



**SELF CONSUMPTION
OF RENEWABLE
ENERGY BY HYBRID
STORAGE SYSTEMS**

Training Course on Thermal Energy Storage for Heating, Cooling and DHW for Buildings

*Different energy storage solutions and their
importance for the decarbonization of buildings*

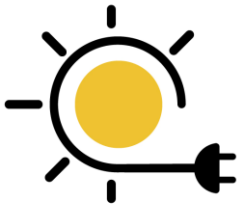
Luís Coelho, IPS - PT

Pavol, TNO - NL

ADENE, Lisbon, Portugal, 1st of April 2022

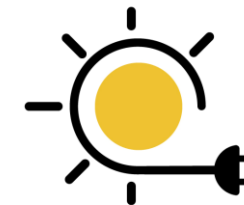


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 766464.



Votre énergie est autour de vous

Sixte FROISSARD, *Heliopac, France*



Heliopac SAS

Localisation : Tourcoing, France

Domestic hot water devices designer and manufacturer for :

- Collective housing
- Hotel and catering
- Sport facilities, swimming pools

Created in 1990

☀️ *900 equipped building*

☀️ 25 000 Surface of Heliopac solar collector in Europe (m²)

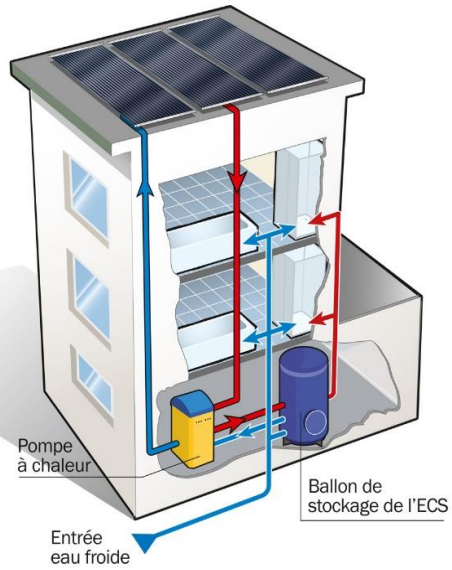
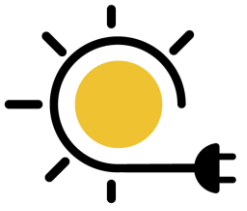
☀️ 6 000 New apartments with Heliopacsystem in a year

