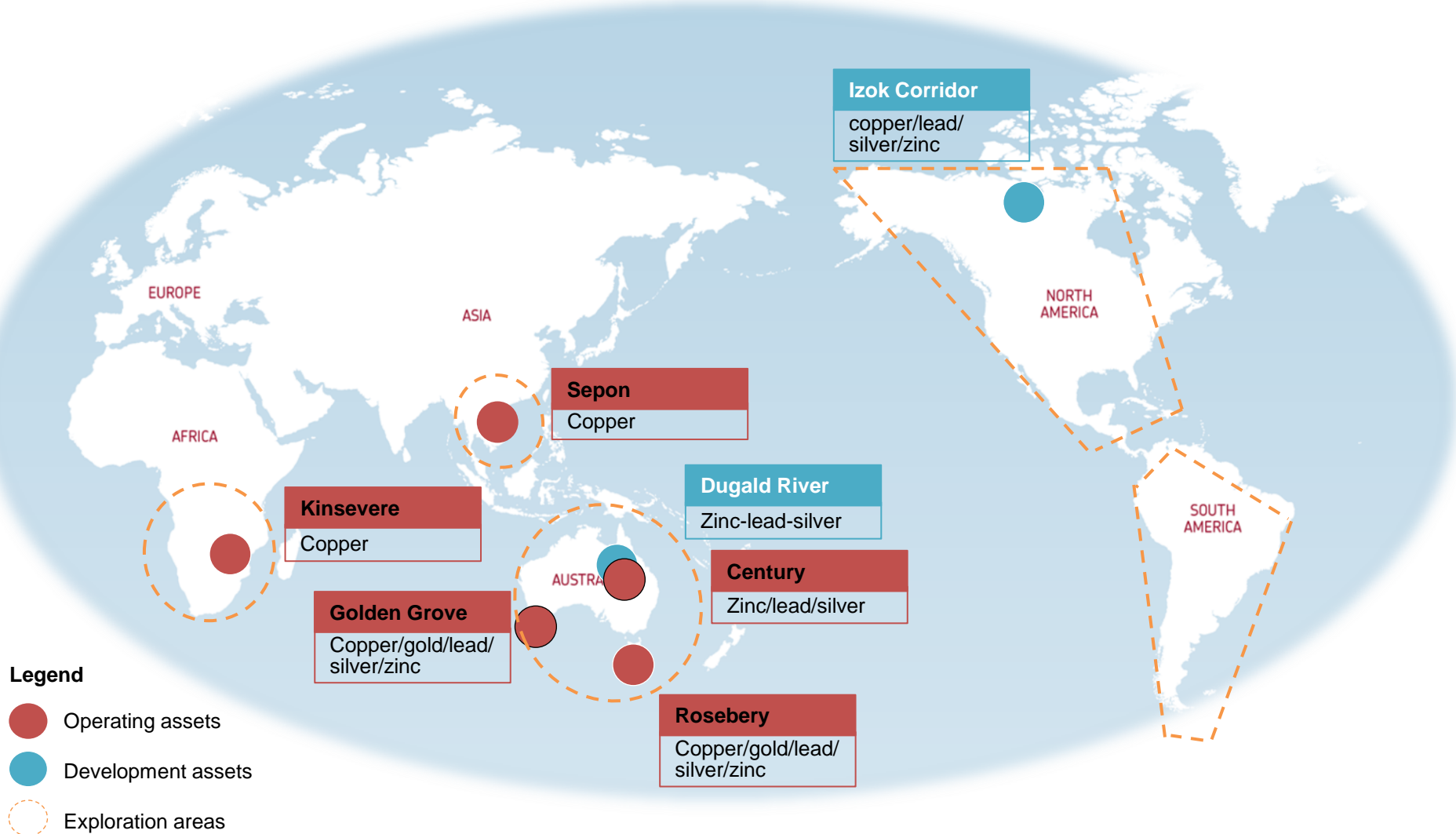




Perspectives of the Zinc Industry

Andrew Michelmore
CEO of MMG Limited
Chairman of International
Zinc Association

MMG Overview



Legend

- Operating assets
- Development assets
- Exploration areas

Note: the Avebury operation is currently on care and maintenance.



About MMG

- Mid-tier global resources company which explores, develops and mines base metal deposits around the world.
- Headquartered in Melbourne, Australia.
- Listed on the Hong Kong Stock Exchange (Stock Code: 1208).
- Experienced international management team.
- Mining operations in Australia, Asia and Africa.
- Primary products include copper, zinc, gold, silver and lead.
- Major shareholder – China Minmetals Corporation.



