



**Asia-Pacific  
Economic Cooperation**

---

**2016/CSOM/010**  
Agenda Item: 5.2

**Overcoming Barriers to Financing Waste  
Management Systems and Reducing Marine Litter:  
APEC Policy and Practice Recommendations**

Purpose: Consideration  
Submitted by: United States



**Concluding Senior Officials' Meeting  
Lima, Peru  
14-15 November 2016**

## EXECUTIVE SUMMARY

### Background / Key Issues

Financing solid waste management is critical to reducing the volume of plastic waste in the ocean and mitigating other negative environmental impacts, while supporting a wide range of domestic and global priorities to improve health and environmental stewardship. The following recommendations offer guidance for establishing the political, economic, and legal/regulatory conditions to incentivize investment in waste management solutions in APEC economies by private investors, multilateral development banks, and other sources of capital. The recommendations support the objectives of the APEC Virtual Working Group on Marine Debris,<sup>i</sup> by promoting innovative solutions to the issue of marine litter with a particular focus on innovations in land-based solid waste management (2015/SOM3/CD/019). This work supports APEC work on “addressing marine debris through pilot projects to design and implement economically sustainable waste management infrastructure” (2015/SOM3/CD/025) which proposes to demonstrate the feasibility of a range of interventions to address marine litter in APEC cities. The project also supports the current APEC Regulatory Cooperation Advancement Mechanism (ARCAM) initiative to facilitate trade and investment in sustainable materials management solutions (2016/SOM1/CTI/043). Ocean-related issues for economic growth including the reduction of marine litter have been identified as an important priority for APEC economies in 2016.

The Policy and Practice Recommendations have been endorsed by the Oceans and Fisheries Working Group, the Chemical Dialogue, and the Committee on Trade and Investment. Since marine litter has become a global issue that the international community needs to tackle together, they are being presented to APEC Senior Officials, Ministers, and Leaders. And, with their focus on infrastructure, they should be of interest to the APEC Business Advisory Council and APEC Senior Finance Officials and Finance Ministers. The recommendations are supported by analysis and examples in a report prepared for the Tokyo High Level Meeting where these recommendations were discussed and refined<sup>ii</sup>.

### Required Action/Decision Points

It is recommended that the Senior Officials:

1. Endorse the APEC Policy and Practice Recommendations on Overcoming Barriers to Financing Waste Management Systems and Reducing Marine Litter.

---

<sup>i</sup> The Virtual Working Group on Marine Debris is a cooperative effort between the APEC Chemical Dialogue (CD) and the APEC Ocean and Fisheries Working Group (OFWG)

<sup>ii</sup> Ocean Conservancy. *The Next Wave: Investment Strategies for Plastic Free Seas*, *in review*. This report considers the landscape of challenges and opportunities for investment in waste management within developing economies in the APEC region

# Overcoming Barriers to Financing Waste Management Systems and Reducing Marine Litter: APEC Policy and Practice Recommendations

Financing solid waste management is critical to reducing the volume of plastic waste in the ocean and mitigating other negative environmental impacts, while supporting a wide range of domestic and global priorities to improve health and environmental stewardship. Establishing effective solid waste management systems also promises to increase economic growth, create jobs, reinvigorate tourism, and reduce emissions of toxins and greenhouse gases. Globally there is a revenue gap of \$40 billion in financing for the municipal solid waste sector. With two-thirds of the world's population, the Asia-Pacific region alone is forecasted to generate 1.4 billion metric tons/year of municipal solid waste by 2030.<sup>i</sup> Cost of inaction is estimated to greatly outweigh waste management costs, but effective waste management is poorly resourced in the region and has not attracted the attention of investors compared to other critical infrastructure.

The recommendations set out below offer guidance for establishing the political, economic, and legal/regulatory conditions to incentivize investment in waste management solutions in APEC economies by private investors, multilateral development banks, and other sources of capital. Deployed wisely, the investment of significant financial resources would mitigate the human health, ecological, and economic costs now associated with poor and insufficient waste management infrastructure.<sup>ii</sup>

## **APEC Policy and Practice Recommendations**

**#1 SET AMBITIOUS ATTAINABLE TARGETS:** Set ambitious yet attainable waste management targets at the economy-wide and municipal levels in consultation with affected stakeholders, consistent with the Sustainable Development Goals (SDGs) and, as appropriate, The Paris Agreement on Climate Change, and encourage regions or provinces to develop detailed action plans to reach agreed targets.

The volume of waste now produced is growing exponentially worldwide. Currently, much of the plastic waste in some economies is not managed well from collection to final disposal. Municipal leaders cite waste management as one of two top priorities.<sup>iii</sup> As a first step, governments can aim to set ambitious yet attainable collection and other waste management targets such as specific goals to reduce, recycle, reuse (3Rs) and recover, as well as financing goals. Such commitment can help long-term investment in waste management. These targets can make use of synergies with other economy-wide and municipal goals (e.g. through integration into sustainable development and economic goals such as sustainable consumption and production, safe cities, access to energy, health for all, clean water and sanitation, climate change, and poverty alleviation). Waste management targets can also be integrated, as appropriate, into global and regional targets and indicators such as the recent Paris agreement on Climate Change and Hanoi 3R declaration of Regional 3R Forum in Asia and the Pacific.

