



APEC High-Level Meeting on Accelerating Waste Management Solutions to Reduce Marine Litter

September 5, 2017, Bali, Indonesia

Executive Summary

Representatives from APEC member economies, multilateral development banks, subject matter experts, impact investors, consumer goods companies, resin producers, treatment technology providers, civil society organizations and others¹ convened in Bali, Indonesia on September 5, 2017 to promote policies that incentivize and de-risk investment in waste management infrastructure and enable the formation of effective public-private partnerships to prevent land based sources of marine litter. The objectives of the meeting included: 1) advancing implementation of the [APEC Policy and Practice Recommendations](#); 2) promoting innovative financing mechanisms; 3) supporting the design and implementation of national strategies; 4) providing input to the East Asia Summit (EAS) Conference on Combating Marine Plastic Debris and other international efforts; and 5) catalyzing new collaborations and partnerships.

A number of enabling policies were identified over the course of the conference including: the need for an appropriate legislative framework including clear responsibilities for all stakeholders; the importance of addressing the entire waste stream when developing waste management solutions; the need for regulatory consistency, transparency, and longevity; and the need for additional resources to improve waste data and waste collection rates in low collection localities.

Several suggestions were presented for things APEC could do to help facilitate investment including: developing policy recommendations to address investment barriers (particularly with regards to creating markets for offtake products); developing consistent definitions and Public-Private Partnership constructs; harmonizing technology and regulatory standards; disseminating information on potential technologies; development of technical implementation guidelines; and improving the availability of national waste data.

The APEC meeting was preceded by the launch of the Alliance for Marine Plastic Solutions (AMPS) initiative and followed by the East Asia Summit Conference on Eradicating Marine Plastics. The recommendations and conclusions from this meeting will help inform the development of the 2018 APEC Virtual Working Group on Marine Debris Work Plan as well as bring about new potential partnerships in the region.

¹ A list of participating organizations may be found in annex A



Opening remarks and welcome

Heather Variava, U.S. Consul General, Surabaya, Indonesia opened the meeting and noted the close collaboration between the United States and Indonesia on marine debris issues. The U.S. described one of the recent grants issued which supports a Bali-based organization using GIS (Geographic Information System) technologies to improve waste collection, as well as a waste management project operated by USAID in the Philippines, Vietnam, and Sri Lanka. In APEC the United States is collaborating with the Trash Free Seas Alliance to spur financing for solid waste management systems in the Asia-Pacific region.

Dr. Ir. Safri Burhanuddin, Deputy Coordinating Minister for Human Resources, Science and Technology, and Maritime Culture, Republic of Indonesia welcomed the attendees and noted the steps Indonesia is taking to address marine debris through the National Solid Waste Management Plan and National Plan for Marine Plastics which includes education, law enforcement, among other steps. The launch of the Alliance of the Marine Plastic Solutions (AMPS) the previous day was noted as was the PRAISE pilot project in Jakarta and collaboration between Danone, H&M and the Government of Indonesia which was formalized during the AMPS meeting. Under the collaboration, dubbed “Bottle2Fashion,” plastic bottles will be processed into polyester material to produce clothing.

Session 2 - Setting the Scene:

The Analytical and Policy Foundation Supporting Work Within APEC

Moderator: Dr. Andreas Hutahaean, Coordinating Ministry for Maritime Affairs, Republic of Indonesia

Susan Ruffo, Managing Director, International Initiatives, Ocean Conservancy described the priorities and objectives of her organization and provided an introduction to the Trash Free Seas Alliance, which unites industry, science and conservation leaders who share a common goal for a healthy ocean free of trash. The impact of poor waste management on health, the economy, and the climate was described. Two studies were highlighted, the [Stemming the Tide](#) study which helped to quantify the problem and identify the highest impact interventions to reduce marine debris in our oceans along with the [Next Wave](#) report which focused on rapidly developing economies in the Asia Pacific and developed recommendations for improving waste management in regions where ocean plastic inputs are currently largest. Some of the insights uncovered in recent years include that fact that uncollected waste contributes the majority of the problem, but leakage also happens post-collection and that priority interventions should include plugging leaks, then increasing collection, then improving treatment. The work in APEC is primarily advanced through the APEC Virtual Working Group on Marine Debris which focuses on land-based solutions to waste management to prevent debris from ever reaching the ocean. The [Policy and Practice Recommendations](#) endorsed in 2016 by APEC Ministers offer guidance for establishing the political, economic, and legal/regulatory