MMG – Major zinc producer



Century (Queensland, Australia)

- Australia's largest open pit zinc mine
- 480,000 tpa zinc in concentrate
- Closure mid-2015



Golden Grove (Western Australia)

- Underground mine producing zinc, copper and lead plus precious metals concentrates
- 50,000 tpa zinc in concentrate



Rosebery (Tasmania, Australia)

- An underground mine that produces zinc, copper, lead concentrates and gold dore
- 85,000 tpa zinc in concentrate



Dugald River (Queensland, Australia)

- One of the world's largest known high-grade undeveloped zinc-lead-silver deposits
- Underground



Izok Corridor (Nunavut, Canada)

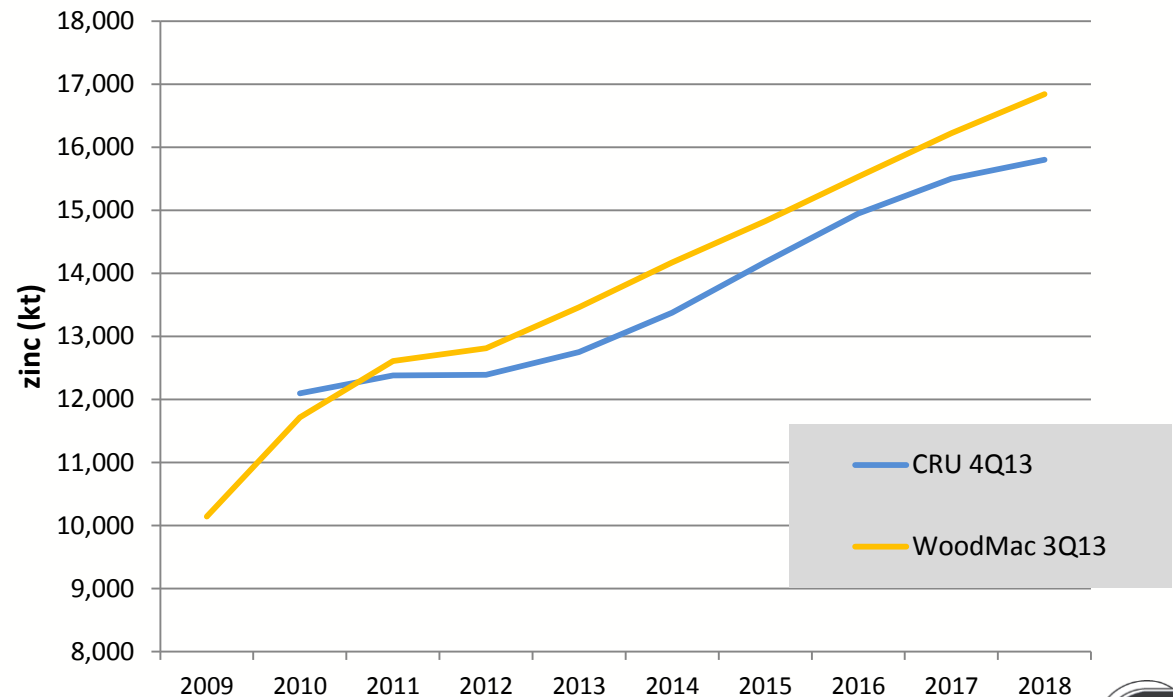
- Zinc-copper-lead-silver deposit
- Underground and open pit



Zinc demand

Market expectations of zinc demand growth are in excess of 5% per annum for the next five years, underpinned by continued growth in the Chinese steel sector and trend towards value added steels.

