

Ecoplage technique helps save beaches and produce more water

French firm Ecoplage has come up with an innovative solution to protect beach against corrosion as well as provide water to produce energy.

The Ecoplage beach drainage system consists of placing drains under the beach up to two metres deep, parallel to the coastline and connected to a pumping station. The drainage dries foreshore, slows erosion and promotes the fattening of the beach. The process produces a significant amount of filtered seawater. It also promotes the flow of seawater towards the drain and lowers the level of water table under the beach.

With the Enerplage system, seawater is filtered perfectly after the drainage to produce energy. This is the principle of 'thalassothermie' (use of the heating power of the sea) to produce heat or cold and so supply the infrastructure on the coast like hotels and residences.

Jean-Yves Audrain, CEO at Ecoplage, said, "The principle is to dewater the



Jean-Yves Audrain, Ecoplage CEO, speaks about the unique concept of filtering seawater and protecting beaches.

beach and by dewatering the beach, we stabilise the beach without any negative impact. As we dewater, we also collect a huge amount of filtered seawater. We can economise water use twenty times more with our seawater heating technology. However, this system is unique to each beach and one needs to understand that this is perhaps not a global solution."

With its first project at Jumeirah Beach in Dubai, the company has

reduced erosion by 100 per cent in three years as well as oxygenated lagoon areas with the produced water.

The Jumeirah Beach is 1,400 metre long and 80 metre wide with 1,000 metre of eroding section south of the beach and negative sentiment budget of 30,000 cu/m per year.

With the Ecoplage process, the beach received nourishment for 56,000 cu/m of sand with a 950-metre long drain piping. In two years' time, since the implementation in late 2011, the beach has lost less sand than it used to in a year.

The water produced by the system can be used for supplying to industrial processes through reverse osmosis desalination, production of heat or cold using heat pumps and exchangers, fish and shell farming, the re-oxygenation of basins or lagoons, among many other uses.

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