



## IZA Guiding Principle on Climate Change

IZA and its Members recognize that climate change is a serious challenge that all sectors of society have a responsibility to address, and are committed to developing, implementing and promoting the production and use of zinc in ways that contribute to climate change solutions, including the reduction in emissions of greenhouse gases (GHGs).

IZA and its Members are committed to mitigating the impacts of climate change globally through operational improvements that reduce GHG emissions as well as supporting the global use of zinc to contribute to climate change solutions and sustainable development. Furthermore, it is recognized that there is an important role to play in supporting adaptation to climate change. Zinc has important anti-corrosion properties that extend the life of many steel products. Zinc sheets for building applications are durable and can last for centuries. Zinc can also be recycled indefinitely, without loss of any physical or chemical properties. These attributes of zinc support efforts in other industries to reduce the carbon footprint of a wide variety of products.

*For IZA Members, the key focus areas of our climate change initiatives include:*

- Reducing GHG emissions from operations;
- Reducing GHG emissions from our supply chain;
- Proactively using knowledge of the full life cycle impacts of zinc to support the development of emission reducing products and solutions;
- Developing, implementing and promoting uses of zinc which contribute to climate change solutions; and
- Participating in partnerships with other stakeholders who share similar climate change goals.

### Zinc's Role in Climate Change Solutions

Zinc's role in climate change solutions is, in many cases, through contributing to reductions in life cycle impacts of other products. For example, by protecting steel against corrosion, zinc helps save resources such as iron ore and energy.<sup>1</sup> By extending the life and durability of steel, zinc extends the life of capital investments, and in the case of public infrastructure—roads, bridges, ports, power and water distribution, telecommunications—helps reduce costs to society.<sup>2</sup> This is especially important as public investment in infrastructure renewal and upgrading is expected to grow to support adaptation to climate change (i.e., managing climate change that is already “locked in”).

Zinc sheets for building application provide lower carbon footprint solutions due to their long lifetime exceeding 100 years without any maintenance requirements. The ease of recovery at end of life enables a very high recycling rate (> 95%), reducing natural resource depletion and energy use.

### Business Benefits

IZA member companies who adopt comprehensive Climate Change/GHG strategies and programs realize business value through:

- Early identification of regulatory and customer driven risks and opportunities associated with climate change;
- Early identification of climate related environmental risks (e.g., water scarcity) and opportunities throughout the life cycle/value chain;
- Energy/cost savings through new technology development and implementation to meet GHG emission reduction targets;
- Opportunities for new revenue sources via zinc's contribution to climate change solutions including mitigation and adaptation;
- Opportunities for new revenue sources and/or cost reductions via emissions trading opportunities in carbon markets; and
- Ensuring public and customer acceptance of Zinc as a material of choice.

<sup>1</sup> 30-70 kg of zinc, whose production requires only 125-300 KWh, will extend the life of one tonne of steel, requiring 2500 KWh, by a factor of between 3 and 5. (Peters 1992. Non ferrous metals production and related energy consumption in EC and EFTA member countries and in the international context. Proc. of Thermie Eur. Seminar “Improved Technologies for the Rational Use of Energy in the Non -Ferrous Metals Industry in Europe”, Milan 1992. EEC DG XVII.)

<sup>2</sup> “Zinc in the Environment—An Introduction” IZA.

[http://www.zinc.org/resource\\_documents/zinc\\_environment\\_english.pdf](http://www.zinc.org/resource_documents/zinc_environment_english.pdf)

## Member Success Stories

There are numerous examples from IZA member companies of reduced GHG emissions from the production of zinc. A range of these examples is summarized below. These improvements contribute to an even greater life cycle benefit to the carbon footprint improvements zinc already provides to many other products.

### Supporting Development of Low Emission Technologies—BHP Billiton<sup>3</sup>

BHP Billiton has provided financial support to various industry/government partnerships to develop and accelerate the uptake of low emission technologies. Specifically these efforts have focused on accelerating the commercial uptake of low emission technologies such as carbon capture and geosequestration. Funding for these projects is part of the US\$300 million commitment from the company to “support industry research, development and demonstration of low emission technologies” as outlined in the BHP Billiton Sustainability Framework.