conditions to incentivize investment in waste management solutions in APEC economies. The Asia-Pacific Infrastructure Partnership is another work stream within APEC that convenes government officials, senior private sector infrastructure experts, representatives from multilateral development banks and others to discuss challenges and solutions to developing infrastructure projects in the APEC region. The group is currently focusing on waste management infrastructure and at a meeting in Jakarta earlier this year, several challenges were cited including: 1) streamlining institutional arrangements; 2) insufficient funding; 3) inadequate collection; 4) insufficient data; 5) legislative and regulatory uncertainty; and 6) limited use of available tools. Finally, the goals for the meeting were presented to include: 1) advancing implementation of the APEC Policy and Practice Recommendations; 2) promoting innovative financing mechanisms; 3) support the design and implementation of national strategies; 4) providing input to the East Asia Summit (EAS) Conference on Combating Marine Plastic Debris and other international efforts; and 5) catalyzing collaborations and partnerships.

Steve Russell, Vice President, Plastics Division, American Chemistry Council described the role of the private sector, and specifically the plastic resin producers who believe that plastic and other litter in the environment is unacceptable; and that they have a constructive role to play in addressing the issue. When managed properly, plastics can provide significant benefits to society including preventing food waste, reducing greenhouse gas emissions, lowering costs for essential items, and lowering the water and energy required for various products and services etc. As a result, plastics contribute to a number of the sustainable development goals. An example of how plastic wrapping is being used to significantly reduce food loss and wastage as well as a case study of the greenhouse gas emissions from various types of coffee containers indicating significantly lower GHG emissions for plastic packaging were also presented.

The work done in updating the UNEP Valuing Plastic study was presented to quantify both the environmental costs and benefits of plastic. The TruCost study showed that the environmental cost to society of plastic in consumer goods sector is 3.8X less than alternative materials due to the greater material efficiency of plastic (for example plastics can help improve fleet fuel efficiency). More efficient packaging technologies that use less plastic could significantly reduce the environmental cost of plastic. Improvements in waste collection in emerging economies, and increased recycling and energy recovery in developed countries could significantly reduce plastic's impact on the ocean. A vision for "circular economy" in which mechanical recycling, chemical recycling, and energy recovery divert plastics from landfills was presented. Several examples of public-private partnerships including the projects (~ 260 since 2011) through the Declaration of the Global Plastics Associations for Solutions to Marine Litter were highlighted which includes 35 countries (including most recently Indonesia). Private sector engagement is in part organized through the World Plastics Council and Trash Free Seas Alliance. Finally, the next steps on the part of the plastic resin producers were presented including 1) engaging allies and value chains in creating and funding tailored solutions in priority regions; 2) accelerate and prioritize "design for recycling" strategies and material innovation; 3) support for energy recovery technologies as a bridge to recycling; and 4) pursue innovative material solutions.



Session 3: Establishing an Enabling Policy Environment

Moderator: Basilio Araujo, Assistant Deputy, Coordinating Ministry for Maritime Affairs, Republic of Indonesia

Jill Boughton, President and CEO, Waste2Worth Innovations described some of the current projects she is involved with in the Philippines (Angeles City, Cabuyao, and Dagupan). She noted that in the developed world intake models can work where you charge for disposing of the trash (taxation or direct to consumer) although that often doesn't work as well in developing economies where the alternative is free. Waste2Worth's business model is to focus on the offtake (waste as a resource). A series of barriers was presented as well as some corresponding enablers.

Barriers:

- **Economic viability:** off take pricing variability (if no set price it tracks with commodity pricing and significantly impacts economic viability of project)
- **Foreign investment barriers and political risks:** whether waste is defined as a natural resource can have foreign ownership limitations; ill-defined PPP laws and regulations; local political succession is a risk if contracts are not honored when administrations change.
- **Informal sector:** often viewed as a risk; ill-defined or misguided labor laws; ignoring informal sector will bring negative consequences.

