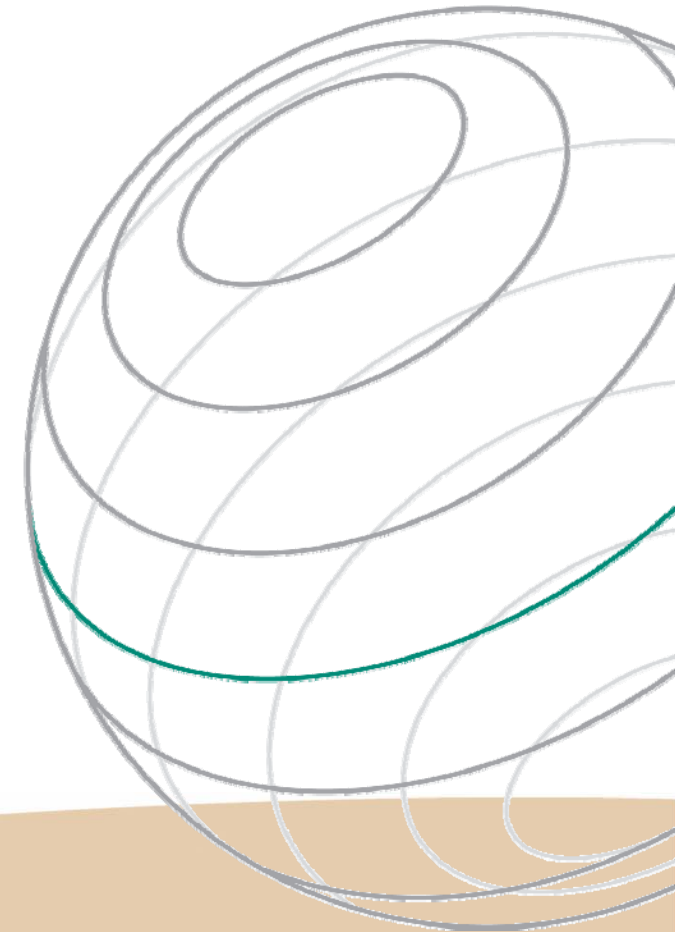


Vaillant Storages for Renewable Systems

PREHEAT symposium, Intersolar 2007, Freiburg

June 2007

VGN-RD Max Bankowski



Vaillant Group – heating technology company

With 10.000 employees, sales of more than 2.4 million appliances and a turnover of 2 billion Euro is Vaillant Group a leading heating technology company in Europe.

In EUR million	2005	2006	Variation in %
Sales	1.791	1.991	11
Investment	53	64	21
Research & Development	49	56	14
Employees	8.616	10.055	17
- of which in Germany	3.617	3.652	1
- of which international	4.999	6403	28



