



Production Linked Advance Chemistry Cell (ACC)

December 2021

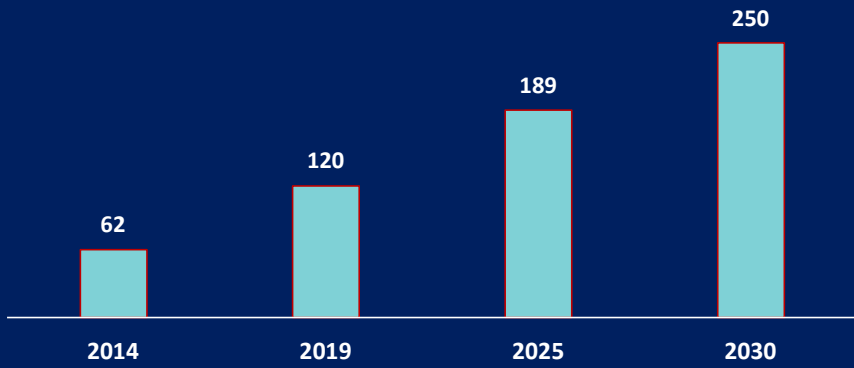
PRODUCTION LINKED INCENTIVE SCHEMES

Advanced Chemistry Cells

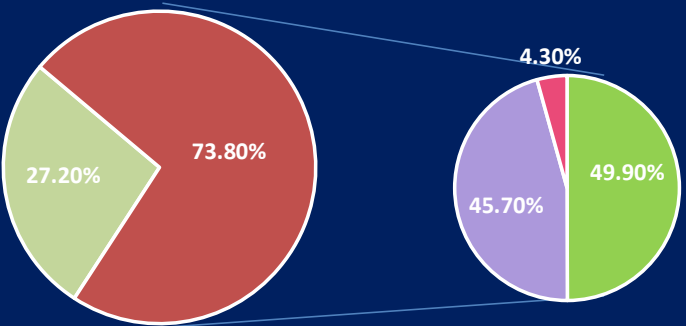


BATTERY MARKET - SUNRISE SECTOR WITH HUGE POTENTIAL

Global Battery Market – Billion USD



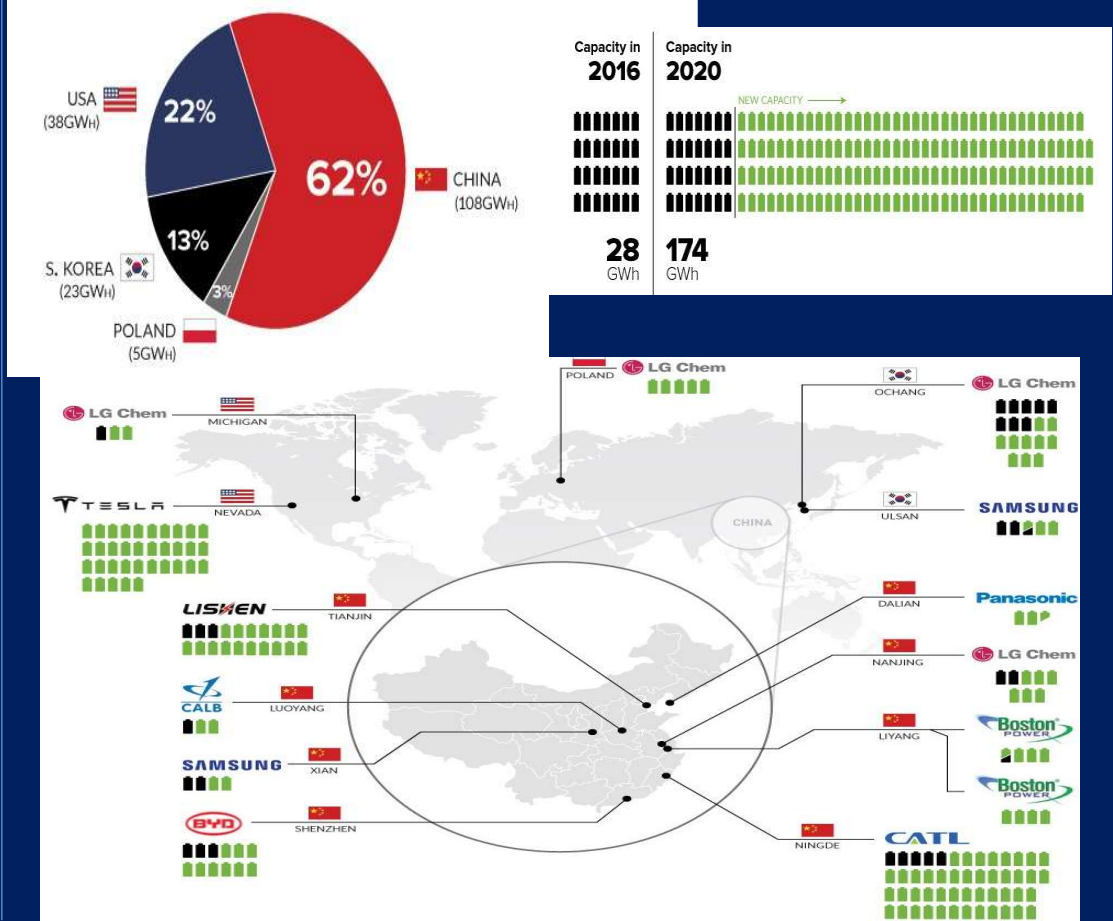
▶ Global Market is expected to grow @~12% CAGR



