

INTERVIEW

PVT Systems

One on One with Jean-Christophe Hadorn

The SHC Programme completed its most recent work on PVT Systems (Task 60) in December 2020. To learn how this Task impacted this market sector, we've asked Jean-Christophe Hadorn, the Swiss Task Operating Agent, to share some of his thoughts on this 3-year project.



Why was a project like this needed?

There are a couple of reasons the SHC Programme decided to take on this topic. The first being that PVT technologies lack visibility in the building community despite the successes of several PVT industries in France and Spain making breakthroughs since 2015. Other reasons include the absence of a real PVT community, the need for scientific and independent work on simulations and performance measurements, and the lack of PVT statistics. But, as we all know, a technology gets consideration when there is data to back it up and positive progression over the years is observed.

What is the current status of the technology?

PVT collectors (unglazed or glazed) are reliable and sold as industrial products and deployed in many countries. We estimate that more than 2.5 million m² of PVT collectors were installed worldwide at the end of 2020. And PVT prototype collectors with concentration factors of 2 to 5 are being developed but still need to find their niche markets. As for testing procedures and simulation methods to predict PVT collector and system performance, these are now being disseminated thanks to the work of SHC Task 60. You can find reports on these topics on the [SHC Task 60 webpage](#).

Is there one outcome that surprised you?

I was surprised by how active the PVT industries were in the Task despite there only being 4–5 of them. They act and react as startups and try to rapidly deliver the best system to their clients. In the Task, they were very willing to share their knowledge and experiences for the benefit of the PVT community and, in the end, all PVT clients.

Do you have a Task success story from an end-user or industry to share?

One of our industry participants refined the design of their new PVT collector thanks to the Task participant's expertise. This is where international collaboration has all its meaning.

What is the future of this technology?

Being versatile, PVT systems can be used for single-family and multi-family houses, hotels, campuses, public services, hospitals, agricultural and industrial processes, and even district heating.

Unglazed PVT collectors can be used efficiently with a heat pump with no noise and installed aesthetically on a house's roof. And glazed PVT collectors show a low payback time for hotels. As for concentrating PVT collectors, they are well suited for industrial applications.

New developments to enhance existing collectors will always occur but are not crucial. Current PVT technologies are pretty well adapted, efficient, and reliable. The challenge is a lack of national policies to promote PVT hybrid collectors and awareness of PVT solutions.

What were the benefits of running this as an IEA SHC Task?

The network of international experts from industry and science that joined this work couldn't have been found elsewhere, drawn together by a common activity and objective. Plus, the SHC Programme's platform, methods, and website provided very useful tools to manage an international project.

Will we see more PVT work in the IEA SHC Programme?

I hope that PVT systems will be studied as a mature technology and that the work will include sharing the best and most appealing examples, system performance according to the SHC Task 60 KPIs, and best practice recommendations in all the relevant market segments.

An area I see for future collaboration is PVT solutions with storage capacities for heating or cooling and electricity.

An IEA Task has to be set up by pioneers with a vision, and this is not rare in the solar community, so my guess is that there will be another Task dealing with PVT soon.

