

Market's most **efficient**
solar panel



HORIZON 2020

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N°947496



Abora Solar, manufacturer of hybrid solar panels
Our solar panel is the most **efficient** and **cost-effective** in the world

+10 years
Experience

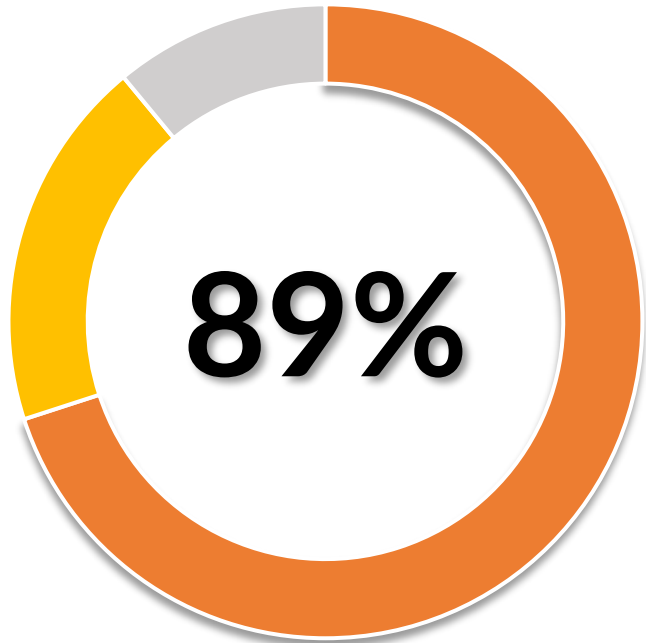
26 Countries
International presence

+30 Prizes
Innovación tecnológica

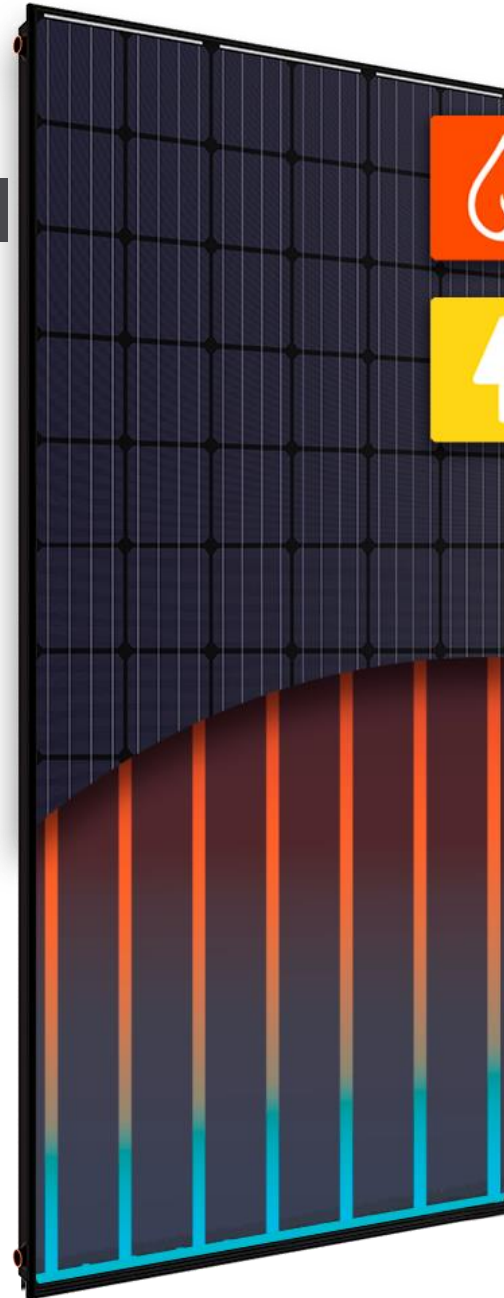




The **hybrid** solar panel 2 in 1



Efficiency



HOT WATER



ELECTRICITY



Photovoltaic panel

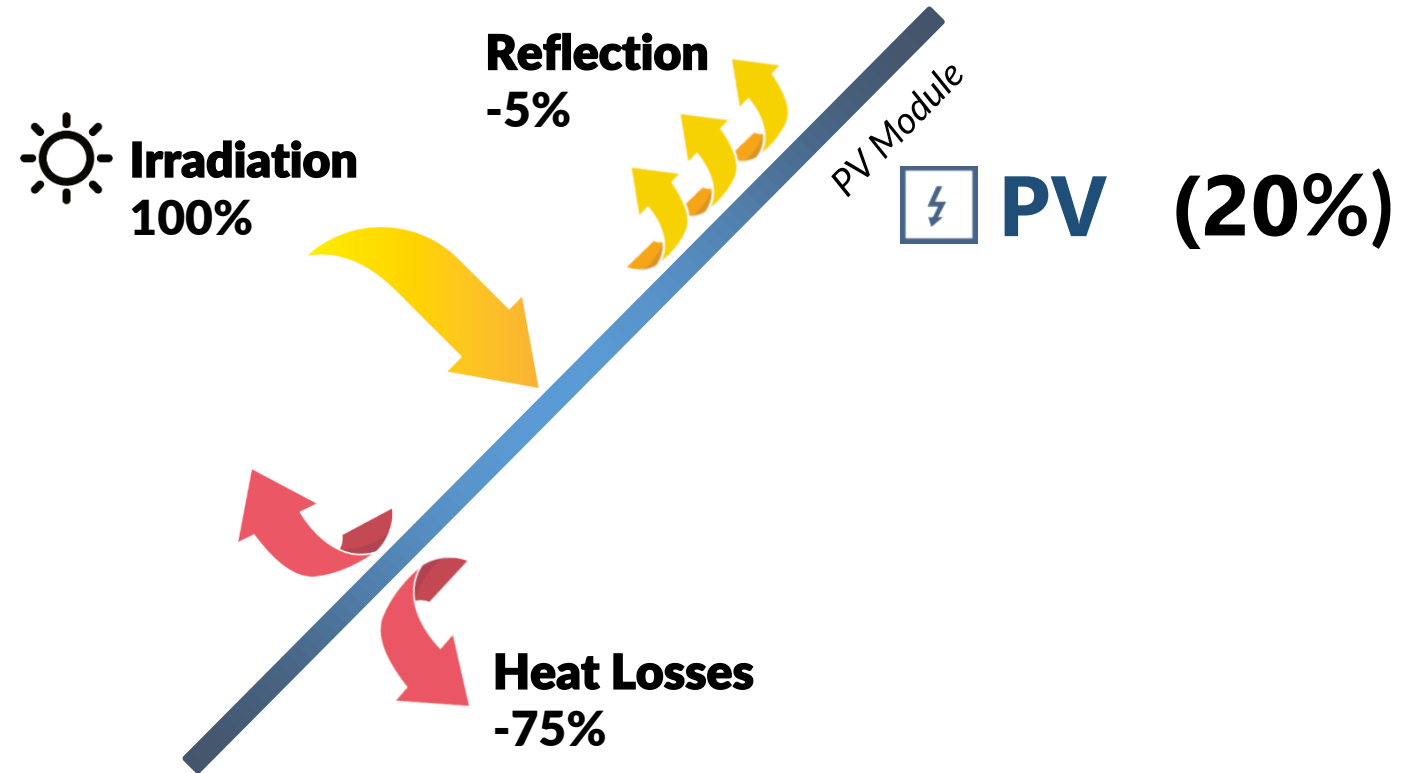


It is capable of seize **20%** in the form of **photovoltaic energy**.

