



 fonderie ariotti

Environmental Manifesto 2020

Production, consumption, carbon footprint: numbers and figures!

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27%

The percentage of our 2020 production that was applied in the renewable energy industry, this is a significant increase compared to the 16% that we produced in 2019.

Thanks to the installation of the new Carnaghi lathe, we have become the first and only Italian technological hub capable to cast, machine and certificate according to the high precision and the strict demands of the wind power industry and of a gearbox to be used in the machine tools' industry.

Zero

km that our castings have to travel to reach the mechanical workshop!

Thanks to constant investments in human resources and in the machining department, we are actively contributing to the reduction of the emissions, which would be otherwise caused by the road transport of the castings. We offer our clients a full-service “from farm to fork” so to speak!

25%

The percentage of raw materials we recycle in our own production cycle!

We reintroduce in our production process scrap iron, cast iron returns and trimmings resulting from machining as raw materials, thus effectively practicing an end of waste policy.

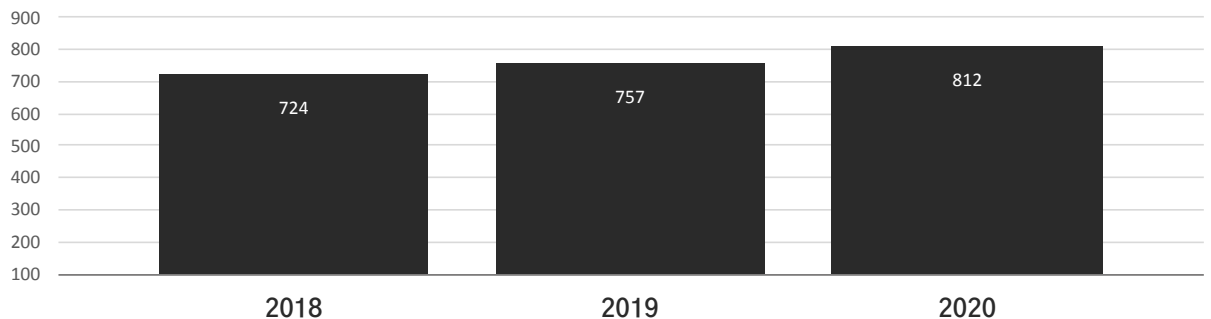
812 kWh

The kWh per ton of cast iron produced.

Producing according to high quality standards requires higher casting temperatures T(°C), which result in a considerable increase in the demands of electrical energy.

So what do we do? We purchase green energy!

kW of electrical energy consumption per ton of cast iron



1 kWh + kWh (CH4 eq) / gross ton (tot)

14.400 MWh

MWh of green energy that we purchased in 2020, equal to the total plant's consumption.

This energy comes from hydroelectric sources, and it's certified as renewable by the "Origin Certificate".

This has allowed us to cut down CO₂ emissions of roughly 16%, as a result, despite an increased consumption, we were able to reduce our carbon footprint.

676.273 kWh

kWh of self-produced energy in 2020 by our 3 photovoltaic plants.

359.101 kg

kg of CO₂ cut down thanks to our photovoltaic plants.

Our foundry has three photovoltaic plants producing a total of 714 kW, roughly the same power of 230 civilian homes, equal to 17% of the overall power installed in our firm.

Plant	Installation year	Power kW*	Energy produced in 2020 (kWh/year)	CO ₂ cut down in 2020 (kg/year)
Photovoltaic 1	December 2008	108	101.349	53.816
Photovoltaic 2	December 2010	300,96	264.239	140.311
Photovoltaic 3	September 2017	304,8	310.685	164.974

* kWp (peak kW) power in kW in specific conditions.

1.867 kg

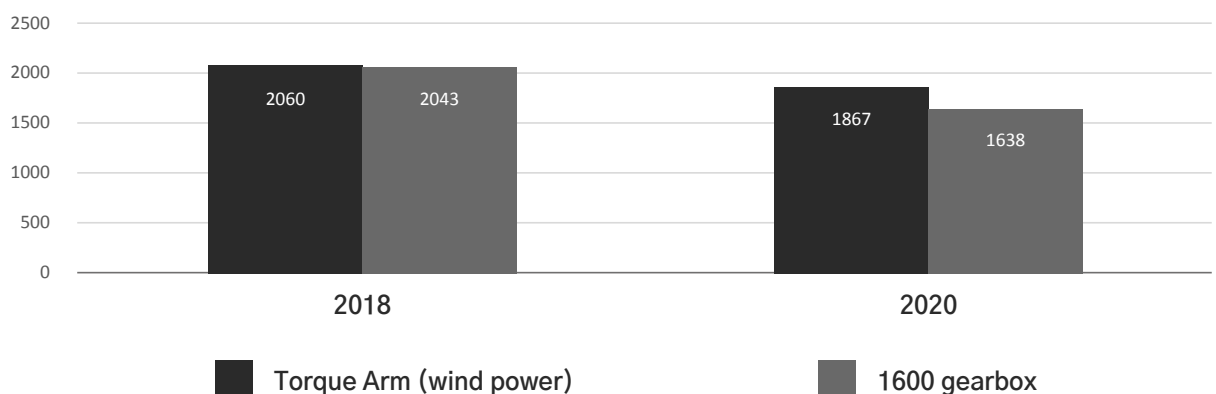
The kg of CO₂ emissions to produce one ton of cast iron for the wind power industry.

In 2018 the ratio of CO₂ produced per ton of cast iron was 2060 kg/ton, but in 2020 we were able to decrease it by 10% thanks to our purchase of energy from renewable sources.

The emissions were evaluated as a part of the Effige project, this project is promoted by the European Commission to improve the environmental performances of companies and of their final products consistently with the PEF declaration, thus contributing to the development and spread of the environmental footprint.

Thanks to our partnership with Assofond and Università Sant'Anna of Pisa we developed an algorithm that allowed us to evaluate the environmental footprint of a casting to be applied in the wind power industry and of a gearbox to be used in the machine tools' industry.

Kg of CO₂ emission/ton cast iron



95%

The percentage of sands reclaimed in our plant and reused in moulding.

96%

The percentage of waste we sent to recycle. Our company's policy is to choose disposal plants not only based on costs, but also according to the waste final destination, that's why we try to reduce to a minimum the quota sent to final disposal.

**Improve means investments in
responsible choices**