Enablers:

- **Economic viability:** viewing waste as "renewable energy" and eligible for RE subsidies; other subsidies - organic fertilizers, recycled material, natural gas, feed-in-tariffs (FITs); tax holiday/abatements; waiving of import duties.
- **Foreign investment and political enablers:** Consistent definition of waste as "not natural"; incentive laden constructs for local governments; leveraging municipal lenders; clear PPP laws; clear and consistent technology guidelines.
- **Informal sector:** enact labor laws to enable leveraging of the informal sector as a competitive advantage; where applicable, mandate inclusion of informal sector into constructs.

Several suggestions were presented for things APEC could do to help facilitate investment including: developing policy recommendations to address investment barriers (particularly with regards to creating markets for offtake products); developing consistent definitions and PPP constructs, and harmonizing technology and regulatory standards.

Mignonne Maramis, Secretary General, PRAISE (Packaging and Recycling Alliance for Indonesia Sustainable Environment) described the organization noting the founding members include Coca-Cola, Unilever, Danone, Tetrapak, Nestle, and Indofood. In 2015 PRAISE developed a policy paper identifying challenges and proposing recommendations to improve waste management including the following:



1. Policy synchronization among relevant sectors (government, private sector and public): waste legislation should be applied evenly and should not unfairly burden one party, it should delineate responsibilities of all parties, recognize role of informal sector, and establish regulations on standardization of TPS, TPA, infrastructure (municipal landfills) and recycling businesses. Public education campaigns should be promoted to change consumer behavior.
2. Availability of national waste data: This should include: types of waste generated, amount of waste based on characteristics such as easily degradable, difficult to degrade and not degradable or recyclable. The existence of an integrated and up-to-date national waste database should be a basic requirement before determining the roadmap towards acceleration of waste management and will be helpful in establishing priorities and milestones.
3. Coordination among relevant parties: there is a need to strengthen coordination among various ministries, agencies and/or institutions at the national and regional level.
4. Availability of technical implementation guidelines: guidelines are needed on implementation that provide clarity, uniformity and standardization.
5. Suitability of policies in diverse local conditions: there needs to be a good understanding of actual conditions at the local level.

The speaker also noted that PRAISE members voluntarily implement sustainable production and consumption initiatives including those on: weight reduction, R&D on raw materials and recycling technologies, design innovations, new packaging technologies, education, waste banks, and technical assistance to recyclers. Other topics for discussion include: getting a better understanding of sustainable production and consumption; credible labelling and certification standards; increasing demand for recycled products through education and incentives; and implementing 'Green procurement' policies to drive wider implementation.

Hiroko Yokota, Ministry of Environment, Japan described Japan's approach to the issue including the principles of the Marine Litter Law of 1999 which clarifies roles and responsibilities; promotes international cooperation; and stipulates that the central government shall provide financial support to address marine litter. Japan's programs to convert waste plastic into fuel was discussed as was the 3R program of reduce, reuse, recycle, followed by recovery and proper disposal. The incentives provided to local municipalities were also discussed including subsidies and support for up to half of the cost of developing waste management systems if those systems meet or exceed the highest environmental and efficiency standards.

Dr. Ir. Sapta Putra Ginting, Head of Restoration, Coastal and Small Islands Management, Directorate General of Marine Spatial Management, Ministry of Maritime Affairs and Fisheries



noted the composition of waste entering Indonesian waterways with the largest percentages being organic waste and diapers (44% and 21% respectively) and the remainder consisting of plastics, glass, metal and other items. MMAF described the National Plan of Action for Marine Plastic Debris Prevention which calls for **reducing** marine plastic entering Indonesian waters; **preventing** marine plastic from entering the sea; **increasing** research and innovation on marine plastic prevention; and **enhancing law enforcement** on waste entering the sea. The strategy for implementing the National Plan of Action was divided into implementation at the local, national, international, industrial, and academic and civil society levels.

Local level: efforts consist of strengthening human and financial resources, infrastructure management and behavior change; developing integrated coastal management projects; and improving river catchment authorities to filter out plastic waste from river mouths.

National level: efforts consist of enhancing stakeholder awareness through education, outreach and public campaigns; waste management systems (including waste to energy); and processing plastics into other economic materials (including asphalt for roads).

International level: efforts include reducing marine debris from sea transportation; developing international financial pledges to create a trust fund; and setting up pilot projects in chosen municipalities.

Industrial level: efforts include engaging manufacturers of plastics and related products to be involved actively in programs to manage plastic waste and introduction of 3R (Reduce, Reuse, Recycle) principles.

Academic and Community Organizations: efforts include research and development, campaigns, and waste banks (*Bank Sampah*).

