



Sustainable  
steel

Sustainability  
Indicators 2021 and  
our sustainability  
journey

## Steel and sustainability

**Our sustainability journey has seen three progressive phases since the foundation of the World Steel Association (worldsteel), formerly IISI, in 1967. The early years saw publications of policies, guidelines, and standards in the areas of environment, life cycle assessment, sustainable development, climate change and safety and health, which have served as the fundamental basis of our sustainability work.**

This was subsequently followed by the introduction of a series of programmes and projects including our Sustainability Indicators and Sustainable Development Charter, which have required steel companies' active engagement and participation. Many steel companies have voluntarily provided sustainability-related data, including CO<sub>2</sub> emissions and lost time injury frequency rate, and signed up to our Sustainable Development Charter as part of their commitment.

Further progress has been made with the industry's increased focus on quality and performance in recent years which has been strongly reflected in our latest programmes: the Steelie Awards, Sustainability Champions, Step Up, and the new Sustainability Charter.

This year, we are publishing our revised sustainability principles which reflect the rapidly changing business environment and societal expectations. These reinforced principles reiterate our commitment to being part of the solution for a sustainable society and future, highlighting the priorities of the industry. The graphic on page five and six outlines how our new sustainability principles and related programmes are aligned with the United Nations Sustainable Development Goals.

A review of our steps and progress in sustainability not only reminds us of our accomplishments but inspires us to be bolder and more ambitious in our journey towards sustainability, which continues with full support from our members.

## Our sustainability highlights 2021

### Steel Safety Day

Moving machinery, one of the five most common causes of safety incidents, was the main focus this year. A guidance note, an online workshop and Safety Stories were provided to members to raise awareness of the causes of such incidents and to exchange experiences and learnings among members.

### Voice of the industry

Providing expertise to global sustainability initiatives and for the development of international standards. The audiences include steel industry customers, raw material suppliers as well as ResponsibleSteel, NZSPMP, NZSI, and Steel Zero.

### New Sustainability principles

9 new principles with 20 accompanying criteria developed from our recent industry materiality assessment, approved by worldsteel's Board of Directors.

### Climate Action data providers

216 steel sites from 52 companies provided their CO<sub>2</sub> emissions intensity data as part of worldsteel's 14<sup>th</sup> year of data collection.

### Step Up

An operational efficiency improvement programme aiming to reduce costs and carbon emissions. 17 companies have either completed their site review or are in the process of carrying it out.

### Climate Change policy paper

Our policy paper outlines the steel industry's challenges and opportunities with respect to reducing CO<sub>2</sub> emissions in line with the aims of the Paris Agreement.

### Water management project

20 site based water management case studies from 17 steel companies will form the basis of a global map of water management in the steel industry.

### WorldAutoSteel

A newly launched Steel E-Motive engineering programme, demonstrates the benefits of steel for global Mobility as a Service (MaaS) ride sharing, autonomous electric vehicles and shaping the future of sustainable mobility through steel innovation.

### constructsteel

Zero Energy Building initiative – constructsteel has partnered with the world's largest design firm to design a resilient and affordable net zero energy residential house which positions steel at the core of circular design.

### steeluniversity

Furthering the integration of climate change in steel training, steeluniversity introduced carbon emissions into the electric arc furnace simulator.

### ISSF

Together with its membership and the Team Stainless partners, ISSF launched a resilient, safe and sustainable water supply solution 'Stainless Steel Service Lines', that is expected to deliver tangible savings of water, maintenance demand and cost.

### Life Cycle Inventory data 2020

124 sites located in 28 countries participated in the 2020 annual LCI study, contributing to the development of LCI data for 17 products on a global and regional basis.

## Sustainability performance of the steel industry

**The World Steel Association has been reporting on the sustainability performance of the global steel industry since 2004. Steel companies report up to 8 Sustainability Indicators every year via worldsteel's Sustainability Indicators data collection project.**

In 2021, 94 steel companies and associations contributed to the data collection. The companies who reported on one or more indicators for fiscal year 2020 produced 1,008.4 Mt of crude steel, representing 53.7% of global crude steel production.

