

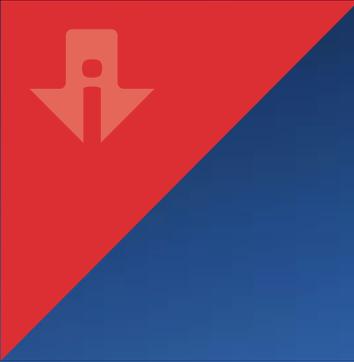


TIN2030

A Vision for Tin

SUMMARY REPORT 28/03/23





Into the future

Looking into the next decade, the tin industry faces unprecedented opportunities and challenges. It is important for us in the tin sector to understand what lies ahead. To build this picture, the International Tin Association (ITA) has consulted widely across the sector to see what the future may hold and what action we should take to secure the future of tin.

Our world is changing fast. With rising geopolitical tensions, climate change urgency and a series of macroeconomic shocks, we expect the next decade will see the emergence of a new divided world, competing for vital resources including tin.

Tin supply chains will need to adapt rapidly to meet these challenges while also working together to manage increased Environmental, Social, and Governance (ESG) expectations and demonstrate how the tin sector is building a better future for everyone.

At the same time, we expect it will become increasingly clear that tin is a vital technology metal. It will glue together all of the electronic and electrical infrastructure needed to digitise the world and reach Net Zero.

Therefore, we firmly believe that the demand for tin will surge.

For all these reasons, we foresee that the next decade will see a wakeup to tin with a new wave of government-supported investment to secure sustainably sourced supply.

As we stand together on the edge of this new era, we at ITA have been engaging with investors, producers, users and ESG experts to begin laying out this vision for tin together. We will use this framework to develop a strategic roadmap that can lead our industry to 2030 and beyond. Thanks to all who have contributed so far, we look forward to continuing the conversation.

Helen Prins
CEO International Tin Association





A DIVIDED, COMPETITIVE WORLD SHIFTING PRIORITIES



MACRO



SUSTAINABILITY



TECHNOLOGY



MARKETS

A WAKE-UP FOR TIN
NEW INVESTMENT
NEW RESOURCES
NEW SMELTING
INCREASED RECYCLING

SECURING A SUSTAINABLE FUTURE
 A TECHNOLOGY REVOLUTION
 MOVING BEYOND ESG AUDITS
 DIGITISATION
 ENERGY TRANSITION
 WORKING TOGETHER ON ESG ISSUES
 SUSTAINABLE TECHNOLOGIES
 SUBSTITUTION

A VISION FOR TIN

2030



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TIN2030 Themes



MACRO

A divided, competitive world



SUSTAINABILITY

Securing a sustainable future



TECHNOLOGY

A technology revolution



MARKETS

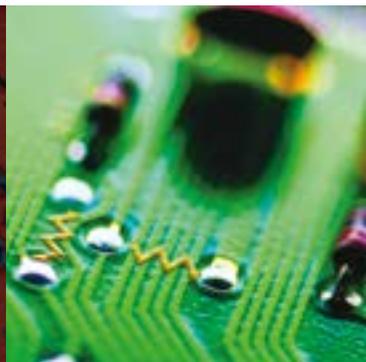
A wakeup to tin





70%

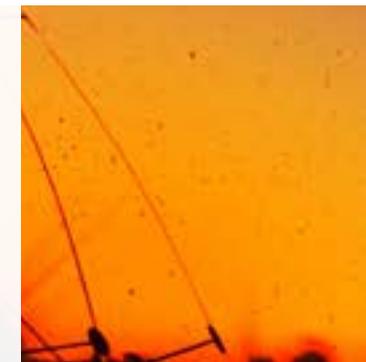
Increase in global trade, driven by high-growth emerging markets



GLOBAL TRADE IS DISLOCATED BY NATIONAL INTERESTS



A decade of competition over increasingly scarce resources will make mineral supply a central focus of government policy.



MACRO A **divided**, competitive world

1.3

Billion more tin-using consumers in middle classes



GEOPOLITICAL TRANSITIONS DRIVE A NEW REGIONALISATION



Decades of relative global stability will be challenged at multiple levels by the emergence of new economic and geopolitical influences.



