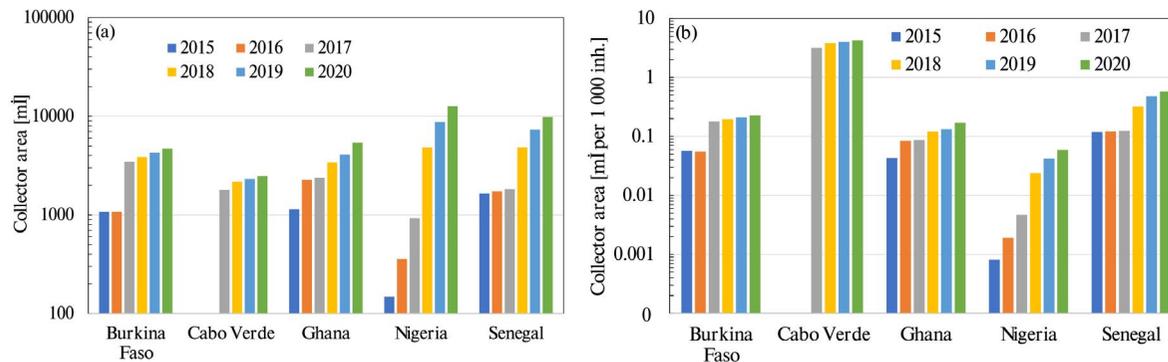


SOFACT N° 2

Solar water heating (SWH) with non-concentrating technology is the most widely used solar thermal technology in West Africa. SWH systems in operation, namely for domestic water use, are mostly thermosiphon systems with very few pumped systems. Industrial applications are practically inexistent. Solar sorption cooling offers great potential to decarbonise air conditioning but is still a niche technology.

The uptake of SWH varies greatly between countries, depending on climatic conditions, local policies and manufacture, electricity costs and cost of other fuels.



(a) Total installed collector area in m² and (b) total installed collector area in m² per 1 000 inhabitants in countries involved in the ECOWAS Solar Thermal Training and Demonstration Program “SOLTrain West Africa” (2015-2020)

Cabo Verde. With tourism accounting for 25% of the country’s GDP, most hotels and residential accommodations in the capital Praia have installed SWH. In the city of Mindelo, small hotels use thermosiphon systems and large hotels use pumped systems.

Gambia. Many hotels have adopted SWH due to the high cost of electricity. As of 2016, 15% of small to medium-sized enterprises, hotels and industries and 8% of public institutions had installed SWH systems.

Togo. In 2020, the government started equipping 122 health centres with SWH systems in rural areas, with financial support of the African Development Bank and the EU-AITF, as part of the PRAVOST programme.

Most West African countries have adopted targets for SWH in their National Renewable Energy Action Plans for 2030 but they are often moderate. Aside from Burkina Faso, Mali and Niger, local expertise in proper design, installing and maintaining SWH, is missing in most West African countries. Only Senegal and Ghana have developed standards for SWH in the region, mostly for testing. Measures must be implemented to help the SWH sector in order to ease electricity demand.



200 L model of “CONFOSOL” SWH manufactured by CNESOLER in Maliin Mali

A few companies or centres manufacture SWHs locally in Burkina Faso, Mali, and Niger. Local manufacturers supply about 80% of SWHs used in Burkina Faso in 2015. In Nigeria, market-ready flat-plate collector-based prototypes have been developed by the Nsukka and Sokoto Energy Research Centre (SERC and NCERD). To date, no other local manufacture of SWH have been identified.

