

Guidelines for Environment compensation (EC)
Under
Battery Waste Management Rules, 2022



Central Pollution Control Board, Delhi
August, 2024

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1.0 Background

Ministry of Environment Forest and Climate Change notified Battery Waste Management (BWM) Rules, 2022 on 22nd August, 2022 and amendments thereof. These regulations apply to producers (Manufacturers and Importers included), dealers, consumers, and entities involved in the collection, segregation, transportation, refurbishment, and recycling of all types of waste batteries, regardless of their chemistry, shape, volume, weight, material composition, or use. Battery types covered include portable, automotive, industrial, and EV batteries, encompassing various chemistries such as lead-acid, lithium-ion, nickel-cadmium, zinc-based batteries etc.

As per provision under Rule 13 (3) the BWM Rules, 2022, *"The Central Pollution Control Board shall prepare and recommend guidelines for imposition and collection of Environmental Compensation from producers and entities involved in refurbishment and recycling of waste battery, in case of non-compliance of these rules. The Central Pollution Control Board may consult the Committee for Implementation constituted under rule 15. The recommended guidelines shall be submitted to the Ministry of Environment, Forest and Climate Change for concurrence."*

Under section 10 (17) of the Rules, *"The Central Pollution Control Board shall fix the highest and the lowest price for Extended Producer Responsibility certificates which shall be equal to 100% and 30%, respectively of the Environmental Compensation leviable on the obligated entities for non-fulfilment of Extended Producer Responsibility obligations as determined by the Central Pollution Control Board under rule 13."*

The EC regime has been framed in accordance with the BWM Rules, 2022 and subsequent amendments dated 25th October, 2023 and 14th March, 2024. This document details the EC regime to be levied on the violators in accordance with provisions of BWM Rules, 2022.

2.0 Introduction

Battery Waste Management Rules, 2022 mandate CPCB to impose Environmental Compensation (EC) in-case of non-compliance of these rules by the registered Producers/Recyclers/Refurbishers.

The Environmental Compensation to be levied is divided into 2 regimes, EC regime 1 and EC regime 2 based on the non-fulfilment of metal-wise EPR target by the Producers and non-compliances of Battery Waste Management Rules, 2022 by Producers/Recyclers/Refurbishers. In EC regime 1, Cost of Handling, Collection and Transportation of Waste Battery and Processing cost to recover metal are taken as parameters for deciding the EC. Further, EC regime 1 is divided into two sections based on the kind of battery, i.e., lead acid batteries and lithium-ion & other batteries due to difference in Cost of Collection, Handling, and Transportation and the technology being use to recover metals from these batteries. In EC regime 2, application fees as per SoP (middle slab) for registration of Producers / Recyclers / Refurbishers under these rules is selected as the parameter in this regime.

As per the BWM Rules, 2022 and as per the Office Memorandum dated 14.11.2022 issued by MoEF&CC, the minimum EPR credit cost shall be equivalent to 30% of Environmental Compensation and maximum EPR credit cost will be equal to Environmental Compensation. This implies that the recyclers will only be able to trade the metal-wise EPR credits in the range of INR 30% - 100% of EC cost.

For lead acid batteries, a large volume of recycling is carried out by the informal recyclers which causes heavy damage to environment. These lead acid batteries are collected by the informal sector and are processed to obtain lead. Establishing a EPR floor price for battery recycling is crucial as it incentivizes



investments in collection networks, reduces the burden on recyclers, and helps legitimate recyclers compete against the unorganized / informal sector.

For lithium-ion and other batteries, recycling infrastructure is at a very nascent stage. Establishing a EPR floor price addresses the high processing costs by supporting significant investments in R&D and health and safety measures. Additionally, it will ensure 100% battery coverage by making collection and logistics economically viable and protects recyclers from the risks of fluctuating commodity prices, ensuring their sustainability.

Boundary Condition for EPR credit cost: The cost of EPR credits for various metals should be set lower than the market value of those metals. This ensures that metals are recovered from the recycling of waste batteries rather than purchasing metals from the market and selling them to generate EPR credits.

3.0 Applicability

These Guidelines will be applicable to:

- **Producers** – ‘Producer’ means an entity who engages in:
 - (i) manufacture and sale of Battery including refurbished Battery, including in equipment, under its own brand; or
 - (ii) sale of Battery including refurbished Battery, including in equipment, under its own brand produced by other manufacturers or suppliers; or
 - (iii) import of Battery as well as equipment containing Battery;
- **Recyclers** - ‘Recycler’ means entity engaged in recycling of Waste Battery.
- **Refurbishers** - ‘Refurbisher’ means entity engaged in refurbishment.
- Entity involved in collection, segregation and treatment of Waste Battery.

