Alkesh Kumar Sharma, I.A.S.
Secretary

सत्यमेव जयते

Ministry of Electronics &
Information Technology (MeitY)
Government of India

GG-11/12/2021 – R&D-E
December 27, 2022

Dear Chief Secretary,

I would like to draw your kind attention to the 'Circular Economy Action Plan in Electronics and Electrical Sector' prepared by NITI Aayog alongwith other stakeholder Ministries/ Departments/ Agencies for implementation in the country in a time bound manner (Copy enclosed).

2. As an action taken on this CE Action Plan, an initiative for setting up of recycling facilities for extraction of precious metals from E-waste components, including PCBs (both populated and bare), Li-ion batteries, Spent magnets, Solar PV Panels, Catalytic converters has been notified by Ministry of Electronics & Information Technology (MeitY), Government of India, under existing SPECS scheme (Copy enclosed). The total incentive under the scheme is 25% of the eligible capital expenditure for an approved application. The detailed information about the scheme is available at weblink https://www.meity.gov.in/esdm/SPECS.

3. In addition to the above, MeitY under its R&D programme has developed cost effective and environmental friendly process technologies for recycling of E-waste (PCB, Li-ion battery and plastic) and demonstrated them at pilot level for commercialization at industrial scale. Many industries have been benefited with these technologies. The details of the technologies are enclosed herewith at **Annexure-I**.

4. In this regard, I shall be glad if your state could utilize the above initiatives for setting up of e-waste recycling facilities. For any technical support Dr. Sandip Chatterjee, Scientist 'F', MeitY, GoI may be contacted at email: sandip@meity.gov.in (011-24301970).

With regards,

Yours sincerely,

(Alkesh Kumar Sharma)

To

Chief Secretaries to the States/UTs

Annexure-I

E-Waste recycling technologies developed under MeitY initiatives

A. Printed Circuit Boards (High value Boards) Recycling:

CMET Hyderabad (Scientific Autonomous Body under MeitY, GoI) has developed a PCB recycling technology based on the pyrometallurgical process. A demonstration plant has been established at Hyderabad with 300kg/Day PCBs (~10,000Kg E-waste/Day) processing to recover precious metals i.e Copper, Gold and Silver. Process technology includes depopulation, shredding, smelting, electro refining and precious metal recovery process. Pollution control systems ensure that flue gases are within the permissible limit prescribed by CPCB. This shall encourage small entrepreneurs and informal sectors for adapting recycling practices and better recoveries shall lead to better recycling economy. The technology is now ready for commercialization.

Contact: Dr. Ratheesh, Director CMET Hyderabad (Email: ratheesh@cmet.gov.in)

B. Li ion Battery Recycling

The Li-ion battery recycling technologies also have been developed by CMET, Hyderabad using hydrometallurgical process as well as pyrometallurgical process. Salient feature of this technology is the recovery of lithium carbonate prior to solvent extraction. Battery grade chemicals such as lithium carbonate, manganese oxide, cobalt oxide and nickel oxide are recovered in the hydrometallurgical methodology and Co-Ni alloy is recovered in pyrometallurgical technique. A demonstration plant is established with a capacity of 100kg black mass/day. This Technology includes segregation, discharging, dismantling, black mass recovery, lithium carbonate recovery, solvent extraction process for Co, Mn and Nickel. Process is demonstrated at semi pilot plant scale and technical know-how is ready for transfer.

Contact: Dr. Ratheesh, Director CMET Hyderabad (Email: ratheesh@cmet.gov.in)

भारत सरकार
Government of India
इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी मंत्रालय
Ministry of Electronics & Information Technology
इलेक्ट्रॉनिक्स निकेतन, 6, सी जी ओ कॉम्प्लेक्स, नई दिल्ली-110003
Electronics Niketan, 6, C G O Complex, New Delhi-110003
Website: www.meity.gov.in

संख्या W-18/36/2020-IPHW
No.....

दिनांक 03.03.2022
Date.....

NOTIFICATION

Subject: Amendment of Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) Guidelines issued vide File No.W-18/30/2019-IPHW dated 01.06.2020

Reference:

1. *SPECS Gazette Notification dated 01.04.2020*
2. *SPECS Guidelines issued vide File No. W-18/30/2019-IPHW dated 01.06.2020*

In partial modification of SPECS Guidelines issued vide File No. W-18/30/2019-IPHW dated 01.06.2020, following amendment is issued:

Addition of **Annexure-1A** in the SPECS guidelines, to be eligible for incentive under SPECS, as under:

S.No.	Description of E-waste Recycling Facility	Minimum Investment Threshold Limit
1.	Recycling facility for extraction of precious metals from e-waste components, including PCBs (both populated and bare), Li-ion batteries, Spent magnets, Solar PV Panels, Catalytic converters and any other components from electronic waste (any one component or in combination)	INR 2 crore

2. This issues with the approval of competent authority.

Saurabh Gaur

(Saurabh Gaur)
Joint Secretary
Telephone: 011-2436071

C. Printed Circuit Boards (Low value Boards) Recycling:

In another initiative, a processing technology through physical separation and chemical leaching methods has been developed for recycling and reuse of electronic waste at National Metallurgical Laboratory (NML), Jamshedpur. In this effort, on a pilot scale, upto 1 Metric Tonne of e-waste had been successfully recycled. The technology already has been transferred to various industries.

Contact: Dr. Manish Jha, Senior Scientist, NML Jamshedpur (Email: mkjha@nmlindia.org)

D. E-waste Plastic Recycling

The e-waste also contains plastics, nearly 25% of its weight. In another project, MeitY has established in demonstration of converting this plastics to virgin master batch, which could be used for value added products at Central Institute of Plastics Engineering & Technology (CIPET), Bhubaneswar- Autonomous academic institute under Department of Chemical & Petrochemicals, Government of India. The developed process is capable to convert majority (76%) of the waste plastics to suitable master batch, which could be used for virgin plastic products. The toxicity and environmental tests were carried out on the developed products from the master batch, showed acceptable standard. The technology has been transferred to a company for commercial exploitation.

Contact: Dr. Smitha Mohanty, Senior Scientist, CIPET, Bhubaneswar (Email: drsmitamohanty@gmail.com)

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1. All concerned Ministries / Departments of Government of India
2. All States / Union territories
3. Cabinet Secretariat
4. PMO
5. NITI Aayog
6. Comptroller and Auditor General of India
7. AS&FA, Ministry of Electronics and Information Technology
8. Electronics Industry Associations
9. Internal Circulation