



Handbook on Extended Producer Responsibility (EPR) Guidelines for E - Waste



By

Tamil Nadu Pollution Control Board

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PREFACE

In an era of rapid technological advancement, the generation of electronic waste (E-Waste) has emerged as a pressing environmental challenge. The responsible management of e-waste is not only a regulatory necessity but also a critical step towards ensuring sustainable development and environmental stewardship.

The Ministry of Environment, Forest and Climate Change, Government of India, New Delhi notified the E-Waste (Management) Rules, 2022 in November, 2022 and the same is in force since 1st April, 2023. These new rules and subsequent amendments intend to manage e-waste in an environmentally sound manner and put in place an improved Extended Producer Responsibility (EPR) regime for e-waste recycling wherein all the manufacturer, producer, refurbisher and recycler are required to register on portal developed by Central Pollution Control Board (CPCB). The new provisions would facilitate and channelize the informal sector to formal sector for doing business and ensure recycling of E-waste in environmentally sound manner. These rules also promote Circular Economy through EPR regime and scientific recycling/ disposal of the e-waste.

To facilitate understanding and compliance, the Tamil Nadu Pollution Control Board (TNPCB) presents the Handbook on EPR Guidelines for E-Waste Management. This handbook serves as a comprehensive guide, simplifying the complex framework of Extended Producer Responsibility (EPR) for e-waste and is specially designed for producers, manufacturers, recyclers and refurbishers. .

While this handbook offers valuable insights, it is important to recognize that it should not be the sole reference for legal or regulatory compliance. For detailed, up-to-date and accurate information kindly refer E-Waste (Management) Rules, 2022, its subsequent amendments and visit the official EPR portal maintained by Central Pollution Control Board at <https://eprewastecpcb.in/#/>.

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Tamil Nadu Pollution Control Board

Introduction to E - Waste

E-Waste means electrical and electronic equipment discarded as waste, including parts or rejects from manufacturing, refurbishment and repairing processes. The Schedule I of E-Waste (Management) Rules, 2022 categorizes electrical and electronic equipment (EEE) into 7 broader classifications encompassing 106 different types of equipment.

SI No	Categories	Images	No. of Items
1	Information technology & telecommunication equipment		27
2	Consumer Electrical and Electronics and Photovoltaic Panels		19
3	Large and Small Electrical and Electronic Equipment		34
4	Electrical and Electronic Tools (With the exception of large- Scale Stationary Industrial Tools)		8
5	Toys, Leisure, and Sports Equipment		6
6	Medical Devices (With the Exception of All Implanted and Infected Products)		10
7	Laboratory Instruments		2
Total			106

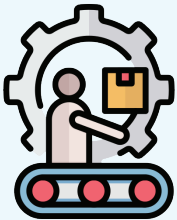
Entities to be Registered on EPR Portal



Producer

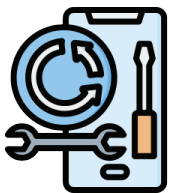
Person or entity irrespective of the selling technique used such as dealer, retailer, e-retailer (eg: Amazon, Flipkart) etc.; who –

- i. Manufactures and sell electrical and electronic equipment and their components under its own brand
- ii. Assembles electrical and electronic equipment and their components produced by other manufacturers or suppliers and offers to sell under its own brand
- iii. Sell imported electrical and electronic equipment and their components
- iv. Imports used electrical and electronic equipment;



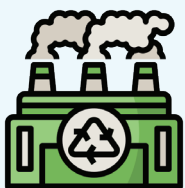
Manufacturer

Person or an entity or a company which has facilities for manufacture of electrical and electronic equipment



Refurbisher

Person or entity repairing or assembling used electrical and electronic equipment as listed in Schedule-I of E-Waste (Management) Rules, 2022 for extending its working life over its originally intended life and for same use as originally intended, and selling the same in the market



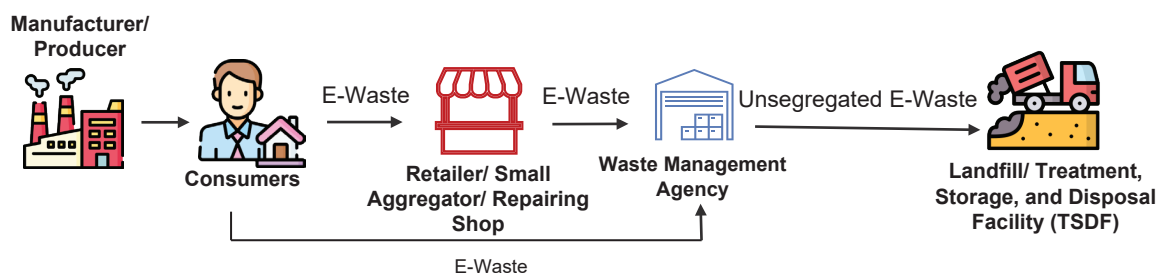
Recycler

Person or entity who is engaged in recycling and reprocessing of waste electrical and electronic equipment for recovery of precious, semi-precious metals including rare earth elements and other useful recoverable materials to strengthened the secondary sourced materials and having facilities as elaborated in the guidelines of the Central Pollution Control Board made in this regard

