



INTERNATIONAL LEAD AND ZINC STUDY GROUP

**Distribution:
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**LZ/STAT.24/08
27 August 2024**

ENGLISH ONLY

STATISTICAL AND FORECASTING COMMITTEE

Seventy-ninth Meeting

Lisbon, Portugal

Thursday 26 September 2024

09:00 to 12:00

REPORT ON THE STATISTICAL AND FORECASTING WORK PROGRAM: ACTIVITIES IN 2024 AND PROPOSALS FOR 2025

The principal task of the Statistical and Forecasting Committee is the enhancement of market transparency in the world lead and zinc markets. This is also one of the most important activities of the Group, a view that has been regularly reinforced in feedback received from both member governments and industry advisors. The main tools for the provision of transparency are the publication of the detailed statistical information in the monthly Statistical Bulletin, monthly data spreadsheet and interactive statistical and mine and smelters databases and the twice-yearly publication of comprehensive market forecasts. In recent years considerable time and effort has been invested in upgrading the Group's website and increasing the volume of information available online.

Activities Completed in late 2023 and in 2024

a) Lead and Zinc: End Use Industry Statistical Supplement 2023

Trends in the automotive, battery, steel, construction and chemical industries have a significant impact on the demand for lead and zinc. Even though ILZSG publishes data regarding the principal first uses of lead and zinc it does not publish regular information on the trends in the industries themselves.

A report detailing statistical trends in the main end use sectors for lead and zinc over the past 10 years was published in November 2023. The report also included some general economic data such as trends in industrial production, GDP and population for comparative purposes. This enables users to compare trends in lead and zinc usage with those in their main end use industries, and should help identify sectors and regions with the greatest potential for growth.

This report also expands on work prepared by the Group in 2005 and 2020 and its key findings were summarised by the Group's Manager of Statistical Analysis at the Joint Statistical and Forecasting/Economics and Environment Committee meeting in Lisbon in April 2024.

b) Report on Lead Secondary Production in Selected South East Asian Countries

Latest data suggest that both the production and usage of lead in many South East Asian countries including Bangladesh, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Taiwan (China), Thailand and Vietnam are rising at a rapid rate. This is being supported by high growth rates of GDP and industrial production as well as rapidly increasing numbers of vehicles in use, which has resulted in a rise in the availability of used batteries for recycling. These developments have increased the difficulty of accurately monitoring the volume of secondary lead being produced.

A detailed study on the secondary lead industry of a number of South East Asian countries was prepared by Beijing Antaika Information Development and distributed to members and put to open sale in January 2024.

This study includes:

- a review of the capacity, current output, technology employed, number of employees, contact details and start-up year of all major producers;
- details of new plants either planned or under construction and expansion projects at existing plants;
- an analysis of recent and future trends on the refined lead output and usage

c) Review and Update of Statistical Series

In order to ensure that information contained in the Groups database, monthly Statistical Bulletin and Data Spreadsheet is as accurate and up to date as possible comprehensive reviews of the data are carried out periodically. Any ambiguities and inconsistencies are thoroughly checked and, where necessary, amendments to data series applied.

Such a review was carried out in March 2024 and amendments made to a number of series. This was principally based on data on lead smelting operating capacity included in the Report on Lead Secondary Production in Selected South East Asian Countries and further information received from member countries and their industry advisors. The amendments included:

- Refined lead metal production in the following countries/regions:
 - Albania, Argentina, Lebanon, Malaysia, Myanmar, Pakistan, Philippines, Thailand, Vietnam, Other Africa, Other America, Other Asia
- Refined lead metal usage in the following countries/regions:
 - Argentina, Malaysia, Myanmar, Pakistan, Philippines, Thailand, Vietnam, Other America, Other Asia
- Refined zinc metal usage in the following countries/regions:
 - Other Africa, Other America, Other Asia

d) World Directory of Lead and Zinc Mines 2024

The Committee published a fifteenth edition of the highly regarded ILZSG 'World Directory of Lead and Zinc Mines' in July 2024. As usual, information listed included mine location, first year of production, type of mine, daily mill capacity, annual lead and zinc capacities, address, telephone, email and website details.

e) World Directory Primary and Secondary Zinc Plants 2024

Similarly, a twelfth edition of the Group's "World Directory Primary and Secondary Zinc Plants" was published in July 2024.