These guidelines will be revised time to time as per requirement.

4.0 Provisions of Battery Waste Management Rules, 2022, for which EC is to be levied

S. No.	Rule	Provision
1	4 (11)	Producer shall file annual returns in Form 3 regarding the Waste Battery collected and recycled or refurbished towards fulfilling obligations under Extended Producer Responsibility with the Central Pollution Control Board and concerned State Pollution Control Board in Form 3 by 30th June of the next financial year. The details of the registered recyclers from whom the Extended Producer Responsibility certificates have been procured shall also be provided.
2	4 (12)	It shall be the responsibility of a Producer to, – (i) adhere to prohibitions and labelling requirements as prescribed in Schedule I;
3	4 (15)	Producer shall not deal with any other entity not having registration mandated under these rules.
4	8 (3)	Refurbishers shall furnish quarterly returns in Form 4 regarding the information on quantity of used Battery collected or received from various producers or entities, refurbished quantities, quantity of hazardous and/or other waste including solid waste or plastic waste generated after refurbishment and disposal of such quantity as per

		extant rules and the quarterly return shall be filed by the end of the month succeeding the end of the quarter.
5	8 (5)	Refurbisher shall not deal with any other entity not having registration mandated under these rules.
6	9 (3)	Recyclers shall furnish the quarterly returns in Form 4 regarding the information on quantity of Waste Battery collected or received from various producers or entity, recycled quantities, compliance of material-wise recovery percentage as per recovery targets provided under sub-rule 4 of rule 10, quantity of hazardous and/or other waste including solid waste or plastic waste generated after recycling and of such quantity as per as per extant rules and the quarterly return shall be filed by the end of the month succeeding the end of the quarter.
7	9 (5)	Recycler shall not deal with any other entity not having registration mandated under these rules.
8	11 (11) (12)	(11) Central Pollution Control Board shall carry out audit of data, including using information from Goods and Services Tax Network portal, by itself or a designated agency, of the registered entity under these rules. (12) Central Pollution Control Board shall suspend and/or cancel the registration of Producer, and/or impose Environmental Compensation in case of violation of these rules by the registered entity.
9	13 (1) (i)	Environmental Compensation shall also be levied for the following activities based on polluter pays principle, – i. entities carrying out activities without registration as mandated under these rules;
10	13 (1) (ii)	Environmental Compensation shall also be levied for the following activities based on polluter pays principle, – ii. providing false information / wilful concealment of material facts by the entities registered under these rules;
11	13 (1) (iii)	Environmental Compensation shall also be levied for the following activities based on polluter pays principle, – iii. submission of forged/manipulated documents by the entities registered under these rules;
12	13 (1) (iv)	Environmental Compensation shall also be levied for the following activities based on polluter pays principle, – iv. entities engaged in collection, segregation, and treatment in respect to not following sound handling of Waste Battery.
13	13 (4)	Environmental Compensation shall be levied by Central Pollution Control Board on Producer operating with respect to non-fulfilment of their Extended Producer Responsibility targets, responsibilities and obligations set out in Schedule II of these rules.
14	13 (5)	Environmental Compensation shall be levied by respective State Pollution Control Board on entities involved in refurbishment or recycling of Waste Battery as well as entities involved in collection, segregation and treatment, operating in their jurisdiction with respect to non-fulfilment of their responsibilities and obligations set out under these rules.

Assessment of Environmental Compensation to be levied for violation of the any other sub-rule of the BWM Rules, 2022 or any other violation other than mentioned in the table above shall be done on case-to-case basis.

5.0 Guidelines for Calculation of Environment compensation (EC)

Environmental Compensation to be levied to the Producers/Recyclers/Refurbishers is divided in to two regimes:

- (i) **EC Regime 1** – In this regime, EC will be levied to the Producers for non-fulfilment of metal-wise EPR Targets.
- (ii) **EC regime 2** – In this regime, EC will be levied to any entity for non-compliances of BWM Rules, 2022 (detail of which is mentioned in Section 5.0).

5.1 EC Regime 1

In this regime, EC is calculated separately for following two types of batteries:

- (i) For Lead Acid Batteries
- (ii) For Lithium-ion and Other Batteries

For both types of batteries calculation of EC includes cost of handling, collection & transportation and cost of processing of waste battery. Detail calculation of EC is provided in the subsequent sections.