ABRU

awb
CV-KETELS

B BONGIOANNI



 **Glow-worm**

 **Hermann**

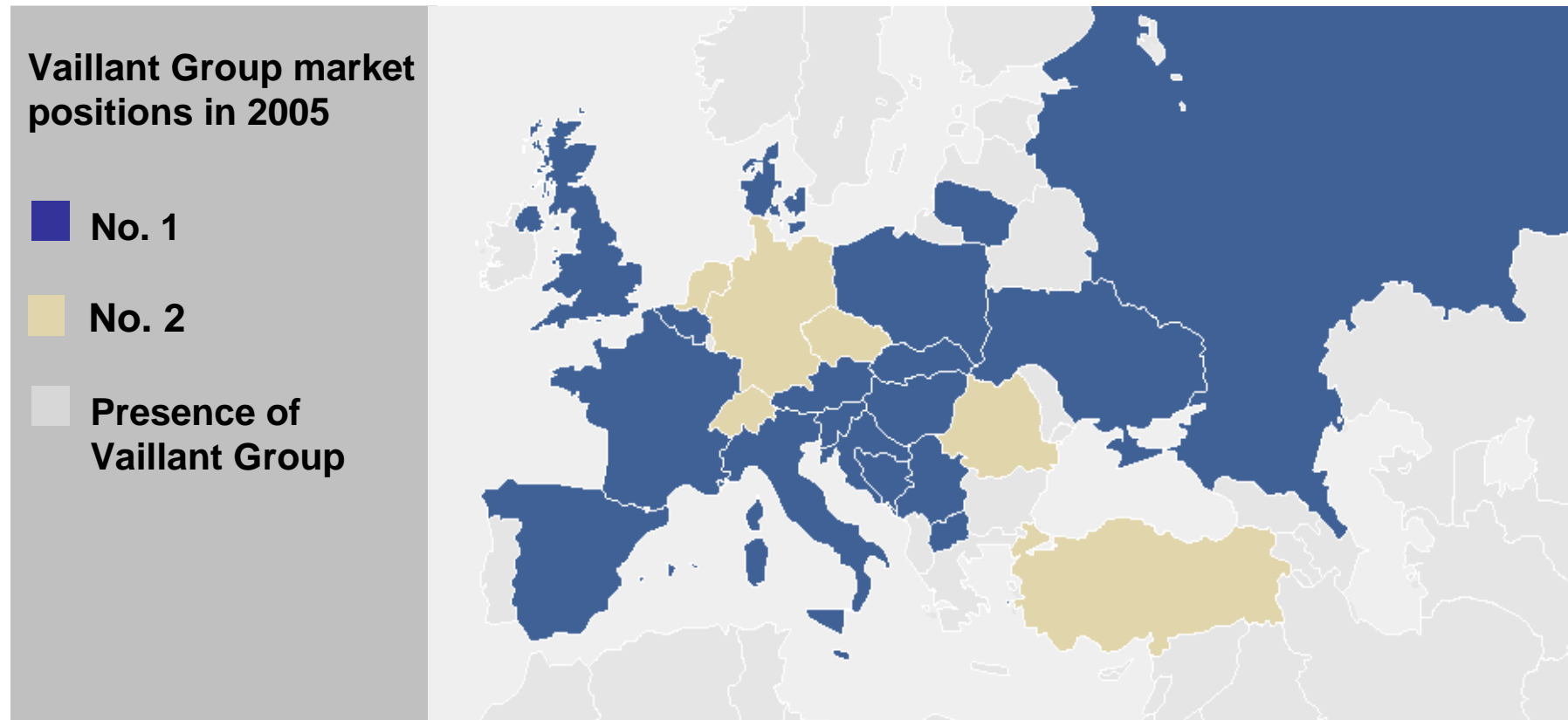
protherm



 **Vaillant**

Vaillant Group – International presence

With 1.6 million units sold in 2006, Vaillant Group is the leading supplier of wall-hung boilers both in Europe and worldwide



Vaillant Group – history

- ▶ **1874** Founding of Vaillant by Johann Vaillant in Remscheid (Germany)

- ▶ **1894 – 1963** New market segments created through innovations: first in 1894 with the gas water heater, then in 1961 with the gas wall-hung boiler, and in 1963 with the gas combination wall-hung boiler

- ▶ **1987 – 1997** - 1987 Hepworth plc takes over Glow-worm - 1993 Hepworth plc takes over AWB
- 1991 Hepworth plc takes over Saunier Duval - 1997 Hepworth plc takes over Protherm

- ▶ **2000** Vaillant takes over Bongioanni Pensotti Kalore (BPK)

- ▶ **2001** Vaillant GmbH acquires Hepworth plc and forms one of the world's leading heating and air-conditioning technology companies
Market launch of a new generation of wall-hung combination and condensing boilers

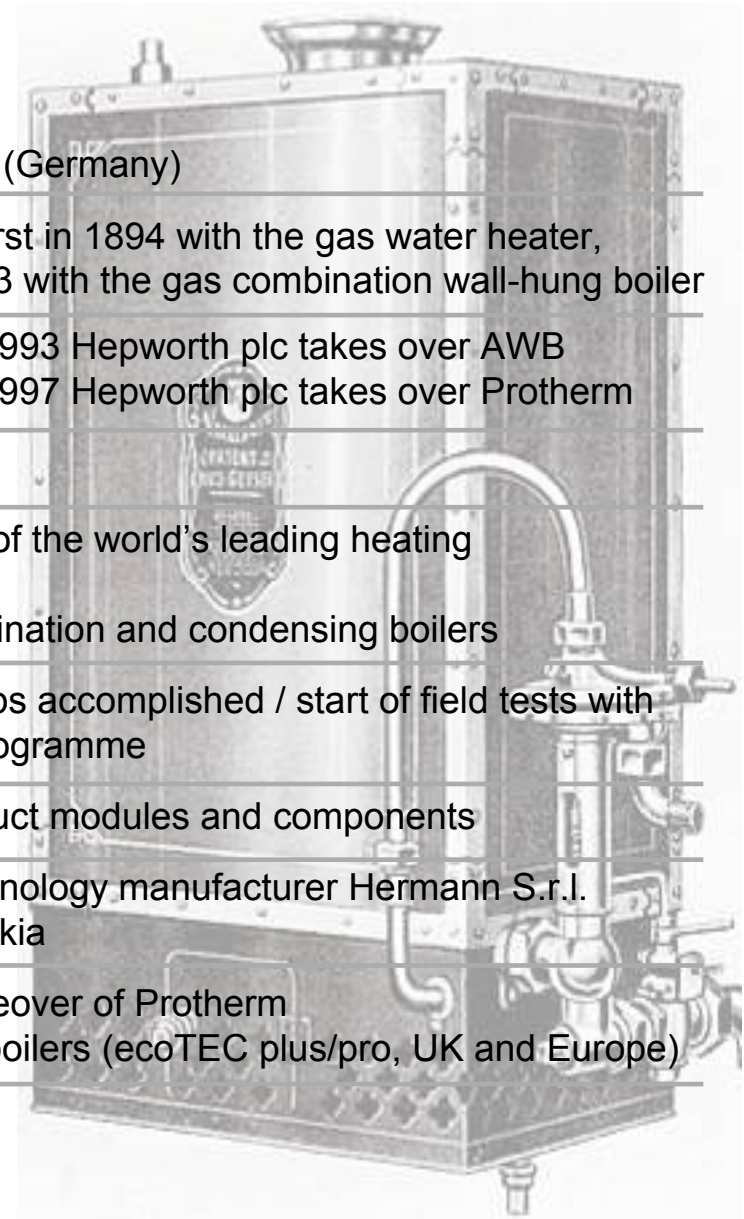
- ▶ **2002** New organisational structure: integration of both groups accomplished / start of field tests with fuel cell heating appliances / completely new boiler programme

- ▶ **2003** Start of development programme for group-wide product modules and components

- ▶ **2004** Acquisition of majority stake in the Italian heating technology manufacturer Hermann S.r.l.
Commissioning of new module plant in Trenčín, Slovakia

- ▶ **2005** Sale of Hepworth Building Products and complete takeover of Protherm
Market launch of a new generation of high efficiency boilers (ecoTEC plus/pro, UK and Europe)

