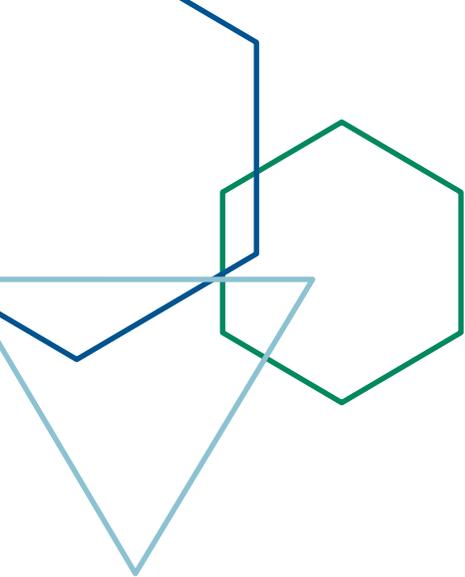# Chapter 1
## What is EEE and E-waste?

What is EEE and E-waste?

EEE includes a wide range of products with circuity or electrical components with a power or battery supply (Step Initiative 2014). Almost any household or business use products like basic kitchen appliances, toys, tools to music, and ICT items, such as mobile phones, laptops, etc.

Besides everyday household and business use, EEE are becoming increasingly used in the context of smart houses and smart cities, in transport, health, security systems, and generators of energy, such as photovoltaics. Traditional products, such as clothes and furniture, are often equipped with electrical components, and consequently are increasingly contributing to the global e-waste generated. More and more EEE is also employed in the expanding sector of the Internet of Things (IoT), such as sensors or devices pertaining to the concept of the "smart home" or "smart cities".

EEE becomes e-waste once it has been discarded by its owner as waste without the intent of reuse (Step Initiative 2014). Each product has different material content, is disposed of and recycled in different ways, and is unequally harmful to the environment and human health if not managed in an environmentally sound manner.
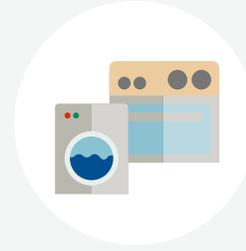
EEE comprises of a large variety of products. For statistical purposes, however, EEE is classified by similar function, comparable material composition, average weight, and similar end-of-life attributes. The E-waste Statistics Guidelines on Classification Reporting and Indicators – Second Edition (Forti, Baldé, and Kuehr 2018) therefore divides EEE into 54 different product-centric categories. The categorization is referred to as the UNU-KEYs. The full list of UNU-KEYs can be viewed in Annex 1.

The 54 EEE product categories are grouped into six general categories that correspond closely to their waste management characteristics.
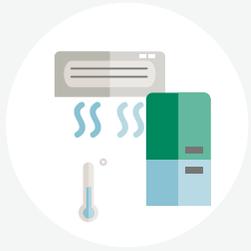
1. Temperature exchange equipment:
more commonly referred to as cooling and freezing equipment. Typical equipment includes refrigerators, freezers, air conditioners, and heat pumps.

2. Screens and monitors:
typical equipment includes televisions, monitors, laptops, notebooks, and tablets.

3. Lamps:
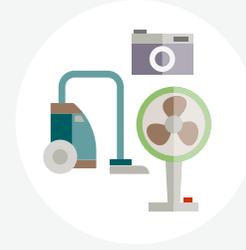typical equipment includes fluorescent lamps, high intensity discharge lamps, and LED lamps.

4. Large equipment:
typical equipment includes washing machines, clothes dryers, dishwashing machines, electric stoves, large printing machines, copying equipment, and photovoltaic panels.

5. Small equipment:
typical equipment includes vacuum cleaners, microwaves, ventilation equipment, toasters, electric kettles, electric shavers, scales, calculators, radio sets, video cameras, electrical and electronic toys, small electrical and electronic tools, small medical devices, small monitoring, and control instruments.

6. Small IT and Telecommunication equipment:
typical equipment includes mobile phones, Global Positioning System (GPS) devices, pocket calculators, routers, personal computers, printers, and telephones.

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E-waste systems and schemes do not yet cover any kind of batteries, accumulators, or electrical components of vehicles.

Currently, this categorization is compliant with both the WEEE directive adopted by European member states (European Paliament 2003) and the internationally recognised framework for e-waste statistics described in the aforementioned Guidelines (Forti, Baldé, and Kuehr 2018) that are used in this report.

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