5.1.1. For Lead acid battery

The cost components for EC calculation per tonne of Waste Lead Acid Battery are as follows:

- (i) Cost of Handling, Collection and Transportation of Waste Battery
- (ii) Processing cost to recover lead metal

The details of above cost incurred by the recycler of Lithium Ion Battery is given below:

S. No.	Cost Components	INR
1.	Handling, Collection and Transportation	3,000 per tonne
2.	Processing	15,000 per tonne
Total Cost (per Tonne) = EC Charges		18,000
EC (per Kg) -		18

Since, 'Lead (Pb)' is the only key battery metal selected for Lead Acid Battery, hence the EC cost per kg for 'Lead (Pb)' is equal to Rs. 18.

This amount will be treated as the maximum cost of EPR credit for lead metal. EPR Credits cost for Lead metal will be in the range Rs. 5.4 per kg to Rs. 18 per kg.

5.1.2 For Lithium-ion and other batteries

The cost components for EC calculation per tonne of Waste Lithium-ion and other batteries are as follows:

- (iii) Cost of Handling, Collection and Transportation of Waste Battery = Rs. 70,000 per tonne
- (iv) Processing cost to recover key battery metals – summarized in table below

S. No.	Metals	Average Processing Cost (INR/kg of metal)
1.	Lithium (Li)	2330
2.	Cobalt (Co)	485
3.	Nickel (Ni)	485
4.	Manganese (Mn)	485
5.	Copper (Cu)	200
6.	Aluminium (Al)	50
7.	Iron (Fe)	50

Assuming that the battery contains equal quantity of all the 7 metals, the (iii) Cost of Handling, Collection and Transportation for each metal (per kg metal) will be INR 70.

Hence, the total cost of recovery of each metal is calculated by adding the Cost of Handling, Collection and Transportation for each metal and processing of cost of each metal and this cost will serve as EC cost for each metal.

Environmental Compensation and EPR cost for individual Metal

S. No.	Metals	Total EC Cost (INR/kg of metal) = Average Cost of Collection Storage and Transportation + Average Processing Cost	EPR Cost (30% - 100% of EC Cost) in INR
1.	Lithium (Li)	2400	720 – 2400
2.	Cobalt (Co)	555	166 – 555
3.	Nickel (Ni)	555	166 – 555
4.	Manganese (Mn)	555	166 – 555
5.	Copper (Cu)	270	81 – 270
6.	Aluminium (Al)	120	36 – 120
7.	Iron (Fe)	120	36 – 120



EC Cost for Cadmium and Zinc metals can be kept same as that of Lithium metal cost due to very limited availability of recycling infrastructure for recovery of these metals.

5.2 EC Regime 2: EC based on application fees

For non-compliances other than shortfall in EPR targets, EC is calculated as follows:

- (i) For 1st default – EC equivalent to application fees as per SoP (middle slab) for registration of Producers/Recyclers/Refurbishers under Battery Waste Management Rules, 2022, i.e., Rs. 20,000 = **Rs. 20,000/-**.
- (ii) For 2nd default – Two times of first default i.e. Rs. 20,000 x 2 = **Rs. 40,000/-**.
- (iii) For 3rd default – Two times of second default i.e. Rs. 40,000 x 2 = **Rs. 80,000/-**.

The EC cost in this regime will increase by 10% every year.

6.0 Action to be taken for non-compliance of BWM Rules

Details of Environmental Compensation to be levied and the penal action to be taken for non-compliance of BWM Rules, along with the nature of violation and the violator (concerned person/organization), is given in the table below:

Rule	Provision	Violator	Violation	Environmental Compensation to be levied
4 (11)	Producer shall file annual returns in Form 3 regarding the Waste Battery collected and recycled or refurbished towards fulfilling obligations under Extended Producer Responsibility with the Central Pollution Control Board and concerned State Pollution Control Board in Form 3 by 30th June of the next financial year. The details of the registered recyclers from whom the Extended Producer Responsibility certificates have been procured shall also be provided.	Producer	Non-submission of Annual Returns	EC regime 2
4 (12)	It shall be the responsibility of a Producer to, – (i) adhere to prohibitions and labelling requirements as prescribed in Schedule I;	Producer	Not following labelling requirements	EC regime 2
4 (15)	Producer shall not deal with any other entity not having registration mandated under these rules.	Producer	Engaging with entities not registered on the portal	EC regime 2

