



Climate and Clean Air Coalition (CCAC) Finance Workshop Report

*Helping Cities to create bankable projects for municipal
solid waste management*

Workshop Report

Paris, 10 – 11 September, 2015



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2 BACKGROUND AND INTRODUCTION

Today more than half the world's population is living in urban environment and this number is expected to rise further in the coming decades. With the rapid economic and urban growth and an increasing population and consumption, especially in emerging economies, sustainable solid waste management is more and more recognized as an important part of metropolitan lifestyle. Unsuitable solid waste management technologies pose negative impacts on public health, harm the environment and are financially unviable, as in the long term their external cost significantly exceeds the cost of a proper waste management system.

Sound waste management requires a complex enabling environment; beyond establishing the suitable infrastructure, technologies and ensuring good governance, the access to innovative and large scale financing of solid waste management projects is also a critical element of success. Local governments have the option to self-finance projects through their own resources, or access external funding from national governments, various financial institutions, other donors or partnerships. Finance can be leveraged for establishing strategies, constructing infrastructure or purchasing technology. However the access to external financing options often comes with high requirements and cities and local governments can struggle to fulfill these.

The Climate and Clean Air Coalition (CCAC) is dedicated to mitigating short-lived climate pollutants (SLCPs) across various sectors and as a result reduce emissions causing climate change, thus helping to improve human health and decreasing pollution of the environment. One of the CCAC's eleven initiatives is the Municipal Solid Waste Initiative (MSWI), working closely with cities and national governments globally and addressing the reduction of mainly methane and black carbon emissions within the municipal solid waste sector. The Finance Initiative (FI) takes cross-cutting actions by helping to enable financial flows towards projects and activities aiming to reduce air pollution. Recognizing the urgent need for financing in the solid waste sector, representatives of the MSWI and the FI joined forces to organize a workshop on municipal solid waste finance. The workshop was implemented with the leadership of the International Solid Waste Association (ISWA) and hosted by Veolia in Paris on the 10-11th of September, 2015.

The event targeted cities supported by the CCAC and intended to help them with identifying financing opportunities to improve their solid waste management and reduce SLCP emissions. Five cities participated from developing countries, Buenos Aires, Argentina; Cebu City, Philippines; Addis Ababa, Ethiopia; Amman, Jordan and Battambang, Cambodia, and helped to frame discussions and expert advice by posing questions and presenting their own case studies. Additionally, Kenya has been represented on the National level.

Delegates of multilateral development banks (MDBs), private sector experts and other international organisations, including the World Bank, European Investment Bank (EIB), the United Nations Environment Programme (UNEP), the Nordic Environmental Finance Cooperation (NEFCO), United Cities and Local Governments (UCLG), Agence Française De Développement (AFD), C40 Cities and ISWA along

with other high profile experts met to exchange ideas on the best financial approaches for SLCP-related projects in the solid waste sector.

The workshop started with opening remarks provided by Gary Crawford, ISWA Board Member and Chair of Climate Change and Waste Management Working Group and Vice President of International Relations at Veolia. His talk was followed by an introductory presentation about CCAC and the MSW Initiative and two city case studies, Buenos Aires and Amman. Following that Alexander Koch presented on the current status of the Green Climate Fund (GCF) and explained assessment criteria for potentially funded projects. The Workshop organisers planned the event with short city case studies and experts' presentations to leave more time for interactions. Participants were divided into three breakout groups to allow for more inputs and enhanced discussions. The sessions were led and summarized by finance experts and CCAC MSWI members. The first group discussions aimed to identify financing problems and barriers local governments typically struggle with. After the break out group summaries, Jeremy Gorelick gave an account of his experiences as Senior Financial Advisor for the city of Dakar, Senegal.

The second day of the event opened with two case studies from Cebu City and Addis Ababa. Additionally, two experts presented; Paul Kriss gave a summary about the World Bank's insights and recommendations regarding good practices in solid waste management, followed by Ash Sharma who introduced the Nordic Environment Finance Corporation's (NEFCO) activities for financing investments in solid waste related projects. During the following breakout sessions groups discussed and then presented their recommendations on how to reach solutions with the support of experts, finance institutions and also how city administrations could improve their current waste management finance situation internally. Furthermore, cities and experts proposed various programmes and activities where the Climate and Clean Air Coalition could support municipal solid waste financing on an international, national or local level.

This documentation intends to provide a summary of the expert presentations and an excerpt of key points raised within the group discussions and breakout sessions that followed the presentations. The report also contains additional comments and contributions submitted by two of the participating experts, included in a separate chapter (Chapter 5).

3 SUMMARY OF EXPERT PRESENTATIONS

3.1 UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

ALEXANDER KOCH: THE GREEN CLIMATE FUND - INTRODUCTION

The GCF was launched by the COP 17 in 2011 to help achieve the objectives of the UNFCCC. The Secretariat Head Quarter was opened in December 2013 in Songdo, South Korea. The Fund is not yet fully operational and many questions remain open regarding the funded projects. The GCF is expected to play a significant role in mobilizing climate finance globally over the coming years. The Fund supports developing countries to access climate financing and hopes to upgrade its current capital to 100 billion USD by 2020.

The GCF aims to promote a paradigm shift towards low-emission and climate-resilient development. The Fund tries to slightly move away of the more localized clear-cut interventions funded earlier by the Clean Development Mechanism (CDM) and is striving to help bringing about projects on a more sectoral scale. The GCF aims to have long term interventions that can transform entire sectors of the market and induce change in daily decisions of investors and consumers, making climate change mitigation investments more attractive.

There are two key entities through whom cities can engage with the GCF:

- 1) National Designated Authorities (NDAs) or Focal Points, which are the interface between the country and the Fund. Each developing country is invited to nominate an institution to be its Focal Point (usually institutions on the national level, such as Ministry of Finance, Ministry of Environment, Inter-ministerial Commissions, etc.). One of the most important role for the NDAs is to check any type of project proposals before they go to the Fund (list of the entities nominated so far is available on the [GCF website](#)).
- 2) Accredited Entities (AEs) are responsible to submit the proposals and access the subsidy in case the GCF approves the funding. AEs also to manage the funds on behalf of the project proponents. The AE is also responsible for project monitoring and reporting. To become an AE, the specific entity has to prove its experience in the management of large scale project funding. Entities can apply for different types of fund management, for example grants management, lending, equity guarantees, etc. Consequently, these entities are often national development banks or similar institutions. Most countries do not have their AEs yet. UNEP is now also an AE – thus developing countries can either apply through their national entities, or approach UNEP directly.

The GCF hopes to approve the first project ideas in its Board meeting in Zambia (November, 2015). The total pledges in the Fund are 10 billion USD at the moment – additional pledges are expected after the COP21 in December.

The GCF has two main strategic impact areas: adaptation and mitigation. Solid waste management projects would be suitable for e.g. the low-emission energy area (mitigation), such as capturing methane gas on landfills. However, the adaptation focus could also be relevant in some cases, e.g. waste management operations that reduce the risk of flooding might be suitable projects for the category ‘infrastructure and built environment’.

The GCF established its Initial Investment Framework with regard to mitigation impact. The framework describes assessment criteria, definition, and other factors which are important in the Fund’s evaluation process. One example of the assessment factors interesting for SWM projects is the ‘Expected improvement in waste management contributing to emission reductions (e.g. the change in share of waste managed using low-carbon strategies and/or the change in the share of waste that is recovered through recycling and composting).

However, the GCF does not focus solely on climate related criteria. Therefore, submitted projects have to comply with other factors, such as paradigm shift potential (Can the project be scaled up? Can it strengthen and enable environments?), sustainable development potential, potential for social, or environmental co-benefits, potential benefits for vulnerable population, financing needs and many more.

There are currently four applying scales in the assessment of funding proposals: 1) Micro proposals (up to and incl. 10 million USD), 2) small proposals (above 10 million – 50 million USD, incl.), 3) medium proposals (above 50 million – 250 million USD, incl.) and 4) large proposals (above 250 million USD).

The advantages of projects run through the GCF are a buy-down in upfront capital costs, eased cash flows and the higher risk tolerance of the mechanism.

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3.2 CAPITAL MARKETS AND AFFORDABLE HOUSING INSTITUTE

JEREMY GORELICK: HELPING CITIES TO FINANCE CLIMATE-SENSITIVE IMPROVEMENTS IN SOLID WASTE MANAGEMENT

Jeremy Gorelick introduced the work which has been done on financing waste management activities in the City of Dakar. The city received a 500,000 USD grant from the Gates Foundation to create a project concept for launching municipal bonds. The Foundation approved the project idea which was prepared by the City of Dakar with the professional support of Jeremy Gorelick, who is also a Senior Financial Advisor of the City. Subsequently, another 5 million dollars were provided by the Gates Foundation to launch the municipal bonds within 5 years. Preparations started out with establishing basic criteria including discussing the city’s creditworthiness, general infrastructure projects, etc. A shallow credit reading was

done through Moody's – who assessed the city's strengths and weaknesses. This assessment became a blueprint for rectifying flaws and making strengths even stronger. The city received a rating from Bloomfield, which is a local city rating agency. The evaluation was an important sign of credibility for the local markets. After this, the investment project was set up and the bonds were prepared for the launch – Dakar received permissions from the central government and from the local market regulator to execute the project. The launch would have happened in February 2015. However, shortly before that date the central government claimed that it does not feel comfortable with the city going to the market. At the moment, the case is still unresolved, but it will hopefully end with the city's approval being re-granted.

