

CHRISTOPHE
BERTONCELLI
Group Chief Operations Officer



What has Winoa already done to reduce energy consumption?

Our Green Pledge strategy plan gives us a formal roadmap to achieve zero carbon by 2050. We have already **reduced our CO₂ emissions by -18%** in 2 years to achieve 300 kgCO₂eq per ton produced in 2021. We constantly **monitor and adjust** our production processes to reduce our energy consumption throughout the product life cycle.

How does Winoa monitor its impact and KPIs?

Our main site, Le Cheylas in France, is already ISO 50001 certified (Energy management) and all our sites are ISO 14001 certified (Environmental management). With our cutting-edge data collection system, we can **analyze the energy consumption for every heat of steel**, and production meetings use data for daily analysis and corrective actions, at every stage of the production cycle. Furthermore, we monitor our carbon footprint (global CO₂) on a monthly basis.



RAMESH KRISHNAN
CEO & Chairman

COMMITTED TO LEADING THE GREEN SOLUTION IN OUR INDUSTRY

As global number one in steel abrasives, our ambition is to be a business and environmental leader.

We are leading the industry in taking a green pledge to be **carbon neutral by 2050**, with a clear roadmap to reduce carbon emissions by 100 kgCO₂eq/ton every decade. We are in pole position to achieve that: our emissions stand at a benchmark industry level of 300 kgCO₂eq/ton or **6 times less than steel**. In addition, 95% of our raw materials are sourced from recycling, 80% of our global waste products are repurposed, and our **abrasives can be reused** thousands of times before being re-cast as new.

We have embarked on an ambitious program to **reduce the energy intensity** of our production. Whether major investments, such as innovative heat treatment, or smaller more modest ones, such as the installation of LEDs in the workshops, we use all levers, every degree, every kilowatt towards our goal. We are also investigating carbon capture technologies like molecular depositions. Above all, we take an end-to-end approach to the environment. We partner with our clients on cutting-edge products and services that reduce their impact. Suppliers that commit to actions such as eco-mobility become Preferred Partners. And we are building the **digital expertise** that is an integral part of environmental leadership. Winoa is a world leader. We have the responsibility, the expertise and the passion to make our Green Pledge for our planet a reality.

"WE LEVERAGE HOLISTIC MEASURES TO ACHIEVE CARBON NEUTRALITY"

INNOVATION



Developing solutions

We work with trusted suppliers to **source more recycled raw materials**, such as aluminum, or even tires for their carbon content. We are also collaborating with research centers and technical institutes on many projects that will lead to the development of innovative solutions.

Capturing CO₂

Carbon capture technology is moving fast, and we always keep a close eye on current and future innovations. We are piloting new solutions available in this field, and we will be ready to deploy broader.

ACTION

ISO 50001 for energy reduction

"Unused energy is the best way to improve energy balance!" This common-sense approach guides all our processes and actions. So much so that we have had it ISO 50001 certified. We apply this management system worldwide and across all our activities, including our upstream energy procurement.

Energy efficiency

We insulate our furnaces, and work with specialists to digitally regulate their settings. We extend the use of regenerative burners that conserve heat for reuse. The same mindset guides our support for clients, with energy efficiency as a key goal. Our approach to industry combines business performance and enhanced environmental impact. We aim for **energy efficiency** and optimized production across our production processes.

