

Industrial Energy Management

- ▶ Chemical and Energy Engineering CEE

Industrial Energy Management

The students are able to calculate the global warming due to anthropogenic CO₂ emission. they can calculate and assess the efficiency of power stations for fossil and renewable energies. They can apply economical calculations to compare the production costs for electricity using different energy systems. They can evaluate measures for the reduction of energy consumption and fossil CO₂ emissions considering specific boundary conditions.

- ▶ Global data of energy consumption
- ▶ Historical development of energy consumption
- ▶ Mechanism of global warming, increase of CO₂-concentration in atmosphere
- ▶ Steam turbines, gas turbines, coupled gas and steam turbines, internal combustion engines
- ▶ Measures for reduction of NO_x, sulfur and soot emissions,
- ▶ Thermal waste treatment
- ▶ Economical calculations for electricity production with power stations using black coal, lignite, natural gas, biogas, waste and uranium, wind power, hydro power and photovoltaic,
- ▶ Development of energy consumption in traffic, industry and private households,
- ▶ Measures to decrease CO₂ emissions

Combustion Engineering

Written exam 120 min, 4 CP

Prof. Dr.-Ing. E. Specht, Dr.-Ing. J. Sauerhering

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