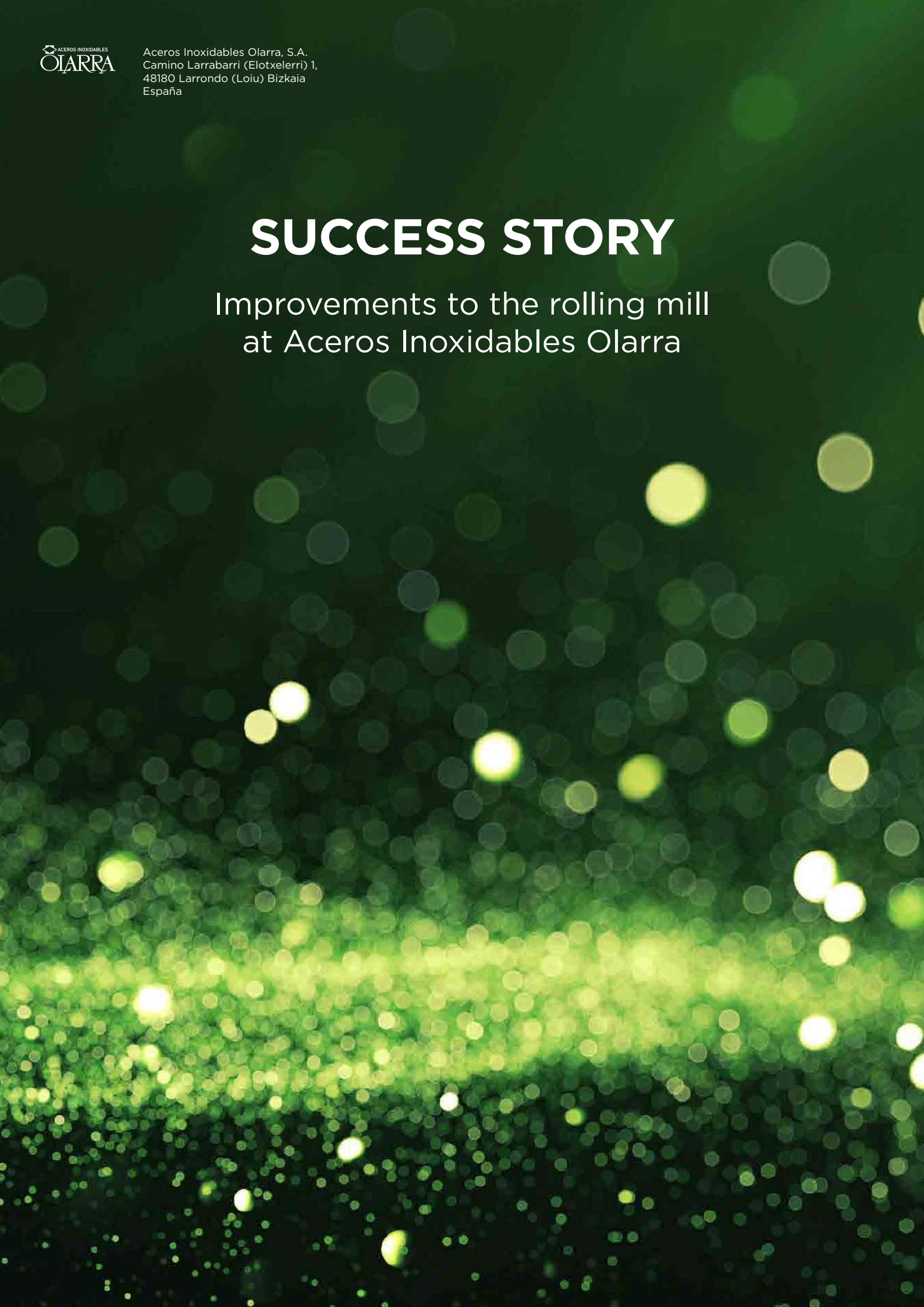
Aceros Inoxidables Olarra, S.A.
Camino Larrabarri (Elotxelerri) 1,
48180 Larrondo (Loiu) Bizkaia
España

SUCCESS STORY

Improvements to the rolling mill at Aceros Inoxidables Olarra



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Installation Description

This success story centres on the rolling furnace at Aceros Inoxidables Olarra, an industrial facility designed to preheat billets prior to the rolling process. The main function of this furnace is to raise the temperature of the material without melting it, operating within a range of 1,000 ºC to 1,200 ºC using natural gas as the primary energy source.

This is a Danielli furnace consisting of seven heating zones and a total of 46 burners, with a nominal installed thermal capacity of 31,006 kW. The furnace operates on a weekly production cycle, running from Monday to Friday and remaining shut down at weekends, which offers significant potential for energy optimisation associated with both continuous operation and periods of downtime.

Energy consumption before and after

Implementing the measures described in this success story has resulted in energy savings of almost 20% in the rolling process.

20% energy savings

This reduction in consumption contributes directly to reducing the plant's carbon footprint, preventing the emission of 2,400 tonnes of CO_2 per year and reinforcing Aceros Inoxidables Olarra's position as a company committed to decarbonisation, without affecting production capacity or the quality of the final product, that is to say, whilst maintaining the operational conditions necessary for the industrial process to run smoothly.

Preventing

2.400 tonnes

of CO_2 emissions per year

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Annual reduction
in natural gas consumption

12.299.228

kWh/year

This level of energy savings has a significant impact on improving the plant's environmental performance.

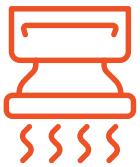
Energy-saving measures implemented

The upgrade to the rolling mill forms part of a wider range of Energy-Saving Measures (ESMs) implemented at the plant, including initiatives such as the installation of heat recovery boilers, the refurbishment of the compressor room, the optimisation of cooling systems, nitrogen generation and the installation of a 2.9 MWp rooftop solar photovoltaic system.

In the specific case of the rolling mill (MAE 10), the main measures implemented have been:

Controlled reduction in the oven temperature at weekends

Individual control of the air supply to each burner



Replacement of the heat recovery unit, improving the efficiency of energy recovery from flue gases

These measures have not only optimised the furnace's overall performance, but have also led to significant progress towards the company's energy sustainability targets, substantially reducing specific natural gas consumption.

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Conclusions

The upgrade to the rolling mill at Aceros Inoxidables Olarra is a prime example of how operational optimisation and the incorporation of advanced technical solutions can generate significant energy savings in high-temperature industrial processes. The project demonstrates that there is considerable potential for efficiency gains even in mature facilities, through improved combustion control, heat recovery and intelligent management of downtime.

Refurbishment of the compressor room

Optimisation of cooling systems

Nitrogen generation

Installation of a 2.9 MWp rooftop solar photovoltaic plantt

Overall, this project forms an integral part of Aceros Inoxidables Olarra's overall sustainability strategy, actively contributing to its decarbonisation and continuous improvement objectives.