UMH latest developments

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SHC SOLAR HEATING & COOLING PROGRAMME INTERNATIONAL ENERGY AGENCY

Task 53

Task53.iea-shc.org

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PV + HP FOR DOMESTIC HOT WATER

PV + HP FOR SPACE HEATING AND COOLING

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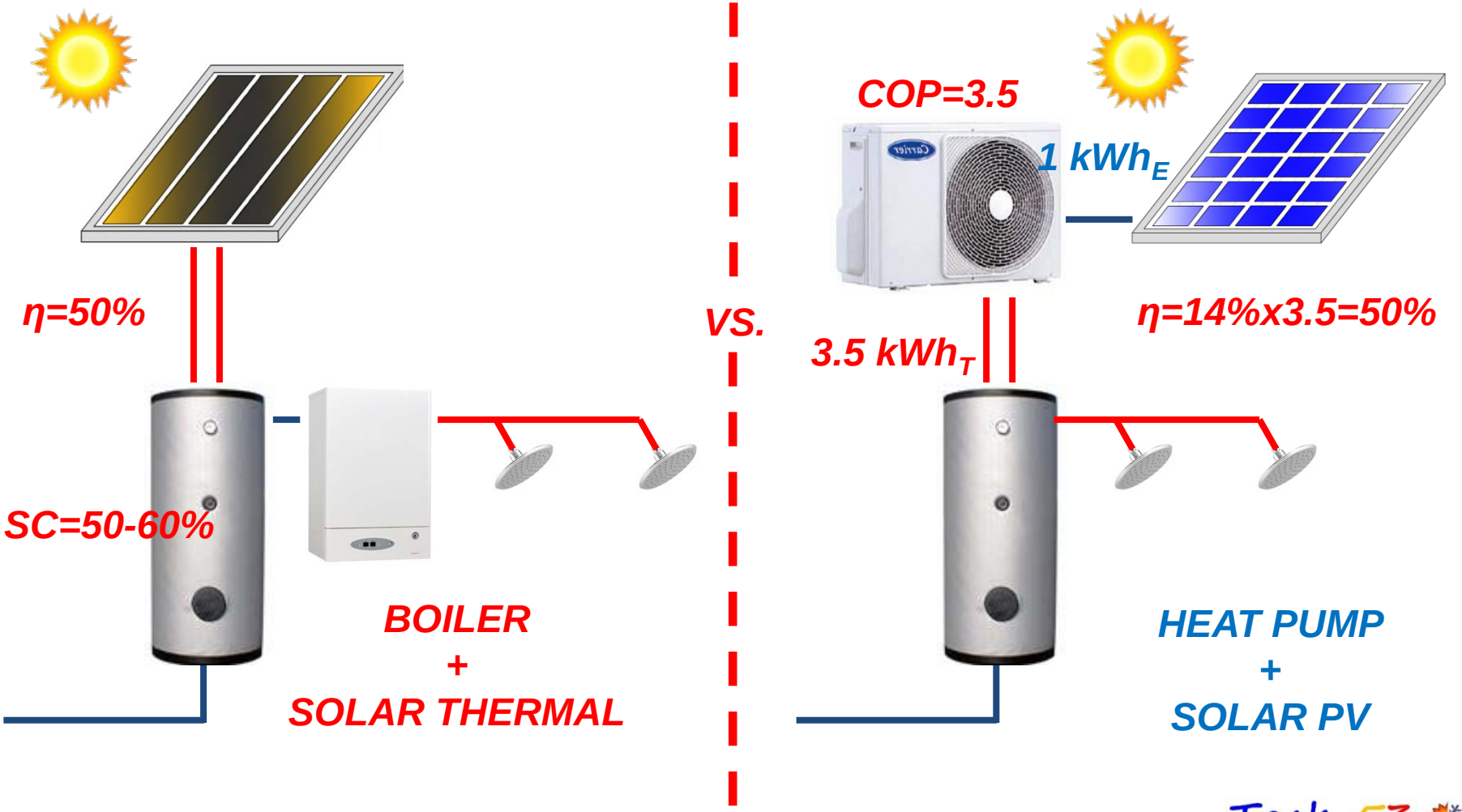
BOILER + SOLAR THERMAL vs. HEAT PUMP + PV



