

EPR for Batteries and Solar in India 2026: Compliance, Costs and Strategy

By Sudarshan Karweer · 25 August 2026 · growthifye.com

A practical 2026 guide to EPR compliance for batteries and solar in India: rules, costs, registries, contracts, risks and strategy.

Extended Producer Responsibility, or EPR, has moved from a compliance side-note to a core commercial issue for India's clean-energy value chain. In 2026, battery manufacturers, importers, EV and stationary storage OEMs, solar module producers, project developers and large C&I buyers all face tighter scrutiny on waste take-back, recycling traceability, annual targets and documentary compliance. The reason is simple: circularity is no longer just an ESG narrative. It now affects bid qualification, lender diligence, procurement terms, balance-sheet provisions, insurance risk and long-term asset strategy.

For Indian market participants, the practical question is not whether EPR matters, but how to structure compliance at the lowest real cost while avoiding regulatory gaps. This is especially relevant as battery volumes from EVs, telecom backup systems and stationary BESS start scaling, while solar module waste planning shifts from a future issue to an active planning requirement for utility-scale and C&I portfolios.

This article focuses on a different angle from pure recycling economics: how EPR actually works as a compliance-and-contracting system in India in 2026, what it costs in practice, where the risks sit, and how producers, developers, offtakers and lenders should respond.

Why EPR is now a board-level issue in India's energy transition

India's renewable-energy and e-mobility buildout has created a parallel obligation: end-of-life accountability. The relevant framework now spans the Battery Waste Management Rules, 2022 and subsequent implementation architecture through CPCB and SPCB systems, alongside the E-Waste (Management) Rules, 2022 for solar PV modules, panels and cells. By 2026, enforcement expectations are materially higher than they were even two years ago.

Three market changes explain why:

- Volumes are rising fast. Utility-scale storage, behind-the-meter batteries, telecom backup systems, EV fleets and rooftop solar are all adding future waste streams.
- Buyers are asking harder questions. Large C&I consumers now increasingly request EPR declarations, recycler tie-ups and take-back plans in RFPs.
- Lenders and insurers are flagging residual liabilities. If waste responsibility is poorly allocated, the cost can land unexpectedly on SPVs, asset owners or importers.

For batteries, the EPR obligation broadly falls on producers, including manufacturers and importers placing batteries in the market. For solar PV equipment, producers under the e-waste regime have registration, collection and recycling obligations linked to the quantities they introduce.

In practice, this means any company selling battery-backed systems, importing battery packs, supplying integrated BESS, or placing PV modules in India needs more than a legal interpretation memo. It needs a documented operating model covering registration, target planning, reverse logistics, authorised recycler contracting, digital evidence and internal governance.

The 2026 regulatory architecture: what market participants should track

The legal text is only the starting point. The real operating environment depends on how portals, certificates, recycler registrations, annual returns and audits function in practice.

For batteries, the Battery Waste Management Rules created a framework where producers have EPR obligations based on battery quantities introduced in the market and end-of-life recovery requirements. The regime covers EV batteries, portable batteries, automotive batteries and industrial batteries, which is highly relevant for stationary energy storage, telecom and C&I backup systems.

For solar, PV modules, panels and cells are covered under India's e-waste framework. Producers are expected to register and meet collection and recycling targets over prescribed timelines. The challenge is that solar equipment has long asset lives, so 2026 compliance planning is as much about future provisioning and traceability as about immediate physical waste flows.

Stakeholders should monitor the following items closely:

- CPCB portal registration status and category mapping
- Annual quantity declarations for products placed in the market
- EPR target calculations and carry-forward treatment, where applicable
- Authorised recycler and refurbisher registrations
- Documentation standards for certificates, manifests and audit trails
- State-level implementation and SPCB inspection practices
- Tender or DISCOM procurement clauses that indirectly require EPR readiness

A recurring mistake in the market is treating EPR as a back-end legal task. In reality, it interacts with sales contracts, INCOTERMS, import documentation, GST invoicing descriptions, serial-number tracking and after-sales service arrangements. If those systems are not aligned, compliance costs rise sharply.

Who bears the obligation in real projects: producers, importers, EPCs, developers and asset owners

One of the biggest commercial disputes in circularity today is not about policy intent but about responsibility allocation.

