



## **International Lead Conference**

# **China's Lead Industry Policies: Regulation, Sustainability & Innovation Key Policies, Compliance Requirements, and Industry Impacts (2020–2025)**

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# ILZSG Overview

- Intergovernmental organization set up within the UN system
- Significant level of industry representation
- Established by UN in 1959 in New York
- Moved to London in 1977
- From start of 2006 ILZSG, ICSG & INSG co-located in Lisbon, Portugal



[www.icsg.org](http://www.icsg.org)



ILZSG



[www.insg.org](http://www.insg.org)



# ILZSG Overview – ILZSG Membership

- Membership open to any country involved in lead and/or zinc production, usage, or trade.
- 26 members (>85% of global lead/zinc industry):





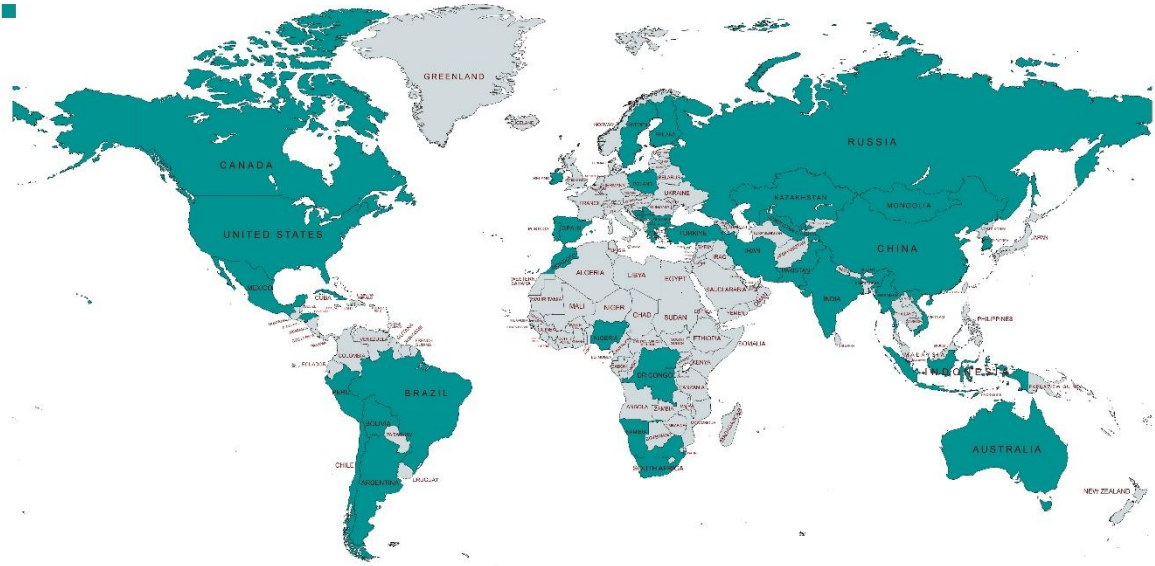
# ILZSG Overview – Work of the Group

- 
- **Promote Market Transparency**
    - Closely monitor production, consumption, prices, stocks, trade flows and market balances
    - Reports and directories
  - **Facilitate Co-operation between Government and Industry**
    - Twice yearly meetings
    - Special conferences/seminars
  - **In-depth Research into Issues of Interest/Concern to Members**
    - Environmental legislation
    - Economic developments
  - **Assisting member governments in policy formulating**



