

**SUSTAINABLE STEEL**  
Policy and indicators 2015



# STEEL IS VITAL TO SUSTAINABLE DEVELOPMENT

## ECONOMIC INDICATORS

### Steel is needed in all sectors of the economy

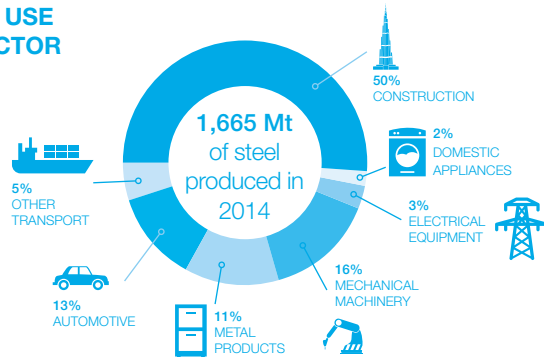
Each day we create enough steel to build **548 Eiffel towers.**



**217**

On average, **217 kg of steel** are used in new products per person on the planet each year.

#### STEEL USE BY SECTOR



### The steel industry drives economic growth and innovation



The annual revenue of the steel industry is **980 billion USD** - more than the **GDP of Indonesia.**

In 2014, the steel industry **invested 7.5% of revenue** in new processes and products.

**7.5%**



In 2014, the steel industry **distributed 954 billion USD to society** directly and indirectly, including 120 billion USD in tax contributions.

**8 million people** work for the steel industry – equivalent to the **Swiss population.**



### Steel is central to making modern society sustainable



The global population is estimated to reach 9.7 billion by 2050. **Steel is vital for the sustainable infrastructure development** that will be needed for growing populations.



Steel provides **affordable housing and transportation solutions.**



Steel is indispensable for **energy production and distribution.** All **renewable energy** relies on steel.



**Steel** is essential in helping society achieve the new UN Sustainable Development Goals.

# STEEL SUPPORTS ENVIRONMENTAL RESPONSIBILITY

## ENVIRONMENTAL INDICATORS

### Steel enables a circular economy

#### REDUCE

New, innovative, stronger, lighter steel products **require less steel, conserving energy and raw materials.**



#### REUSE

**Steel's durability enables many products to be reused**, extending the product life cycle and conserving resources.



#### REMANUFACTURE

Remanufacturing restores used steel products to like-new condition, **extending the overall product life cycle and saving valuable resources.**



#### RECYCLE

Steel is **100% recyclable** and the most recycled material worldwide. **650 Mt are recycled every year, avoiding over 900 Mt of CO<sub>2</sub> emissions.**



### Steel ensures optimal resource efficiency



**Steel's durability ensures a long product life**, reducing use of raw materials. Steel structures last more than **100 years** and **75% of steel products ever made are still in use today.**

**99% of our by-products can be recycled** as energy sources or for other uses, e.g. concrete, fertiliser, plastics, and paints.



**98% of the raw materials** used in steel plants are converted to steel products and by-products, meaning that **very little waste goes to landfill.**



### Steel and its environmental performance

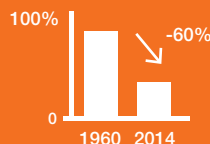


On average, **1.9 tonnes of CO<sub>2</sub>** are emitted for every tonne of steel produced.



**90% of water** used in steel plants is **cleaned and returned to its source.**

The average energy intensity for steel production is 20GJ/t. In the last 50 years the steel industry has **reduced its energy consumption per tonne of steel produced by 60%.**



Environmental Management Systems (EMS) help to minimise environmental impacts. **About 94% of steel industry employees and contractors work in EMS registered production facilities** - e.g. with ISO14001 certification.

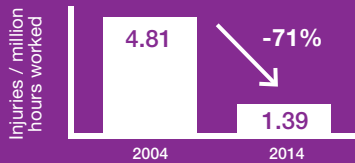


# STEEL CONTRIBUTES TO ITS COMMUNITIES

## SOCIAL INDICATORS

### Safety and health is the number one priority for the steel industry

Our lost time injury frequency rate has improved since 2004.



The steel industry is committed to the goal of an injury-free and healthy workplace.



steelSafetyDay

### The steel industry offers development opportunities

In 2014, steel companies provided each employee with **6.4 training days** on average.



**steeluniversity**

and **steelChallenge**  
inspire and educate  
the next generation  
of the steel industry.



### Steel companies are an integral part of local communities



We regularly **build roads, transport systems, schools and hospitals** in our local communities.



We **generate jobs and substantial tax revenues** which benefit the local communities in which they operate.



We are often directly involved in the provision of **healthcare services and education**.

### Steel is essential to safe, resilient, sustainable cities

Steel structures **withstand natural disasters** like earthquakes, storms and flooding, **keeping communities safer**.



More than **1 billion people** will move to towns and cities by 2030. Steel provides **sustainable solutions for the buildings, energy delivery, transport and infrastructure** that these cities need.