In theory, the rules place obligations on defined entities such as producers. In practice, modern clean-energy projects involve multiple parties:

- Cell or module manufacturer
- Battery pack assembler or system integrator
- Importer of record
- Indian distributor
- EPC contractor
- Project SPV or asset owner
- O&M provider
- C&I buyer under lease, RESCO or captive structure

Consider a 20 MWh C&I BESS project imported as an integrated containerised system. The producer under the battery rules may be the importer or the brand owner placing the system in the Indian market. But the asset owner will still care about end-of-life removal, transportation, fire-risk handling, salvage value and

documentary proof that waste has been transferred to an authorised entity. If the EPC contract is silent, the owner may inherit an operational burden even where statutory EPR formally sits elsewhere.

Similarly, for rooftop solar or open-access portfolios using imported modules, module suppliers may bear producer obligations under the e-waste rules, but developers and large buyers increasingly seek contractual backstops such as:

- Valid CPCB registration at the time of supply
- Undertaking to meet EPR obligations for supplied quantities
- Indemnity for non-compliance attributable to supplier failure
- End-of-life take-back protocol
- Evidence format for future recycling or disposal records

A well-structured contract matrix matters because physical asset control and legal compliance are not always with the same entity. This distinction is critical for lenders during due diligence.

What EPR compliance costs in 2026 and how to budget for it

EPR cost is often underestimated because companies focus only on recycler fees. The true cost stack is wider and should be budgeted over the asset and product lifecycle.

For batteries, the cost components may include:

- Producer registration and compliance administration
- Data systems for serialisation and market placement records
- Reverse logistics from dispersed users to aggregation points
- Safe packaging, transport and handling for hazardous waste streams
- Recycler processing charges or commercial settlement terms
- Audit, legal and annual return preparation
- Provisions for orphan waste, warranty returns and damaged stock

For solar equipment, current physical waste volumes remain modest relative to the installed base, but planning costs are real. These include producer registration, collection channel setup, future take-back mechanism design, warehousing for damaged modules, and recycler tie-ups.

Indicative 2026 market observations suggest the following practical budgeting ranges, though actual numbers vary by chemistry, geography, scale and contract structure:

- Battery reverse logistics can range from Rs 8/kg to Rs 35/kg depending on distance, packaging class and handling complexity.
- Compliance management and documentation overhead for mid-sized producers can add 0.2% to 0.8% of battery product revenue if systems are not integrated.
- For utility-scale or C&I BESS, end-of-life dismantling and transport planning should be explicitly modelled in lifecycle cost assessments; ignoring this can distort LCOS assumptions.
- For damaged or early-failure solar modules, collection and authorised processing costs can materially exceed salvage value in the absence of scale or local aggregation.

These costs are still small relative to total capex in many projects, but they are not immaterial for margin-sensitive EPC supply, battery leasing or distributed solar businesses.

A useful rule for management teams is to budget EPR in three buckets:

- Statutory compliance cost
- Physical waste-handling cost
- Contract risk cost

The third bucket is often the largest when liabilities are poorly drafted.

Tendering, financing and due diligence: how EPR is entering transactions

In 2026, EPR readiness is increasingly showing up in transaction processes even where not always labelled explicitly.

C&I buyers evaluating solar-plus-storage systems now ask vendors for declarations on battery take-back, recycler arrangements and compliance with Battery Waste Management Rules. Large industrial customers, especially exporters and multinational subsidiaries, are also aligning vendor qualification with internal circularity policies.

Utilities and public tenders are gradually tightening technical and compliance requirements as battery deployment scales. While many bid documents still focus on performance and safety, bidders with weak documentation on waste responsibility may face clarification delays, qualification risk or future contractual friction.

Lenders, meanwhile, are treating circularity as part of environmental and legal diligence. Typical questions now include:

- Who is the statutory producer or importer for supplied equipment?
- Is the entity registered on the relevant CPCB portal?
- Are EPR liabilities reflected in key supply and O&M contracts?
- Is there a funded or at least modelled end-of-life provision?
- What happens if the foreign OEM exits India or changes distributor?
- Are there approved recyclers and emergency handling SOPs in place?

