



The centrepiece of the Netherlands pavilion is an edible food cone | Photo source V8 Architects / Jeroen Musch

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DUTCH BIOTOPE PAVILION PROTOTYPES SUSTAINABLE WAYS OF LIVING AT EXPO 2020

 ARCHITECTURE & DESIGN

The pavilion is designed to be as sustainable as possible with minimal footprint

Spotted: Expo 2020 Dubai—which will run until the 31st March 2022—is highlighting some of the world’s leading sustainability innovations. Walking through Expo’s “sustainability district”, visitors can marvel at an artificial waterfall, navigate a hanging garden and meet a giant sharp-toothed machine called “Gnasher”. But a key highlight is the Netherlands pavilion, where V8 Architects have created an integrated climate through an enclosed water, energy and food system.

The theme “uniting water, energy and food” underpins the pavilion’s design concept. At its heart is an 18-metre-high “food cone” covered in over 9,000 edible plants irrigated with water captured from the desert air. This water harvesting system—powered by solar energy—creates a cool microclimate within the cone which is ideal for the growth of oyster mushrooms. The result is a circular climate known as a “biotope”.

In addition to showcasing sustainable living, the pavilion’s design minimises physical footprint and utilises recyclable materials. For example, steel that can be reused once Expo 2020 is over was used for construction instead of concrete. After the event, the plot will be left exactly as it was before, with components taken back to the local construction industry.

V8 Architects commented in a [recent article](#) that the goal of the design is to provide “hope in the desert that technology can provide sustainable ways of living, even in arid conditions.” The project is the result of collaboration between various Dutch designers and technology companies.

The pavilion includes a “vertical farm” – a space in which crops are grown in multiple layers. At Springwise, we have spotted previous examples of this innovative approach, including one in disused office space in [Finland](#).

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Takeaway:

The world is seeing a growing number of cross-industry design pieces. Is it architecture, artwork, a permaculture project? Such designs are pushing the boundaries of narrow functionality while poetically reinforcing the unity between the functional, sustainable and inspiring. The theme of the pavilion is topical. The climate crisis is leading to many innovations in agriculture. For example a recent [report](#) highlights the growth of the indoor farming market.