f) World Directory Primary and Secondary Lead Plants 2024

The "World Directory of Primary and Secondary Lead Plants" is the most extensive directory compiled by the secretariat due to the large number of secondary lead plants in operation around the world. A thirteenth edition of this directory was published in July 2024.

g) Industry Presentations

The Group's Director of Market Research and Statistics has prepared and presented the following papers at international conferences in recent months:

- "World Lead and Zinc Supply and Demand for 2023-2024" at the 2023 China Lead and Zinc Week and 26th China International Lead and Zinc Conference, held by China Non-ferrous Metals Association and Beijing Antaike Information Company, in Qionghai, China, in November 2023
- "Plans, Projects and Priorities - Attempting to Close the Gap in Global Zinc Mine Supply" at the 2024 International Zinc and Zinc Oxide Conferences, held by the International Zinc Association in Orlando, United States, in February 2024
- "Review of the Current Lead & Zinc Situation and Outlook for 2024" at the National Conference on Galvanizing & Zinc Spraying held by India Lead Zinc Development Association (ILZDA) in Ahmedabad, India, in April 2024
- "Review of the Current Zinc Situation and Outlook for 2024" at the 2024 International Zinc Conference Europe held by the International Zinc Association (IZA) in Krakow, Poland, in May 2024
- "Review of the Current Zinc Situation and Outlook for 2024" at the Intergalva 2024 held by the European General Galvanisers Association (EGGA) in Bruges, Belgium, in June 2024
- "Review of the Current Zinc Situation and Outlook for 2024" at the DCSI Regional Seminar on Excellence in Die Casting - Technology & Markets held by India Lead Zinc Development Association (ILZDA) in Bangalore, in June 2024

h) Contributions to Press Articles

The Group's Director of Market Research and Statistics wrote an article on "The Global Lead Outlook" that was published in the winter 2024 edition of Batteries International magazine.

i) Annual Review of Lead and Zinc Markets

Every year the Committee publishes a detailed review on the main trends and events in the lead and zinc markets over the previous year as soon as sufficient information is available. This year's review, assessing the lead and zinc markets in 2023, was distributed to member governments and the metals press in February.

In addition, the Committee continues to publish regular press releases which comprise a brief summary of the main supply and demand related developments for the year to date.

j) Promotional Activities

In each of the last two years the secretariat prepared and distributed a promotional brochure about ILZSG that included a summary of the Group's main functions, membership structure, new interactive databases and publications. The brochure has been well received and a 2024 version was made available earlier this year.

k) Monitoring and Improvement of Statistical Data and Data Sources

The secretariat regularly checks the figures listed in its databases and where data gaps are identified work is undertaken to obtain the necessary information or develop meaningful estimates as quickly as possible. Throughout the course of the year the secretariat is continuously endeavouring to identify and develop reliable new sources for the lead and zinc production, usage, trade and inventory data it gathers from more than 70 countries around the world.

l) General Requests for Information

The secretariat responds promptly to frequent requests for information on all aspects of the lead and zinc markets. Often this information is provided free of charge in the interest of market transparency; however, in those cases where more time is required to prepare an appropriate response for private companies a charge is usually made.

Ongoing Activities

1. Upgrade of the Mine and Smelter Database System

The database system used to store the Group's data on the mines and smelters currently operating worldwide, as well as the main ongoing and planned projects, is a tailor-made product based on Microsoft's Access software. This system is also used to produce the Group's World Directories and the New Mine and Smelter Projects report on an annual basis and to provide this vast set of information online on the Mine and Smelter Online Database, accessible to members and paying subscribers via the Group's website. The system was developed by a specialist external consultant in 2005 and has performed well over the past eighteen years.

However, it is clear that there have been significant advances in data storage and reporting software capabilities since 2005. The migration of the mine and smelter data into a new Microsoft's SQL database system would be the most practical and cost-effective option to improve data storage safety while allowing both more efficient management of the data and a more flexible reporting framework. The Group has successfully been using this software to store and manage its extensive statistical data and produce the monthly Statistical Bulletin and Data Spreadsheet.

