

## ICP-AGIR Cooperation Action Plan for Johannesburg (South Africa) – Parma (Italy)

Cooperation Data		
	NON-EU CITY City of Johannesburg (CoJ)	EU City City of Parma (CoP)
<b>Departments / Institutions involved</b>	<p><b>Group Strategy Policy Coordination and Relations (GSPCP)</b></p> <p><b>Environment and Infrastructure Services Department (EISD)</b></p> <p><b>Pikitup - Integrated waste management service provider to CoJ).</b></p> <p><b>University of Johannesburg</b></p>	<p><b>Environmental Protection Funding and EU Policies unit</b></p>
<b>ICP AGIR City Coordinator</b>	<p><b>Kate Joseph</b> City official</p>	<p><b>Ulisse Appiani</b> City official</p>
<b>ICP AGIR Pairing Manager</b>	<p><b>Jessica Laugesen</b></p>	
<b>Description of the partnership</b>	<p><b>Knowledge sharing on integrated waste management strategy and policy to reduce residual waste</b></p>	

Best practices or Challenges identified in the questionnaire		
Topic	Johannesburg (South Africa)	Parma (Italy)
<b>Waste separation</b>	<ul style="list-style-type: none"> <li>- <b>Manual separation yielding high quality feedstock for recycling</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Mechanical separation linked to a efficient integrated waste management system</b></li> </ul>
<b>Communication</b>	<ul style="list-style-type: none"> <li>- <b>Communication and coordination between multiple stakeholders &amp; inter departmental collaboration</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Continuous exchange - More communication between departments and role players</b></li> </ul>

<b>Procurement and contracting</b>	<ul style="list-style-type: none"> <li>- <b>Subcontracting enables skill transfers</b></li> <li>- <b>Rigid system</b></li> <li>- <b>Corruption</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Quality control</b></li> <li>- <b>Corporate efficiency</b></li> <li>- <b>Rigid system</b></li> <li>- <b>Shared management</b></li> </ul>
<b>Waste treatment options</b>	<ul style="list-style-type: none"> <li>- <b>Methane harvesting at Landfill</b></li> <li>- <b>Separation at source</b></li> <li>- <b>Sorting facilities</b></li> <li>- <b>Future waste to energy plants</b></li> <li>- <b>Landfill</b></li> <li>- <b>Logistics</b></li> <li>- <b>Infrastructure</b></li> <li>- <b>Local Technology and knowledge</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Door-to-door system</b></li> <li>- <b>Sorting plants</b></li> <li>- <b>Incinerator</b></li> <li>- <b>Biochar</b></li> <li>- <b>Composting plant</b></li> <li>- <b>Crusher plant</b></li> <li>- <b>Bulking stations</b></li> <li>- <b>Ecostations</b></li> <li>- <b>Logistics</b></li> <li>- <b>Local Technology and knowledge</b></li> </ul>
<b>Circular economy</b>	<ul style="list-style-type: none"> <li>- <b>Informal recyclers</b></li> <li>- <b>Future waste to energy plants linked to transport system</b></li> <li>- <b>Methane harvesting at Landfill</b></li> <li>- <b>Existing linear systems</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Economical incentive system</b></li> <li>- <b>Reuse center and social programs</b></li> <li>- <b>Biochar</b></li> <li>- <b>Composting plant</b></li> <li>- <b>Existing linear systems</b></li> </ul>
<b>Data driven decisions</b>	<ul style="list-style-type: none"> <li>- <b>Infrastructure for data collection</b></li> <li>- <b>Agile policies</b></li> <li>- <b>Open data</b></li> <li>- <b>Potential for leapfrogging</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Open data</b></li> <li>- <b>Integrate existing data</b></li> <li>- <b>Infrastructure for data collection</b></li> <li>- <b>Agile policies</b></li> </ul>
<b>Business model</b>	<ul style="list-style-type: none"> <li>- <b>Social responsibility</b></li> <li>- <b>Municipal owned company</b></li> <li>- <b>Lack of long term planning</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Corporate company</b></li> <li>- <b>Weakened control</b></li> <li>- <b>Too many players involved</b></li> </ul>
<b>Legislation and policy</b>	<ul style="list-style-type: none"> <li>- <b>Flexibility</b></li> <li>- <b>Policy implementation</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Higher quality standards</b></li> <li>- <b>Lack of independency</b></li> </ul>

