

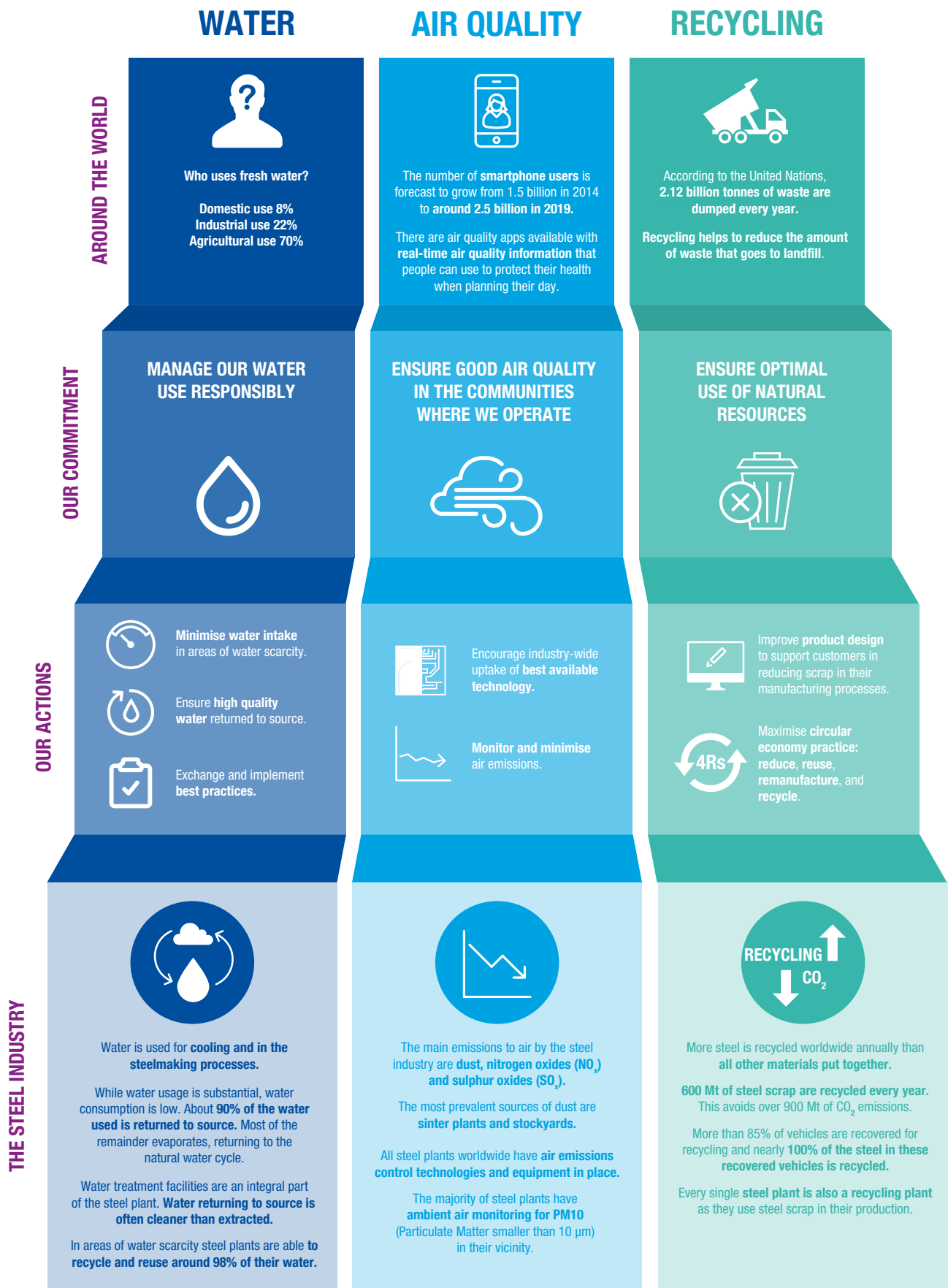
Steel focus

Beyond indicators



Steel focus

Water | Air quality | Recycling



Steel focus

Co-products | Responsible sourcing | Climate change

CO-PRODUCTS

RESPONSIBLE SOURCING

CLIMATE CHANGE

AROUND THE WORLD



Innovative ways of using co-products to help realise zero waste societies:

- CO₂ from steel plants used to make bubbles in soft drinks.
- Tomato ketchup co-products turned into bio-plastic.
- Waste bread used to brew beer.
- Cheese brine used to de-ice the roads.
- Coffee grounds used as fertiliser.



In the whole materials supply chain, **human rights, child labour, conflict minerals, anti-corruption, and environmental issues** are the main concerns.

Companies registered on the US Stock Exchange are required to file **mandatory annual reports on the use of conflict minerals** (3TG – Tin, Tantalum, Tungsten and Gold).

ILO reported that there are **more than 200 million child labourers worldwide today**.

Most Fortune Global 200 companies have a **business code of conduct** covering responsible sourcing.



More than **40 countries** around the world use **carbon-pricing mechanisms**.

Industry emissions account for 24% of total global greenhouse gas emissions. (IEA)

Investors are increasingly asking companies for **disclosure of carbon emissions and climate-related strategies**.

Globally, **CO₂ emissions** from energy-related activities have remained stable since 2013 while the economy has grown.

OUR COMMITMENT

MAXIMISE RESOURCE EFFICIENCY AND PROMOTE ZERO WASTE.



RESPONSIBLE SOURCING OF RAW MATERIALS IN OUR SUPPLY CHAIN.



MINIMISE OUR CARBON FOOTPRINT AND PROVIDE CARBON-EFFICIENT SOLUTIONS FOR SOCIETY.

