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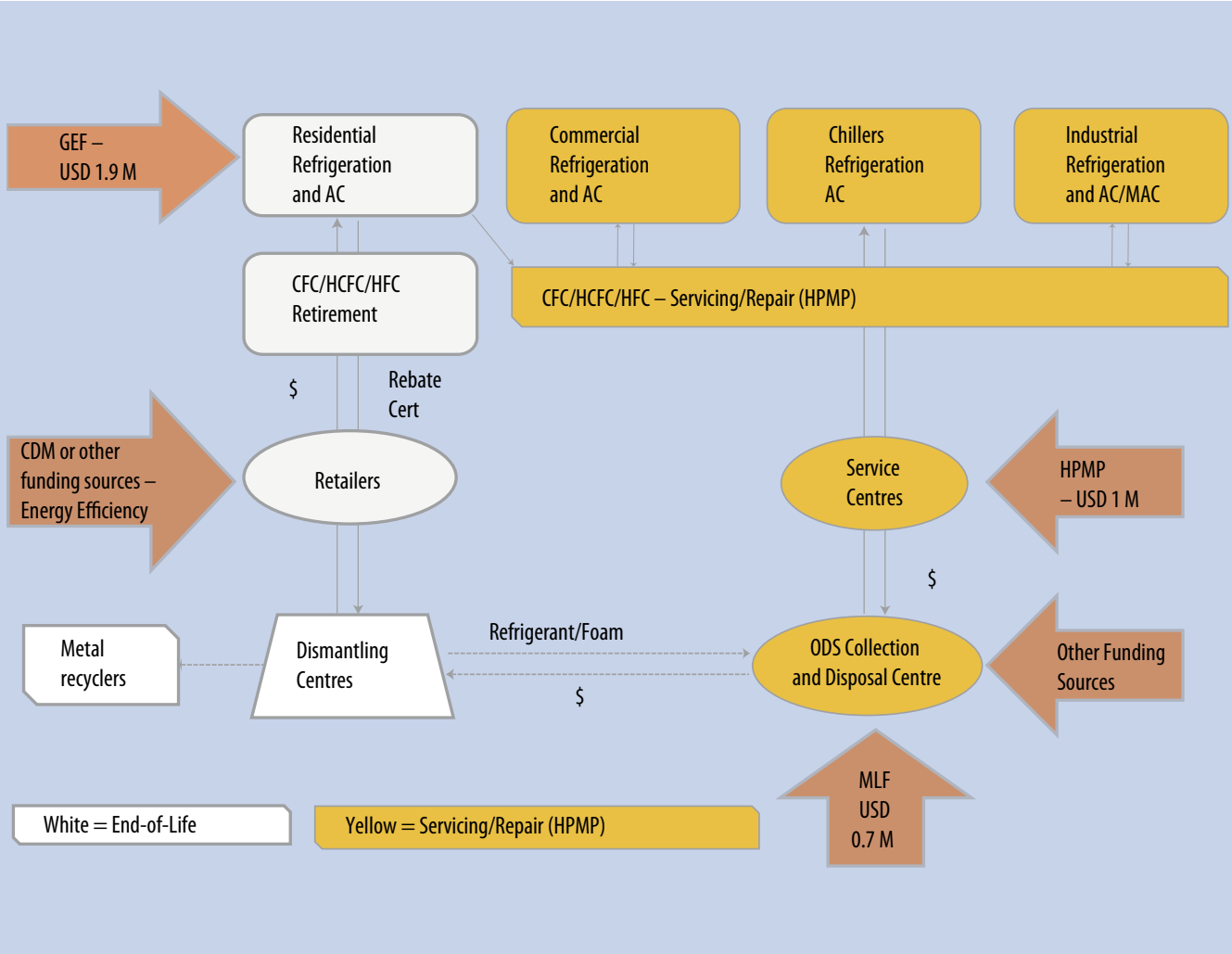
INTEGRATED PLAN FOR ENERGY EFFICIENCY, CLIMATE MITIGATION AND ODS REDUCTION FOR THE REFRIGERATION SECTOR IN GHANA