# Countries and Regions with Reported Lead Mining, Refining, and First Use Industries

Countries Mining Lead In 2025



Countries & Regions  
Producing Lead  
Metal in 2025



Countries and Regions  
with Primary Lead Use in  
2025



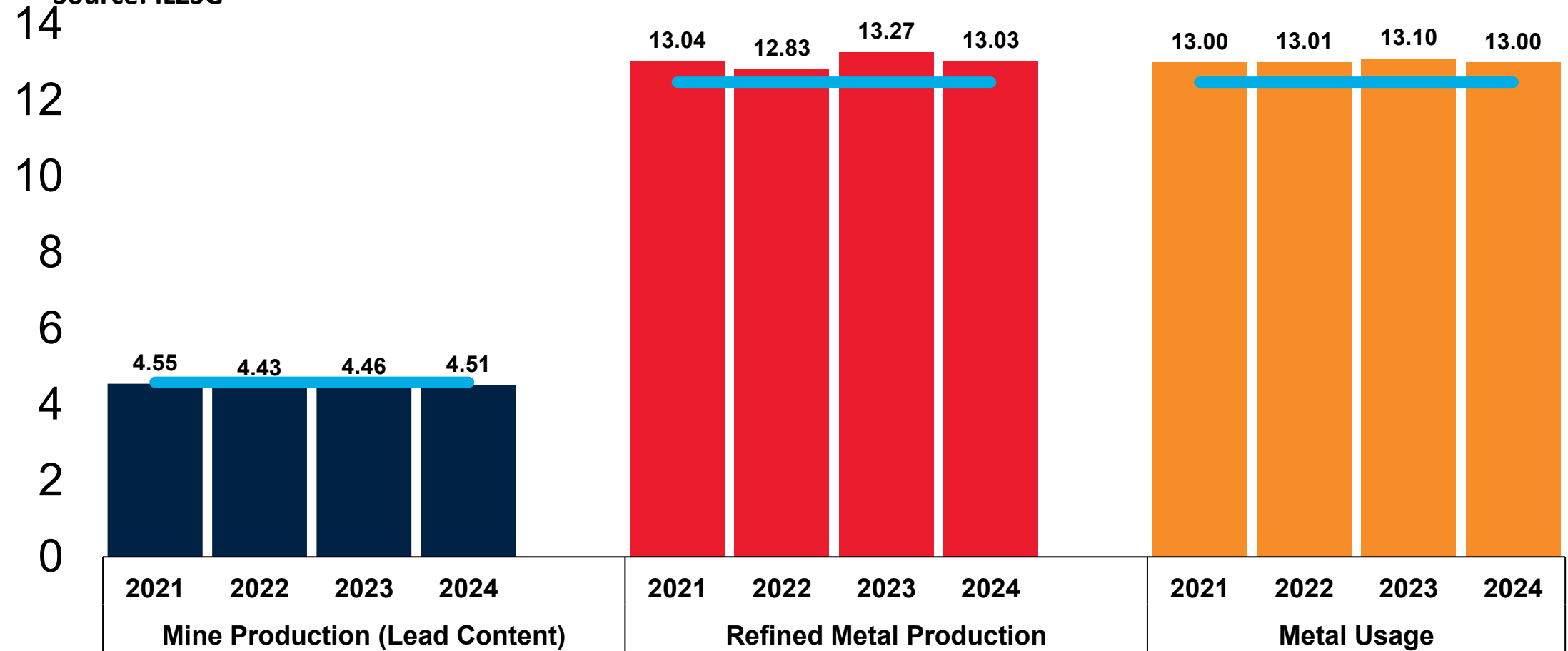


# Production and Usage Trend (Lead)

Million Tonnes

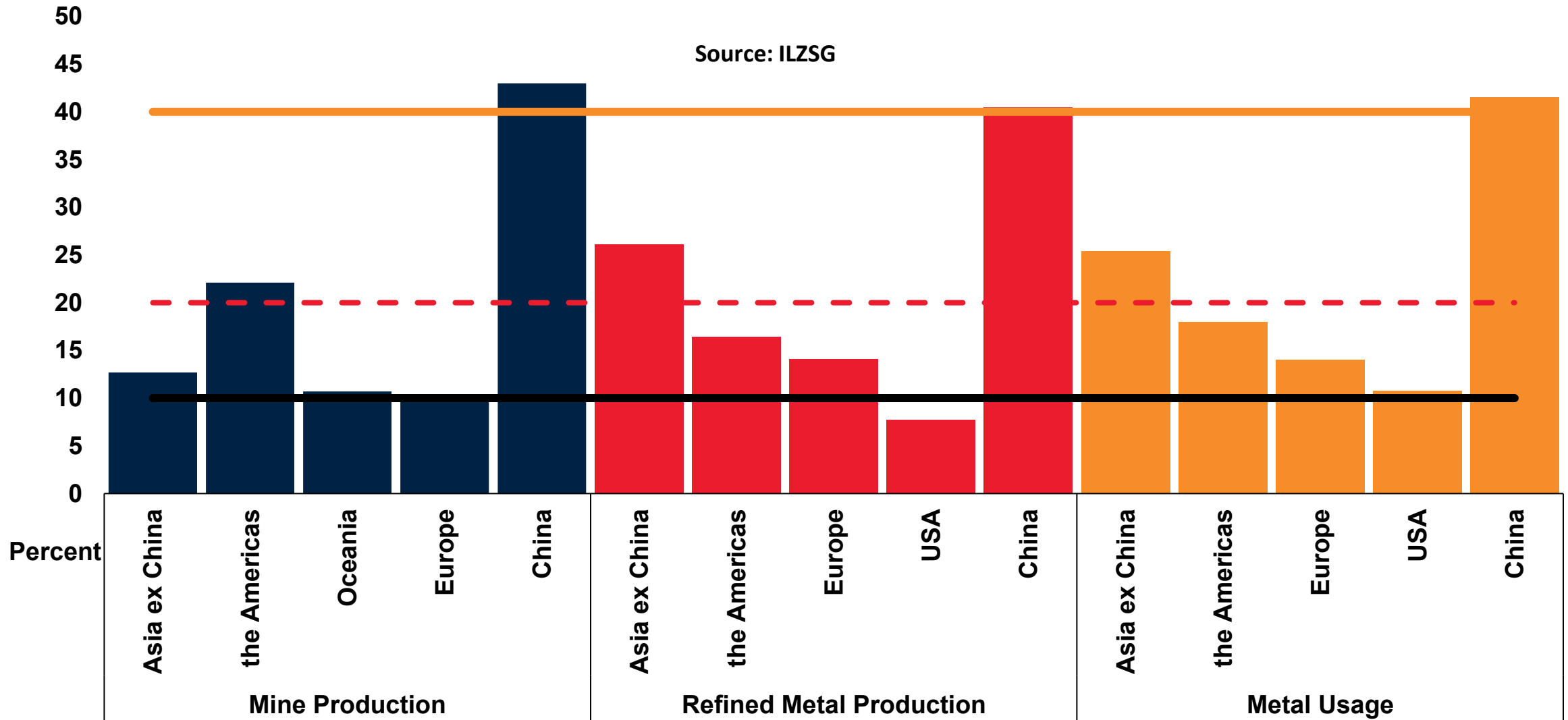
— 2016-2020 average

Source: ILZSG





# Share of Regions in Percentage 2024 (Lead)





## Policy List Related to Lead and Lead-Acid Battery Industry in China

1. 《Environmental Protection Law》 / 《Product Quality Law》 / 《Standardization Law》 /
2. 《Circular Economy Promotion Law》
3. 《Regulation on the Production License of Industrial Products》
4. 《Lead-acid battery product production license implementation rules》
5. 《Industrial structure adjustment guidance catalogue (2013 edition)》
6. 《Lead-acid battery industry entry conditions》
7. 《Lead-acid battery industry standard conditions》
8. 《Clean production standard for lead battery industry》
9. 《Clean production standard for waste lead-acid battery recycling industry》
10. 《Promoting the development norms for lead-acid batteries and recycled lead industry》
11. 《Product catalogue for export tax rebate 》
12. 《Notice on levying tax on batteries and paint》
13. 《Technical norms for application and issuance of pollutant discharge permit》
14. 《Directory of green industry guidance (2019 edition)》
15. 《Producers' responsibility extension scheme》
16. 《Action plan on pollution control of waste lead batteries》
17. 《Pilot work plan on centralized collection and trans-regional transfer system for lead battery manufacturers》
18. 《Mandatory national standard for "Electric Bicycle Safety Technical Specifications》
19. 《Utilization of Used Motive Battery for backup power by China Tower》
20. 《Law of Prevention and Control of Environmental Pollution by Solid-Waste (2020 edition)》
21. 《National Hazardous Waste List (2021)》
22. 《Technical Specification for Pollution Control of Waste Lead Battery Treatment》
23. 《Guidelines for Examination and Licensing of Hazardous Waste Management of Waste Lead Batteries》
24. 《Catalogue for the Guidance of Industrial Structure Adjustment 2024》
25. 《Standard Conditions of Lead and Zinc Industry》
26. 《Pollutant Emission Standards for Lead and Zinc Industry》