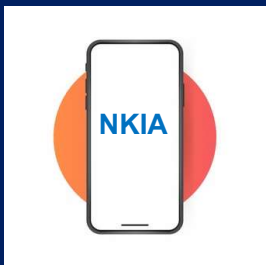
Lithium Ion Batteries are going to dominate 80% of secondary market going forward

■ Primary ■ Secondary ■ Lead Acid ■ Lithium Ion ■ Others

Global Overview of Lithium Ion Battery



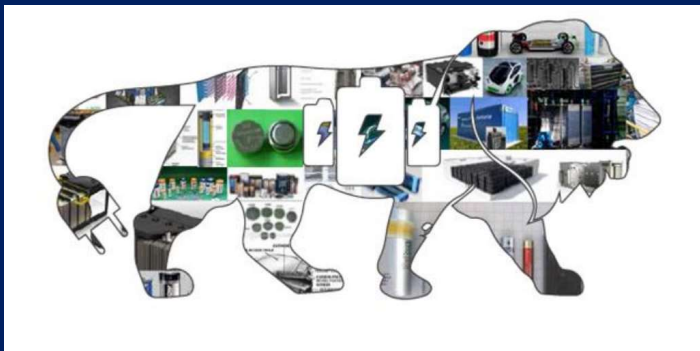
Why Domestic 'Giga'-Scale Battery Manufacturing is Critical for India?



70%

65%

70%



✓ ~ 65%-70% value of solar module, mobile phones and cells, is currently being imported. *Time to Focus Upon Value Capture & Economy of Scale ! -Aatmanirbhar Bharat*

India's Market for Lithium Ion Battery

10 GWh import of Lithium Ion Battery estimated at US\$

3 GWh

1.5 GWh

2 GWh

1 GWh

0.5 GWh

2 GWh



9 GWh

8 GWh

4 GWh



3 GWh



4 GWh



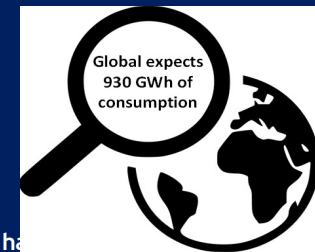
7 GWh

135 GWh of Lithium Ion Battery required valued at US\$ 14 billion



India has 1.5% global market share

2019



India will have 14.5% of global market share

2025

Estimated Emerging Market

0 GWh



75 GWh

0 GWh



25 GWh

ACC PLI PROGRAM AT GLANCE

Press Release - May 12, 2021

The National Programme on Advanced Chemistry Cell (ACC) Battery Storage will reduce import dependency & support the Atmanirbhar Bharat initiative.



