployed by the CCAC Waste Initiative to support city actions to reduce SLCPs in solid waste systems.

Workshop Participants

<table>
<thead>
<tr>
<th>City</th>
<th>Last Name</th>
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# Workshop Agenda

## Day 1: Wednesday, September 27th, 2017 (Workshop Opening)

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<tr>
<th>Time</th>
<th>Activity</th>
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<tr>
<td>08:00 – 13:00</td>
<td>ISWA World Congress &amp; WASTECON® 2017 at Baltimore Convention Centre</td>
<td>On-site registration and participation. It is a 7-minute walk to Convention Centre from the Hotel. Please review your logistics briefing note for specific instructions on how to get there or check Google Maps.</td>
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| 14:00 – 15:00   | Workshop opening and welcome Room No: 316                               | • CCAC and C40 welcome workshop participants – Tom Frankiewicz US EPA, Sandra Mazo-Nix, CCAC Waste Initiative Coordinator, Ricardo Cepeda-Marquez, Head of Waste and Water Initiative, C40 (15 min)  
• Ice breaker: City representatives’ and experts’ introductions – Amrita and Kathrin, C40 (30 min)  
• Introduction to CCAC Waste Initiative and its mission to reduce SLCPs - Sandra Mazo-Nix, CCAC (15 min) |
| 15:00 – 15:30   | **Theme: Future Ambitions and Goals**                                  | • Baltimore’s current waste initiatives and future goals - Kristyn Oldendorf, Baltimore City Department of Public Works (10 mins)  
• Vision for the CCAC Leadership Platform for City Leadership in Waste and SLCPs – Ricardo Cepeda-Marquez, Head of Waste and Water Initiative, C40 and CCAC Lead Partner (10 mins)  
• Objective for the workshop, participation agreement, agenda overview and setting the scene – Amrita Sinha, C40 (10 mins) |
| 15:30 – 16:15   | **Master class: Dumpsite Closure and Development of Sanitary Landfills – Design, Operation and Management** | **Speaker:** MD Sahadat Hossain, Ph.D., P.E., Director - Solid Waste Institute for Sustainability (SWIS)  
Time for clarifying questions (10 min)
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| 16:30 – 17:15 | **Master class:** Landfill Gas Utilization, specifically for Waste Transport Fleet | **Speaker:** Ms. Joanna Underwood, Energy Vision  
Time for clarifying questions (10 min) |
| 17:15 – 17:45 | **City Experience: Landfill Management and Landfill Gas Capture** |  
**Moderator:** Joe Donahue, Abt Associates  
**Durban's experience with managing sanitary landfills – Operations and Financing – Mr. Logan Moodley (10 min)**  
**Johannesburg's experience about capturing methane from landfills – Ms. Khosi Baker (10 min)**  
2 Presentations: 10 mins each, followed by 10 mins of round table discussion |
| 17:45 – 18:00 | Wrap-up | Summary and instructions for the site visits |

**Day 2: Thursday, September 28th, 2017**

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| 08:00 – 12:00 | Site visits | Showcasing Baltimore’s Know How on Sustainable Solid Waste Management  
**Lead:** Brent Dieleman; SCS Engineers; Kristyn Oldendorf, Policy Analyst (Baltimore City Department of Public Works); Kathrin Zeller, C40 and Amrita Sinha, C40  
- Composting facility at a local farm – Whitelock Community Farm  
- City of Baltimore’s NW Transfer Station  
- Food waste collection by large generators – Live action at Baltimore Convention Centre |
| 13:15 – 13:30 | Reflections from Site visits/ Setting the Scene for Day 2 | **CCAC – Sandra Mazo-Nix**  
**C40 – Ricardo Cepeda Marquez** |
| 13:30 – 14:15 | **Master class:** Financing Municipal Infrastructure for Waste | **Speaker:** James Alexander, C40 Cities Finance Facility  
Time for clarifying questions (10 min) |
| 14:15 – 14:45 | **Master class:** PPPs and Contracts in Waste Management | **Speaker:** Dr. Seema Awasthi, Director at ICUC Consultants Pvt Ltd.  
Time for clarifying questions (10 min) |
| 15:00 – 15:45 | **Master class:** Strategic Trends in Organic Waste Management and Treatment and its applicability in developing countries | **Speaker:** Dr. Luis Felipe Calturato, Methanum  
Time for clarifying questions (10 min) |
| 16:00 – 16:45 | **City Experience: Collecting, Managing and Treating Organic Waste** |  
**Moderator:** Nimmi Damodaran, Abt Associates  
**Pune – Mr. Rajendra Jagtap**  
**Penang – Mr. Boon Poh Phee**  
**Sao Paulo – Ms. Marcia Metran**  
3 Presentations: 15 mins each followed by 10 mins of round table discussion |
| 16:45 – 18:00 | Workshop closing by CCAC and C40. Farewell and thank you | Summary of the workshop, next steps, outlook on webinars, post-workshop survey instructions and completion. |
- Master class: Dumpsite Closure and Development of Sanitary Landfills – Design, Operation and Management
  Speaker: MD Sahadat Hossain, Ph.D., P.E., Director – Solid Waste Institute for Sustainability (SWIS)

