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Connective Cities Dialogue Event

Avoiding, Collecting and Recycling Plastic Waste –
The Contribution of Municipal Waste Management Systems

3 to 5 December 2019 in Hamburg

Partners of Connective Cities



ENGAGEMENT
GLOBAL
Service für Entwicklungsinitiativen



with its

SERVICE AGENCY
COMMUNITIES IN ONE WORLD

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

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Introduction

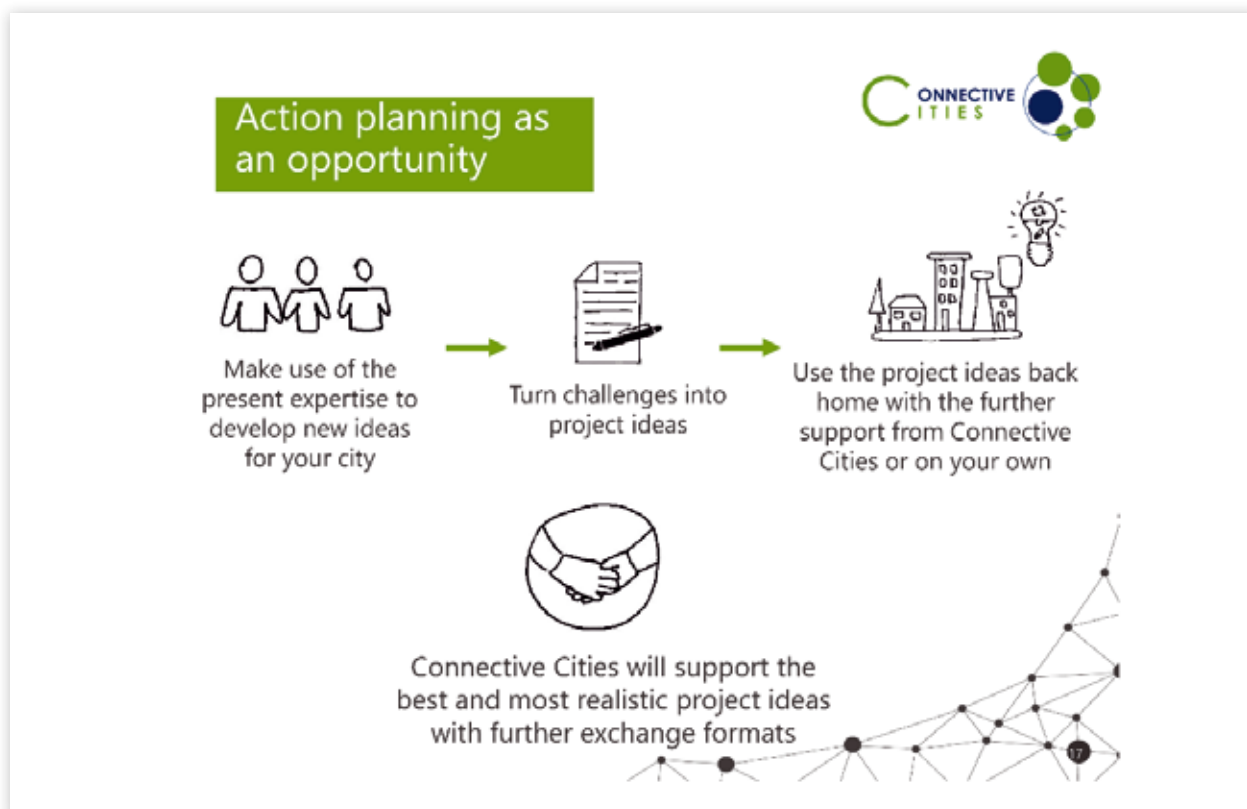
Almost 40 local practitioners from 13 cities, 9 countries and 4 continents intensively exchanged their experiences on the topic of 'plastic waste' and jointly developed solutions and project ideas. They followed the invitation of Connective Cities and the City of Hamburg to a dialogue event on 'Avoiding, Collecting and Recycling Plastic Waste – The Contribution of Municipal Waste Management Systems', which took place from 3 to 5 December 2019 in Hamburg.

Plastic waste – A growing and primarily social problem

Increasing amounts of plastic waste are posing challenges for local authorities around the world. Only small quantities can be recycled by type to create closed cycles. But even recycling into inferior types of plastic can alleviate the pressure on landfills and generate income for vulnerable groups. However, avoiding plastic waste is the best option. Therefore, plastic waste is first and foremost a social challenge: changing the behaviour of consumers and producers is crucial.

