ESD NEWSLETTER
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environment, health, & sustainability.

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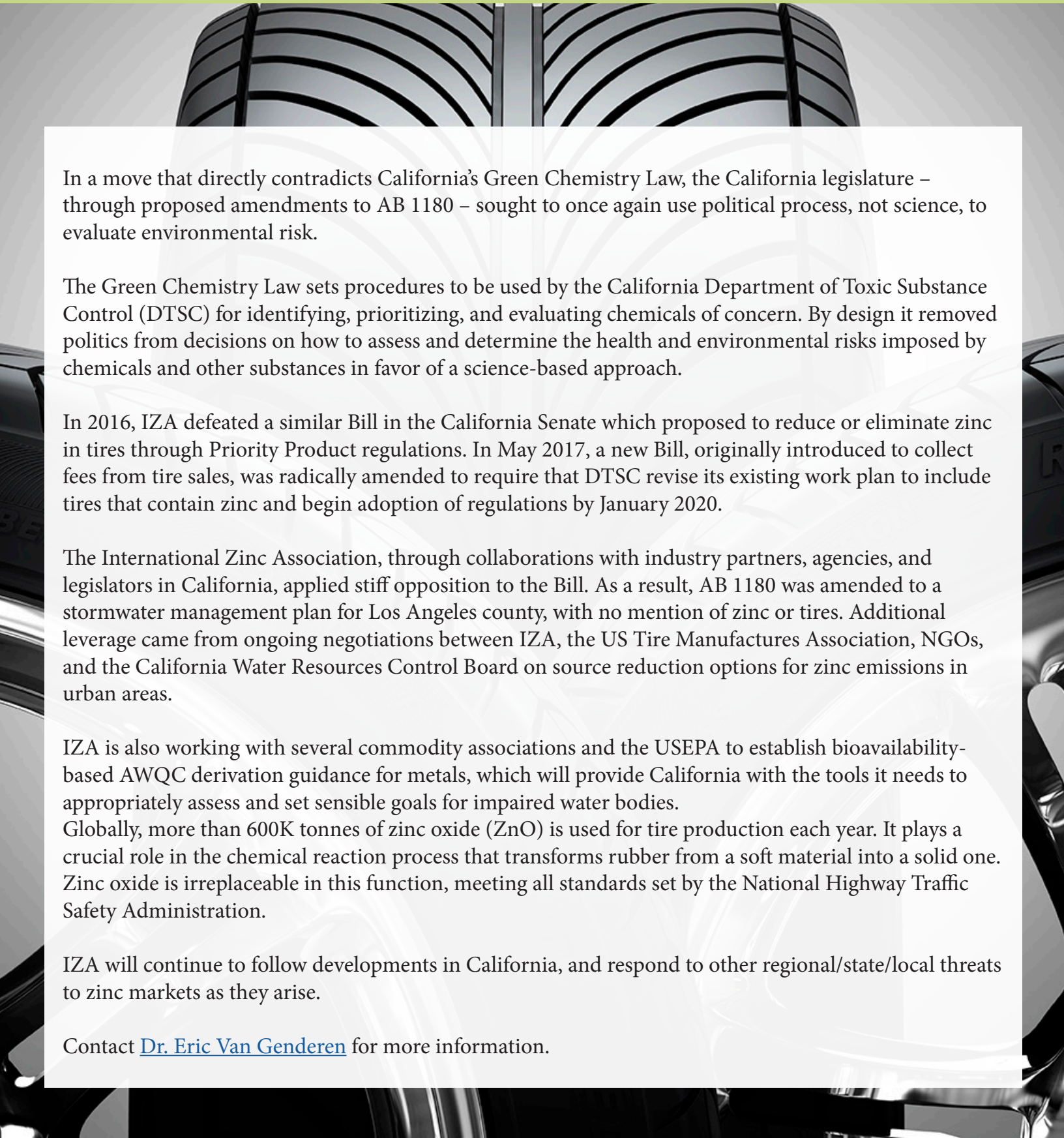
IZA Protects Market for Zinc in Tires



In a move that directly contradicts California's Green Chemistry Law, the California legislature – through proposed amendments to AB 1180 – sought to once again use political process, not science, to evaluate environmental risk.

