PLANETE ENERGIES

Transcript Vidéo – WHAT IS ENERGY EFFICIENCY?

What Is Energy Efficiency?

When one form of energy is converted into another, some of the energy initially available is dissipated.

Example for a washing machine:

It consumes a certain amount of **electrical energy** = **Energy consumed**

Some of this energy is converted into **mechanical energy** = **Useful energy**

The rest is lost as heat = **Energy lost**

The **EFFICIENCY** of this washing machine = the **relationship** between the **useful energy** and the **energy consumed** by the machine.

Calculating it as a % is simple: Efficiency (η) **=** (E_{out})/(E_{in}) x 100

η: Efficiency

E_{out}: Useful energy

E_{in}: Energy consumed

Example: The efficiency of an incandescent light bulb is around 5%. This means only 5% of the energy consumed by the bulb is converted into useful energy, i.e., producing light. 95% of the energy consumed is lost as heat.

The efficiency of an LED lamp is more than 30%. It is therefore more efficient, because less energy is lost.

Efficiency is key data for calculating **energy performance**.

Energy performance = **Average energy efficiency of a system** (e.g., a building).

To assess this, we must calculate the average of several representative efficiency readings.

Heating/Insulation/Air conditioning/Lighting

Summary:

- The EFFICIENCY of a device or system = **the relationship** between the **useful energy** given out and the **energy consumed**.

- Energy consumed = total amount of energy consumed by the device.

- Useful energy = proportion of energy consumed for the desired purpose.

- Efficiency is key data for calculating **energy performance** (e.g., of a building).