

## EUR21\_30 - OPPORTUNITIES FOR FURTHERING THE ELECTRIFICATION IN HEATING PROCESSES

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**Abstract** - Fifty years ago, the concept that “steam was not free” became a reality in the process industry. The process industry has realized and perfected the use of electric heating as a highly efficient and in many cases a less costly energy source.

Electric process heater manufacturers provide heating solutions for temperatures under 780°C. These solutions are utilized in trace heating, space heating, heating of process fluids (gases and liquids) and conductive heating of solids.

Centralized large-scale power generation can allow improved efficiency in converting fossil fuel to electrical energy. In addition, the growing production of renewable power gives excess power to the grid. Combining this with targets for the industry on the reduction of the use of natural gas for process heating, a substantial contribution in the reduction of greenhouse gases can be achieved.

This paper will present numerous process heating application solutions where conversion to electric heating source opportunities may exist. A feasibility case study will be presented that transforms a cogeneration based steam energy supplied production unit to one that uses an electric steam boiler.