Consequently, an endorsement from the central government is essential for the success of similar projects. Furthermore, the cities need to be highly motivated to invest in sustainable development as part of their long term strategic goals - otherwise the change of government could result in a change of priorities on the agenda. Also, the city needs to be financially stable, with regular, verifiable reporting of budgets and year-end accounting. The city needs to understand that the funds must be repaid and it needs to be both willing and able to pay off the whole debt.

Financial stability entails a regular verifiable recording of budget and proper accounting. The budget does not have to match with year round accounting necessarily, but the year round accounting needs to reflect sensible results. Political security and transparency are further requirements for long-term projects.

At last, political stability with high transparency across all levels of government is an essential characteristics of good candidate cities.

Questions where cities need to have a affirming answer in order to be ready for financing:

- Does the municipality/city have the right to enter into long-term debt obligations?
- Would private investors view the municipality/city as being creditworthy? Why?
- Does the municipality/city have robust and verifiable financial statements, demonstrating project feasibility?

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3.3 WORLD BANK GROUP

PAUL KRISS: INTERNATIONAL GOOD PRACTICES IN SOLID WASTE MANAGEMENT

Paul Kriss presented on common characteristics, typical pitfalls and good international practices in solid waste management worldwide.

Common characteristics and trends in countries

Common issues along the waste chain:

- Growing waste generation rate (ranges from 0.9-2.1 kg day/capita).
- Typically high waste collection rate in cities (80-95%), however, with a vast difference between high and low income cities.
- Usually high bill collection.
- Low tariffs, so that revenues do not cover costs. There are exceptions, but this is a common problem which creates a chain reaction of all kinds of autonomy between municipalities and countries.
- Separation at source has started but remains on pilot/small scale in developing countries.
- Insufficient landfill space and many open dumps.
- Badly operated landfills with only a few (functioning) weighbridges.
- Little recycling and only slowly emerging Extended Producer Responsibility (EPR).
- Little or no communication and education campaigns on waste minimization.

Legal and institutional framework:

- Municipalities have a legal mandate, but are often not in 'the driver's seat'. It is usually the Ministries of Finance or Environment who are leading the negotiations.
- There is little to no regional cooperation.
- A lack or inconsistent SWM policy and strategy at the national level is typical.
- A lack of regional SWM strategies is a usual problem.
- Private sector participation is still low. Private sector is present in some cases and projects are upcoming, but it still is in a development phase and difficult to introduce due to financial issues.

On the planning side:

- There is none or not reliable data or an information system for waste management.
- Countries use outdated per capita generation norms and measurements in cubic meter.

Some typical pitfalls (more typical in ECA – Europe and Central Asia):

Developing countries want to **adopt high-end technologies** (i.e. incineration plants, mechanical and biological treatment, gasification, etc.) assuming this will bring revenues (from sale of electricity and recyclables) while they expect drastically reduced waste quantities... **but:**

- Eventually landfilling remains the cheapest disposal option for most countries.
- There is no (or poorly enforced) regulation that requires countries to divert waste from landfilling, thus economic incentives are missing to adopt more expensive solutions. Landfilling banning regulations are only existing in Europe – however they create tensions even between Eastern and Western Europe.
- High-end technologies have high capital expenditure (CAPEX) and operational expenditure (OPEX) and may be too complex to operate.

Each municipality wants its own landfill and there is very little regional cooperation and only a few regional landfills...**but:**

- Building and operating a landfill may not be financially sustainable for small municipalities.
- Many examples where sanitary landfills are built to highest standard turned into dumps a few years later due to poor maintenance and operations. Thus there is a large amount of wasted capital.

Cities want to **introduce separation at source** at the strike of the pen...**but:**

- It takes a comprehensive communication strategy, massive communication campaigns, and years to change citizens' behavior.
- Even in the EU, separation at source remains a struggle.

Cities expect that, if given the chance, the **private sector will bring fast and tangible improvements...but:**

- Low tariffs discourage private sector participation.
- Many cities lack capacity to critically and effectively supervise private operators. There are a lot of deforming incentives out there (such as the monopoly established in waste collection/landfill activities as contracts with the private sector were signed for 55 years terms in Battambang, Cambodia)
- Private sector is not a panacea if the legal and regulatory systems in place do not work.

Often cities believe their **tariffs include all costs....but:**

- When it is investigated in detail, the cost structure excludes many cost factors that should have been included. Cost should include all investment, depreciation, operation and maintenance.
- Financial sustainability for the World Bank means all OPEX and depreciation. In most countries (except for a few, e.g. Denmark, New Zealand or Norway) the capital expenditure is usually covered on the national level from other income sources and taxes.

Very **little attention is given to data collection...but:**

- Cities cannot plan the future of the SWM system unless they have good quality data.
- Cities need systemic and reliable data to know how much waste is generated, or what are the waste characteristics, as this would determine the applied technology. And without planning for the appropriate technology cities cannot plan for a future of SWM (e.g. recyclable fraction will determine the best treatment option and technology). For example, knowing the recyclable fraction of the waste will determine the best waste treatment option.

The BIGGEST pitfall is that cities are overly focused on equipment and not on systems...but:

- Equipment alone is not sufficient to improve a SWM system.

Paul Kriss also introduced the various recycling and reuse rates according to EU legislation. Fulfilling these requirements needs high investment technologies which can only be affordable in a country that has a 30-40 000 USD per capita income (Western European countries) and is not really applicable to most developing countries. Landfilling ratios and mechanisms (gate fees, landfill taxes, etc.) can vary – there are many ways to achieve good results. The bottom line is that the city has to think logically, account for the flow of money and the environmental and financial sustainability of the system.

There is a big debate globally on incineration; for example China builds 180 incinerators each year – in spite the heated debate about the benefits of this method.

What are good international practices?

It is best to start with a policy (could be a brief and lean framework document that outlines some basic parameters for the sector – such as the guiding principles for the sector, ambition level, suggested pace of reforms, the role of the public institutions, etc.). Without an enforceable policy it will be very difficult to convince all levels of society to act.

Example: Azerbaijan has just drafted a very good Policy Document for the SWM Sector in Baku.

Secondly, it is advisable to develop a Strategy (based on sector development scenarios, the Strategy should set targets with dates and responsibilities for implementation, including cooperation between regions or municipalities). The Strategy should also outline the functional design of the SWM system.

Example: Big countries like Russia have Regional Strategies. Good Strategies focus on a few priorities first, not all at once. Croatia has developed a Solid Waste Plan which could be a good example. Bosnia and Herzegovina have good examples of inter-municipal cooperation.

Furthermore, it is necessary to develop a tariff setting methodology and / or guidelines for municipalities. Tariffs should be based on full-cost accounting and can be used to promote different objectives, such as environmental goals, give the correct economic signal. The Washington Consensus declares that there has to be a charge for services. However, in practice many countries do not cover the costs for basic services as it is still politically impossible to do so. In countries who succeed, even if the service costs are not covered, there is a systemic way to channel money to municipal solid waste from the treasury.

Most international experience points against a central body that sets the tariffs. However, centrally devised guidelines to municipalities on the methodology are needed.

The internationally accepted affordability benchmark for the waste fee is 1 % but could be as high as 2.5 % of household disposable income. In many ECA countries, bringing tariffs to full cost recovery remains well below the 2.5 % benchmark and often below the 1 % level. Thus, no financially sustainable system could be operated in low-income cities (for example in Addis Ababa) where it is impossible to collect this ratio.

The introduction of Extended Producer Responsibility (EPR) as a means to increase recycling is another good step towards an improved waste management. The debate has started in the 'rich world', discussing who is responsible for the waste and how it will be charge for it? Additional questions are framed in developing countries, such as how to formalize the informal sector.

Example: Slovakia has introduced good Compliance Scheme for packaging waste.

It is advisable to introduce separation at source on a pilot basis at first. Communication campaigns, education and other capacity building are critical for its success and must not be underestimated. Two-way waste streams (dry and wet) are easier to administer and are also less expensive to manage. In many places people are not disciplined enough to comply with a 4-way waste stream (plastics, paper, metal, glass). Some cities in the US have replaced existing 4-way streams with a 2-way stream system.

To introduce Waste Information Systems, including use of modern (electronic) weighbridges at every landfill is one of the priority investments that a SWM system needs. However, it is not easy to realize it as waste business is not always transparent.

Example: Belarus (city of Grodno) has a good weighbridge data system in place.

Considering private sector participation could also be worthwhile. In principle, dividing a city into collection zones and having several operators is better than a single operator. Multiple operators bring competition and thus have the potential to reduce costs. There are, however, good examples where a single operator collects from the entire city. Usually rich neighborhoods are cost recoverable and cost recovery in unplanned settlements / slums is not possible. Some thinking is needed on how to divide up cities on a sensible way.

There is no best set-up or best technology. Despite the claims equipment suppliers stating the opposite, it all depends on local conditions and local priorities. Technologies need to be adopted to the local context. Local government has to be prepared to make functional decisions based on their current conditions, such as financial power, human resource capacity, and similar factors.

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3.4 NORDIC ENVIRONMENT FINANCE COROPORATION (NEFCO)

ASH SHARMA: FINANCING INVESTMENT IN MSW MANAGEMENT

The session described NAMAs (Nationally Appropriate Mitigation Actions) which are Climate mitigation action programmes first introduced under the Bali Action Plan, aimed at *transformational* change in sectors. It is argued that NAMAs are a promising financing mechanism with great applicability to the MSW

sector, as evidenced in various jurisdictions. Waste sector NAMAs offer an opportunity to combine government policies with financial instruments which can incentivise private investment, mobilise domestic finances and leverage international support from donor, funds and institutions and create a potential pipeline of bankable investments.