The remaining **80%** of energy is lost due to reflection of the sun's rays and heat losses.

aHTech® Technology

Energy balance



Hybrid Panel PVT



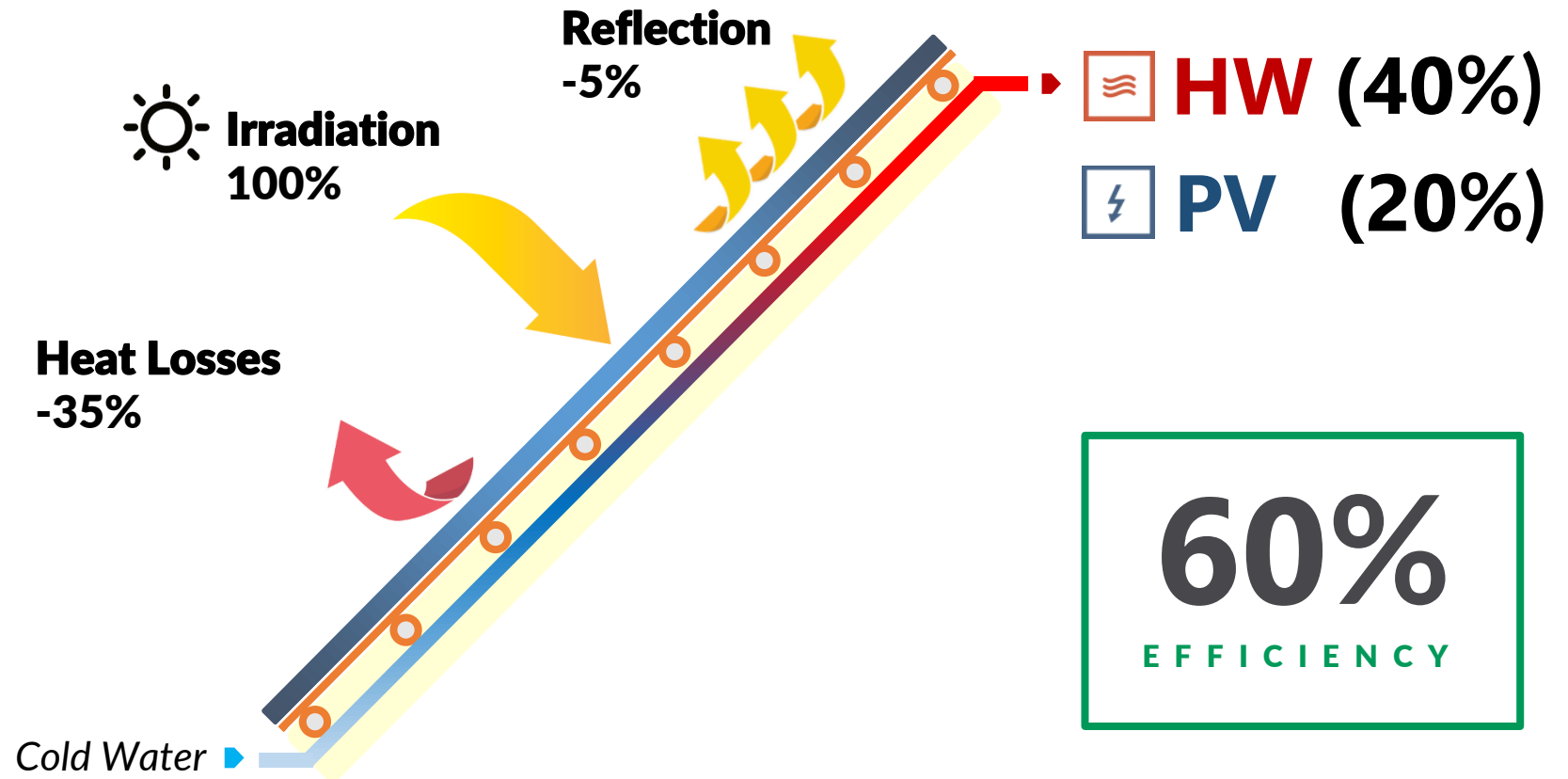
It incorporates a PV panel and a **water circuit** on the back.

In theory, it transforms the heat losses from the back of the panel (40%) into solar thermal energy.

This would lead to an efficiency of **60%**, however ...