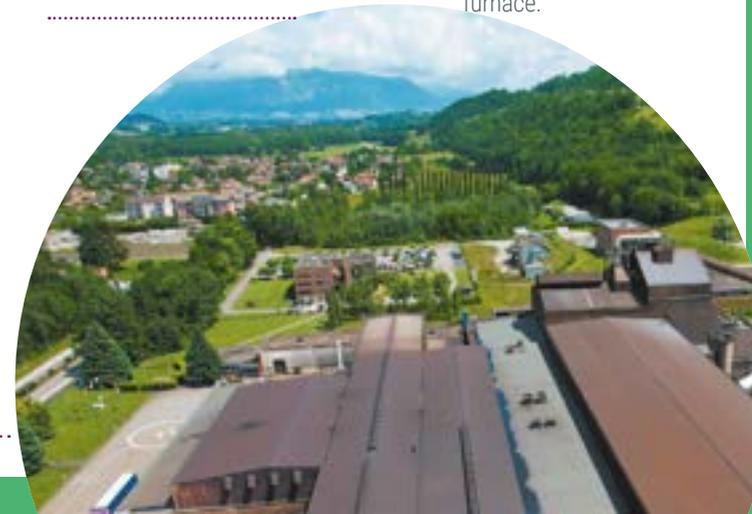
CHRISTOPHE BERTONCELLI
"Our business puts us **at the heart of the circular economy** because steel is a circular material by nature."

Self-generated electricity

The car parks at our Le Cheylas site will soon be **shaded by photovoltaic panels**. Power from a pilot 64kWh installation will integrate our on-site electrical network ahead of scale up. We are also planning similar installations at our sites in Spain, Slovenia and Thailand.

Heat recovery systems

Our compressors are equipped with heat recovery units to divert the heat generated to water or the plant itself. By using regenerative burners, we can conserve the heat produced and use it to reheat air in the furnace.



THE LIFE CYCLE OF STEEL SHOT

With over 95% of our raw materials sourced from the **circular economy**, our business model has a strong environmental focus. And every stage of our **product life cycle** plays a key role in driving down our carbon footprint.

1 000
TONS/
DAY

RAW MATERIALS

We source both local and circular. Our steel shot is **95% recycled scrap**, reclaimed within a radius of some 200km around our plants. Today, as we cannot fully source the remaining 5% from scrap, mainly ferroalloys, we are investigating future solutions.



PRODUCT DESIGN

Our shot media is made of proven steel sources to produce **premium, specialty & value-added products**, adapted to client specifics through tailored size, shape and hardness. We design for maximum efficiency in cost, time, energy, and environmental profile.



300
KG CO₂ EQ/
TONS



RE-PURPOSING

96% of our French plant waste is repurposed. Smeltery dust is used as a raw material in zinc production, iron oxide complements mined iron in blast furnaces, and slag is used in the sub-structure of new roads.



PRODUCTION

Energy efficiency is strategic for business and environmental reasons. We have been managing energy through **ISO 50001** for a decade. We track the smallest compressed air leak and use automatic power modulation to optimize consumption. Our pioneering use of forced air, for example, reduces the energy used in the quenching process. And digital helps us to regulate consumption. We are in a continuous industrial process of **energy reduction**.

RESULT:
10 to 50
TIMES LESS
EMISSIONS
THAN MINERAL
ABRASIVES



DISTRIBUTION

Our finished products are distributed in 25kg bags or in bulk bags. They are dispatched whenever possible from the site that is closest to our clients.



DIGITAL FOR USERS

Digital tools (W Tech™, such as WA Clean™, WA 3D™ or WA Dust™) also allow our customers to **reduce their total cost of operation** and increase their knowledge. Optimizing the use of our products by digital means reduces energy and steel consumption.



USE

We develop new services to enable our customers to **reduce the impact of using of our products**: end-user training, machine audits, optimization of blast machines and energy consumption...

100%
OF STEELSHOT
IS RECYCLABLE



END OF LIFE

When it has become too small to use, steel shot can be **recycled indefinitely**. This means that the steel we buy as scrap may come from our own production, and the life cycle loop is closed.

REUSE

Our customers can **reuse our steel shot several thousand times**, which makes an important difference vs expendable abrasive.

GREEN PLEDGE ROADMAP

Our goal to reduce our environmental impact is ambitious, but it is in line with the climate challenge. We are already working hard on our targets, but we must continue our efforts. We have an aspirational however realistic roadmap that takes into account the current state of knowledge and the impact of our actions. **We are determined to achieve our objectives.**

300KG CO₂ EQ/TON PRODUCED DOWN TO 0KG