- Master class: Landfill Gas Utilization, specifically for Waste Transport Fleet
  Speaker: Mr. Joanna Underwood, Energy Vision

- Master class: Financing Municipal Infrastructure for Waste
  Speaker: James Alexander, Director C40 Cities Finance Facility

- Master class: PPPs and Contracts in Waste Management
  Speaker: Dr. Seema Awasthi, Director at ICUC Consultants Pvt Ltd.

- Master class: Strategic Trends in Organic Waste Management and Treatment and its applicability in developing countries
  Speaker: Dr. Luis Felipe Corturato, Methanum

- Master class: Food waste prevention, collection and treatment, special focus on Anaerobic digestion, from challenges to opportunities
  Speaker: Dr. Sarika Jain, World Biogas Association
Workshop Outcomes & City Action Plans

Through a variety of Master classes, interactive sessions, group exercise and city action planning, attendees as well as experts shared case studies and engaged in facilitated discussions on how they and their peers are addressing the challenges around managing waste and its operation within their cities. All presentations delivered during the workshop are available at the CCAC Municipal Solid Waste Knowledge Platform, unless requested otherwise by the presenters. The proposed city actions are presented in a separate Annex

Workshop Outcomes

The workshop was highly rated and all participants highlighted the incredible value they received during the Master classes with various experts. Additionally, participants appreciated the opportunity to network and participate on group exercises with their colleagues to action plan solutions to their challenges on waste management.

Several suggestions for future cooperation and continued engagement with experts were expressed. The idea is to convene this group and the experts through set of six webinars in the future. Participants also valued the site visits that were conducted. Participants were hoping to visit more sites, especially visit to the landfill site; however, the landfill visit was not done due to time constraints.

Participating attendees committed to share and review upcoming tender documents, pilot phase testing results and to follow up with the experts for additional advice and consulting opportunities. Participants committed to update CCAC on project progression and asked for additional resources to develop business plans and to obtain financing.

Master class 1:
Master class 2:

Master class 3:

Master class 4:
Site Visits

Tour of local community farm

Tour of food waste management at the Convention centre
Event highlights

Ice breakers: Travel time

Collaborating on solutions

Case studies discussions

Collective goal setting
**Durban**

**Key ambitious actions:**
- Investigate implementation of landfill gas utilization as a renewable fuel in fleet
- Research WTE of MSW as a solution – pitfalls and other considerations
- Realistic waste diversion targets with practical plans
- Development Bank support to understand ‘how’ to package bankable/ sellable projects

**Barriers:**
- Lack of political leadership and buy-in for waste projects
- Lack of environmental and social acceptance of waste projects
- Lack of financial bankability

**Individual city actions arising from the workshop:**
- Develop research on life cycle assessments and develop project viability of different disposal mechanisms

**CCAC and C40 to provide support on:**
- Developing Action Plans
- Training and tools for decision-making
- Continue connecting other cities and industries in similar projects to learn from one another
- Coordinate exchange programmes to facilitate learning from cities to implement waste to energy
- Coordinate with Waste to Resources Network to educate and support Durban’s Integrated Waste Management Plan.