# Foundational Policies and Objectives

## Objectives

- **"Dual Carbon" Goals:** Peak carbon by 2030, carbon neutrality by 2060.
- **Circular Economy:** Maximise resource efficiency and recycling.
- **Green Manufacturing:** Reduce emissions, energy use, and pollution.

## Policies

- "14th Five-Year Plan" for Raw Materials Industry (2021)
- *Non-Ferrous Metals Carbon Peak Implementation Plan (2022)*
- *Standard Conditions for Lead and Zinc Industry (2020)*



## Energy & Emission Benchmarks for Lead Production

Parameter	New Projects	Existing Facilities
<b>Comprehensive Energy Consumption</b>	≤600 kg SCE/t	≤650 kg SCE/t
<b>CO<sub>2</sub> Intensity</b>	↓15% by 2025	*SCE = Standard Coal Equivalent
<b>Secondary Lead Share</b>	≥55% by 2025	2020-2024 Average: 48%

### Policies:

14th Five-Year Plan (2021)

Carbon Peak Plan (2022)

14th Five-Year Plan for Raw Materials Industry (2021)

14th Five-Year Plan for Circular Economy Development (2021)



# Industrial Structure Optimization Capacity & Technology Upgrades

- **Scale Requirement:**
  - Primary lead smelting: >50,000 t/year
  - New Recycled lead projects: >50,000 t/year
  - Retrofitting or Expansion of Recycled Lead Projects: >20,000 t/year.
- **Energy Efficiency Standards:**
  - ≥30% of lead smelting & refining capacity to meet "energy efficiency leader" levels by 2025  
Leader: 330 SCE; Benchmark: 420 SCE
- **Outdated Capacity Phase-out:**
  - Ban on <10,000 t/year recycled lead facilities
- **Policies**

Catalogue for the Guidance of Industrial Structure Adjustment 2024

Energy Efficiency Leader and Benchmark levels for Major Industries 2023 Edition



## Circular Economy, Recycling, and Resources Utilization

- 55% of lead supply from recycled sources by 2025.
- Mine extraction rate  $\geq 85\%$ , beneficiation recovery rate  $\geq 80\%$ , comprehensive utilization rate of tailings  $\geq 35\%$  by 2025

Comprehensive Resources Utilisation Requirement	New Lead Smelting Project	Existing Lead Smelting Enterprises
Overall Recovery Rate	$\geq 96.5\%$	$> 95\%$
Crude Lead Smelting Recovery Rate	$> 97\%$	$> 96\%$
Lead Refining Recovery Rate	$> 99\%$	N/A
Overall Sulfur Utilization Rate	$> 95\%$	$> 94\%$
Sulfur Capture Rate	$> 99\%$	$> 96\%$
Water Recycling Utilization Rate	$\geq 95\%$	$> 90\%$

- **Policies:**

Mineral Resources Planning (2021-2025)

Industry Entry Thresholds

14th Five-Year Plan for Circular Economy Development (2021)



# Environmental Compliance

## Pollution Control Mandates:

### •Emissions:

- SO<sub>2</sub> capture ≥99%, dust control with automated monitoring.
- Heavy metals (Hg, As, Cd) reduction in wastewater.

### •Waste Handling:

- 100% solid waste utilisation/harmless treatment.
- Wastewater reuse ≥95%.