The Nordic Partnership Initiative in the Peruvian waste sector (2011 to date) was used as an example. The NAMA seeks to combine financial and policy/regulatory instruments in innovative and country specific ways. It is still a work-in-progress, but the first phase of the technical work and stakeholder consultations has already been completed. Further studies are required before the programme can be considered “bankable”.

The presentation described both existing and innovative sources of financing for waste projects in the developing world. The new sources include:

- The fledgling New Market Mechanism, a financing instrument still under development, which is essentially a sector based crediting mechanism with payment on performance elements (similar to CDM).
- Carbon pricing – offsetting carbon taxes or domestic ETS in certain jurisdictions cover waste management facilities.
- Technology specific NAMA Equity Fund, as proposed for mechanical-biological treatment in Colombia, but not progressed.
- Partial credit risk guarantees which can buy down or share risks.
- Project implementation funding, such as grants to support and create pipeline of small scale projects. These could have applicability in Africa and other under-served regions.
- Green credit lines - concessional lending and extension of lending maturities, oriented toward scaling up.
- Solid waste focussed development impact bonds.

The potentially important role of Green Climate Fund (and its Private Sector Facility) and national development banks in all the above was highlighted.

The presentation concluded with examples of waste sector interventions undertaken by NEFCO using the NAMA model in Mozambique, Clean Development Mechanism (Colombia, Brazil, Africa) and Joint Implementation (Lithuania).

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3.5 AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)

GUILLAUME GRAFF: AFD'S OPERATIONS IN MUNICIPAL SOLID WASTE

The French development agency (AFD) promotes the development of sustainable, inclusive and environmentally friendly cities. It tries to improve the delivery of local public services, and considers that the local authorities are the most competent to provide solutions tailored to people's aspirations. Hence, it has developed a range of interventions that aim at strengthening local governments, via direct or indirect support, and through different means of action: infrastructure costs funding, technical or strategic studies, capacity building programs and partnerships.



In the field of urban solid waste management, AFD's support can be very flexible depending on the maturity of the sector in the country in terms of (i) quality of service, (ii) regulations' implementation, (iii) allocation of responsibilities between stakeholders, (iv) sector's financing, (v) availability of technologies, and (vi) private sector involvement. In all cases AFD considers the organization of the whole sector, in order to select the best levels of action, which can be organizational, financial, technical or institutional.

In low or middle income countries, the main issue is often an insufficient political leadership that leads to a poor organization of the service, the lack of funding to cover the basic running costs, and no access to necessary land for the waste treatment infrastructures. In those cases, AFD recommends to start with diagnosis studies including waste characterization, and medium to long term strategies to help authorities improve the service through easy-to-implement, step-by-step measures such as improvements of the pre-collect and collect organization, citizens' awareness and participation, and strengthening of the financial sustainability through cost efficiency and improved tax collection. Waste treatment solutions such as sanitary landfills may also be funded, as long as they are included in an integrated sectorial approach to ensure their sustainability. They also have to respect high level environmental and social standards¹, to

¹ Projects funded by AFD must follow the environmental and social performance standards of the World Bank group.

avoid or mitigate negative impacts (dispersion of liquid and gaseous effluents, negative impacts on informal employment, etc.).

In emerging countries, our aim is to improve the quality and efficiency of the service provided. It can be achieved at different stages: upstream (through measures on regulation or initiatives to improve selective sorting), or downstream (through setting-up of waste recovery solutions, funding high efficiency treatment infrastructures such as bioreactors, implementing waste-to-energy projects, or fostering production of refuse derived fuel, etc.).

AFD promotes approaches that aim at reducing the amount of “final waste” (waste that cannot be reused, recycled nor turned into energy), primarily through prevention, as “*the best waste is the waste which is not produced*”. Waste recovery will also be promoted as long as the operation is economically relevant, financially sustainable and has no environmental or social negative impact. If the legal environment is appropriate, AFD may promote public-private partnerships (PPP). However, delegating waste management to a private actor requires being able to control it. Private companies may have advantages in terms of efficiency, but they are usually not driven by general interest: public authorities must be strong enough to effectively lead the relationship, through contract management, investment planning, costs control, and default sanctioning.

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3.6 C40 CITIES CLIMATE LEADERSHIP GROUP

JAMES ALEXANDER: FINANCING SUSTAINABLE CITIES

James Alexander emphasized the importance of cities as drivers of the economy, places where future happens and hubs of innovation and political will. However, cities are also extremely vulnerable and are major carbon emitters and as such, a part of the problem. Thus, cities need to invest great efforts in order to achieve global emission reduction targets and mitigate climate change.

By now, half of the world’s population is urban. Cities represent 66% of energy consumption. Just 500 cities will contribute to 60 % of GDP and 50 % of GHG emission growth by 2030. 98 % of the C40 member city mayors agree that climate change is an actual risk to their cities. Local leaders have shown a greater propensity to act and work together. C40 Cities was created as a city network when the mayors of key cities globally decided to take action. The network includes 500 million people (10 % of the world’s population) and 25 % of the global GDP – and thus the emissions made by its cities is also enormous. C40 Cities is also partnering the Climate Clean Air Coalition (CCAC) in the Finance Initiative (FI) and the Municipal Solid Waste Initiative (MSWI).

Most of the cities have a sense for responsibility, willingness to take action and power to find solutions in areas such as transport, water, or waste management. However they usually miss resources related to financing. There are four big challenges what cities face in terms of municipal solid waste financing:

The first challenge is to find support to prepare projects for investment. There is often enough money in the system, especially when both public and private capital are included. Many times cities also know what projects would be the most beneficial for them, but they have difficulties to prepare bankable project plans. Furthermore, cities usually do not have the capacity or resources to access capital and climate finance. Therefore, C40 Cities is currently developing plans to establish a project preparation facility which would help cities develop well-structured projects. The organization is also sharing best practices and success within its Finance Network.

Secondly, cities need access to capital and / or be enabled to raise capital. Cities would need to have direct access to international climate finance. This could happen through:

- Development banks open specific windows for cities. To have a direct access to funds is rather a long term alternative which would raise many challenges, although this option would significantly accelerate cities' access to climate financing.
- Cities would need to strengthen their ties with development agencies to have access to climate funds, such as the Green Climate Fund (GCF) or the Global Environment Facility (GEF).

Additionally, cities need to have more authority to raise capital. For example, cities with more economic power should be authorized to take on debt and /or issue bonds. C40 does actively work on gaining insights of the power profiles of cities and engages on the international level (e.g. COP21 or partnering the UN Cities Climate Finance Alliance) to leverage the best possible opportunities to achieve results.

Thirdly, reducing the costs of capital is another challenge to tackle. C40 is supporting cities in reducing their capital costs, as cities suffer disadvantages from not being rated. However the underlying reasons of this fact, such as maximizing revenues through effective tax collection, are more important than the rating itself. The creditworthiness academy is meant to train city officers on how to tackle these issues.

Capital investment planning is a creditworthiness challenge on which cities welcome support, so as to know how to structure projects according to a well-defined strategic framework. C40 is developing a tool to assess appropriate business models and financing mechanisms with Citi and WRI.

To foster the pursuit for identifying the most appropriate financing mechanisms for urban infrastructure C40 is publishing a report about climate finance mechanisms available to cities.

Finally, cities are trying to achieve scale. There is a need to move from pilot to transformative projects. In this transitioning, cities need to consider aggregation of projects to reduce investor risk and capital costs. However, it is a challenge to create consistent project types and business models and make projects more or less homogeneous in order to do investments in the most effective way.

James Alexander presented some reflections on the Creditworthiness Academy which C40 Cities conducted for its city network. Three major focus areas were identified for all cities to focus on in the future:

- Maximizing own-source revenues
- Sorting out accounts and budgets and
- Climate smart capital investment planning

Moreover, it was recognized that cities need more support on specific infrastructure projects. Creditworthiness is the key to establish such ventures, but it is only the first step towards the success. Therefore, C40 is assisting cities with ongoing technical support and is planning focus more strongly on financing, for example by organizing so called Financing Academy capacity building trainings.

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3.7 UNITED CITIES AND LOCAL GOVERNMENTS (UCLG) COMMITTEE ON LOCAL FINANCE AND DEVELOPMENT

NATHALIE LE DENMAT & CHARLOTTE LAFITTE: HOW TO IMPROVE LOCAL GOVERNMENTS' FINANCING

The United Cities & Local Governments (UCLG) is a global network of regional governments. The network represents more than 50% of the global population. It is organised as a bottom up association. On the first level are the cities and local governments, on the second level the national association of local electorates and the third level is built up of continental organisations. UCLG is present in 136 of the 191 UN Members States, in 7 world regions. The UCLG headquarter is in Barcelona, Spain.

The committee on local finance is a technical group within the UCLG, which is chaired by the city of Rabat, Morocco. The Committee has the mandate to encourage information exchange and experience in key areas of fiscal decentralisation. UCLG's main focus is to improve local resource mobilisation. The areas of potential consist of local taxation, transfers, land value capture and external funding.