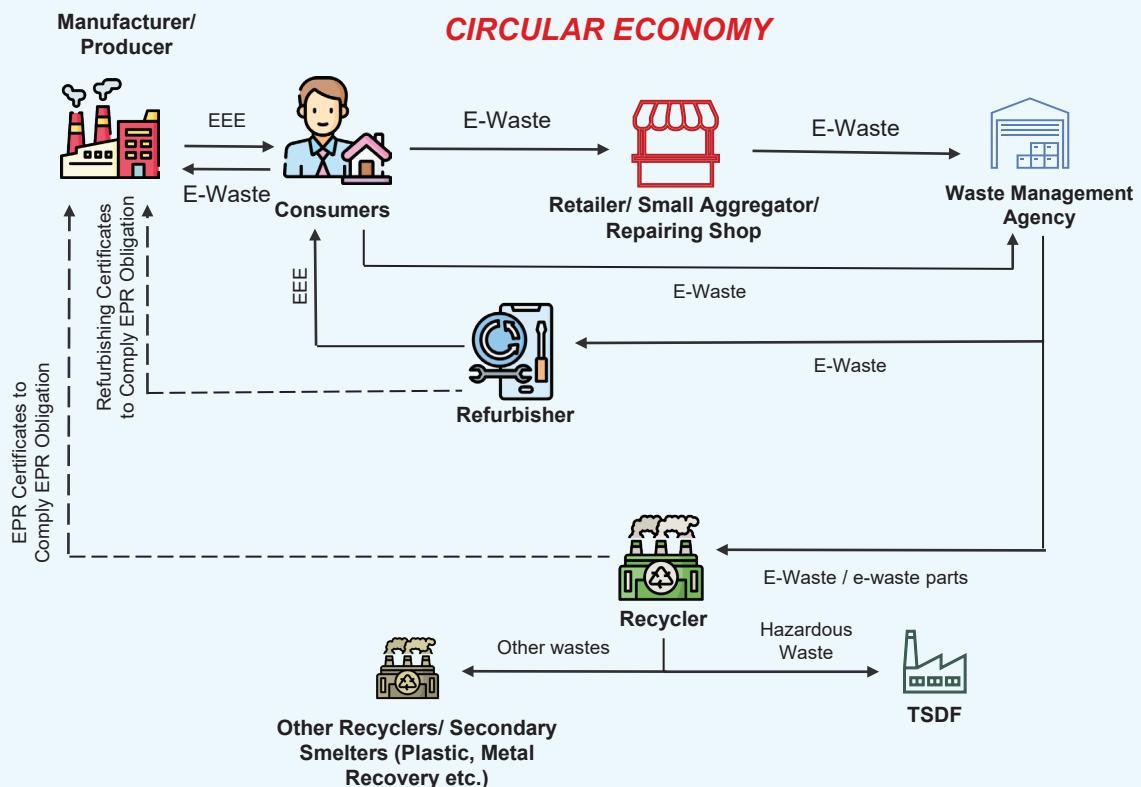
Extended Producer Responsibility

- Extended Producer Responsibility (EPR) is a policy tool that makes producers responsible for managing the entire lifecycle of their products, including post-consumer waste.
- It is crucial for transitioning from a linear economy to a circular economy by ensuring the recovery of valuable materials, reducing natural resource exploitation, and promoting sustainable e-waste management.
- Applicable to producers, manufacturers, importers, and brand owners of electronic and electrical equipment, EPR mandates environmentally sound collection, recycling, and disposal of end-of-life products. This not only minimizes environmental impact but also drives innovation and creates business opportunities across the waste management value chain.

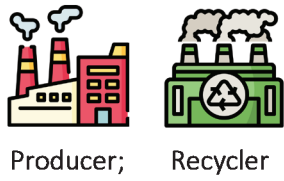
LINEAR ECONOMY



CIRCULAR ECONOMY



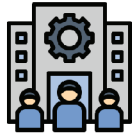
Key Obligation of Stakeholders



Awareness



Public



Bulk consumer

Handover



Registered producer or recycler or refurbisher



Applicable Manufacturer; Refurbisher; Recycler

Apply for Consent through



TNPCB

<https://ocmms.tn.gov.in/OCMMS/>



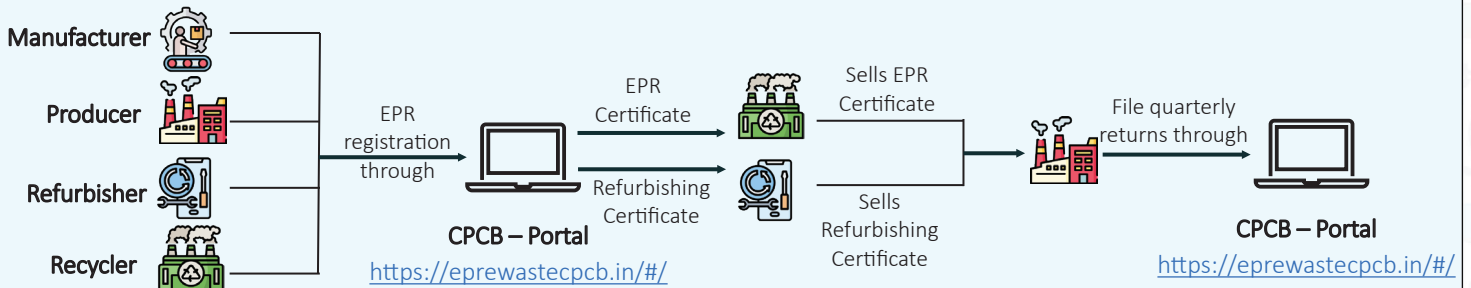
Manufacturer; Producer; Refurbisher; Recycler

File annual and quarterly returns through



CPCB – Portal

<https://eprewastecpcb.in/#/>

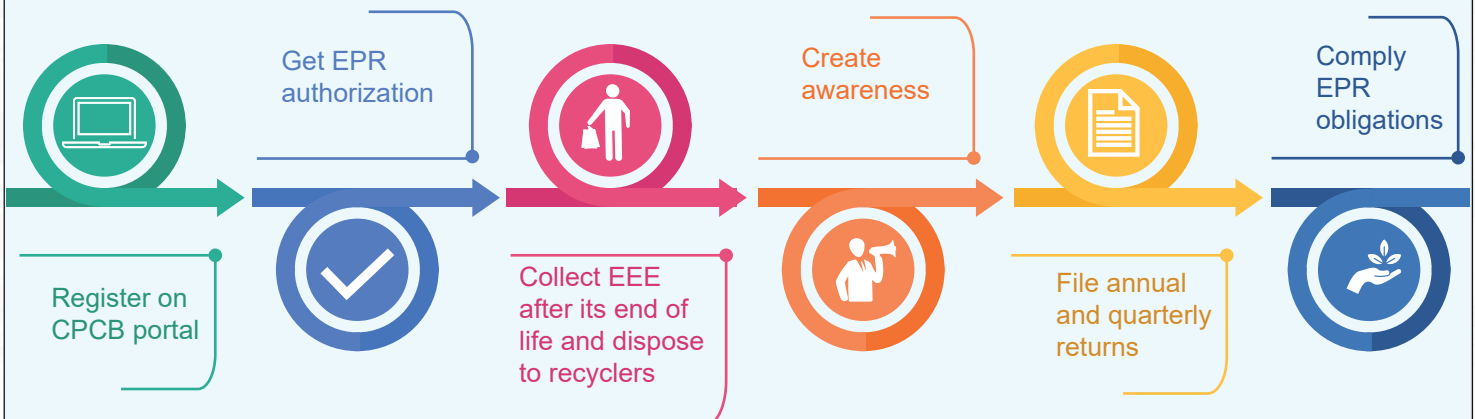


Key Responsibilities of Manufacturer and Producer

Manufacturer



Producer



Responsibilities of Refurbisher and Recycler

Refurbisher



Get consent from TNPCB



Register on CPCB portal and get EPR authorization



Collect e-waste generated and handover to registered recycler



Ensure that refurbished equipment is as per registration scheme of MEITY and standards of BIS



File annual and quarterly returns on the portal

Recycler



Get consent from TNPCB



Register on CPCB portal and get EPR authorization



Fractions not recycled to be sent to other registered recyclers



Residue generated to be disposed of in authorized TSDF



Maintain records of e-waste handled and non-recyclable e-waste on portal



File annual and quarterly returns on the portal



Create awareness

Recycling targets

Recycling Target of the quantity of EEE placed in the market in year Y - X

(SCHEDULE – III of E-Waste (Management) Rules, 2022)



All categories of E-Waste

Year 23-24



Year 24-25



Year 25-26



Year 26-27



Year 27-28



Year 28-29 & onwards



Y= Year for which target is to be calculated;

X= Average life of product

(Refer page : 14 - 23)

Note:

1. E-waste recycling target shall be reviewed and may be increased after the end of year 2028-2029.
2. The importers of used electrical and electronic equipment shall have 100% EPR obligation for the imported material after end of life, if not re-exported.
3. E-Waste recycling targets shall not be applicable for waste generated from solar photovoltaic modules or panels or cells.

