Who Says Energy Is Scarce? It Is Everywhere

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The project seeks to solve permanently the problem of erratic power supply in our country Nigeria and at the same time minimizes the damage to our environment due to discharge of waste black oil after vehicle servicing. The generator uses gasoline, waste black engine oil and hydrogen-oxygen mixture. The spark timing of the generator has been retarded from 110 to 80, allowing for variation of fuel from liquid gasoline to gases. The generator is started initially with gasoline, to generate enough heat to crack the waste oil and sufficient gases in the electrolytic cell after which the spark-time is auto adjusted and the completion of this action is indicated by a green light emitting diode after five minutes. With this, the gasoline supply is cut off and gases from the catalytic chamber or electrolytic cell is connected automatically. The thermal catalytic cracking chamber, insulated with a fiber resin containing 2 meter long 12mm diameter copper wire inserted on a rotor and powered by the heat and speed of the gases from the exhaust pipe of the generator cracked the waste black engine oil to ethane and propane. The ionized water chamber containing 96% water, 2% Na_2SO_4 and 2% $NaNO_3$ is electrolyzed by the 5A current from the direct current output of the generator. The end product of this electrolytic cell is hydrogen-oxygen mixture in the ratio 2:1. An analysis of the power output indicates comparative same output with conventional gasoline powered generators while the carbon monoxide and the cost of running the generator with ionized water or the gases generated from waste oil is significantly reduced. The project if further developed will go a long way towards alleviating the problem of erratic power supply in many developing economies.

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