The Green Chemistry Law sets procedures to be used by the California Department of Toxic Substance Control (DTSC) for identifying, prioritizing, and evaluating chemicals of concern. By design it removed politics from decisions on how to assess and determine the health and environmental risks imposed by chemicals and other substances in favor of a science-based approach.

In 2016, IZA defeated a similar Bill in the California Senate which proposed to reduce or eliminate zinc in tires through Priority Product regulations. In May 2017, a new Bill, originally introduced to collect fees from tire sales, was radically amended to require that DTSC revise its existing work plan to include tires that contain zinc and begin adoption of regulations by January 2020.

The International Zinc Association, through collaborations with industry partners, agencies, and legislators in California, applied stiff opposition to the Bill. As a result, AB 1180 was amended to a stormwater management plan for Los Angeles county, with no mention of zinc or tires. Additional leverage came from ongoing negotiations between IZA, the US Tire Manufactures Association, NGOs, and the California Water Resources Control Board on source reduction options for zinc emissions in urban areas.

IZA is also working with several commodity associations and the USEPA to establish bioavailability-based AWQC derivation guidance for metals, which will provide California with the tools it needs to appropriately assess and set sensible goals for impaired water bodies.
Globally, more than 600K tonnes of zinc oxide (ZnO) is used for tire production each year. It plays a crucial role in the chemical reaction process that transforms rubber from a soft material into a solid one. Zinc oxide is irreplaceable in this function, meeting all standards set by the National Highway Traffic Safety Administration.

IZA will continue to follow developments in California, and respond to other regional/state/local threats to zinc markets as they arise.

Contact Dr. Eric Van Genderen for more information.