EXAMPLE:

Recycling target of a smartphone producer, ABC Ltd. for the year 2024-25 can be calculated as follows:

Year for which target is to be calculated, Y = 2024-25

Average life of smart phone, X = 5 Years

Year considered for the calculation of recycling target = Y – X,

i.e. 2024-25 – 5 Years = 2019-20

The recycling target (by weight), $R = P \times Q$

Where, P is the target % of items for the year 2024-25 as per the rules

Q is the quantity of items placed in the market in the year 2019-20

Target percentage for the smart phone producer for the year 2024-25 = 60%

Quantity of smart phones placed in the market in the year 2019-20 = 1,000 MT.

Therefore,

Recycling Target (R) for the year 2024-25 for the smart phone producer = $60\% \times 1,000$
= 600 MT.

The producer must establish a system to collect their e-waste and process it through registered recyclers, obtain recycling certificates from them and submit through CPCB portal <https://eprewastecpcb.in/#/> by filing quarterly return.

Recycling target if average life of products > years of operation

(SCHEDULE – IV of E-Waste (Management) Rules, 2022)

EPR targets for producers, who have started sales operations recently, i.e. number of years of sales operations is less than average life of their products mentioned in the guidelines issued by the CPCB from time to time.



All categories of E-Waste

Year 23 - 24



Year 24 - 25



Year 25 - 26
& onwards



Y = Year for which target is to be calculated

Note:

1. Once the number of years of sales operation equals the average life of their product mentioned in the guidelines issued by CPCB, their EPR obligation shall be as per Schedule-III.
2. E-Waste recycling targets shall not be applicable for waste generated from solar photo-voltaic modules or panels or cells.

EXAMPLE:

Recycling target of a smartphone producer, ABC Ltd. for the year 2024-25, who have started sales operation recently can be calculated as follows:

Year for which target is to be calculated, $Y = 2024-25$

Year considered for the calculation of recycling target = $Y - 2$,

i.e. $2024-25 - 2 \text{ Years} = 2022-23$

The recycling target (by weight), $R = P \times Q$

Where, P is the target % of items for the year 2024-25 as per the rules

Q is the quantity of items placed in the market in the year 2022-23

Target percentage for the smart phone producer for the year 2024-25 = 20%

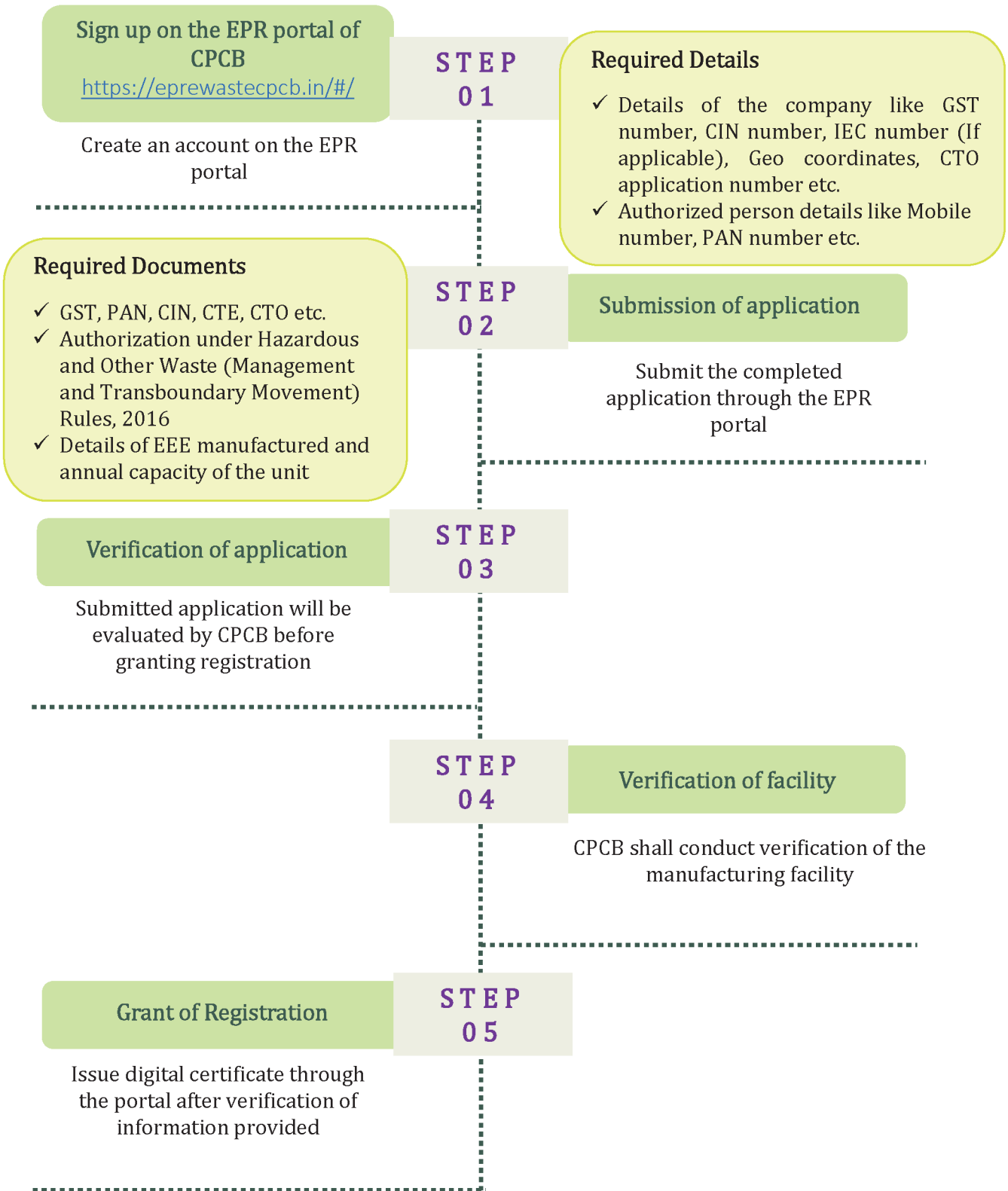
Quantity of smart phones placed in the market in the year 2022-23 = 1,000 MT.