☀️ 15 Employees



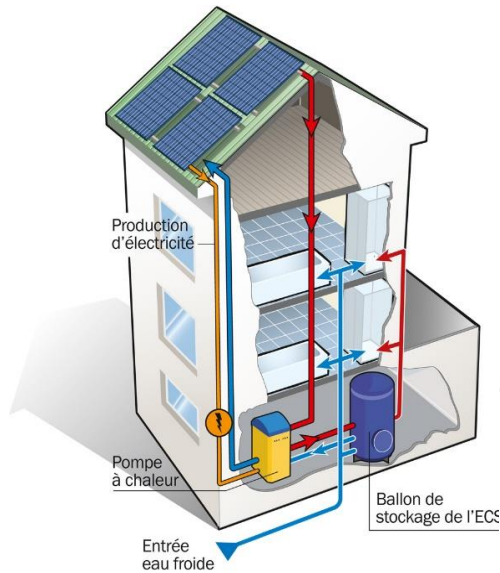


DHW products



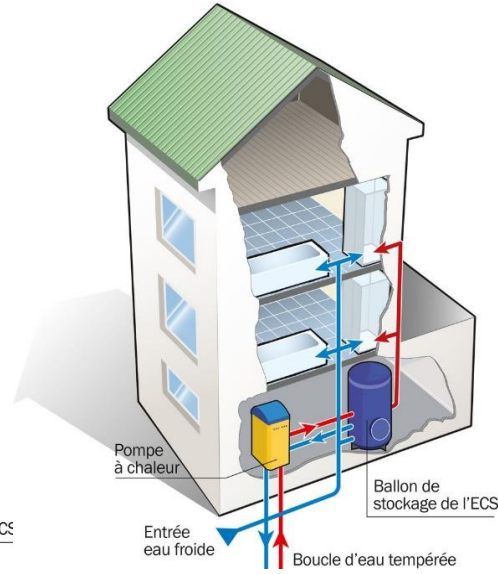
heliopacsystem®

Solar and atmospheric collectors
+
w/w Heat Pump



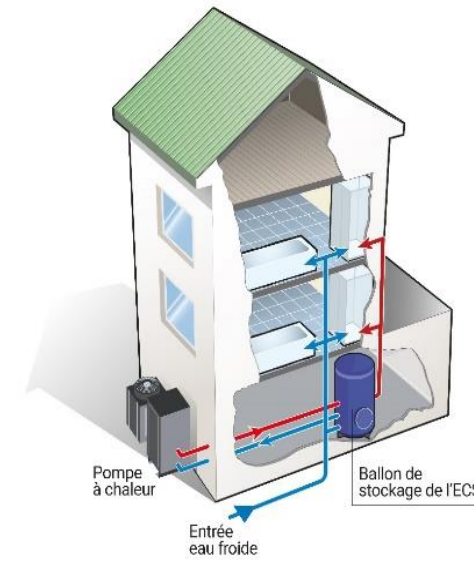
