

## Duurzaam City

Welcome to Duurzaam City, a thriving metropolis of 500,000 located near Calais, France. Our beautiful city boasts amazing waste management, transportation, agriculture, among many other assets. We have a long-thriving economy, and boast a 100% literacy rate. Because of that, our city produces some of the world's top specialists in many fields, and to support all these specialists, we have an excellent education system, and people come from far and wide to go to our schools.

Our city design is very innovative and built for expansion. It features several ring-shaped zones that each have their own niches in Duurzaam City. The education and health zones are closest to the residential zones, as they should be extremely easily accessible to the residents of Duurzaam. This also shortens the routes for our electrically-powered school buses, saving money and creating less traffic.

Duurzaam imports food from closeby farming cities, which will save space within our city for other basic utilities such as hospitals, police buildings, and fire departments. This will make food less fresh, but is essential to making space use as efficient as possible. Also, having more utilities makes our city a lot safer.

To deal with all of our human solid and liquid waste, sewers are emptied daily by an automatic sewer emptying system. Along with commercial and other residential wastewater, it is delivered to several cleaning and filtering facilities so that it can be used again. The wastewater of Duurzaam is meticulously cleaned. It first goes to a facility that contains many bar screens, where it is run multiple times through the bars several times to remove any large debris, such as branches and rocks. From there, it travels to a water filtration facility so that it can be cleaned further. The water filtration facility uses mainly trickling filters to filter the water. This method consists of a large cylindrical tank that is filled with old PVC bottles, sand, gravel, and/or rocks. A biofilm soon forms on the surface of the mass. The organisms within the biofilm filter the wastewater, making it cleaner. From there, the wastewater is transferred to disinfection centers, where it is filtered further, run through UV light chambers to kill off any harmful bacteria, and transported through Duurzaam's water systems. These centers are located in the waste-removal zone. And, of course, these green, safe plants need to be monitored, which gives our citizens more jobs. This expensive process requires a lot of energy, time, and space, but conserving water is worth it.

Recycling is also extremely important in our city. Our citizens receive two cents for every pound of plastic, paper, etc. that they bring into one of the many recycling plants around our city, or by simply recycling at home. At these recycling facilities, the recycling needs to be

sorted into different categories, creating jobs. From there, the items are transported via an electric-powered train system to processing plants, where they are made into new items according to supply-and-demand, so none of it is wasted. All of our plastic are completely recyclable and biodegradable, so they can either be used for fertilizer, or other plastic products. This will require lots of cooperation and willingness of the citizens, as well as reasonable quantities of money, which is obtained mainly through taxes. The citizens of Duurzaam are happy to pay taxes, as they know that it is for a good cause and it will promote the safety and well-being of their beautiful city.

To conserve paper resources, our city uses ebook readers instead of books. This significantly lowers Duurzaam's paper consumption, and there is more paper to use for reusable bags, as well as many other useful items. Every citizen has one ebook. The ebooks will decrease the amount of paper used in our city, but they will also require large sums of money to make and distribute them. Most of the money also comes from taxes. E-waste is produced by the ebooks, however.

E-waste is a long-dead problem in Duurzaam! A multitude of technical support centers, as well as frequent hardware, software, and program updates and upgrades help to convince our citizens to keep their electronics for as long as they can. However, when it comes time to get rid of electronics, they can easily dispose of them in one of the many e-waste receptacles around the city.

But electronical waste isn't the only type of waste that Duurzaam has found a way to deal with. Organic waste is deposited into the ground in parks, and agricultural sites, and is also given to manufacturers for international and domestic use. Also, organic waste is deposited into vats, where MSG maggots decompose it, which will produce compost that can be exported.

Hazardous waste was also a problem, back in the day, but not anymore! Every week, several garbage disposal trucks collect the hazardous waste of the city. Flammable liquids, such as paint and alcohol, are sent to a factory where they are used as fuel to power many specially designed machines that make various items.

Citizens in Duurzaam are encouraged to reuse trash in creative ways. Many museums can be found around the city, where pieces of art made from trash are on display. Along with this, recyclable pieces of would-be trash are turned into chic furniture and practical items by both skilled craftsmen and ordinary people. This encourages both creativity and environmental cleanliness.

To “reuse” the air in our city, every building in our city is required to have at least one plant inside of it. The plants available for purchase as houseplants are genetically modified to produce less CO<sub>2</sub> than they get rid of, so more oxygen is made. Not only do the plants reduce the amount of CO<sub>2</sub> in the air, but they also work as non-electric air cleaners. The plants are hypoallergenic and extremely easy to care for, so it will not be much trouble for any of the citizens.

Our city runs mainly on solar and hydroelectric energy. The large amounts of wind of northern France are captured easily by wind turbines on the outskirts of our city. Also, facilities near the coastline of Duurzaam collect energy from the ocean. Solar panels are located on top of buildings, and are curved so that they absorb the maximum amount of sun to power the city.

The pipe system underneath our city ensures that every part of our city gets an equal distribution of water. Along the coast of our city are many desalinization plants, which convert saltwater into freshwater. The power plants are powered by ocean thermal energy, which uses the natural solar-absorbing qualities of the ocean to produce energy.

Many services, such as healthcare, housing, religious services, education, and childcare are free for the citizens of Duurzaam. Free health care really pays off in the future, as a person that gets regular checkups can catch a potentially deadly disease, such as cancer, before it gets so bad that they have to go to the emergency room. Even though these might be expensive, this pays off, as there will be less need for expensive emergency rooms and equipment. Of course, all hospitals will have an emergency room, as things still can happen, but the chances are greatly reduced.

Many recreational areas, advanced medicines, beautiful architecture, efficient and quick transportation, make life for our citizens much more enjoyable. There are many malls, concert halls, museums, parks, and club buildings that provide entertainment for our citizens. These produce a lot of income while keeping our citizens happy. Advanced medicines and medical technology help our citizens to be healthier, and able to work longer. Transportation is also a major part of our city. Underneath our city is a large subway system that runs twenty-four hours a day. Each station on the subway has at least one hotel, restaurant, and service center. To conserve energy, our subway has small “hills” that allow the car to use minimal power, as the car can drift down, and use as little power as possible to go up. Aboveground, the roads of Duurzaam are a mix of two-lane and three-lane roads, as well as sidewalks and bike lanes. All the cars that drive on the roads of Duurzaam are electrically powered, and have solar panels on their roofs. These cars don’t run only on solar, but make use of “electric stations” that have rapid-charging ports where drivers can plug in their cars. In areas that have more predicted traffic congestion, there are more lanes. These roads are all meticulously created and cared for, and

monthly inspections make the roads extremely safe. All the roads are lined with solar-powered lights with built-in light sensors and clear, bright-colored signs. This makes transportation extremely easy and quick for Duurzaam's citizens.

Many factors distinguish Duurzaam from other cities, including our efficient waste disposal system and small carbon footprint. With energy-efficient transportation systems, many recreational areas, and free healthcare Duurzaam will become the epitome of the perfect city for many centuries to come.

1498 Words

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