Therefore,

Recycling Target (R) for the year 2024-25 for the smart phone producer = $20\% \times 1,000$
= 200 MT.

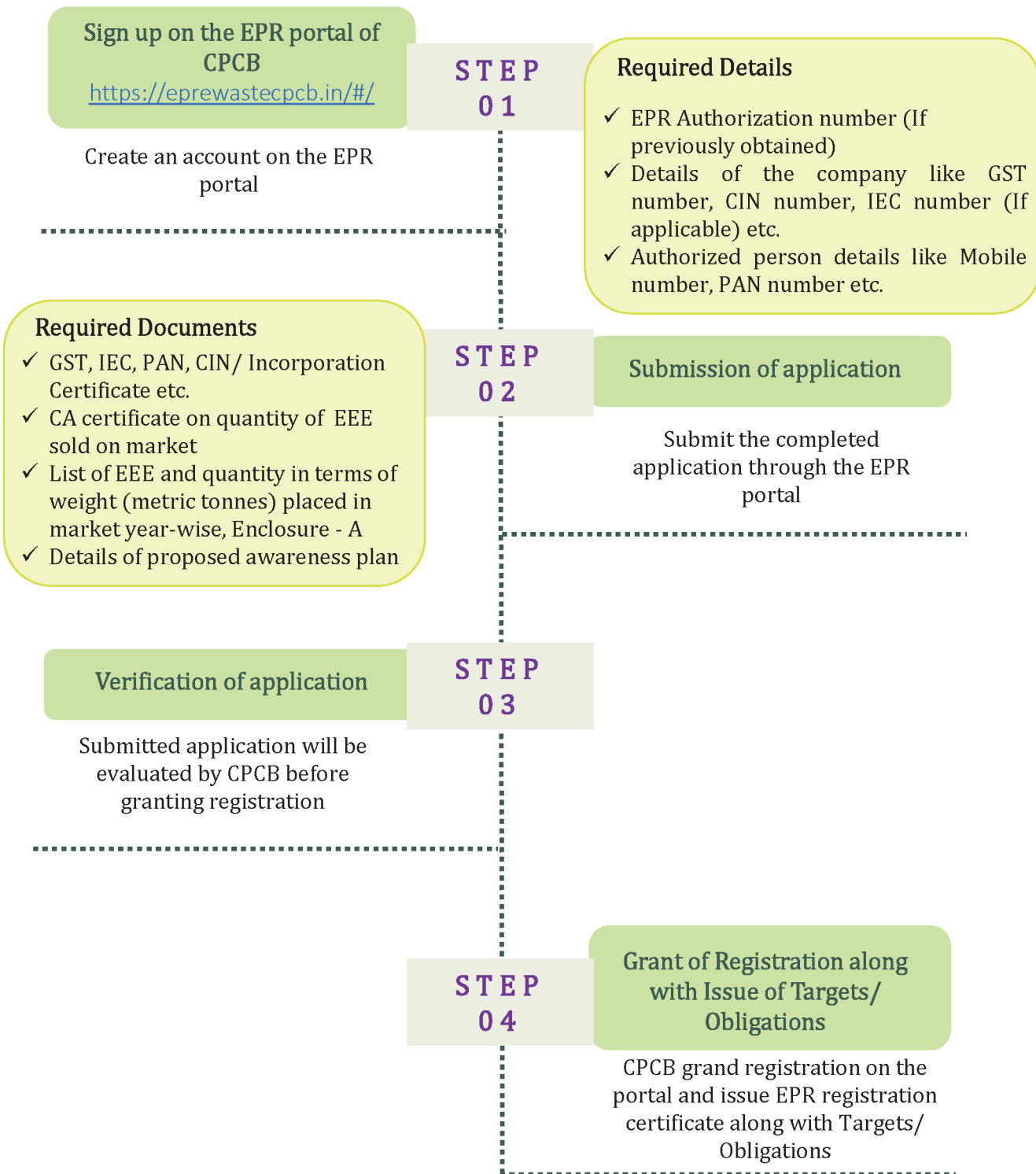
The producer must establish a system to collect their e-waste and process it through registered recyclers, obtain recycling certificates from them and submit through CPCB portal <https://eprewastecpcb.in/#/> by filing quarterly return.

Registration process for Manufacturers



Refer EPR portal of CPCB for registration of manufacturer
<https://eprewastecpcb.in/#/> (SOP)

Registration process for Producer



Refer EPR portal of CPCB for registration of producer
<https://eprewastecpcb.in/#/> (SOP)

Registration process for Refurbisher

Sign up on the EPR portal of CPCB

<https://eprewastecpcb.in/#/>

Create an account on the EPR portal

**STEP
01**

Required Details

- ✓ Refurbisher details like GST number, CIN number, IEC number (If applicable) etc.
- ✓ Authorized person details like Mobile number, PAN number etc.

Required Documents

- ✓ PAN, GST, CTE, CTO, Geo tagged video of recycling facility etc.
- ✓ Copy of Authorisation under Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016
- ✓ List of EEE refurbished and annual refurbishing capacity

**STEP
02**

Submission of application

Submit the completed application through the EPR portal

Verification of application

Submitted application will be evaluated by CPCB before granting registration

**STEP
03**

**STEP
04**

Verification of facility

CPCB shall conduct verification of the refurbishing facility

Grant of Registration

Issue digital certificate through the portal after verification of information provided

**STEP
05**

Refer EPR portal of CPCB for registration of refurbisher
<https://eprewastecpcb.in/#/> (SOP)

Registration process for Recycler

Sign up on the EPR portal of CPCB

<https://eprewastecpcb.in/#/>

Create an account on the EPR portal

**STEP
01**

Required Documents

- ✓ Recycler details like GST number, Geo Coordinates etc.
- ✓ Authorized person details like Mobile number, PAN number etc.