EMERGED ECONOMIES BECOME NEW CONSUMPTION CENTRES

More than half of the world's tin-using population will be in middle classes by 2030. India has the world's fastest growth rate.



CLIMATE CHANGE A GLOBAL EMERGENCY



Energy transition, green technologies and ESG action are urgent priorities. Solutions need unprecedented global cooperation.



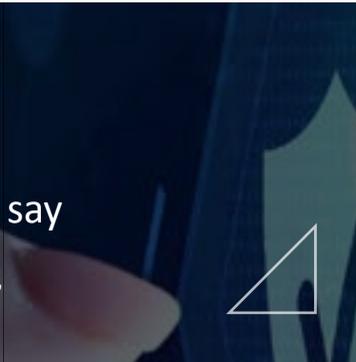
\$5 Trillion

Will be needed annually by 2030 to limit global warming to 1.5°C





Only **29%**
of investors today say
the quality of ESG
reporting is 'good'



**A HOLISTIC APPROACH TO
MANAGING RISKS**

A new momentum for more direct
communication and collaboration
between the upstream and downstream
ends of the supply chain.



SUSTAINABILITY

Securing a **sustainable** future



Up to **40%** ASM
tin supply today, with
risks and opportunities for
sustainable development



**COMPANY VALUE
MEASURED BY ESG
PERFORMANCE**

The market will differentiate companies who
strive beyond minimum requirements,
including to achieve the UN 2030 SDGs.



67% of consumers today
say they are willing to pay
more for sustainable products



**PROGRESSIVE
IMPROVEMENT ASSURED
BY MEANINGFUL STANDARDS**

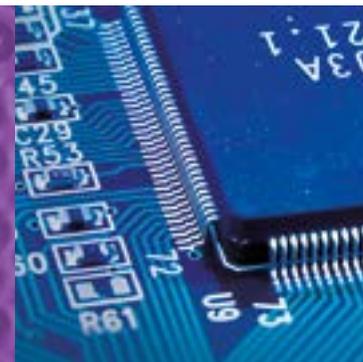
Regular auditing plays an important role but will
be re-balanced by prioritisation of progressive
improvement through supply chain engagement.





TIN SURFS THE DATA WAVE

A fusion of machines, biology and data managed by Artificial Intelligence will merge all aspects of modern life to create an interconnected digital datasphere.



10_x

more data generated than today because of digitisation



TECHNOLOGY

A **technology** revolution



CLIMATE CHANGE BRINGS NEW OPPORTUNITIES FOR TIN

Tin use in solar and other energy technologies will make a vital contribution to a decarbonised future.



GREEN TECHNOLOGIES FOR TIN SUPPLY CHAINS

Tin producers and users will explore new technologies to reduce energy and water use, including new extraction chemistries.



14%

growth rate for tin use in solar ribbon to 55,000 tpa



TIN USE PROVES MOSTLY RESISTANT TO PRICE PRESSURE

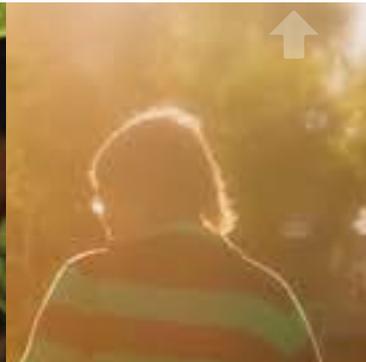
Tin will prove largely robust under increasing substitution pressure. As with all technology metals its unique technical abilities will continue to be mostly unrivalled.





INVESTORS WILL DISCOVER A NEW INTEREST IN TIN

The importance of tin in achieving global goals for climate change and technology transition will finally be realised.



MARKETS A wake-up to tin

\$1 Billion+

investment needed to reach 2030 tin demand



LEGACY PROJECTS RE-EVALUATED

Looming deficits and geopolitical concerns will renew the search for new tin projects.



A DIVERSIFIED TIN SMELTING INDUSTRY

Geopolitical and environmental demands will require tin smelter diversification, particularly in key consumer regions.

SECONDARY TIN SUPPLY WILL BE A PRIORITY

Circular economy trends and industry needs will combine to continue boosting tin recycling.



50,000 tpa more tin needed for the technology supercycle, taking tin use close to 500,000 tpa





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