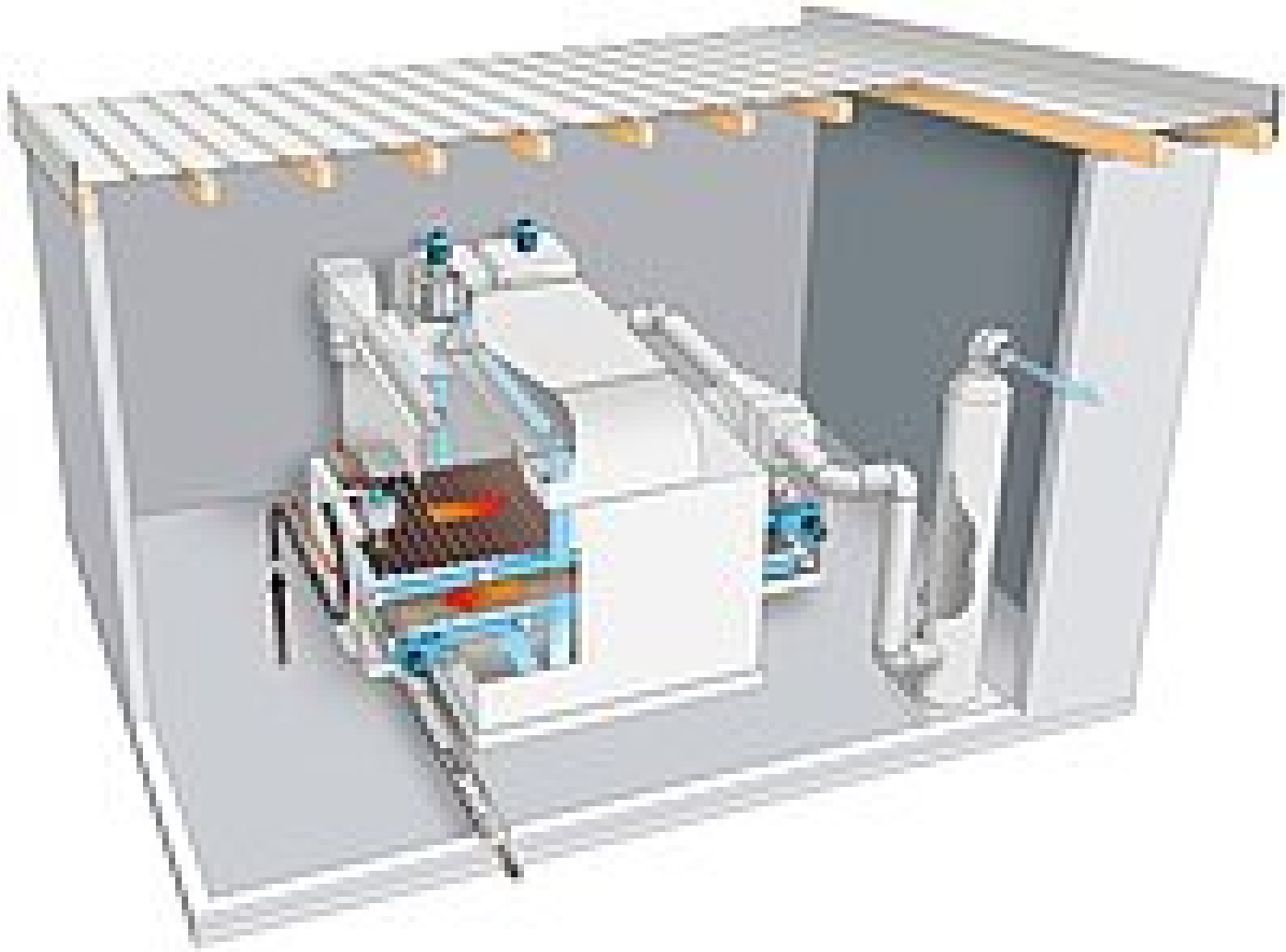