heliopacsystem+®

PV/T collectors
+
w/w Heat Pump



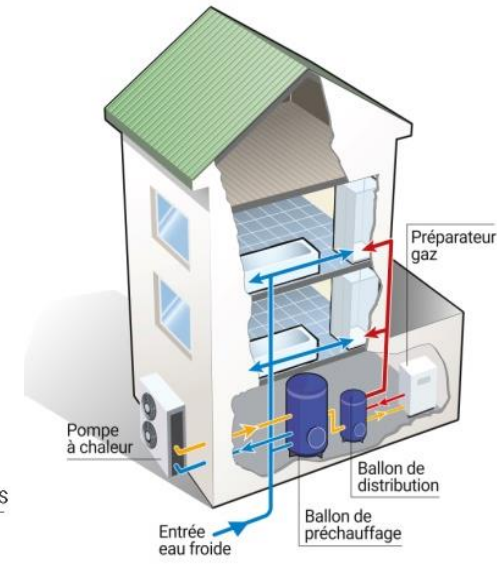
geopacsystem®

Geothermal source, district heating, ...
+
w/w Heat Pump



exopacsystem®

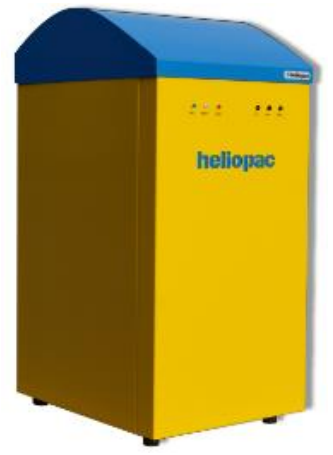
