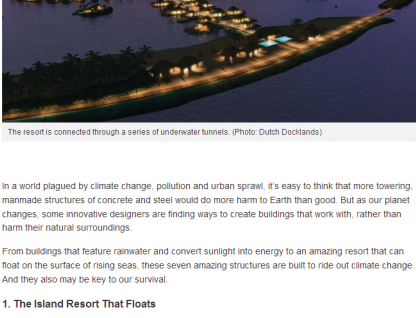


7 Buildings That Could Help Us Survive a Changing Planet

By Allie Goolrick | Published: Jul 1, 2014, 8:23 AM EDT | [weather.com](#)



Innovative Designs for a Changing Planet



The resort is connected through a series of underwater tunnels. (Photo: Dutch Docklands)

In a world plagued by climate change, pollution and urban sprawl, it's easy to think that more towering, manmade structures of concrete and steel would do more harm to Earth than good. But as our planet changes, some innovative designers are finding ways to create buildings that work with, rather than harm their natural surroundings.

From buildings that feature rainwater and convert sunlight into energy to an amazing resort that can float on the surface of rising seas, these seven amazing structures are built to ride out climate change. And they also may be key to our survival.

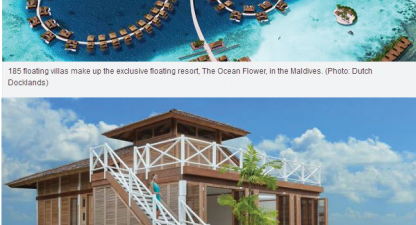
1. The Island Resort That Floats

This incredible floating resort may look like a paradise on Earth, but the Ocean Flower in the Maldives is really a reminder of exactly how much climate change is impacting the planet. The Maldives, an island nation in the Indian Ocean, is only 5 feet above sea level and is fast being reclaimed by rising seas, making it one of the most climate-threatened countries on the planet.

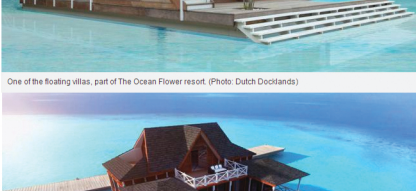
But with it's crystalline waters, the tiny country is also one of the most beautiful places on Earth.

That's why [Dutch Docklands International](#), a design company that specializes in floating properties, has teamed up with the country to create a unique resort that can withstand sea-level rise. The Ocean Flower has 185 villas on five man-made "islands" that rise and fall with the water level and are linked by see-through, underwater tunnels.

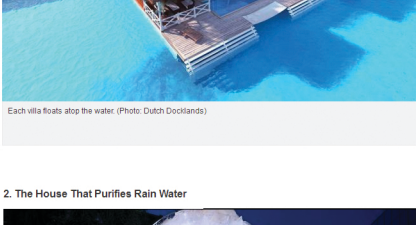
Of course, to own a villa at the exclusive resort you'll have to shell out millions, but the partners hope the resort will serve as [proving ground for floating island technology](#), co exist reports.



185 floating villas make up the exclusive floating resort, The Ocean Flower, in the Maldives. (Photo: Dutch Docklands)

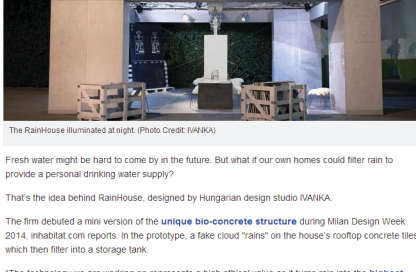


One of the floating villas, part of The Ocean Flower resort. (Photo: Dutch Docklands)



Each villa floats atop the water. (Photo: Dutch Docklands)

2. The House That Purifies Rain Water



The RainHouse illuminated at night. (Photo Credit: IVANKA)

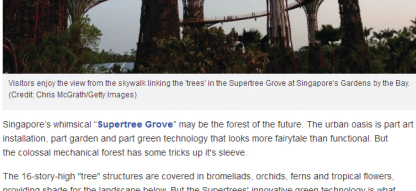
Fresh water might be hard to come by in the future. But what if our own homes could filter rain to provide a personal drinking water supply?

That's the idea behind RainHouse, designed by Hungarian design studio IVANKA.

The firm debuted a mini version of the [unique bio-concrete structure](#) during Milan Design Week 2014, [inhabitat.com](#) reports. In the prototype, a fake cloud "rains" on the house's rooftop concrete tiles, which then filter into a storage tank.

"The technology we are working on represents a high ethical value as it turns rain into the [highest quality drinking water](#) in a pure and natural way of processing," explain principal designers Katalin and Andras Ivanka. "It will provide access to affordable clean water for small and big scale users, from families to big companies, leaving the smallest possible ecological footprint in the process."