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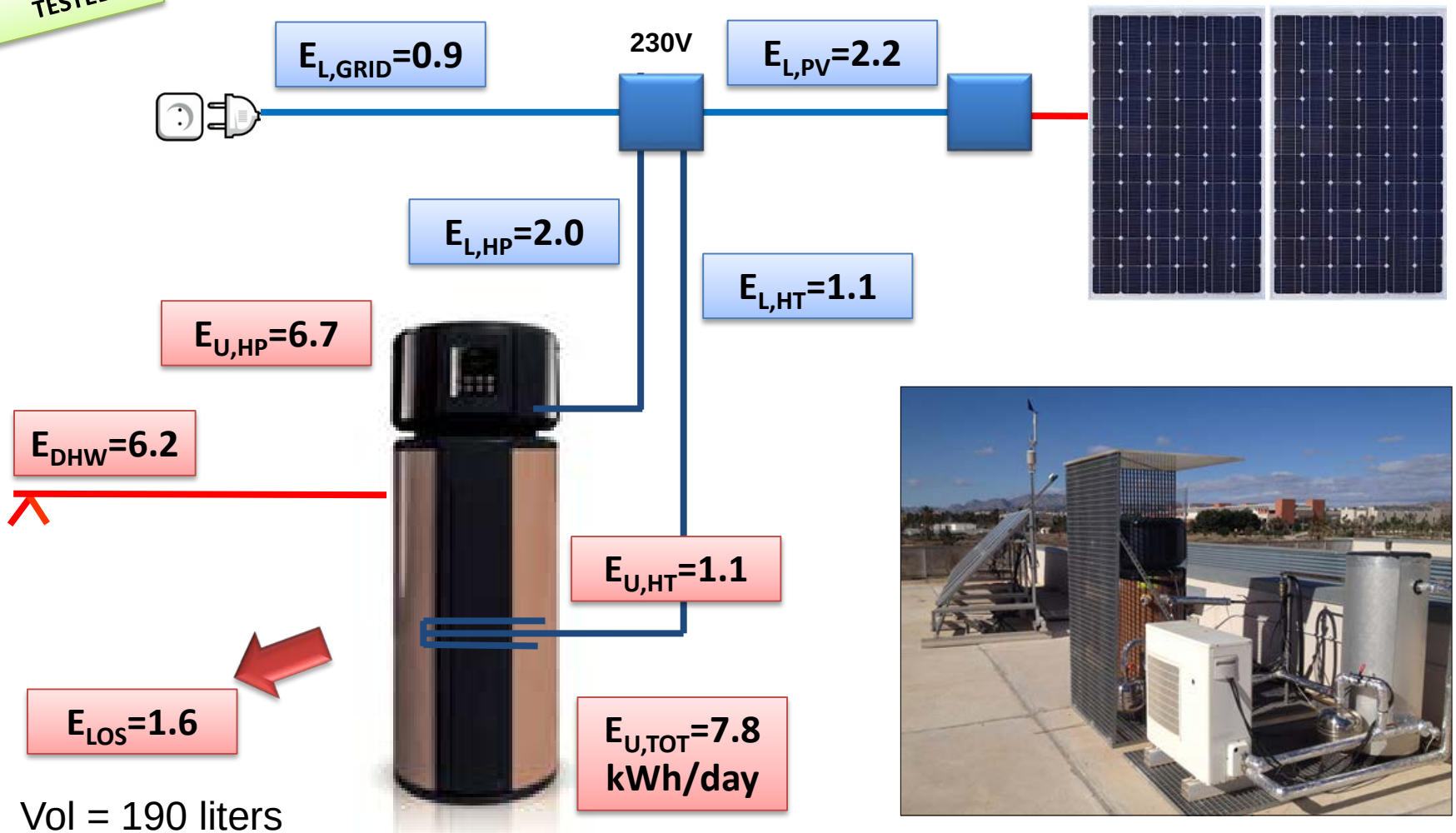
EXPERIMENTAL RESULTS ON HEAT PUMP + PV