<b>Confirmation of Priority Areas</b>	
<b>Key focus of cooperation themes following the idea generation online workshop</b>	<p>The City Partners identified Sustainable Integrate Waste Management enabled through the following themes:</p> <p>Separation@Source in Johannesburg, championing dry and wet separation. Piloting new business model in selected suburbs drawing from learnings from CoP Pay-As-You-Throw (PAYT) model and data management systems.</p> <p>Lobby politicians to become a supporting member of regional and national <u>Plastics Pact</u>. To engage with plastic producers to</p>

<b>Confirmation of Priority Areas</b>	
	<p>reduce plastic waste, promoting circular economy value chain for plastics (reducing problematic waste, redirecting, recycling) separation.</p> <p>And in Parma,</p> <p>As per learnings from Johannesburg through integrated communication, strategic direction and interdepartmental collaboration in Parma. For example enhance engagement between the Department of Environmental Protection and the Department of Commercial and Housing compliance, as well as lobby politicians to leverage the <a href="#">European Plastic Pact</a> to engage with plastic producers to reduce plastic waste promoting circular economy value chain for plastics (reducing problematic waste, redirecting, recycling)</p>
<b>Short description of main actions and key outputs</b>	<p>Waste audit research: Conduct KAYT (Know-As-You-Throw) system research in Johannesburg informed by Parma's good results with separation at source to enable data collection and data management infrastructure requirements as a first step towards implementing a PAYT (Pay-As-You-Throw) system.</p> <p>Pilot: Customer separation of wet and dry waste in Johannesburg informed by learnings from both bilateral study visits.</p> <p>Facilitate quadruple helix collaboration between government, industry, community and academia to enable future projects and engagements between CoJ and CoP.</p>
<b>Expected results and benefits</b>	<p>Improved waste management data to inform decision making contributing towards enhancing the circular economy, capitalising on the value of organic waste (wet waste) and reducing waste to landfill in Johannesburg.</p> <p>Reducing plastic waste promoting circular economy value chain for plastics (reducing problematic waste, redirecting, recycling).</p> <p>Enhanced citizen education and awareness on their own waste footprint and the benefits of the circular economy.</p>

<b>Topic of Cooperation – Key focus of Cooperation</b>	
<b>1. KAYT (Know-As-You-Throw) Pilot</b>	
<b>Counterparts</b>	City of Johannesburg, Pikitup, University of Johannesburg (UJ), City of Parma & Iren Ambiente
<b>Objective</b>	Informed by Parma's PAYT system, Johannesburg will implement a KAYT (Know-As-You-Throw) pilot project which will have a knock-on effect on data management, customer awareness and potential behaviour change. The system will be premised on dry and wet separation enabling associated value chains. Customers could be incentivised to correctly separate their waste. City of Johannesburg will

<b>Topic of Cooperation – Key focus of Cooperation</b> <b>1. KAYT (Know-As-You-Throw) Pilot</b>	
	<p>gain data to inform business modelling to inform potential for PAYT.</p> <p>The objective of this key focus is to:</p> <ol style="list-style-type: none"> <li>1. Conduct waste audit research to determine waste value chains and potential</li> <li>2. Conduct systems research of PAYT to determine how to implement</li> <li>3. Conduct financial modelling to develop a business case for PAYT, establish value chains and Return On Investment (ROI).</li> </ol>
<b>Activities</b>	<p>Share learnings from Parma on PAYT and composting with Johannesburg stakeholders.</p> <p>Pilot: customer separation of wet and dry waste and KAYT system</p> <p>Integrated formal and informal separation.</p> <p>Facilitate the quadruple helix (government, industry, community, academic) collaboration to enable future projects.</p> <p>Enhanced citizen education and awareness on their own waste footprint and the benefits of the circular economy.</p> <p>Waste audit, systems research and solutions &amp; financial modelling.</p> <p>Continuous knowledge exchange and strengthening networks and collaborations.</p>
<b>Outcomes</b>	<p>Report on financial modelling to inform future pilot projects</p> <p>Improved data management system for CoJ</p> <p>This will contribute towards better enabling Johannesburg’s strategic goal of zero waste to landfills.</p> <p>The city has the potential to invest in plans to handle the wet/organic waste and turn this into a resources e.g compost informed by a circular economy business model. Further separation of dry waste can promote job creation and economic growth for citizens.</p> <p>Reduce percentage of organic waste going to landfills in Johannesburg</p>
<b>Indicators</b>	<p>% of organic waste going to landfills</p> <p>Jobs created per tonne</p>
<b>Sustainability of the action</b>	<p>UJ to include theme in existing joined research program.</p> <p>Integrate existing CoJ Alliance to End Plastic Waste (AEPW) funded program to conduct waste audit</p>

