Metal industry

Reducing network charges in a multi-rate tariff system

Company profile

Industry
Thermal and mechanical metal processing

Service portfolio
Hardening and tempering, thermal treatments (carburising, carbonitriding, vacuum hardening), gas and plasma nitriding, surface finishing, and CNC machining

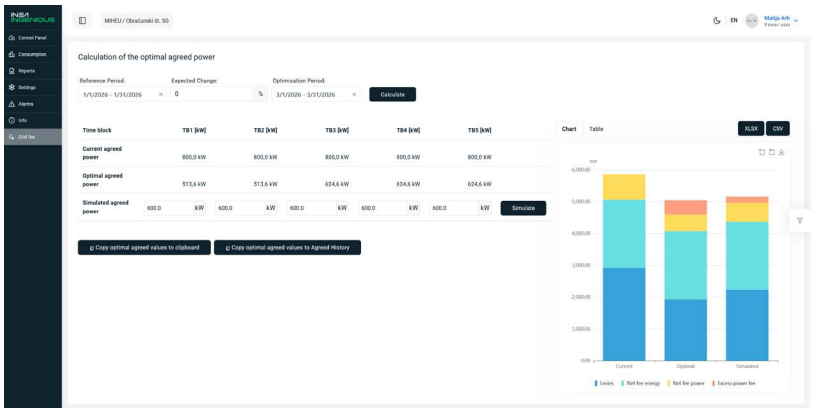
Production details
Connection voltage: 20 kV
Annual consumption: 2.6 GWh
Operating regime: 24/7

Challenge

The newly-introduced shift from a two-tariff system to a seasonally dependent system with five time-of-use tariffs threatened to skyrocket the company's network charges. Their production processes were highly interdependent and sensitive to interruptions, with more than half of them running 24/7. Without an on-staff energy management specialist and a centralised monitoring system, they had low energy visibility, while their legacy furnace manufacturer requested € 20,000 per machine for remote control access.

Solution

After a thorough analysis of load characteristics and consumption profile, we determined which loads could best adapt their power draw. The legacy equipment lock was circumvented by adjusting other process parameters while keeping everything monitored. Out of 1.3 MW of total loads, 260 kW of total flexibility was able to be extracted, and a 91 kW battery was added to better utilise their existing solar power.



Results

36 %

reduction in contracted power

in the most expensive time-of-use period by shifting consumption

14 %

reduction in annual electricity cost

by optimisation of network charges and proportional levies

< 3 year

return-on-investment period

from savings generated by inGenious Flex