The concept – From the community of practice to the project

Since it was launched in 2014, Connective Cities has already conducted more than 30 workshops with over 2,400 participants from more than 200 cities in 65 countries worldwide. Initially it focused on launching a community of practice among local practitioners from the Global North and South. Today the dialogue platforms of Connective Cities aim to jointly develop concrete and promising ideas for projects until they are ready for implementation. Many of the project ideas developed are currently in the implementation phase, and have been supported by Connective Cities up to this point. Support has been provided to develop projects in Thailand, Brazil, Jordan, Tunisia, Ukraine, Lebanon, Mozambique and Germany. This has included among other things expert missions, delegation trips, local project workshops and tapping international funding sources.





The learning process during the three-day conference comprised a logical sequence of four parts. Day one began with expert inputs that provided an in-depth introduction to the topic. After that, the participating cities presented their practical examples and the challenges associated with implementing measures in working groups. On day two, several of these specific challenges were discussed in depth in peer exchange sessions, and possible approaches and ideas for successfully dealing with them were collected from the cities. On day three, participants took the promising approaches for concrete implementation and worked them out in detail as ideas for projects.

The conference concluded with three special excursions organised by the host city. Three groups of participants visited a waste incineration plant, a sorting station and a waste collection centre in Hamburg.

[Connective Cities – International Community of practice for sustainable urban development](#)

Connective Cities is a joint venture between the [Association of German Cities \(Deutscher Städtetag\)](#), [Deutsche Gesellschaft für Internationale Zusammenarbeit \(GIZ\)](#) and [Engagement Global / Service Agency Communities in One World](#). The International Community of Practice for Sustainable Urban Development is supported by the German Federal Ministry for Economic Cooperation and Development (BMZ).

For more information:
<https://www.connective-cities.net/en/services-1>

Avoiding, collecting and recycling plastic waste – The contribution of municipal waste management systems – The perspective of Hamburg and an international perspective

Stadtreinigung Hamburg (SRH) – Its contribution to municipal waste management

Prof. Dr.-Ing. Rüdiger Siechau, Managing Director of
Stadtreinigung Hamburg



Prof. Dr. Siechau presents the efforts of the Stadtreinigung Hamburg

In his keynote speech, Prof. Dr. Siechau provided an insight into the history and current work of the SRH. He described the sustainability-based approach pursued that involves waste collection and processing, explained how the 'Centre for Resources and Energy' that is currently being established will work, and drew attention to initiatives designed to increase the rate at which plastics are recycled.

SRH is a municipal company owned by the Free and Hanseatic City of Hamburg. Together with its total of eight subsidiaries performs a large number of public tasks – and the number is growing. As well as collecting, processing and recycling waste from approximately 970,000 households and over 100,000 commercial enterprises, these include the reconditioning and reuse of used household items, the cleaning up of public green spaces and roads including winter road clearance, and the provision and maintenance of public toilets. Over the last four years 500 new permanent jobs have been created. With its workforce totalling 3,400 employees, SRH generates annual revenue of 400 million euros, largely from

Waste management climate and resources protection



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fees and rates, but also from the recycled materials and goods as well as public cost reimbursements.

Waste management has changed a great deal since the Federal Republic of Germany was founded. In 1973 SRH commissioned its first waste recycling plant in order to relieve pressure on the uncovered landfills. In 1991 the foundations were laid for the separate collection of packaging by the adoption of a Germany-wide ordinance and the introduction of the 'green dot' on household packaging. In 1999 the dumping of household waste at landfills was finally prohibited in Germany. In 2008 waste management regulations were further refined as a result of directives issued at EU level.

In 2014 Hamburg commissioned a further modern waste incineration and recycling plant that processes up to 300,000 tonnes of solid waste annually. In 2018 the cornerstone for the 'Centre for Resources and Energy' (CRE) was laid. It is scheduled to begin operating in 2023.

The safe waste management practised by SRH is based on three solid pillars:

1. Reconditioning and reuse of used items that are still in working order
2. A recycling offensive (separate collection/recycling), involving among other things the separate collection of organic waste, paper, plastic, metals, scrap metals, fabrics and glass combined with marketing structures for recyclable materials
3. Treatment plants (thermal/biological) for waste treatment with storable climate-neutral energy production, and the use of compost, slag and residual materials

The new CRE is an important component of the third pillar of the approach. Despite separate collection at household level, many reusable materials still end up in the residual waste bin. Mechanical-biological and thermal processes will enable the CRE to recover a greater proportion of these materials. With a processing volume of 320,000 tonnes per annum, it will also be able to generate 60 megawatts of district heat and 15 megawatts of electricity.

Furthermore, through workshops SRH is liaising with leading packaging companies with a view to designing smarter packaging to increase the percentage of pure plastic recycling and thus improve closed cycles.