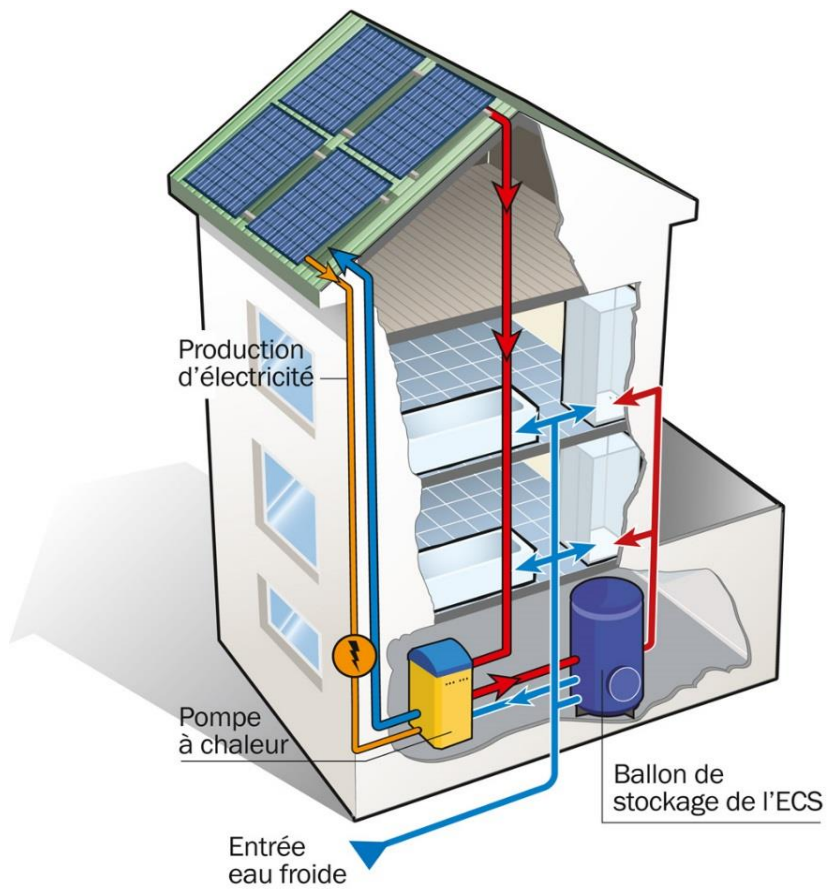
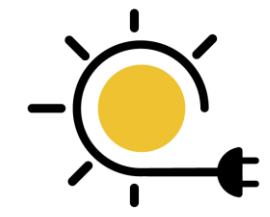
a/w Heat Pump

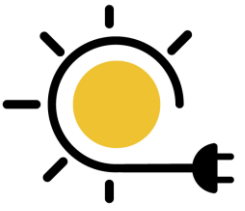


timaxsystem®



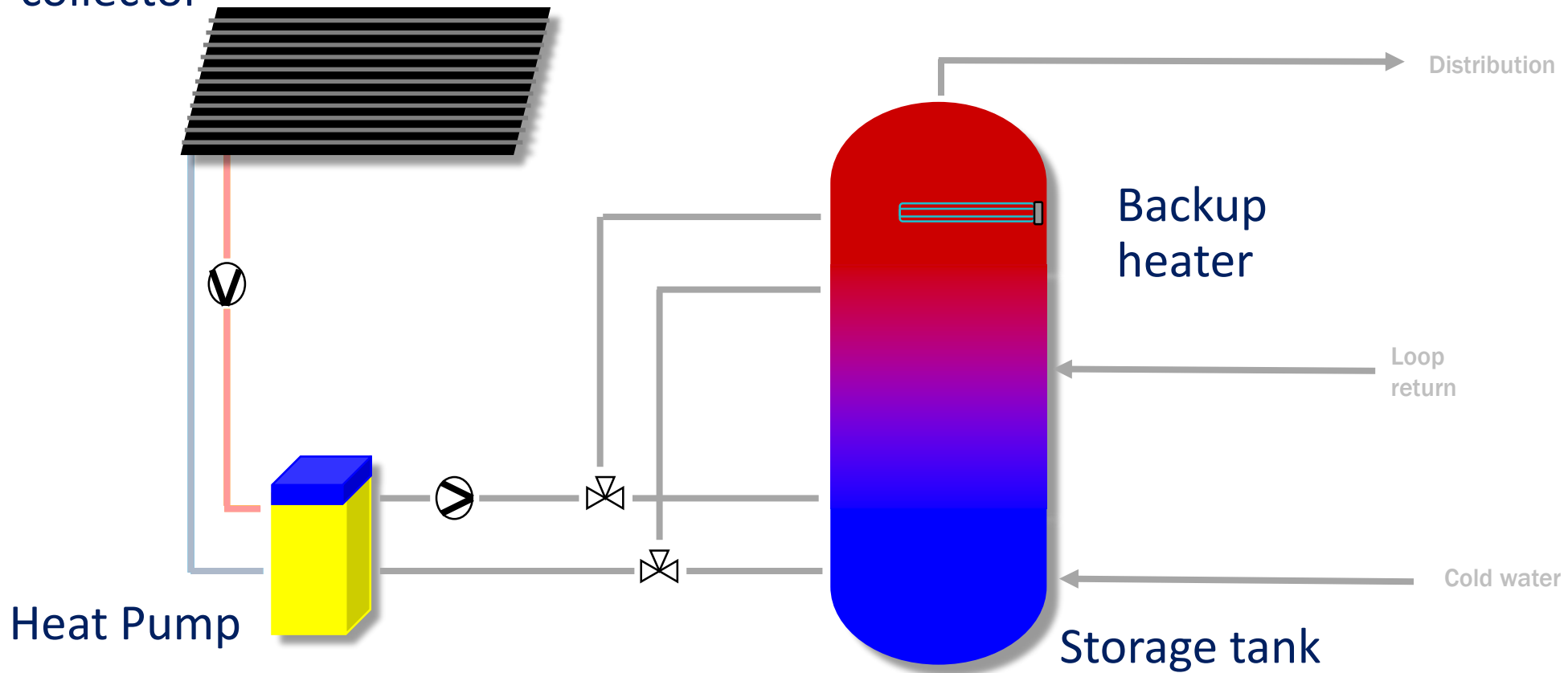
heliopacsystem+[®]