Required Documents

- ✓ CTE, CTO, PAN, GST, Video of recycling facility etc.
- ✓ Copy of Authorization under Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016
- ✓ List of EEE to be recycled and annual recycling capacity

**STEP
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Submit the completed application through the EPR portal

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CPCB shall conduct verification of the recycling facility

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**STEP
05**

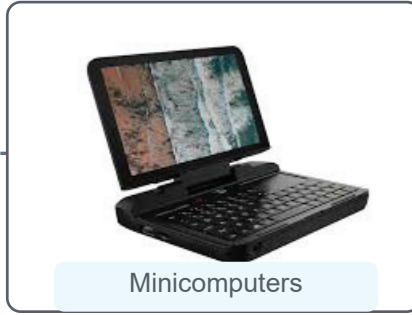
Refer EPR portal of CPCB for registration of recycler <https://eprewastecpcb.in/#/> (SOP)

List of Electrical & Electronic Equipment

Category 1: Information Technology and Tele Communication Equipment



Code : ITEW1
Average Life : 10 years



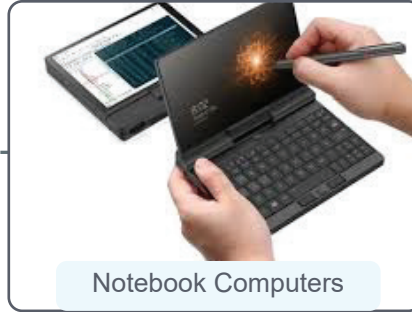
ITEW1
5 years



ITEW2
6 years



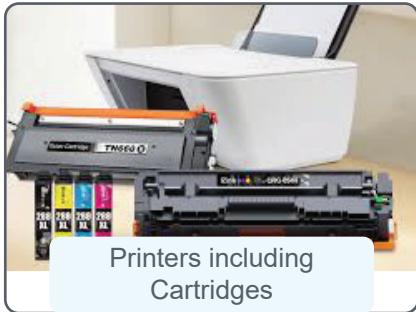
Code : ITEW3
Average Life : 5 years



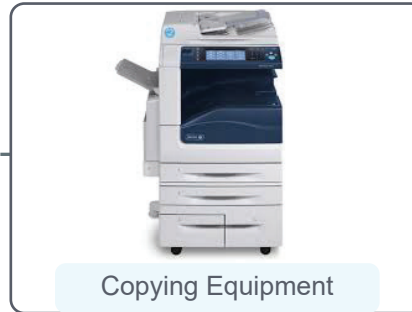
ITEW4
5 years



ITEW5
5 years



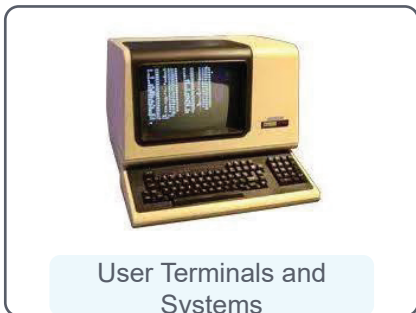
Code : ITEW6
Average Life : 10 years



ITEW7
8 years



ITEW8
5 years



Code : ITEW9
Average Life : 6 years



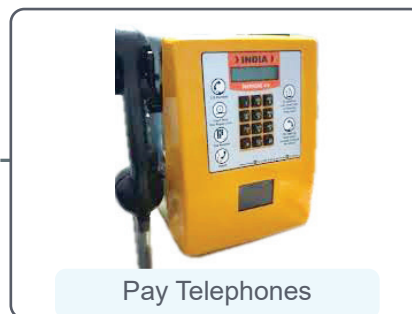
ITEW10
10 years



ITEW11
5 years



Code : ITEW12
Average Life : 9 years



ITEW13
9 years



ITEW14
9 years

List of Electrical & Electronic Equipment



Feature Phones



Smart phones



Answering Systems

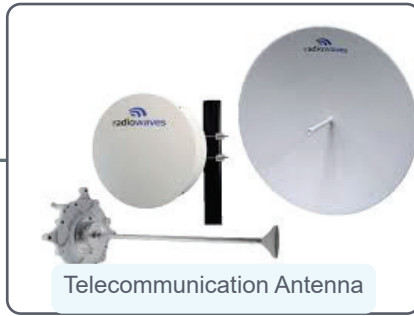
Code : ITEW15
Average Life : 7 years

ITEW15
5 years

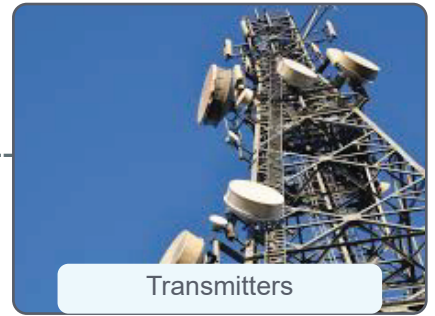
ITEW16
5 years



Smart Watch/ Fitness Band, Bluetooth Headset, Virtual Reality Camera, etc



Telecommunication Antenna



Transmitters

Code : ITEW17
Average Life : 3 years

ITEW17
7 years

ITEW17
5 years



Wi-Fi/wireless enabled Devices



Radio/Satellite Telephone

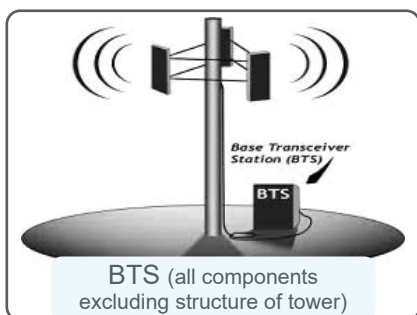


Walkie Talkie

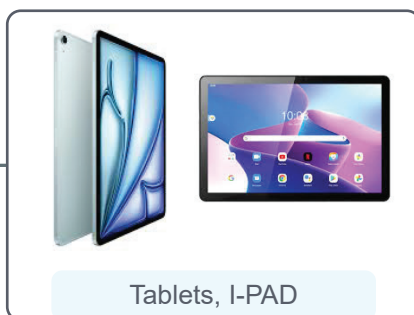
Code : ITEW17
Average Life : 3 years

ITEW17
7 years

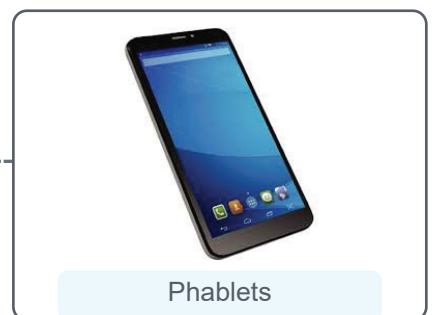
ITEW17
5 years



BTS (all components excluding structure of tower)