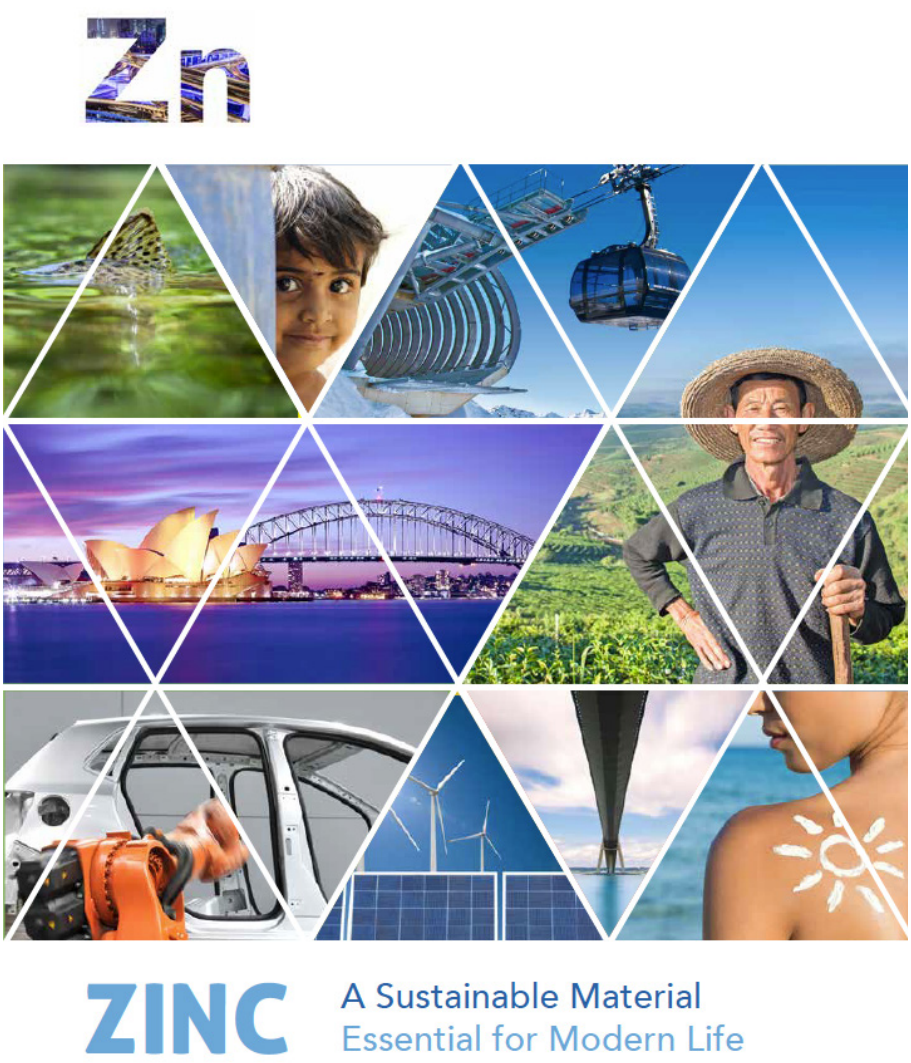
New Sustainability Brochure

IZA has released a new publication which provides insight into the key attributes that make zinc a material of choice for a sustainable society.

Zinc - a sustainable material, essential for modern life.

Zinc is an essential requirement in the world in which we live and work. It protects steel from rust, and supports transportation and building infrastructure. Zinc is essential for all living things and vital to how our bodies function. It helps those in developing countries grow and live healthier lives, and helps plants grow and become more nutritious. And most importantly, zinc is recyclable.

IZA is committed to helping improve the environmental footprint of zinc and zinc products through the development of sound scientific information, and communicating this information to the key markets and stakeholders. This publication is intended to provide insight into the numerous sustainable attributes of zinc and the critical role it plays every day, for every living thing on our planet.



The brochure is available as PDF download from our Sustainability website section.

Aligning Life Cycle Assessment & Metals Risk Assessment

Life Cycle Impact Assessment's (LCIA's) are an important component in the overall Life Cycle Assessment (LCA) process. LCIA's use data on energy and raw material use, along with emissions to water and air, to calculate environmental impacts for categories such as greenhouse gas emissions, eutrophication, and acidification, among others. Unfortunately, the LCIA process does not yet incorporate accepted risk assessment practices, which is of particular importance, when evaluating the impact of metals.

Ecotoxicity

IZA is working with other commodity associations and LCA practitioners to improve databases and methods used to characterize the ecotoxicological impacts of chemicals (USEtox). The metals industry recently submitted high quality ecotoxicity databases, which reflect work performed for REACH compliance, to ensure that USEtox offers users state of the science information. IZA is also working with developers to improve and expand the application of the model.

Human Health

IZA has joined a partnership of commodity associations, human health experts, and the European Commission Joint Research Centre, to integrate appropriate human health methods into the International Reference Life Cycle Data System (ILCD). Of particular note for zinc is the need for considering essentiality and deficiency. Additional improvements will include, exposure to consumers and workers, spatial variability, use of dose-response data, and extrapolation from animal data. The two-year project was initiated this year.

Abiotic Depletion Potential

IZA again in cooperation with other commodity associations and the European Commission Joint Research Centre, is seeking to improve methods used to calculate lifetimes for non-renewable resources. Currently, primary metal production is defined as the annual amount lost from the economic reserve. For metals, however, this assumption presents two significant challenges: 1) economic reserves constantly fluctuate over time and 2) in-use stocks should not be considered "lost" resources. This project will develop a new model for assessing metal lifetimes by recognizing more appropriate reserve pools (e.g., ultimate reserve, recoverable reserve) and loss scenarios (e.g., in use dissipation/dilution). The two-year project was initiated this year.

LCA Database Harmonization

IZA is working with its LCA practitioner thinkstep to incorporate the latest primary zinc LCA data into international LCA databases. Although the zinc LCA data is currently available in various formats and repositories, submission into the popular ecoinvent database has historically been difficult. Of primary concern is the potential for inconsistent results for environmental impacts (LCIA) among models based on different assumptions applied to foreground data (energy grid, transportation, etc.). An agreement with ecoinvent will allow IZA to see the outcome of running the zinc LCA data through their model before committing to formal submission. IZA is again working with other commodity associations and the Swiss Federal Laboratories for Materials Science and Technology (Empa) to update components of the ecoinvent foreground data (tailings impoundments, co-product allocation, etc.) to address the database submission concerns mentioned above.