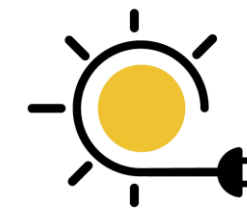
Collective hybrid DHW heating devices

Solar collector



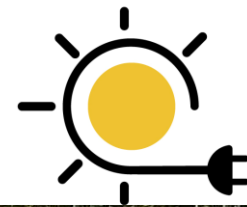


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Nantes – 39 apartments

PT/T solar collectors : 40 panels / Total surface : 66m²

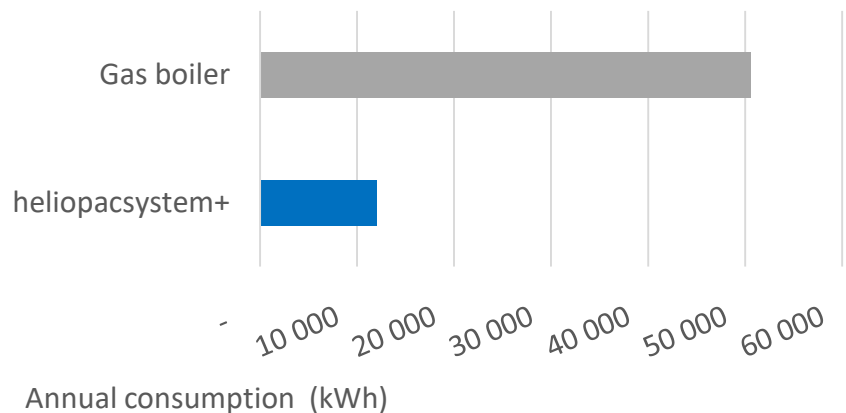
w/w solar heat pump : 8kW

Storage : 2000 litres

Back-up heater : electrical resistance



Commissioned in 2019



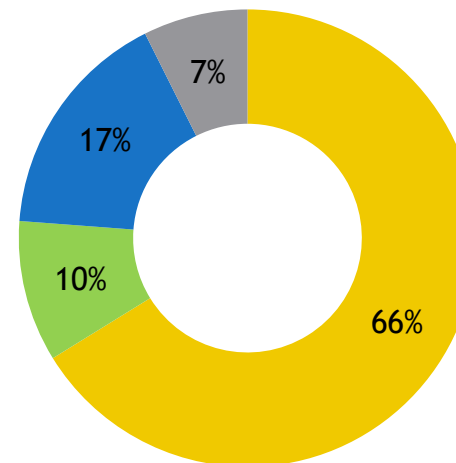
Reduce CO2 emissions by 14,4 tonnes per year