For project finance and structured debt, these questions matter because non-compliance can create cash leakage, legal disputes or residual environmental liabilities near refinancing or asset sale. In portfolios using imported battery systems, the absence of a robust Indian compliance chain can become a material diligence issue.

Strategy options for producers and developers: low-cost compliance versus resilient compliance

Not all EPR strategies are equal. Some minimise immediate visible cost but increase medium-term risk. Others create a stronger operating platform and may support better market access.

Broadly, companies are choosing among four models:

- Minimalist filing approach: register, file returns and rely on ad hoc downstream arrangements.
- Outsourced compliance approach: appoint specialist agencies or PRO-like service providers for registry and recycler coordination.
- Integrated producer model: build internal traceability, standard contracts and preferred recycler networks.

- Portfolio circularity model: combine EPR compliance with asset recovery, refurbishment, second-life and resale strategy.

For low-volume importers, the outsourced route may be adequate if vendor contracts are tight and product flows are simple. For large battery OEMs, BESS integrators and national solar suppliers, a more integrated model is usually more economical over time.

The strategic differentiator in 2026 is traceability. Companies that can map product serial numbers, installation locations, ownership transfers, warranty returns and end-of-life pathways will face lower compliance friction. This is particularly important for:

- Telecom battery fleets

n- C&I BESS across multiple states

- Rooftop solar portfolios with O&M under a central platform
- EV charging or battery-swapping ecosystems

Developers and C&I buyers should also think beyond formal compliance. An effective circularity strategy can improve spare-parts recovery, insurance negotiations, residual-value planning and customer confidence. For example, planned battery augmentation and retirement schedules can be aligned with second-life screening, warranty claims and recycler contracts rather than handled reactively.

Key risks in 2026 and a practical checklist for Indian market participants

The biggest EPR risks this year are operational, not theoretical.

First, there is the documentation risk: products are sold or imported through one entity, while compliance filings sit with another. Second, there is recycler dependency risk: a counterparty may be authorised on paper but weak on actual capacity, downstream traceability or documentation quality. Third, there is contract risk: EPC and supply agreements may omit end-of-life obligations, indemnities or handover procedures. Fourth, there is timing risk: firms wait for waste volumes to accumulate before building systems, making later compliance expensive.

A practical 2026 checklist for companies in the circularity value chain should include:

- Confirm whether your entity is a producer, importer, brand owner, distributor or only a service provider under the relevant rules.
- Validate CPCB registration status and category mapping for each product line.
- Reconcile quantities placed in the market with invoicing, import and dispatch records.
- Build a standard EPR clause set into supply, EPC, O&M and procurement contracts.
- Pre-qualify authorised recyclers and, where relevant, refurbishers using legal and operational criteria.
- Create SOPs for damaged batteries, thermal events, recalled stock and broken PV modules.
- Model lifecycle cost provisions for end-of-life handling in internal project economics.
- Maintain auditable records that can survive lender diligence, acquisition diligence and regulatory review.

For policymakers, the priority remains implementation quality. Market confidence will improve if certificate systems, recycler verification, reporting templates and enforcement signals are consistent. For industry, however, waiting for perfect clarity is not a strategy. The compliance architecture is already strong enough that prudent firms should act now.

India's circularity transition will not be decided only by recycling plants or waste volumes. It will also be decided by who can convert policy into bankable contracts, reliable data and investable operating systems. In batteries and solar, EPR is now part of market access.

If your business is placing batteries or PV equipment in the Indian market, procuring large solar-plus-storage systems, or financing assets with long-tail waste obligations, Growthifye's advisory desk can help structure a practical EPR roadmap covering compliance, contracting, techno-commercial risk and lifecycle cost strategy. Contact us to discuss your project or portfolio.

ABOUT THE AUTHOR

Sudarshan Karweer — Chief Executive Officer, Growthifye

Over 23 years in management consulting — concept to scale — building and scaling new-age digital and energy businesses.

An EY alumnus, Sudarshan leads Growthifye's renewable energy & storage advisory, EPC, transmission engineering and green-financing practices for developers, utilities and C&I consumers across India.

Contact: info@growthifye.com · +91 99676 45323 · growthifye.com

This article is for general information only and does not constitute engineering, financial or legal advice. © Growthifye. Sharing with attribution is welcome.