

Desalination pipe for clean drinking water is a competition finalist

August 25 2016, by Nancy Owano



(Tech Xplore)—Khalili Consultant Engineers is an engineering and consulting firm. Their business targets the food, beverage and packaging industries. The firm's special focus though has to do with fruit juice processing plants and water purification and packaging [facilities](#).

They had enough imagination and expertise going on to answer a challenge: How to harvest water sustainably?

That is actually an important question for planners as California faces water shortages in the coming years. To deal with it, observers say the amount of energy required for water production and transmission is sure to increase.

The Land Art Generator Initiative (LAGI) is concerned. This is a platform for artists, architects, landscape architects, engineers and scientists and [scientists](#) to bring forward solutions for sustainable energy solutions.

For its competition, LAGI asked for proposals that involve energy and drinking water components.

Khalili Consultant Engineers have their entry. The picture of their entry in *Inhabitat* looks like a giant paper roll spread across the water. The *Inhabitat* headline reads "Solar-powered Pipe desalinizes 1.5 billion gallons of drinking water for California."

Taflin Laylin, who wrote about it, liked what she saw. She described the design as "a long gleaming thing visible from Santa Monica Pier."



She said "The Pipe," as the entry is called, tells the story of a public service provision concept "knitted into everyday life" in an aesthetically pleasing, not to mention healthy, way.

"A finalist of the 2016 Land Art Generator Initiative design competition for Santa Monica Pier, the solar-powered plant deploys electromagnetic desalination to provide [clean drinking water](#) for the city and filters the resulting brine through on-board thermal baths before it is reintroduced to the Pacific [Ocean](#)."

The team behind The Pipe described how it works, saying "solar panels provide power to pump seawater through an electromagnetic filtration

process below the pool deck, quietly providing the salt bath with its healing water and the city with clean drinking water."

Their entry lists its water harvesting technology as Electromagnetic Desalination. They said the annual capacity was 10,000 MWh to generate 4.5 billion liters of drinking water.

Describing their approach, they said, "Electromagnetic filtration uses an isolated electromagnetic [field](#) on pipes circulating seawater, separating the salts and impurities. The process is rapid and energy efficient."



They said that "What results are two products: pure drinkable water that is directed into the city's primary water piping grid, and clear water with twelve percent salinity. The [drinking water](#) is piped to shore, while the salt water supplies the thermal baths before it is redirected back to the ocean through a smart release system, mitigating most of the usual problems associated with returning brine water to the sea."

Conventional desalination technology such as reverse osmosis uses excessive electricity, according to the team, generates unwanted industrial waste and polluted [water](#), and requires very expensive [machinery](#).

The competition winners will be announced in October 2016, said [LAGI](#).

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