# SUSTAINABILITY INITIATIVES AND INDICATORS

## Excellence in Sustainability Steelie Award

The World Steel Association (worldsteel) Excellence in Sustainability Steelie award seeks to recognise an initiative or programme that has made a positive impact, or provided benefits in all three areas of sustainability – including economic, environmental and social performance. A judging panel consisting of internal and external judges selects the winner. The 2015 finalists for this award are presented here. The winner will be announced at worldsteel's 49<sup>th</sup> annual conference in October 2015.

### ArcelorMittal's 10 sustainable development outcomes

In 2015, ArcelorMittal launched 10 sustainable development (SD) outcomes outlining its contribution to a sustainable future. Country-based SD committees are tasked with assessing their operations against each outcome, enabling the company to share challenges and successes and plan for improvement. Progress towards the outcomes will be reported from 2016 onwards.

### China Steel Corporation's (CSC) industrial park

An industrial park in Kaohsiung City hosts CSC and various factories. CSC has been promoting the District Energy Integration Plan since 1992, through which CSCs by-product fuel gases and steam are sold to neighbouring factories, and CSC purchases industrial gases and waste fuel from them. This increases energy efficiency and reduces resource consumption and pollutant emissions in the region.

### Tata Steel's certification of 19 construction products

By obtaining certification to BSI's BES6001 standard for 19 key construction products in 2014, Tata Steel is meeting the demand from the construction industry for responsible sourcing of materials. Certification provides independent 3<sup>rd</sup> party verification of a supplier's organisational and supply chain governance and demonstrates that they produce products in a sustainable manner.

worldsteel has been reporting on 8 sustainability indicators since 2004 to inform the public on our industry's environmental, social and economic performance. Data provided by members, non-members and associations is verified by worldsteel staff. Crude steel produced by 147 companies who reported on one or more indicators for fiscal year 2014 was 923 Mt, representing 55% of global production. **For details on coverage by indicator, methodology and for further historical data, please visit [worldsteel.org](http://worldsteel.org).**

INDICATOR		UNIT	2012	2013	2014
<b>Environmental sustainability</b>					
1	Greenhouse gas emissions	tonnes CO <sub>2</sub> /tonne crude steel cast	1.8	1.8	1.9 (p)
2	Energy intensity	GJ/tonne crude steel cast	20.0	20.1	20.4 (p)
3	Material efficiency	% of materials converted to products and by-products	96.5	96.4	97.6
4	Environmental management systems (EMS)	% of employees and contractors working in registered production facilities	89.5	90.2	94.2
<b>Social sustainability</b>					
5	Lost time injury frequency rate	injuries/million hours worked	1.5	1.6	1.4 (p)
6	Employee training	training days/employee	7.9	7.8	6.5
<b>Economic sustainability</b>					
7	Investment in new processes and products	% of revenue	10.3	8.6	7.5
8	Economic value distributed	% of revenue	97.4	97.3	97.3

#### Notes:

(p) = preliminary; data collection in progress.

**Indicator 1 and 2:** These indicators are calculated using route-specific energy and CO<sub>2</sub> intensities for three steel production routes: basic oxygen furnace, electric arc furnace and open hearth furnace. The indicators are also weighted based on the production share of each route. Indicator 1 includes CO<sub>2</sub> emissions only as these make up approximately 93% of all steel industry greenhouse gas emissions.

**Indicator 5:** Lost time injury frequency rate includes fatalities and is calculated based on figures including contractors and employees.

# POLICY AND COMMITMENTS

The steel industry believes that sustainable development must meet the needs of the present without compromising the ability of future generations to meet their own needs. Members of worldsteel are committed to a vision in which steel is recognised as a key element of a sustainable world. This is achieved by a financially sound industry that takes leadership in environmental, social and economic sustainability. The steel industry adopted a sustainable development policy in 2002, which was built on a set of principles established in 1972. A statement of principles was issued in 1992. The policy encompasses seven commitments, listed on our website, which have also been incorporated into our CEO endorsed Charter. **For more information, please go to the sustainability section of [worldsteel.org](http://worldsteel.org), under Steel by Topic.**

**'The world steel industry is contributing to the development of a sustainable society through product development, process innovation, and sharing of advanced technologies.'**

**Kosei Shindo**  
President - Nippon Steel & Sumitomo Metal Corporation

**'Our industry will progress through a more holistic approach – focusing on whole person, whole business, whole industry, whole time.'**

**Paul O'Malley**  
Managing Director and CEO - BlueScope

**'I believe that steel – more than any other material – will do the most to help manufacturers meet their sustainability targets.'**

**John J. Ferriola**  
Chairman, CEO, President - Nucor Corporation

**'Collaboration is essential to drive sustainable development. An open dialogue will lead to greater awareness and bridge knowledge gaps.'**

**Martin Lindqvist**  
President and CEO - SSAB

**'There is nowhere to hide, and that's a good thing. Openness will make the steel industry stronger and sustainable.'**

**Paolo Rocca**  
Chairman and CEO - Techint Group

**'The more the steel industry contributes to the new UN Sustainable Development Goals, the more ethical we will be in the eyes of our stakeholders.'**

**Lakshmi N. Mittal**  
Chairman and CEO - ArcelorMittal



**'Promoting self-reliance, and supporting sensitising people on human values, and supporting and guiding communities form the essence of business leadership.'**

**Sajjan Jindal**  
Chairman and Managing Director - JSW Steel Limited