Tablets, I-PAD

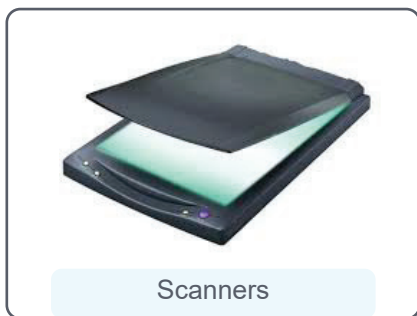


Phablets

Code : ITEW18
Average Life : 15 years

ITEW19
5 years

ITEW20
5 years



Scanners



Routers



GPS

Code : ITEW21
Average Life : 5 years

ITEW22
10 years

ITEW23
5 years

List of Electrical & Electronic Equipment



UPS - upto 2 KVA



UPS - greater than 2 KVA



Inverter - upto 2 KVA

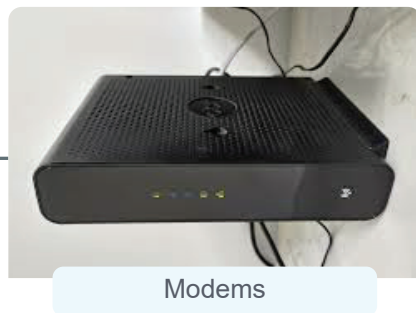
Code : ITEW24
Average Life : 7 years

ITEW24
10 years

ITEW25
7 years



Inverter - greater than 2 KVA



Modems



Electronic Data Storage Devices for Flash Drive (Small Devices)

Code : ITEW25
Average Life : 10 years

ITEW26
5 years

ITEW27
5 years



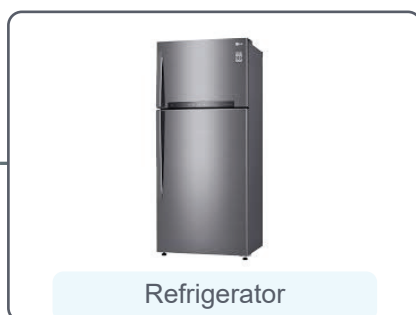
Electronic Data Storage Devices for Large Drive like Server

Code : ITEW27
Average Life : 10 years

Category 2: Consumer Electrical and Electronics & Photovoltaic Panels



Television sets



Refrigerator



Washing Machine

Code : CEEW1
Average Life : 9 years

CEEW2
10 years

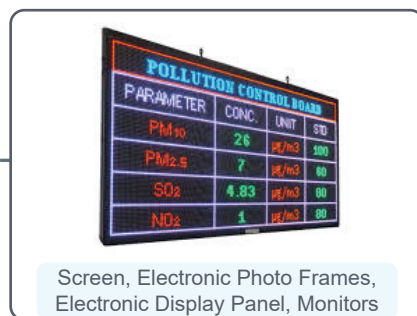
CEEW3
9 years



Air - Conditioners excluding Centralized Air Conditioning Plants



Fluorescent and Other Mercury Containing Lamps



Screen, Electronic Photo Frames, Electronic Display Panel, Monitors

Code : CEEW4
Average Life : 10 years

CEEW5
2 years

CEEW6
7 years

List of Electrical & Electronic Equipment



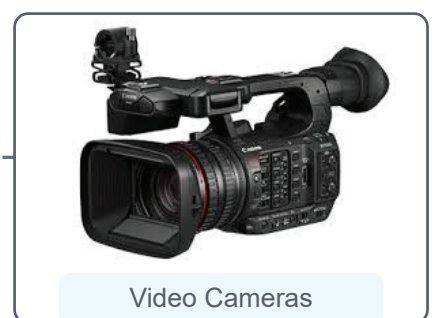
Radio Sets

Code : **CEEW7**
Average Life : **8 years**



Set Top Boxes

Code : **CEEW8**
Average Life : **8 years**



Video Cameras

Code : **CEEW9**
Average Life : **10 years**



Video Recorders

Code : **CEEW10**
Average Life : **5 years**



Hi-Fi Recorders

Code : **CEEW11**
Average Life : **5 years**



Audio Amplifiers

Code : **CEEW12**
Average Life : **10 years**



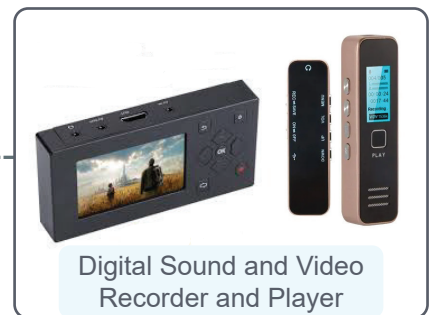
CCTV Camera with DVR & NVR

Code : **CEEW13**
Average Life : **7 years**



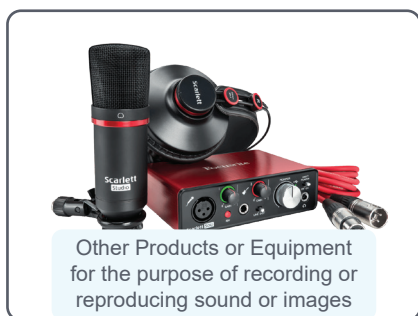
Projector

Code : **CEEW13**
Average Life : **7 years**



Digital Sound and Video Recorder and Player

Code : **CEEW13**
Average Life : **7 years**



Other Products or Equipment for the purpose of recording or reproducing sound or images

Code : **CEEW13**
Average Life : **7 years**



HDCOM used for video conference

Code : **CEEW13**
Average Life : **10 years**



Solar Panels/Cells, Solar Photovoltaic Panels/Cells/Modules.

Code : **CEEW14**
Average Life : **15 years**



Luminaires for fluorescent lamps with the exception of luminaires in households

Code : **CEEW15**
Average Life : **2 years**



High intensity discharge lamps, including Pressure Sodium Lamps and Metal Halide Lamps

Code : **CEEW16**
Average Life : **2 years**



Low pressure Sodium Lamps

Code : **CEEW17**
Average Life : **2 years**

List of Electrical & Electronic Equipment



LED Bulbs/Tubes/Consumer Luminaries & Consumer LED Drives



Professionals Luminaries & Drives



Digital Camera

Code : CEEW18
Average Life : 4 years

CEEW18
8 years

CEEW19
5 years

Category 3: Large and Small Electrical and Electronic Equipment



Large cooling appliances



Freezers



Other large appliances used for refrigeration, conservation and storage of food

Code : LSEEW1
Average Life : 10 years

LSEEW2
10 years

LSEEW3
10 years



Clothes Dryers



Dish Washing Machines



Electric Cookers

Code : LSEEW4
Average Life : 10 years

LSEEW5
10 years

LSEEW6
7 years



Electric Stoves



Electric Hot Plates



Microwaves, Microwave Oven

Code : LSEEW7
Average Life : 7 years

LSEEW8
5 years

LSEEW9
10 years



Other large appliances used for cooking and other processing of food



Electric Heating Appliances



Electric Radiators

Code : LSEEW10
Average Life : 10 years

LSEEW11
10 years

LSEEW12
7 years

List of Electrical & Electronic Equipment



Other large appliances for heating Rooms, Beds, Seating Furniture

Code : **LSEEW13**
Average Life : **7 years**



Electric Fans

Code : **LSEEW14**
Average Life : **10 years**



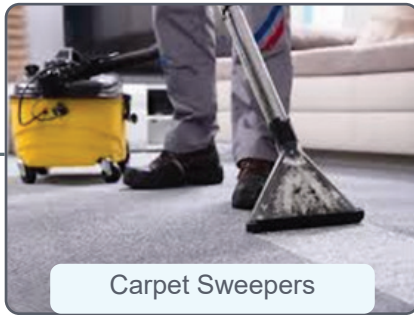
Other Fanning, exhaust Ventilation and Conditioning Equipment