OZONE PROTECTION & CHEMICALS SERIES

Various individual programmes targeting the refrigeration sector in Ghana are currently being formulated or are ongoing. As such, one of the conclusions from the HCFC inception workshop held in Accra from 15-16 June 2009, was the need for an Integrated Plan for Energy Efficiency, Climate Mitigation and ODS Reduction for the Refrigeration Sector. This Integrated Plan would look at the sector holistically and provide an opportunity for UNDP to work closely with our partners in Ghana (the Energy Commission and Environmental Protection Agency) to ensure that the various programmes do not overlap and are coordinated. These programmes would include the programme on Market Transformation funded by the Global Environment Facility (GEF), the HCFC Phase-Out Management Plan (HPMP) and a Pilot Project on ODS Waste both funded by the Multilateral Fund (MLF) as well as proposals related to carbon financing and other sources of finance. The ultimate objective of this plan is to bring economic, social and environmental benefits to the people of Ghana through the scaling up of energy efficient appliances with low global warming potential (GWP).

While it would be cost-effective to address only one refrigeration subsector (e.g. residential fridges) in larger countries, due to the large volume of equipment units, this would not be the case for a smaller country like Ghana, which is an example of a Low-Volume Consuming Country (LVC) as it only uses HCFCs in the refrigeration servicing sector. The proposed Integrated Plan would therefore address all subsectors (residential, commercial, industrial refrigeration, AC, MAC, chillers) and all types of refrigerants (CFCs, HCFCs and HFCs). In addition, the Plan would address both End-of-Life Schemes (involving equipment being retired) and Servicing Schemes (involving operating equipment being repaired as part of the HPMP). It is evident that

Figure 1: The Proposed Integrated Plan for Energy Efficiency, Climate Mitigation and ODS Reduction for the Refrigeration Sector in Ghana.



some of the actions undertaken would address the objectives of both the Montreal Protocol and the Kyoto Protocol.

Figure 1 provides an overview of how the proposed Integrated Plan would work. Boxes in white represent the GEF-funded End-of-Life "Market Transformation for Energy Efficiency" programme, while the yellow boxes represent ODS management projects for the servicing sector financed by the MLF. Through the End-of-Life Scheme, equipment would be collected and dismantled by retailers. The recovered refrigerants would be sent to a central ODS Collection and Disposal Centre. Alternatively, a facility could recycle some of the refrigerants, while unusable ODS would be exported for destruction abroad. The HPMP activities would involve servicing operations on existing equipment, which would be supported by the MLF.

The brown arrows relate to the expected influx of funding from the GEF/MLF and other potential sources. Downward arrows in the diagram represent the process by which refrigeration equipment/ refrigerant is delivered to the Collection and Disposal Centre. Upward arrows represent resources required to make the programmes operational and sustainable.

MLF and GEF funding (or funding from other grants) is needed to help developing countries and enterprises (especially Small-Medium Sized Enterprises) cover the necessary upfront investments. Without these funds they would not be able to cover these costs. As such GEF and MLF funding would play a critical role in kick-starting the above-mentioned scheme in Ghana during the first couple of years. GEF-funds would initiate the End-of-Life scheme for the domestic refrigeration sector. The MLF's HPMP funds would help establish a refrigerant recovery scheme and collection centre, while the MLF's ODS waste pilot project would help fund ODS destruction operations, or else enable shipment of ODS waste abroad. The legislative framework required to help sustain the operations will be established.

Once the model has been tested and proven, it is hoped that other sources of finance, including carbon finance, would generate the necessary funding that would allow the cycle to continue and to become self-sustainable. The Collection and Disposal Centre would contribute to the provision of reliable information regarding the reclaimed/disposed ODS amounts, which in turn would facilitate obtaining approval for these alternative funding sources.

The objective, of the Integrated Plan, is to bring economic, social and environmental benefits to the people of Ghana through the scaling up of energy efficient appliances with low global warming potential (GWP).