A shopping guide with a traffic light system will help consumers to distinguish between recyclable and non-recyclable packaging.

Click here to download the presentation: [The Contribution of Municipal Waste Management](#)

Plastic waste – The contribution of municipal waste management systems: An international perspective

Anja Schwetje, German Environment Agency



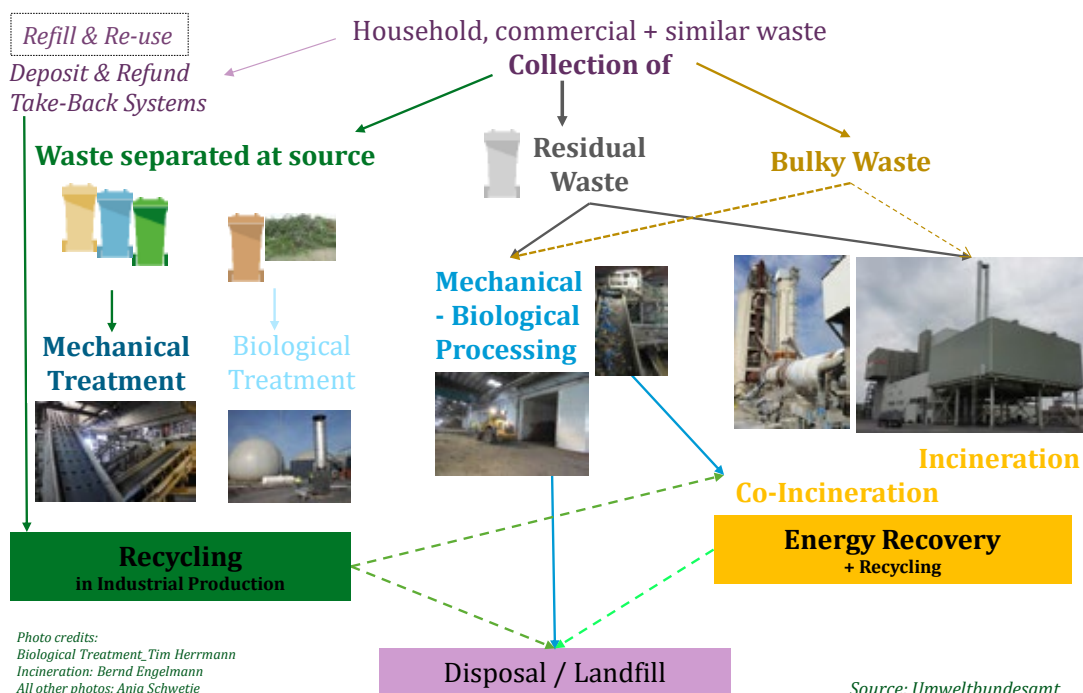
Ms. Schwetje offers an international perspective.

Anja Schwetje explained the complexity of integrated waste management systems as well as their potential for protecting the climate. She also identified the potential and limits of recycling plastic, and presented a series of key questions that would help analyse the waste management systems in municipalities from developing and emerging countries and identify areas that can be positively influenced.

Inadequate waste collection poses major challenges for many countries. This applies to urban and rural regions alike. Plastic waste on the street blocks the drains and exacerbates the effects of heavy rainfall. Waste burnt outdoors leads to atmospheric pollution, with corresponding consequences for the environment and health. Sustainable waste management is therefore very important.

An integrated waste management system involves a number of steps. These include the separate collection of organic waste, paper, packaging and glass. They also the collection of the remaining waste, through mechanical or biological treatment for recycling or

Overview: (plastic containing) Waste Management



energy recovery, as well as the environmentally sound disposal of residual waste.

The range of actors involved is equally broad, particularly in developing countries and emerging economies where comprehensive municipal waste management providers are lacking. These actors include households and businesses, informal waste collection providers, small enterprises that perform sorting, cleaning, shredding or baling services, or the trading recycled materials, up to reuse in production.

Plastic recycling, including through the informal sector, can only be recycled to a limited extent. There are many types of plastic (thermoplastics, duroplastic, elastomers) with different structures and properties. These are often mixed with additives in order to create the properties of the end products that can pose health risks in the recycling process as well as in the use of the final product. Non-varietal, mixed plastic leads to downcycling and lower revenues. Collecting the different types of plastic waste separately is therefore an important prerequisite for the circular economy. Avoiding plastic waste and individual packaging is also a good strategy to reduce this waste and requires a rethink among producers and consumers.