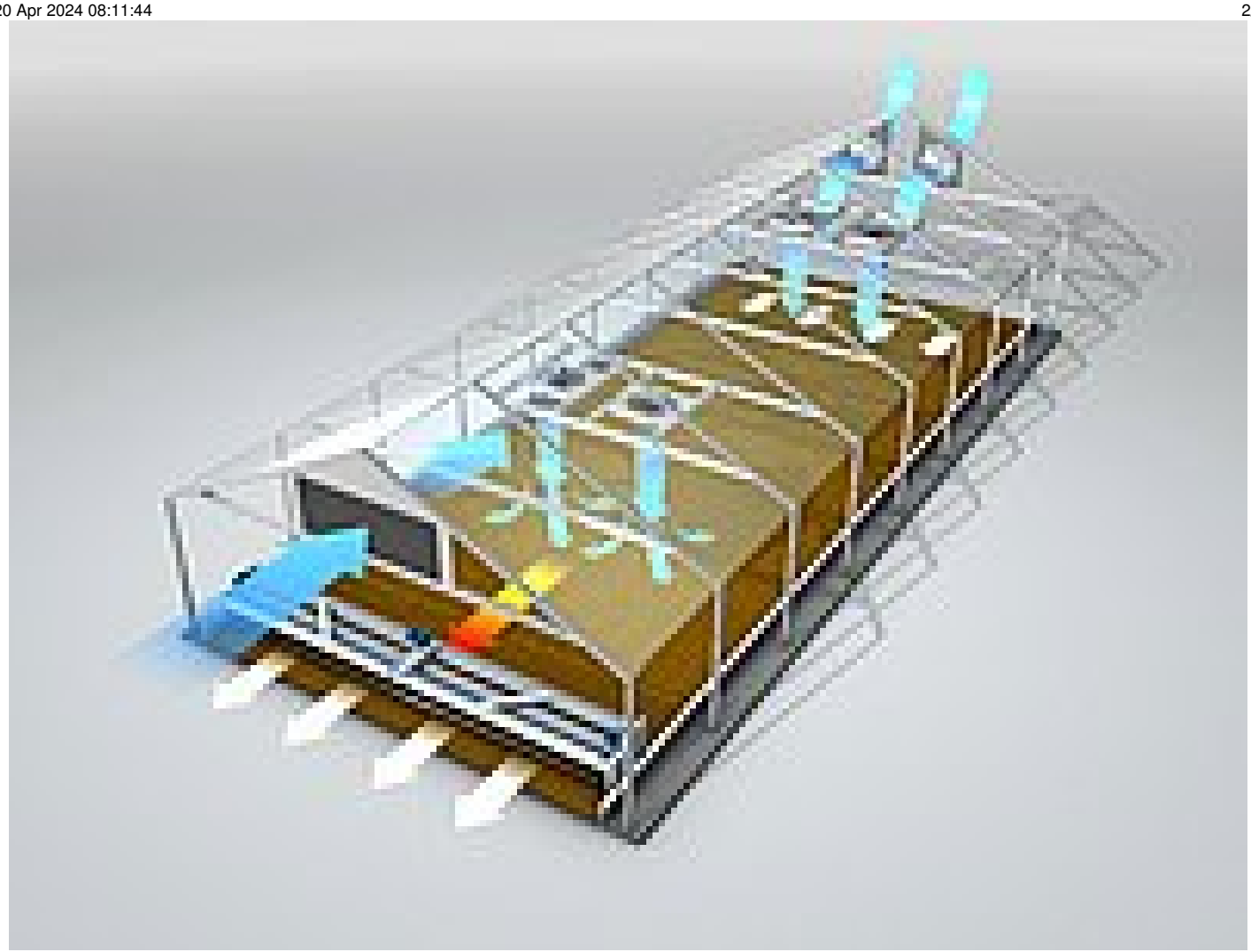
HUBER TECHNOLOGY sp. z o.o.

