

# Thermal Storage Based Generation



**Brenmiller Energy**

Decades  
of  
Combined  
Experience

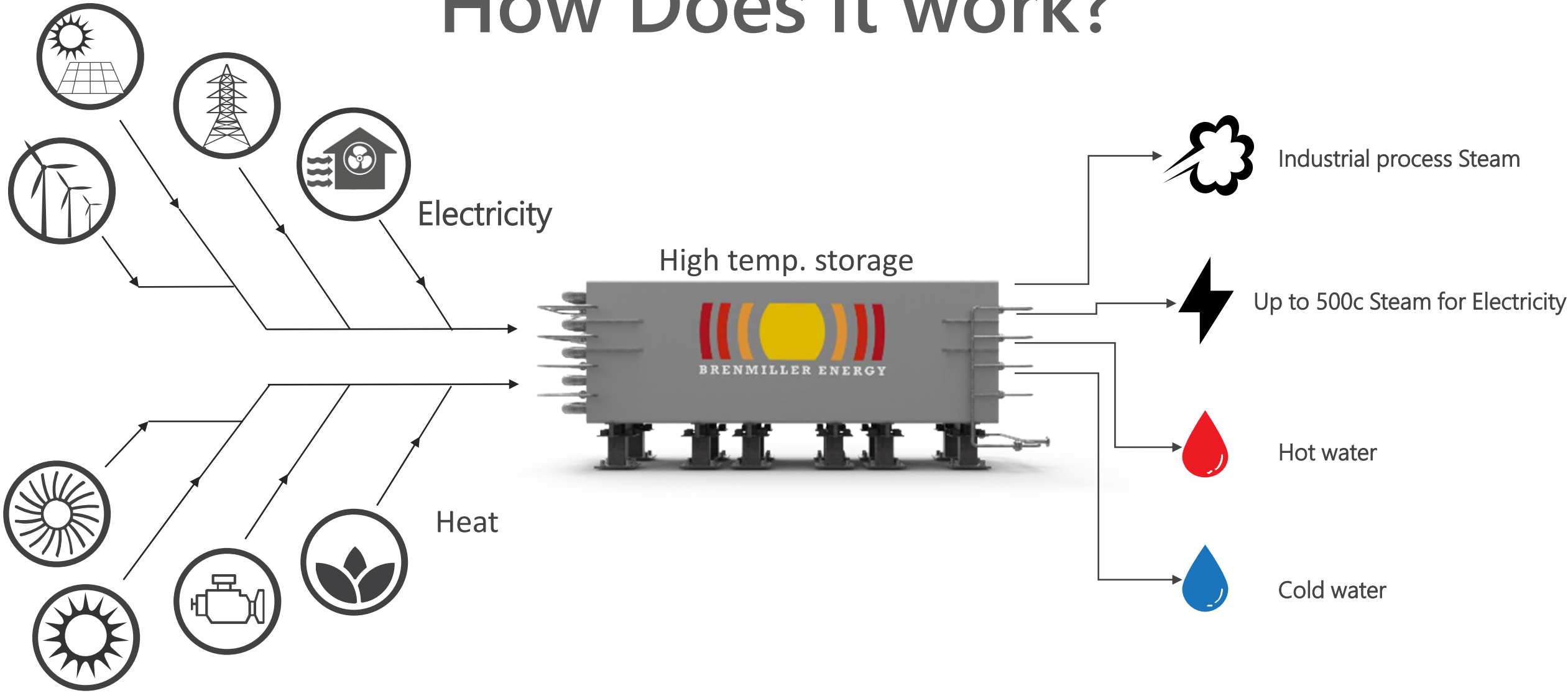
Over €1B  
of  
projects

Founded  
in  
2012

2017  
Publicly  
traded  
company



# How Does it work?



# Key Advantages



## Economic

Low Cost  
€1 cent/kWh



## Modular

From industrial to large  
scale power plants



## Lifetime

30+ Years



## Performance

Unlimited cycles, up  
to 95% Efficiency



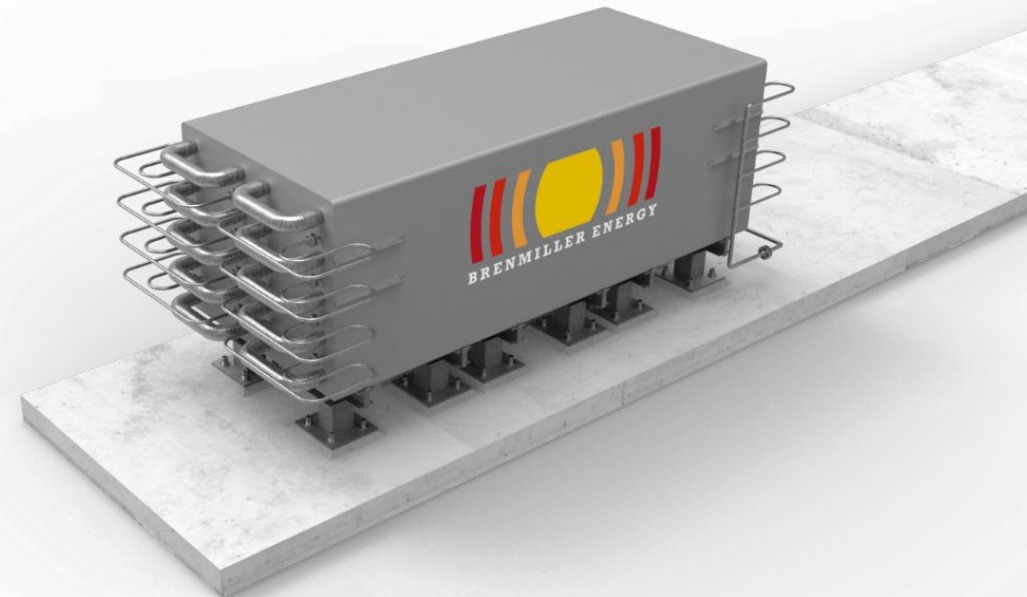
## Clean

Natural Storage Media  
(crushed rocks)

