

# Hho generator for cars

[Literature](#), [Russian Literature](#)



The paper " HHO Generator for Cars and Buses" is an outstanding example of an essay on environmental studies. That the world is moving towards renewable energies, that limit emission, is a global fact. Environmentalists have warned of the dire consequences of increased fuel consumption and their subsequent emission. They argue that the current energy systems have greatly contributed to changes in climate being witnessed all over the world. Through excessive carbon dioxide emissions, the ozone layer has been depleted resulting in direct penetration of the ultraviolet sun rays to the earth. This has resulted in environmental degradation and greater exposure to cancers of the skin and other body organs. Climate change issues are being addressed in every major convention with researchers looking for an alternative to save the earth from the effects of global warming. It thus became paramount for the establishment of alternative energy sources to deal with the current energy crisis (Nanse. 2009, p. 35). The effects of diminishing quantities of non-renewable energy such as oil and gas are being felt globally; this has resulted in exorbitant oil and gas prices whenever they are available. In order to curb these problems, it is of supreme importance that we adopt a different approach to energy by switching to more environmentally friendly approaches. These include policies on transportation, such as, the EU's proposal of 2007 which requires a compulsory maximum of 130grams of carbon dioxide emission per kilometer (Bilefsky. 2007, p. 65). Such policies on transportation are, however, not viable if people are not educated on the importance of shifting to more non-destructive energy sources and utilization. Education on the need to adopt more environmentally friendly energy needs to be incorporated in the

normal training on driving which is mandatory for all drivers. This will, in turn, result in behavioral changes towards environmentally friendly energy. Over the past ten years, climate change has made headway as a global issue. Since the adoption of the Kyoto Protocol in 1997 and the ensuing discussions on the specificities in periods of implementation, especially emissions dealing has profited ground as a legitimate way to deal with this environmental issue. Also to solve the energy crisis that the world faces today, it's vital that we give alternative energy a chance through adoption renewable energy such as the production of electricity from wind, sun, tidal and geothermic power. Alternative car fuel should also be developed as a countermeasure. For instance, the HHO generator, which, encompasses a reservoir of electrolyte solution supplies fluid to a Supplemental HHO Fuel Cell with multiple chambers, by a process of electrolysis, emit a gas which is essentially two parts Hydrogen and one part Oxygen. It is not possible for the conventional combustion engine to run on this fuel alone, as it is so powerful. It is drawn into the combustion chamber by a strong vacuum supplied by the engine, which also determines how much it requires. Here, it mixes with the conventional fuel (diesel or petrol) and the subsequent mixture is ignited inside the engine. The HHO gas burns at a much higher temperature so the normal fuel is better combusted resulting in much less common fuel being needed. Another extremely important bi-product is that the usual carbon deposits are 'vaporized' at this temperature resulting in a drastic reduction, in Hydrocarbons and CO<sub>2</sub> emissions. The HHO generator is known to save on fuel costs and lower exhaust emissions (Randalls. 2010, p. 96).

The environmental engineering lab at Edinburgh University (established in

2011), which contains most up to date equipment to test engine emissions and vehicle performance carried out research to examine the potential of using technical fixes to reduce emissions and improve performance of vehicles through lower costs and fuel utilization. The research calls for review of emission standards where we note that currently, EU nations are bound by the Euro 4 standards of emission where all vehicles are tested through the European Transient test Cycle (ETC). However, there are currently no regulations on carbon dioxide emissions. Following the Copenhagen Accord of 2010, emission reduction targets aim at reducing up to 20% of emissions by 2020. In our research, we assessed the HHO generator developed by HHO Plus Alternative Energies of Germany and found that the generator incorporated a Pulse Width Modulator (PWM) which allows for close monitoring of the electric pulses in the HHO system. Tests also confirm that the PWM regulates the flow of these pulses; thus, achieving optimal production of hydrogen gas. Effects of the HHO generator on exhaust emission cannot be downplayed; the generator allows for management of fuel usage through chips called flash chips. Subsequently, the emission is reduced as the hydrogen gas is used to run the engine. The HHO generator increases combustion of fossil fuel thus reducing harmful emissions. In conclusion, we noted that the HHO generator operates at a much cooler temperature compared to conventional linear power amps thus the cell operates for much longer periods thus enhancing engine performance. Technical specifications of the HHO generator include heat sink of LM324 and a P80NF5 MOSFET, load voltage 12/24 VDC/ 30A max and 0-100% range. The HHO generator analyzed in this research is essentially useful in future

vehicle manufacturing as it drastically reduces emission and enhances fossil fuel breakdown. However, there is always a need for further research to develop systems that require less energy and incorporate other energy sources such as wind and sun.