Gain and consumptions for domestic hot water production



PV reinjected into the building or grid

PV self-consumed



Solar gain (thermal)

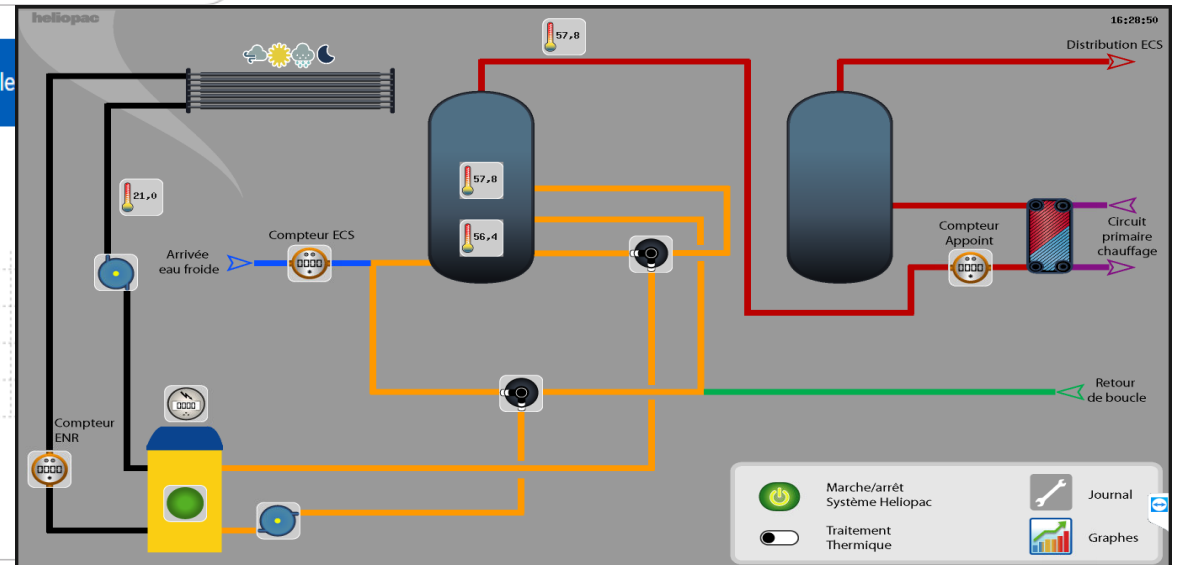
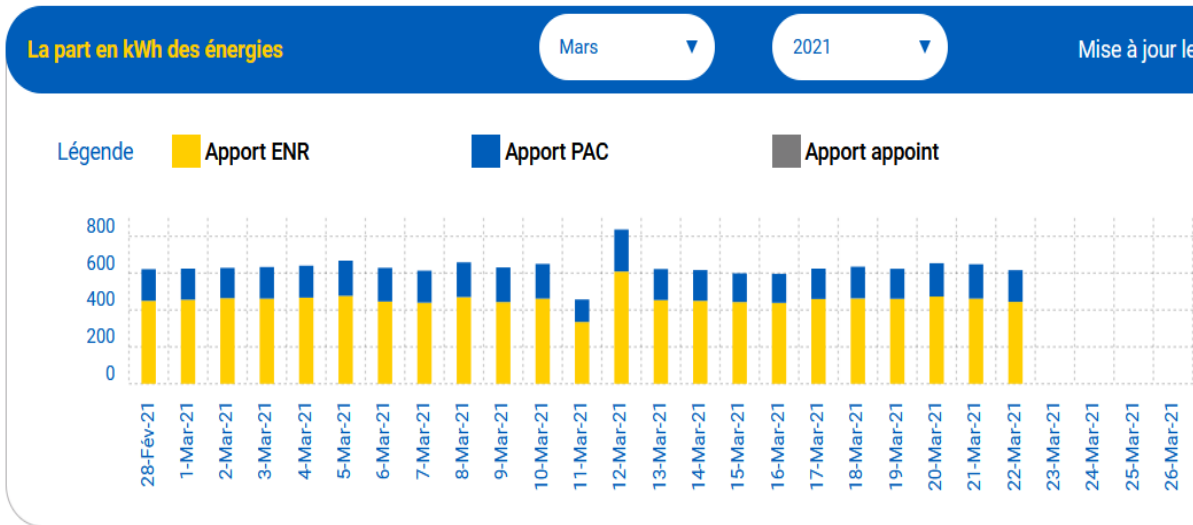
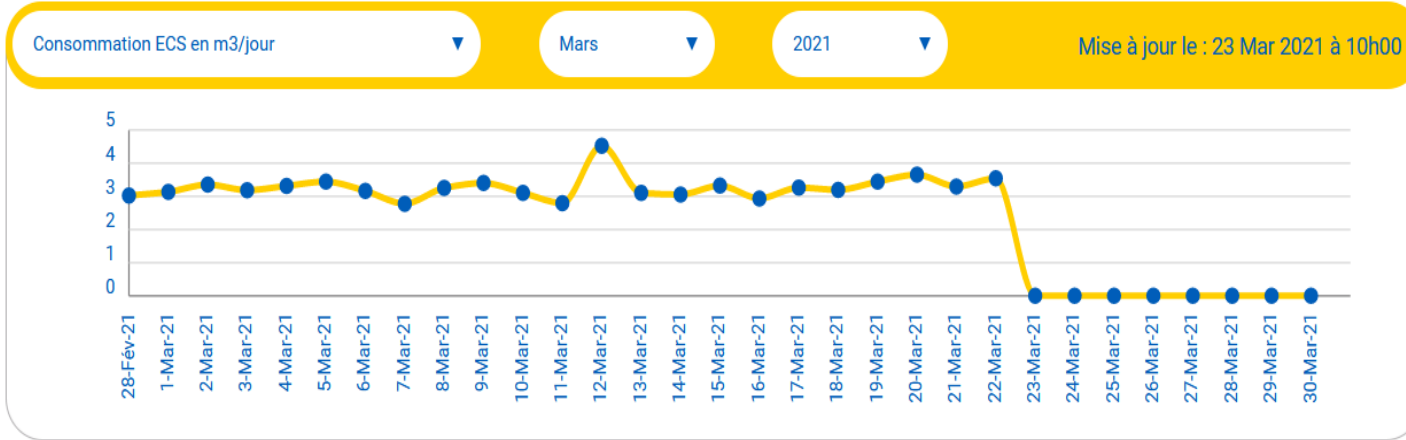
Photovoltaic production