**To follow up with other cities and experts:**
- Indian cities – Delhi, Pune and others

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**Johannesburg**

**Key ambitious actions:**
- Divert 90% of waste from landfill by use of treatment technologies for different waste streams – biodigestion, waste to energy, recycling
- Social inclusion of the informal waste sector to the mainstream waste management
- Proper waste management information system – proper data collection; set proper waste management indicators; understand the waste flow and balance
- Implement waste survey for proper planning and forecasting of waste generation and management

**Barriers:**
- Finances
- Technical expertise

**Individual city actions arising from the workshop:**
- Improved understanding and knowledge on biogas will support projects in Johannesburg
CCAC and C40 to provide support on:
Mobilize funding for waste projects
Provide experts’ knowledge through technical support
Facilitate knowledge exchange between cities and experts

To follow up with other cities and experts:
Waste picker program and recycling
Follow-up with experts and cities on development of bio digester and uses of biogas
Waste survey planning and implementation of waste information management

Buenos Aires

Key ambitious actions:
Increase the amount of organics being separated and treated
Implement a household level collection system for organic fraction of waste
How to change the focus of work from mitigating to reducing generation of waste
Define the best technology to treat organic fraction of waste – is it AD – dry or wet; with electricity generation or biodiesel.
Develop incentives to make big generators responsible for their own waste

Barriers:
Cost of collection and treatment systems
Lack of knowledge and commitment from citizens
Definition for types of waste

Individual city actions arising from the workshop:
Reassurance that most cities face similar problems with waste management
Will return to office with many new ideas and renewed energy to continue work with CCAC and C40

CCAC and C40 to provide support on:
Connection with other cities with the same problems to see how they resolved them
Reassessing the progress within the city waste projects
Working with CCAC and C40 Network helps us to sum up and inform all the information and decisions the city takes

To follow up with other cities and experts:
Sao Paulo’s composting project
Bangkok’s WTE project
Quezon city’s collection system
Quito’s extended producers responsibility
Accra

Key ambitious actions:
- Closure of all illegal dumpsites within the city of Accra
- Development of waste transfer stations within the city
- Securing investments in waste treatment and final disposal

Barriers:
- Lack of effective monitoring regime
- Collection services not covering all residents and properties
- Growing informal collection groups

Individual city actions arising from the workshop:
- Begin engagement with potential stakeholders in sustainable waste management especially waste conversion

CCAC and C40 to provide support on:
- Assist to explore effective waste dump closure
- Facilitate city-to-city learning exchange with Johannesburg on electricity from landfill gas; understand their process and learning
- To follow up with other cities and experts:
  - Learning from cities that have instituted KPI system for assessing waste collectors would be helpful

Dar es Salaam

Key ambitious actions:
- Conduct detailed design of existing dumpsite to ensure proper closure of dumpsite
- Integrate compost system towards waste utilization
- Harmonization of user fee in waste management system

Barriers:
- Considering cost vs benefit any decision making

CCAC and C40 to provide support on:
- Provide more opportunities for tour as a way of learning best practices
To follow up with other cities and experts:
All cities and experts

Lagos

Key ambitious actions:
- Rid Lagos of waste by institutionalizing an effective solid waste management
- Seek solutions to the present bad state of disposal/dumpsites
- Improve the attitude of people about proper waste handling
- Sensitizing people about the need to pay for waste collection services
- Encourage recycling and sorting of waste at source

Barriers:

Individual city actions arising from the workshop:
- Will escalate most of the new information received to all management staff at LAWMA
- Come up with recommendations for the State Government
- Will prepare memos to the State Government on new initiatives
- Will step up advocacy/knowledge sharing to the populace especially about attitudinal change for waste management

CCAC and C40 to provide support on:
- Continued knowledge sharing with cities and experts

To follow up with other cities and experts:
- Require materials to guide us as a regulatory body
- There will be continued engagements with colleagues from often cities to learn and share experiences

Dakar

Key ambitious actions:
- Improve solid waste collection and handling equipment
- Rehabilitate Dakar and Beubeuss landfills
- More appropriation of the solid waste collection system by people and citizens

Barriers:
- Social
- Political
- Urbanization
- Lack of funding
Individual city actions arising from the workshop:
Improving landfill operations – leachate collection system and treatment
Closing of dumpsite
Learning of Durban’s experience to engage with public on landfills
Financing with income by selling of gas