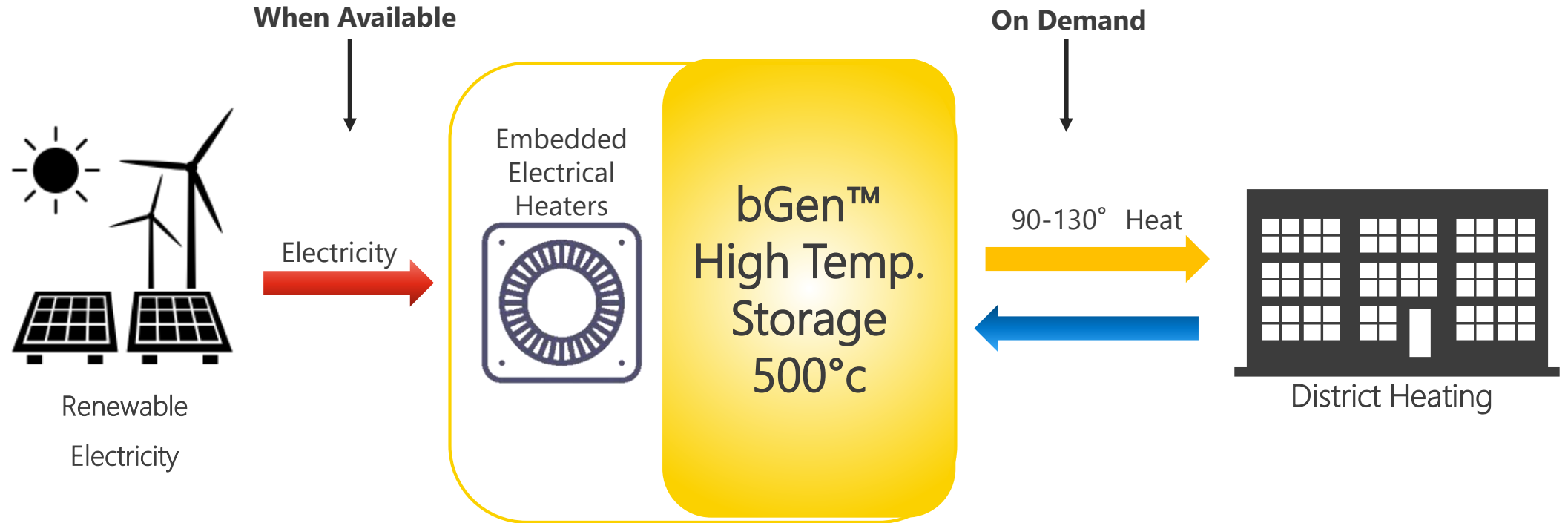


## Hybrid

Multiple energy  
sources



# Utilizing Brenmiller Heat Storage For District Heating

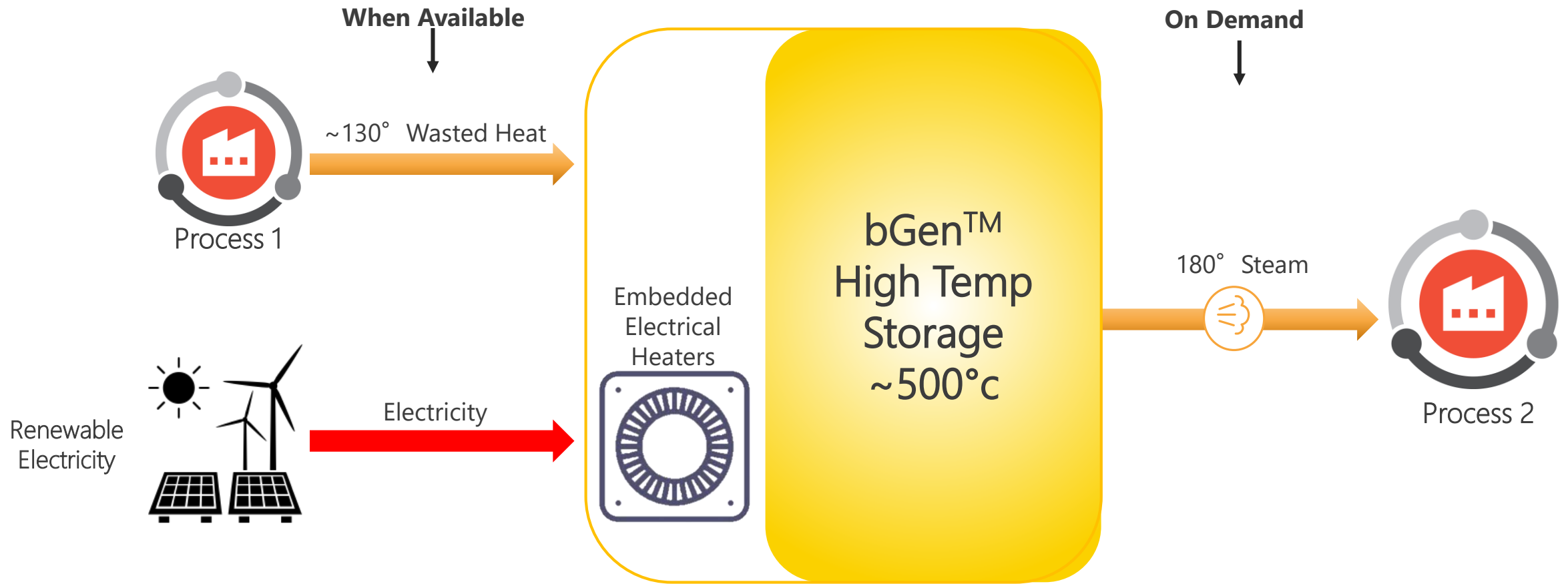


✓ Charging only when Renewable Energy available

✓ Small volume of Storage due to high temperature

✓ Pressure free storage system for cost economics

# Utilizing Brenmiller Heat Storage For Industrial Power to Heat



✓ **Charging when Renewable Energy available**

