

14 November 2019

Ref: Attached B.Sc. Degree in Electrical Engineering

To whom it may concern

I have studied the verification test CCTV footage dated 16/10/2019 as published by H2 Innovation Lab (H2IL) on self-sustainable hydrogen power technology. As an Electrical Engineer, I have extensive background knowledge about the generation mechanism of electricity, usage of power sources and different electrical equipment. At a first glimpse, it is quite a fascinating scenario that how output energy can be greater than the applied input energy with a gain of almost 400% considering the losses during the process and the laws of thermodynamics. But the actual scenario is not what it seems like. I have performed a detailed analysis of the footage and the scientific details given in it and below are the reasons, why I agree with the H2 Innovation Lab (H2IL) argument that this is a game-changing technology in the energy world.

- It must be clear that no energy is created in the whole process. Instead, energy is converted from one form to another. Consider a simple example of two power supplies in which a positive terminal of one supply is connected to the negative terminal of the second one and the other two terminals are considered as output terminals. Now with this configuration, the output voltage will be the sum of the two input voltages. A similar scenario is occurring in the H2IL galvanic enhanced electrolysis technology. As explained in the footage and my personal research on it, there are two sources of input energy, i.e., free galvanic energy and input power supply energy. The power supply is acting as triggering energy to initiate the reaction between the input supplied energy and the harvested galvanic energy from the metal electrodes. These two energies are then combined to give a net greater output energy.
- As the combination of energies is at the ionic level not at the molecular level, means less energy is required for the combination reaction, which eventually increases the life of metal electrodes required for the harvesting of galvanic energy. Also, the energy generated through this mechanism is reliable and can easily be stored.
- I have inspected the power and gas connections shown at the end of the video and confirm that there is no additional power source or extra hydrogen tank to trick the results. Just there is one external 12-volt supply to power the fuel cell controlling equipment and fans.

Through the detailed and clear demonstration given in the footage, there is no doubt in saying that this self-sustaining energy technology is the need of today's era. The ionic level combination of energies and high efficiency makes it a revolutionary idea and besides that, this setup does not require huge space or workforce to construct and provides a continuous reliable 24/7 electricity supply.

Yours Sincerely



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*This is to certify that
Mr. Hamza*

Son of Mr. Abdul Razzaq

has completed all the requirements for the award of

B.Sc. degree in Electrical Engineering

on 31st August 2018 securing a

CGPA of 3.343 (Three Pt Three Four Three) /4.0

He has accordingly been admitted to the Degree of

Bachelor of Science

in

Electrical Engineering



[Signature]
Controller of Examinations

Countersigned

[Signature]
Chancellor

Lahore

Dated: 23 NOV 2018