**#2 MEASURE AND REWARD PROGRESS:** Build waste management performance indicators and methodology to track progress against economy-wide and municipal waste targets, maintain an economy-wide waste database, and encourage and acknowledge frontrunner cities for their overall waste and sanitation achievement through competitive award and certification.

Targets are only as good as the monitoring and measurement system that supports them. Strong transparency regarding volumes, flows, and costs of waste reduces risk and helps all stakeholders plan

better, and investors feel more comfortable underwriting investments. Governments should establish waste-related statistics (e.g., waste generation, composition, collection rate, recycling rate) that, in the best cases, are reported at local, regional, and economy-wide aggregated levels and stored in a transparent database accessible by all stakeholders. Frontrunner cities which lead in waste management achievements could be identified through a competitive certification process by domestic or regional governments and then rewarded and held as role models for other cities to learn from and emulate at regional and/or economy-wide levels. Waste management is used as a proxy indicator for good urban governance.

**#3 DETERMINE SHARED TERMS:** Issue APEC guidelines on the development of definitions related to sustainable materials management (SMM) that facilitate trade in new technologies, and investment in recycling, recovery and other related SMM solutions.

Carefully considering the differences in economies, developing essential, common waste definitions (e.g., definitions concerning what is recyclable or recycled, etc.) is needed to support international comparisons of targets and policies. Common terms will also better facilitate trade and investment in waste management technologies and services. APEC economies should continue to work through the APEC Regulatory Cooperation Advancement Mechanism (ARCAM) to help ensure that definitions of SMM related terms promote rather than act as a barrier to trade and investment.

**#4 STREAMLINE DECISION-MAKING:** Concentrate the majority of municipal solid waste responsibilities within a single government entity or independent department or agency, while clearly defining the waste-related roles and responsibilities of remaining institutions.

Planning and decision-making by government bodies can be confounded by overlapping ownership of waste management programs, competing agendas among departments, and insufficient data on waste composition and logistics. Available research has shown that, in some cases more than twenty agencies and government departments are involved in waste management. Ambiguous responsibilities and lack of leadership are seen as risk in investment.

**#5 INCREASE FUNDING AND IMPROVE OUTCOMES BY FINANCING ALL PHASES OF INTEGRATED WASTE MANAGEMENT SYSTEMS:** Increase dedicated financial support from domestic governments and encourage other stakeholders including the domestic and international financial community and other private sector actors to invest in local waste management.

According to the UNEP and International Solid Waste Association (ISWA) Global Waste Management Outlook report, increasing collection rates to levels of 95%+, and spending to 1% of Gross National Income (GNI) is considered best practice. Many economies spend approximately 0.5%<sup>iv</sup> and in some cases as low as 0.01% of GNI.<sup>v</sup> In addition, many households either cannot afford and/or by virtue of cultural norms do not place enough value on collection to pay a fee for the service, when the alternatives of dumping, burning or burying trash is culturally acceptable, poorly regulated and free.<sup>vi</sup>

Minimal investment is provided by development finance institutions (DFIs), however, it is far from sufficient in scale and is typically targeted at waste treatment infrastructure, particularly waste to energy and sanitary landfills. Firstly, increasing investment and governmental financial support in local waste management is essential. In addition, in the absence of well-funded collection and sorting systems, these facilities lack the reliable input to generate stable revenue and return on investments.

Balanced investment in integrated waste management could enhance the prospects for follow-on investment as sources of investment capital perceive the potential revenue to outweigh the risk.

Other private-sector actors like plastics producers and consumer brands have also funded, or supported in various aspects, waste services, particularly for recycling projects which improve the stewardship of their branded merchandise in the waste stream. However, funding for both collection and disposal remain a significant gap. A cooperative approach among multiple stakeholders to consider funding across the entire waste management system – collection, separation, recycling, treatment, and disposal is needed.

**#6 ENABLE INNOVATIVE, TRANSPARENT FUNDING APPROACHES:** Where appropriate, enable the establishment of innovative, transparent funding approaches. These might include independent, blended pooled funding entities, and pay for performance delivery models.

Pooled funding across multiple stakeholders – economy-wide and city governments, private sector, donors and DFIs – would allow for a manageable investment with no undue burden on any one party. Private sector stakeholders, donors, and other private investors need strong, transparent assurance that money provided will be used efficiently and effectively. Governments must take care to tackle the issues of full disclosure of important investment information, engaging the most relevant actors, and preventing free ridership. An independent, transparent funding collection and disbursement entity can be designed to fulfill these multiple criteria.

**#7 REWARD RECYCLING AND INNOVATIVE, ENVIRONMENTALLY SOUND WASTE TREATMENT:** Develop end-of-life incentive policy to stimulate recycling market demand and increase product recyclability; create conditions that encourage investments in waste collection, sorting and environmentally sound waste treatment.