Local finance is a complex subject, especially considering that 99% of the governments are local. Local governments are very diverse - thus, in order to talk about local finance, it is necessary to refer to the political, economic, cultural and legal frameworks of a city. Finance is closely related to governance, economics, accountability, capacity and competencies. The UCLG has some generic principles on financing, however solutions can be very diverse as cities try to adapt instruments to their context. The diversity brings more flexibility and more potential for innovation within the system.

Local taxation is one of the means for funding local governments. Local taxes are often the most difficult to collect, such as the property tax. The extent of autonomy plays a significant role in how local governments handle taxes, especially in developing countries, as local governments are often not very autonomous in these. A further difficulty is the repartition of powers and the overlap of local, regional and national governments responsibilities, which makes it more difficult to assess the local needs and to provide funding.

Another tool to mobilise resources are transfers. Transfers refer to the equitable sharing of national resources between territories in the same country. Equalisation mechanisms need to be in place together with transparency, predictability as well as clarity and the assessments of competencies that are devolved to the local level (such as waste management).

Land value capture is an endogenous financial instrument that is used in developed and emerging economies. This tool does not have a wide-spread application in developing countries yet. There are risks associated with this financial mechanism, but with good regulations in place, land value capture may be a tool to fill the gap between the needs and the available funding.

Long-term external resources may be tapped into when endogenous resources and user fees are not sufficient. This includes loans, PPPs or climate finance and it is funding that usually can be leveraged quickly, but must be repaid by the local government. In developing countries the possibility to access external funding is still limited. Local capacities, legal and judicial framework, assessment mechanisms and accountability are all important to ensure sustainable operating services.

Synergies between the national and local government are necessary. It is very difficult for local governments to act and implement local policies, if there are no national frameworks in place. The cost of inaction is an impediment to economic growth at national and regional levels. Two important points are to improve the information available on finance for local governments and improving the human and management capacities of local governments.

The main activities of the UCLG to reach its goal to elaborate and disseminate the advocacy on local finance include the creation of a global network of Chiefs Financial Officers (CFO) of local governments, establish a global observatory on local finance and a 2-steps study on the conditions for mobilisation of local resources for sustainable development. The initiative to establish a Global Network of Chiefs Financial Officers of local governments started with the regional network CGLUA in Africa. The plan is to launch a Latin-America network in Bolivia in the first quarter of 2016.

A new initiative is planning to set up a global observatory on local finance. It has started with the launch of regional observatories, which was achieved in cooperation with Revue Africaine des Finances Locales. 150 Africa cities took part in the pilot project. An ongoing project with the AFD and the OECD aims to review 80 countries and collect data on local finance. such as revenues, expenditures, or debts.

A comprehensive 2-steps study on the conditions for mobilisation of local resources for sustainable development is currently being undertaken to provide a more in depth analysis on the optimisation of specific financing instruments and local context. The first step included a literature review on the three

main components; local taxation, land-based finance and external resources. Step two is a comprehensive analysis of endogenous factors, through undertaking case studies in 15 cities in cooperation with a team consisting of students and experts. The aim is to bring new arguments to the advocacy of local governments.

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4 SUMMARY OF WORKSHOP DISCUSSIONS

4.1 PROBLEMS AND BARRIERS TO MUNICIPAL SOLID WASTE FINANCE

During this breakout session the various problems and barriers of municipal solid waste financing were discussed from the cities' perspective. The issues raised can be divided into political/regulatory barriers, financial barriers, technical and social barriers.

Political / regulatory barriers

On many government agendas waste management is usually positioned lower than other sustainable development areas, such as transportation, sanitation, wastewater management or healthcare.

The **regulatory environment is often either incomplete or not conducive**, for example when laws and regulations are not permissive, or when local government does not have enough authority to access grants. Additionally, the lack of **political will** can also greatly hinder investments and limit the potential for projects.

There is a **lack of strategic planning both for political and fiscal regulatory tools**. Existing policies can be insufficient and there is often reluctance to centralize or decentralize solutions according to the local conditions (e.g. 'translation' of National standards in order to apply them on the local level).

The impaired dialogue with the central government can lead not only to a lack of political support, but also to cities not being aware of the changing legislations or on-going lobby activities they could join. Central governments can fail to understand the problems on the local level and if this situation becomes aggravated with a lack of cooperation between governments, the opportunities for progress become very narrow.

Furthermore, communication and achieving success at the national level can be too bureaucratic, cumbersome or entail a very difficult and long approval process. However, in most of the cases the **donor relationship is in the hand of the central government**. Most international financial institutions can not lend money directly to municipalities (with a few exceptions, such as AFD – The French Development Agency).

Sometimes cities / municipalities understand the necessary changes to be made to their waste management activities, but they do not have the ability to set tariffs, such as waste management services or gate fee. This can be due to the **little delegation of responsibilities from the national to the local level** or inadequately regulated private sphere activities (e.g. privately owned landfill where gate fees are set by the private owner and not negotiated between stakeholders).

The **lack of information on financing options and / or a lack of capacity and knowledge** can also prevent local governments from being able to access finance. Additionally, as a result of ineffective

communication, cities might be unaware of funds available at the national level, even if it would be accessible to them. Therefore, a dialogue between cities and national treasury is essential.

Financial barriers

The low amount of available funding for the solid waste management sector is a general barrier in most developing countries. The total solid waste management development finance in 2012 was 510 million USD which is only 0.3 % of the overall development finance.

From the cities' perspective a big barrier is the lack of general creditworthiness (the likelihood that a borrower will default on his or her debt obligations). This can prevent receiving external funding for investments at both national and local level.

It is hard to tap into funding through **existing funding mechanisms** as these usually target the national level and are **hard to access for municipal / city governments** especially for smaller scale projects. Cities are frequently not granted the opportunity to contribute to negotiations with donors or loan providers.

The financial packages and minimum volumes of carbon finance/funds, **special credits and loans** on offer by the international community and the banks are **often too large to be handled in the scope of the municipal budget**. Furthermore, local authorities (borrowers) usually develop waste management projects that allow for a stepwise approach in correlation with their ability to re-finance and develop, whereas the lenders wish to support full-scale and high-investment projects. Hence, the **minimum volumes of carbon finance/funds, special credits and loans are often too high for the municipal budget**. This pushes the municipalities towards full-scale and high-investment projects, which they might not be able to implement on a sustainable and financially viable way.

Another main obstacle of municipal solid waste financing is that the municipal budget is often insufficient, due to **poor financial planning and management**. Inadequate collection of revenues result in insufficient municipal resources to meet financing needs. **Basic operational deficiencies**, such as lack of efficient accounting system for solid waste management revenues or **failing to balance costs and revenues** can also lead to insufficient profit levels, even though enough income could be generated by the system would allow to generate sufficient income when operating properly.

The ability of the waste generator (households) to pay their waste fees is a decisive factor for re-financing municipal solid waste expenditure. This is particularly challenging in low income countries where only a small share of the disposable income can be spent on financing basic services such as waste management services. This limits the budget available to improve waste management and often results in only partial coverage of the waste management operation costs. At the same time, the service fee recovery can be difficult because of the low awareness or little willingness and resistance of the citizens to pay in exchange for receiving basic services. This low motivation to pay for waste management might be a result of an insufficient cost/value ratio of the service (e.g.: households pay the waste fees, but regular service is still not provided); it may also be due to the lack of proper public communication as well as political issues.

As loans and loaning conditions depend on the ability of the loan seeker to repay the debt, an insufficient revenue from the waste management system increases risks and decreases the chance for potential investments.

In many developing countries' cities **waste services for population with low and marginal income needs to be subsidized**. Without it, the service quality falls back and eventually can lead to a total failing of the service.

The cities can receive initial assistance from multilateral funds, which might also include technical assistance (e.g. Cebu received such assistance from JICA for plastic waste management technologies). Furthermore, cities can cooperate with waste companies for support on technical details. However, **for the financing structure of a certain project the city relies on the treasury department** - where there is often no specific capacity or competence for financing or structuring financial plans.

Although **metropolitan areas often contribute a larger share to the national budget, they receive less fund through national budget transfers in return**, as the central government is financing regional development projects in other areas as well. In many cases metropolitan region and mega-cities are not entitled to borrow directly from capital markets or issue bonds. Thus, urban agglomerations often do not have sufficient financial means to invest in waste management infrastructure and improved service provision, despite their higher level of economic power.

Private equity funds typically seek significant rates of return on capital and secure guarantees for revenues/interest and loan repayment. They usually lock and distribute their funds through specific secured bank deposits and with strict guiding principles. So using funding for waste infrastructure development through private equity can be very challenging for cities and only the most creditworthy and experienced ones might be in the position to leverage funding through these sources.

Technical barriers

The existing urban **infrastructure is often insufficient**. As solid waste management is a cross-cutting issue, the success of operation highly relies on external factors, such as adequate road quality, structure and accessibility.

Existing contracting practices with the service provider can result in low quality waste management service with a limited perspective for improvement (e.g. in Dar es Salaam, PPP contracts run for only one year term, which causes a very instable environment for the private sector and thus decreases their willingness to invest in equipment.)

The **lack of good quality waste data** and statistics (such as lack of information on waste generation and composition, little availability and low quality data of waste management processes, the lack of accessibility or reliability of industrial data or the lack of data on available technology / technology performance) poses a huge barrier to investments, since it prevents accurate planning.

In order to receive loans, city projects need to be supported by **feasibility studies** – however **cities usually lack resources to conduct this** research. If the cities lack in-house expertise, they have to involve external know how which can overburden the project budget due to the high costs of consultants.