### •Policies

- Stricter enforcement under *Revised Solid Waste Law (2020)* and *Hazardous Waste Directory (2021)*.



## Technological Innovation

- Encourages the development and application of new smelting technologies focusing on reducing energy consumption, minimising environmental impact, and enhancing production efficiency.
- Encouraged Processes: Oxygen-enriched short-route smelting
- Policy: Catalogue for the Guidance of Industrial Structure Adjustment 2024





## Fiscal, Taxation, and Regulatory Tools

Policy	Measure	Impact on Recycled Lead Industry
VAT Optimization	3% rate / refunds	15–20% tax reduction for compliant lead-acid battery recyclers
Corporate Income Tax Relief	Revenue from recycled-resource products: 10% deductible from taxable income	
Reverse Invoicing	Recyclers issue invoices to sellers	Solves informal supply chain bottlenecks by Enabling mass procurement from informal collectors
Fair Competition Review	Bans 66 unfair local practices	Prevents local monopolies, promotes market consolidation
Policies: <ul style="list-style-type: none"> <li>• Announcement on Improving VAT Policies for Resource Comprehensive Utilisation</li> <li>• Announcement on "Reverse Invoicing" for Resource Recycling Enterprises Purchasing from Individuals</li> <li>• Fair Competition Review Regulations</li> </ul>		

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# 《Producers' Responsibility Extension Scheme》 《Action Plan on Pollution Control of Waste Lead Batteries》

## Policy Targets

1. LAB producers are obliged to establish a standardised collection system
2. LAB producers are required to collect 70% of their sold products by 2025
3. All the collected waste LABs must be recycled in a safe manner
4. “Sale-Collection Equivalent” Model should be democratised nationwide



# 《Producers' Responsibility Extension Scheme》 《Action Plan on Pollution Control of Waste Lead Batteries》

## Enforcement Body

**A comprehensive legal, economic, and regulatory system to enforce the Plan**

1. Ministry of Ecology and Environment
2. National Development and Reform Commission
3. Ministry of Industry and Information Technology
4. Ministry of Public Security
5. Ministry of Justice
6. Ministry of Finance
7. Ministry of Transport
8. State Taxation Administration
9. State Administration for Market Regulation



# 《Producers' Responsibility Extension Scheme》 《Action Plan on Pollution Control of Waste Lead Batteries》

## Policy Implication

1. Informal players are squeezed out of the market, and the market further consolidates to licensed companies. There are currently around 600 LAB producers in China down from 3000+ of 2011.
2. Relevant compliance costs led to a capital expenditure (capex) and operating expenditure (opex) increase for all stakeholders.
3. To counteract negative impact and uncertainties, primary lead producers and secondary lead producers may also explore new opportunities in LAB sectors, which resulted in severe overcapacity in the LAB sector in China, for instance, the production-to-demand ratio of LABs for electric bicycles has reached as high as 2:1



# 《Mandatory National Standard for "Electric Bicycle Safety Technical Specifications》

## Key Points (GB17761-2024)

1. Speed Limit  $\leq$  25KMs/H or 15.5Miles/H
2. Overall Weight of Plastic Components  $< 5.5\%$
3. **Weight Limit including LAB  $\leq$  63 Kg/unit** (original: 55Kg/unit )
4. Motor Power Limit  $\leq$  400W
5. Nominal Voltage of Battery  $\leq$  48V
6. Mandatory Implementation Date:  
Production: 31 August 2025  
Sales: 30 November 2025



# 《Mandatory National Standard for "Electric Bicycle Safety Technical Specifications》

## China's E-Bike Market

1. Cumulative E-bike Fleet > 430 Million Units, More than half of the fleet are facing replacement in next 5-10 years
2. Around 80-85% of the Total Fleet is powered by Lead-Acid Batteries
3. Annual Sales Volume ≈ 50 Million Units (2024)/ 52 Million Units (2025)
4. Trade-in Policy and Subsidies Stimulated Sales by 5 million Units since September 2024
5. LIB-powered E-bike will increase further, and new alternatives such as sodium-ion battery emerge



# THANK YOU!

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