TESTED



Vol = 190 liters
HP: 450 W

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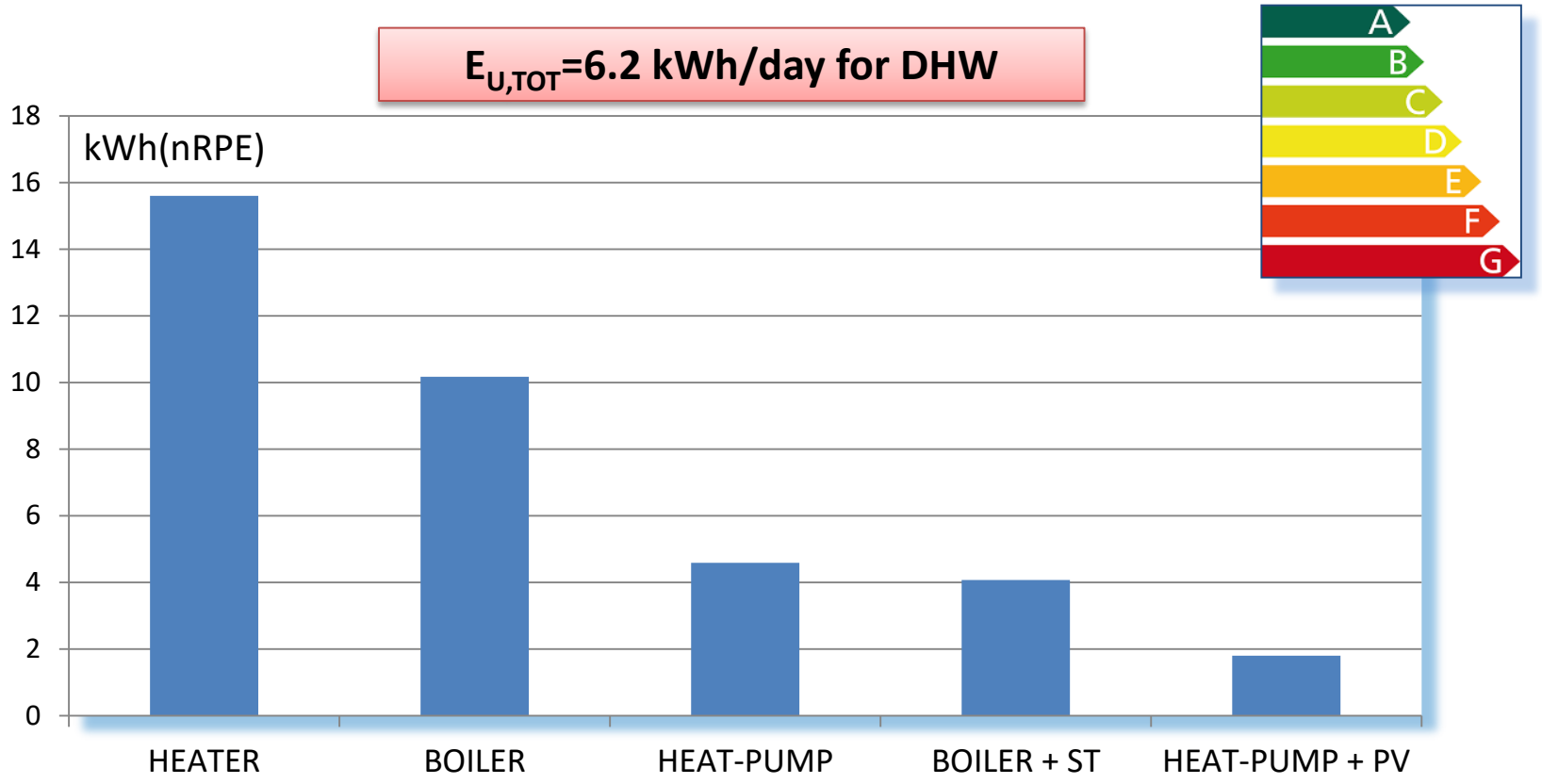
EXPERIMENTAL RESULTS ON HEAT PUMP + PV

$E_{U,TOT}$=6.2 kWh/day for DHW



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EXPERIMENTAL RESULTS ON HEAT PUMP + PV

RUNNING IN A REAL HOUSE SINCE SEP2017

$E_{L,GRID}$=

$E_{L,PV}$=

$E_{L,HP}$=

230V

E_{DHW}=6.2

E_{LOS}=

Vol = 110 liters
HP: 250 W

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EXPERIMENTAL RESULTS ON HEAT PUMP + PV

RUNNING IN THE LABORATORY

$E_{L,GRID}$=

$E_{L,PV}$=

RUNNING IN THE LAB

$E_{L,HP}$=

230V

E_{DHW}=6.2

E_{LOS}=

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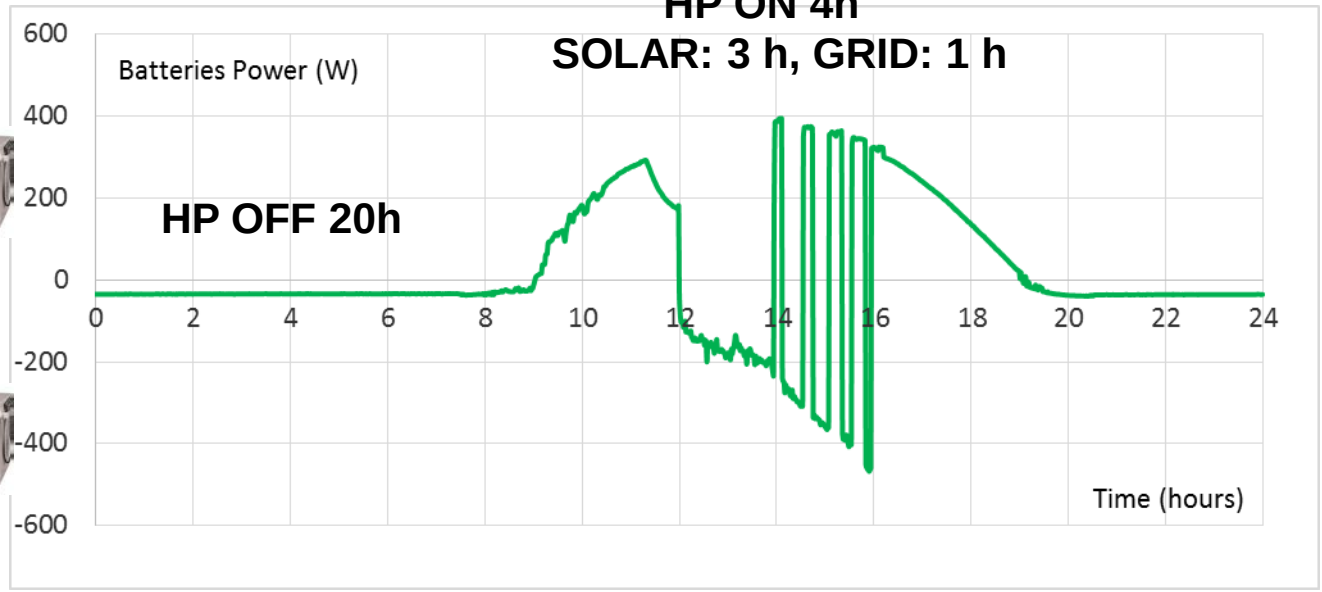

