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Summary:

The great challenge of our time is not so visible, it is more subtle, but perhaps the greatest threat humanity has faced in its entire history. With the supplies of oil and natural gas quickly depleting, our way of life is changing. Things we once took for granted, like basic consumer products, are now almost outside our reach.

The great test of our generation is upon us. If we fail now it will be our children that have to pay the price. Alternative energy and eco-friendly fuel is the answer. It is up to us to harness that energy.

Essay:

Humanity has always had to overcome certain challenges in the course of its history. Our forefathers faced slavery, plague and war, great obstacles, indeed. In the end, however, after centuries of struggle, they prevailed, knowing that they fight not only for themselves but for their children and for all the generations to come. It is our turn now. Instead of swords and spears our weapons must be chemistry and engineering. But most of all we must rekindle the spirit of solidarity in each and every one of us. It is up to scientists to push the boundaries of technology further and find extraordinary solutions to solve the Earth's problems and it is up to us, the people, and the governments we have elected to enforce these solutions in order to fuel our cities and finally end world hunger.

Many cities have already begun to address the energy crisis by replacing fossil fuel with solar panels. One of the most ambitious projects is the one announced by Los Angeles mayor, Antonio Villaraigosa. They are planning to install over 1.3 Giga Watts of solar power, a feat which will surely add the city's name to the book of green economy. This program is known as the Solar LA and when it is fully operational it will replace the fossil fuels during peak energy requirements.

Solar power is not the only form of energy that will someday power our cities. Scientists are continuously looking for alternative sources of energy. A more unconventional form of alternative energy is being harnessed in Portugal where, Agucadoura, the world's first wave farm was built off the coast. This farm has three wave energy converters which are producing a total of 2.25 Mega Watts.

The most daring and extraordinary way of solving the Earth's energy crisis is based on a century old equation. An equation derived by Albert Einstein, $E=mc^2$. It is science's star experiment: an attempt to create an artificial sun on earth and provide an answer to the world's impending energy shortage. Even though this high impossible feat will not be accomplished soon, maybe not even in our lifetime, scientists agree that it is not an impossible dream. In the not so distant future scientists might be able to fuse two atoms together, creating, from just one gram of matter, enough energy to power thirty thousand 100-watt light bulbs for an entire year.

Powering our cities and our homes is not the only challenge we are facing. We have become dependant on motor vehicles, which eat up a lot of petrol. Over the years hybrid

cars have been developed in order to reduce the need of oil based fuel. This idea is pushed even further by a group of Californian engineers who have developed a car that can run at the speed of 155 mph without any conventional fuel. For startup this car will use solar powered battery but later draw its energy from circulating air. An advanced alternating current induction motor will glide the Formula AE. This motor will have a power output of 212 kilowatts. Even if only a prototype now, in a few years we will surely see thousands of these cars roaming on our streets.

Another of the Earth's most troubling issues is the current world hunger that is quickly spreading even to developed countries such as the USA. This problem is getting more severe with each passing day, the United Nations estimating that out of the more than 6 billion people on the planet almost 1 billion suffer from chronic hunger. Putting an end to world hunger sounds easy in theory but governments, so far, have had problems putting it into practice.

Governments must take immediate action, severe hunger and malnutrition needs to be addressed with all the resources available. Mass distribution of grain and powdered milk could play an important role but it is not enough. Venezuela has opened the road to ending hunger amongst its people by setting up feeding houses, which employ volunteers, in many of its poor neighborhoods. When the people see that their government is trying to help them and that they might, as individuals, aid in resolving the current crisis, a burst of enthusiasm results. Even though the food is supplied by the government, many of the meals are prepared and distributed by volunteers.

The current hunger is also a result of the ever growing migration of people from the country side to the great cities. This leaves countries with a shortage of farmers thus reducing the quantity of food produced. Governments must offer its rural residents housing, water and electricity in order to make rural life more attractive. The media must also instill an idea of patriotism into the farmers, making them realize that they are serving their country by providing it with the much needed food. Farmers must be viewed as critical for a country's development and their demands should not go unanswered.

Food and energy are vital in order to ensure our way of life. In these difficult moments when we are lacking both it is up to everyone to take on the challenge. Governments must acknowledge the threat and respond by financing programs that supply us with food and energy rather than programs that supply us with tanks and missiles. It is up to scientists to pave the road to a cleaner, healthier and less fossil fuel dependant Earth and it is up to us, the every day man and woman, to help each other. We must do as much as we can to offer our children and the generations to come lasting security. This must be our legacy.