	Indicator	Unit	2018	2019	2020	
Environmental Performance	1	CO <sub>2</sub> intensity	tonnes CO <sub>2</sub> / tonne crude steel cast	1.81	1.85	1.89
	2	Energy intensity	GJ / tonne crude steel cast	19.51	20.06	20.62
	3	Material efficiency	% of materials converted to products and co-products	96.33	97.49	97.86
	4	Environmental management systems (EMS)	% of employees and contractors working in registered production facilities	97.07	97.16	96.11
Social Performance	5	Lost-time injury frequency rate	injuries / million hours worked	0.84	0.83	0.85
	6	Employee training	training days / employee	6.48	6.90	7.18
Economic Performance	7	Investment in new processes and products	% of revenue	6.12	7.09	8.03
	8	Economic value distributed	% of revenue	94.18	98.27	97.75

## Steel Sustainability Champions



**Sustainability is a core business requirement, vital to a company's continuing license to operate. An ethical and socially responsible approach can act as a competitive advantage for forward-thinking steel companies.**

worldsteel member companies who are leading the way to create a truly sustainable steel industry and society, and who clearly demonstrate their commitment to sustainable development and the circular economy are recognised annually as Steel Sustainability Champions.

The 2020 Steel Sustainability Champions are:



outokumpu



TATA STEEL

Tata Steel Europe

TATA STEEL  
WeAlsoMakeTomorrow

Tata Steel Limited



# Our sustainability journey



## International Iron and Steel Institute (IISI)

**1967**  
IISI founded by 18 companies from 12 countries, changing its name to worldsteel in 2008.



## Environmental Policy & Standards

**1972**  
Policy statement on the environment adopted, agreed by 111 members from 29 companies. Updated in 1992.



## Sustainable Development Policy

**1993**  
First Sustainable Development Policy published, revised in 2002 and in 2021.



## Life Cycle Assessment (LCA)

**1995**  
Policy statement on LCA adopted and first life cycle inventory data collection launched. Latest data for 17 products published in 2021.



## Climate Change Policy

**1996**  
Policy statement on Climate Change, agreed by 181 members in 50 countries, issued and revised in 2021.



## Safety & Health

**1999**  
Safety programme for worldsteel members launched. Safety and health guiding principles published in 2006.



## The Steelie Awards

**2010**  
Annual Steelie Awards launched, recognising member companies for their contribution in a series of categories positively impacting the steel industry.



## Sustainable Development Charter

**2009**  
First Sustainability Charter published. 55 members signed, committing to 7 sustainability principles. 2018 version signed by 73 steel industry CEOs. The new and reinforced version to be published in 2022.



## Climate Action

**2008**  
Annual CO<sub>2</sub> data collection programme launched. Member companies report site or company-level CO<sub>2</sub> emissions, benchmarking themselves against best performers and identifying scope for improvement.



## Sustainability Indicators

**2004**  
11 Sustainability Indicators introduced, annually reporting the sustainability performance of the steel industry and contributing to the industry's first sustainability report in 2005. 93 companies contributed to the data collection in 2021.



## steeluniversity

**2003**  
steeluniversity, online learning and training programme, launched. The programme also runs steelChallenge, steelTalks and steelManagement.



## Benchmarking systems

**2012**  
Online benchmarking systems launched for CO<sub>2</sub> emissions, energy, maintenance and reliability, process yields, safety, and sustainability indicators. Upgraded versions of previous data collection, analysis and benchmarking.



## Steel Safety Day

**2014**  
Annual Safety Day Campaign launched, reinforcing awareness of the main causes of safety incidents and creating a safer working environment for the entire steel industry.



## Sustainability Champions

**2018**  
Sustainability Champions Recognition programme launched, recognising companies who clearly demonstrate their commitment and action to sustainability. 9 steel companies recognised in 2021.



## Steel Supply Chain

**2018**  
Steel supply chain project launched, mapping the characteristics of the steel industry supply chain and investigating the ESG impacts related to the steel industry.



## Step Up

**2019**  
Step Up, a multi-step improvement programme, launched, to increase the operational efficiency and CO<sub>2</sub> emissions of steel production sites, covering raw materials, energy efficiency, yield and process reliability.



## New Sustainability Principles

**2021**  
New sustainability principles with associated objectives and criteria published, incorporating 9 topics of ESG (environment, social and governance).

# Our New Sustainability Principles



\* Most relevant goals to the steel industry



- 1 NO POVERTY
- 2 ZERO HUNGER
- 3 GOOD HEALTH AND WELL-BEING
- 4 QUALITY EDUCATION
- 5 GENDER EQUALITY
- 6 CLEAN WATER AND SANITATION
- 7 AFFORDABLE AND CLEAN ENERGY
- 8 DECENT WORK AND ECONOMIC GROWTH
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
- 10 REDUCED INEQUALITIES
- 11 SUSTAINABLE CITIES AND COMMUNITIES
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
- 13 CLIMATE ACTION
- 14 LIFE BELOW WATER
- 15 LIFE ON LAND
- 16 PEACE AND JUSTICE, STRONG INSTITUTIONS
- 17 PARTNERSHIPS FOR THE GOALS



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