ENERTOP

Energy Resources Trading Optimization by N-SIDE

INCREASE YOUR ENERGY TRADING REVENUES FROM STEEL MAKING CO-PRODUCTS

THE CHALLENGE

Energy costs in steel manufacturing are getting higher and contribute more and more to the total cost of steel production. One of the possible economies is to re-use the different gas produced by coking plants and blast furnaces to produce and trade electricity. Indeed, producing its own electricity is not always the most economical approach because of electricity prices volatility. The quantity of traded electricity must be planned in advance and must be accurate to avoid penalties which would reduce the operation yield. You don't need only a good economical model but also a realistic one.

N-SIDE
OPTIMIZING YOUR DECISIONS

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The APPROACH

In order to reduce costs, steel companies have to look at all energy yield optimization aspects. According to the day and even the quarter of an hour, it could be more beneficial to buy cheap electricity from the provider and sell him its own one when prices are higher. However, taking into account all the parameters such as gas mix energetic yield, natural gas prices, steam generator yields, electricity price changes per quarter of an hour are not straightforward tasks.

→ *Optimizing Energy trading*

ENERTOP (Energy Trading Optimization) is a solution based on the latest Operational Research techniques, allowing planning and managing the plant resources utilization in order to maximize the energy trading profitability.

→ *Planning optimization Models*

First of all, electricity distributors constrain any electricity producer to provide short and medium term production planning. Optimization models of ENERTOP will provide those optimized planning based on the available energy resources – gas, including from coke plant, blast furnace and even natural gas bought from external sources – and electricity production equipment and yields – steam generators and turbo-alternators e.g. Other parameters like natural gas prices at a certain point in time, calorific value of the gazes, the amount of gas available, each steam generator yield, the electricity prices planned by an auto-regressive model for each quarter of an hour will lead to the optimal electricity production planning.

→ *On-line resources management model*

Doing a consistent and achievable planning is one of ENERTOP's capabilities. Once the most economical planning has been reached, ENERTOP still has to actually produce energy according to the plan to minimize electricity distributor penalties. ENERTOP on-line calculation model leverages the different captors in the factory to review each and every minute the current status of the electricity production. It then proposes the appropriate changes to the gas mix or the machine usage to accommodate the forecasted electricity production for the following quarter, limiting the onerous distributor penalties. In case of unplanned event like a machine breakdown, the model will automatically recalculate the best fuel and machine combination to achieve the plan or find the least expensive correction method.

The BENEFITS

→ *Optimize your energy trading profits*

By putting together the different gas and electricity prices and availability, machine yields and constraints, ENERTOP calculates your optimal short and medium term electricity planning that maximizes your profit.

→ *Create the most economical but realistic trading planning*

ENERTOP uses efficient Operation Research algorithms to produce both economical and achievable models based on all sort of resources parameters.

→ *Reduce distributor penalties by on-line model recommendations*

ENERTOP automatically adapts to changes in any input parameter and recommends appropriate changes to comply with forecasted electricity production, avoiding paying penalties.

Others N-SIDE optimization tools dedicated to the steel industry

sCOOP Steel Cost Optimization by N-SIDE

coSPRO Coils Sequencing Productivity Optimization by N-SIDE

N-SIDE

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