- **50 Gwh** Manufacturing facility of ACC
- **5 Gwh** for Niche ACC Technologies



- Transparent Bidding under **QCBS mechanism**
- Minimum **5 Gwh** & Maximum **20 Gwh** for ACC



- **25%** Value addition within **2 years** from AD
- **60%** Value addition within **5 years** from AD

FY	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Total
Subsidy (Rs. Cr)	Setting up of Man. Facilities		2,700	3,800	4,500	4,300	2,800	18,100

PLI SCHEME ADVANCE CHEMISTRY CELL (ACC)

Rationale

- **Boost domestic manufacturing** of batteries and cells
- **Attract large scale investment of 6 Bn USD** from domestic and global investors
- **Promote efficient and high value cell manufacturing for domestic and export**
- **Develop battery manufacturing ecosystem** for both demand and supply

Tenure and timeline

- **Budget outlay** : Rs. 18,100 cr / USD 2.4 Bn.
- **7 years** starting FY 22-23 to FY 28-29
- **Product with minimum 60% domestic value addition within 5 years**
- **Net worth criteria to play significant role**
- **Robust Monitoring Mechanism in place**

Status

- **Notified** by the Ministry of Heavy Industries (MHI) on 12 June 2021
- **Bid Released** on October 22, 2021
- **Bid Due Date** : 31st December 2021
- **LOA** : February, 2022
- **Transparent Selection Mechanism (QCBS)**