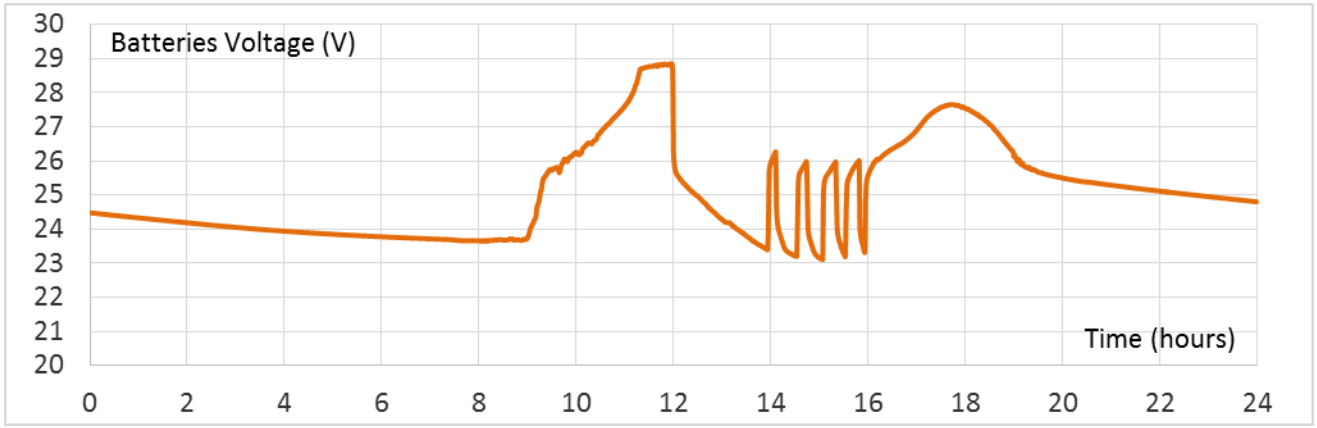

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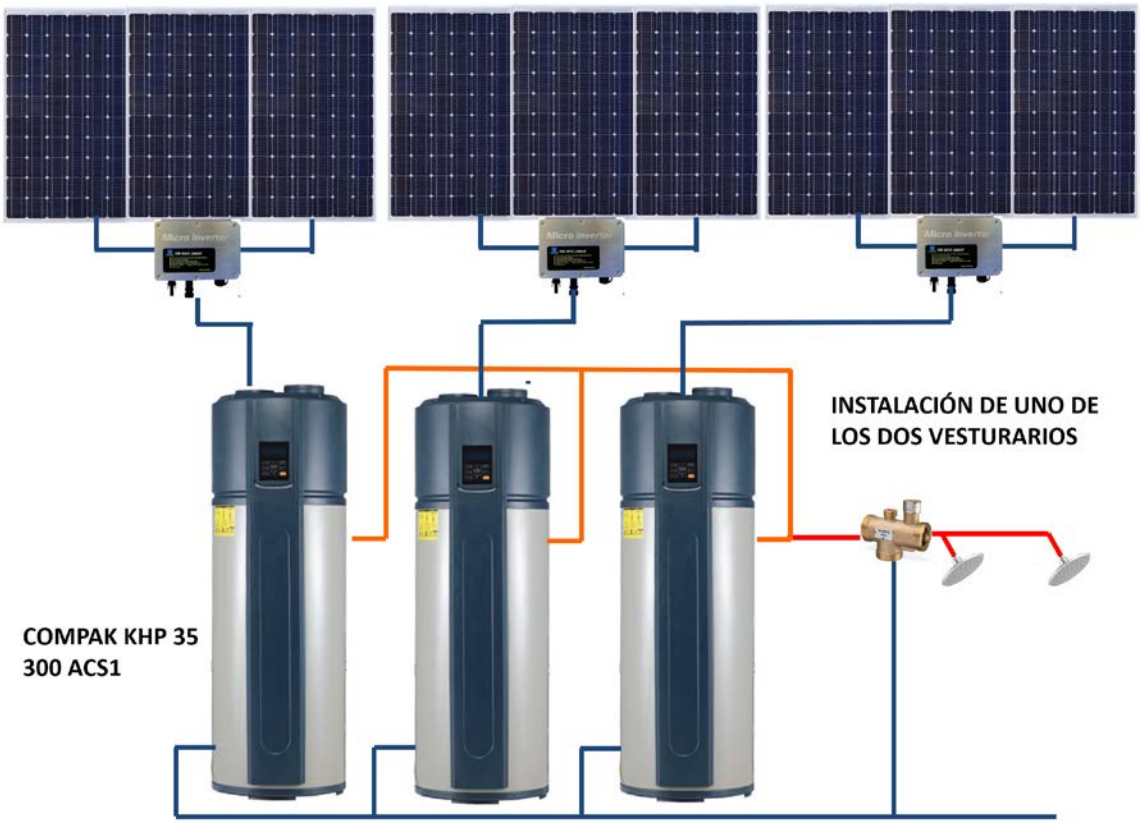
EXPERIMENTAL RESULTS ON HEAT PUMP + PV