Improving waste management has many influencing factors, from national frameworks and enforcement

of regulations, to environmental awareness, financing and organisation, to public and private actors, as well as informal and formal groups involved in the system. The objectives that the municipality can pursue with the introduction of a (plastic) waste management are correspondingly diverse:

- Improve collection to avoid littering and open burning
- Introduce separate collection of all types of plastic waste or just 'valuable' ones
- Improve plastic recycling in order to introduce a circular waste economy
- Separate plastic waste from remaining mixed waste in order to recover energy
- Generate revenue from the sale of separately collected plastic waste
- Improve municipal capacity and performance
- Formalise or outsource plastic waste collection and management

Every system has evolved over time in a specific context, and no two municipalities are the same. This is why there are no blueprints for an ideal waste management system.

Click here to download the presentation: [Plastic Waste: The Contribution of Municipal Waste Management Systems: An International Perspective](#)

Workshops: avoiding, collecting and recycling plastic waste

In the workshops the local practitioners presented their strategies and projects for avoiding and recycling plastic waste and discussed differences, commonalities and lessons learned in implementation. They were supported in this by the participants.

Working group Ia: Sustainable separate household waste collection systems and plastic recycling

The local practitioners and their good practice presentations were:

- Sustainable separated household waste collection system, Stadtreinigung Hamburg, Germany
- Implementation of the waste separation system at source, Municipality of Mitrovica, Kosovo
- Free of garbage guide for recyclable waste – Recovery of recyclable waste with social inclusion, Public Utility for Integrated Waste Management, Quito, Ecuador
- Sustainable separate household waste collection system, Greater Irbid, Jordan

Differences were evident above all in the level of technology, infrastructure and expertise. Due to its highly advanced waste management system Hamburg was a special case, and could only be compared to the other cities in the group to a limited extent.

The commonalities predominated, however. With the exception of Hamburg, in all cities informal waste collectors played a major role in waste separation. Formalisation of waste collectors and management of the informal sector was therefore also a challenge shared by the cities, as were the lack of public awareness and financial constraints in the implementation of measures.

Delegates therefore shared intensively their lessons learned with raising public awareness on waste avoidance and separation and the difficulties associated with them. It also quickly became clear that there can be no blueprints for system solutions because the individual differences in technology, infrastructure and expertise are too large. Since the recycling of only one part of plastic waste is financially worthwhile, financing models for sustainable waste management – including issues of

extended product liability for producers – were also a major topic of discussion.

Working group Ib: Sustainable separate household waste collection systems and plastic recycling



Presentation of the results of the working groups

The local practitioners and their good practice presentations were:

- 100% plastic - Developing a plastic waste collection and recycling system, Municipality of Hawassa, Ethiopia
- Reforming the yellow bin, Municipality of Augsburg, Germany
- Avoiding bio-plastics and single-use plastics in industrial composting plants, Stadtreinigung Hamburg, Germany
- Implementing the waste separation system at source, Municipality of Vushtrri, Kosovo

Questions in this group were very similar to those in the first group, as were the identified differences, commonalities and lessons learned.

Major differences between the cities were identified in the legal frameworks and the capacity to enforce laws, as well as in the different stages of development of the various waste management systems, which ranged from e.g. unregulated waste dumping and burning, to landfills, and waste incineration plants. Participants also saw

wide variations in the degree of differentiation of the private sector and value chains in waste management.

Commonalities were identified in the important role played by the informal sector, the challenge of creating financial sustainability without a sufficient financial infrastructure, e.g. in the form of rates and fees, and in the difficulty of arousing the private sector's interest in a circular waste economy.

One key joint lesson learned was that waste avoidance is more important than recycling, and that raising public awareness in this regard is pivotal. High-quality offerings and services that identify and facilitate ways of avoiding waste can accelerate this awareness raising and help get the private sector involved in the circular waste economy.

Working group II: Sustainable use of plastic

The local practitioners and their good practice presentations were:

- Climate-friendly integrated solid waste management, Municipality of Himara, Albania
- Post-consumer plastic waste recycling system, Municipality of Kandy, Sri Lanka
- Recycling plastic to produce construction materials, Municipality of Mogadishu, Somalia
- The recyclability of post-consumer plastic packaging waste in German cities: Challenges and opportunities, University of Hamburg, Germany

Here too, major differences were evident in the stages of development and the individual challenges faced by the respective cities. In Germany the introduction of the green dot and the separation of waste at household level had succeeded in raising the rate of plastic waste collected to 70-75 per cent. Even so, the mixtures of materials mean that less than 25 per cent of this can be recycled separately by type. As a popular tourist destination, Himara faces seasonal peaks in the volume of waste. In Kandy and Mogadishu, the main problem for further recycling is inadequate separation in waste collection due to the lack of regulations and infrastructure.