<b>Topic of Cooperation – Key focus of Cooperation</b> <b>1. KAYT (Know-As-You-Throw) Pilot</b>	
	<p>Facilitate the quadruple helix (government, industry, community, academic) collaboration to enable future projects.</p> <p>Programme to support zero waste to landfill strategy</p> <p>Programme will provide feedstock for the planned bio-digester and can support up-scaling the project.</p>
<b>Time and Resources</b>	<p>6 months – waste audit informed by AEPW project, supported by UJ.</p> <p>No additional cost implications.</p> <p>12 months – systems modelling supported by UJ</p> <p>Estimated costs:</p> <p>Research costs R200,000.00</p> <p>24 months – piloting separation of wet and dry waste; composting piloting (CoJ/Pikitup).</p> <p>Estimated costs:</p> <p>Provision of bins/ biodegradable bags – R150,000.00</p> <p>Education &amp; awareness campaigns – R100,000.00</p> <p>Pikitup operations to execute pilot – R 300,000.00</p> <p>TOTAL est. cost: R750,000.00 (about €41,867.77)</p> <p>36 months – bio-digester piloting (CoJ/Pikitup)</p> <p>Cost to be borne by CoJ</p>

<b>Topic of Cooperation – Key focus of Cooperation</b> <b>2. Lobbying for Plastics Pact Membership</b>	
<b>Counterparts</b>	City of Johannesburg, City of Parma
<b>Objective</b>	The City of Johannesburg and the City of Parma / Iren to become a supporting members of the SA Plastics Pact and the European Plastics Pact respectively.
<b>Activities</b>	<p>Both cities to actively lobby their politicians to become supporting members of their respective national and regional Plastic Pacts. More detailed information is contained in the best practise template.</p> <p>Advance activities to realise the Plastics Pact targets, such as engagements with plastic producers and policy reform.</p>
<b>Outcomes</b>	Eliminate unnecessary and problematic plastic packaging through redesign and innovation.

<b>Topic of Cooperation – Key focus of Cooperation</b> <b>2. Lobbying for Plastics Pact Membership</b>	
	<p>Move from single-use to reuse.</p> <p>Ensure all plastic packaging is reusable, recyclable, or compostable.</p> <p>Increase the reuse, collection, and recycling or composting of plastic packaging.</p> <p>Increase recycled content in plastic packaging.</p>
<b>Indicators</b>	<p>SA Plastics Pact Supporting membership status of City of Johannesburg</p> <p>European Plastics Pact Supporting membership status of City of Parma</p>
<b>Sustainability of the action</b>	<p>Leverage off of existing networks:</p> <p>The City of Johannesburg is an Alliance to End Plastic Waste partner, which supports the SA Plastics Pact 2025 targets.</p> <p>Italy is member of the European Plastic Pact.</p>
<b>Time and Resources</b>	<p>Short-term implementation</p> <p>Cities staff, political engagements</p> <p>No cost implications for membership</p>

<b>Topic of Cooperation – Key focus of Cooperation</b> <b>3. Biochar Research and Development Project</b>	
<b>Counterparts</b>	<p>UJ, Sauber, University of Parma, City of Parma, City of Johannesburg, Pikitup &amp; Iren Ambiente</p>
<b>Objective</b>	<p>R&amp;D on Biochar application in South Africa</p>
<b>Activities</b>	<p>Facilitate introductions between researching units, and define research agenda, and funding applications</p> <p>UJ to host Public lecture on biochar presented by Sauber &amp; University of Parma</p>
<b>Outcomes</b>	<p>Research collaboration.</p> <p>Find a future call to support innovation and implementation projects. Continuous knowledge exchange and strengthening networks.</p>
<b>Indicators</b>	<p>Number of follow-up workshops/ engagements.</p> <p>Ongoing research activity</p>

<b>Topic of Cooperation – Key focus of Cooperation</b>	
<b>3. Biochar Research and Development Project</b>	
<b>Sustainability of the action</b>	Existing research networks
<b>Time and Resources</b>	<p>Three months, university and Sauber staff</p> <p>Online meetings – no cost implications</p> <p>Bi-lateral research visits – Travel &amp; Accommodation costs</p> <p style="padding-left: 20px;">a) 4 days (3 nights) for 2 delegates to Parma.</p> <p>Estimated costs</p> <p>Travel:                   1560 euro</p> <p>Accommodation:       900 euro</p> <p style="padding-left: 40px;">b) 4 days (3 nights) for 2 delegates to Johannesburg</p> <p>Estimated costs</p> <p>Travel:                   1900 euro</p> <p>Accommodation:       1010 euro</p> <p>TOTAL est. cost:       5370 euro</p>