OCTOBER 2018



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EXPERIMENTAL RESULTS ON HEAT PUMP + PV

JANUARY 2018

RUNNING IN A REAL GYM

PV vs. ST

TERTIARY BUILDINGS

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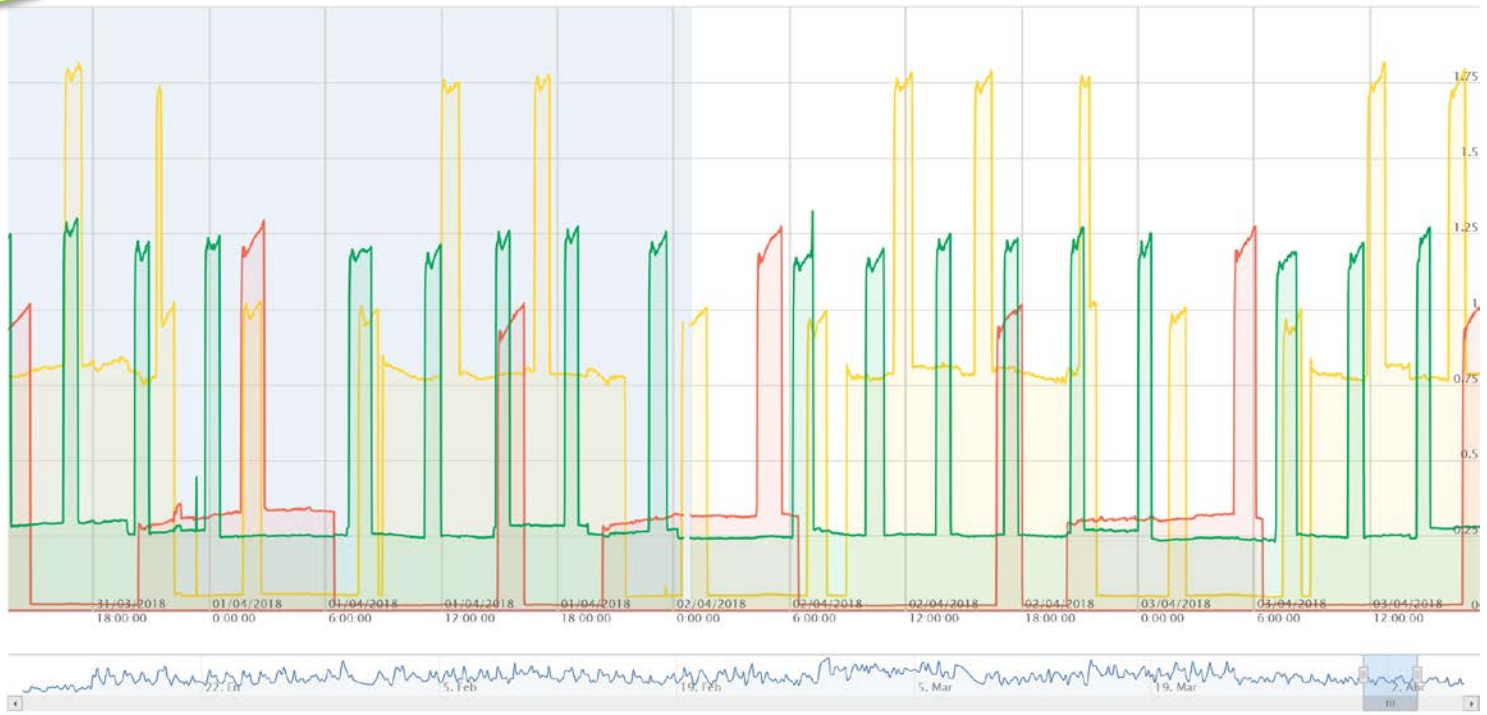
EXPERIMENTAL RESULTS ON HEAT PUMP + PV