Nonetheless the cities do face a number of common challenges: manual sorting is complex and expensive and limits the market for recycled products. The legal regulations for these products are inadequate, and there is barely any awareness of recycling.

Even so, participants did identify opportunities: In Kandy and Mogadishu at least, recycling can create a number of new jobs.

One joint lesson learned was that for recycling, sorting methods need to be refined. One key prerequisite for this is the improved separation of plastic waste at household level. Equally important is support by producers in the form of packaging design that is more suitable for recycling, in conjunction with greater responsibility for products and deposit systems.



Exchange based on concrete examples

One question that remained open was whether recycling systems can be created that really are closed, or whether it will ultimately be necessary to accept that even in well-organised systems, there will be some material losses in each cycle.

Working group III: Avoiding plastic waste

The local practitioners and their good practice presentations were:

- Municipal plan to reduce single-use plastic, Municipality of La Unión, Costa Rica
- Raising awareness on avoiding plastic waste, Municipality of Bonn, Germany
- Extended producer responsibility in Tunisia, University of Rostock, Germany

Participants in this group quickly agreed that waste avoidance can be achieved primarily through awareness raising, advice and education, which should be accompanied by corresponding regulations and their enforcement, as well as financial support. Participants presented good practice examples.

The differences in the approaches were clearly evident in the examples presented. They included playful approaches to education in primary schools, consumer advice and media campaigns, and science-based approaches to waste avoidance.



Presentation of the results of the working groups

One lesson clearly learned was that awareness-raising strategies need to be adapted to the various economic and cultural conditions in the countries concerned, and that all stakeholder levels should be included.

From challenges to solutions – peer exchange



Explaining local challenges and opportunities

Day two of the conference was all about peer exchange. For eight of the 16 project examples the challenges were discussed in detail, and the wealth of experience gained in 13 cities and nine countries was used to develop possible solutions for individual cities. This involved first of all collecting numerous ideas and then arranging them in order of priority for each specific case. The examples were as follows:

Increasing the rate of organic waste separation at household level in Bonn, Germany

The use of organic bins and the separation of organic waste at household level are free of charge, but are voluntary. So far, the rate of separation is relatively low.

From the wealth of proposals put forward, the presenter preferred the following solutions:

- Reduce the minimum size of the general waste bin for which a fee is charged, if the household uses an organic waste bin.
- Create a regulatory framework that will enable households and buildings owned by different owners to share bins.
- Send circulars to all households informing them of the new changes and benefits of separating organic waste.

Integrating informal waste collectors into the formal collection system in Mitrovica, Kosovo

In Mitrovica, Informal waste collectors support the recycling of valuable materials, but also create problems, e.g. through the uncontrolled handling of general waste. So far there are no incentives in the informal sector to integrate into the formal waste management system.

From the wealth of proposals put forward, the presenter preferred the following solutions:

- Improve the database and monitoring of the informal sector.
- Support the creation of an organisation for informal waste collectors to improve their participation in the system and provide better access to available data.
- Strengthen the regulatory frameworks in order (i) to create incentives, e.g. in the form of social protection systems for the waste collectors, and (ii) to ensure regulated management of the various kinds of waste.

Raising the awareness of tourists on waste avoidance and waste separation during the high season in Himara, Albania

With GIZ support, Himara has already been able to improve significantly both its waste management and public awareness. As a popular tourist destination, however, during the high season in the summer Himara struggles to cope with a much higher volume of waste.

From the wealth of proposals put forward, the presenter preferred the following solutions:

- When checking into their hotel, tourist should be provided with a list of waste guidelines and should sign a kind of ‘voluntary declaration’.
- Hang up posters and banners in bars and restaurants or close to them displaying the message ‘Bring your waste back to us’.
- Provide tourists with instructions when they enter the country, e.g. at the border or at the airport.
- Create a good-humoured ‘environmental patrol’ to encourage tourists to avoid and collect waste.

Creating a sustainable business model for the collection and processing of recyclable waste in Vushtrri, Kosovo

Over the last five years several reforms for collection and processing in the waste management system have been carried out. However, revenue from the sale of the recycled materials does not cover the operating costs. There is a lack of budget resources, of capacities for improving the separation rates, and of expertise.



Peer to peer consultation

From the wealth of proposals put forward, the presenters preferred the following solutions:

- Promote dialogue with experts from other cities, e.g. through exchange programmes and study trips.
- Improve working conditions at the recycling centre in order to make working there more attractive.
- Expand existing general waste collection systems to include recyclable materials.
- Increase technical, financial and human capacities at the collection centres, sorting stations and within the municipality.