Global Zinc Demand Forecasts



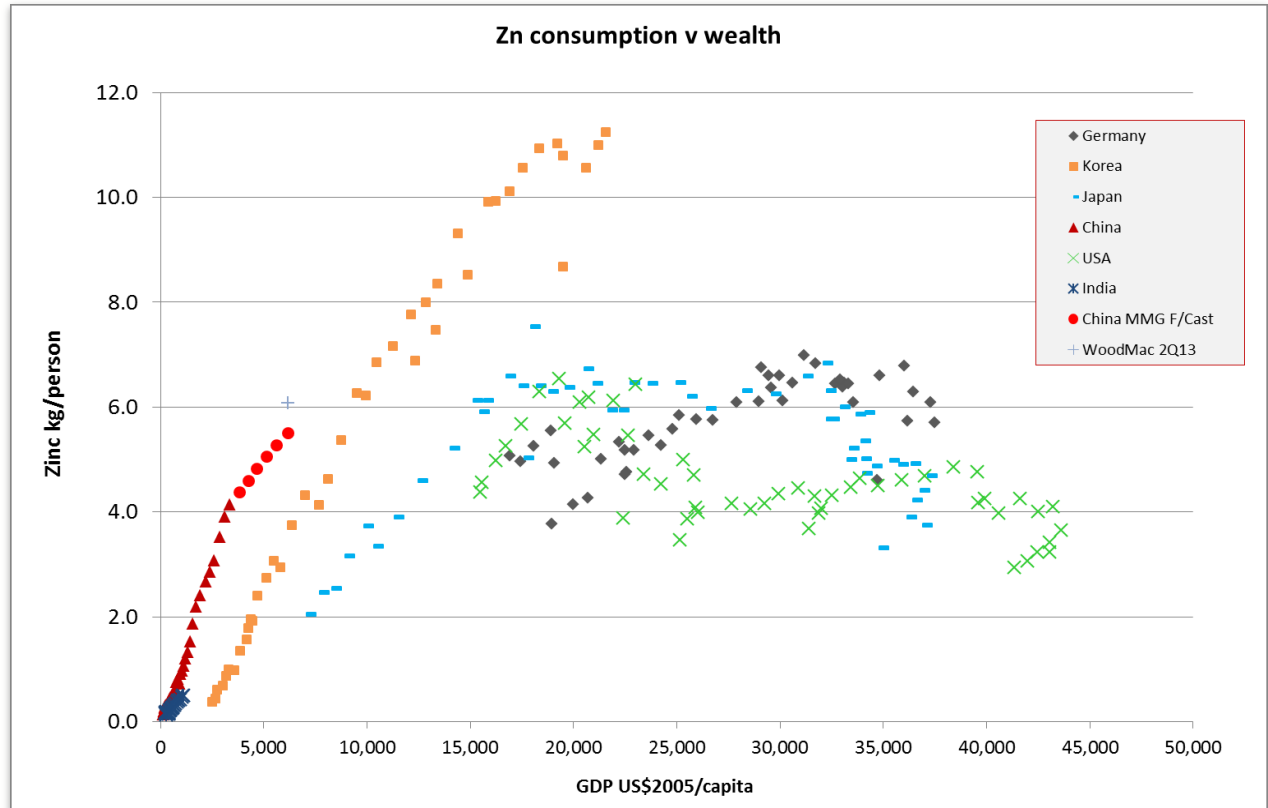
Source: CRU and WoodMackenzie

International Zinc Association





Chinese consumption will grow steadily



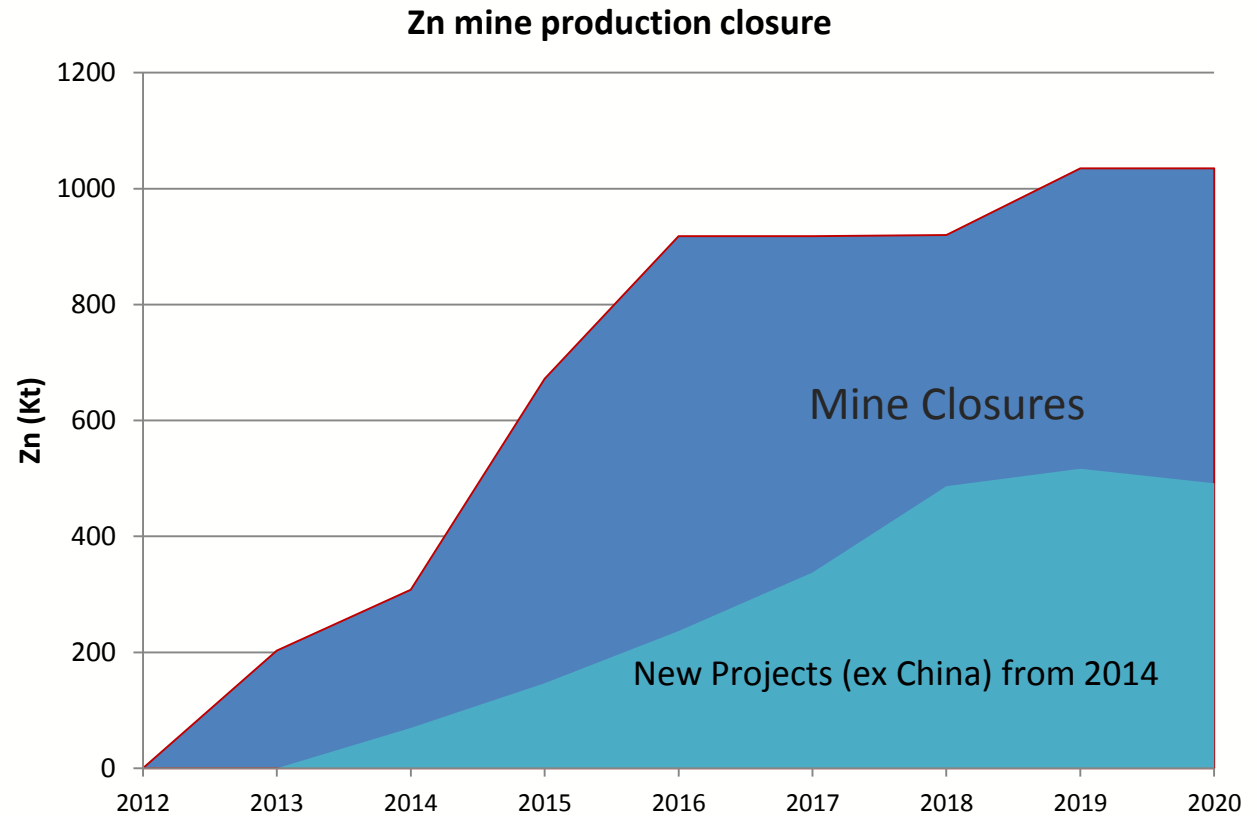
Chinese smelter capability

	2009	2010	2011	2012	2013	2014	2015
China							
Capacity	5900	6668	6760	7068	7198	7585	7910
Capability	4246	5100	5109	4820	5335	6805	7305
Market adjustment				0	0	-900	-850
Production	4246	5100	5109	4820	5335	5905	6455
Annual change %	8.8	20.1	0.2	-5.7	10.7	10.7	9.3
Production/capacity utilisation %	72	76	76	68	74	78	82

Source Wood Mackenzie

- China capacity is forecast to increase
- Chinese smelters have traditionally been under-utilised