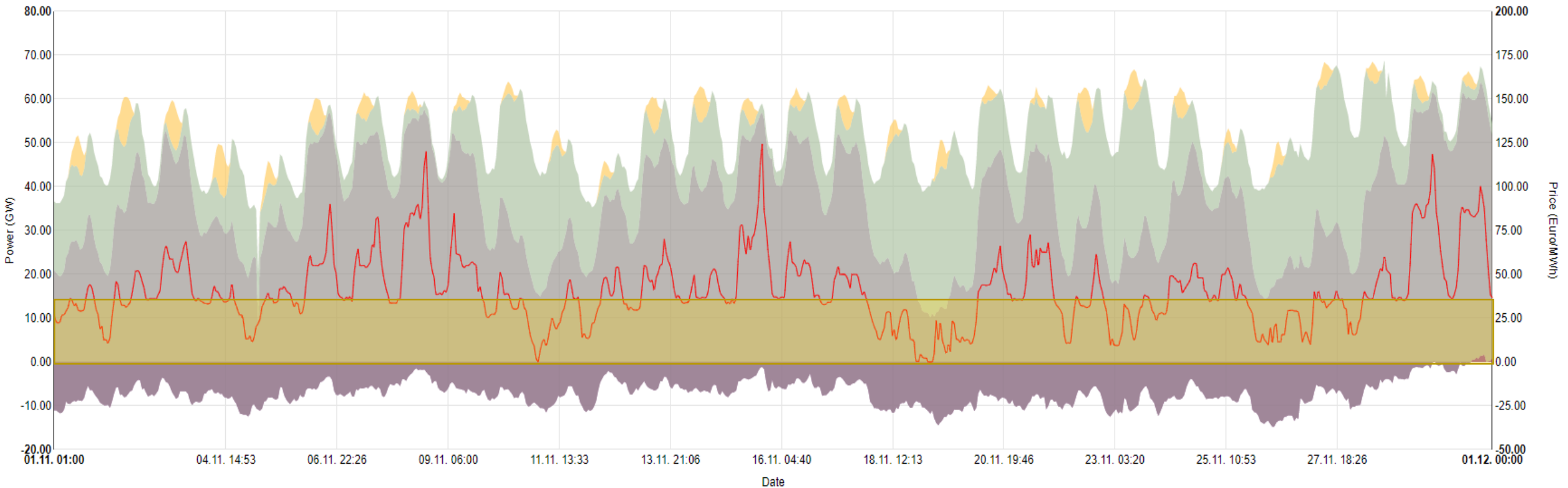
✓ **Charging when Wasted Heat available**

✓ **Small volume of Storage due to high temperature**

✓ **Pressure free storage system for cost economics**

# Daily Electricity Tariffs - Germany

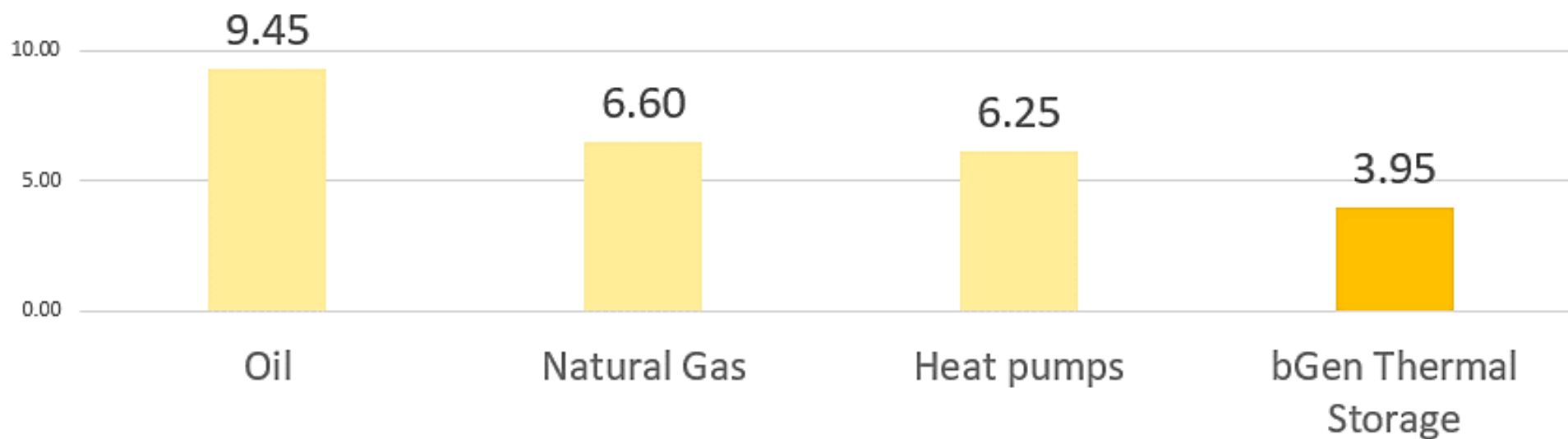
● Import Balance ● Conventional > 100 MW ● Wind ● Solar ● Load ● Day Ahead Auction (right axis) ● Intraday Continuous Average Price (right axis) ● Intraday Continuous Low Price (right axis) ● Intraday Continuous High Price (right axis)



Datasource: 50 Hertz, Amprion, Tennet, TransnetBW, EEX, EPEX  
Last update: 02 Dec 2017 00:14

\*Reference: Fraunhofer ISE, Germany tariffs in November 2017

# Heat generating prices - Comparison (€/Kwh)



\*Eurostat, European Commission, Bo Shen

Assumptions:

- \* Storing during low cost electricity prices
- \* 8 hours of charging/discharging per day
- \* 2.5 MWth supply per hour at 90°C



# Thank You!