Code : **LSEEW15**
Average Life : **10 years**



Vacuum Cleaners

Code : **LSEEW16**
Average Life : **10 years**



Carpet Sweepers

Code : **LSEEW17**
Average Life : **10 years**



Other appliances for cleaning

Code : **LSEEW18**
Average Life : **10 years**



Appliances used for sewing, knitting, weaving and other processing for textiles

Code : **LSEEW19**
Average Life : **7 years**



Dry Iron

Code : **LSEEW20**
Average Life : **15 years**



Steam Iron/Garment Steamer

Code : **LSEEW20**
Average Life : **10 years**



Grinders, Coffee Machines and equipment for opening or sealing containers or packages

Code : **LSEEW21**
Average Life : **10 years**



Smoke Detector

Code : **LSEEW22**
Average Life : **10 years**



Heating Regulators

Code : **LSEEW23**
Average Life : **5 years**



Thermostats

Code : **LSEEW24**
Average Life : **5 years**



Automatic Dispensers for hot drinks

Code : **LSEEW25**
Average Life : **7 years**



Automatic Dispensers for hot or cold bottles or cans

Code : **LSEEW26**
Average Life : **7 years**

List of Electrical & Electronic Equipment



Automatic Dispensers for solid products

Code : **LSEEW27**
Average Life : **10 years**



Automatic Dispensers for money

Code : **LSEEW28**
Average Life : **10 years**



All appliances which deliver automatically all kinds of products

Code : **LSEEW29**
Average Life : **10 years**



Indoor Air Purifier

Code : **LSEEW30**
Average Life : **10 years**



Hair Dryer

Code : **LSEEW31**
Average Life : **5 years**



Electric Shaver

Code : **LSEEW32**
Average Life : **5 years**



Electric Kettle

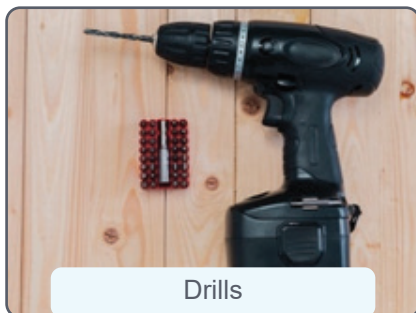
Code : **LSEEW33**
Average Life : **5 years**



Electronic Display Panels/Board/Visual Display Unit

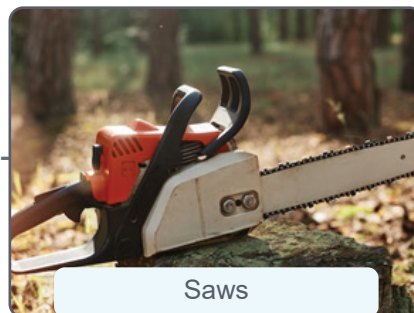
Code : **LSEEW34**
Average Life : **9 years**

Category 4: Electrical and Electronic Tools (With the exception of large-scale stationary industrial tools)



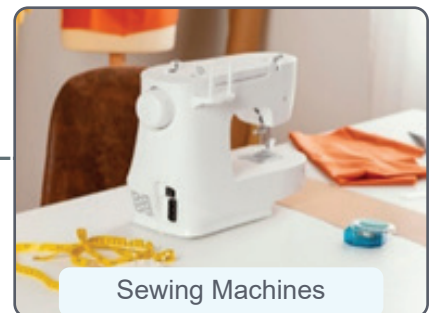
Drills

Code : **EETW1**
Average Life : **8 years**



Saws

Code : **EETW2**
Average Life : **10 years**



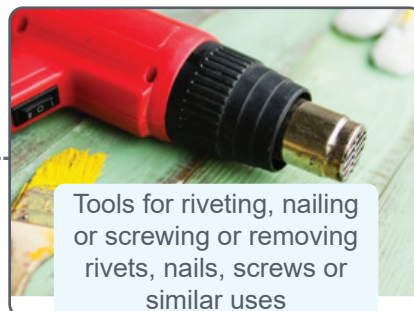
Sewing Machines

Code : **EETW3**
Average Life : **15 years**



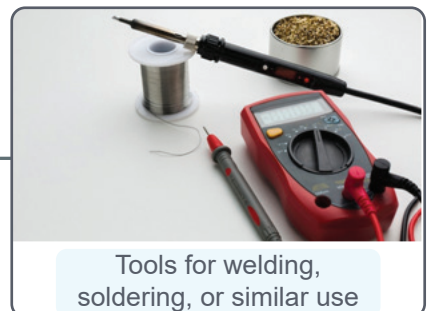
Equipment for turning, milling, sanding, grinding, etc. of wood, metal and other materials

Code : **EETW4**
Average Life : **10 years**



Tools for riveting, nailing or screwing or removing rivets, nails, screws or similar uses

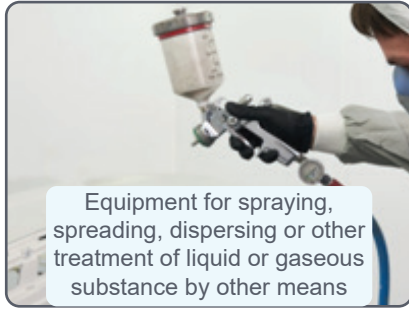
Code : **EETW5**
Average Life : **10 years**



Tools for welding, soldering, or similar use

Code : **EETW6**
Average Life : **10 years**

List of Electrical & Electronic Equipment



Equipment for spraying, spreading, dispersing or other treatment of liquid or gaseous substance by other means



Tools for mowing or other gardening activities

Code : **EETW7**
Average Life : **10 years**

Code : **EETW8**
Average Life : **10 years**

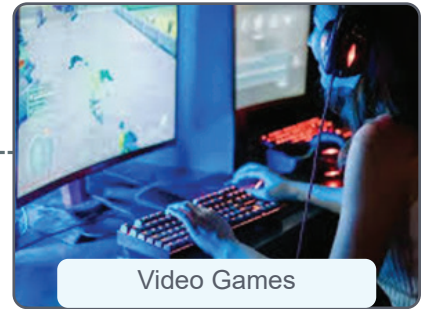
Category 5: Toys, Leisure and Sports Equipment