CCAC and C40 to provide support on:
Publishing best practices and presentations from the city leaders workshop
Facilitating study tours to Durban and Johannesburg on landfill management
Facilitating training through workshops on how to drive community engagement

To follow up with other cities and experts:
Durban specific experience on managing of landfills
Guidance and case study from Dr Joanna from Energy Vision

Agadir

Key ambitious actions:
Choose the best method of treatment of waste
Share this with other cities through the Network
Implement the National program of solid waste management
Implement the gas recovery to energy
Resolve the leachate issue from dumpsite

Barriers:
NA

Individual city actions arising from the workshop:
Share knowledge gained during the workshop with other colleagues at work
Implementing monitoring systems to tackle pollution issues from waste

CCAC and C40 to provide support on:
Arrange studies to resolve environmental issues, odour dispersion, groundwater pollution and air pollution issues from waste management
Become member of CCAC to help us connect with relevant experts on specific topics
Become member of C40 cities to connect with other cities in the world

To follow up with other cities and experts:
Follow Brazilian experience in composting
Connect with EPA experts to manage air pollution
Connect with experts from India, Brazil, to develop research projects in solid waste issues
Quito

Key ambitious actions:
Research and construction of new sanitary landfill site
Treatment and reuse of construction waste debris
Potentiate the recycling work done by waste pickers
Apply producer environmental liability
Recover and treat organic waste from markets
Reduce the amount of waste generated by citizen

Barriers:
Social considerations: Citizens don’t separate waste
Political considerations
Distance from transfer stations
Illegal constructions
Lack of producer information, products introduced informally in the country
National intervention lacking
No value of compost in the market
Finance problems for implementation and operations

Individual city actions arising from the workshop:
Considering what was learnt so that the new sanitary landfill site has everything necessary
Research on the different types of financing and funds for projects
Consider the important points for a PPP project in the city

CCAC and C40 to provide support on:
Technical support
Financing projects
Have a representative in each country

To follow up with other cities and experts:
Contacts
New experiences, ideas and information

Rio de Janeiro

Key ambitious actions:
Convert the waste collection fleet from diesel to electric
Upscale our biomethanization plant diverting organic waste from landfill

Barriers:
Economic feasibility of above projects
Individual city actions arising from the workshop:
Maintaining close contact with other cities and experts that have similar challenges or can help find a solution for those issues

CCAC and C40 to provide support on:
C40 has an important role to continue to influence the municipality officers to accept some environmentally sound projects in waste management
Through webinars and workshops, help develop feasibility studies, help to press authorities to accept environmentally sound projects

To follow up with other cities and experts:
All

Naucalpan

Key ambitious actions:
Complete all the feasibility studies for the MBT plants for energy recovery
Prepare and submit to GCF the proposal in order to complement the financing of the project

Barriers:
Upcoming elections in Mexico might delay progress
Timelines of GCF might hamper the project development

Individual city actions arising from the workshop:
Will send the progress to CCAC
Will arrange a workshop next January with stakeholders and experts to identify gaps and define next steps to start the bidding process
Need to find an interest and appropriate accredited entity
Begin the study of methane emissions with study of US EPA

CCAC and C40 to provide support on:
Interested to get more information about other PPP projects of waste to energy, and share experiences
Share a model of bidding rules for a PPP on SWM
Share a model of a PPP contract

To follow up with other cities and experts:
Will coordinate with support of US EPA/ CCAC and GIZ the progress of project
Lima

Key ambitious actions:
Close the dumpsites
Launch a network on waste management in Lima province (43 districts)

Barriers:
Budget

Individual city actions arising from the workshop:
Modifying regulations based on the learning from workshop and other city experiences

CCAC and C40 to provide support on:
Engage local government to do more
Developing projects together
Additional training, workshops and webinars on several of the identified issues

To follow up with other cities and experts:
Knowing experiences of other cities and experts

Medellin

Key ambitious actions:
Landfill gas conversion
Recycling systems
Transfer stations
Waste-to-energy
Identify finance sources

Barriers:
Lack of segregation policies and regulation
Regulation and economic challenges
Lack of community engagement

Individual city actions arising from the workshop:
Will share information from the workshop with other team members
Continue working for implementing solutions and analyse best alternatives
Keep in touch with the C40 connections