aHTech® Technology

Energy balance



Hybrid Panel PVT



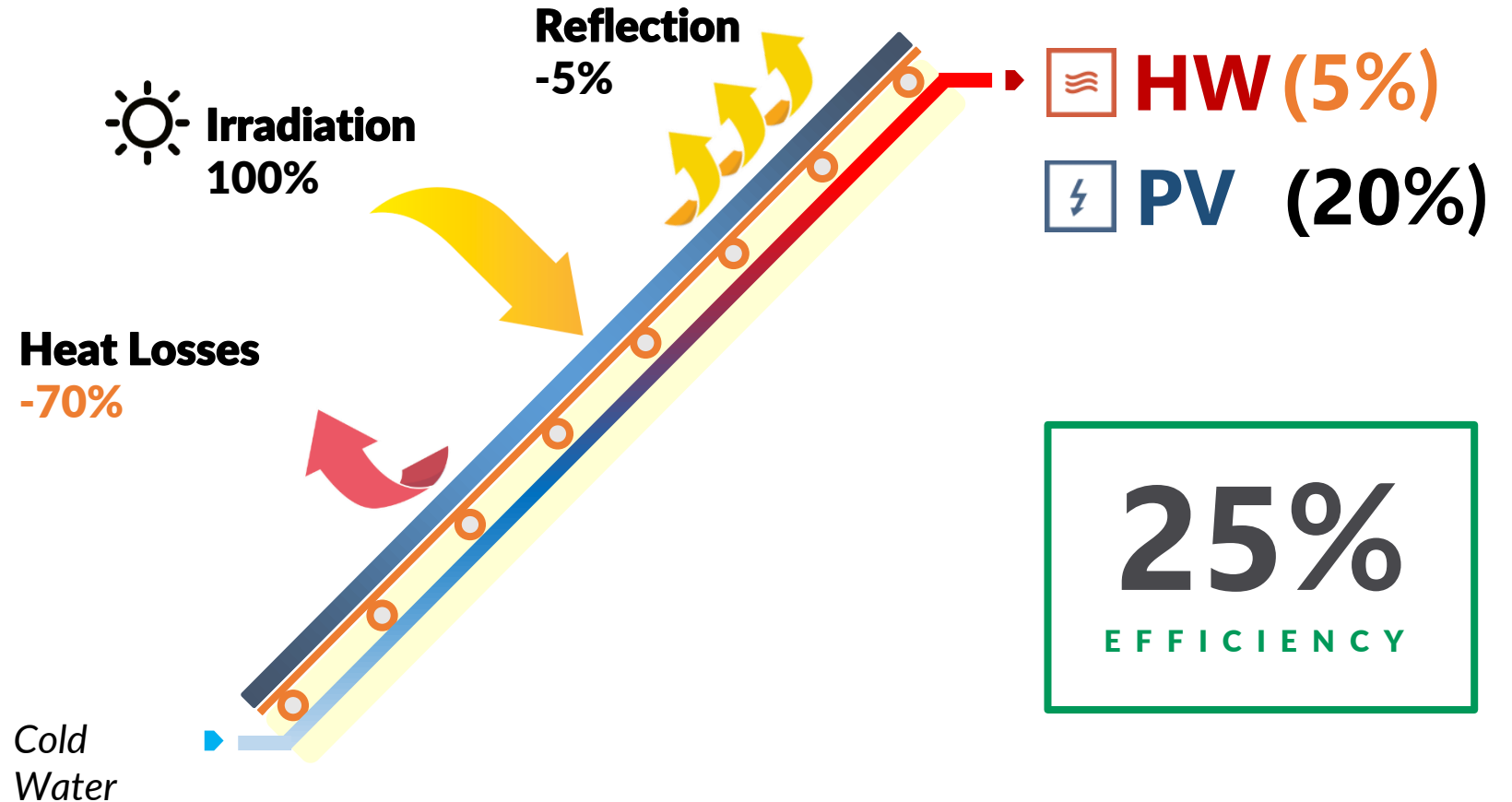
... In practice, the heat losses that went to the rear, escape through the front.

Only **5%** is transformed into solar **thermal energy**.

The total efficiency is far from theory, it is only **25%**.

