

Fossil Fuels and the Challenge of the Sustainable Cities

When focusing on solving global issues, we need to first understand the cause of the problem and reasons for needing a solution, how did we get here? Once we have established that, we can then look at ways to change and help the issue. Finally, after determining ways to change the issue, we need to discover the all-around best solution to the problem, where we should start and where our focus should be. One global issue that is necessary to solve is making cities and human settlements resilient and sustainable.

Cities can become unsustainable in many ways, but some big reasons are the increased use of fossil fuels and lack of organic farming. With the increase of population, there has been more fossil fuel emission because more people need homes and transportation. People often take their own cars instead of public transportation or options that emit less fossil fuels, such as public buses or bicycles. With the increase of the population driving cars, there has been an increase in pollution in the air, which can affect people's overall health. Lack of organic farming has caused cities to be unsustainable because they use more fossil fuels and water waste ("6 Traits of a Sustainable City"). By switching to organic farming, water irrigation will be reduced by 30%, which will improve water waste. Improving water waste will help cities be more sustainable because it reduces the amount of fossil fuels that are being emitted into the atmosphere.

Copenhagen, Denmark is the most sustainable city in the world, we can look at them for ways to make other cities sustainable like them. The biggest changes they have made to become resilient and sustainable are being bike friendly, they use a lot of renewable energy, they use network sensors, and they have urban gardens. Copenhagen has on-street bike lanes, which encourages people to ride their bikes, 62% of the city's population uses bicycles to commute to work or to school. Another way they have reduced their carbon emissions is the use of waste-to-energy plants as well as using wind to produce electricity and heat households, which has helped the carbon emissions that are going into the atmosphere. The network sensors have improved the efficiency of municipal buildings and they are able to review the energy and water consumption. Being able to review those has helped minimize the waste and CO2 emissions. One fourth of the city is made up of green spaces and they have rooftop gardens. The rooftop gardens have reduced the pollution in the air and make use of rainwater to sustain themselves ("What Has Made Copenhagen the Green Capital of the World"). By looking at the steps Copenhagen has taken to making their city more resilient and sustainable, we can adapt these ways into other cities in the world and overall improving the sustainability of the world.

We should start with Phoenix, Arizona to create a more resilient and sustainable world because it is the least sustainable city in the world, so we could make the most progress starting there. They have become the least sustainable city largely due to their automobile use, recourse use, rapid population growth, and their water use. Over 50% of Phoenix's water use is used on lawns and people's home pools ("Sustainability Water"). One way we can make this city more sustainable and resilient is to build more public swimming pools, so people will go to those pools instead of their home pools. By doing this, people will use less water for their own pools if they're more inclined to go to the public pools. Another way to help the water use in Phoenix is switching people's lawns to astroturf, because there would be no need to water their lawns to

keep the green look people strive for. If we can get people to stop using water on their lawns and home pools, this will improve Phoenix's sustainability because there will be more water for the rivers and lakes, which will help the wildlife and therefore help the city be more resilient and sustainable. With the population growth, we can increase the availability of public transportation, such as bikes, buses and metro rails. If we limit the use of cars that will lessen the carbon emissions being emitted into the atmosphere, which will help the air quality and people's health. We can adapt the ways of Copenhagen's sustainability into Phoenix which help them become more sustainable and resilient like Copenhagen is. Since Phoenix does not get much rain throughout the year, the rooftop gardens are not worth investing in. However, there are other ways we can help Phoenix with the ideas used in Copenhagen, such as the waste-to-energy plants and the network sensors.

Once we make Phoenix a sustainable and resilient city, we can continue to move around the world to other cities that are unsustainable. By changing these cities, we will also be educating people and showing them why resilient and sustainable cities are better for the environment and for themselves. When people realize the benefits it will bring, they will start taking actions themselves to make their homes and communities more sustainable. Simple ways people can help is to watch their water use, and their emission use and to limit that as much as possible. If we can manage and limit the water waste and CO2 emissions in one of the world's least sustainable cities, we can adapt these ways into every city and improve the quality of the air and make the planet more resilient and sustainable.

Works Cited

- Bonn. "Five Ways to Make Cities More Sustainable and Resilient." *Institute for Environment and Human Security*, <https://ehs.unu.edu/news/news/five-ways-to-make-cities-more-sustainable-and-resilient.html>.
- Locke, Jayna. "6 Traits of a Sustainable City (with Examples)." *Digi International*, <https://www.digi.com/blog/post/sustainable-city>.
- Ramos, Jaime. "What Has Made Copenhagen the Green Capital of the World?" *Tomorrow.City - The Biggest Platform about Urban Innovation*, <https://tomorrow.city/a/what-has-made-copenhagen-the-green-capital-of-the-world>.
- "The Real Reasons Why Most Cities Aren't Sustainable." *BuilderSpace*, 8 May 2022, <https://www.builderspace.com/the-real-reasons-why-most-cities-arent-sustainable>.
- "Sustainability Water." *City of Phoenix*, <https://www.phoenix.gov/sustainability/water>.