CCAC and C40 to provide support on:
Facilitate connections between experts; platform to exchange knowledge and information
To follow up with other cities and experts:
Brazil
Peru
Mexico
Chile
Argentina
Ecuador

Puerto Varas

Key ambitious actions:
- Environmental and educational programme on recycling
- Design and implement organics waste collection
- Design an integrated waste management plan

Barriers:
- Lack of financing
- Lack of political interest
- Lack of information
- Lack of education

Individual city actions arising from the workshop:
- Create municipal policy for differentiated rate for waste collection
- Community farming

CCAC and C40 to provide support:
- Assess biogas production in our landfill
- Technical support experiences exchange
- Expert support
- Networking to keep us in touch with other cities
- Improving financial capacity
- Assess possibility of producing fuel and compost out of regional landfill

To follow up with other cities and experts:
- Learning
- New Ideas
- Connections

Sao Paulo

Key ambitious actions:
- Improve the recyclable awareness in Sao Paulo
- Explore financial source for developing communication and engagement for segregation at source
Programme for schools to utilize the organics waste from school kitchens; exploring composting
Study/ research on implementation of plasma technology
Utilization of Biogas from ECOPARQUE – Implementation and improvement
Create an ‘Educational Institute’ for waste to provide continuous educational programme since people do not pay specific taxes.
How to capture the investments from carbon mitigation angle to create projects from Municipality?
Project to use the street market food in a nutritional way for children in school.

**Barriers:**

- Short-term investments
- Lack of experts of environmental engineering and others in the Authority
- Lack of communication and engagement of citizens on organics and overall waste

**Individual city actions arising from the workshop:**

- Find and learn about various studies and research already done by CCAC for Sao Paulo
- Expand alliances like this beyond city to regions

**CCAC and C40 to provide support on:**

- To find possible investors from around the world
- Provide qualified project manager for writing/ framing proposals
- Managing data
- Cross transfer of knowledge with cities, initiatives as this workshop
- Technical support

Sao Paulo can share an app for controlling dumpsite locations and so reduce illegal waste

**To follow up with other cities and experts:**

- Quezon city
- Lagos
- Hong Kong; all other C40 cities on the Network
- Dr. Joanna from Energy Vision

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**Quezon City**

**Key ambitious actions:**

- Waste to energy facility
- Building good transfer stations

**Barriers:**

- Budgetary and financing constraints
- National policy prohibits incineration
- Social issues such as waste pickers – 1500 people
- Land availability for the facility
- City’s efforts on waste segregation efforts may be compromised

**Individual city actions arising from the workshop:**

- Report preparation on the SWM experience of other cities
Networking with C40, CCAC, experts and other entities for projects, programs and knowledge sharing

CCAC and C40 to provide support on:
- To assist or provide with better feasibility study in developing a waste to energy facility in QC
- Technical and feasibility study assistance

To follow up with other cities and experts:
- Networking with C40, CCAC, experts and other entities for projects, programs and knowledge sharing
- Reach out to other cities on the development of their SWM project initiatives

East Delhi

Key ambitious actions:
- Preparation of detailed action plan of Municipal Solid Waste Segregation, Collection, Transportation and decentralized waste management
- Reclamation of existing landfills

Barriers:
- How to achieve segregation at source?
- How to recover 100% user fee?
- Land constraints
- Narrow streets, high population density
- Mixed waste collection
- Slope stabilization of Ghazipur landfill site

Individual city actions arising from the workshop:
- Undertake landfill gas estimation and control during reclamation of landfill
- Adopt preventive measures during reclamation of landfill for air pollution, gas and leachate leakage
- Will rectify the slope stabilization of landfill
- Innovative machinery and method for segregation of collection of MSW

CCAC and C40 to provide support on:
- CCAC/C40 to provide technical assistance to prepare Action Plan
- CCAC/C40 to arrange a technical assistance for Ghazipur landfill
- Provide innovative methods for closure of overflowing dumpsites
- Provide training to workers and officials on waste management practices
- Collation of case studies on reclamation of dumpsites
- Facilitate exchange on existing dumpsite experiences

To follow up with other cities and experts:
- Share MSW Rules with Penang
- Follow-up with experts in the field of segregation, biogas and landfills
- Create city network for exchange of information and best practices for collection and transportation vehicles and segregation of waste
- Technical and financial support for exchange programme with experts
- Explore options on decentralised biogas plants
Pune