When looking for new waste management sites within densely populated cities, **land constraints or land ownership is another key barrier**. Typically for developing countries, a lack of a reliable land registry is also a major impediment.

Sometimes cities fail to properly manage their **relations with other cities**, thus they miss out on sharing resources and experience, lobby power or any other means of cooperation.

Additionally, cities face challenges in formalizing the **informal sector's collection activities** and incorporating them into mainstream social programs.

4.2 HOW TO OVERCOME DIFFICULTIES AND BUILD BANKABLE PROJECTS?

The break out groups also tried to find the answer on how previously listed municipal solid waste financing problems and barriers which cities face could be overcome. The participants debated necessary criteria for building bankable projects.

Basic overall criteria such as political stability within the country has to be fulfilled, so that normal investment and operational risks can be assured (as political instability significantly raises investment costs). In addition, **institutional cooperation**, functioning implementation units and sufficient in-house human resources capacity need to be ensured before the project inception.

According to what has been discussed the most frequent financing mechanisms should be:

- Service fees
- Funding from the budget of the city
- Public Private Partnerships (PPPs)
- Multilateral banks
- Bonds, issued by the city

The breakout groups also discussed **the right order to look for a donor or lender of capital**.

- In case of **grants/technical support** cities should turn to:
 1. National Governments
 2. Bilateral aid agencies
 3. Multilateral aid agencies
 4. Charitable foundations
 5. High-net worth individuals/corporate (CSR)

- In case of **lending/capital sources** the priority order of obtaining funds should be:
1. Municipal/local development funds / private capital
(city networks can be useful for sharing relevant information)
 2. Other national resources available for municipal/regional development
 3. National banks, lending in local currency
 4. Development banks with special credit conditions
 5. International banks, lending in hard currency (potentially with guarantee)
 6. Export-Import Banks (less common for MSW capital-intensive projects)
 7. Bonds (via institutional investors)

The ideal order to borrow would be from National funds and regional/municipal development funds, followed by borrowing from multilateral development banks, and finally private financing alternatively with bond options. In general, own resources followed by government budget allocations and national development banks should be the basic institutions for financing investment - climate funds can be considered as an additional support.

Each stakeholder involved in the process of financing has a different **role and responsibility** that has to be clarified. Disagreements in debates among key stakeholders need to be resolved before the inception of the project.

Investor confidence is an important part of any project. It is based on the creditworthiness of the City, its indicators include the enabling legal environment, the trust in the successful implementation, governance and in some cases capability in making profits in the cases that the lender seeks profit in the investment.

Strategic waste management objectives have to be decided **at the local or national level** and since waste is a cross-sector problem additional objectives need to be established, such as social inclusion or health related goals, etc.

If waste management has been granted a political priority at the metropolitan level, ideally prioritized and supported by the Mayor, there is a good chance to influence national considerations.

According to the World Bank the principal approach of cities should be to obtain money through their national governments via loans (e.g. from World Bank, or the Japan International Cooperation Agency). It is important that cities run their projects well to ensure the continuation of the loan provision. In addition, politicians tend to fund projects they believe in, thus it is advisable that the city obtains support from the civil society, which results in a higher chance of receiving national funds. Bankable projects can appear differently to different investors. For example, 'bankable' for the World Bank has to be environmentally friendly (e.g. only engineered landfills are acceptable). Therefore, it is of the cities' interest to understand their funding partners' requirements.

It is important that the specific municipal solid waste project generates sustainable and long-term revenues. The project expenses should remain feasible and overspending needs to be avoided. There has to be a **demand for the project output**, product or service, in order to realize sustainable financing.

The regular practice of **basic accounting** and calculation of the total returns to be expected from the municipal waste management system can be sometimes challenging for the city administration.

Generally 0.7 % of **guarantees** should be assigned to cover political risks. Partial guarantees can be provided on maturity and time frame extension, commercial risks, land guarantees (although this is a controversial discussion with banks). Credit guarantees and foreign currency risks and guarantees by the government also have to be accounted for at the financial project planning.

Project financing in developing countries is usually a mixture of loans and grants. Amongst others, the level of the grants received on the investment could decrease the service fees charged and make waste management services more affordable. Loans should be directly provided to cities **without a sovereign loan guarantee**.

To issue **municipal bonds** an enabling environment is needed paired with adequate capacity at the municipality. The type of financing needs and revenue flows have to be decided. Cost effectiveness is an important criteria – and at the same time falling into the debit pitfall must also be avoided. Three important criteria should be assessed to decide whether the City can use a bond:

- 1) Factors for enabling environment (e.g. good governance, able management, legislative framework and enforcement)
- 2) Municipal leadership
- 3) Investor appetite for the specific project(s).

Not enough efforts have been invested to secure **land-based guarantees**. Experts expressed concerns about the negative public image of such tools or the inability to use, sell, or manage land associated with loan defaults and confiscation of collaterals. Although some experts at the workshop said they would support land-based guarantees, the World Bank did not recommend cities to use public land as collateral.

Pilot projects are a crucial source of expertise and experience and through them there is potential for improvements in case of a scale up. Pilot projects also have a great value in demonstrating good practices and can serve as point of reference regionally or on a global scale (such as the large scale composting plant project in Dhaka). However, pilot projects can usually be financed to a limited extent only.

Stakeholder workshops, initiating or fostering contacts between development banks / multilateral agencies / national level governments / private donors and cities and/or municipal governments. Also **direct matchmaking** with donors and networking with Funding Institutions.

Applying **smart technologies for data collection** on the waste management system, for example waste generation, composition, management activities, waste amounts treated and amount disposed, is recommended.

Applying **one stop-shop waste solutions** (integrated waste management, usually one provider offering solutions for a wide range of waste streams) could be planned for already at the project preparation phase in order to have a better chance of obtaining finance for the project.

4.3 HOW COULD EXPERTS HELP?

Financing Institutes have **literature, studies and resources** available which can be used by cities as a list of recommendations.

Experts could **build a closer relationship with the cities** and have more in-depth discussions with the city's financial managers, acquiring information about the city's financial indicators, in order to decide whether the city has the capacity to operate a project.

According to the Global Funds for Cities Development (FMDV) there could be a need for **local intermediaries for smaller projects** so that multilateral development banks and carbon/climate funds would be willing to fund small projects as well. However, establishment of reliable local intermediaries may be challenging for the cities and require good cooperation with the public and private sectors.

Cities need a stronger voice so that they can achieve an easier access to funds. They can receive support by national, regional and global city networks to have their problems and requests brought to the agenda of influential politicians and financiers.

4.4 WHAT CAN CITIES DO?

Cities should put **laws/regulations** in place to **foster waste management**, such as rules on segregation and collection of waste, and **ensure enforcement through regular investigations and monitoring**. **Penalties and fees** can be applied to non-compliant actors.

Cities could also lobby for **project aggregations within a country**. **This means** to structure similar projects in the same way and replicate them across the country. This strategy could be applied effectively especially in mid-size cities.

Some overarching aspects have to be taken into consideration when preparing project proposals: apart from a good concept and a well-structured proposal willingness for inter-departmental cooperation (as municipal solid waste often does not belong under the finance ministry's responsibility) is needed. **A person with thorough understanding about finance at the city government should be assigned to liaise with finance experts.**

In order to obtain access to financing, cities have to work towards an **improved revenue generation capacity** so that they can secure own funding for operational and maintenance costs.

When **guarantees** are discussed, investors need to be confident that the invested money will be paid back. Cities can build confidence through local capacity building and applying an effective policy framework. However, carefulness is necessary at looking for guarantees as costs can be higher than the interest. Unfortunately, the question remains whether sub-national governments will be permitted to borrow money and thus receive funding.

City government should **account for external challenges and risks** which are outside of the city's control, such as foreign currency risk.

Cities could start engage in programmes such as the Credit Worthiness Academy which helps them to focus on maximizing their own source revenues, sorting out accounts and budgets and conduct capital investment planning.

Cities should establish a **special purpose vehicle** to be able to train and hire civil servants with higher salaries to avoid governmental aid or staff losses.

The city should choose a feasible and achievable project scope for which it has appropriate capacity and which can be operated in the long term.

Cities should ensure that they have **reliable feasibility studies** for the projects they wish to undertake as this is a basic requirement for many funding entities.

Supplementary **technical assistance** is often provided with **grants**, once the conditions are met. Even if it is not, cities should explore the possibility from the grant provider.

The **replicability** of the project is a crucial feature and should already be considered in the planning phase.

Equity needs to be upheld. A new site selection has to include compensation of squatters and resettlement and environmental considerations. Resettlement and environmental policies have to be ensured and their absence can be a deal breaking matter for many multi-lateral development banks.

In addition, cities should conduct **awareness raising** campaigns to improve source separation of waste and inform citizens regularly about waste management activities in the city.

Furthermore, cities need to account for the **informal sector** and make efforts to formalize them.

4.5 WHAT ARE THE NEXT STEPS FOR THE CCAC?

The following are suggestions for CCAC actions that were raised in the break-out sessions.

CCAC can **assist cities** in various ways such as with enhanced advocacy, media communication and direct matchmaking. It can be the suitable organisation for **bridging the gap between the cities and** the source of **finance institutions**. The strengthening of the relationship between the key parties could also happen on the international level, for example through international events, workshops, conferences or direct matchmaking.