Establishing a system of waste collection fees in Hawassa, Ethiopia

To place the waste management system in Hawassa on a more sound financial footing there are plans to introduce a fee system.

From the wealth of proposals put forward, the presenter preferred the following solutions:

- Facilitate a political decision for introduction of the system, in order to ensure political backing for its implementation.
- Improve waste collection services before the fees are introduced in order to increase their acceptance.
- Also charge fees for waste collection and disposal in the commercial sector.

Awareness raising and training for waste avoidance and plastic recycling in Mogadishu, Somalia

Waste separation at household level is still very inadequate, and therefore reduces the recycling rate for plastics and other recyclable materials accordingly.

From the wealth of proposals put forward, the presenter preferred the following solutions:

- Draw up a list to acknowledge what has already been done and achieved and create a corporate identity, e.g. through a slogan or a logo etc.
- Ask the government directly for their support e.g. with regard to improving legal frameworks, policy and sources of financing.
- Form an environmental committee and an 'environmental police force' to develop and implement media campaigns and school programmes, and to ensure that regulations are applied.

New ideas for non-fiscal approaches to motivate producers and consumers to use less disposable packaging in La Unión, Costa Rica

Although awareness of marine pollution by plastic waste is gradually growing in La Unión, so far this is barely manifested at all in concrete changes in behaviour.

From the wealth of proposals put forward, the presenters preferred the following solutions:

- Develop a user-friendly app that will enable consumers to rate shops in terms of the avoidance of disposable plastic packaging.
- Develop media campaigns against plastic involving popular celebrities as ambassadors.
- Include information on the sustainability of packaging on the packaging itself, e.g. using a traffic light system.

Ensuring the sustainability of waste collection in Greater Irbid, Jordan

The municipality has introduced several guidelines and procedures for developing waste management. However a high population density, poverty, unemployment, low environmental awareness and the influx of 250,000 Syrian refugees are jeopardising the sustainability of the system.

From the wealth of proposals put forward, the presenters preferred the following solutions:

- Develop and evaluate pilot projects in order to be better able to assess what works well and what does not.
 - Create long-term incentives for waste separation and collection, e.g. through deposit systems and 'bonus points'.
 - Promote competition for clean areas in neighbourhoods.
 - Integrate informal waste collectors.
 - Offer tours to media professionals that provide them with the full picture encompassing collection, the sorting station and recycling. In this way, create publicity.
-

From possible solutions to concrete project ideas

On day three of the conference eight ideas for concrete projects were developed that possess clearly potential for practical implementation:

1. Establishing a recycling centre in Himara, Albania
2. Establishing an umbrella organisation to integrate waste collectors in Mitrovica, Kosovo
3. Setting up, operating and maintaining a sorting plant for commercial waste in Kandy, Sri Lanka
4. Implementation plan for an organic waste treatment plant in the City of Quito, Ecuador
5. Establishing waste separation at household level in Hawassa, Ethiopia
6. Certifying sustainable shops in La Unión, Costa Rica
7. Action planning for greater quality and competition in waste collection in Mogadishu, Somalia
8. Introducing an economically sustainable waste collection system for recyclable materials in Vushtrri, Kosovo

Establishing a recycling centre in Himara, Albania



The structure of action plans

Over the last few years Himara has done quite a bit to improve waste management. A local waste management plan was adopted and the waste management regulations updated. For example, a standardised system of roller containers was introduced at all municipal waste collection centres, and waste separation was introduced

at household level. Advertising was performed on television, on local radio and in newspapers in order to raise the awareness of both the local population and tourists. As a result of the separation and recycling, smaller quantities of waste have since been disposed of at landfills. Himara also already has a sorting plant and a reloading station. It now plans to further improve the system by establishing a dedicated recycling centre.

To this end the following steps were planned:

1. Designation of the site
2. Studies on suitable technologies that are adapted to the city, and elaboration of a terms of reference for project implementation/invitation to tender
3. Project implementation/construction of the plant
4. Installation and testing of the equipment
5. Workforce training
6. Opening and operation of the plant

The estimated time frame for implementation of all these steps is 18-20 months.

Establishing an umbrella organisation to integrate waste collectors in Mitrovica, Kosovo

Formally integrating informal waste collectors in Mitrovica is a difficult undertaking. As long as they are able to work informally they can claim social transfer payments. Were they to be formally employed, they would lose these entitlements and possibly be financially worse off. This project would aim nevertheless to integrate them more effectively into the formal waste management system in such a way that the various interests can be reconciled. The municipality believes that this would enable it to better understand the needs of the waste collectors. The systems would be adjusted, and following training measures the waste collectors would improve their compliance with the rules governing collection and recycling. Finally, the municipality would expect to increase the separation and recycling rates, which ultimately would improve the economic situation of everyone involved. To achieve this integration the idea is to establish an umbrella organisation for waste collectors.