aHTech[®] Technology

Energy balance





aHTech® Technology

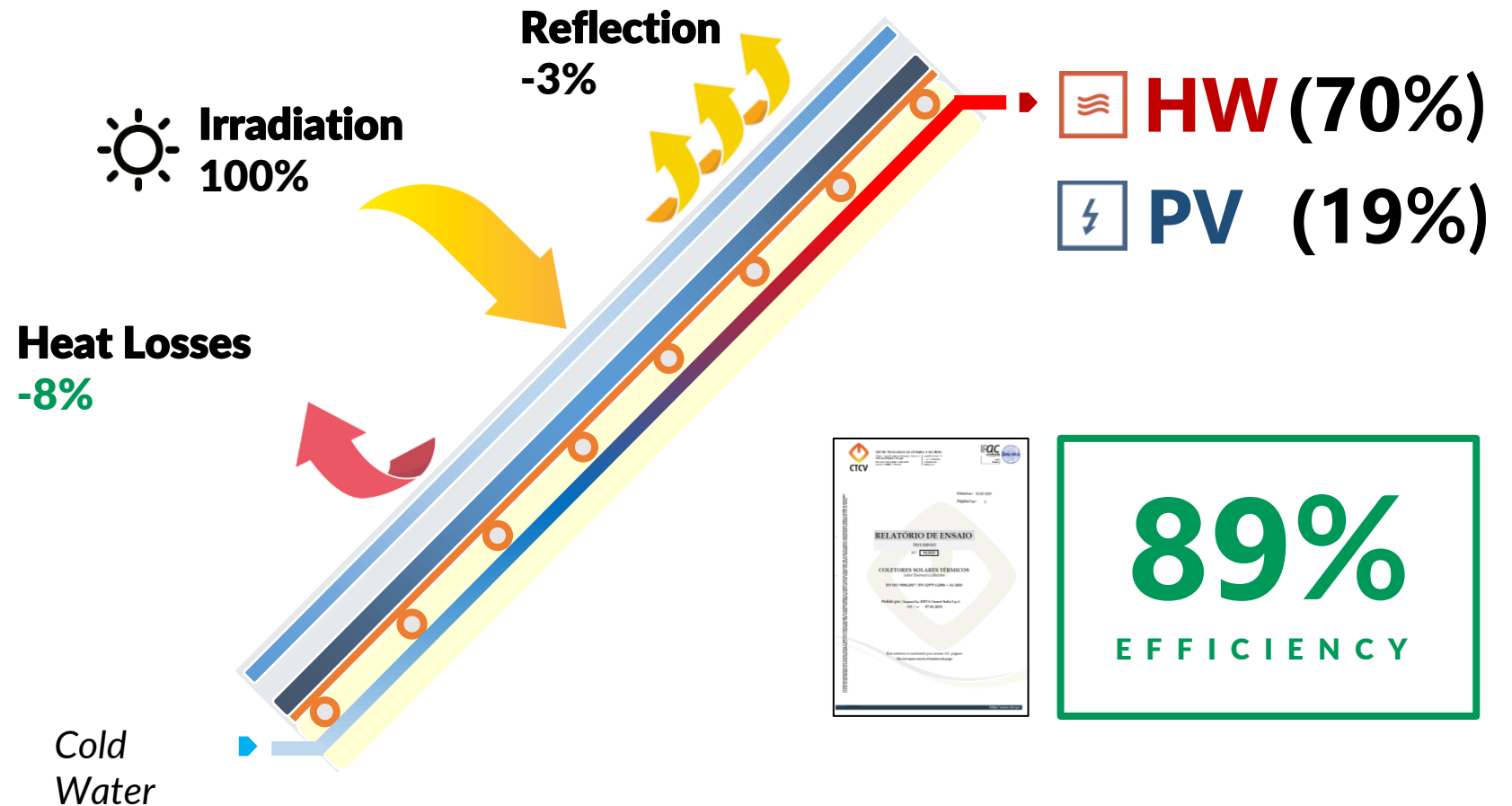
Energy balance



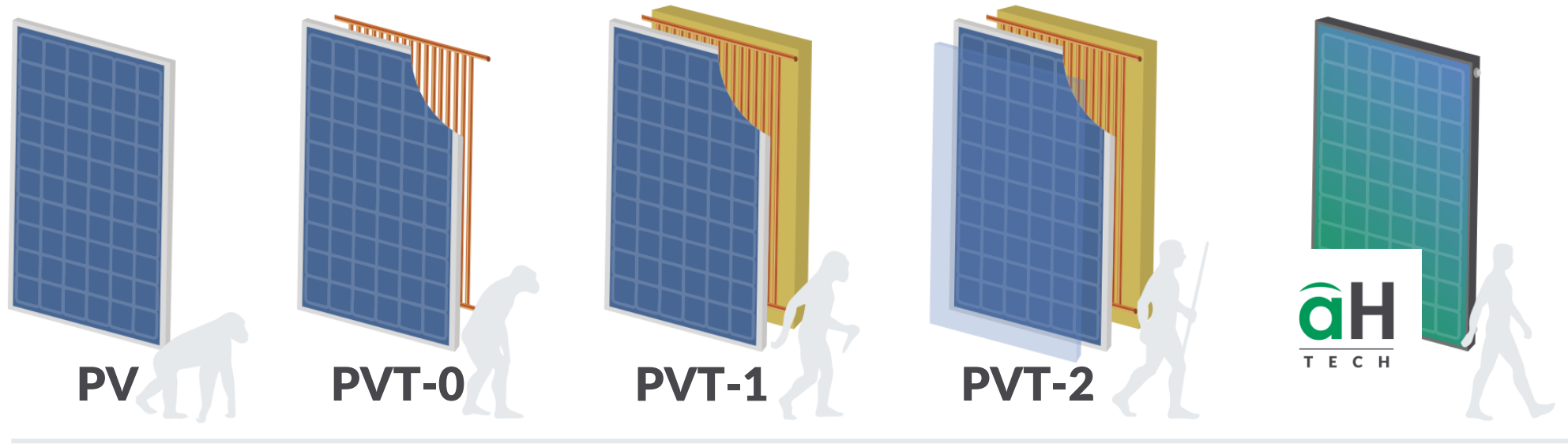
aHTech® technology reduces heat losses.

Solar thermal energy increases up to 70% and photovoltaics also increases.

Panel efficiency with aHTech® is increased up to 89%.

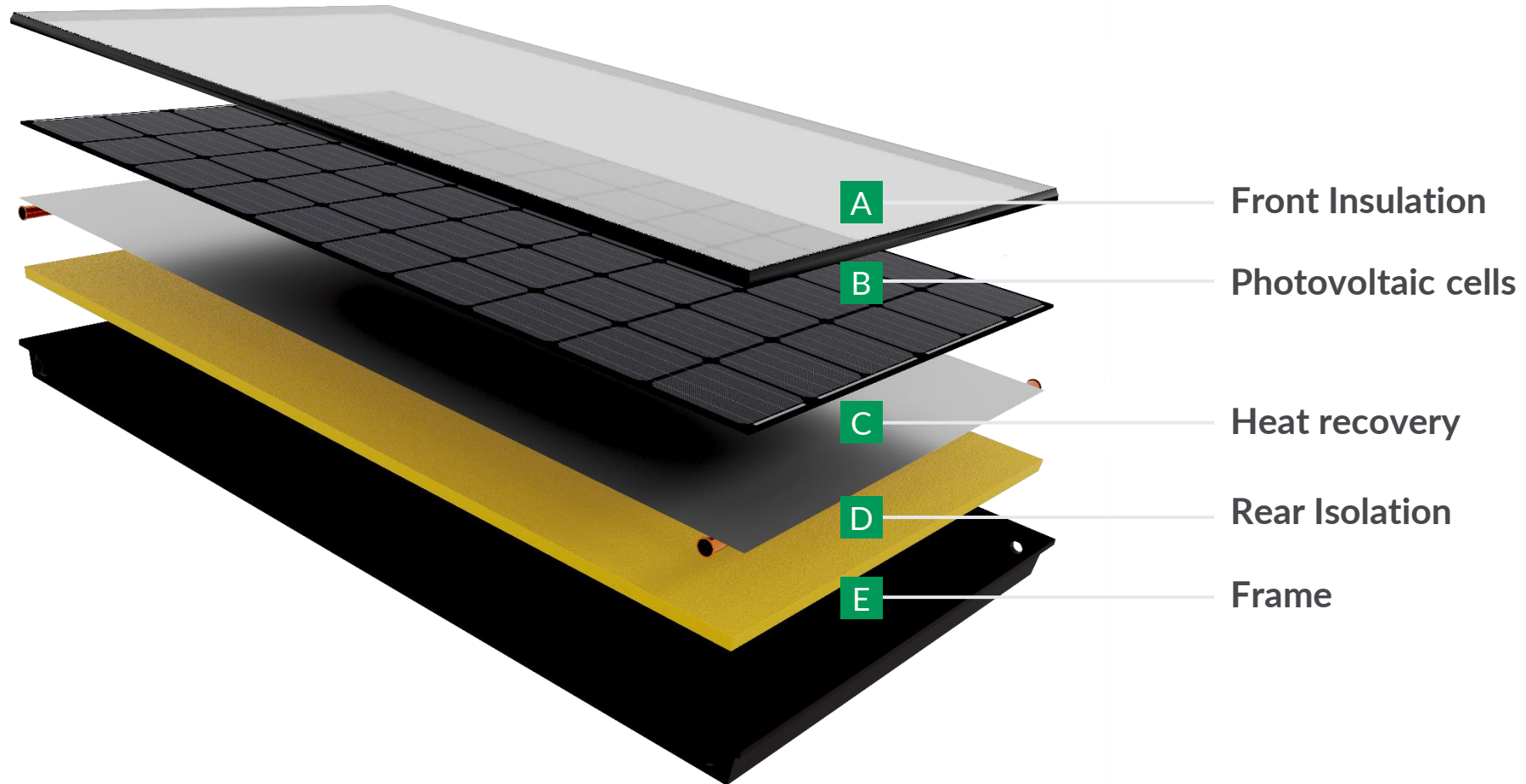


Evolution of PVT



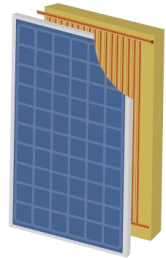
● Solar panel ● Heat Recovery ● Rear isolation ● Front isolation