Key ambitious actions:
Increase decentralized biogas plants of 5 TPD plants from 25 to more
SWACH – cooperative association of municipality with rag pickers, 3600+ integrated along with scrap dealers; target to include more
To reach 100% decentralized garden waste collection and shredding with briquette making
To increase source segregation
Facility for construction and debris waste
Reuse of reclaimed material
Leverage technology for integration of App for citizens along with fleet management
E-waste management, prevention and disposal at city level with minimum hardware component

Barriers:

Individual city actions arising from the workshop:
Project financing: Prepare a solid project report to ensure best finance is available at low ROI
Scientific landfill
Managing e-waste
Learning from handling of food waste at Convention Centre
PPP – financing for projects to ensure 100% processing
Transfer station – small haulers

CCAC and C40 to provide support on:
Exchange of ideas and best practices will help in long run
Utilization of biogas for automobile and bus; combustible level of C:N ratio is important
Closure of dumpsite and measurement of gas by Durban and Johannesburg is a great takeaway
Facilitate new technology and adoption to local condition; provide proof of concept
More interactive session to meet, understand and share best practices from peer cities across the world is really helpful

To follow up with other cities and experts:
Baltimore site visit gave very good opportunity for better utilization of transfer stations; also community farming and composting
Guidance and help from Experts in the Workshop
Good takeaway about actions and precautions

Amman

Key ambitious actions:
Community participation in the SWM and waste initiative
Solid waste sorting programme
Organic composting production; production of compost in gardens
Waste generation reduction
Waste-to-energy projects
Facilitate more conversations on creating awareness about solid waste and climate change issues

**Barriers:**
Legislations  
Financial support  
Lack of qualified leadership  
Local culture  
Lack of infrastructure  
Lack of technology know-how  
Large number of refugees in proportion to Jordanians

**Individual city actions arising from the workshop:**
Will provide a summary of the workshop learning to others on the team in Greater Amman Municipality  
Will try to teach and apply the information on ground

**CCAC and C40 to provide support on:**
Reinstituting leaders capable of implementing the global vision in Amman, Jordan  
Build good cities network and periodic workshops, ISWA Congress to keep cities and experts in touch  
Give us opportunity to host these workshops to solve Amman’s problems through presentations and looking for new waste management experiences  
Support in implementing new technologies to reduce emissions from waste and follow environmental procedures  
Try to bring as many cities under the C40 umbrella to become stronger in achieving the goals  
Find and train qualified officials in cities to help C40 and CCAC meet its objectives and these officials act as arms for C40 and CCAC

**To follow up with other cities and experts:**
Brazil  
Argentina  
South Africa

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**Penang**

**Key ambitious actions:**
Establishment of C&D Waste Centre  
Rehabilitation of ‘Jelotong’ dumpsite  
Closure of the one and only dumpsite on the Penang Island

**Barriers:**
Diversion of C&D waste to new recovery centre on mainland  
Resource networking towards zero waste society through your waste is my treasure

**Individual city actions arising from the workshop:**
Roll out from pilot project under CCAC SLCP to full pledge WTE/Compost  
Sharing of best practices  
Conducting special workshop  
Amendment of the bylaws to assist enforcement
CCAC and C40 to provide support on:
CCAC Networking on technologies available in C40 Cities with respect to 3As – Available, Accessible, and Affordable
Working towards zero waste society

To follow up with other cities and experts:
Penang is prepared to assist and be assisted

Bangkok

Key ambitious actions:
To convert food waste to fertilizer through effective use and selection of appropriate microorganisms

Barriers:
Lack of citizen engagement in separation at source
BMA lacks knowledge on biogas technologies and implementation

Individual city actions arising from the workshop:
In Bangkok, the solid waste composition is 50% organic; therefore, waste minimization at source especially in food waste is critical

CCAC and C40 to provide support on:
To provide support on technical assistance through your platforms and contribute to knowledge sharing and best practice for Bangkok
Collaborative research on waste reduction through expert or equipment support
Knowledge on how to utilize food waste and what is suitable way of biogas production in Bangkok

To follow up with other cities and experts:
How to develop a KPI system for waste management?
Continued experience sharing with all participant cities