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Study and Comparison of Carnot Engine with Hydrogen Fuel Cells and Hydrogen Fuel Engines.

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Abstract: *Today we are facing a crisis of fossil fuels and gasoline prices are at an all-time high due to various reasons. The rapid depletion and soaring prices of fossil fuels have forced us to discover new renewable resources to be used as fuels. With being renewable our energy systems should be sustainable, safe, and cost-effective. We can look forward to Hydrogen as one of the significant energy resources. The thermal efficiency of the Carnot engine is maximum. A comparison is made of Carnot efficiency and the efficiencies of other neat fuel and hydrogen-enriched fuel in engines as well as the fuel cells. For the same, we have studied hydrogen fuel cells, hydrogen use as primary fuel, and hydrogen used as secondary fuel in gasoline, diesel, and CNG engine. The outcome of this research was found to be a significant rise in the thermal efficiency of these engines in comparison with neat lean fuel mixtures.*

Keywords: Hydrogen, Fuel Cells, Engine, Carnot Engine, Efficiency

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