



A Case Study from India



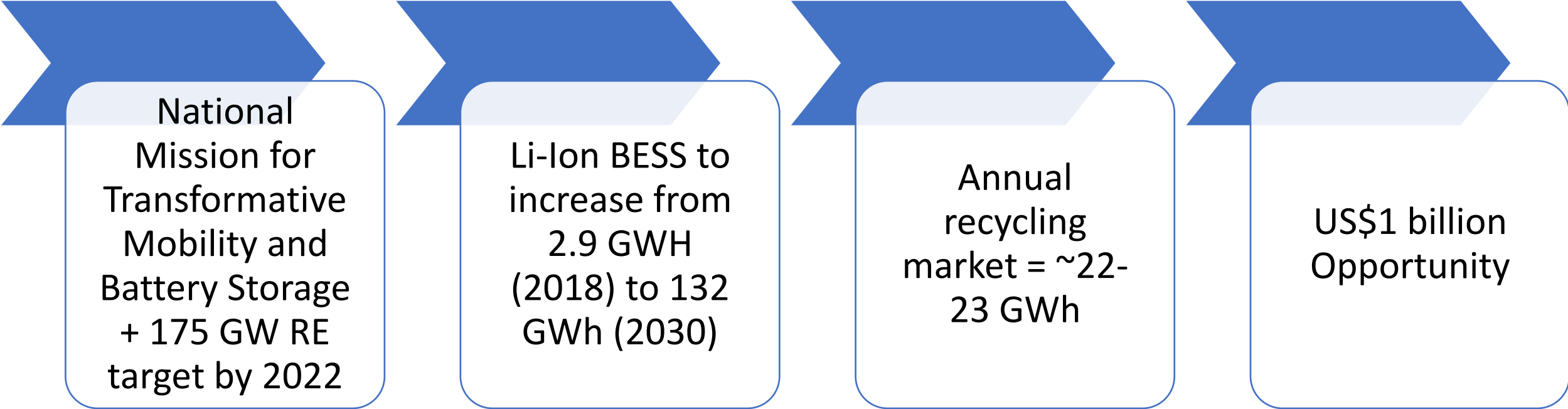
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South Asia

Surbhi Goyal
Senior Energy Specialist

Why India needs to think of recycling?



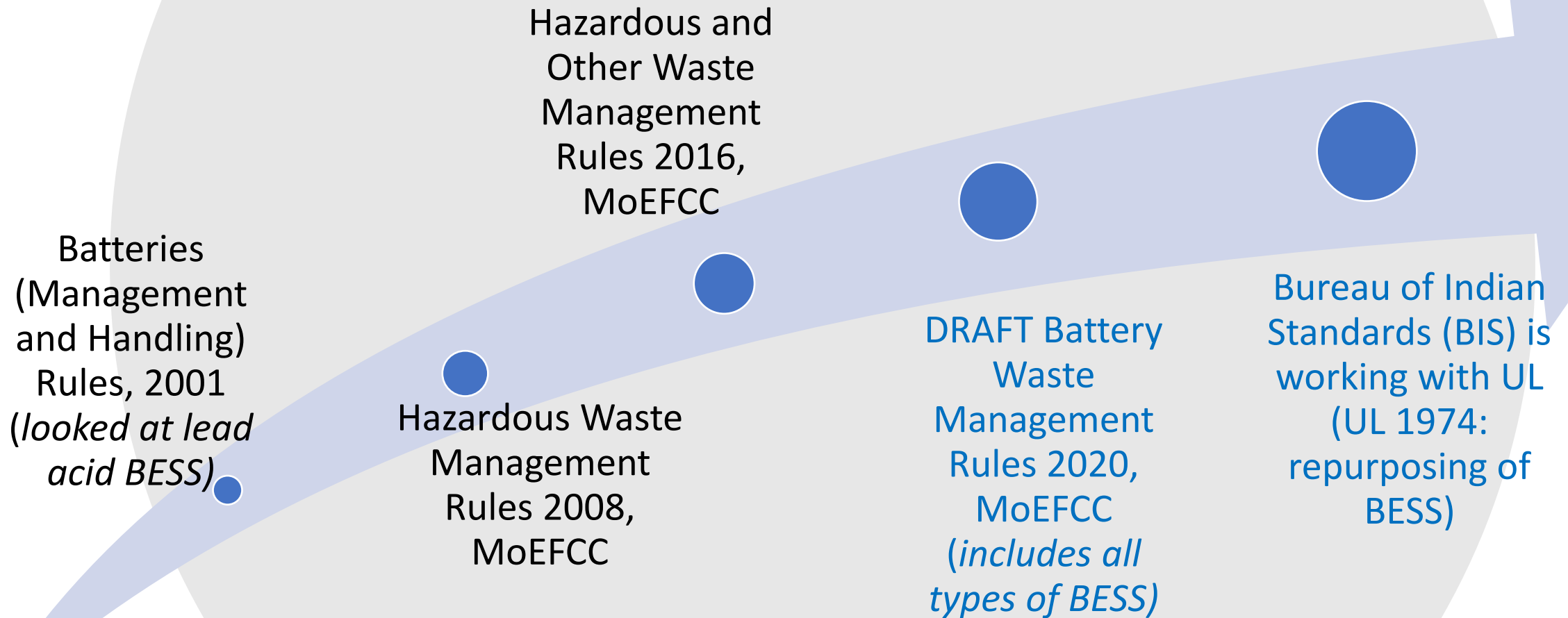
National
Mission for
Transformative
Mobility and
Battery Storage
+ 175 GW RE
target by 2022

Li-Ion BESS to
increase from
2.9 GWh
(2018) to 132
GWh (2030)

Annual
recycling
market = ~22-
23 GWh

US\$1 billion
Opportunity

Evolving landscape of handling BESS in India



DRAFT Battery Waste Management Rules 2020

- Includes primary (non-rechargeable) and secondary (chargeable) batteries
- Mandatory for manufacturers and dealers to:
 - Collect used batteries against the new ones they sell
 - Safe transportation of the collected batteries to the recyclers (registered)
 - Dealers to
 - Register with state pollution control boards (PCB)
 - Issue invoice against buyback of old batteries (to maintain records and track) – to be submitted annually to state PCB
 - Includes targets for Extended Producer Responsibility (EPR)
- Batteries thus collected will be recycled only by the units that have the requisite environmentally sound managed (ESM) plants, to be inspected by MoEFCC

Under World Bank support, SECI launched a tender

- Tender is for 100 MW (AC)/160 MW (DC) solar with 40 MW/120 MWh BESS
- Prime objective of BESS is peak shaving
- 1 life cycle/day
- Degradation of 2% p.a. and no lower than 80% at any point in time
- Expected BESS replacement: 10th year

- The bid documents refer to the last issued guidelines on this – New Hazardous Waste Management Rules 2016, issued by MoEFCC

Recycling and Repurposing: What is required to make it attractive?

- Back-to-back tie ups between manufacturers and recyclers is already taking place (Extraction of rare metals like cobalt, nickel and lithium makes business sense for the manufacturers).
- Unattractive business case for establishing BESS recycling units as of now (but initial volumes for recycling are expected from rejected batteries; consumer electronics; telecom; B2B logistics (e-commerce websites like Amazon) (expected to pick from 2022))
- Introduction of well-defined regulatory and policy guidelines (can include incentives to the recyclers in the initial phase; battery swapping for reuse and reclaiming)
- Effective and prompt implementation of such guidelines/rules
- Wide collection network

Thank You!

Surbhi Goyal
sgoyal3@worldbank.org