JANUARY 2018



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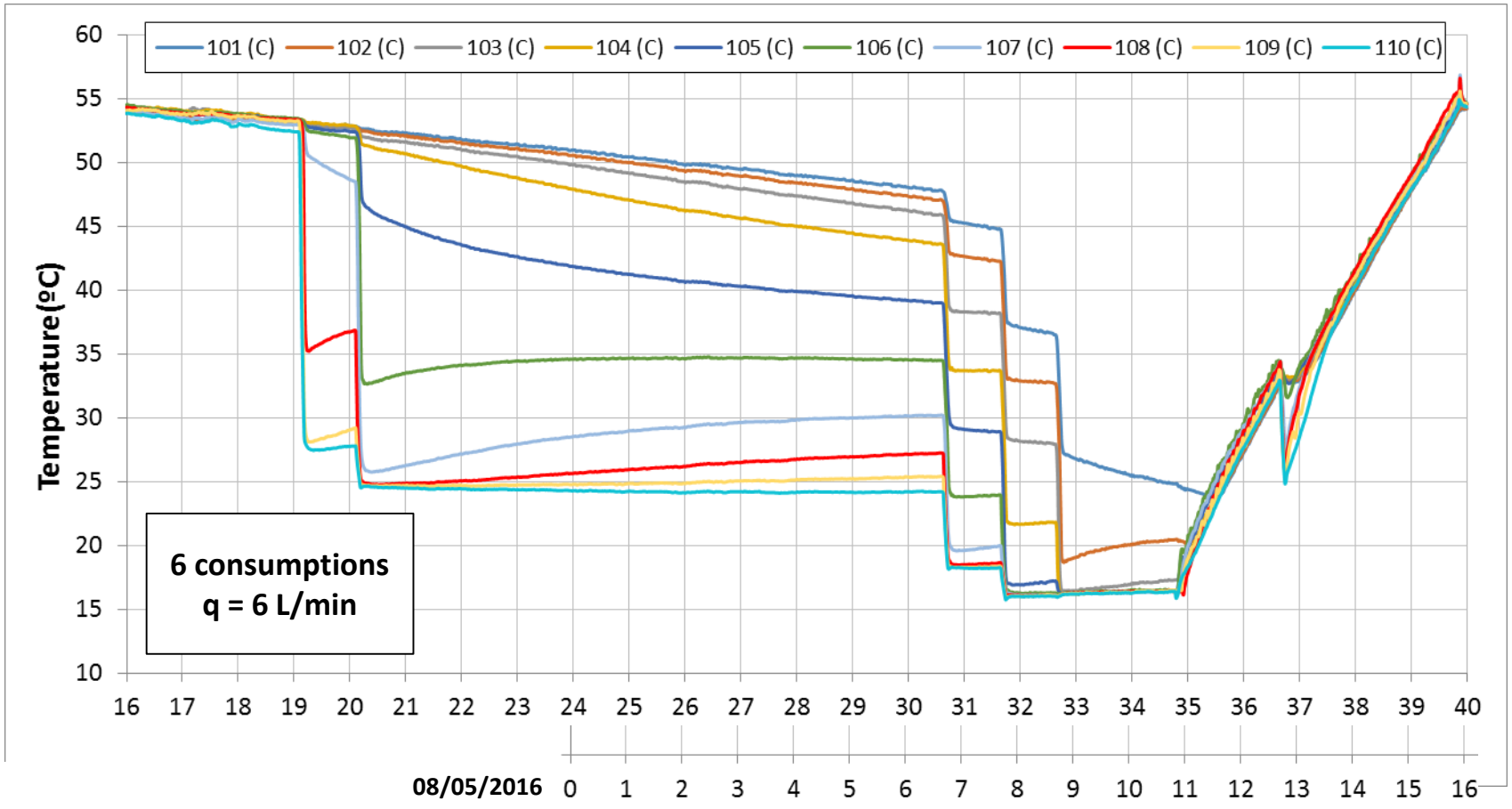
MODELING THERMAL STORAGE FOR DHW