Layer disposition

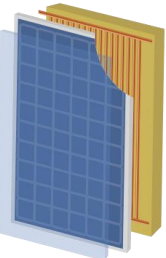


aHTech® Technology

Comparative



PVT-1

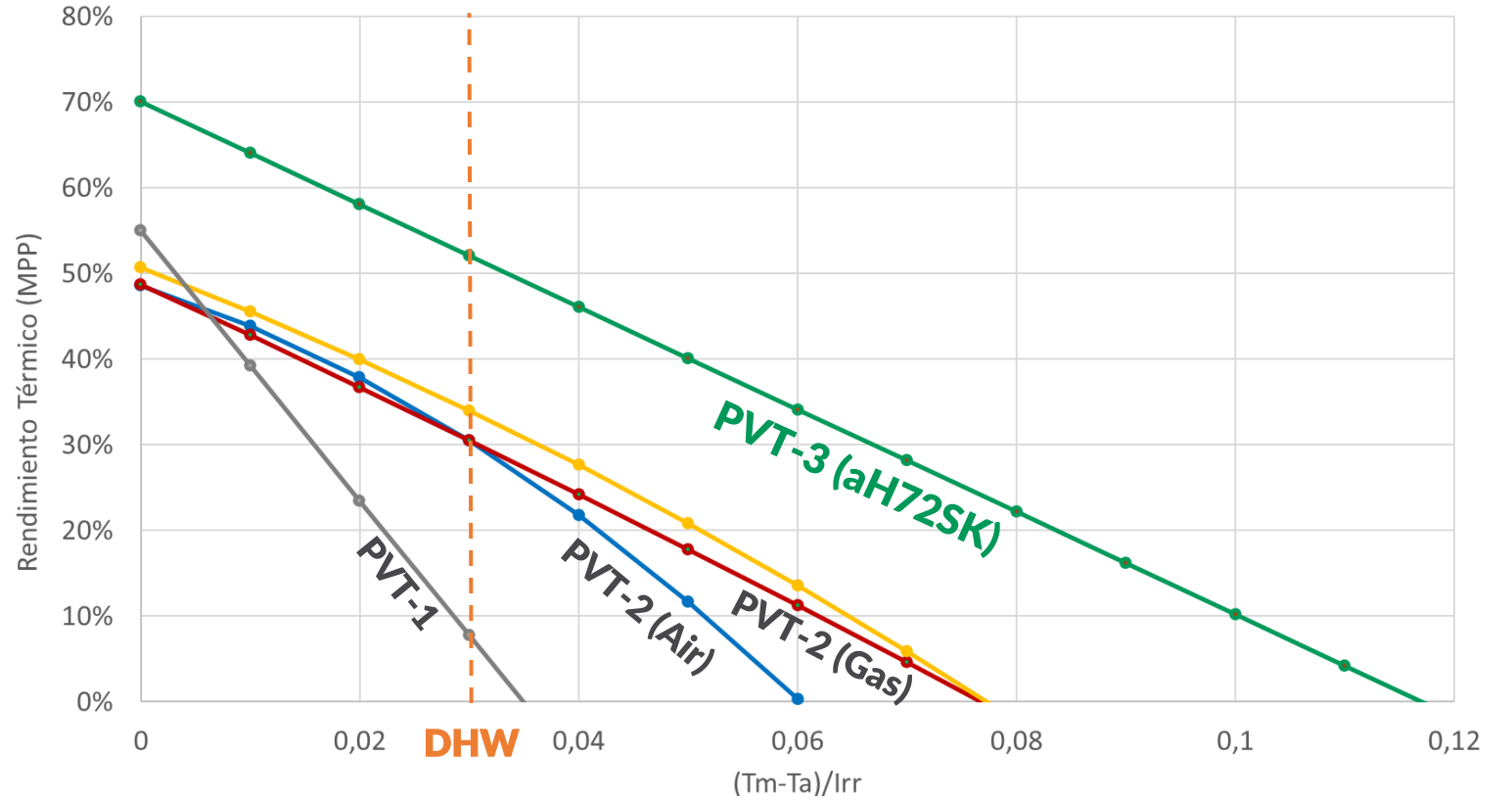


PVT-2

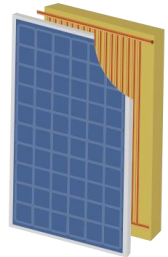


aHTech®

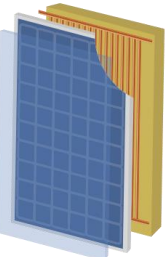
aH72SK



Comparative



PVT-1

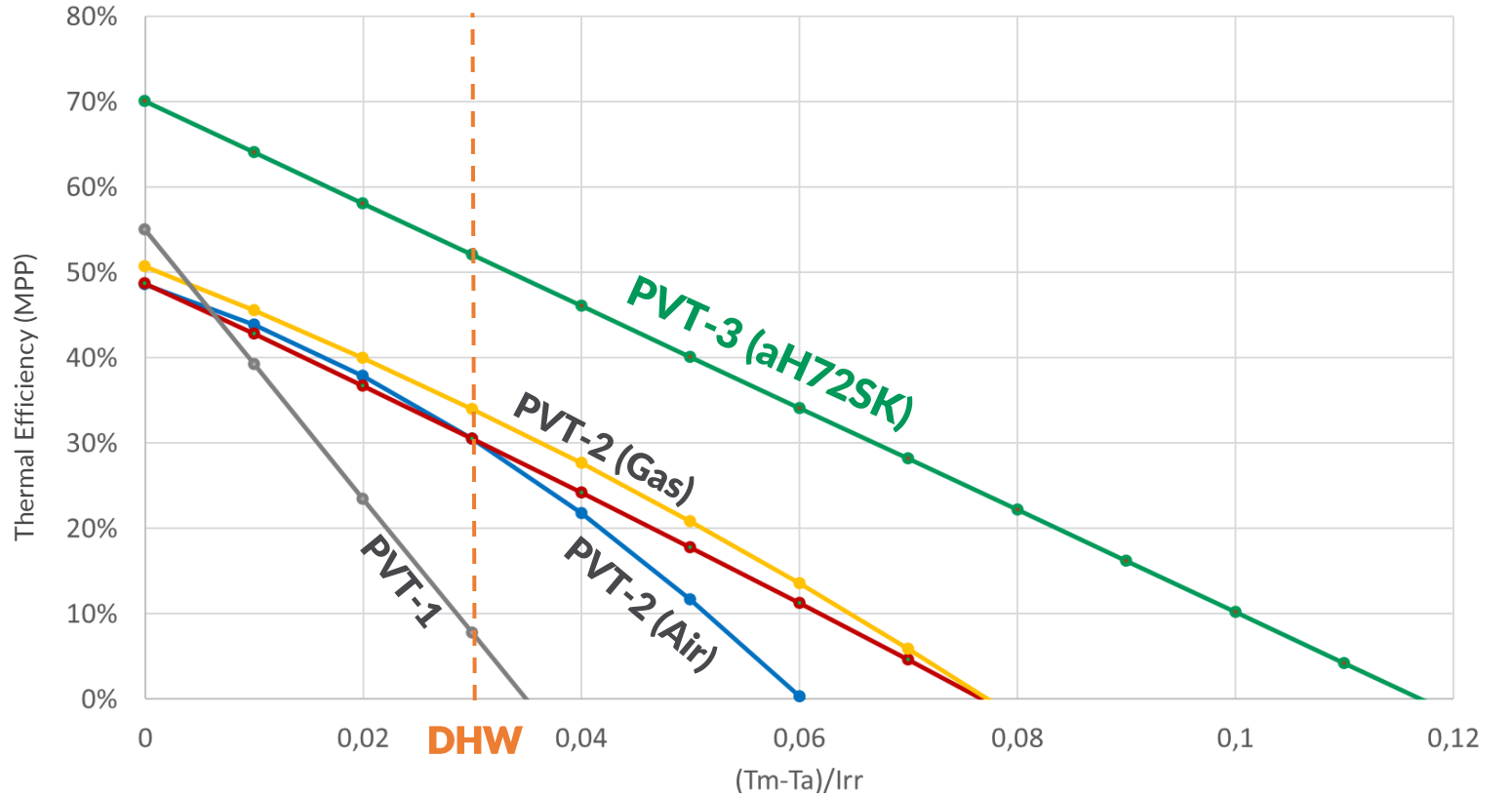


PVT-2



aHTech®

aH72SK





aHTech® Technology

Certifications



ISO 9806:2017 / EN 12975-1:2006 + A1 2010

The first covered hybrid solar panel with Solar Keymark



The Solar Keymark
CEN Keymark Scheme