It was therefore agreed at the Group's meetings in October 2023 that the ILZSG mine and smelter database system software would be upgraded to the latest version of Microsoft's SQL and that the finance to complete this work item would be sourced from the Projects Fund, with costs estimated at between €25,000 and €30,000.

Preliminary work has started and the Secretariat aims to complete the selection process of a specialist external consultant prior to end of 2024. The specialist external consultant will perform the detailed professional programming work required to upgrade the Mine and Smelter Database System.

2. Redesign of the World Directories of Lead and Zinc Mines, Primary and Secondary Lead Plants and Primary and Secondary Zinc Plants

The implementation of the new mine and smelter database system will provide an opportunity for the redesign of the Group's World Directories of Lead and Zinc Mines, Primary and Secondary Lead Plants and Primary and Secondary Zinc Plants, which are comprehensively checked and updated on an annual basis. It has not been possible to change the format of these reports in recent years due to constraints imposed by the software previously utilised.

As a consequence, it is intended to upgrade the Directories by providing them with a more modern layout, further increasing the amount of information included for each mine or smelter listed and enhancing the mapping images containing their locations globally.

3. Monthly Statistical Bulletin & Data Spreadsheet

The Group's monthly Statistical Bulletin is circulated to more than 240 individuals in government and industry every month and is generally recognised as providing the foundation for most of the analytical work undertaken on lead and zinc by companies around the world. In view of the

importance of this publication, the Statistical and Forecasting Committee continues to devote a significant amount of time and effort to maintain and further develop the quality of data it contains.

Members and Bulletin subscribers are now able to download an excel spreadsheet that is updated and made available every month on the Group's website, together with each Monthly Bulletin. This spreadsheet includes a summary table containing the most up to date key facts for lead and zinc, and additional tables comprising extended monthly series of mine production, primary and secondary metal production and metal usage, by country, for both metals.

4. Twice Yearly Market Review and Forecasts

The Group's preliminary and revised detailed forecasts for the global lead and zinc markets in 2023 were circulated to member countries in October 2022 and in April 2023 respectively. Summaries was also made available to the world metals press and were widely published and discussed. The Committee will continue to conduct comprehensive six-monthly surveys of the views of both its members and their industry advisers and publish corresponding short-term market forecasts together with a detailed market review.

The response rate from member countries to the forecast questionnaires circulated in August remains at a high level. The information provided by members in the completed questionnaires enables the Committee to prepare forecasts that take into account the opinions of government and industry participants worldwide. As a consequence, the information they contain provides a unique perspective on the outlook for the global lead and zinc markets, attracting widespread interest amongst the metal's community and metals press.

Updated forecasts for 2025 will be published in April next year whilst an initial assessment of the outlook for 2025 will be made available at the meeting of the Statistical and Forecasting Committee in September 2024.

5. Accuracy of Forecasts Report

A report on the accuracy of Study Group forecasts is supplied by the Committee each year (see LZ/STAT.24/07). These reports enable errors in the Group's predictions to be identified and analysed with a view to improving the accuracy of future forecasts. Member countries are asked to take careful note of the information contained in these assessments and to use it to correct any inaccuracies and in particular, repeated patterns of inaccuracy that may occur in the forecasts for their own country.

6. Monthly Press Releases

Since 2008 a monthly press release containing a brief synopsis of the latest monthly global lead and zinc statistics has been circulated to the metals press immediately after the release of most monthly Statistical Bulletins. This service has helped to expand press coverage of the Group's work and increase general awareness of its activities.

7. Improvement of Recycling Statistics

The secretariat continues to provide information that is helpful in determining the quantity of lead and zinc being recycled. In addition, the Group was an active member of the Recycling Project Team (RPT) that comprised the metal Study Groups and a number of industry associations and was focused on ensuring a consistent and co-operative approach regarding the calculation of the recycling rates across different metals and regions as well at looking at ways in which the efficiency with which metals are recycled could be optimised.

The Group has also been cooperating with the International Zinc Association and the Fraunhofer Institute ISI on the development of a zinc stocks and flows model according to the main regions of the world. This analysis aims to estimate the recycling rates of refined zinc metal and is based on the Group's production and stocks data.

8. ILZSG Insights

The ILZSG Insights, introduced by the Group in 2003, are a series of concise papers providing information on topics that may have implications for the lead and zinc industries in ILZSG member countries. It is intended that further Insights covering relevant topics affecting the lead and zinc markets will be published on an ongoing basis.