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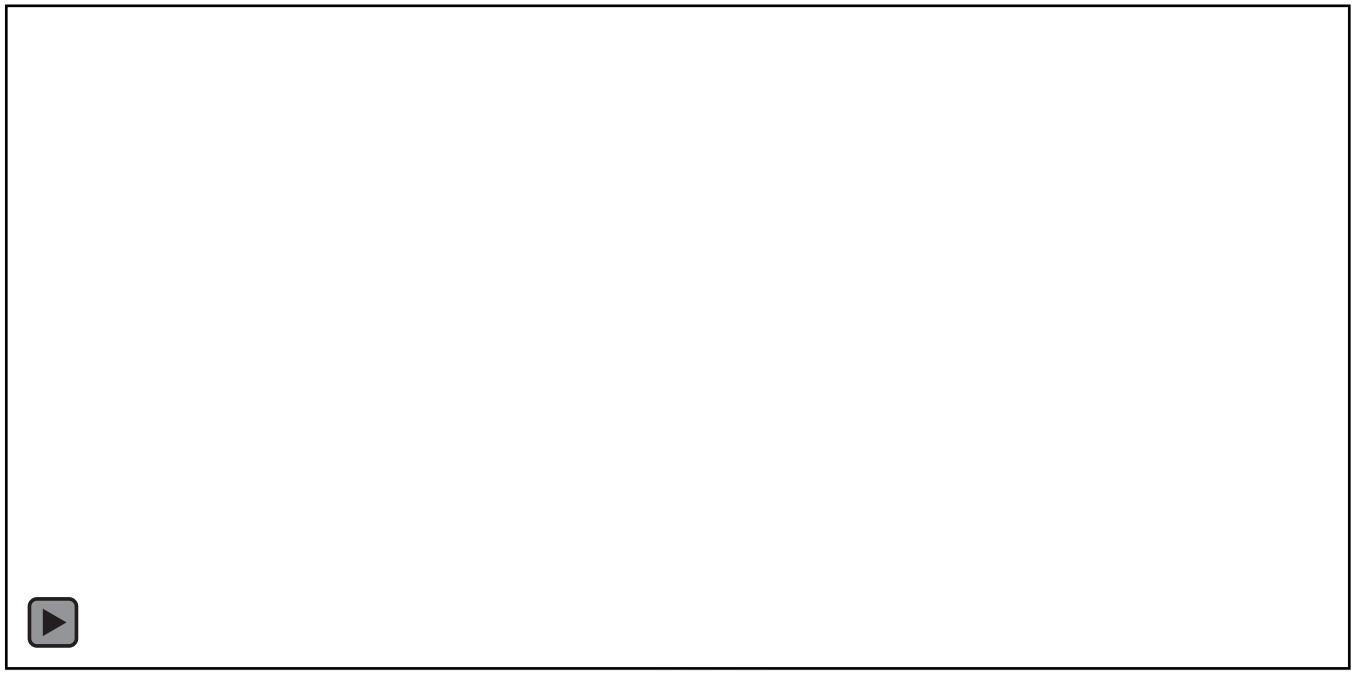

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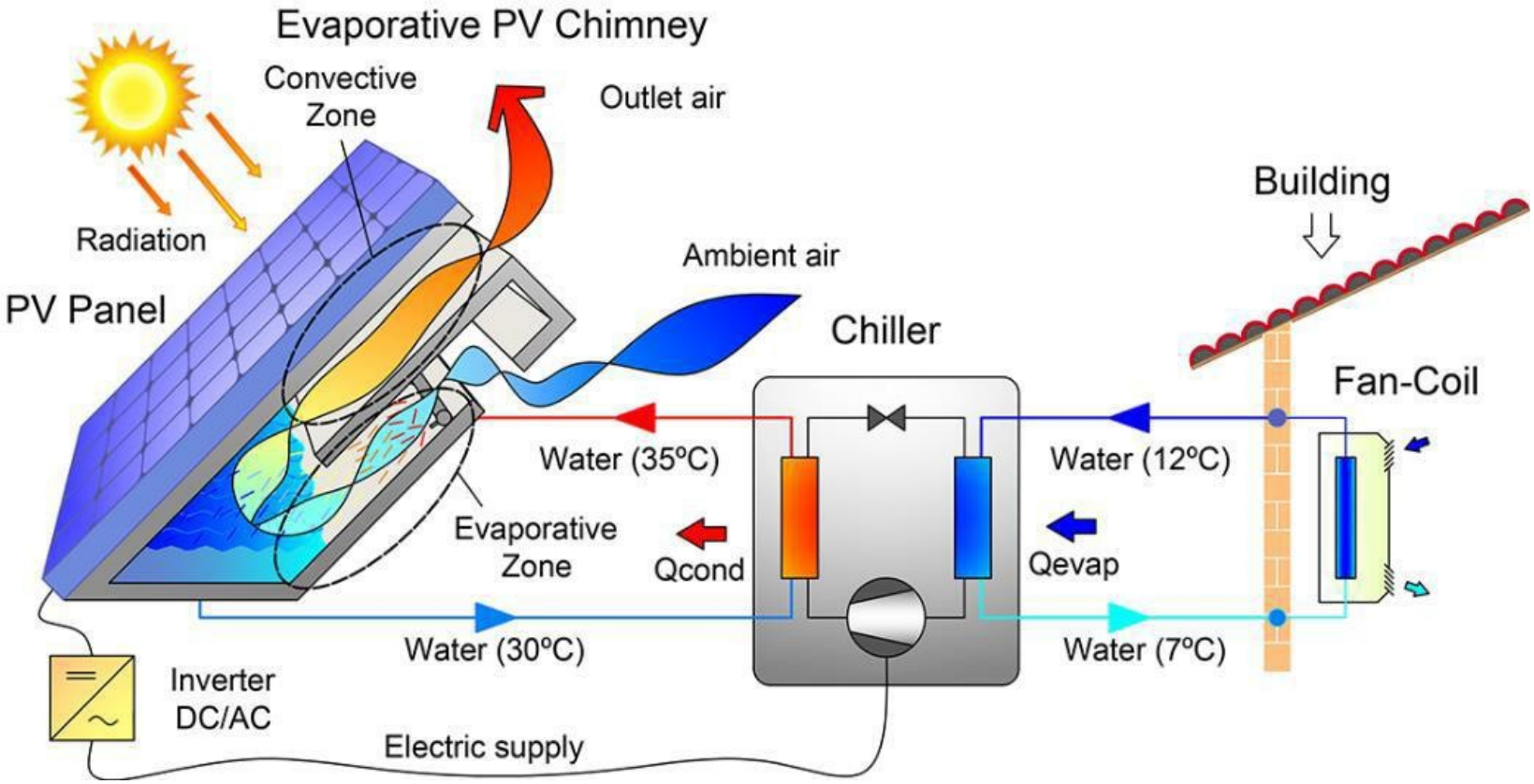
PV + HP FOR SPACE HEATING AND COOLING

