

[Home](#) ■ [HUBER Report](#) ■ [Sludge Treatment](#) ■

[Solar dryers are in demand worldwide even for big and medium-sized wastewater treatment plants](#)

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Solar dryer under construction at Utah – a reasonable solution even in climate zones with cold winters



The sun makes sludge a valuable resource: The solar dryer at Cali produces fertilizer

Solar drying of sewage sludge is a technique that is increasingly used also by operators of medium-sized and large wastewater treatment plants to reduce sludge disposal costs and at the same time protect the environment. Previously, primarily smaller sewage treatment plants and particularly plants in Germany and France have used solar sewage sludge dryers. Today, even operators of medium-sized and large wastewater treatment plants from all over the world order solar dryers.

PROJECT CALI, COLOMBIA

For more than a year a HUBER solar dryer has been in operation in a tropical climate zone at Cali, a large city in Colombia. The dryer handles a wastewater flow in excess of 5 m³/s. High solar radiation combined with an additional heating render it possible to process up to 60 m³ press sludge on some days. Four type SRT 9 machines are installed at Cali to dry the sludge directly at source and use it as fertilizer for the production of sugarcane. Previously, the sludge had to be transported to a landfill by trucks, which was quite an expensive solution.

An about 50 m long conveying belt has been installed to transport the sludge from the existing dewatering building to the new greenhouses where the sludge is distributed to individual treatment lines to be processed by the HUBER machines. In this way the fully automated solar drying system could be integrated into the customer's existing system.

FACTS AND FIGURES PROJECT CALI:

- 4x HUBER Solar Active Dryer SRT 9
- hall length: 110 m
- throughput: 60 m³ dewatered sludge per day
- drying efficiency: from about 25 % to 80 – 90 % DS

PROJECT TOOEELE, USA

Another HUBER dryer is installed at Tooele, Utah on a dry high plateau near Salt Lake City. This medium-sized plant removes 1,000 tons dry mass a year from wastewater. The complete sludge treatment stage has been redesigned. HUBER supplied not only three SRT 11 dryers but also two RoS3 dewatering units which are installed directly beside the greenhouses. The work on site is still going on, plant start-up is planned to take place in spring 2012. The combination of screw press and solar dryer offers the customers some advantages: The number of interfaces is minimized. The long operating times the screw press offers can be used fully because the solar dryer can continuously take up dewatered sludge. Both processes are well matched. The solar dryer operates independently, dryer feeding is started by starting the screw presses. If the operator starts the screw press, he can take away dry granulate at the discharge end of the greenhouse.

At Tooele the sludge is dried with solar power alone, this gives of course the best eco-balance. The energy consumption of the system is so low that it can be disregarded in the total cost balance.

FACTS AND FIGURES PROJECT TOOEELE:

- 3x HUBER Solar Active Dryer SRT 11
- 2x ROTAMAT® Screw Press RoS 3
- hall length: 120 m
- throughput: approx. 9000 t dewatered sludge per year

PROJECT ZAGAN, POLAND

The biggest HUBER solar dryer project is presently under construction at Zagan in Poland, located between Berlin and Wroclaw. About 1000 t dry mass will be treated on this site with a cost-optimized technical solution. Three SRT 11 dryers will be installed in about 120 m long greenhouses. Wheel loaders will feed the sludge but the system offers the option for easy later automation. Also at Zagan the sludge will be dried with solar power alone.

FACTS AND FIGURES PROJECT ZAGAN:

- 3x HUBER Solar Active Dryer SRT 11
- hall length: approx. 120 m
- throughput: approx. 1000 t dry mass per year
- drying efficiency: from about 18% DS to 60% DS

SUCCESSFUL PARTNERSHIP

In all three projects HUBER cooperates with local contractors who build the greenhouses and adjoining or auxiliary buildings or carry out concrete work, foundation work, wiring and installation. HUBER supports these contractors with technical drawings, check lists and consultancy to ensure problem-free project execution to the satisfaction of all parties involved. More than half the investment costs for the projects relate to local work. This percentage is even higher where feed and discharge automation is provided by the local contractor as it is the case at Cali for example.

All three projects show that solar drying works in very different climate zones and under very different conditions. Solar drying can be an economical and sustainable solution in all regions of the world. The HUBER system provides flexibility in the level of automation, it can easily be planned and installed by contractors. Also all the inquiries we receive from different countries indicate that solar drying on medium-sized and bigger wastewater treatment plants can be a reasonable sludge treatment solution. With our excellent core products we are able to offer HUBER solutions for any application.

A member of the HUBER Group

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