Valor diferencial

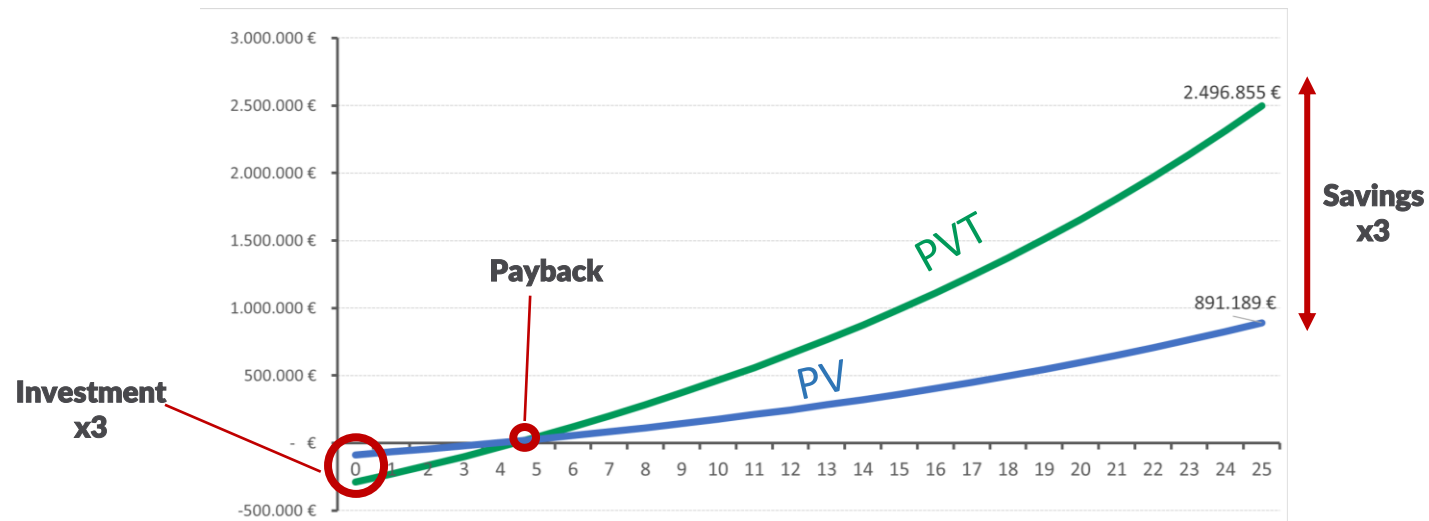


Profitability
x3



Sustainability
x4

Comparaison between PVT and PV



MODELOS



Abora **aH72SK**

72 Photovoltaic cells

Dimensions 1.970 x 995

Thermal production 70%

Photovoltaic production 19%

Flow 60 L/h



The most

PROFITABLE

panel in the world



The most

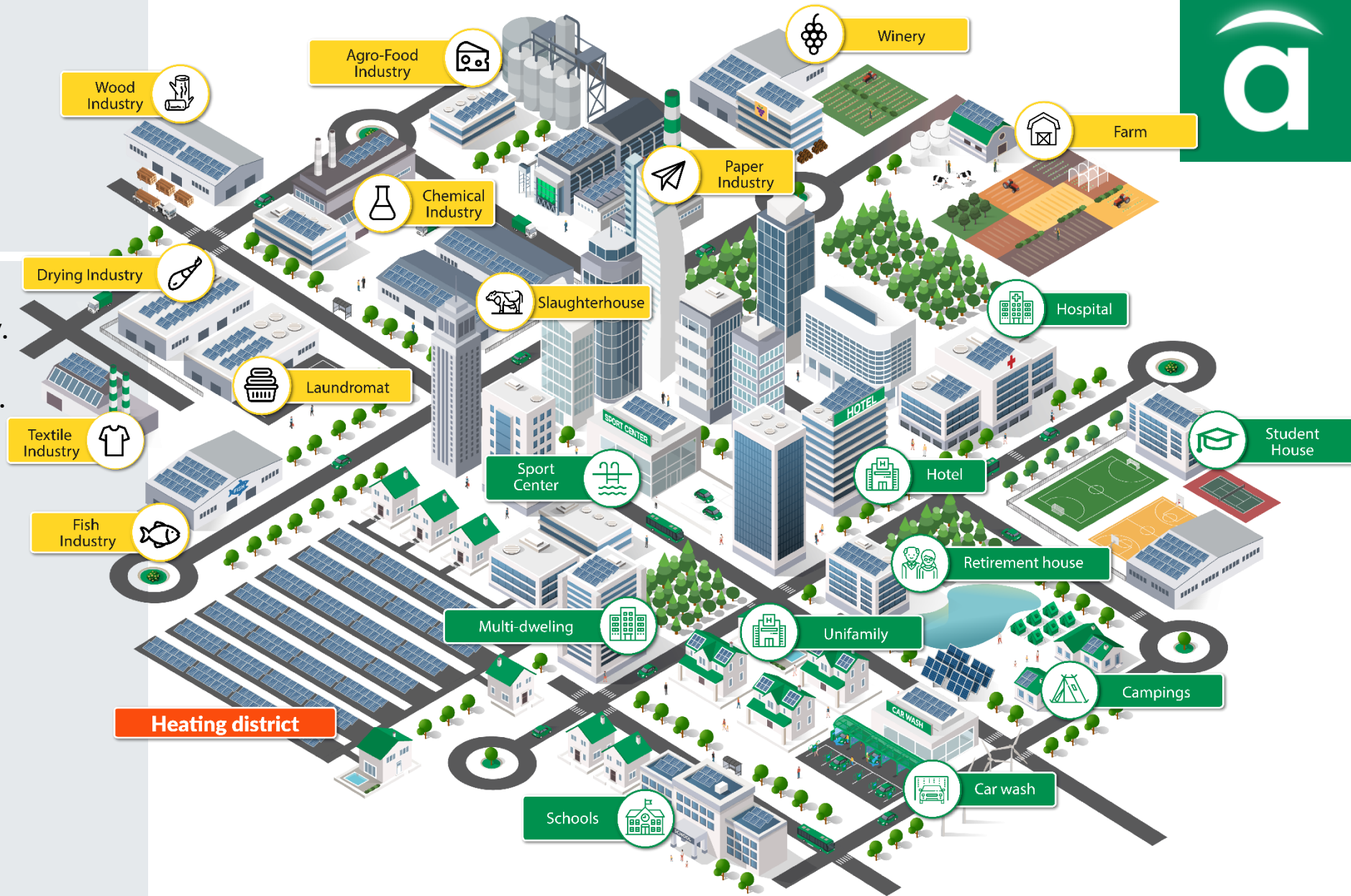
EFFICIENT

panel in the world

SECTORS

Most profitable sectors:

- A high consumption of electricity.
- A high consumption of hot water.
- A limited solar collection area.



