

Auto-waste Gases Consumer

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Introduction

AUTO WASTE GASES CONSUMER is a system device working under simply chemicals means (chemical reaction) and programmed electronic means. It is a device which helps in detection, absorption and chemical conversion of waste gases into useful chemical products to be used in industries, laboratories and fresh air (oxygen) meanwhile increasing comfort ability of workers, customers, generally people working at poorly ventilated environments. This is achieved by cleansing the air so as to prevent the accumulation of waste gases.

The AUTO WASTE GASES CONSUMER is better than normal commercial air filters and fans found in kitchens and at homes because our project has focused in adding extra effort in the worldwide fight against global warming. The smoke released by any type of fire (forest, bush, crop, structure, tires, waste or wood burning) is a mixture of particles and chemicals produced by incomplete burning of carbon-containing materials. All smoke contains carbon monoxide, carbon dioxide and particulate matter (PM or soot). The type and amount of particles and chemicals in smoke varies depending on what is burning, how much oxygen is available, and the burn temperature. Our device helps to convert such gases contained in smoke into clean air, thus combating the crisis of global warming.

Method

In this part we decided to become more familiar with our project. We conducted this through acquiring enough knowledge, information and skills. Also to know how our community is knowledgeable to this condition, knowing the causes of waste gases and their resulting effects. We divided our research into two parts;

3.1 FIELD RESEARCH.

Soon after planning for research, we paid attention to the environment that is around us to investigate the problem of emission of waste gases and air pollution. We visited public places such as schools and homes to observe the main source of energy for domestic activities such as cooking. We found 70% of Tanzania houses are using charcoal, firewood and other fossil fuels such as kerosene, while few numbers of houses which are advanced are using suggested alternative sources of energy such as solar, natural gas and electricity. We also saw the transport means here more than 92% of Tanzanian transport is through cars and other automobiles which are using fossil fuels like petrol and diesel. There is no electric car system in Tanzania.

Procedure

In this project we used the lime water test method to test for the presence of carbon dioxide in air. This is because smoke mainly contains carbon monoxide, carbon dioxide, and soot. Carbon monoxide is a rare gas during burning since most of it is converted to carbon dioxide. Most of the surrounding temperature is below 350°C and it is at this temperature carbon-monoxide directly changes to carbon dioxide in the presence of oxygen. In vehicles, the catalytic converter converts most of the carbon monoxide to carbon dioxide leaving carbon dioxide to be the major waste gas in our environment.

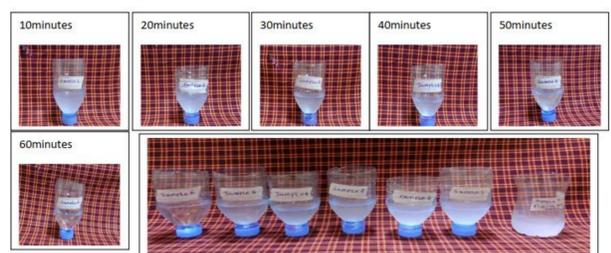
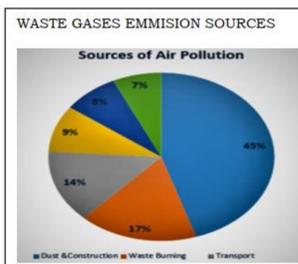


Carbon monoxide Carbon dioxide

Results

7.1 TESTING PROCEDURES

1. Smoke was allowed to fill an entirely closed room and an air sample was taken by means of a 60 cm³ syringe.
2. The air sample was tested using fresh lime water.
3. The AUTO WASTE GASES CONSUMER was kept into the room and allowed to run.
4. 6 air samples were taken at 10 minutes intervals and each sample was tested separately. The degree of cloudiness was observed and recorded for each case.



Conclusions

Out of the results of the experiment the device proves to be an easy and efficient method of consuming waste gases that are produced in kitchens, domestic places, public places, auto mobiles and industries as it completely converts the waste gases to clean air rather than just blowing it out into the environment which perpetuates ozone layer depletion, greenhouse effect and health hazards to people.

We believe that AUTO WASTE GASES CONSUMER is going to bring a great impact on the life on earth under GREEN ECONOMY policy. This will increase the protection of Earth against GLOBAL CLIMATE dynamics. Also it will increase functionality of the catalytic converter in exhausts of automobiles and Industries for its ability of converting CO₂ to clean air.

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