

# Changing Cities

Benjamin Henninger

In 2017 700 people died to a heatwave in France. In 2010 10.000 died to the heat in Moscow. The probability of more than 100 people dying to a heatwave in India has doubled in the past 50 years. Up to 70.000 people died to a heatwave in the massive heatwave of 2003. Of course the big bad here is climate change caused by the enhanced greenhouse effect. But that's not what this essay is about. Climate change is real, it's happening, there is nothing to discuss. However, a lot of countries act like just banning CFCs and lowering use of fossil fuels will solve the issue. We have to adapt to the damage already done. My essay will attempt to convince you that it's not only paramount we stop spewing greenhouse gases in the air, which has already been passably successful, but it is equally important that we adapt especially cities to be able to withstand climate change by focussing on creating "Climate proof cities (CPC)".

The main issues of climate change in cities are increased and heavier rainfall, longer dry periods and heatwaves. For cities on the coast the sea level rise is also a problem if it can lead to floods. These cause billions in euro, dollars or whatever currency the country uses in damages to the cities and can cause deaths of many citizens. Especially the elderly and children fall victim. Most current cities, especially big and older ones cannot deal with an excess of water or a complete lack of it. Infrastructure is lacking simply because it wasn't made having in mind that this could happen in the future. But extreme weather will only become worse and more frequent in the upcoming years. We have to turn our cities into CPCs or it will cause more damage, which will cost a lot of money, and even more deaths, especially in an aging Europe where more and more elderly people fall victim to the heat.

Local and national governments will need to heavily work together in order to plan improving our cities and fast. The problem of cities not being climate proof is one that needs to urgently be solved. This isn't a problem for just us but it is a global problem. If we don't even have the money for it in Europe imagine mega cities in Southeast-Asia and India where the annual deaths to heatwaves increase every year. This is why we also have to heavily invest in knowledge. Knowledge that will then be of global value. Knowledge we can sell like we do with the knowledge we gained from the Delta works. The old knowledge simply won't cut it anymore. We need innovation.

It is also important for these solutions to be attractive for the people. People will vote for or invest in something that is designed in a nice and noticeable way. If it's just infrastructure being broken up and money being spent with no apparent result people will get frustrated. A good example of how it should work is the Bentemplein, here where I live in Rotterdam, the first realised water square. It is a water square that on dry days is just a nice public urban square but when there is heavy rainfall it uses 3 underground water basins to store water. When there is a dry period the water is slowly released back into the ground water. This is just an example of how we can make an engaging and effective addition to a city that people will like that also makes it more climate proof.

Now I can already hear the big no: "This is going to cost a lot of money." Which is true. Our knowledge of how to improve the cities still has a lot of gaps. Investments in research are needed. Improving a city where people use the roads and water and electricity every day will cost a massive amount of money. Waterlines will have to be changed to allow for water storage. You can't just change a city especially big ones. But not doing it will lead to even more damage. Investing in it or not investing in it will both end up costing a lot of money so the option where we guard the future generations from our mistakes should be the best option. It doesn't matter how much it costs if the alternative is water or heat damage which will cost billions and death of people to heat or floods. We could even make a lot of money if we figure out the best solutions first and give them to the rest of the world with professionals that work globally on the issue and with universities teaching students of other countries.

This climate thing is only going to get worse guys. And it's not just my problem or the problem of the Netherlands or the problem of those poor polar bears. We're all in it together. Just banning greenhouse gases won't do. We have to adapt to a future in which we will have more extreme weather. And if we don't, it might go horribly wrong.