

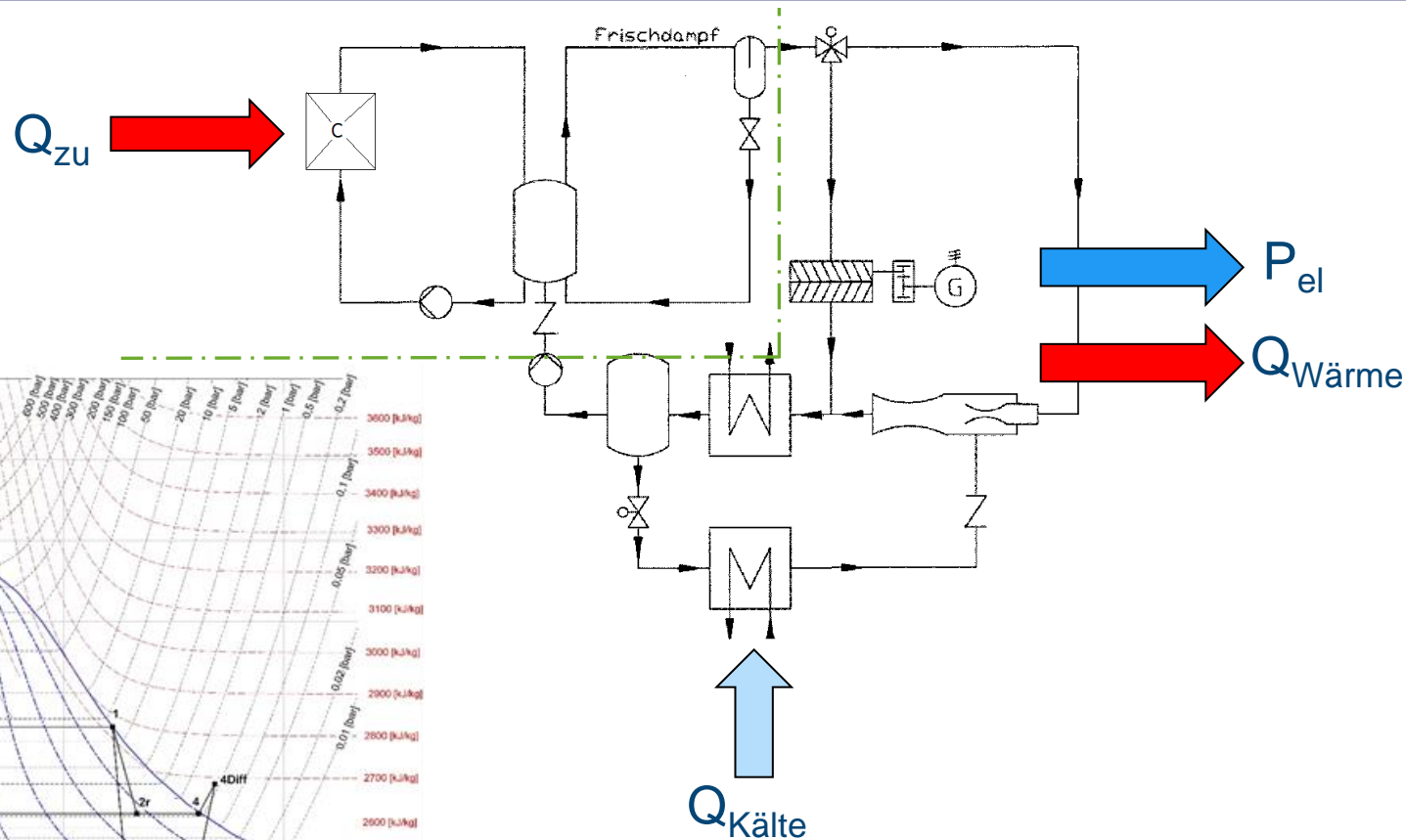
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Department of Thermal Engineering

# **SOLAR ELECTRICAL AND THERMAL ENERGY PRODUCTION "SETE PROCESS"**

# SETE - Process

## Process/T,s-Diagram/Thermodynamic calculation



$$\text{Overall efficiency} = \frac{\text{Electrical} + \text{Heat} + \text{Cooling}}{\text{Operating power}} = 100 \text{ bis } 180\%$$

# SETE – Process

## Facts

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- The SETE method (solar electrical and thermal energy production) is based on a **patented process** and a compact energy production plant that supplies buildings with cooling, heat and power.
- This results in a **wide range of applications** for the novel SETE process.
- By **controlling** the **live steam quantity**, the plant can be run in electricity or cooling-guided mode as well as heating or cooling mode only with or without combined generation of heat for hot/warm water.
- Depending on the cooling-related demand, **water or ammonia** can be used to produce **A/C cooling or process cooling** while simultaneously providing electrical power and heat.
- The SETE process achieves a higher efficiency (overall efficiency between **100 und 180%**) than traditional combined cooling, heat and power plants, but requires less plant technology and **lower investment costs**.
- The application of this system can contribute importantly to **using renewable energy sources efficiently** while offering **enormous green electricity potential**.