EU Officials to Withdraw Use of Zinc Oxide in Veterinary Medicinal Products During 5-year Transitional Period

Zinc oxide is commonly used as a medicine to prevent intestinal bacterial infections in post-weaning piglets. In December 2016, the European Medicines Agency (EMA) submitted a scientific opinion paper to the EU Commission proposing that the market authorization of zinc for this use should be withdrawn. This scientific opinion underpinning the proposal appears based on a concern that zinc will accumulate in the soil. IZA strongly challenged their environmental risk assessment on the basis that it doesn't comply with accepted EU methodology. Unfortunately, the process appears to be politically driven by certain Member States and the scientific opinion remains unchanged despite zinc industry objections.

In June 2017, the EU Commission proposed a 5-year transitional period for the phasing out of ZnO as a veterinary medicinal product to which the Standing Committee voted, with Member States agreeing upon this duration. At present, the only real alternative appears to be the use of antibiotics, which farmers (and the EMA themselves) have been trying to limit. A 5-year transitional period was seen as an acceptable minimum by IZA and much longer than the feared immediate withdrawal or a 1-year transitional period.

IZA still rejects the current scientific opinion as an appropriate basis for taking regulatory action. In an attempt to adequately inform the people that will be voting, IZA staff visited several key Member States, advocating the correct science that should have been incorporated in such an assessment.

Contact Dr. Frank Van Assche or Dr. Chris Cooper for more information.

IZA Sponsored Research Highly Cited

The scientific journal *Environmental Toxicology & Chemistry,* which has become a popular outlet for peer-reviewed research related to chemical risk assessment, recently released a ranking of their most highly cited papers published from 2015-2017. Five of the top ten papers in the ranking came from a series of articles on metal mixtures. In fact, all five of the studies were designed, funded, and coordinated by the Ecotoxicity Technical Advisory Panel (ETAP) - a multi-metal group comprised of 10 commodity associations and producing companies. IZA was a founding member of ETAP and contributed to the proactive development of methods for metal mixture risk assessment.

Contact Dr. Eric Van Genderen for more information

Update on Zinc Saves Kids in Support of UNICEF Program in Mexico

In August 2016, the International Zinc Association (IZA), Peñoles, and Zinc Naciónal, signed an agreement with UNICEF Mexico to aid in reducing the duration and severity of acute diarrheal diseases and respiratory infections by improving the zinc nutritional status of children 6 years and younger in Mexico.

This alliance was formed as part of the "Zinc Saves Kids" initiative that UNICEF and IZA launched globally in 2010. The program initially targeted children in Nepal and Peru but the success of those efforts, along with increases commitment from the zinc industry, have resulted in an expansion of zinc-supplementation programs globally.

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The initiative's focus was on a clinical trial that raised awareness with doctors and healthcare providers on the importance of zinc in treating diseases, training for families and caregivers on the best methods for administering zinc to young children, and a proposal to amend to the official guidelines for the treatment of acute diarrheal and respiratory diseases.

Since the launch of the agreement, UNICEF has been coordinating contact between Liomont – a pharmaceutical company that engages in developing, producing, and marketing pharmaceuticals. The zinc supplements and placebos will be delivered in July 2017 to the Instituto Nacional de Salud. The trial will commence in August 2017, with an initial administration period of up to six months and an observation phase of three months.

Additionally, a positive zinc-nutrition campaign began airing late in 2016 on new episodes of the children's educational television show, Sesame Street. A 12-month impact evaluation was launched in June 2017 and will last for 12 months. Nutritional materials will be also be distributed in healthcare centers for a 12-month period, and the campaign directed at families and health workers will commence at the beginning of 2018.

Please contact Dr. Andrew Green for more information.

International Zinc Association
Zinc...essential for life

PEÑOLES ®

unicef
para cada niño

ZN
ZINC NACIONAL

IZA Working to Truly Harmonize GHS Classifications for Zinc Compounds

Due to growing implementation of chemical management schemes across the globe, inconsistent classifications for several zinc compounds have created a mosaic of regulations across jurisdictions. For example, the Japanese Ministry of Health, Labour and Welfare (MHLW) recently classified zinc oxide and zinc sulfate as Reproductive Toxicants (Category 2) under UN-GHS procedures. However, this classification was significantly different from those by other jurisdictions (e.g. EU: Not Classified for repro), also derived under UN-GHS ruling. The consequences of such an outcome are threefold:

- International market access challenges associated with different classifications;
- Migration of inappropriate GHS classifications into developing economies; and
- Health Hazard claims on consumer products are prohibitive.