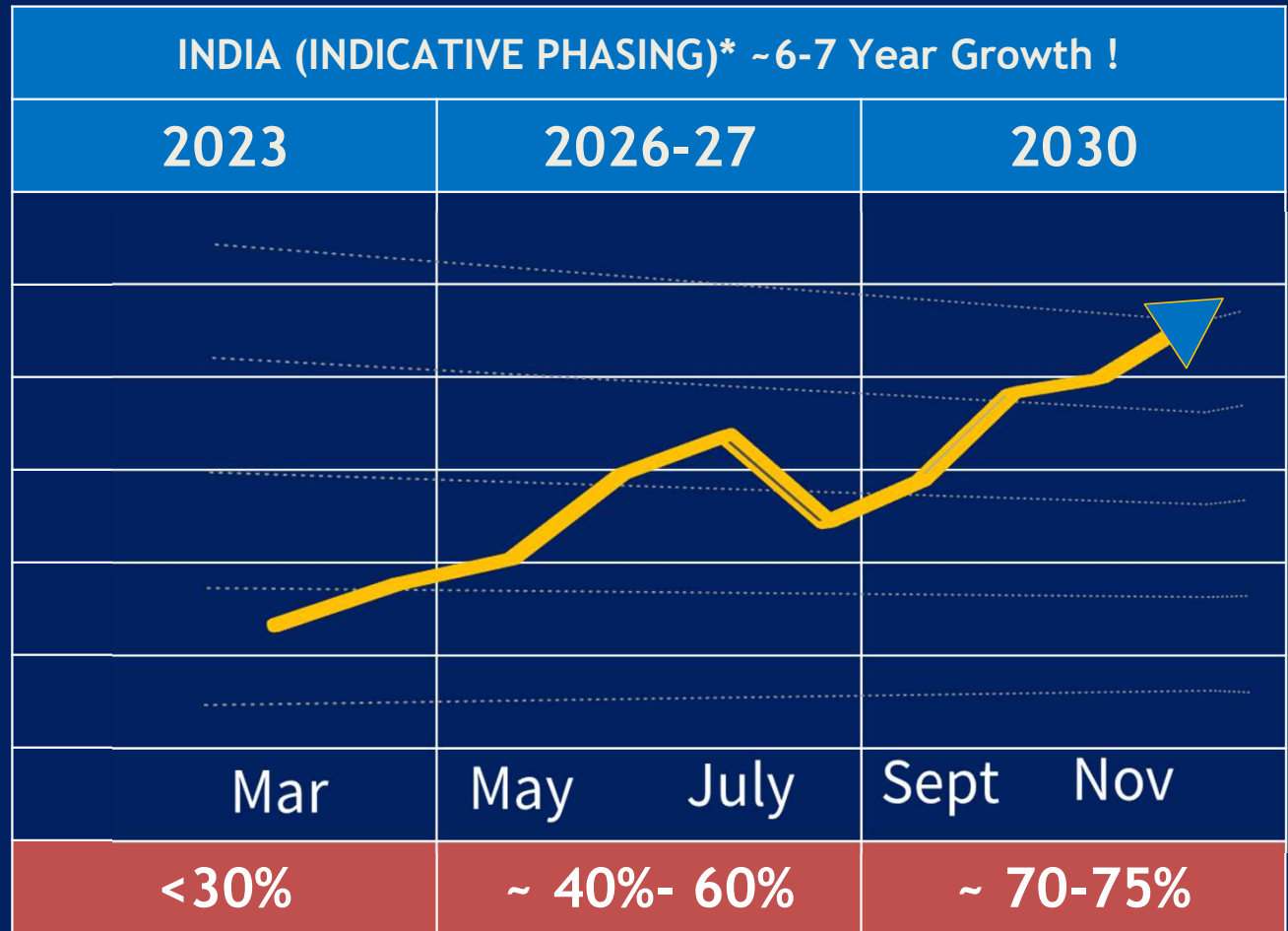
Key Considerations

- **Prospective Players** : Existing battery players, non automotive players new entrants and startups providing level playing field
- **Quarterly payment** to the beneficiary on the sale value of cells/batteries
- **Predefined Energy Density and Cycle Life**
- **Battery manufacturers** are also eligible for incentives under both PLI ACC and PLI Auto

BUILDING

globally competitive battery manufacturing ecosystem in india

Capability for	China/ US
	2019
Raw material processing	✓
Cathode manufacturing	✓
Separator manufacturing	✓
Electrolyte manufacturing	✓
Anode manufacturing	✓
Cell manufacturing	✓
Pack manufacturing	✓
Value chain captured	100%