3. The Trees That Harvest Sunlight

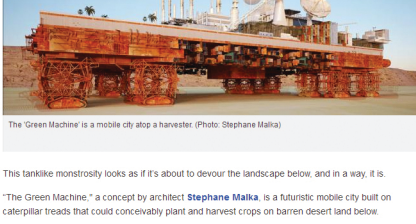


Visitors enjoy the view from the skywalk linking the 'trees' in the Supertree Grove at Singapore's Gardens by the Bay. (Credit: Chris McGrath/Getty Images)

Singapore's whimsical "[Supertree Grove](#)" may be the forest of the future. The urban oasis is part art installation, part garden and part green technology that looks more fairytale than functional. But the colossal mechanical forest has some tricks up it's sleeve.

The 16-story-high "tree" structures are covered in bromeliads, orchids, ferns and tropical flowers, providing shade for the landscape below. But the Supertrees' innovative green technology is what makes them supercool: During the day, photovoltaic panels soak up sunlight to power the Supertrees' dazzling lights at night. They also collect rainwater and provide air vents from [two nearby bio-conservatories](#), CNN reports.

4. The City That Farms the Desert



The 'Green Machine' is a mobile city atop a harvester. (Photo: Stephane Malka)

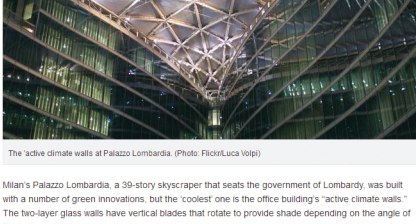
This tanklike monstrosity looks as if it's about to devour the landscape below, and in a way, it is.

"The Green Machine," a concept by architect [Stephane Malka](#), is a futuristic mobile city built on caterpillar treads that could conceivably plant and harvest crops on barren desert land below.

According to Gizmodo, the walking city on top would have [houses, schools, restaurants and parks](#). The bottom half of the structure is actually a pair of treads that [plow, fertilize and plant the land below](#), according to designbloom.

Powered by wind turbines and solar towers, the self-sufficient, mobile city would produce 20 million tons of crops per year.

5. The Skyscraper That Cools Itself



The 'active climate walls' at Palazzo Lombardia. (Photo: Flickr/Luca Volpi)

Milan's Palazzo Lombardia, a 39-story skyscraper that seats the government of Lombardy, was built with a number of green innovations, but the 'coolest' one is the office building's "active climate walls."

The two-layer glass walls have vertical blades that rotate to provide shade depending on the angle of the sun.

The chic curvilinear tower, which was built by [PEI Cobb Freed & Partners](#), has a unique geothermal heating and cooling system and green roofs.

6. The Hospital That Eats Smog



The honeycomb facade of the Manuel Gea Gonzalez Hospital neutralize smog. (Photo: Google Plus/Meenxi)

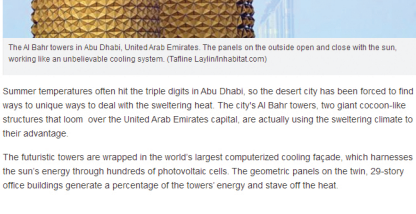
It's only fitting that a hospital might help make it's patients breathe a little easier. The Manuel Gea González Hospital in Mexico City's cool honeycomb exterior is much for much more than looks:

The facade is made from an innovative [new material that helps purify the air](#), according to Businessweek.com

When smog and pollution hit the building's exterior, the a coating on the panels break noxious chemicals down into safer compounds like carbon dioxide and water. The honeycomb shape of the panels increases the surface area for smog to react with the pollution-neutralizing coating.

Tests have shown that the structure, designed by Berlin-based [Elegant Embellishments](#), neutralizes as much smog as is produced every day by about 1,000 vehicles in Mexico City.

7. The Towers that Beat the Heat



The Al Bahr towers in Abu Dhabi, United Arab Emirates. The panels on the outside open and close with the sun, working like an unbelievable cooling system. (Taifline Laylin/inhabitat.com)

Summer temperatures often hit the triple digits in Abu Dhabi, so the desert city has been forced to find ways to unique ways to deal with the sweltering heat. The city's Al Bahr towers, two giant cocoon-like structures that loom over the United Arab Emirates capital, are actually using the sweltering climate to their advantage.

The futuristic towers are wrapped in the world's largest computerized cooling façade, which harnesses the sun's energy through hundreds of photovoltaic cells. The geometric panels on the twin, 29-story office buildings generate a percentage of the towers' energy and stave off the heat.