

# Yamaha-frame bike with scuba tank makes Dyson shortlist

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(Phys.org)—Look what an Australian designer would like us to roll with in a no-emissions future: A motorcycle powered by nothing but air. Adding to a growing portfolio of ideas centered around compressed-air engines, this good-looking entry is called the 02 Pursuit. As an alternative-fuel bike, it reaches impressive speeds, given that is powered by a tank of compressed air. Opened up all the way, according to claims,

the O2 Pursuit can do over 60 miles on a single tank and can zoom past trees and mountains at 87 mph. The obvious advantage to electric bikes would be that this Pursuit cycle would not require the big heavy batteries, long re-charging waits, and thoughts about battery disposal.

The O2 Pursuit was designed by Dean Benstead, an industrial designer and a graduate of RMIT University, in Melbourne, Australia. Benstead started out with a what-if idea: "Living in a world where people can commute in vehicles and have fun without impacting on the environment in a scenario that seems unachievable and unimaginable—what if we could?" He worked the idea into a functional prototype stage with numerous design iterations along the way. He said he conducted a validation of air as [power source](#) with the use of life-cycle analysis mapping and futuring.

A Yamaha WR250R frame was fitted with a compressed-air engine, which is the DiPietro Air Engine developed by Engineair Australia, and a standard scuba diving tank. Last year, he showcased his O2 Pursuit air-powered motorcycle at the Sydney Motorcycle and Scooter Show. This year, the O2 Pursuit is one of the inventions that have been shortlisted for the upcoming James Dyson Award. There are 15 projects on the list and the winner and two runners-up will be announced on November 8.



As some suggest, however, the idea is wonderful but not yet practical. The drawback is lack of refilling stations, and a need to find power to compress the air in the first place. While [gas stations](#) are available to provide compressed air, they would not be efficient for something like a scuba tank. The answer would be in a "distributed generation smart grid," he said, where refill stations can be positioned around a city or rural area to facilitate the required range. The refill points would be navigable via the user's integrated smartphone and GPS system. Air energy could be compressed via solar or wind and stored in an inert state forever. Right now, however, the O2 Pursuit is a project that provides an inviting look into the use of air as an [alternative fuel](#) in, as he said, a post-petroleum world.

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