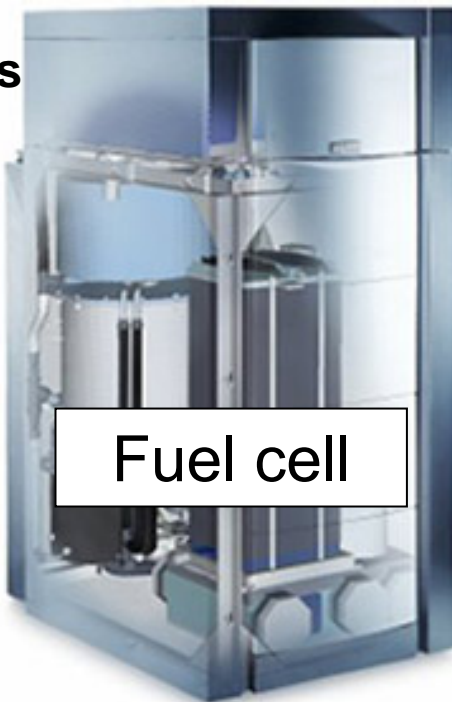
- ▶ **2006** Start of heat pump manufacture in Gelsenkirchen



Vaillant Group – New Activities & Renewables



CHP-unit



Fuel cell



Bio mass



Solar

Vaillant storages



Heat pump

Current Vaillant Storage Systems

all-purpose
storage



uniSTOR

Solar
storage



VIH S

Shift load
storage



actoSTOR

new Storage concepts

Vaillant Storage Systems – Shift load storage

New Vaillant shift load technology: ActoNomic



**ecoTEC plus
VUI xxx /
actoSTOR
VIH CL 20 S**

**aquaPLUS
VUI xxx**

**ecoCOMPACT
auroCOMPACT
atmoCOMPACT
VSC xxx**

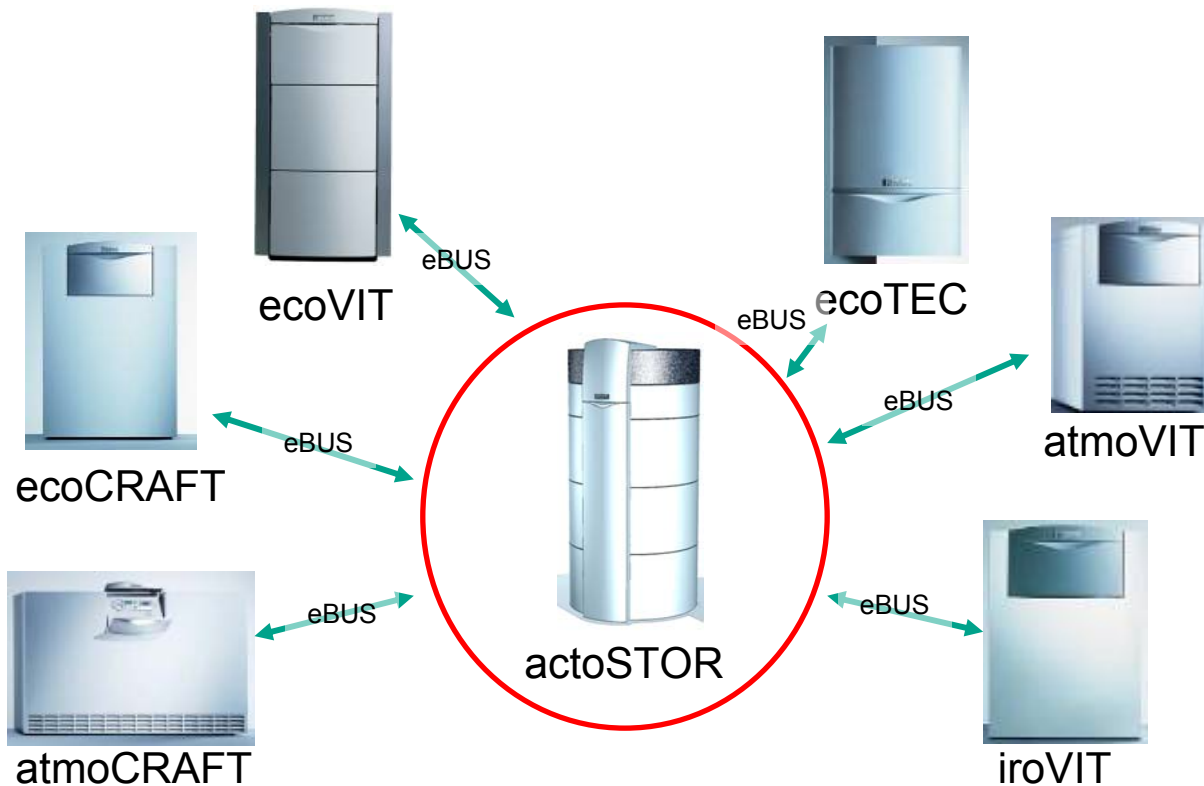
**actoSTOR
VIH K 300**

**actoSTOR
VIH RL 300-500**

Applications in small apartments up to multi family houses

Vaillant Storage Systems – Shift load storage

The actoSTOR 300-500 enable us to offer complete systems (DHW & heating) up to 35 family houses (NL 50)