Big 4 closure schedule



- The world is entering a period of significant loss of mine capacity



Mine projects (excl. China) that constitute 'new projects' from 2014 – Production profile

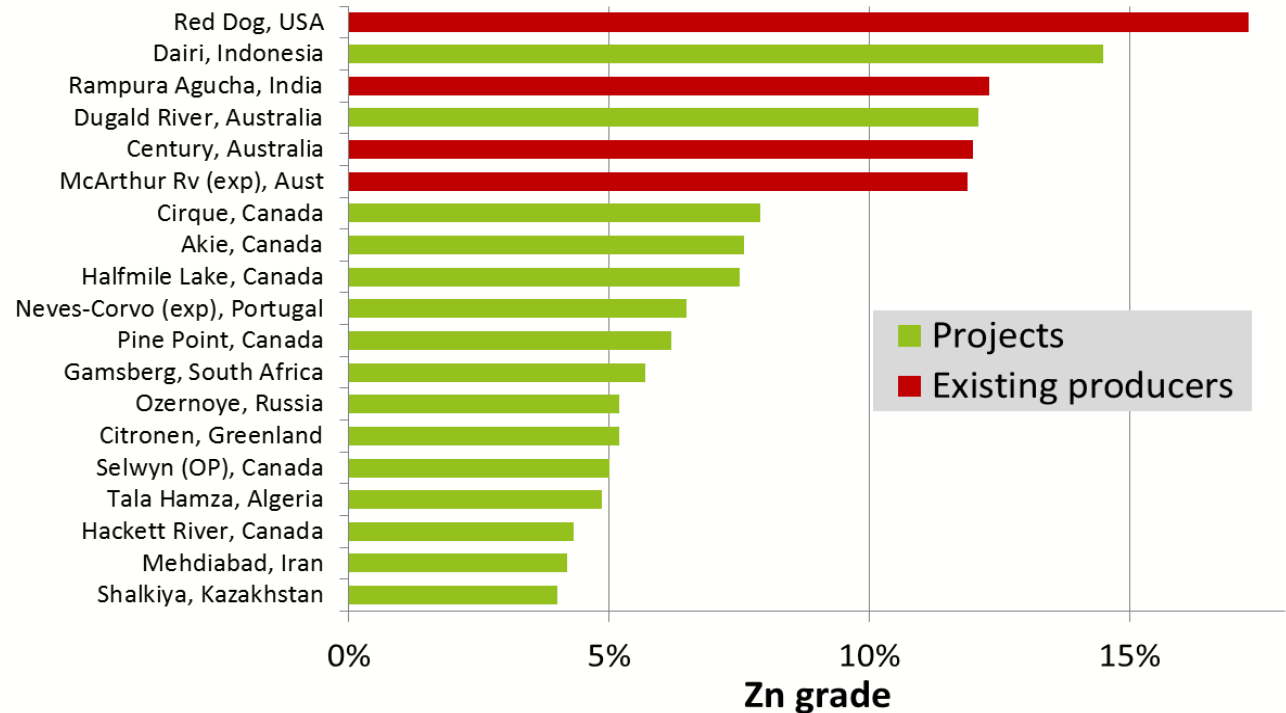
		2014	2015	2016	2017	2018	2019	2020
Alpamarca	Peru	7	8	8	8	8	8	8
Bisha	Eritrea		30	45	85	115	145	120
Boleo	Mexico	5	10	11	11	11	11	11
Dugald River	Australia			50	110	210	210	210
Hera - Bulk Conc	Australia	6	11	11	11	11	11	11
Olympias	Greece			20	20	38	38	38
Pulacayo	Bolivia	3	6	6	6	6	6	6
Rey de Plata	Mexico		24	24	24	24	24	24
Tayahua (Santiago)	Mexico	9	10	14	15	16	16	16
Zawar Mines	India	40	48	48	48	48	48	48
TOTAL		70	147	237	338	487	517	492

