

Case Study

Customer

EPALME is an aluminium recycler. The factory is currently producing aluminium billets with state-of-the-art casting technology using pure aluminium ingots and recyclable aluminium scrap. Its annual production capacity exceeds 30.000 tons.



Challenge

For EPALME, electrical energy is one of the major expense factors in the production line. Their management team was looking for a total energy management solution and for energy efficiency services to implement a sustainable development strategy and to maximize profits.

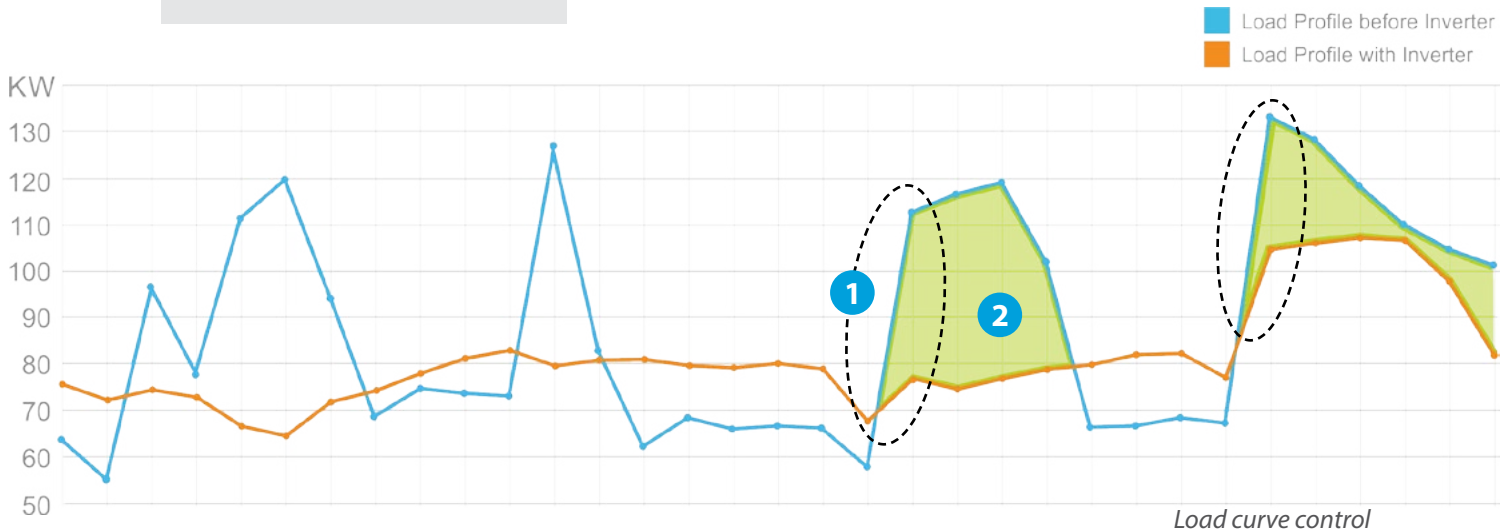
i
CLIENT DATA INFO
 Annual Energy Consumption:
4.2 GWh
 Annual Energy Cost:
400.000 €

Solution

Integrating the DTWISE platform enabled the facility's energy profile monitoring through analyzing any electrical metric, fundamental for this case.

The energy engineers delve into the continuous data feed. Using a wide palette of tools, such as custom searches, pattern matching, thresholds setting and alerting, managed to pin-point several installation deficiencies and functional limitations.

Through the load profile construction, the shredding equipment and the melting furnaces were identified as the main consumers. The motor drive which con-



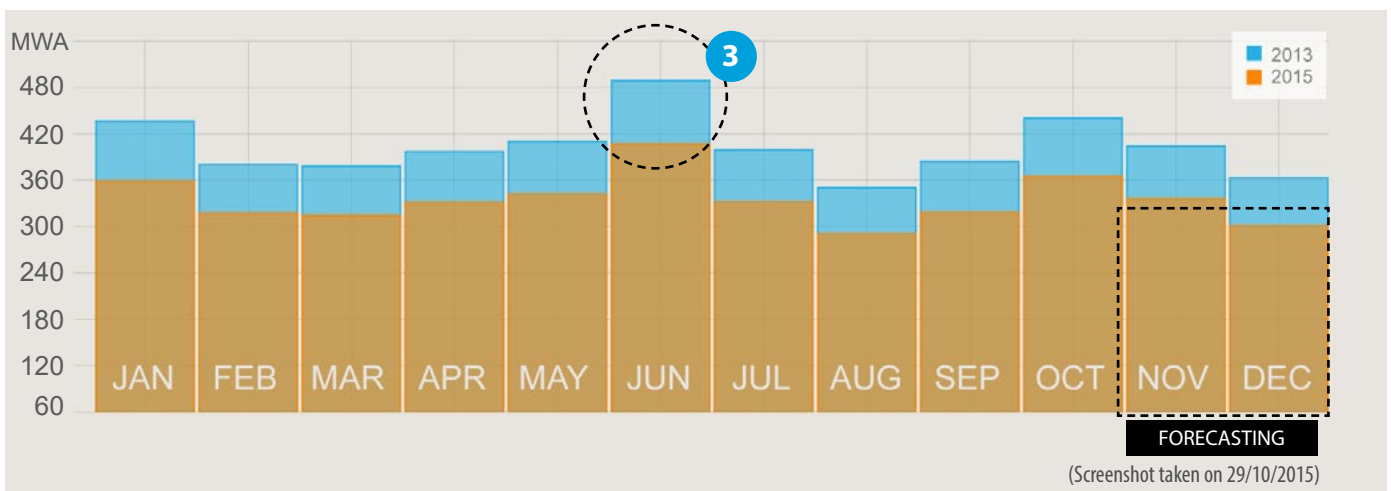
trols the air inflow in the melting furnace was accountable for the 15% of the daily general load. DTWISE proposed a variable speed drive control (inverter) for the motor in order to achieve reduction of active and reactive energy.¹

With an annual energy consumption of more than 4.0 GWh and a 24/7 peak demand of 900 kVA the proposed intervention had a high impact on the energy consumption reduction. The impact was 40% reduction for the specific load² and 6% on the overall factory consumption.

Moreover, most of the production line equipment's booting was not fully controlled, leading to a random load pattern with several peaks. DTWISE engineers used the data analysis to propose a substantial power arbitrage system to smoothen and optimize the load demand curve. This further reduced energy consumption by 12% and the general load by 8%.

Results

In 2 years DTWISE helped the factory to reduce the general load by 10.5% and to reach a substantial total energy consumption reduction of 18%.³ The ROI for the energy monitoring services was 9 months, which resulted in **80.000€ annual savings**.



2-year goal energy reduction achievement