CO₂

OUR ACTIONS



Maximise collection, quality, utilisation and value of **co-products**.



Minimise material going to **landfill or incineration**.



Expand markets for co-products through **synergies with other industries**.



Encourage responsible, ethical, social and environmental practices **throughout the supply chain**.



Establish responsible sourcing **strategies and reporting systems**.



Support suppliers to work towards **best practice**.



Benchmark performance and share good practices to improve overall industry performance to that achieved by the top 15%.



Support the International Energy Agency (IEA) in the development of their **Global Sustainable Technology Roadmap for iron and steel**.



Invest in **breakthrough steelmaking technologies** that aim to reduce CO₂ emissions by at least 50%.

THE STEEL INDUSTRY



Slag, dust, sludge and process gases are the main co-products of the steel industry.

Nearly 100% of steel industry output materials can be used. For example, in the production of steel, concrete, electricity, fertilisers, plastics, paints and cosmetics.

Very little solid waste is produced. In 2017, 96.3% of the raw materials used for steelmaking were converted to steel products and co-products.

The use of co-products **increases resource efficiency, prevents landfill waste, reduces CO₂ emissions, saves cost and generates revenue.**



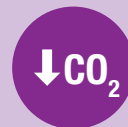
Main raw materials for steel production include **iron ore, coking coal, and steel scrap**.

An increasing number of steel producers are taking **responsibility for their supply chain**.

Key external drivers for responsible sourcing are **customers, investors and regulators**.

New technologies enable real-time **collaboration between steelmakers and their suppliers**.

The OECD's Due Diligence Guidelines for Responsible Supply Chains is a cornerstone resource for the steel sector.



The reduction of CO₂ emissions is the **biggest challenge** facing the steel industry.

In 2017, on average 1.83 tonnes of CO₂ were emitted for every tonne of steel produced. **The steel industry accounts for between 7% and 9% of total global CO₂ emissions.**

Hydrogen steelmaking, electrolysis, CCU and CCS are some of the **new low-carbon steelmaking technologies being developed**.

Achieving the goals of the Paris Agreement is impossible without steel. **Steel enables the reduction of CO₂ emissions in other sectors of society.** For example steel is essential to the production and delivery of renewable energy.

Steel focus


Product applications

AUTOMOTIVE

CONSTRUCTION

PACKAGING

AROUND THE WORLD


 **1 billion cars** are currently in use on earth

Electric vehicles, autonomous cars, and car sharing are the key future mobility trends

The first electric car was invented nearly **200 years ago**

The average car contains **over 30,000 unique parts**

A typical passenger vehicle emits **about 4.6 metric tonnes of CO₂** per year

 Nearly **70% of the global population** will live in cities by 2050

Buildings account for about **30% of final energy use** and more than **55% of global electricity consumption**

In 2019, the total number of **buildings over 200 metres high** was **1,603**

The number of **LEED-certified projects** in the United States rose from 296 certifications in 2006 to over 67,200 in 2018

 More than **25% of all food** produced globally for human consumption is **lost or wasted**

Containers and packaging make up **one third of global waste**

Most common packaging materials are **paper, plastic, aluminum, glass and steel**

Today more than **70% of global soft drinks** are sold in PET bottles

OUR COMMITMENT

 Provide steel solutions that meet the automotive industry's needs and challenges in a sustainable and environmentally responsible way

 Provide steel solutions that enable more energy-efficient and carbon neutral buildings

 Provide steel products that enable the packaging industry and its value chain to be more sustainable and cost effective

OUR ACTIONS

 Develop high performing steel solutions to **reduce weight while maintaining safety levels**

 Continue a legacy of steel innovation that **addresses the evolving demands of vehicle design and manufacture**

 Demonstrate applications that will **shape the future of sustainable mobility** through steel innovation


 **Promote the use of autoLCA**


 Rethink and reinvent the use of steel in construction via our **Zero Energy Building initiative**


 **Collaborate with other construction materials** to provide optimal solutions

 **Proactive communications** with the value chain of the construction industry


 **Promote the use of buildLCA**

 Continue to develop **steel grades** that are **thinner but stronger**

 Develop further **technologies** that can meet the needs for **flexible design and shape**

 Demonstrate **benefits of steel packaging solutions** in an unequivocal and engaging way

THE STEEL INDUSTRY

 New grades of **Advanced High-Strength Steels (AHSS)** can **reduce total vehicle weight** by 8-10% compared to conventional steel

Today vehicle body structures can contain **more than 50% AHSS**

Electric steel is an essential material in the construction of generators and motors for electric vehicles

Lightweighting, safety, battery protection and cost reduction are the main reasons for automakers to **select steel for the body of electric cars**


The **future of steel** is expected to enable even lighter yet stronger vehicle structural designs, thereby **further minimizing a vehicle's carbon footprint from a life cycle perspective**

 Global **steel demand for construction** is expected to **rise by 2.1% every year** for the next 15 years

Steel offers the highest strength-to-weight ratio of any building material

Use of **Advanced High-Strength Steel** enables **high rise buildings to be built with 50% less steel**

Steel buildings are increasingly designed to be reused. **CO₂ emissions savings from reusing steel within buildings** are estimated at **1 to 1.5 kg CO₂ /kg steel**

 **Steel is the most recycled material** in the world. **82.5%** of steel packaging is currently **recycled in the EU**

A **recycled steel can be back on the shelf as a new can within 60 days**

Each steel can recycled **saves about 1.5 times its weight in CO₂**

The **weight of steel cans has been reduced on average by 33%** in the last 20 years

Steel packaging is an unrivalled solution for **shelf life, transport, storage, use and recycling**