Furthermore, CCAC could **become an Accredited Entity** or partner up with an Accredited Entity in order **to access funding from the Green Climate Fund (GCF)**, and also leverage opportunities with other

financing sources. The CCAC could help to identify appropriate indicators for city municipal solid waste projects to make them suitable for the GCF funding or other funds.

The CCAC could **benchmark already existing knowledge products**.

CCAC could play a role of an **information clearinghouse**, so that cities could approach it with their financing problems and receive guidance to be directed toward the right actions and suitable funding opportunities. CCAC could provide **policy advice** directly or organize expert consultations to revise local PPP policy. Alternatively, it could broker other partnerships such as **outsourcing experts** to assess a specific city's financial preparedness.

The Coalition could foster targeted **capacity building** for cities on specific aspects of solid waste management finance. This way knowledge sharing could be individually tailored to the needs of the particular city.

Organizing further workshops and webinars with invited finance experts from major international finance institutions would be another important task for the Coalition. In addition, the private sector should be involved as it can play an important role in project negotiations. The next workshop could be dedicated to bringing together foundations and other donors so that they share their priorities and funding requirements. A generic comment from participants was that workshops would be more effective if experts would **focus on only 1 or 2 CCAC cities** and analyse their situations in depth rather than making a general assessment for more cities. It would be beneficial to have a template with a series of questions that cities gather information for.

Sharing lessons learned is useful at the local and the national level. This can happen through CCAC and other international organizations, their websites such as the CCAC [MSWI Knowledge Platform](#), city networks and direct networking.

The promotion of the CCAC MSWI Knowledge Platform is important. Through the effective use of the website cities could gain technical expertise and learn about experiences from other cities.

MSWI partners should look at the GCF Strategic Impact Areas and highlight in which areas MSWI has potentially applicable projects.

CCAC could establish a roadmap on how cities in different regions could leverage funding, either through CCAC or on their own.

The Coalition could use its connections and influence to **advocate on behalf of cities** at national governments and at international meetings.

CCAC could assist in establishing and supporting **local think tanks** with relevant information and connections, as they might not have the capacity to bring stakeholders together.

Furthermore, the Coalition can **help to ensure better access to data and transparent information on solid waste management** in its supported cities.

CCAC could also **help to evaluate the technology offers received** by a specific city. The assessments could be conducted through capacity building in the form of workshops and webinars or connecting experts with the city directly.

Additionally, CCAC could **tailor creditworthiness academy for solid waste management** and organize for such targeted trainings in the supported cities.

CCAC could also arrange knowledge and **learning exchange such as study tours** between cities seeking funding and cities who already achieved positive project results.

The Coalition **could support pilot projects in municipal solid waste financing** either at the national or the city level. The latter is possible through supporting implementers to integrate financing project elements in City Projects, such as Work Plans and Implementation Plans.

On the long term, the CCAC could consider **developing a tool which helps identify funding sources and select best options** through multi-criteria decision analysis.

All of these suggestions will be discussed within the MSW and Finance Initiatives. The actions will be prioritised and proposed for funding according to CCAC Procedures.

5 ADDITIONAL RECOMMENDATIONS FROM FINANCE EXPERTS

5.1 ASH SHARMA - NORDIC ENVIRONMENT FINANCE CORPORATION (NEFCO)

Recommendations on how NEFCO could support CCAC cities

NEFCO has extensive experience with the project based mechanisms (CDM and JI) in the waste sector, but this is focused on specific investments (landfills and composting plants), and supporting these through carbon finance. However, whilst this has been supported for many years by our carbon funds, demand is constrained by the current status of the carbon market and uncertain outlook going forward. Unfortunately, our funding for landfills in cities such as Bogota, Sao Paolo, Manuas and Belem has been allocated – but we do experience here that we can contribute.

NEFCO does have experience through the NAMA development process which is ongoing in Peru and Mozambique (just started in Q4, 2015), which it could share through workshops, targeted technical assistance etc. We see there is great potential for waste sector NAMAs but recognize that effecting transformative change is a lengthy process, which demands high level of country ownership, inclusiveness, institutional and financial capacity and a long term commitment by donors to support policy, regulatory, tariff and market reforms. We could contribute here also.

Specific recommendation to CCAC

- Closer cooperation between the two initiatives (note NEFCO is applying to be a lead partner in the FI, and can make specific contributions to the MSW).
- Specific handholding support to government's preparing waste sector NAMAs, or applying for implementation funding through the Green Climate Fund or other sources.
- Updating partner cities on finance and new market developments as related to waste management.
- A focus on African cities (we have been working this year in Beira, Mozambique, Uganda, Kumasi, Ghana, Khartoum, Sudan and see the challenges are quite different – a focus on moving towards full collection and elimination of opening burning and uncontrolled disposal).

5.2 GUILLAUME GRAFF - AFD (FRENCH DEVELOPMENT AGENCY)

Recommendations for municipal solid waste management projects

1. Start with a full diagnosis of the sector

Decision makers need to be well informed in order to plan relevant and cost-effective medium to long term public action. This is particularly true in the field of solid waste management. Any attempt to improve the service must start with an in-depth, reliable, context-adapted feasibility study in order to estimate the best organizational, institutional or infrastructural improvements according to the specific context. The goal is to identify long shot objectives and their financial implications, but also quick win solutions, and cheap organizational improvements that can make a real difference at short term.

Concretely, waste characterization is the first step to any waste management project, in order to get rough data which is very often missing. It shall allow identifying the quantity and quality of waste produced on the considered territory. It shall also include a prospective outlook, taking into account demographic growth and economic perspectives. This characterization must be accompanied by a thorough analysis of the organization of the sector and its institutional set-up, including public and private actors, informal and non-governmental organizations. Existing infrastructures and ways of collecting and treating waste must be analyzed as well as any on-going improvement project to ensure good coordination. It is also important to understand the financial structure of the sector, the budget that the local authority is currently spending on the service, the fiscal recovery rate and the reforms that may be implemented to improve it. The study should show the economic relevance of the project, what value it intends to add in the sector, and show its positive and negative externalities, including means of mitigating the latter.

AFD will always request that a feasibility study be produced before funding a specific project. In some countries, AFD may fund the study itself through project preparation funds.

2. Aim at financial sustainability

Solid waste management sector is characterized by its very high running costs, which are usually not covered by donors such as AFD. One of the main measures in order to improve the service is to enhance cost efficiency both by decreasing expenses and by increasing revenues. Smart planning is a good way to start: finding the best spot for the treatment facilities and the transfer points may avoid expensive fuel consumption; using equipment that may be repaired locally with spare parts available avoids expensive renewal (and it increases local employment); reducing the amount of waste collected by public awareness campaigns, financial incentives or improving source separation are also ways of decreasing the burden on public finance.

In terms of revenues, tax control is often out of the local authorities' hands. In that case, maintaining a strong dialogue with national authorities should lead to improve effective funding of service. Cost-benefit analysis is a good tool to show the advantages of an improved solid waste management collection in terms

of public health, employment, environmental impact, etc. Users' fees directly recovered by the local authorities may also be implemented, and mixed with incentives to reward users (in cash or in kind) for the waste they recycle. It is not advisable to make the service free of charge, in order to maintain the idea that collecting waste has a price, and that reducing the amount of waste is profitable. But prices shouldn't be set too high, or users could prefer dumping their waste in uncontrolled sites instead of having it collected and treated. Earnings may also be searched through waste recovery, by selling secondary raw material, biogas, compost, refuse derived fuel, energy, heat, etc. However, these potential earnings shouldn't be overestimated in a financial plan. Indeed, they depend on a number of parameters that aren't always easy to maintain: quality and quantity of incoming waste to ensure production is stable, quality of the output product, existence of a market and of good purchase prices, etc. Incomes generated by waste recovery may hence participate to the cost recovery of the service, but usually won't cover on its own capital and operating expenditures.

3. Follow a clear and long term strategy that involves all the actors in the project

Solid waste management is a complex issue that includes many actors with interests that may be contradictory. It is why it is important to set up a long term strategy, with a systemic, public policy approach. AFD may accompany the project's promoters with financial and technical capacity, but it is the responsibility of the collectivity to plan the development of its service and coordinate actions with the different stakeholders. Consulting and maintaining dialogue, setting clear goals that are understood and endorsed by all stakeholders, communicating on measures taken and next steps ahead are a way of creating a collective momentum and minimize the risks of social reactions against the project.

4. Prefer step-by-step improvements

Pre-collect and collect present high running costs, and improvement is usually to be found in terms of organization and institutional set up. In that matter, big progress can be achieved through capacity building, exchange of experience and change management. The main technological progresses are situated at the waste sorting and treatment phase. Sorting plants, recycling units, waste-to-energy solutions, compost and methanisation units, mechanical biological treatment processes are all interesting solutions to be considered. However, they always have to be inserted in an integrated approach of the sector, and in relationship with the whole chain of value. There are no miraculous solutions in terms of waste management, and any technological upgrade requires regulations' evolution, control power by the public authority, and financial means to cover the running costs.

5. Don't overestimate the benefits of a public private partnership and build capacities to manage it

Private sector involvement is inevitable in most cases in the sector, through formal or informal actors. However, delegating the service to private actors can only be a sustainable solution if national regulation is appropriate and if contracts are properly managed and controlled by public authorities. Fair and regular competition between different operators must be insured. Precise, measurable indicators must be implemented to monitor the quality of service, and significant financial sanctions must be applied in case of failure.

AFD can help local authorities with adapting regulations, building capacities of local teams in terms of contract preparation and management, and sharing experiences with peers.