Hotel

Iberostar Bouganville

Tenerife

102 Panels

4 years payback

86,544 KgCO₂ /year of emissions avoided



Hotel

Iberostar Royal Andalus

Chiclana de la Frontera

300 Panels

5 years payback

204,785 KgCO₂ /year emissions avoided



Hotel

Hotel Lago

Menorca

134 Panels

6 years payback

142,304 KgCO₂/year emissions avoided



Industry

Arpa

Zaragoza

112 Panels

6 years payback

59,360 KgCO₂ /year emissions avoided



RECEPCIÓN DE MERCANCIAS

ARPA

EQUIPOS MÓVILES DE CAMPAÑA

KRONE

Industry

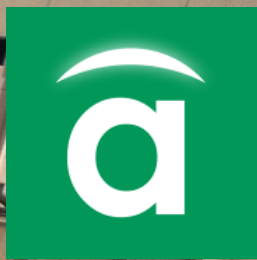
ITL Laundry

Huesca

63 Panels

6 years payback

40,715 KgCO₂ /year emissions avoided



Industry

SYTA Truck wash

Alfajarín

160 Panels

4 years payback

84,800 KgCO₂ /year emissions avoided



Retirement Home

Vitalia

Málaga

64 Panels

4 years payback

33,920 KgCO₂ /year emissions avoided



Retirement Home

Campotejar

Granada

51 Panels

4 years payback

27,030 KgCO₂ /year emissions avoided



Student Housing

CESTE

Zaragoza

40 Panels

6 years payback

27,030 KgCO₂ /year emissions avoided



Sports Center

Multisport of San Cugat

San Cugat

