



Sustainable design

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## FOLDED FACADE REDUCES SKYSCRAPER ENERGY BILL



SUSTAINABILITY

**A new skyscraper features a folded design that blends solid aluminium panels with strategically-placed glass to reduce heat from sunlight and therefore save energy.**

Skyscraper design solves an obvious space issue, rising high to accommodate thousands of employees and businesses in vertical structures. The energy demands of keeping the whole building cool are, however, very high. This is in large part due to the sun shining through large glass facades. Glare reducing coating creates dull views, and walls without views might negatively impact staff morale. However, Danish architecture firm [Bjarke Ingels Group \(BIG\)](#) has a solution.

BIG has completed work on the Shenzhen Energy Mansion, a two-tower skyscraper. BIG set out to create a passive energy reduction system; the building's own design would help reduce heat build up from the sun. The warping, striated facade features solid panels and a powdered aluminium coating for increased insulation on the south-facing sides, which receive the most sunlight. The building features prominent folds at certain locations. Here, panels of double-insulated coated glass allow soft light to enter at select locations, such as meeting rooms and executive areas. The North sides of the tower feature more glass, offering scenic views and natural lighting without generating heat from direct sunlight.

The two towers are joined by a communal block featuring food and retail outlets and conference rooms, with the overall structure covering a million square feet. The prime office space on the top 13 floors is occupied by Shenzhen Energy Company. Overall, the energy-saving design has led to the building receiving high sustainability scores.

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Website: [www.m.big.dk/](http://www.m.big.dk/)

Contact: [www.m.big.dk/contact](http://www.m.big.dk/contact)