



Partnership for Action on Challenges Relating to E-waste (PACE II)

Repair and refurbishment of waste Refrigerators, Cooling and Heating Equipment Steps to waste prevention and minimization

**Hybrid side event during the OEWG14
June 26, 2024**

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Pilot ODS Waste Management and Disposal Projects (MLF Decision 79/18)



- **Multilateral Fund:** 9 projects on ODS disposal and 2 projects for establishment of a public-private financing system (all completed by 2018)
- **Countries covered by UNDP:** Brazil, Colombia, Ghana, Georgia, India
- 3 projects implemented pilot projects in coordination with other projects funded from sources outside the Multilateral Fund incl. GEF POPs/PCB project (Colombia), GEF POPs/HHPs (Georgia) and GEF Energy Efficiency and POPs disposal project (Ghana)
- All projects focused on existing collected ODS waste stocks

Pilot Project Design



Solutions to create or enhance collection capacity



Transportation and storage of ODS waste



Approaches used in destruction and monitoring and verification of destroyed ODS



Business model and co-financing opportunities for sustainable management of ODS wastes

(i) Solutions to create or enhance collection capacity



Strengthen existing systems for collecting waste from EOL equipment, paired with appliance replacement programmes (*Colombia and Mexico*)



Adjust existing hazardous and industrial waste management capacity to include ODS waste (*China*)



Synchronise collection and co-disposal system for unwanted ODS waste and persistent organic pollutants (POP) waste (*Georgia*)



Link government recovery and reclamation centres with smaller centres (*Turkiye*).

(ii) Transportation and storage of ODS waste



Local hazardous waste handlers (private) or specialized retrofitted transport to transfer aggregated ODS waste from different recovery and recycling centres to a central storage facility;



Aggregation before transport to domestic incineration sites; few countries identified central sites situated around recovery and recycling/reclaiming centres and storage facilities for CFC waste, where such facilities were part of earlier funded CFC phase-out projects, and consolidated the waste in these facilities for transport to domestic incineration sites;



Transfer of waste within the country followed the domestic **policy requirements** for the movement of hazardous waste

(iii) Approaches used in destruction and monitoring and verification of destroyed ODS



- **Domestic destruction** of ODS waste through a cement or rotary kiln, or use of plasma arc technology (China, Colombia, Mexico and Nigeria)
- **Exporting** the ODS waste to a destruction facility that met international standards (ECA region, Georgia, Ghana, Nepal and Turkey).
- For countries that exported their waste for destruction, **verification** of the amounts destroyed was provided by the destruction facilities.
- **Monitoring** emissions of the destruction/incineration facilities to ensure they met national standards (Colombia and Mexico)

(iv) Business model and co-financing opportunities for sustainable management of ODS wastes



Developing **financing scheme** through the refrigerant association (ECA region);

Fee for importers/users of refrigerants,
Tax incentives to encourage better maintenance practices and cover costs of disposal



Strengthen and enhance participation of **local stakeholders** to encourage collection and the destruction of ODS waste (Mexico);



Establishing **subsidies** to boost the collection and turning in of refrigeration equipment, and facilitate proper destruction (China);



Encouraging participation **private sector** (i.e., cement kiln owners or waste aggregators) in determining the overall collection and destruction process, noting that investment may be required and that issues of long-term sustainability need to be addressed.



UNDP - Colombia Project

(Multilateral Fund, 59-66th
ExCom, 2018)

- **EPR scheme** operational in five major cities, supported by legislative and regulatory measures.
- **Key elements:**
 - **Financial incentives:** tax (VAT) reductions and incentives for energy efficient equipment as replacement.
 - **Additional bilateral funding;** National Appropriate Mitigation Action (NAMA) project supported accelerated introduction of climate-friendly refrigeration equipment along with technical assistance for their design and production, and processing of EOL domestic refrigerators.
 - **Integrated approach:**
 - Domestic incineration: tested and meeting the required protocols
 - National EPR system for RAC equipment developed within the regulatory and policy framework of the National Initiative on Integrated Waste Electrical and Electronic Equipment (WEEE) Management, ensuring an institutionalised waste collection system, in addition to existing recovery and recycling efforts done through national phase-out plans.
- **Result: assured ODS waste stream, long-term sustainable business model for EPR with a cost structure sustained by EPR funding for collection of ODS waste, processing of EOL equipment, including destruction of EOL ODS waste**



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AGORA project Ghana / Nigeria

(FFEM, 2023)

- Abating Greenhouse Gas Emissions from Obsolete RAC Equipment in West Africa (AGORA)
- Partners: UNDP, UNEP, NOUs/EPAs and EE agencies
- In line with relevant MOP Decisions, AGORA aims to help ban imports of second-hand equipment, for example a major challenge in the Africa region.
- In Nigeria, the project will aim to replicate Ghana's efforts to control the importation of used and obsolete RAC products, which are large sources of GHG emissions.
- In Ghana, the project will support the implementation of the new Import Control Act, which will complement existing legislation.
- This is combined with facilitating acquisition of new low-GWP, energy efficient equipment

Thank you!



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