Following an in-depth assessment in Japan of stakeholder awareness (issue and consequences) and potential mechanisms for reclassification, it was determined that precedence for using a classification schedule developed by an independent expert panel could be used in place of the Ministry's conclusion.

Scientifically, zinc is a data-rich material with strong arguments against several Health classifications, using the UN-GHS guidance and principles of "read-across". In addition, an approach for harmonized classifications must recognize the diverse political and cultural influences that will motivate international chemicals management frameworks. As such, IZA is working with other commodity associations facing similar challenges to establish a "reference" classification scheme for metal compounds that can be used to address existing classification inconsistencies and proactively advocate for harmonized approaches in developing economies.

Contact Dr. Eric Van Genderen for more information.

Update on Water Framework Directive Priority Substances Activities

Over the past two years, IZA has been closely interacting with experts from EU member states, institutions and the Commission in the process of the 2nd revision of priority substances, identified under the EU Water Framework Directive (WFD). During the previous revision, zinc and zinc compounds had been scrutinized extensively, but were not prioritized (2012). At the start of the current process, zinc was again put on the table for review. As such, zinc was part of a broad assessment on many substances made by the EU Joint Research Institute in Ispra, Italy. After application of a new, advanced risk assessment methodology, zinc and zinc compounds came out as showing "low risk" for the aquatic environment. As a result, zinc was not further discussed, but several "high risk" substances were shortlisted for further case development.

The prioritization process has been parked for the moment, while awaiting the revision of the WFD in 2019. In this revision, new ideas for water assessment and management will be considered. IZA, together with other metal commodity associations under coordination of Eurometaux, has initiated discussions on the proposed scientific concepts with the industry-coordinated Ecotoxicity Technical Advisory Panel (ETAP). The purpose is to get advice from ETAP on the application and possible consequences of the new concepts for metals.

IZA continues to closely follow the WFD processes through participation in the relevant Commission working groups that are active in the different aspects of the discussion.

Please contact Dr. Chris Cooper or Dr. Frank Van Assche for more information.

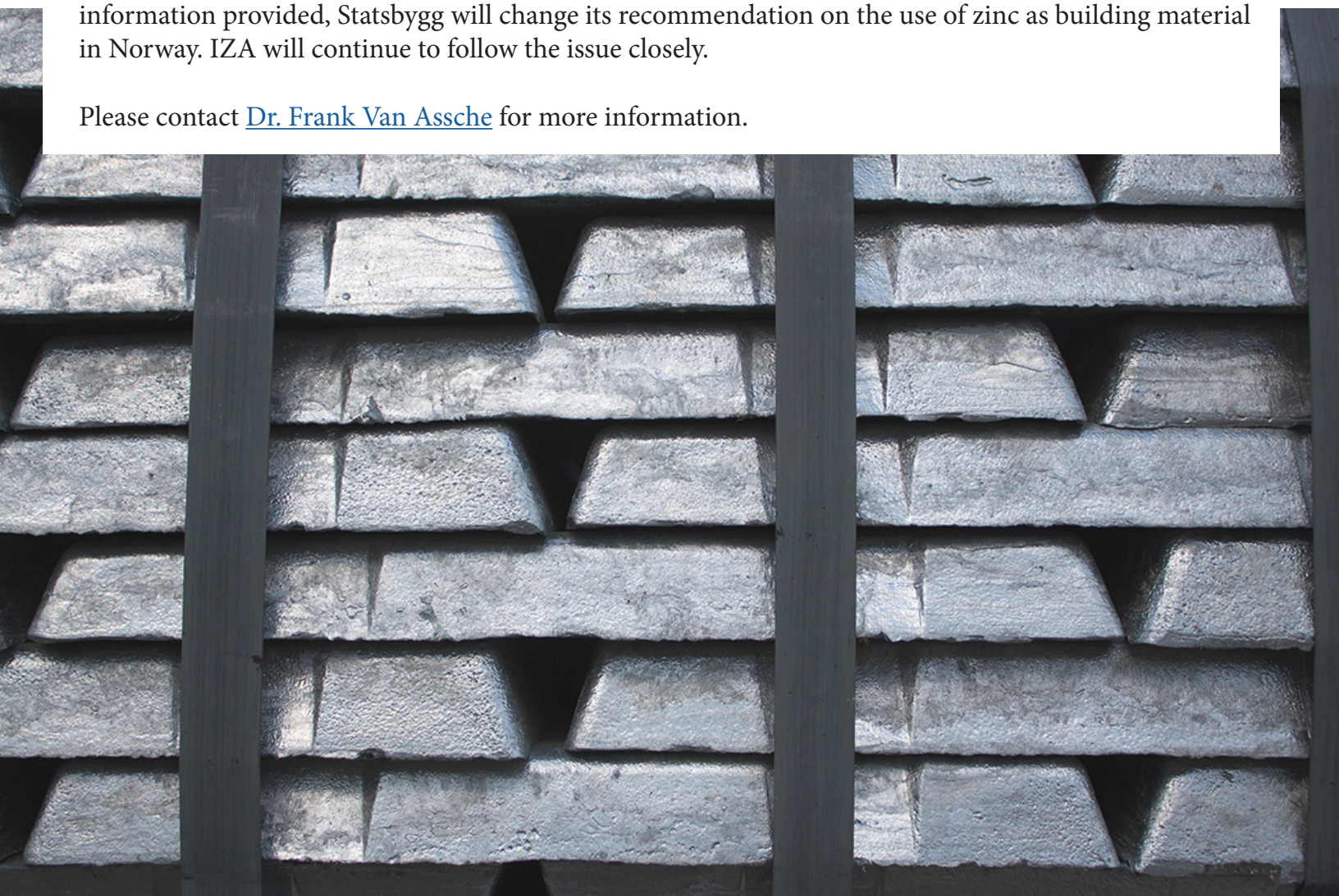
IZA Addresses Misconceptions Regarding Zinc Reserves