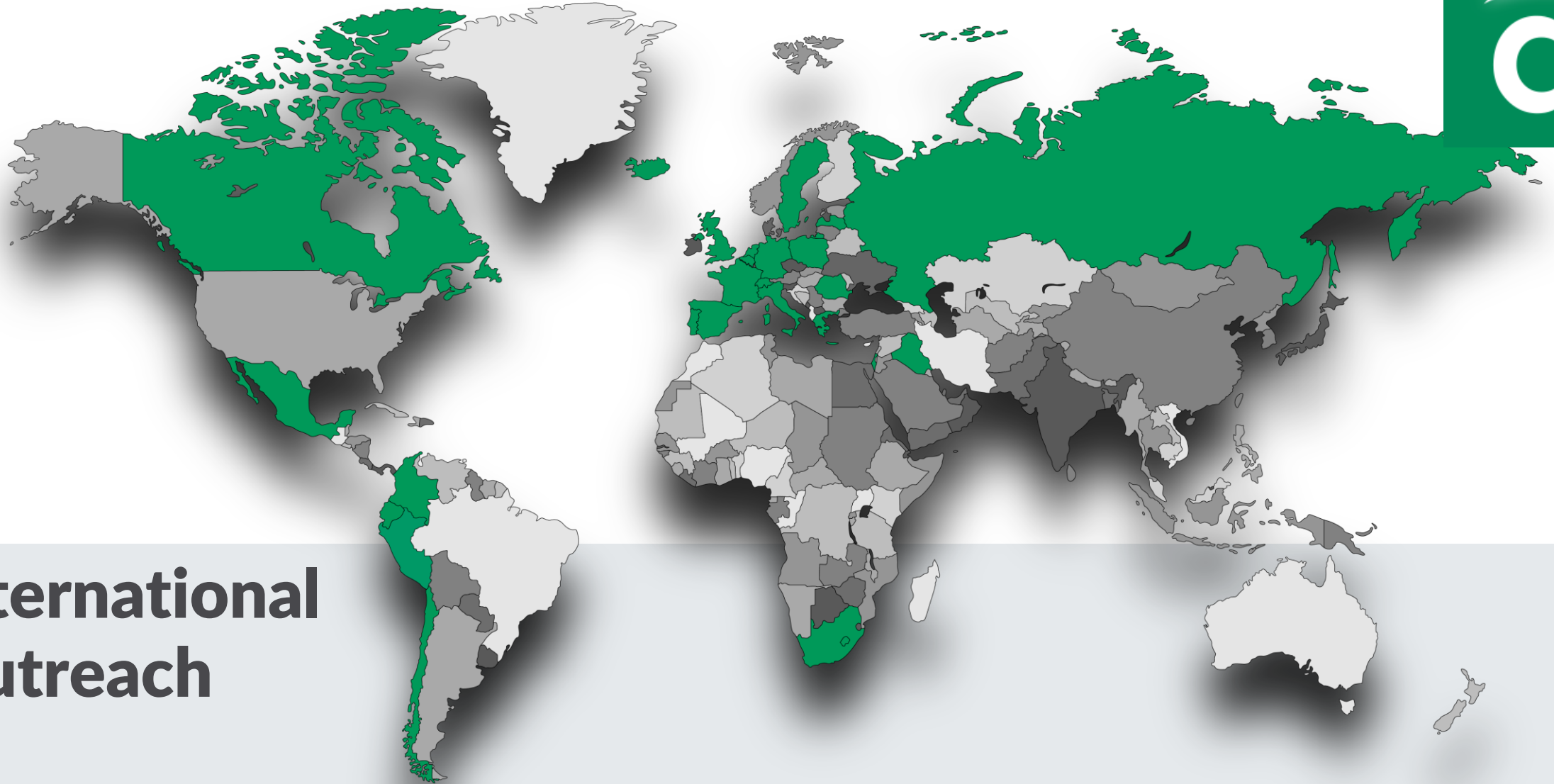
160 Panels

5 years payback

84,800 KgCO₂ /year emissions avoided



GLOBALIZATION



**International
Outreach**

HYDRAULIC COMPONENTS



Exit bench

Purger, Cutting key, Probeholder



Dilatation Compensator



Tap



Exit of reference bench

Cutting key and component



Security valve entrance

Security valve entrance, drain wrench

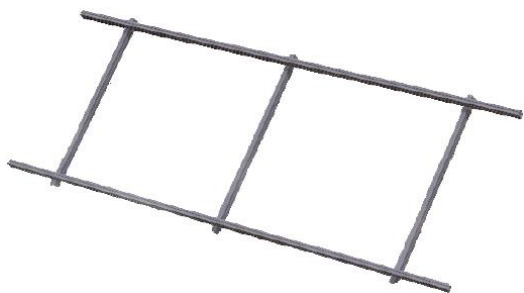


STRUCTURES



Flat cover structure

Valid for **flat cover** with adjustable inclination.



Coplanar structure

Valid for **inclined** roofs.



TYPES OF INSTALLATIONS

Hybrid solar panel with...



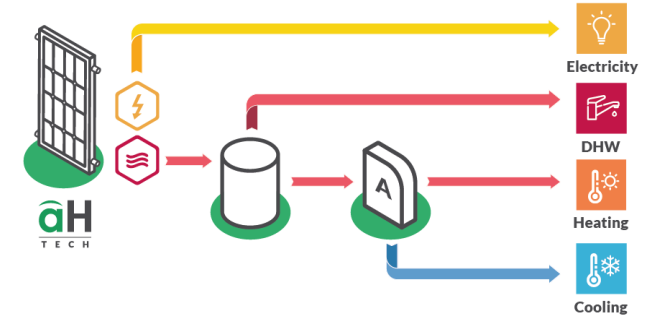
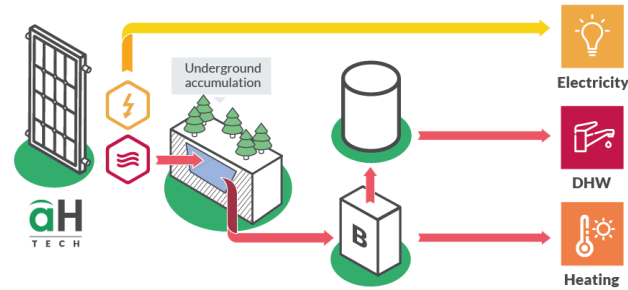
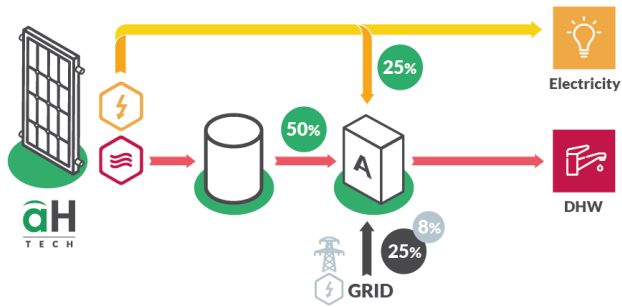
HEAT PUMPS



SEASONAL STORAGE



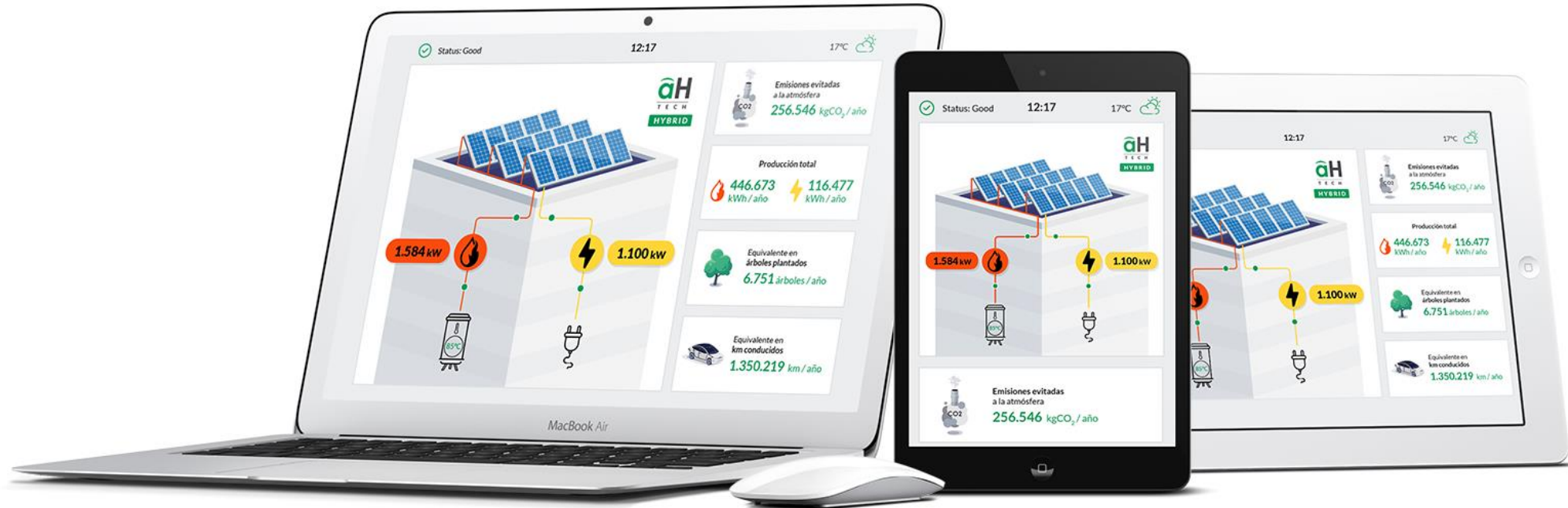
SOLAR TRIGENERATION



aHMONITOR

Monitoring system of the hybrid solar installation

- Online data
- Modular system
- Set alerts
- Easy integration



WARRANTY

Hybrid panels with
10 years
warranty

25 years lifespan





abora

Advanced Solar Technology



www.abora-solar.com

APOYAMOS
EL PACTO MUNDIAL

