



CLIMATE CHANGE ON FOR YOUNG & OLD

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Extended Response

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God does not play dice with the universe, yet humanity plays dice with the natural environment through a multitude of interventions. (Albert Einstein)

Greenhouse or global warming refers to an average increase in the Earth's temperature caused by certain gases in the atmosphere trapping energy from the sun. These gases include water vapor, carbon dioxide, nitrous oxide and methane. Because of how they warm our world, these gases are called 'greenhouse gases'. Since the Industrial Revolution 200 years ago, mankind has been releasing extra quantities of greenhouse gases into the atmosphere that trap more heat, enhancing the natural greenhouse effect. This, in turn, causes changes in climate. Greenhouse gases are produced in many different ways ranging from coal electric plants, petrol-guzzling cars, methane-expelling cows to inefficient energy consumption. Activities such as these are the main contributors to global warming. Humans are putting gases into the atmosphere at a much faster rate than the Earth can recycle them. As a result, we now have many serious problems arising due to global warming.

Global warming has proven to be one of the most difficult and controversial problems the world has ever had to face. It is a problem that is affecting every nation. All over the world, people are beginning to tackle the inevitable and mammoth task ahead. Until recently, the world powers have tried to keep global warming at arm's length, but the reality of what is happening is starting to show its very obvious effects with rising temperatures, harsher weather and increasing sea levels. It's only now that world powers are beginning

to accept that something must be done. Already, all over the world there are people doing their part in the war against climate change. One such person is the newly appointed boss of London's 'Climate Change Agency', engineer — Allan Jones.

Twenty years ago, Allan Jones realised how big a problem global warming would become and began his quest to combat the effects of it, in his small town of Woking, England. He recognised that one of the major issues with global warming was inefficient production and consumption of energy. Allan's idea was to start using the town's energy more efficiently than they were as up to two-thirds of energy generated in a regular power plant was being wasted. His plan was to use a power system called CHP, or combined heat and power. This system was created in the 1880s and was implemented in the city of Manhattan in New York (much less efficient than today's). This system works by trapping the heat created when generating electricity and using that heat underground for the heating of buildings and for hot water. This heat can also be cooled for airconditioning.

Allan Jones knew he had to change the way his town was using its energy. When he started the new system in 1990 the town was only running from the energy grid all over England. He organised the separation of the town from the grid so that it became an independent energy consumer and generator. By 2004, the town of Woking was using 80% of its own energy and by 2000 the town's CO₂ emissions decreased by 77%. He did this by installing 80 CHP systems in the town and solar panels on the roofs of all of them to generate the power needed to run the system.

The town's energy usage and extremely low emission rates attracted the attention of the London mayor, Boris Johnson, who has recently appointed Allen as the head of the climate change agency in London. The task ahead for the small-town man is incomprehensible. The job is 75 times larger than his accomplishment in Woking. Now that he has started his new scheme, all developments in London must now include 20% of their energy to come from decentralised energy from CHP systems. Developers won't get approval for their buildings if they don't comply with these new regulations. London's aim is to reduce its CO₂ emissions to 60% by 2025. But one of the most interesting facts is that the CHP system is run from gas, and what Allan has worked out is that it would be able to run off biogas. Biogas is

vegetable wastes, fluids and biomaterials turned into gas. These materials can be found in restaurants all over London. If all the organic waste in London was converted to biogas and fed into the CHP systems, there would be enough to power two million homes. That's over half the homes in London.

When people like Allan Jones are coming up with ideas like this it seems plausible that we will actually be able to defeat the effects of climate change. The most astonishing fact is that Allan's entire system was created with technology that we have in our hands today, not something that could be made or should be. We have it at our disposal, yet for some reason we choose not to use it to its full potential. If one of the largest cities in the world can even just begin to use these environmentally friendly systems then surely the entire world can take them on board and take action.

Politicians and reporters talk of the threat of global warming but many, like Allan Jones, no longer see it as a threat but as a reality. The bullet of global warming is already racing towards us. When the full impact of its force hits us, it will be very difficult to recover. We can't hide from it any more and it will take more than one man's actions to stop greenhouse warming.

We are playing Russian roulette with features of the planet's atmosphere that will profoundly impact generations to come. How long are we willing to gamble? (David Suzuki)



Alex Hunter wrote this in 2008 when she was in Year 11 at Newcastle Grammar School in New South Wales.