Session 4: Open Dialogue

Moderator: Heather Variava, U.S. Consul General, Surabaya, Indonesia

Stephen Harris, Director-General South and South East Asia at the New Zealand Ministry of Foreign Affairs and Trade (MFAT) described why the issue of marine litter is important to New Zealand.

Dr. WENG Danfeng, APEC Marine Sustainable Development Center, China described China's priorities and approach to marine debris noting the importance of aligning definitions and standards.

Joshua Robert Tamanabae, Ministry of Fisheries, Papua New Guinea noted the impact of marine litter on Papua New Guinea and steps PNG is taking to address the problem.



Piyush Bhargava, Vice President, Global Operations, Dell Technologies described Dell's efforts in addressing marine debris.

Hsin Chen Sung, described Chinese Taipei's efforts in addressing marine debris.

Session 5: Developing New Financing Mechanisms

Moderator: Andrew Bassford, CEO Marine Change

Rob Kaplan, Managing Director, Closed Loop Fund, described the CLF as a social impact fund investing up to \$100M to increase the recycling of products and packaging. It invests in innovation, companies, and infrastructure that turn waste into value and optimizes supply chains. It currently has investments supporting consumer marketing, municipal infrastructure, recycling facilities, processing, and product and packaging manufacturing. The first 12 investments made by the CLF have:

- improved recycling access and diversion for at least 4.1M households
- influenced 30+ affiliated operators and markets in the recycling value chain
- recycled 4M+ tons of post-consumer feedstock
- netted \$17M+ of economic benefit to participating municipalities
- achieved a 3X co-investment ratio

Two case studies were presented including an investment in a municipality's recycling infrastructure and another in a company turning waste plastics into railway ties. In both cases the CLF investment was able to unlock additional funding from alternative sources.

The CLF is currently exploring a partnership with Ocean Conservancy to develop an international financing platform which includes 3M, P&G, Pepsico, the Trash Free Seas Alliance, the American Chemistry Council, and World Plastics Council. Three phases are envisioned, phase I will include a mapping of potential investments, phase II will include execution of the pilot deals (up to three), and phase III envisions the formation of an international financing platform.

Christopher Botsford, Chief Investment Officer, ADM Capital described their involvement with the Tropical Landscapes Finance Facility (TLFF). Most waste management infrastructure projects are characterized by several distinct phases with the initial phases including the construction phase being the riskiest for investors. The TLFF looks to invest in those riskier phases to get projects off the ground and then securitize the debt for more mainstream institutional investors once a revenue stream has been established. The TLFF has partnered with UNEP, BNP Paribas and others to help get projects in Indonesia off the ground. The loan fund component of the TLFF is managed by ADM Capital and is a commercially driven credit fund looking to lend in excess of USD 1 billion. The deals were characterized as follows: investment term of 10-15 years, average loan holding period 2-3 years and deal size between USD 10-50 million (or IDR equivalent). There is also a grants component to the work and projects include local developers.



Mathy Stanislaus, Senior Advisor, World Economic Forum described WEF's Platform for Accelerating the Circular Economy (PACE). The platform operates on two levels, a global and a regional level. The Global Leaders Network annually identifies 2-3 key challenges to advancing the Circular Economy based on what has surfaced within projects and through network experience and convenes focused high-level public-private dialogues to address the challenges. The regional hubs link regional public and private actors to advance the Circular Economy at the regional/national levels by brokering partnerships to scale existing and kick-start new Circular Economy projects between private, public and regional funding organizations. Collaborative and blended financing approaches will be piloted. The platform also seeks to promote public policy reforms from both a global perspective through the leaders network, and a local perspective through the projects.

Carlos Monreal, CEO, Plastic Energy described the current situation in Bali and the waste generated by the hotel industry. A semi-manual sorting facility at a cost of approximately \$5 million could process 500 tons per day and recover approximately 75 tons (28%) of mechanically recycled commodities + more than 30 tons (14%) of dirty, contaminated waste plastic. Plastic Energy's technology could be used to chemically recycle the waste plastic (~ 30 tons/day) and produce approximately 8.9 million liters of diesel fuel per year with revenues of approximately \$5.3 million per year. In total the project would entail ~ \$ USD 23 million in capital expenditures, average about \$ USD 6 million in annual revenues, earnings before interest, tax, depreciation and amortization (EBITDA) are estimated at \$USD 5.2 million for an internal rate of return of 23.3%.