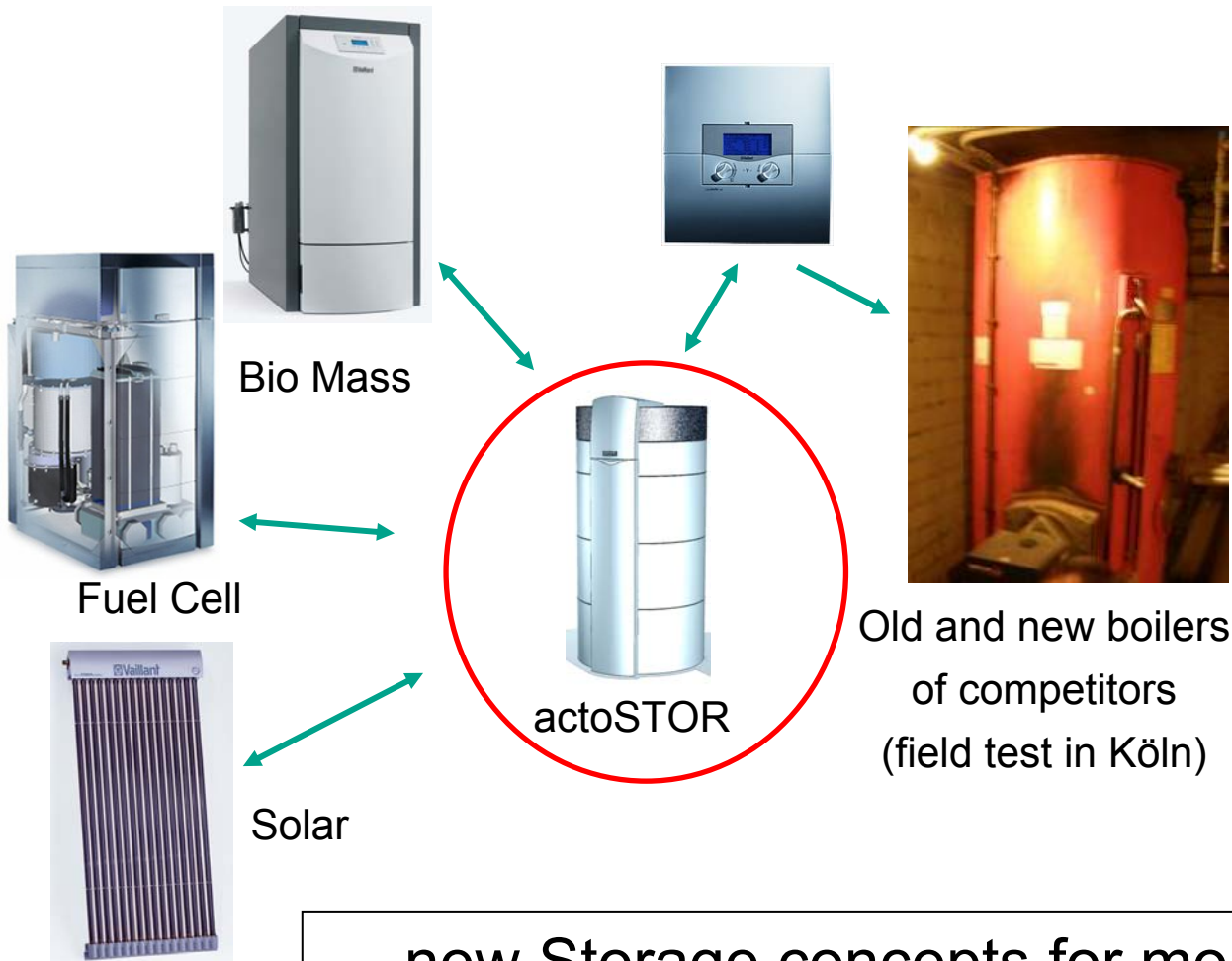
Shift load storage



new Storage concepts for more efficiency

Vaillant Storage Systems – Shift load storage

It is possible to use the actoSTOR with other systems.