To this end the following steps were planned:

1. Invite all key decision-makers and obtain opinions on the structure of the umbrella organisation
2. Develop a master plan: status, regulations and strategies of the umbrella organisation
3. Discuss the master plan in a series of working groups/round tables in which all stakeholders are involved
4. Identify existing good practice examples for umbrella organisations in other cities, and analyse these to see whether they are transfer

Setting up, operating and maintaining a sorting plant for commercial waste in Kandy, Sri Lanka

Over the last 15 years commercial waste has risen sharply in Kandy, where it is placing a burden on the environment and landfills. In Kandy there are more than 7,000 enterprises, including hotels, which produce more than 120 tonnes of waste per day. A five-year plan (2018-2020) was therefore developed that aims to avoid 20% of plastic waste and increase recycling by 30%. Since then a collection and processing centre for plastic waste has been set up that is now profitably recycling 400 kg of plastic waste per day. Sorting the various types of plastic waste manually at the recycling system is costly and unhygienic, however. A suitable mechanical sorting system therefore needs to be introduced.

To this end the following steps were planned:

1. Develop a terms of reference for the project description
2. Identify international donors
3. Compare data on the composition of the waste with the technology and design of the plant
4. Develop a business model (including different phases)
5. Raise international funds
6. Hold invitation to tender for construction of the plant
7. Construction (phase I) using local funds
8. Construction (phases II + III) using international funds
9. Support in the first phase of operation (2-3 months) involving international expertise
10. Reporting to donors
11. Auditing of key processes
12. Monitoring and evaluation

The estimated time frame for preparation (steps 1-6) is 6-9 months, for construction (steps 7-8) 12 months, and for the first phase of operation (steps 9 – 11) a further 3-5 months. Consequently the total estimated time frame for implementation is 2-2.5 years.

Implementation plan for an organic waste treatment plant in the City of Quito, Ecuador



Presentation of a completed action plan

In Quito 2,000 tonnes of waste are produced every day. This waste is disposed of at the city's only landfill, El Inga, which will soon reach the limits of its capacity. More than half the waste is organic. The waste sector is responsible for 13% of the city's emissions. This chiefly involves methane emissions from the decomposition of this organic waste at the municipal landfill. Furthermore the rapid growth of the urban population in Quito has led to the construction of informal settlements in the catchment area of the landfill. The organic waste treatment plant should reduce pressure on the landfill for general waste and help reduce greenhouse gas emissions.

To this end the following steps were planned:

1. Pre-feasibility study and implementation plan for the project to treat organic waste in the municipality of Quito
2. Feasibility study for a project to treat organic waste
3. Planning of the composting plant
4. Acquisition of composting plant components including ventilation technology and exhaust air treatment

5. Implementation of a training programme on waste separation at the vegetable and fruit markets
6. Separate collection of organic waste
7. Treatment of organic waste (composting plant)

Establishing separation of plastic and organic waste at household level in Hawassa, Ethiopia

In Hawassa waste collection is organised by the private sector. The local authorities monitor the collection process, but there is still no binding legal framework for this at country level. Over the last two years major progress was made with the collection and recycling of plastic through awareness-raising campaigns in schools and communities and the establishment of value chains and business models. Schools, hospitals and communities now separate plastic waste, and at household level the process has already begun. Comprehensive structures for this are still lacking, however, and these will now be established.

To this end the following initial steps were planned:

1. Discuss idea with the manager of the municipality and develop a financing plan – especially for organic waste, for which no experience is yet available – (What is the total revenue that can be generated? How will that work out for the individual collectors and households?)
2. Introduce an ‘entrance fee’ at the landfill for the disposal of general waste
3. Training measures for waste collectors
4. Awareness-raising campaigns and circulars to all households

Certifying sustainable shops in La Unión, Costa Rica

The municipality of La Unión has drawn up a plan to reduce single-use plastics (2018-2021). This plan aims to significantly reduce the consumption of single-use plastic products and promote the use of renewable and compostable alternatives in shops and among consumers. One component of the plan is the creation of non-fiscal incentives for businesses and shops to switch to alternative products. A certification system for sustainable shops is designed to motivate them to give up single-use plastic products.

To this end the following initial steps were planned:

1. Define target groups more precisely
2. Identify cooperation partners (NGOs, universities, ministries)
3. Analyse the local context more precisely (e.g. through studies of consumer behaviour)
4. Develop a guideline for transparent rating criteria (e.g. waste, water, energy, CO2 emissions), emphasise benefits and identify possible drawbacks in case of non-certification
5. Design a communication strategy
6. Offer training and advice to shops, particularly concerning the certification process
7. Map ‘green’ shops / develop an app
8. Monitor the system / develop an auditing system
9. Launch an awareness-raising campaign for consumers

The estimated time frame for implementation of all these steps is 2.5 months.