IZA recently met with Norwegian authorities to address proposed restrictions on the use of zinc in building materials. This potential restriction came under the authority's assumption that zinc reserves are limited and will soon be exhausted.

Together with a member company, a meeting with experts from the Norwegian Directorate of Public Construction and Property (Statsbygg) was held to discuss the issue. The Norwegian position was based on the assessment of the 1st report of the "Club of Rome" (1972; Limits to growth), that predicted exhaustion of zinc reserves within 18 years. IZA brought forward data on zinc production and use since the 1960s, illustrating 1) the continuous process of mine exploration/exploitation, 2) the concepts of economic reserves and recoverable reserves, 3) the industry's global recycling activity, and 4) references to economic assessments from the 1990s. All lines of evidence result in the same conclusion – no shortage of zinc.

The discussion with the Statsbygg experts was open and constructive. It is hoped that based on the information provided, Statsbygg will change its recommendation on the use of zinc as building material in Norway. IZA will continue to follow the issue closely.

Please contact Dr. Frank Van Assche for more information.



IZA Engages Galvanizers in Regulatory Dialogue

EGGA
European General Galvanizers Association

IZA's presentation at this year's European General Galvanisers Association's (EGGA) General Assembly, in Prague, Czech Republic focused on environmental regulatory action at the national and local level. The aim of the presentation was to inform general galvanizers of what comprises a competent compliance assessment, according to EU wide accepted methodology. The presentation was timely as many of the attendees had either encountered regulatory pressure from their local environment agency, or were anticipating it soon. IZA will continue to closely follow EU and national activities.

Dr. Sabina Grund Joins IZA as Part Time Consultant on Circular Economy

Circular economy (CE) has emerged as a major policy issue in the EU, with potential regulatory consequences for metal products and markets. To extend its capacity to monitor CE and related Sustainability topics, IZA has engaged Dr. Sabina Grund, on a part-time basis. Sabina continues to oversee German association Initiative Zink and this appointment allows IZA to leverage her expertise across both associations.

Sabina will follow CE-related issues such as Product Environmental Footprint (PEF), eco-efficiency, and LCA issues in general. She will represent IZA on the CE-related committees at Eurometaux, develop initiatives for zinc industry action, and monitor global developments on life cycle assessment and end-of-life management.

Please join us in welcoming Sabina to the IZA team.