9. Ongoing Update of Mine and Smelter Databases

Following the launch of New Lead and Zinc Mine and Smelter Interactive Interface for the ILZSG Website it is the intention of the Committee to continually update the Group's databases. This will involve the ongoing monitoring of developments in the lead and zinc mining and smelting sectors and the regular modifying of the information contained in all of the Group's databases which in total contain over individual 1,500 records. The database is then used to produce the Group's world directories of lead and zinc mines, primary and secondary lead plants and primary and secondary zinc plants.

New Activities Planned in 2025

10. Insight Report on the Current Status and Future Potential of Lead and Zinc Supply and Demand in Africa

The recent restart of the 250 thousand tonne per year Kipushi mine in Congo, DRC has been one of the most relevant developments in the supply of zinc concentrates globally so far this year. This new addition will increase zinc mine output in Africa over the next few years, however the continent's overall production, that accounted for less than 4% of the world's total in 2023, is expected to remain limited compared to other regions. This clearly supports a consensus shared by a number of market analysts' that Africa's vast potential in terms of lead and zinc supply remains largely unexplored. Furthermore, with both its population and economy expected to rapidly over the next decade, Africa could also become an increasingly relevant region in terms of the demand for both lead and zinc metal. It is therefore proposed that an insight report assessing the current status and future potential of lead and zinc supply and demand in Africa be prepared by the secretariat.

11. Further development of the ILZSG website

The recently upgraded ILZSG website, which includes a new home page that allows access to the Group's vast online information via clear menus with a more modern appearance, has attracted favourable reviews from a number of member country delegates and other users.

The Secretariat aims to further enhance the scope of information provided by the website and its usability by adding a text loop box to the homepage displaying useful information on the lead and zinc market and also highlighting the Group's recent and near-future work and activities.

12. Further Development of the online Interactive Interfaces for the Statistical and Mine and Smelter Databases

The user-friendly online Statistical Interactive Database was launched in 2012. This online service is accessible via the Group's website and allows members and subscribers to the monthly Bulletin and Data Spreadsheet easy access to more extensive historical production and usage data, LME and producer stock series, price data and detailed trade statistics.

After the successful implementation of the Statistical Interactive Interface, the Committee developed and launched a similar service allowing easy access to the extensive data held in the Group's lead and zinc mine and smelter databases. Information that is available includes company contact details, mine and smelter locations, capacity, technology employed, start-up dates, details of new projects and recent mine and smelter closures and openings. In addition, a mapping function showing the location of operating mines and smelters on Google Maps was also be incorporated into the system.

Since both Interfaces were launched more than a decade ago, it is felt that they would benefit from being upgraded with the aim of providing a more modern appearance, increased scope of information available and enhanced ease of use. The Secretariat aims to initiate a thorough analysis that will ascertain the best design and features to match their users' needs. An overall

cost estimation will be calculated and the necessary budget to complete these upgrades will be put forward for consideration by the members at the Group's meetings in October 2025.

13. World Directory of Lead and Zinc Mines 2025

The Committee intends to publish a sixteenth edition of the highly regarded ILZSG 'World Directory of Lead and Zinc Mines' in 2025.

14. World Directory of Primary and Secondary Zinc Plants 2025

Similarly, a thirteenth edition of the Group's "World Directory of Primary and Secondary Zinc Plants" will be published.

15. World Directory of Primary and Secondary Lead Plants 2025

A fourteenth edition of the Group's "World Directory of Primary and Secondary Lead Plants" will also be prepared and published.

Other Possible Activities Dependent on Funding**16. Report on the Use of Zinc in the Automotive Sector**

End use studies have always been an important component of the Study Group's Work Program. The use of zinc in the automobile sector is an important end use for zinc and a report to provide a detailed analysis of recent trends and developments is now under consideration as it would appear that no recent studies have been published on this topic.

Factors to be considered in this zinc end use study could include:

- historical use of zinc in the automotive sector
- use of zinc in current automobiles
- trends in different countries
- potential for increased usage
- use of competitive materials such as aluminium, magnesium, carbon fibre and plastics.

Depending on interest from member countries further details of this proposed study could be presented at a future meeting of the Group.