Waste Electrical and Electronic Equipment (WEEE) Quantification and Characterization

Challenge:

There has been an increase in Waste Electrical and Electronic Equipment (WEEE) generated both globally and locally. Currently, the WEEE recycling industry in Oman is underdeveloped due to a lack of a proper

Objective:

The project's objective is to develop a WEEE composition analysis by dismantling and characterizing components and to conduct a national quantitative assessment of WEEE.

Insights:

- Household WEEE Patterns: Higher-income and larger households in Oman own more electronic devices, contributing to significant WEEE output, particularly in populous and economically active regions like Muscat and North Al Batinah.

- Recyclable Material Insights: Steel, plastic, copper, and PCB metals were identified as primary recyclable components, emphasizing the economic and environmental benefits of recovering these materials.

- Educational Initiative in Sustainable E-Waste Management: The project trained students in dismantling and recycling, fostering practical skills and awareness of eco-friendly waste management.

- Geographic Differences in E-Waste: Urban centres generate more WEEE due to higher electronic usage, while rural regions show lower output, suggesting a need for tailored waste management approaches.

Impact:

- Supporting resource recovery efforts.
- Contributing to Oman's circular economy.

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