

SUN & WIND ENERGY

Includes 52 pages

Special Edition Greece



PHOTOVOLTAICS

Organic PV: on the final straight

SOLAR THERMAL

Storage tanks: focussing on quality

WIND ENERGY

Manufacturers and their market shares

CSP IN THE UNITED STATES

Back at full strength!

SOLAR THERMAL

OVERVIEW OF STORAGE TANKS



Thermosiphon system by NRG Technologists

Photo: NRG Technologists



200 litre and 90 litre Itho tanks with drainback unit and solar panel.

Photo: Itho



The A series by Sammler is available in four different volumes (120, 160, 220 and 300 litres).

Photo: Sammler

Quality is becoming ever-more important

What are the trends for the year 2009? "Increased awareness of quality solar hot water systems," says Mark Perger of Solahart, Australia. Erik Caelen from the Dutch manufacturer Itho BV shares this opinion. "Consumers, installers and wholesalers are recognising the benefits of service-free storage tanks without anodes and rust risks, and prefer to assess the total cost of ownership instead of the lowest investment price up front when buying the system." Caelen sees a trend towards better insulation and a growing market for stainless steel tanks. Newton Umeno Koeke, International Business Manager at the Brazilian company Transsen Aquecedor Solar, has also seen that the importance of thermal efficiency standards and the standard quality requirements and certifications are increasing.

When asked about special storage types, several companies saw a tendency towards buffer and combined storage systems. "Especially buffer tanks from 1,500 litres to 5,000 litres and more are very trendy", says Taçnur Yılmaz, Export Deputy Manager at Baymak, the Turkish subsidiary of the Baxi group. Eziñç has recently started its own production of combined (tank-in-tank) storage. Markus Rohrer from the German company IVT-Rohr also sees a trend towards combined storage. He adds: "We have also noticed an increase in heating support with heat pump connection possibilities."

The German colleagues at Vaillant have noticed another development. "We see a further trend in Southern Europe towards drainback solar domestic hot water (DHW) storages with integrated or incorporated solar components", says Jörg Datzko, Senior Product Manager at Vaillant. He adds: "In other European markets the market segment for medium-sized systems with buffer storage and DHW units is growing."

That different solar markets have differing requirements for their products is made clear by Chaitanya Yardi, Marketing Director at the Indian NRG Technologists Pvt Ltd, as he talks about the problem of Indian water quality: "There is a growing demand for tanks which can withstand hard water in India which has high amounts of chloride." Yardi continues: "Stainless steel tanks often fail in a couple of years, especially in areas with bad water quality. Thus a permanent solution to the problem needs to be found and it may be found in enamelled tanks."

With a growing number of markets around the world, the challenge for manufacturers to fine-tune according to country-specific conditions is also growing. In parallel to the already seemingly vast market of solar system and component manufacturers, diversity is also increasing in the field of solar storage. This is no surprise: after all, every customer wants a storage which is perfectly suited to his needs. It will remain interesting to see manufacturers find ever-newer solutions.

Overview of new products

Buffer and combined storage

The Italian OEM manufacturer Marani g is pinning its hopes on Active Stratification Technology (AST). Here, the upper stand-by component of the "AST inside" storage is brought up to the desired temperature using solar energy. Each layer in the cooler storage component is heated very precisely using a highly efficient pump. When the stand-by component of the AST storage has been filled with solar energy, the stratification unit starts to actively move water between layers. This is performed by an ECM pump, which is freely accessible and fixed directly on the tank. The manufacturer achieves the thermodynamic separation between the stand-by component and the purely storage part by using a special double-walled layer separator with an integrated heat exchanger zone. Due to the thermal separation the manufacturer states that the AST storage may also be used with heat pumps.



In the stratified storage tank by marani g the stand-by unit and the storage unit are kept apart by a layer separator. Photo: marani g

The multi-functional stratified hot water storage tank allS-TOR by Vaillant Group (Germany) brings together stratified hot water storage technology with intelligent sensors, a controller and an energy-saving high-efficiency pump, and combines various renewable and fossil energy sources. Numerous feed-in and extraction points at different heights are set up exactly for the relevant temperature levels of the heat sources and heat users. All the necessary components such as a drinking water or solar unit are available as separate external components. The storage tank is available with capacities of 300 to 2,000 litres. Cascade solutions of up to 6,000 litres are also possible.

The Italian company T.M.L srl also has a new stratified combined storage tank in its range. In the Modul-



Eziñç aims to continue increasing storage tank output in 2009. In 2008 the company produced 33,000 solar storage units.

Photo: Eziñç