Session 6: Designing and Implementing National Strategies

Moderator: Anjali Acharya, Senior Environmental Specialist and Regional Leader of Ocean Plastics Pollution Program, World Bank

Anjali Acharya, Senior Environmental Specialist and Regional Leader of the Ocean Plastics Pollution Program, World Bank provided some background information on the amounts and sources of marine litter. The World Bank's comparative advantages include its convening power, strong analytics, technical expertise, global networks, and broad country programs in target countries. The World Bank currently has several programs in target countries including: policy reforms through Development Policy Financing (DPFs e.g. Vietnam); work on integrated solid waste management in Indonesia and Vietnam; as well as investment operations addressing solid waste management in China and Indonesia. Solid waste management work in Indonesia is linked to a larger national program in Indonesia and parallel national programs in China, Vietnam and potentially the Philippines. There is also potential for a multi-donor trust fund in Indonesia based on country-level analysis. The development of regional and national programs will serve to help: understand source structure; estimate quantities and characteristics of marine debris; undertake costing of potential solutions; and develop and link to national/local investment plans. Overall the solutions can be grouped into four areas: research and analytics; regulations and policy; investment; and training and communication.



Dr. Sudirman, Director of Solid Waste Management, Ministry of Environment and Forestry, Republic of Indonesia presented on Indonesia' National Policy and Strategy on Solid Waste Management and described the current status of solid waste management within Indonesia and Indonesia's goal to minimize solid waste by 30% through 3R programs and to reduce marine plastic waste by 70% by 2025 with up to 1 billion USD per year in financing. The National Solid Waste Management program consists of: the development of laws, regulations, procedures, and standards; international cooperation; producer responsibility; education and community engagement; and improvements in solid waste management.

Crispian Lao, Commissioner, Private Sector Representative for Recycling, National Solid Waste Management Commission, Philippines provided an overview of solid waste management in the Philippines as well as the various laws governing SWM in the Philippines. The Ecological Solid Waste Management Act (2000) created the National Solid Waste Management Commission (NSWMC) and mandated that local governments implement proper solid waste management. The law established mandatory segregation at the source; mandatory segregated collection; mandatory waste diversion goal of at least 25%; and established materials recovery facilities. The NSWMC has established guidelines governing the establishment and operation of waste-to-energy technologies for municipal solid waste. The Philippine Alliance for Recycling and Material Sustainability (PARMS) seeks to develop and implement a holistic & comprehensive program to increase resource recovery and reduce landfill dependence towards zero waste.

Dr. Luu Duc Cuong, Director General, Ministry of Construction, Vietnam described the current situation of solid waste management in Vietnam including that in urban settings approximately 85% of waste is collected (reaches 95 -100% in large cities) and in rural areas is between 40 – 55%. Sanitary landfills are the most common form of waste management (70-80%). The laws and regulations governing solid waste management in Vietnam were described as well as the responsibilities of the various ministries with the ministries of environment, construction, and industry and trade playing key roles. Vietnam's national strategy for integrated management of solid waste to 2025 seeks to improve waste management through advances in source separation, collection, reuse, recycle and treatment as well as public awareness raising. Some of the specific goals include improvements in recycling facilities and sorting waste at the household level. Vietnam is looking at the establishment of a national solid waste database and monitoring system, mobilizing additional resources to support implementation of the strategy, scientific research to support solid waste management, awareness raising, and international cooperation. The challenges for Vietnam include: overlaps in functions and responsibilities of relevant ministries and agencies; waste is not separated at the source, recycling efforts are small in scale, informal and do not use the best technologies. In terms of next steps, Vietnam is looking to improve source separation, collection, formal recycling, and providing economic incentives for waste reduction.