How good practice examples are presented and contextualised.

Action planning for greater quality and competition in waste collection in Mogadishu, Somalia

The capital of Somalia is one of the fastest growing cities in the world. Due to the lack of existing environmental laws and policy the Ministry of Health has been involved in managing the city’s waste. For managing plastic waste a partnership with a social enterprise was entered into and a factory was established in order to produce construction materials. A solution was thus found for the problem of plastic waste and for the high demand for construction materials. At the same time jobs and

income were created for poor sections of the population and internally displaced persons, especially women. The idea now is to expand this model and involve more companies in order to also raise the quality of waste collection and recycling by increasing competition.

To this end the following initial steps were planned:

1. Define quality criteria for waste collection and set different purchasing prices for different types of waste
2. Divide Mogadishu into zones and develop a monitoring system
3. Launch an invitation to tender for waste collection and recycling
4. Select the best companies

Introducing an economically sustainable waste collection system for recyclable materials in Vushtrri, Kosovo

Waste separation at household level is now a component of the reform of municipal waste management in Vushtrri. So far, waste separation has been piloted in three districts of the city. The municipality intends to subsidise the system until waste separation itself becomes a sustainable process for which the costs are recovered through revenue from recyclable materials. What mechanisms and strategies are now best suited to extend the collection system for recyclable waste to the entire city and to make this economically sustainable?

To this end the following initial steps were planned:

1. Establish a working group with all the relevant stakeholders
2. Campaigns on waste avoidance
3. Draft a financing plan and business model:
 - a. Collect and analyse all relevant data (revenues, investments, schedule, reduction of volume of waste at landfills, quantities of recycled materials)
 - b. Formulate a strategy for extending the system to the entire city
 - c. Technical advice for more efficient management of the sorting and recycling centres (e.g. better equipment for treating recyclable materials for higher-quality end products).

Follow-up

Connective Cities will continue to support the implementation of these project ideas according to individual needs and demand, e.g. through expert missions, delegation trips, local project workshops, virtual collaborative spaces, webinars and advice on funding opportunities. The aim will be to develop these ideas until the projects are ready for implementation. To achieve this Connective Cities will liaise continuously with the relevant German experts.

For example, to prepare an expert mission on the introduction of a composting plant the SRH and Quito are currently planning a 5-stage webinar series. At these webinars participants will in advance clarify objectives and expectations, prepare a feasibility study on the project, examine funding opportunities and draw up a master plan for introducing the composting plant.

Recycling workshop and excursions



Getting more information on the work done at the Waste recycling plant



Participants get to know the recycling collection point better

On day two of the conference the working group Precious Plastic at the Technical University of Hamburg demonstrated how plastic can be recycled using relative simple means. The demonstration covered the operations of sorting, shredding, heating and pressing into shape.

The group is part of Hamburg's 'Fab City' consortium. As part of a global network of cities, this consortium has set itself the task of restructuring the urban economy such that by the year 2054, the city is able to manufacture everything it consumes itself.

Read more:

<https://preciousplastic.com/> and

<http://fabcity.hamburg/>

The conference concluded with three simultaneous excursions to a waste recycling plant run by the Müllverwertung Borsigstraße GmbH company, a recycling centre/collection centre for recyclable materials run by the SRH and a sorting plant for light packaging waste run by the Veolia GmbH company.



Participating institutions:

Albanian Association of Municipalities, Albania
Municipality of Himara, Albania
Municipality of La Unión, Costa Rica
Metropolitan Public Company of Integral Waste Management (EMGIRS-EP), Ecuador
International Centre for Children and the Family (CIFA), Ethiopia
Municipality of Hawassa, Ethiopia
Bonnorange AöR - Municipal Waste Disposal Company in Bonn, Germany
German Federal Environment Agency (UBA), Germany
Municipality of Augsburg, Germany
Stadtreinigung Hamburg, Germany
Hamburg University of Technology (TUHH), Germany
University of Rostock, Germany
Greater Irbid Municipality, Jordan
Municipality of Mitrovica, Kosovo
Municipality of Vushtri, Kosovo
Joint Service Council for Solid Waste Management (JSC), Palestine
Municipality of Mogadishu, Somalia
African Solution Envirogreen (NGO), Somalia
Kandy Municipal Council, Sri Lanka
University of Peradeniya, Sri Lanka



Group photo of the participants

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