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## Electricity Cogenerator from Hydrogen and Biogas

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This research studied about electricity cogenerator from Hydrogen and Biogas and the factors that cause that effecting Hydrogen from Aluminum which was a cylindrical features. By using a catalyst was NaOH and CaO, it was reacted in distilled water with percentage of Aluminum : the catalyst ( NaOH and CaO ) : the distilled water, which were 2 : 8 : 1, respectively. And the percentage of Hydrogen was highest 64.73 % by flowing of constant gas at 0.56 liter/minute and brought to mix with Biogas afterwards, that have been led to electricity from generator 1 kilowatt and studied the voltage and electricity as well.

The result of study the factors that cause to the effecting Hydrogen. The research outcomes were concentration of solutions that caused amount and percent of maximum Hydrogen was to at 10 %wt and 64.73 % which rate of flowing of constant gas 0.56 liter/minute as temperature 97 degree Celsius. After that led Hydrogen was mixed by Biogas next, conducted to electricity from generator and leveled the voltage of generator at 220 Volt in the order to the voltage as the voltage an electric with in house. There after the measure of electricity current and found electricity charge would be constant at 3.1 Ampere. And rate of Biogas flowing and Hydrogen, the result were the generator used Biogas rate of flowing was highest 9 liter/minute and the lowest 7.5 liter/minute, which had rate of flowing around 8.2 liter/minute. Total Biogas was used around 493.2 liter or about 0.493 m<sup>3</sup> and Hydrogen had rate of flowing was highest 2.5 liter/minute, the lowest 1 liter/minute.

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