### Energy Efficiency Improvements—Xstrata<sup>4</sup>

Xstrata has made it a priority for its operations to have access to a secure and cost-effective supply of energy, crucial for the continued operation and growth of their business. The company aims to improve their operations’ energy efficiency, to reduce GHG emissions, cut costs and conserve natural resources. This has been demonstrated by Xstrata Zinc’s recent 13% energy efficiency improvements which resulted from initiatives including:

- At Matagami, Canada, installation of a new filter on the zinc concentrate circuit and improved underground heating system, which are anticipated to result in 10% and 30% efficiency improvements respectively;
- Upgrades to the zinc-lead concentrator and other equipment, including a laundry room boiler and water pumps, at Mount Isa mine in Queensland following a year-long study to identify inefficient equipment; and
- The replacement of pneumatic pumps and other parts at San Juan de Nieva, Spain, as well as the development of specifications for the acquisition of more efficient equipment.

### Clean Development Mechanism Projects—Hindustan Zinc<sup>5</sup>

Clean Development Mechanism (CDM) projects, under the Kyoto Protocol to the United Nations Framework Convention on Climate Change, allow emission reduction projects in developing countries to earn certified emission reduction (CER) credits. These CERs can be bought and sold, and used by industrialized countries to a meet a part of their emission reduction commitments under the Kyoto Protocol.

Hindustan Zinc has used the CDM approach to reduce the GHG emissions associated with their production of zinc through two key projects. First, the company has two wind energy farms, with a combined capacity of 123.2 MW and a combined potential reduction of 225,000 tonnes of CO<sub>2</sub> per annum. The company’s second CDM project is a 9.4 MW capacity waste heat recovery boiler generating power by utilizing waste heat at the Chanderiya Smelter.

<sup>3</sup> Based on BHP Billiton response to Carbon Disclosure Project, 2010.

<sup>4</sup> <http://www.xstrata.com/sustainability/environment/climatechange/energyuse/>

<sup>5</sup> [http://www.hzindia.com/common/pdf/12479\\_HZL\\_09\\_SDR.pdf](http://www.hzindia.com/common/pdf/12479_HZL_09_SDR.pdf)

<sup>6</sup> Note: this program is being wound down, but the website continues to offer access to many valuable resources

## Helpful Resources

The following is a small sample of resources that can help member companies understand the business relevance of climate change, develop a strategic response, and implement that response.

### Identifying business risks and opportunities:

#### Carbon Disclosure Project, Guidance for responding companies:

[www.cdproject.net/Documents/Guidance/CDP2011ReportingGuidance.pdf](http://www.cdproject.net/Documents/Guidance/CDP2011ReportingGuidance.pdf)

#### Ceres, Disclosing Climate Risks: A Guide for Corporate Executives, Attorneys & Directors:

[www.ceres.org/resources/reports/disclosing-climate-risks-2011/view](http://www.ceres.org/resources/reports/disclosing-climate-risks-2011/view)

#### Securities and Exchange Commission (SEC), Guidance Regarding Disclosure Related to Climate Change:

[www.sec.gov/rules/interp/2010/33-9106.pdf](http://www.sec.gov/rules/interp/2010/33-9106.pdf)

### Developing a climate change strategy:

#### Global Environmental Management Initiative, Business and Climate Change Website:

[www.gemi.org/businessandclimate/](http://www.gemi.org/businessandclimate/)

#### PEW Center of Global Climate Change, Getting Ahead of the Curve: Corporate Strategies That Address Climate Change:

[www.pewclimate.org/publications/report/getting-ahead-curve-corporate-strategies-address-climate-change](http://www.pewclimate.org/publications/report/getting-ahead-curve-corporate-strategies-address-climate-change)

#### World Resources Institute, Sharpening the Cutting Edge: Corporate Action for a Strong, Low-Carbon Economy:

[www.wri.org/publication/sharpening-the-cutting-edge](http://www.wri.org/publication/sharpening-the-cutting-edge)

### Implementing a climate change strategy and programs:

**ClimateBiz portal:** [www.greenbiz.com/climate](http://www.greenbiz.com/climate)

**Climate Leaders:** [www.epa.gov/climateleaders/](http://www.epa.gov/climateleaders/)<sup>6</sup>

#### Pew Center on Global Climate Change, From Shop Floor to Top Floor: Best Business Practices in Energy Efficiency:

[www.pewclimate.org/energy-efficiency/corporate-energy-efficiency-report](http://www.pewclimate.org/energy-efficiency/corporate-energy-efficiency-report)

#### WRI/WBCSD GHG Protocol Initiative:

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



More detailed information is available on the IZA website at [www.zinc.org](http://www.zinc.org).

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