This Bicycle Will Clean Polluted Air While You Pedal

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An image shows how Roosegaarde's design would funnel smog in, and push out clean air.

Rendering courtesy of Dan Roosegaarde

For Architectural Digest, by Nick Mafi.

Dubbed the Smog Free bicycle, the invention works by sucking the polluted air into a contraption located on the front of the bike.

As urban environments grow, particularly in emerging markets such as China, Brazil, and India, city smog is increasingly becoming a public health concern. Indeed, according to the World Health Organization, around 3 million deaths a year worldwide are attributable to air pollution. That's one of many reasons why the Dutch artist and innovator Dan Roosegaarde has taken it upon himself to design a series of products to help curb the growing problems stemming from pollution. Last fall, Roosegaarde unveiled a series of 23-foot-high towers that, in essence, operate as a massive air purifier. But Roosegaarde wasn't content only designing pollution-curbing buildings. He felt there was more he could do. And he was right.

The Dutch innovator recently unveiled a concept bicycle that, true to form, cleans polluted air while the rider pedals. Dubbed the Smog Free bicycle, the invention works by sucking the polluted air into a contraption located on the front of the bike, cleaning it through a filtration system, then releasing the fresh air—all while the rider is pedaling through the streets. The idea has been supported by various factions of the Chinese government, providing Roosegaarde the push needed to get the concept bicycle through its first stages of development. The implications could be enormous, particularly in urban environments where bike lanes are interwoven within the grid (including major cities such as New York, Berlin, Buenos Aires, and Beijing), and where bike-sharing programs are on the rise. But for now, with the backing of its government, it's in China where the innovative design is being most heralded. "Beijing used to be an iconic bicycle city," said Roosegaarde in a statement. "We want to bring back the bicycle — not only as a cultural icon of China, but also as the next step towards smog-free cities."