Solar collector = capteur solaire

Collector = capteur

Solar combisystem = chauffage solaire

Solar pannel = panneau solaire

The efficiency of solar collectors (heat delivered to where it is wanted divided by incident solar energy) depends on the design of the collector and on the system of which the collector is a part. “Combisystems” are solar systems that provide space and water heating. Annually averaged collector efficiencies of 40-55% are feasible for domestic hot water, while annual averaged solar utilisation (which accounts for storage losses and heat that cannot be used) of 20-25% have been obtained in combisystems. Depending on the size of panels and of storage tanks and of the building thermal envelope, 10-60% of the combined hot-water and heating demand can be met at central and northern European locations.

Solar collectors of all types have a nominal peak capacity of about 0.7 kWth.m-2. However, the estimated annual solar thermal energy production from the collector areas in operation depends on the solar radiation available, the outside temperature and the solar thermal technology used. For example, in Austria, estimated annual solar yields are for flat-plate collectors. Estimated annual yields for glazed flat-plate collectors are 1000 kWhth.m-2 in Israel, 700 kWhth.m-2 in Australia, 400 kWhth.m-2 in Germany and 350 kWhth.m-2 in Austria where they reaches 550 kWhth.m-2 for vacuum collectors and 300 kWhth.m-2 for unglazed collectors.

<http://philibert.cedric.free.fr/Downloads/solarthermal.pdf>