



Universität
Bremen



Fachbereich 4
Produktionstechnik
Maschinenbau &
Verfahrenstechnik

People 4
Production

Heat Happens: Thermodynamics in Daily Life

04-GS-ING-001

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Matter, Temperature & Energy

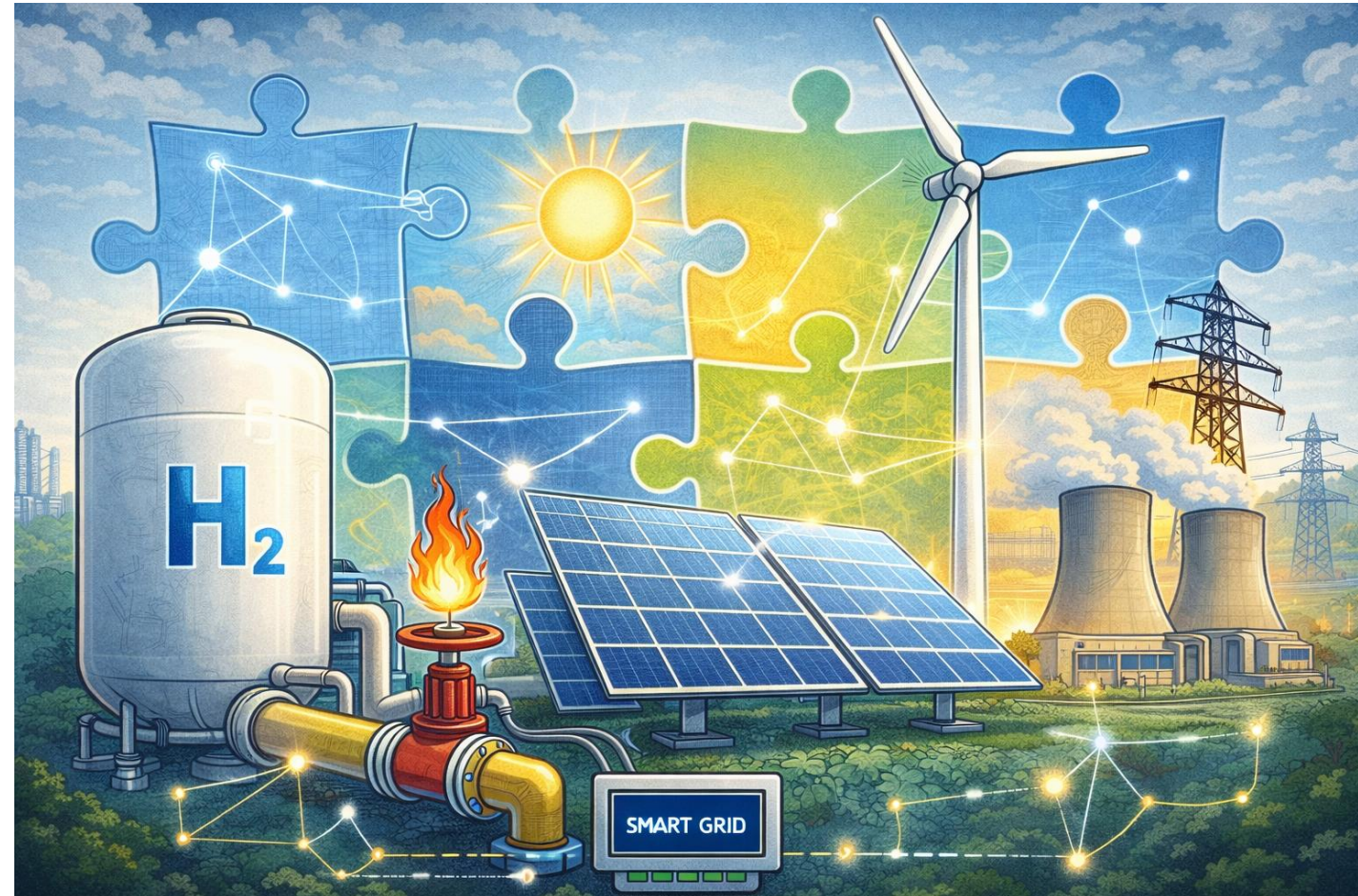
Internal Energy

Enthalpy

Heat capacity

Zeroth Law of Thermodynamics

First Law of Thermodynamics



Limits of Energy Conversion

Entropy

Second Law of Thermodynamics

Third Law of Thermodynamics



AKW, Quelle: www.focus.de



The State of Matter

Gas phase

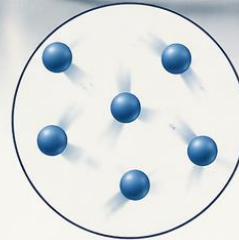
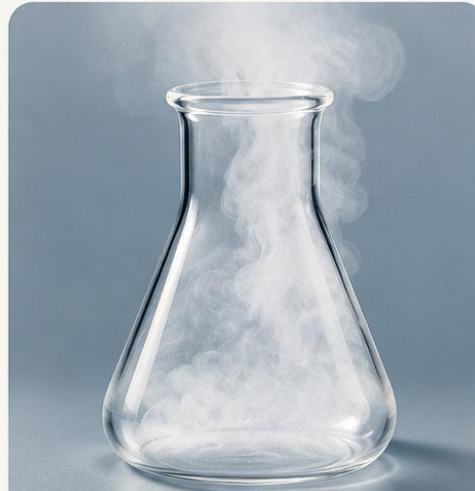
- Ideal gas
- Real gas

Condensed phase

- Incompressible substance

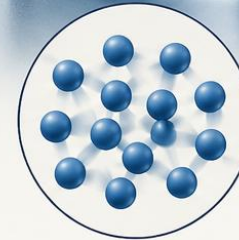
THE THREE STATES OF MATTER

GAS



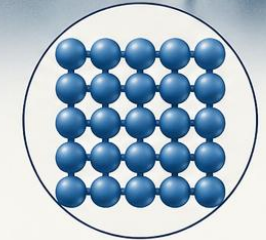
Particles are far apart
and move freely.

LIQUID



Particles are close together
and can slide past each other.

SOLID



Particles are tightly packed
in a fixed position.

Behaviour of real Matter

Why do things not burn in a water bath?

How to cook in the mountains?

How does a pressure cooker work?

What is the critical point?