Electrical Trains or Car Racing Sets



Hand-held Video Games Consoles

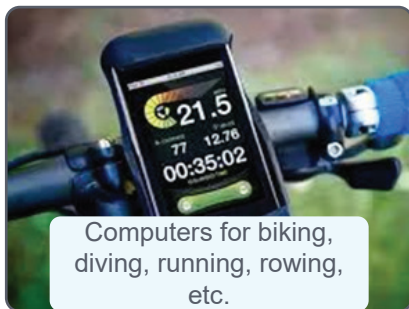


Video Games

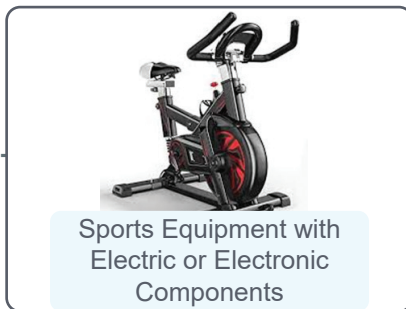
Code : **TLSEW1**
Average Life : **2 years**

Code : **TLSEW2**
Average Life : **2 years**

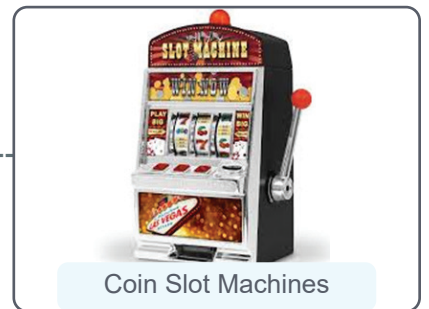
Code : **TLSEW3**
Average Life : **2 years**



Computers for biking, diving, running, rowing, etc.



Sports Equipment with Electric or Electronic Components



Coin Slot Machines

Code : **TLSEW4**
Average Life : **5 years**

Code : **TLSEW5**
Average Life : **5 years**

Code : **TLSEW6**
Average Life : **8 years**

Category 6: Medical Devices (With the exception of all implanted and infected products)



Radiotherapy Equipment and Accessories



Cardiology Equipment and Accessories



Dialysis Equipment and Accessories

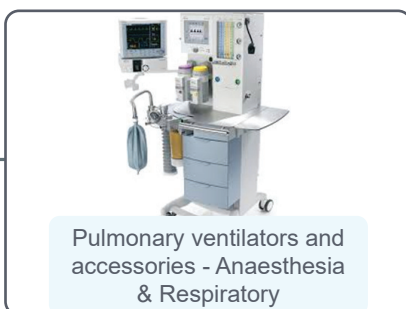
Code : **MDW1**
Average Life : **20 years**

Code : **MDW2**
Average Life : **10 years**

Code : **MDW3**
Average Life : **10 years**



Pulmonary Ventilators and Accessories - Diagnostic Cardiology



Pulmonary ventilators and accessories - Anaesthesia & Respiratory



Nuclear Medicine Equipment and accessories

Code : **MDW4**
Average Life : **7 years**

Code : **MDW4**
Average Life : **10 years**

Code : **MDW5**
Average Life : **20 years**

List of Electrical & Electronic Equipment



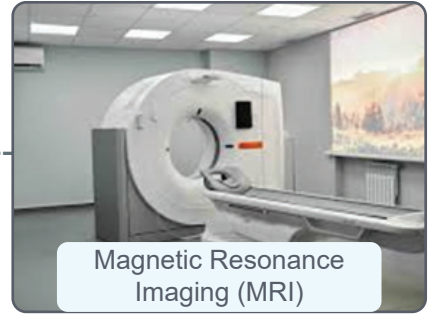
Laboratory Equipment for in Vitro Diagnosis and Accessories

Code : **MDW6**
Average Life : **15 years**



Analysers and Accessories

Code : **MDW7**
Average Life : **10 years**



Magnetic Resonance Imaging (MRI)

Code : **MDW8**
Average Life : **15 years**



Positron Emission Tomography Scanner (PET CT / PET)

Code : **MDW8**
Average Life : **20 years**



SPECT CT/ SPECT

Code : **MDW8**
Average Life : **20 years**



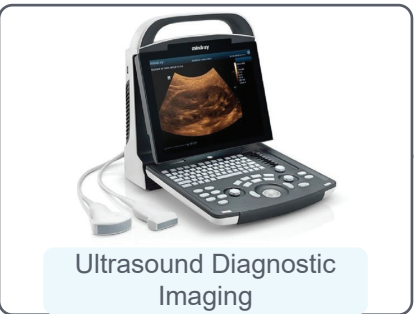
MRI, PET, CT Scanners & Ultrasound Equipment along with accessories and US, probe etc

Code : **MDW8**
Average Life : **10 years**



Computed Tomography

Code : **MDW8**
Average Life : **20 years**



Ultrasound Diagnostic Imaging

Code : **MDW8**
Average Life : **10 years**



Fertilization Tests Equipment and Accessories

Code : **MDW9**
Average Life : **10 years**



Maternal & Infant Care Products

Code : **MDW10**
Average Life : **7 years**



C-Arm

Code : **MDW10**
Average Life : **12 years**



Monitoring Solution Products/High End

Code : **MDW10**
Average Life : **15 years**



X-Ray and Fluoroscopy

Code : **MDW10**
Average Life : **12 years**



Mammography Devices

Code : **MDW10**
Average Life : **12 years**



Other Medical Equipment

Code : **MDW10**
Average Life : **7 years**

List of Electrical & Electronic Equipment

Category 7: Laboratory Instruments



Code : LIW1
Average Life : 8 years



LIW2
8 years

Note:

The item names, average lifes, and images provided in this handbook are for reference only. Please note that the details may differ from the actual items. For accurate and updated details, refer to the E-Waste (Management) Rules, 2022, along with its amendments, and EPR portal of CPCB <https://eprewastecpcb.in/#/>

Important Resources

1

Website of Tamil Nadu
Pollution Control Board
(Waste Management)



<https://tnpcb.gov.in/wastenew.php>

2

Website of EPR portal for
E-waste management



<https://eprewastecpcb.in/#/>

3

E-waste management
rules 2022



https://eprewastecpcb.in/assets/PDF/e-waste_rules_2022.pdf

4

Guidelines for Determination of
Processing Capacity of E-Waste
Recycling facility by SPCBs/PCCs



https://eprewastecpcb.in/assets/PDF/Final_Guidelines_determination_of_processing_capacity_of_E-Waste_Recycler.pdf

5

Framework for
generating EPR
certificate



<https://eprewastecpcb.in/assets/PDF/Framework.pdf>

6

Implementation Guidelines
for Recyclers & Refurbishers
under E-Waste (Management)
Rules, 2016



https://cpcb.nic.in/uploads/Projects/E-Waste/Guidelines_Environmentally_Sound_Recycling_E-Waste.pdf



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