8 (3) & 9(3)	Recycler/Refurbishers shall furnish quarterly returns in Form 4 regarding the information on quantity of used Battery collected or received from various producers or entities, refurbished quantities, quantity of hazardous and/or other waste including solid waste or plastic waste generated after refurbishment and disposal of such quantity as per extant rules and the quarterly return shall be filed by the end of the month succeeding the end of the quarter.	Recycler / Refurbisher	Non-submission of quarterly returns	EC regime 2
8 (5) & 9 (5)	Recycler / Refurbisher shall not deal with any other entity not having registration mandated under these rules.	Recycler / Refurbisher	Engaging with entities not registered on the portal	EC regime 2
11 (11)	Central Pollution Control Board shall carry out audit of data, including using information from Goods and Services Tax Network portal, by itself or a designated agency, of the registered entity under these rules. Central Pollution Control Board shall suspend and/or cancel the registration of Producer, and/or impose Environmental Compensation in case of violation of these rules by the registered entity.	Producer, Recycler, and Refurbisher	Non-compliance found in third party audit	(i) EC regime 2 and (ii) action as per E(P) Act, 1986
13 (1)	Environmental Compensation shall also be levied for the following activities based on polluter pays principle, – i. entities carrying out activities without registration as mandated under these rules; ii. providing false information / wilful concealment of material	1.Producer, 2.Recycler, 3.Refurbisher 4.Entities engaged in collection, segregation	False reporting / not registered on the Portal / improper handling of battery waste	(i) EC regime 2 and (ii) Action as per provisions of section 15 of the Environment (Protection) Act, 1986 (iii) Action (increase in EC amount, cancellation of registration, etc.,) as deemed necessary by

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	<p>facts by the entities registered under these rules;</p> <p>iii. submission of forged/manipulated documents by the entities registered under these rules;</p> <p>iv. Entities engaged in collection, segregation, and treatment in respect to not following sound handling of Waste Battery.</p>			the Competent Authority, CPCB
13 (4)	Environmental Compensation shall be levied by Central Pollution Control Board on Producer operating with respect to non-fulfilment of their Extended Producer Responsibility targets, responsibilities and obligations set out in Schedule II of these rules.	Producer	Non-fulfilment of Targets	Based on EC regime 1
13 (5)	Environmental Compensation shall be levied by respective State Pollution Control Board on entities involved in refurbishment or recycling of Waste Battery as well as entities involved in collection, segregation and treatment, operating in their jurisdiction with respect to non-fulfilment of their responsibilities and obligations set out under these rules.	Recycler and Refurbisher	Non-fulfilment of the responsibilities laid out in the Rules	<p>i. Based on EC regime 2</p> <p>ii. Action (increase in EC amount, cancellation of registration, etc.,) as deemed necessary by the Competent Authority, CPCB</p> <p>iii. Penalty as per Section 15 of EPA 1986</p>

Note:

1. Payment of Environmental Compensation shall not absolve Producer of Extended Producer Responsibility obligation set out under these rules.

(i) the unfulfilled Extended Producer Responsibility obligation for a particular year will be carried forward to the next year for a period of three years.

(ii) in case the shortfall of Extended Producer Responsibility obligation is addressed within subsequent years within three years, the Environmental Compensation levied shall be returned to the Producer as given below,

- Within one year of levying of Environmental Compensation: 75 percent return;

- Within two years: 60 percent return;
- Within three years: 40 percent return.

2. After completion of three years after Environmental Compensation getting due, the entire Environmental Compensation amount shall be forfeited, this arrangement shall allow for collection and refurbishment or recycling of Waste Battery by the concerned entities in later years as well.

7.0 EC charges for Delay in EC deposition

The Environmental Compensation Charges and Financial Penalty shall be deposited by the entities which violates the provisions stipulated under BWM Rules, 2022. In case, such entity does not submit the same within the stipulated time frame the amount will be increased as per details given in Table below:

S. No.	EC Amount Deposition Time Period	Environmental Compensation and Financial Penalty Amount
1.	Within one month from the stipulated time period as directed by CPCB/SPCB/PCC.	Original amount with interest @ 12% per annum for number of days delayed after the stipulated date of amount deposition
2.	After one month but within 03 months after the stipulated time period as directed by CPCB/SPCB/PCC.	Original amount with interest @ 24% per annum for number of days delayed after one month of the stipulated date of amount deposition
3.	After 03 months	<ul style="list-style-type: none"> a. Closure of unit/facility b. Seizure of trade documents c. Action as per Section 15 (1) of EPA

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