Specific recommendation to CCAC cities

AFD's projects identification is performed bottom-up, through our field agencies. CCAC cities interested in AFD's support should contact the local representative to start a dialogue, and present their programs and projects. AFD being a bilateral governmental organization, its operations must be endorsed by national partner states. However, AFD can fund directly local authorities without state guaranty, when it is allowed by local regulations, and when the borrower is financially sustainable. Its loans to the states (sovereign loans) may also be on-lended to local authorities. AFD may also participate in co-financing with other public or private, national or international funding organizations. In emerging countries and when the public financial management structure is strong enough, it may intervene through budgetary support. In that case, our added value will be at the level of public policy dialogue, through specific expertise mobilization, partnership and capacity building. The financial conditions of AFD depend on a number of factors such as the country of intervention, the type of project, its financial sustainability, its social and environmental impact, etc.

France has a long tradition of city-to-city dialogue and partnership ("*jumelage*" or twin town cooperation). In this context, a recent law has set-up a specific mechanism, "*1% déchets*" (1% waste), that promotes international cooperation towards French local authorities in the specific field of solid waste management. CCAC cities may investigate further on the mechanism and encourage their French counterparts to use it to support solid waste management projects in their cities. Further information on the mechanism may be found in the documentation provided by Amorce, the organization that promotes the mechanism in France (cf References below). AFD is not a direct actor in that mechanism, but it promotes the development of city-to-city partnerships, through supporting cities networks such as Cités unies France – the federation of French local and regional governments involved in international relations of French cities, or ICLEI-Local Governments for Sustainability. It may also facilitate the development of relationships through provision of budget lines within the framework of a project.

AFD is also managing the French global fund for environment (Fond français pour l'environnement mondial – FFEM) that provides grants to support protection of the local environment in developing countries. One of its five strategic priorities is the promotion of sustainable urban territories, which includes actions on solid waste management. FFEM's projects are sourced via AFD local agencies, and CCAC cities may also benefit from it.

6 CITY CASE STUDIES

Five cities - Buenos Aires, Argentina; Amman, Jordan; Cebu, Philippines; Addis Ababa, Ethiopia and Battambang, Cambodia - who joined and have been supported by the CCAC Municipal Solid Waste Initiative were invited to the CCAC Finance Workshop. Four of the five cities have presented their case studies, which are available on the [MSWI Knowledge Platform](#).

One of the difficulties at the evaluation of the introduced cases was that cities are at very different stages at improving their solid waste management activities. The lack of time prohibited the in depth analysis of the particular local situations and thus experts were not able to make detailed recommendations. Therefore, recommendations made to these cities were included in into the generic recommendations listed in Chapter 4.

7 WORKSHOP RECOMMENDATIONS

Most of the participants found the workshop very valuable and benefited from the networking opportunity created by the event. Since CCAC supported cities were linked up with multiple financial experts and public institutions the discussions were very dynamic, multi-perspective and efficient as stakeholders were enabled to communicate directly. The group discussions also allowed participants to analyse some of the city case studies in better detail and establish a better understanding of common obstacles.

It is intended to organise similar Finance Workshops in order to provide substantial support on municipal solid waste finance for CCAC cities.

8 FURTHER REFERENCES AND USEFUL LINKS

Websites

ADEME : the French environment and energy management agency, with a special focus on waste management

[Agence française de développement](#)

[Fonds français pour l'environnement mondial](#)

Green Climate Fund: <http://www.greenclimate.fund/home>

[Plateforme Re-sources](#) : full of practical and useful information on solid waste management.

[Tax administration Diagnostic Assessment Tool \(TADAT\)](#): developed by international development partners and institutions including the European Commission, Germany, International Monetary Fund (IMF), Japan, Netherlands, Norway, Switzerland, United Kingdom and the World Bank.

Articles, practical guides and key documents

Proparco (2012), "[Waste: the challenges facing developing countries](#)", Private sector and development, n°15, October 2012.

Amorce (2015), « [Plaquette d'information sur le dispositif 1% déchets : Collectivités locales, agissez pour améliorer la gestion des déchets dans le monde !](#) », Lyon.

Amorce (2015), « [Guide coopération décentralisée](#) », Lyon

Ademe (2013), "[French know-how in the field of waste management](#)".

Institut de la francophonie pour le développement durable (2005), « [Guide pratique sur la gestion des déchets ménagers et des sites d'enfouissement technique dans les pays du Sud](#) »

African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank, International Monetary Fund, World Bank Group (2015), "[From Billions to Trillions: Transforming Development Finance Post-2015 Financing for Development: Multilateral Development Finance](#)" (notes from the April 2015 Development Committee meeting)

UN General Assembly (2015), "[Outcome of the Third International Conference on Financing for Development](#)"

9 ANNEX II.

9.1 SPEAKER BIOGRAPHIES - FINANCE EXPERTS

ALEXANDER, James

Head of the Finance and Economic Development Initiative, C40 Cities

James Alexander is Head of the Finance and Economic Development Initiative for the C40 Cities Climate Leadership Group. In this role, James is responsible for facilitating city action, and helping cities address their challenges through peer-peer networks on Green Growth, Sustainable Infrastructure Finance and City Creditworthiness, sharing best practices and lessons learnt.

James is also leading on the development of financing support for C40 cities, working to deliver a project preparation facility and working at the international level to address the systemic financing barriers impacting on cities.

Prior to joining C40, James served the [Scottish Council for Development and Industry](#), advising the Scottish Government and other key stakeholders on economic growth in Scotland. As a major part of this role, James worked with the Leaders of Scotland's cities to develop the Cities Strategy for Scotland and setup and lead a new [Scottish Cities Alliance](#) focused on delivering additional investment, jobs and growth in Scotland's cities.

As well as experience in economic development and sustainability, James also has a background in the education sector, including two years as President of the National Union of Students in Scotland.

GORELICK, Jeremy

Director of Capital Markets at the Affordable Housing Institute

Lead Technical/Financial Advisor, Dakar Municipal Finance Program

Jeremy Gorelick, Managing Director of Capital Markets at the Affordable Housing Institute, has more than ten years of experience in structuring municipal finance transactions in sub-Saharan Africa, Latin America and Eastern Europe. Since 2011, he has been the lead technical and financial advisor to the City of Dakar's Municipal Finance Program, which was endowed by the Bill &



Melinda Gates Foundation to support the city in its efforts to launch the region's first municipal bond. He previously worked at BNP Paribas (New York) and Dresdner Kleinwort Wasserstein (London) in fixed-income emerging markets sovereign and sub-sovereign bond origination. He has also consulted, as a municipal finance and local development advisor, to the World Bank, the United Nations Capital Development Fund, Homeless International, Water and Sanitation for Africa, and Water and Sanitation for the Urban Poor. He received his undergraduate and graduate degrees in international studies and emerging markets at the Johns Hopkins University. He is currently an adjunct professor at the Whiting School of Engineering teaching classes on business analytics and has previously taught at the Cornell University College of Architecture, Art and Planning and the Johns Hopkins School of Advanced International Studies.

SHARMA, Ash

***Special Adviser for Climate Change to the Nordic Environment
Finance Corporation (NEFCO)***

Ash Sharma is NEFCO's lead specialist on climate finance and policy, founder of the climate department and a former Vice President at the bank. He was responsible for the development and management of climate finance products and funds at NEFCO during 2005 - 2014. He now focuses on broader climate finance initiatives and financial aspects of new market mechanisms, and has been in the steering groups of several international, multi-stakeholder climate initiatives. He is NEFCO's focal point to the CCAC, UNFCCC, Green Climate Fund and other fora. He is the Fund Manager of the Norwegian Carbon Procurement Facility and also takes responsibility for the NEFCO climate portfolio in Latin America.



Mr Sharma has been engaged with solid waste management practice, policy and strategy and finance for over 20 years, in industry, consulting and financial sector. He has worked with waste management projects, investments and corporate development on all six continents. Currently he is managing CDM projects in Brazil and Colombia, and solid waste NAMA programmes in Peru and Mozambique.

He is a chemist by training and holds postgraduate qualifications in marketing and finance with studies in France, Spain, Germany and USA.

Mr Sharma is also an adviser to the European Commission, a Director of African Initiatives Limited, an international development charity working on social justice and women’s empowerment in Ghana and Tanzania, and Chair of the Board of Trustees of the Bath & West Community Energy Fund.

GRAFF, Guillaume

***Project Manager – Local Government and Urban Development unit
French Development Agency***



I have joined the French Development Agency (AFD) in 2009, where I currently hold a position of project manager in the “Local Government and Urban Development” unit. Through my portfolio, I supervise urban development funding operations in Nigeria, Togo and Ivory Coast. I also play an internal advising role on the topic of municipal solid waste management. At AFD’s headquarters, I was previously a country officer for Madagascar, Comoros, Mauritius and Seychelles. I also have coordinated AFD’s operations in Sri Lanka during one year based in Colombo. Before joining AFD, I have worked for several NGOs in Sri Lanka and in Colombia.

I am graduated in political science (“Sciences Po”), and have a master’s degree in “International cooperation, humanitarian action and development policies” from La Sorbonne in Paris. I also followed on-going training in Sustainable urban development at the Conservatoire des arts et métiers (CNAM) in Paris. I am a casual panelist for workshops and professional trainings on urban solid waste management in developing countries, and urban development projects management. I speak French, English and Spanish.