Sludge Drying



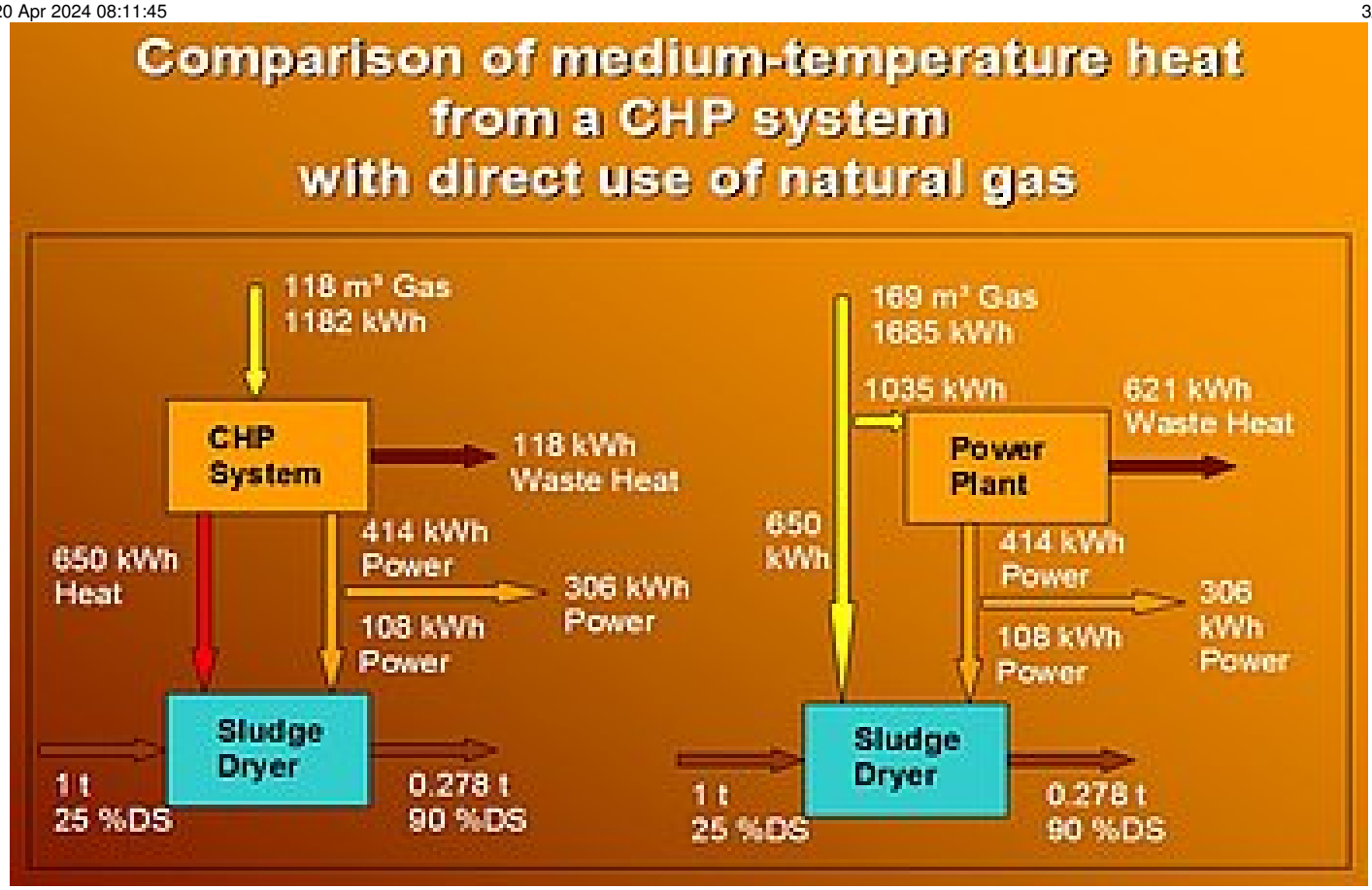


Water evaporation requires 800 – 900 kWh/t heat. Little heat is recovered. Sludge dryers also consume power.

- **High-temperature dryers**, such as drum, fluidized-bed or contact dryers, require high temperature heat, usually supplied as fossil fuel.
- **Medium-temperature dryers**, such as our HUBER Belt Dryer BT+, are operated with waste heat. If it is supplied at a temperature of 80 – 90 °C, disinfection can be achieved.
- **Low-temperature dryers**, such as our HUBER Solar Active Dryer SRT, have a large footprint, but need no or little heat.

Fossil fuel is far too expensive to be burned for sludge drying. If there is a lack of heat, it should be provided from a power-heat-cogeneration system, generating 0.6 kWh of power for every 1.0 kWh of heat. Since power is at least 3 times as expensive as heat, the benefit/cost-ratio is almost doubled.

Footprint and costs of solar dryers can by reduced by additional supply of low-temperature heat, e.g. recovered from effluent with a he exchanger / heat pump. Heat pumps supply about 4 kW of heat per 1 kW of power.


Comparison of medium-temperature heat from a CHP system with direct use of natural gas
118 m³ Gas
1182 kWh
CHP System
118 kWh
Waste Heat
650 kWh
Heat
414 kWh
Power
306 kWh
Power
108 kWh
Power
Sludge Dryer
1 t
25 %DS
0.278 t
90 %DS
169 m³ Gas
1685 kWh
1035 kWh
621 kWh
Waste Heat
Power Plant
650 kWh
414 kWh
Power
306 kWh
Power
108 kWh
Power
Sludge Dryer
1 t
25 %DS
0.278 t
90 %DS