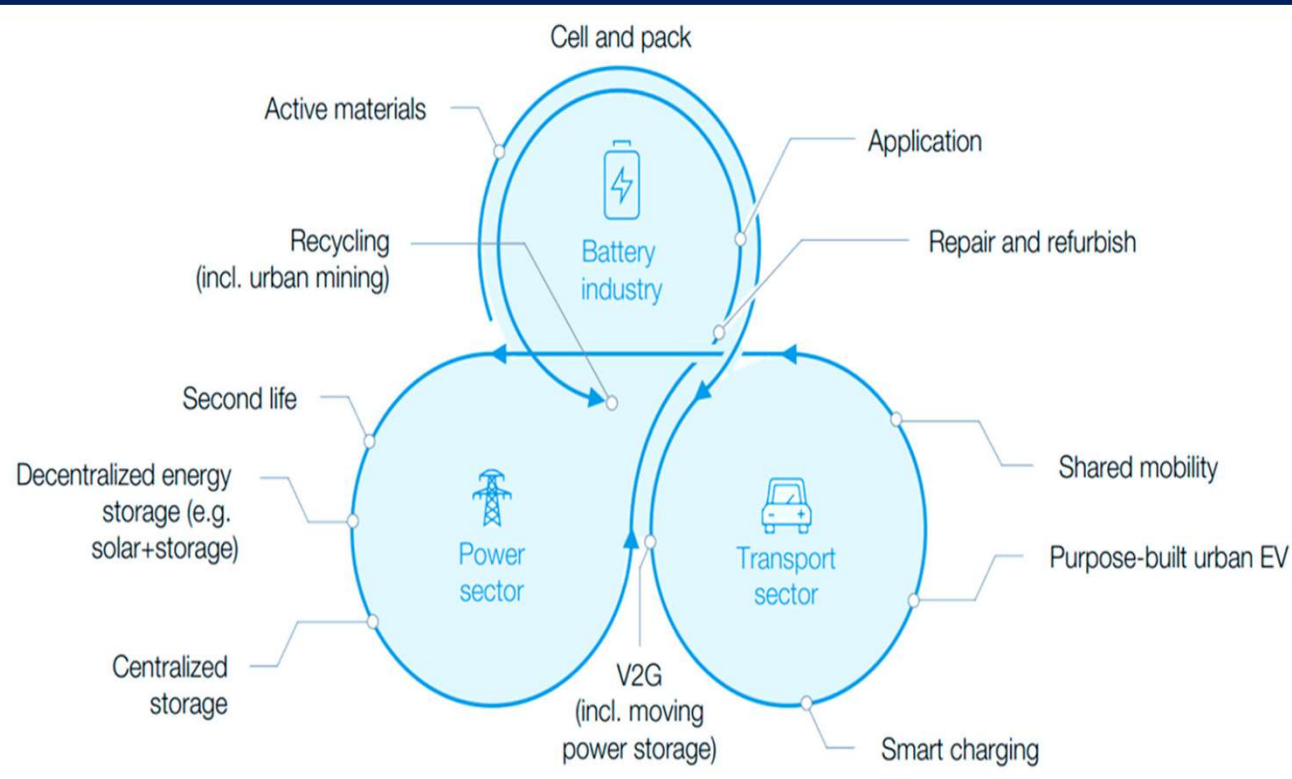
Continuous Government Support is critical in development of global battery manufacturing hubs

NATION	Low Interest Loans* & Guarantees	Capital Subsidies	Support in Land Acquisition	R&D Support	Tax Breaks	Import Protection Duties	Market Development Initiatives^
USA 	✓	✓	✓	✓	✓	✓	✓
Korea 	✓	✓	✓	✓	✓	✓	✓
Germany 	✓	✓	✓	✓	✓	X	✓
India 	X	✓	✓	✓	X	X	≈ (FAME-II SCHEME, Auto PLI)

➤ INCENTIVES TO OBTAIN CELL PRICE PARITY – GLOBAL MARKETS

SOURCE: US DOE, KOREA BATTERY INDUSTRY ASSOCIATION, FEDERAL MINISTRY OF ECONOMIC AFFAIRS AND ENERGY – GERMANY, CHINA ENERGY STORAGE ALLIANCE