- Limited number of new projects
- Projects are relatively small in scale
- Uncertainty remains (e.g. Dugald River)



Project pipeline

Average zinc grades for many projects are below those of existing major producers.



China mine production faces challenges

The scope for Chinese mine production to further expand is challenged by

- Low ore grades
- Relatively small operating scale
- Increasing labour, power and compliance costs
- Higher treatment charges

Summary

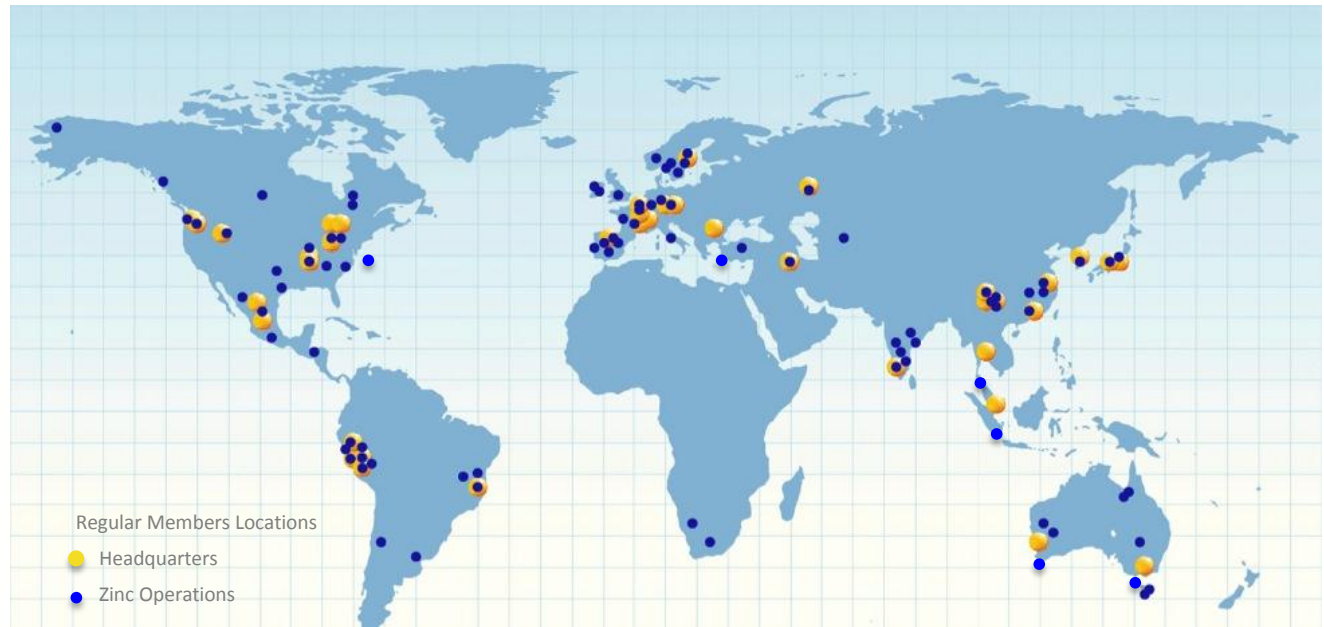
- Zinc demand is increasing.
- Mines are closing.
- Limited new mine capacity to fill the supply gap.
- Market needs to provide the necessary incentive for this investment through a higher price.