<b>Topic of Cooperation – Key focus of Cooperation</b>	
<b>4. Systems modelling for waste-to-energy infrastructures</b>	
<b>Counterparts</b>	City of Johannesburg EISD, Pikitup, City of Parma, Iren Ambiente,
<b>Objective</b>	Financial modelling and contracts management of waste-to-energy infrastructures
<b>Activities</b>	<p>Share learnings from Parma with Johannesburg stakeholders</p> <p>Sharing of information, organize workshop</p>
<b>Outcomes</b>	Benchmarking on financial models
<b>Indicators</b>	Number of follow-up workshops/ engagements.
<b>Sustainability of the action</b>	Integrated into existing and future planning
<b>Time and Resources</b>	<p>Six months, cities staff, Iren staff</p> <p>Online meetings – no cost implications</p> <p>Bi-lateral meetings – Travel &amp; Accommodation costs</p> <p style="padding-left: 20px;">a) 4 days (3 nights) for 2 delegates to Parma.</p> <p>Estimated costs</p> <p>Travel:                   1560 euro</p> <p>Accommodation:       900 euro</p> <p style="padding-left: 40px;">b) 4 days (3 nights) for 2 delegates to Johannesburg</p>

<b>Topic of Cooperation – Key focus of Cooperation</b> <b>4. Systems modelling for waste-to-energy infrastructures</b>	
	<b>Estimated costs</b> <b>Travel: 1900 euro</b> <b>Accommodation: 1010 euro</b> <b>TOTAL est. cost: 5370 euro</b>

<b>Topic of Cooperation – Key focus of Cooperation</b> <b>5. Comparative operation study</b>	
<b>Counterparts</b>	City of Johannesburg EISD, Pikitup, City of Parma, Iren Ambiente,
<b>Objective</b>	Comparative operation study
<b>Activities</b>	Compare each activity, sharing information, with systems review
<b>Outcomes</b>	Gap analysis, report
<b>Indicators</b>	Number of follow-up workshops/ engagements.
<b>Sustainability of the action</b>	Integrated into existing and future planning
<b>Time and Resources</b>	Three months, cities staff, Iren staff Online meetings – no cost implications Bi-lateral meetings – Travel & Accommodation costs a) 4 days (3 nights) for 2 delegates to Parma.  <b>Estimated costs</b> <b>Travel: 1560 euro</b> <b>Accommodation: 900 euro</b>  b) 4 days (3 nights) for 2 delegates to Johannesburg  <b>Estimated costs</b> <b>Travel: 1900 euro</b> <b>Accommodation: 1010 euro</b> <b>TOTAL est. cost: 5370 euro</b>

<b>Topic of Cooperation – Key focus of Cooperation</b> <b>6. Provincial collaboration for shared infrastructures</b>	
<b>Counterparts</b>	City of Johannesburg, City of Parma, Iren Ambiente, Pikitup, UJ, Gauteng Province



<b>Topic of Cooperation – Key focus of Cooperation</b> <b>6. Provincial collaboration for shared infrastructures</b>	
<b>Objective</b>	<b>Provincial collaboration for shared infrastructures</b>
<b>Activities</b>	<b>Participation in provincial collaboration engagements</b> <b>Present Italian model</b> <b>Dissemination of reports/ learnings from ICP AGIR engagement</b>
<b>Outcomes</b>	<b>Shared infrastructures</b>
<b>Indicators</b>	<b>Number of follow-up workshops/ engagements.</b>
<b>Sustainability of the action</b>	<b>Integrated into existing and future planning</b>
<b>Time and Resources</b>	<b>36 months, cities staff</b> <b>Online meetings – no cost implications</b> <b>Bi-lateral benchmarking meetings – Travel &amp; Accommodation costs</b> <ul style="list-style-type: none"> <li>a) 4 days (3 nights) for 2 delegates to Parma.</li> </ul> <b>Estimated costs</b> <ul style="list-style-type: none"> <li>Travel: 1560 euro</li> <li>Accommodation: 900 euro</li> </ul> <ul style="list-style-type: none"> <li>b) 4 days (3 nights) for 2 delegates to Johannesburg</li> </ul> <b>Estimated costs</b> <ul style="list-style-type: none"> <li>Travel: 1900 euro</li> <li>Accommodation: 1010 euro</li> </ul> <b>TOTAL est. cost: 5370 euro</b>