SECTOR SYNERGIES AND ECOSYSTEM DEVELOPMENT -INDIA- 2030



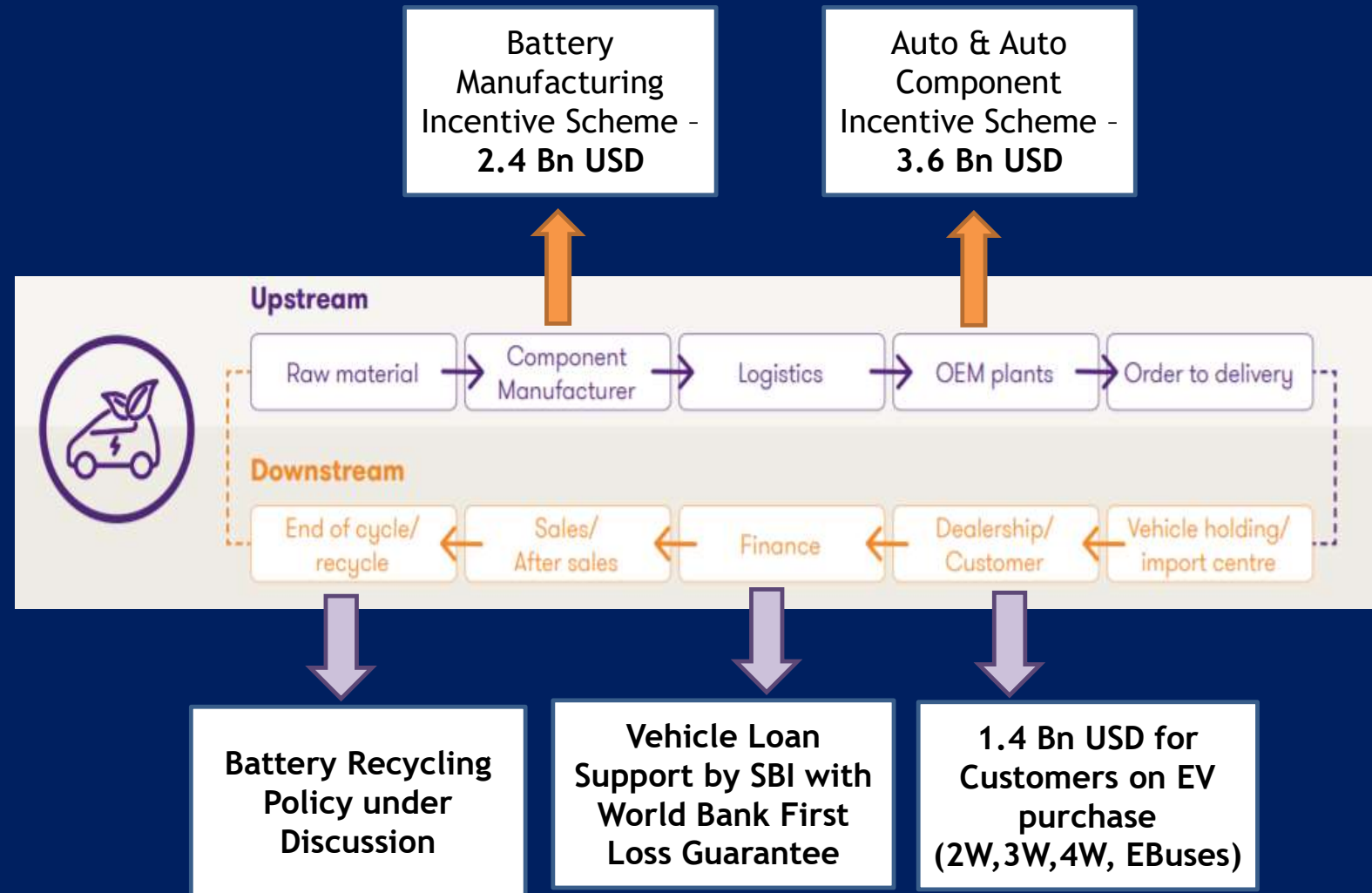
- 100 GW achieved till Aug 2021
- Achieve 450 GW Capacity by 2030

- 45 Bn \$ market of Appliance and Consumer Electronics “ACE” in 2020
- 100 Bn \$ ACE market by 2030

- 30 million EV sales achieved till 2021
- Target 100 million EV sales by 2030

DEVELOPING E-MOBILITY VALUE CHAIN

- For the integration of EV manufacturing, supply chain and infrastructure amongst India, Germany can play a significant role from R&D Support, to EV Investment and E-mobility technologies
- EV companies in India are determined to be substantial exporters of EVs in the coming years accelerating India's e-mobility movement globally.
- EU is pursuing its objective of carbon-neutral mobility by 2050, and achieving climate protection targets agreed in Paris- COP26



Thank You