LE DENMAT, Nathalie

International Technical Expert

United Cities and Local Governments

In charge of the Committee on Local finance for Development



Professional career

- 2012-2015: United Cities and Local Governments (UCLG). In charge of the Committee on Local finance for Development, expert UN for the preparation of Habitat III:
 - definition and implementation of the strategy;
 - organization of high-level workshops on local finance issues;
 - management of a worldwide network of city CFOs;
 - leading the global observatory of local finances project;
 - research on the conditions of mobilization of local resources for sustainable urbanization;
- 2006-2011: French Agency for Development – AFD. Head of the department « Local Authorities and Urban Development »
 - Implementation of the AFD’s strategy on urban projects and direct loans in favor of local governments;
 - management of the team, supervision and monitoring of projects;
 - management of the relationships between partners on the subject of local finances and urban development;
- 2002-2006 : Regional court of accounts of Ile de France : Financial Magistrate
 - assessment of local authorities’ policies ;
 - judgment of the accounts of the local public accountant;
- 1984-2000: Local government of Hérault-France (county): Welfare service
 - management of the social workers’ team;
 - assistance to families, social and professional integration;
 - intervention in favor of children at risk;
 - NGO coordination area.

University courses

- 2000-2002 : French National School of Administration (ENA) ;
- 1977-1984 : philosophy and sociology

9.2 ATTENDEE LIST

CCAC City Participants

Name	Position	City
Ms Alejandra Acosta	Operations Manager, Ministry of Environment and Public Space Government of the City of Buenos Aires	Buenos Aires, Argentina
Mr. Chek Noy	Officer, Beautification And Waste Management Office	Battambang Municipality, Cambodia
Mr Dawit Ayele Habtewold	General Manager, Addis Ababa Solid Waste Management Agency	Addis Abbaba, Ethiopia
Mr Hagos Kahesay Araya	Gulele Sub City Manager	Addis Abbaba, Ethiopia
Ms Immaculate N Simiyu	Senior Compliance & Enforcement Officer Section Head and Basel Convention desk officer Waste Management Section National Environment Management Authority	Nairobi, Kenya
Ms Nida Cabrera	Counselor, Chair of Environmental Committee	Cebu City
Mr Samer Yasin	Deputy City Manager For Financial Issues	Amman, Jordan
Mr Zaidoun El Qasem	Senior Environmental Advisor	

Finance Experts

Name	Position	Organisation
Alexander Koch	Associate Programme Officer, UNEP	UNEP
Ash Sharma	Special Adviser for Climate Change to the Nordic Environment Finance Corporation	NEFCO (Nordic Environment Finance Corporation)
Carlos de Freitas	Director of Programs	FMDV (Global Fund for Cities Development)
Charlotte Lafitte	Committee on Local finance for Development	UCLG (United Cities and Local Governments)
Guillaume Graff	Project Manager – Local Government and Urban Development Unit	AFD
James Alexander	Head of the Finance and Economic Development Initiative	C40
Jeremy Gorelick	Director of Capital Markets at the Affordable Housing Institute	Capital Markets and Economic Development Initiative
	Lead Technical/Financial Advisor	Dakar Municipal Finance Program
Nathalie le Denmat	International Technical Expert In charge of the Committee on Local finance for Development	UCLG (United Cities and Local Governments)

Paul Kriss	Global Leader for City Infrastructure and Services, World Bank	World Bank
Stefanie Lindenberg	Coordinator National Capital Finance Facility at European Investment Bank	EIB Environment, Climate and Social Office

CCAC MSWI / FI Representatives

Name	Position	Affiliation
George Scott	Consultant, Climate Change	UNEP-FI
Amrita Sinha Kataria	Network Manager, Sustainable Solid Waste Systems	C40 Cities
Anja Schwetje	Senior Expert Waste Management and Data	Umweltbundesamt (UBA), Germany
Christopher Godlove	Landfill Methane Outreach Program (LMOP) Global Methane Initiative (GMI) Waste and Wastewater USEPA, Climate Change Division	US EPA
Daniel Purchase	Office Manager	ISWA
Gary Crawford	Board Member, Chair of ISWA Working Group on Climate Change and Waste Management Vice President - International Affairs Public Affairs Department	ISWA Veolia
Julie Cerqueira	Senior Advisor, Office of the Special Envoy for Climate Change	U.S. Department of State
Kata Tisza	Technical Manager	ISWA
Yekbun Gurgoz	Coordinator	CCAC Secretariat (FI Coordinator)
Ylva Engqvist	Coordinator	CCAC Secretariat (MSW Initiative)

10 ANNEX III. WORKSHOP AGENDA

WORKSHOP AGENDA

DAY 1 - September 10			
Time	Session	Facilitator	Duration
12:00 -14:00	Registration & networking		
14:00	Workshop opening Welcome and opening remarks <i>Brief introductions of participants</i>	Gary Crawford, Veolia/ISWA	10 min 20 min
14:30	SHORT INTRODUCTION OF THE CCAC AND OVERVIEW OF THE MSW INITIATIVE - YLVA ENGQVIST, CCAC SECRETARIAT		10 min
14:40	CITY CASE STUDY 1. (SETTING A GOOD EXAMPLE FOR MSW FINANCING) - BUENOS AIRES, ARGENTINA		20 min
15:00	CITY CASE STUDY 2. (SETTING A GOOD EXAMPLE FOR MSW FINANCING) - AMMAN, JORDAN		20 min
15:20	Q&A for case studies		10 min
15:30	Coffee break		
15:50	Expert presentation - Alexander Koch, UNEP	Gary Crawford, Veolia/ISWA	10 min
16:00	SESSION 1: IDENTIFYING FINANCING PROBLEMS AND BARRIERS - BREAKOUT SESSION (WITH 3 GROUPS) Group discussions on city problems/questions and raising new questions		50 min
16:50	Summary and discussion of breakout session		35 min
17:25	Expert presentation - Jeremy Gorelick, Capital Markets and Affordable Housing Institute		15 min
17:40	Q&A Session		20 min
18:00	End of day 1. & Dinner		

DAY 2 - September 11			
Time	Session	Facilitator	Duration
9:00	Agenda and objectives of day 2.	Gary Crawford, Veolia/ISWA	10 min
9:10	<i>CITY CASE STUDY 3.– CEBU CITY, PHILIPPINES</i>		10 min
9:20	<i>CITY CASE STUDY 4.– ADDIS ABABA, ETHIOPIA</i>		10 min
9:30	Q&A Session		10 min
9:40	Expert presentation - Paul Kriss, World Bank		10 min
9:50	Expert presentation - Ash Sharma, NEFCO		10 min
10:00	<p>SESSION 2. SOLUTIONS: HOW TO OVERCOME DIFFICULTIES AND HOW TO BUILD BANKABLE PROJECTS? <i>Facilitated discussion:</i></p> <ul style="list-style-type: none"> • What are the most appropriate finance sourcing and instrumental tools for MSW initiative projects? • What is the differentiation by country/region? • What do banks need to know to consider a project is bankable? • What could be the most suitable investment size for cities? • How is it most feasible to channel the funds - how to structure loaning system (small or medium scale loaning, or pooling, etc.)? • What type of projects are the best to be founded (e.g. EIB is focusing on AD, biomass, composting and landfill remediation) • What are the main barriers to creditworthiness and which development instruments are needed to overcome these barriers?, etc. 	Gary Crawford, Veolia/ISWA	70 min
11:10	Coffee break		20 min

11:30	<p>SESSION 3: GETTING TO THE SOLUTION - HOW CAN EXPERTS HELP? <i>Facilitated discussion:</i></p> <ul style="list-style-type: none"> • Which of the projects are good for bonds - and what does to have to improve? • Benefits of cities investing in MSW projects - the need for advocacy • Which projects would be most suitable for NAMA development? • How to find a way to fit WB (or other big donor's) boxes? • What is the homework for the national governments to local actors to improve their situation? • How could the cities get access to GCF? 	Gary Crawford, Veolia/ISWA	70 min
12:40	Lunch		1 hour
14:00	Summary and discussion of breakout session II.		10 min
14:10	Expert presentation - James Alexander, C40		10 min
14:20	Expert presentation - Nathalie Le Denmat, UCLG		10 min
14:30	<p>SESSION 4: GETTING TO THE SOLUTION - WHAT CAN CITIES DO? BREAKOUT SESSION</p> <ul style="list-style-type: none"> • What can governments do to improve local actors' situation? • How could communication be improved between national and local governmental level? • What are potential projects CCAC cities could consider for financing and how to decide what has priority? 		60 min
15:30	Summary and discussion of breakout session III.		15 min
15:45	Expert presentation - Guillaume Graff, AFD		10 min
15:55	CITY CASE STUDY 5.– PENANG, MALAYSIA CASE STUDY PENANG VIDEO PRESENTATION		10 min
16:05	<p>SESSION 5: GETTING TO THE SOLUTION - HOW TO LEVERAGE FUNDING AND WHAT ARE THE NEXT STEPS FOR CCAC? BREAKOUT SESSION</p> <ul style="list-style-type: none"> • How can the CCAC MSW Initiative submit proposals to the GCF/EIB/IADB, etc.? (bundling city projects/ NAMA- like) • What are the recommended approaches for capacity building in identifying financing opportunities? • What are initial views on the best way forward in terms of financing for both Cities and the MSWI? 		90 min

	<ul style="list-style-type: none"> Objective: Mapping out next steps for the City Officials and for the MSWI 		
17:30	Closing remarks and next steps		15 min
18:00	End of Day 2.		