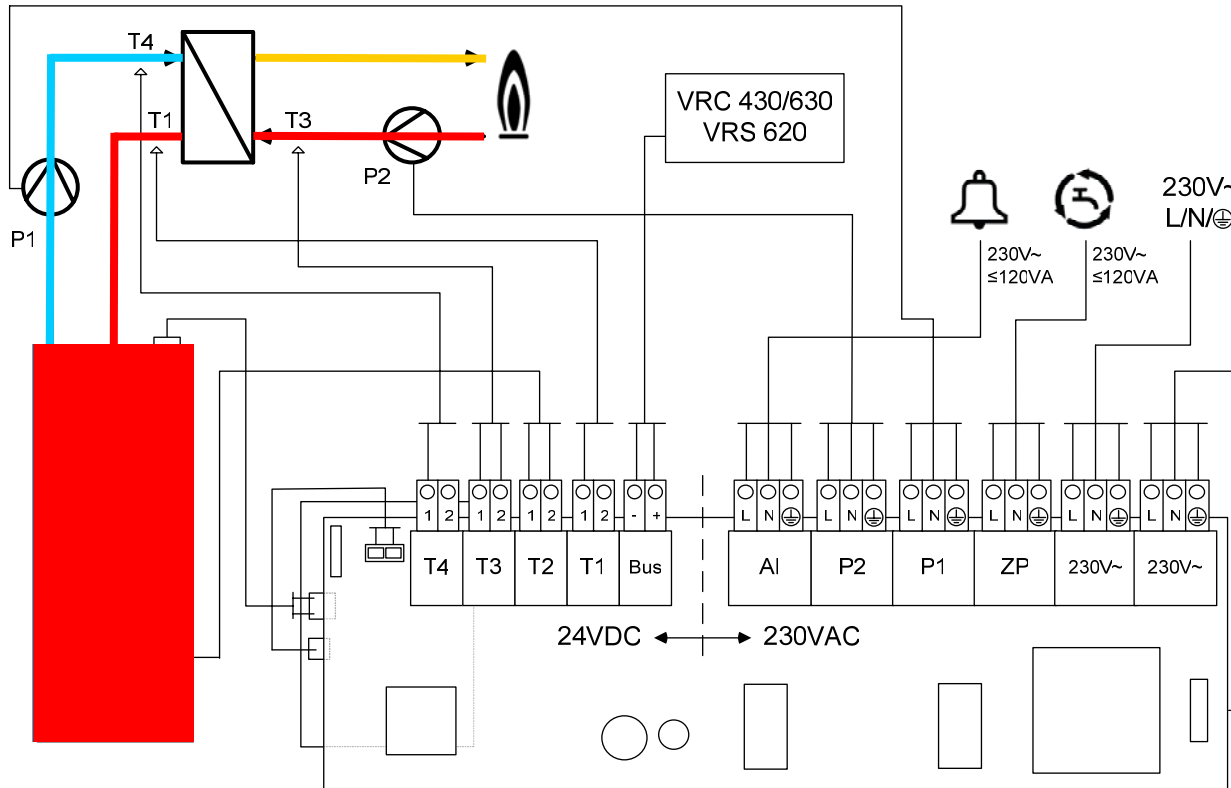


new Storage concepts for more flexibility

Vaillant Storage Systems – Shift load storage

Shift load system

VIH RL ...



