

You can think of the air as part and product of an ecosystem. In this perspective, you have to think how the air you breathe, what is in it and the way we all live as deeply interconnected. If thought that way, you might come up with creative solutions to support catalysts for good air, by understanding that some unexpected parts in the system can have deep impact on the quality of air. So what are some of these catalysts?

Traffic -

Just as cars exhaust particulates into the air, bikes can reduce our emissions. Many cities try therefore to better understand how to reduce traffic and encourage alternative means that are good for the body and the environment at the same time.

Paris bans cars in many historic central districts at weekends, imposes odd-even bans on vehicles, makes public transport free during major pollution events and encourages car- and bike-sharing programmes.

The Netherlands - [Politicians want to ban the sale of all petrol and diesel cars from 2025](#), allowing only electric or hydrogen vehicles. The proposed new law would allow anyone who already owns a petrol or diesel car to continue using it. Most cities encourage bicycle use.

Freiburg in Germany has 500km of bike routes, tramways, and a cheap and efficient public transport system. One suburb, Vauban, forbids people to park near their homes and makes car-owners pay €18,000 for a space on the edge of town. In return for living without a car, people are offered cheaper housing, free public transport, and plentiful bicycle spaces.

Copenhagen prioritises bikes over cars and now has more cycles than people. The city calculates that one mile on a bike is worth \$0.42 [27p] to society, while one mile in a car is a 15p (\$0.20) loss. Large parts of the Danish capital have been closed to vehicles for decades and the city plans to become carbon neutral by 2025.

Zurich has capped the number of parking spaces in the city. The result has been a dramatic reduction in traffic jams, and less pollution.

Curitiba The southern Brazilian city of 2 million people has one of the biggest and lowest cost bus systems in the world. Nearly 70% of the city goes to work by public transport and [the result is pollution-free air and traffic-free streets](#).

Transforming the Urban Ecosystem -

Can nature help cities address the twin problems of air that is too dirty or too hot? The [Planting Healthy Air](#) report identifies the potential return on investment from tree planting in 245 global cities, which currently house about a quarter of the world's urban population. By collecting and analyzing geospatial information on forest and land cover, particulate matter, and population density, the study estimates the scope of current and future street trees to make urban air healthier. Existing city trees already clean and cool

the air for more than 50 million people, a global investment of \$100 million per year in tree planting and maintenance could provide as many as 77 million people with cooler cities and offer 68 million people measurable reductions in fine particulate matter pollution. New city trees offer great potential impact, but maintaining existing city trees is critical, as many global cities are losing tree cover over time, due to development, pests and pathogens, and lack of budget for maintenance.

If you have spent time in both a city and a rural area, you might have noticed the “urban heat island” effect. Cities are noticeably warmer than their less-populated surroundings, which means that more energy is used to cool people down. This creates a positive feedback loop -- the energy used for air conditioning contributes to global warming, which makes the city even hotter. The urban heat island effect can be explained by albedo, a measurement of how much sunlight a material absorbs or reflects. Dark substances, such as blacktop, have a value around 0.10, meaning that only 10% of the light is reflected, and the other 90% absorbed. This absorption is what makes the surface hot. White paint has a value of 0.80, which keeps its surface cooler. Making walls, roofs, and other surfaces in a city lighter in color or reflective can lower the air temperature outdoors, meaning less pollutants will be released from air conditioners.