HP consumption (grid)

Back up heater consumption

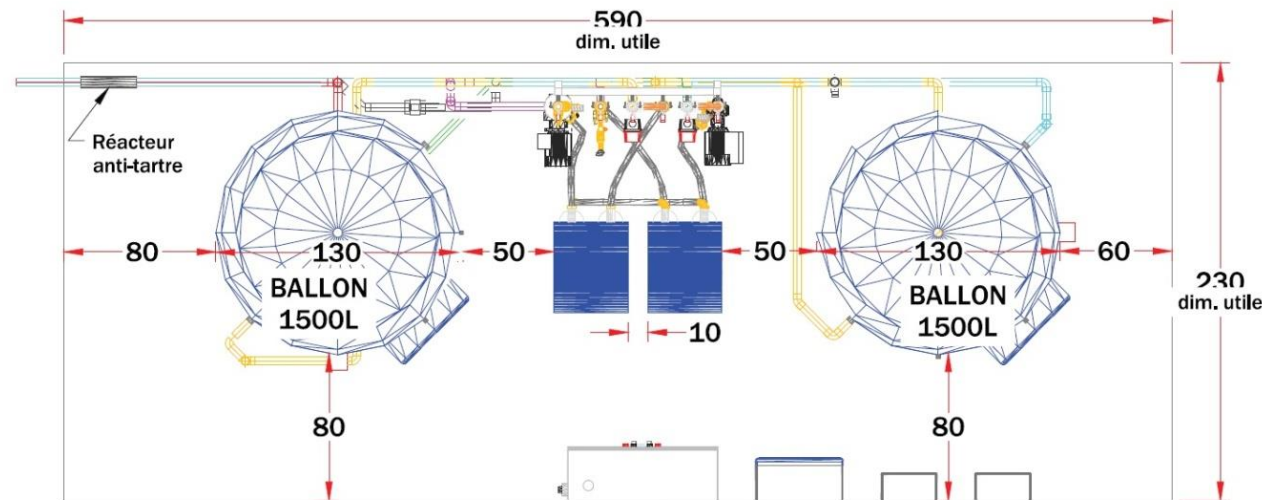
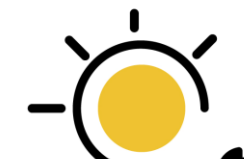


Heliopad and monitoring



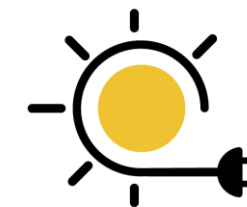


Plug & play





Website



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heliopac Votre énergie est autour de vous






NOS DÉFIS ÉNERGÉTIQUES | NOS SOLUTIONS | NOS DOMAINES D'APPLICATION | TÉLÉCHARGEMENT

Heliopac > Nos solutions

NOS SOLUTIONS

Selon vos besoins en eau, votre situation géographique, votre place en toiture... HELIOPAC a une solution adaptée à votre projet.

SOLUTIONS À DESTINATION DE LA PRODUCTION D'ECS POUR LE COLLECTIF:

heliopacsystem®  Solaire et atmosphérique En savoir plus	heliopacsystem+®  Photovoltaïque et atmosphérique En savoir plus	geopacsystem®  Géothermie et effluents En savoir plus
timaxsystem®  PAC Air/Eau et préparateur gaz En savoir plus	exopacsystem®  PAC Air/Eau HT En savoir plus	

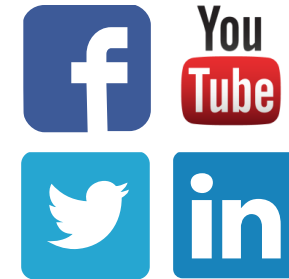
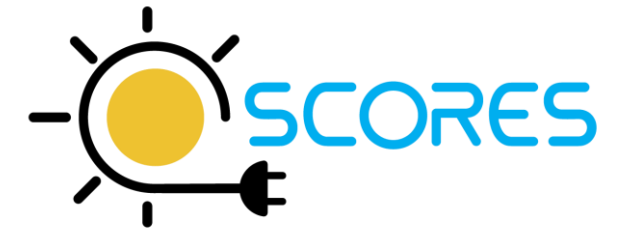
NOS SOLUTIONS

- heliopacsystem®**
Solaire et atmosphérique
[En savoir plus](#)
- heliopacsystem+®**
Photovoltaïque et atmosphérique
[En savoir plus](#)
- geopacsystem®**
Géothermie et effluents
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- timaxsystem®**
PAC et préparateur gaz
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PAC
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Thank you!

- Luis Coelho, IPS, PT - luis.coelho@estsetubal.ips.pt

Pavol Bodis, TNO, NL - pavol.bodis@tno.nl



TNO innovation
for life



FENIX.TNT
tvorivost nad technologií

KÖNIG METALL

IPS Instituto
Politécnico de Setúbal

**FORSEE
POWER**

heliopac

CAMPA
LES RADIEURS D'EXCEPTION

SIEMENS


Stadtwerke
GLEISDORF