Hermann Koller, Managing Director, International Solid Waste Management Association provided a brief overview of waste management on a global scale indicating that currently 70% is deposited in landfills or open dumps; 20% is recycled; and 10% is incinerated. This produces about 1 billion tons of CO² equivalents (mainly from landfills). Over 1 billion people in the East Asia and Pacific region do not have access to minimal waste management services. Different countries have different strategies for dealing with waste with countries such as Brazil, Turkey, Australia, and the United States primarily using landfills, countries such as Japan, Sweden, and Singapore primarily using waste-to-energy, and countries such as Norway, Austria, and Germany recycling more than 50% of their waste. The main drivers of waste management costs were presented as were some of the critical elements for moving from a linear to a more circular economy. Some of the key factors for developing efficient waste management systems include:

- Appropriate legislative framework including clear responsibilities for all stakeholders
- Ambitious and appropriate objectives
- Schedule for implementation
- Capacity building to raise expertise
- Waste management planning
- Business friendly frameworks to encourage investments\
- Efficient measures for financing, e.g. through fees, extended producer responsibility
- Awareness raising to motivate consumers
- Monitoring

Finally, ISWA's newly formed Marine Task Force was described which was initiated this year and aims to more firmly establish the link between sound waste management and the prevention of marine litter through the development of realistic best practices for sound collection and disposal of municipal waste that can be adopted by local, regional and national authorities; supporting efficient resource management by promoting sufficient value of secondary plastics as part of a resource efficient circular economy; and supporting efforts to prevent littering and dumping.

Session 7: Summary and Wrap-up

Ryan MacFarlane, Director, C&M International provided a summary of the material presented during the conference noting the five objectives outlined at the beginning of the day including:

1. **Advance implementation of the APEC Policy and Practice Recommendations** which includes setting waste management targets; developing waste management performance indicators; addressing definitional barriers to trade and investment in sustainable materials management solutions; and concentrating the majority of solid waste responsibilities within a single government department or agency, and enforcing strong environmental standards among others. A number of these issues were addressed over the course of the day and in particular the need for policy alignment and the deleterious impacts of asynchronous or divergent regulation as well as the need for transparency and longevity of the regulatory process. The



need to address the entire waste stream not just aspects of it was another theme that was raised in several presentations.

2. Promote innovative financing mechanisms to address the need for new mechanisms for funding waste management. Financing of waste management systems is one the primary barriers in achieving a 50% reduction in the amount of plastic entering our ocean by 2025. The use of catalytic funding to unlock additional resources and increase the impact and scale of interventions was discussed as were programs aimed at funding the riskier aspects of a project and then offering debt to the institutional investors once the projects have been built and are receiving revenue. There was also a brief discussion of the technologies available and some of the innovative uses for waste plastics.

3. Support the design and implementation of national strategies session provided an opportunity for Indonesia, the Philippines, and Vietnam to present on their priorities and plans in terms of addressing waste management challenges. The role and contributions from the World Bank as well as lessons and key factors from the International Solid Waste Management Association were also presented.

4. Provide input to the East Asia Summit (EAS) Conference on Combating Marine Plastic Debris - it was suggested that the EAS consider input from a range of stakeholders when developing a regional strategy and to build off of the analytical and policy work developed through the APEC process.

5. Catalyze collaborations and partnerships – a number of new institutions, NGOs, and private sector companies and investors participated in the APEC event. Many of the participants expressed a desire to remain engaged in the APEC work stream on developing and improving waste management infrastructure in the Asia-Pacific region.



Annex A. Participating Economies and Organizations

1. 5 gyres
2. ADM Capital
3. Amcor
4. American Chemistry Council
5. Business Council for Sustainable Development Singapore
6. C&M International
7. Chevron Phillips Chemical Company LP
8. China
9. Chinese Taipei
10. Closed Loop Fund
11. Danone
12. Danone AQUA
13. Dell Technologies
14. Eco Bali
15. Enviroplaz International Ltd
16. ExxonMobil Chemical
17. GIZ (German Development Agency)
18. H&M Production, Indonesia
19. Indonesia
20. Indonesian Plastic Recycling Association (ADUPI)
21. Indonesian Platform for Prevention and Management of Waste



22. International Solid Waste Association
23. International Union for Conservation of Nature
24. Japan
25. Marine Change
26. Maui's Ark
27. Merah Putih Hijau
28. National Solid Waste Management Commission, Philippines
29. Nestle Water
30. New Zealand
31. Ocean Conservancy
32. Papua New Guinea
33. Plastic Energy
34. PRAISE
35. Republic of Korea
36. Sea Cleaners
37. Secretariat of the Pacific Regional Environment Programme
38. Tetra Pak
39. Thailand
40. Unilever
41. Unilever Indonesia Foundation
42. United States
43. Viet Nam



44. Waste2Worth Innovations
45. World Bank
46. World Economic Forum