

Energy efficiency in industry

Industry uses approximately 30 % of all energy consumed in Europe, mainly within the steel, cement, chemistry, refinery and pulp and paper sectors. The plants within these sectors are large and few; there are for example not more than 100 refineries in Europe. This means that measures in a few industrial plants can lead to significant reductions of Europe's energy consumption and CO₂ emissions.

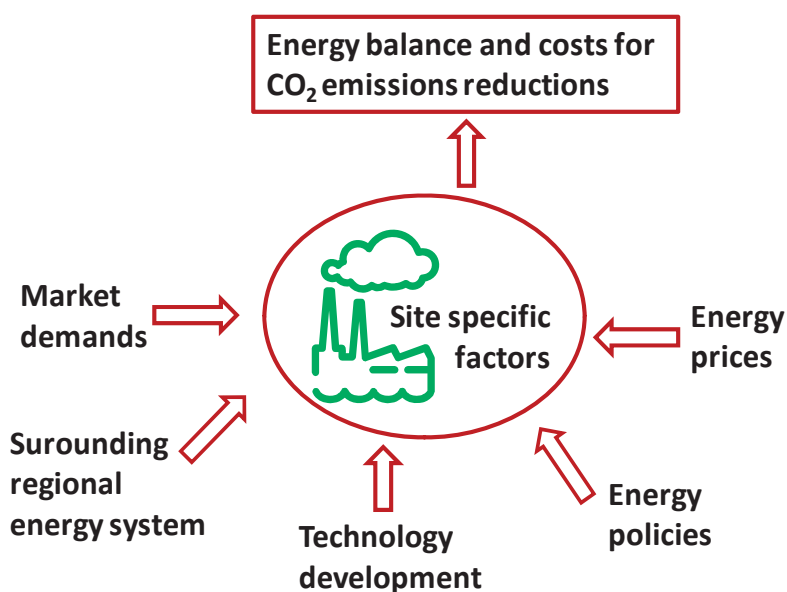
There is a large technical potential to reduce energy consumption and CO₂ emissions in industry. Interesting technologies and system changes are:

- Implementation of best available technology (BAT)
- Process integration and heat recovery

- Increased cogeneration of heat, electricity and fuels
- Increased use of bio-energy
- Carbon capture and storage (CCS)

Parameters influence

Several parameters influence if and when the above mentioned technologies and system changes will be implemented. Some of these parameters are site specific, but many depend on the development in other sectors, e.g. the power and transportation sectors. For example: If the transport sector will demand large amounts of biofuels, energy savings in the pulp and paper industry will become profitable, since these energy savings will make it possible to co-generate more biofuels in pulp and paper mills.



Example of types of parameters which influence the potential for CO₂ emissions reductions in industry

Researchers



Jessica Alged

Chalmers University of Technology, Göteborg



Johanna Jönsson

Chalmers University of Technology, Göteborg



Daniella Johansson

Chalmers University of Technology, Göteborg



Thore Berntsson

Chalmers University of Technology, Göteborg



Simon Harvey

Chalmers University of Technology, Göteborg