EVAP4COOLING



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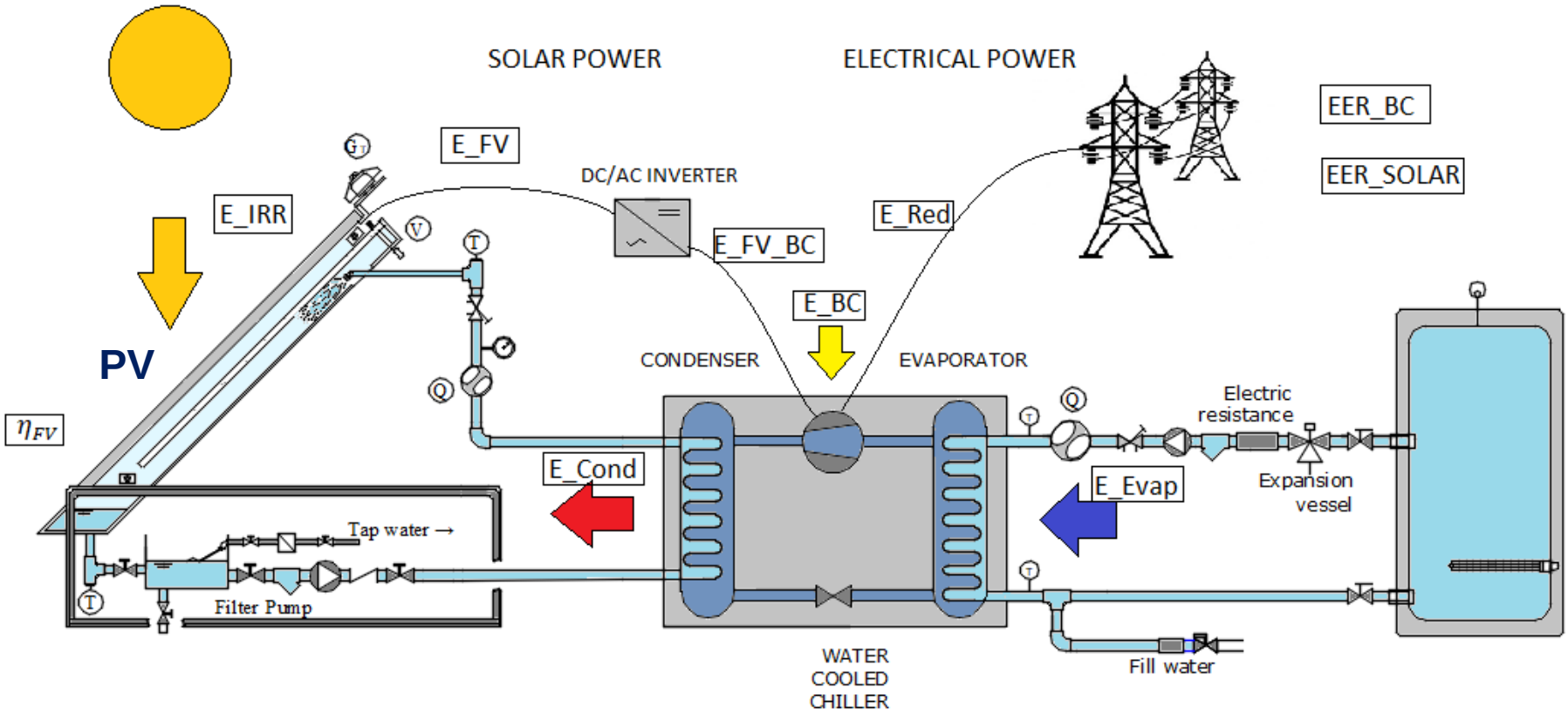
PV + HP FOR SPACE HEATING AND COOLING

EVAP4COOLING



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EVAP4COOLING

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