Shift load storage



new Storage concepts for more flexibility

Vaillant Storage Systems – Shift load storage

Shift load storages

Vaillant

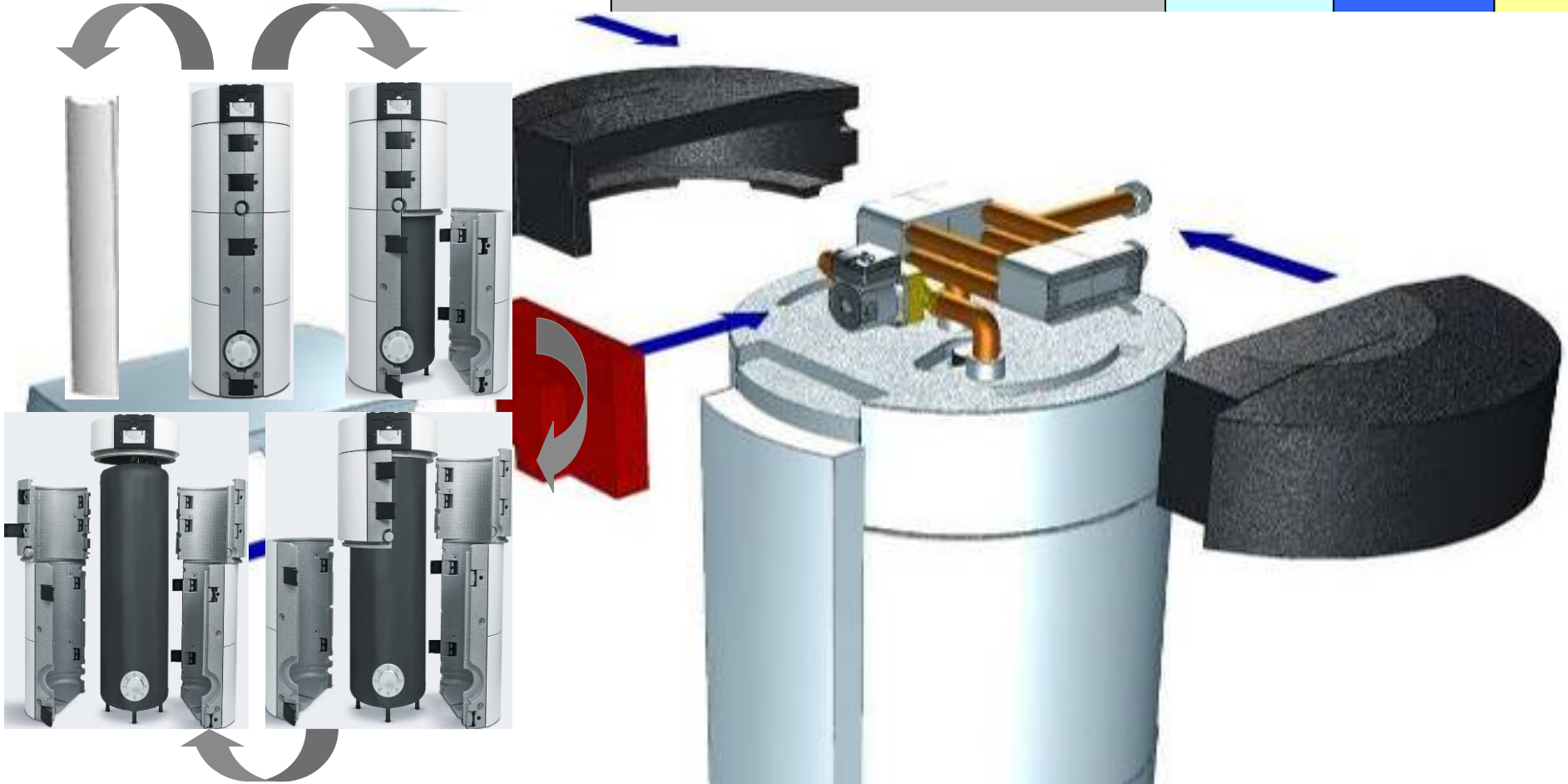
acto STOR
VIH RL 500

Buderus

Logalux
LF 500

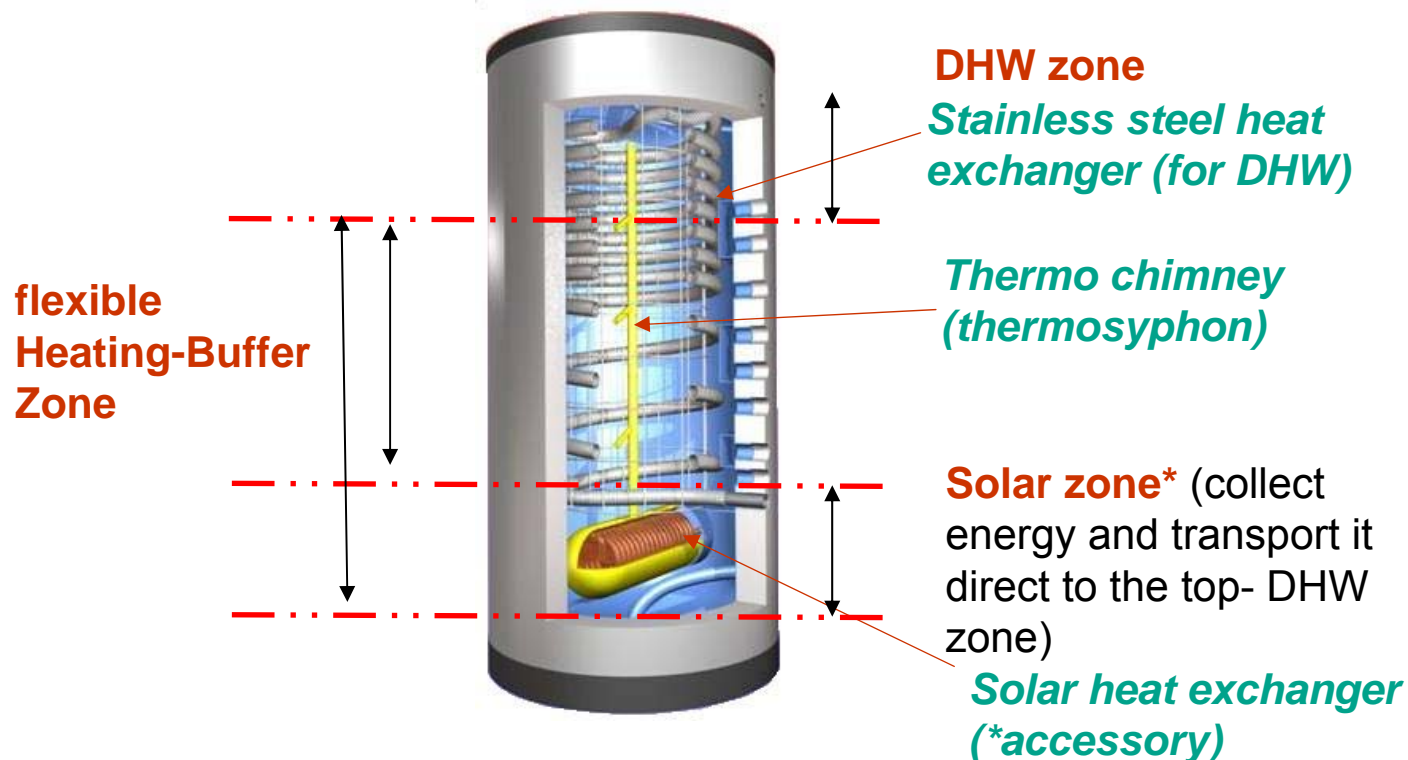
Viessmann

Vitocell
L100



Best in class !

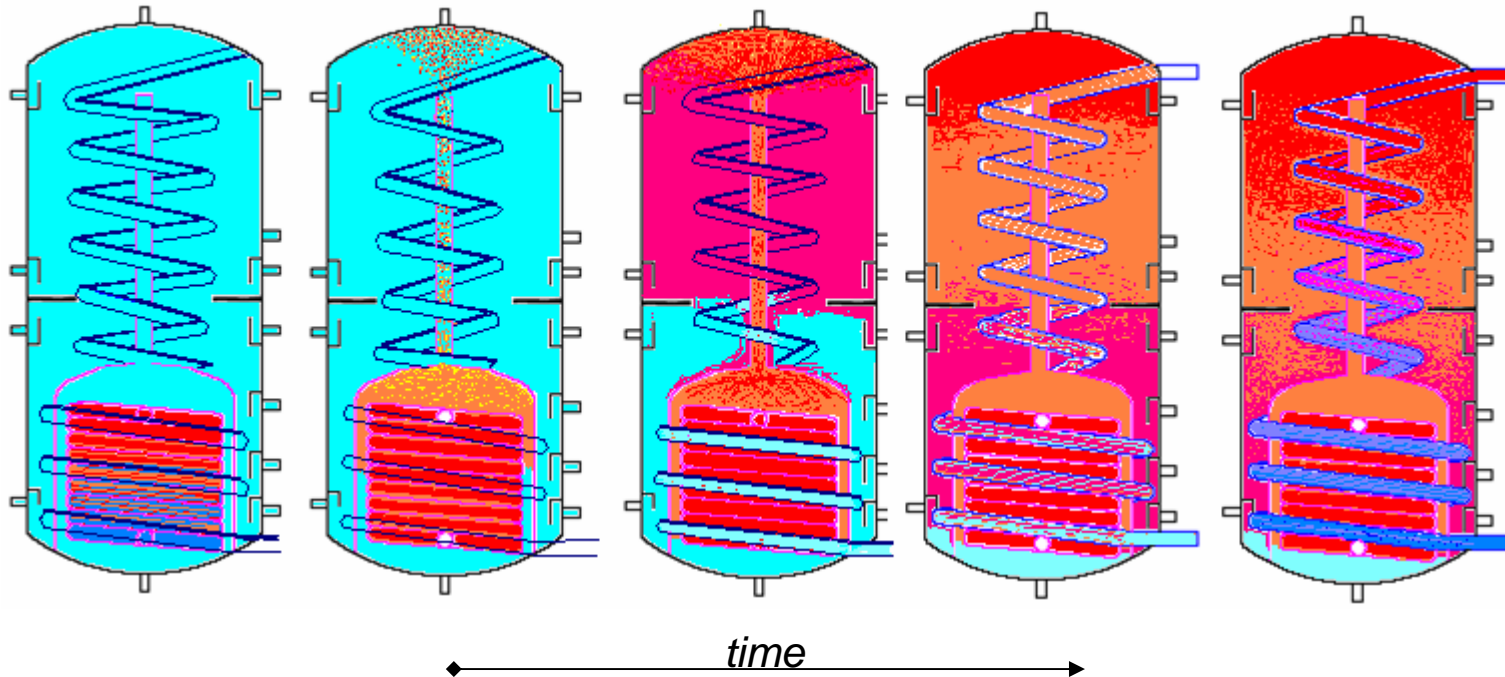
Vaillant Storage Systems – allSTOR: Buffer Storage