International Zinc Association

- Primary goal of IZA is to grow and protect the zinc market through innovative programs in environment & sustainable development, technology & market development, and communications.
- IZA represents 60% of global zinc and 80% of Western production.





Galvanized Autobody Partnership (GAP)

- Automotive market consumes 600,000 TPY of zinc — GAP program aims to ensure that new steels developed for the auto industry can be galvanized.
- Zinc-coated steel has maintained its position as the material of choice for body-in-white applications.
- Aluminum continues to be a big threat.





Galvanized Autobody Partnership (GAP)

Impact to date: 120,000 TPY

- From 2000 to 2013, the average auto content of advanced high-strength steels (AHSS) went from zero to 200 lbs.
- In the absence of GAP, this could have gone to aluminum, plastics or AHSS with non-zinc coatings.
- GAP program deliverables also being transferred to China and India where there is limited use of galvanized steel in automotive.





Continuous Galvanized Rebar

- Rebar market is 200 million TPY of steel, little of which is protected against corrosion by either epoxy or zinc.
- With 10% market penetration, and at zinc's pick-up rate of 2% when galvanized, the potential market is 400,000 TPY of zinc.



Continuous Galvanized Rebar

- IZA has developed a new process for continuously coating zinc to rebar, which places galvanized at a lower price than the market leader, epoxy, but offers superior corrosion protection.
- The original pilot line at New Steel in Xiamen China is operating, and a second line is scheduled for March 2014 in Dubai.
- Strong interest from others.





Zinc Nutrient Initiative (ZNI)

- Goal is to capitalise on the market potential for zinc in fertilizers, estimated to be 585,000 TPY globally.
- Focusing on China and India due to their large markets and zinc-deficient soils.
- Activities include policy change, education and marketing.

Zinc Impact to Date:

- Zinc in China national recommendation (MOA).
- Achieved 165,000 of new tonnes; current annual impact is 75,000 TPY zinc.
- 30 Affiliate Members.
- ZNI also improving global food security, nutritional security and human health.



Health and Corporate Social Responsibility (CSR)

- Zinc deficiency affects 2 billion people worldwide and causes 450,000 deaths annually in children.
- IZA taking global lead in advocating programs aimed at addressing zinc deficiency.
- IZA partnering with UNICEF, CHAI, the Gates Foundation, USAID and UN Foundation.



Health and Corporate Social Responsibility (CSR)

Impact to Date:

- Zinc Saves Kids has had a huge impact in Peru and Nepal.
- IZA and Member Companies now have programs in 8 countries.
- Industry funding for zinc health initiatives now over \$3 million annually.





MMG: 1000 Days Project

- Lao PDR – severe zinc deficiency and stunting in 40% of children.
- Zinc micronutrient distribution to 180,000 children in three provinces in southern Lao PDR.
- Mixed public/private partnership with UNICEF, Lao Ministry of Health, Population Services International and University of British Columbia





Regulatory

- IZA provides global and regional responses to zinc regulatory challenges and on strong program of applied research.
- Programs include REACH and IMO.
- IZA has produced critical information needed for regulatory agencies to base their decisions on sound science.

Impact and Cost Savings:

- Potential market loss due environmental issues is 670,000 tpy.
- Savings of \$20-\$26 Million (1-2 US \$/T of shipped cargo) for IMO.





Environment & Sustainability

- Goal is to protect market access and to position zinc as a material of environmental choice.
- IZA assesses and communicates the sustainability of zinc through:
 - *Zinc for Life* initiative
 - Recycling Program
- Comprehensive environmental research program providing sound scientific information.



Environment & Sustainability

Impact to Date:

- IZA has developed a Sustainability Charter and a set of Guiding Principles for the zinc industry.
- IZA completed first Global Life Cycle Inventory for primary zinc and zinc sheet.
- With Yale University, IZA completed the first global zinc stocks and flow study with data from 50 countries.



Summary

- Significant opportunities for growth in zinc.
- High potential programs at various stages of development.
- Some programs contributing significantly to helping solve world problems and to an improved industry image.