Increasing collection will create a greater supply of potentially recyclable material; but growing supply needs to be matched with increased demand. Increasing demand for the products of recycling can create a virtuous circle enabling collected waste to deliver greater value across the entire solid waste management value chain. Beneficiaries will include waste pickers who are incentivized to collect more, recyclers who are then able to invest in more recycling infrastructure, and waste system owners who will gain new access to inputs that have value where none had value before. A combination of market incentives, voluntary private sector commitments and/or policy levers may be needed, at least in the short term, to support recycling demand. However, raising the demand significantly is difficult because virgin plastics feedstock often offers lower cost, higher quality, and greater versatility. Product producers will need to be rewarded for using recycled feedstock through recycling credits, tax offsets, or other incentives. Meanwhile, other incentives can be put in place to source-reduce packaging, to design more plastics for recycling, and to encourage the use of recycled content into a wider range of applications.

Similarly, other waste treatment options offer significant potential for increasing the revenue that can be extracted from waste products, therefore improving the economics of the system as a whole. As waste is highly heterogeneous and variable from place to place, there will not be a single waste treatment approach that is the best fit for all geographies. Waste treatment options can include waste to energy, waste repurpose, and treatment of organics. Some of these methods are technically and commercially viable today, while research and development is ongoing for emerging treatment options such as chemical recycling. Any waste treatment option needs to also be environmentally and socially

responsible, and ideally should be flexible enough to adapt to changes in the waste streams over time. Finally, the relative greenhouse gas emissions of any waste management solution should also be a priority consideration. There are a number of ways in which economies can incentivize investment in these approaches including, through carefully designed feed-in-tariffs, secure offtake agreements and creating other after-use markets for materials.

**#8 INCENTIVIZE ENTREPRENEURIAL WASTE PICKERS:** Encourage the waste picker sector to assume new service roles in waste collection, recycling, composting, and treatment through facilitation by NGOs and municipalities to improve health and safety while improving economic livelihoods.

In many economies, waste pickers currently remove a significant proportion of the high-value recyclables from the waste stream. As a result, much of that value is not captured within the formal system. A significant improvement in the economics of the formal waste management system as a whole can be achieved by incorporating more of the informal waste picker activities into the formal system. Waste pickers should be allowed the opportunity, although not required, to act in an entrepreneurial way together with the formal waste management sector. Emphasis should be on inclusion, specifically by improving the safety, health, efficiency, and wages of the waste pickers, while working to integrate the value of their collection into a more holistic waste management system<sup>vii</sup>. Further improvements in sorting and recovery of recyclables could be achieved by providing waste pickers with capacity building, access to capital and basic tools, a reliable and source-segregated waste stream, and cooperation from municipalities. Any proposed integrated waste system strategy should consider waste pickers to ensure their interests are protected and project implementation is holistic.

**# 9 ENFORCE STRONG ENVIRONMENTAL STANDARDS TO GUIDE INNOVATION:** Set strong environmental standards with reliable and transparent monitoring; consider community engagement strategies for transparency and accountability.

Enabling innovative treatment technologies is a fundamental part of increasing the value that can be recovered from waste and achieving a sustainable waste management system. However, without the enforcement of quality standards, there can be environmental and community health risks associated with certain technologies. These risks need to be evaluated to determine whether a specific approach is appropriate. Such risks may be particularly high in regions lacking the environmental standards, monitoring or transparency to ensure strong environmental standards and their enforcement. Strict definition of, adherence to, and monitoring of environmental and social safeguards will be required to ensure solving the waste problem will not result in the creation of other problems. Governments need to set environmental, monitoring and transparency guidelines (especially if thermal treatment technologies are being considered). Specific requirements for air, water and soils are essential, as are monitoring and transparency conditions. These limitations and requirements will exist whether implemented solutions are based on traditional technologies or new treatment options. In addition to the initial price of procurement, economies should consider lifecycle costs including performance, durability, and sustainability when evaluating technologies for possible deployment so as to avoid potentially higher subsequent costs in terms of environmental problems and reduced public and political support. Economies may also want to consider community engagement strategies for building greater transparency, accountability and ultimately trust with the local communities.

---

---

<sup>i</sup> UNEP and ISWA, “Global Waste Management Outlook,” 2015.

<sup>ii</sup> The policy and practice recommendations result from a major self-funded research conducted for APEC by the Trash Free Seas Alliance, with support from the Asian Institute of Technology, Encourage Capital, The Closed Loop Fund, Columbia Earth Engineering, Waste to Worth Innovations, Dawes Direct and Plastics for Change.

<sup>iii</sup> Cebu, August 2015

<sup>iv</sup> The World Bank, “What a Waste: Solid Waste Management in Asia,” Washington, DC, USA, May 1999.

<sup>v</sup> PT Cekindo Bisnis Grup & Bohumil Hanus, “Waste Management in Indonesia, Waste Management - Cekindo,” 2016.

<sup>vi</sup> Ocean Conservancy, “In-country interview: Indonesia,” 2016.

<sup>vii</sup> Note: The researchers are aware that many APEC economies seek to bring the informal sector into the formal sector with associated revenue impact. In order to be able to start the process of social inclusion, this revenue imperative should be set to one side and approached in a gradual manner.