Buffer storages with integrated Fresh Water Production enable us to offer system solutions for OFH with:

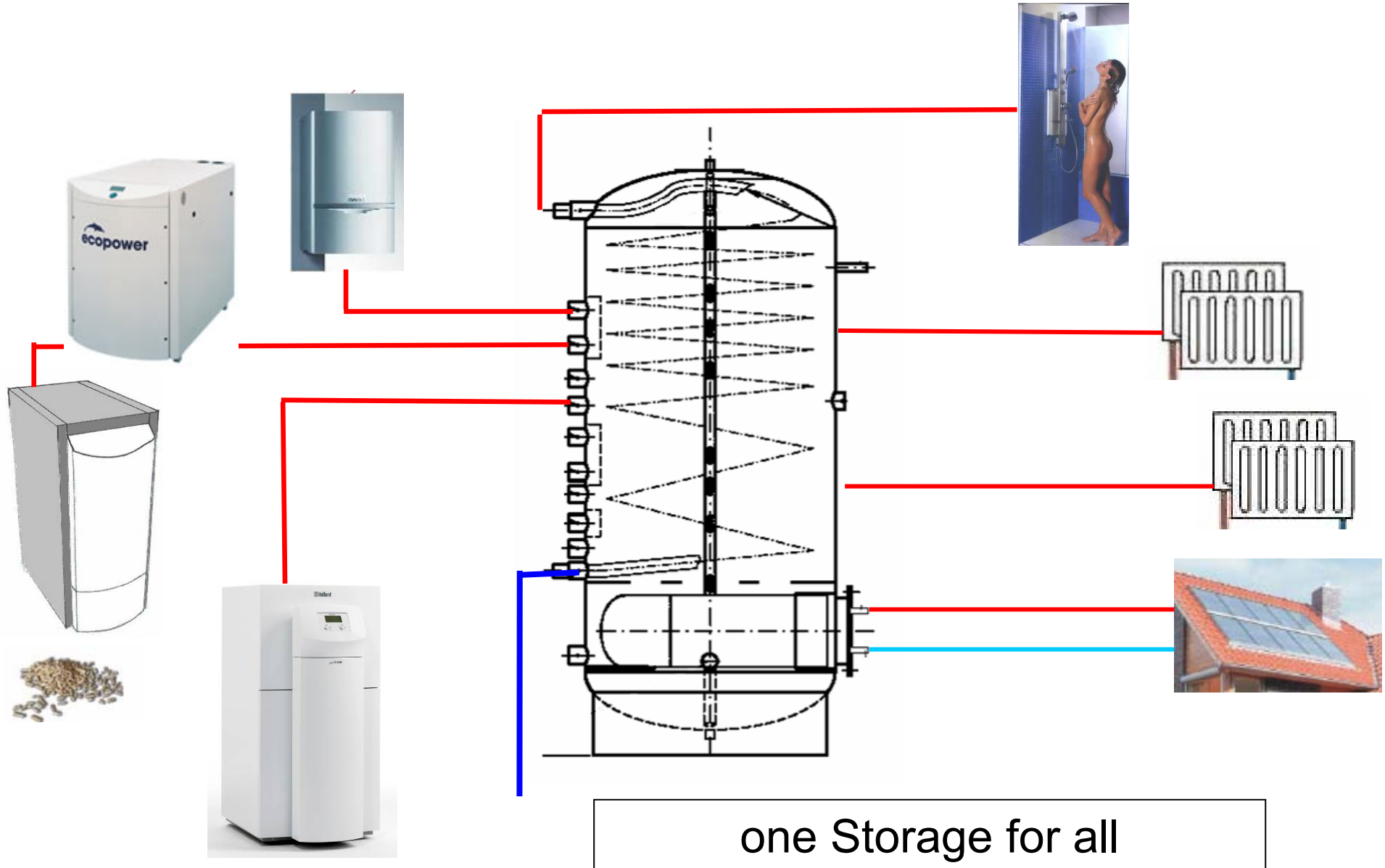
- High solar efficiency (dhw and heating)
- Hygienic domestic hot water (Legionella protection / stainless steel heat exchanger)
- Flexibility of Application (heat pumps, biomass, gasboilers,...)

Vaillant Storage Systems – allSTOR: Buffer Storage



- Buffer storages with integrated thermopipe enable us to offer system solutions for OFH with:
- High solar efficiency (dhw and heating)
 - Hygienic domestic hot water (Legionella protection / stainless steel heat exchanger)
 - Flexibility of Application (heat pumps, biomass, gasboilers,...)
 - Priority of energy supply

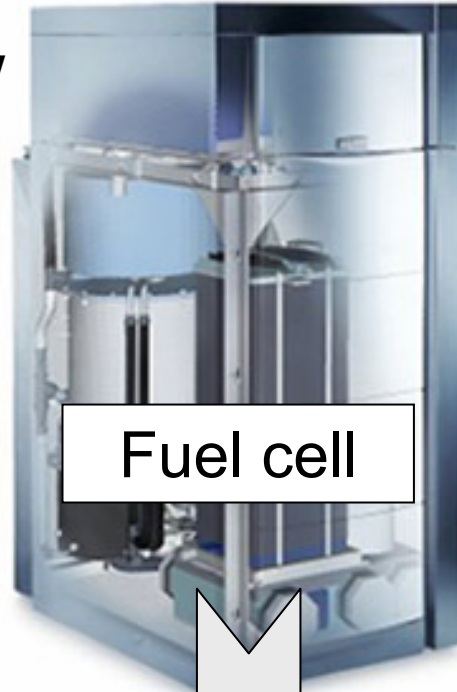
Vaillant Storage Systems – allSTOR: Buffer Storage



Vaillant Group – Development Activities now



CHP-unit



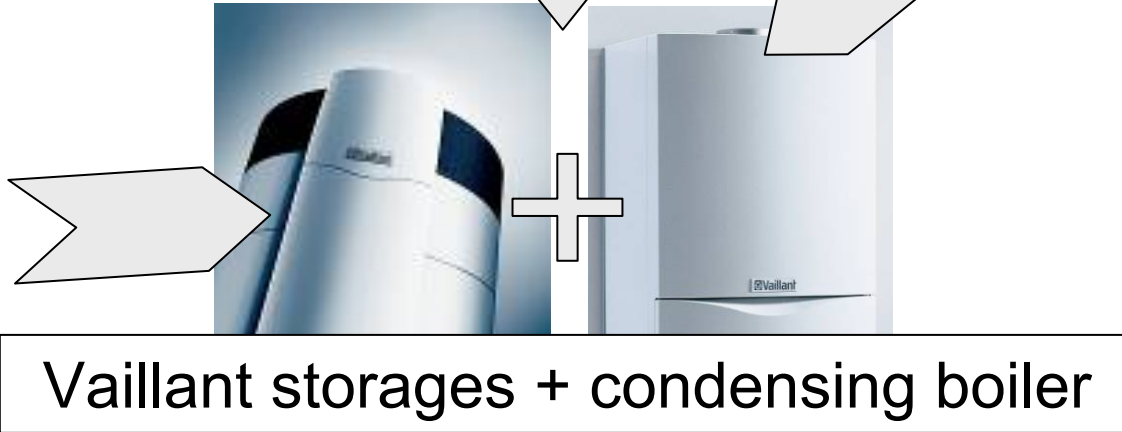
Fuel cell



Bio mass



Solar

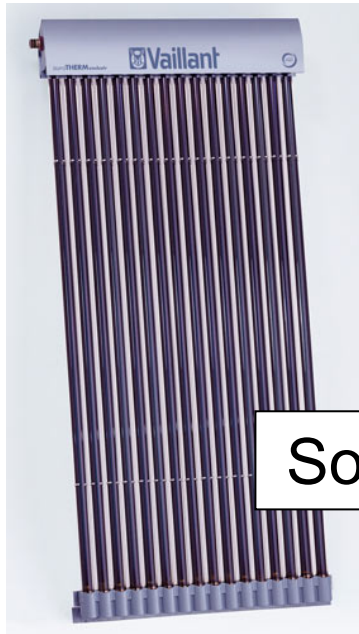


Vaillant storages + condensing boiler

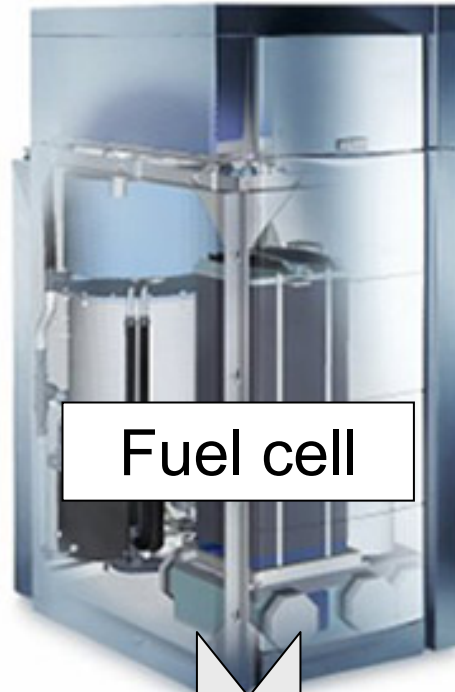


Heat pump

Renewables with Vaillant for clean future



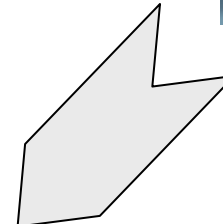
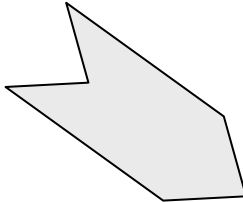
Solar



Fuel cell



Heat pump



Research new Storage concepts
for clean energy

Thanks for Interest

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