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# Sustainable & Cost Effective Modern Energy Solutions Free of Fossil Fuels

A. Narain,<sup>\*</sup> S. Saxena,<sup>\*\*</sup>  
N. Rastogi,<sup>\*\*\*</sup> R. Khare<sup>\*\*\*\*</sup>

## ABSTRACT

*This paper highlights the achievement in field of renewable energy, introductory sustainable energy system using renewable sources covering electrical energy requirements and transport energy requirements, latest trends & researches towards a promising sustainable renewable energy system in near future.*

**Keywords :** *Renewable energy, Market trends 2018, Alternative fuels, Sustainable energy system, Transport system based on renewable system, Global investments, Natural gas vehicles.*

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## INTRODUCTION

The year 2018 was the year of further realistic achievement in field of renewable energy in spite of dramatic decrease in fossil prices and market slow down trend. While decrease in oil price putted further challenges for development in renewable energy field, environment and sustainable supply need remain urgent to follow our commitments to provide reduce carbon foot prints for coming generations. This paper highlights latest energy trends in global market, estimating rough model of sustainable energy system free of fossil fuels addressing energy demands in distribution and transport sector.

## MARKET TRENDS

While Solar & Wind are already developing fastest ever and contributing majorly in energy demands, fluctuations in their potential varying with weather conditions generate essential demand to develop equally other renewable option (s) when wind & solar are not available. Challenge into energy sector free of fossil fuel is not only to address electricity demands but to include transport sector, where car, ships, train

& plane can also run on fossil free energy. Integration of renewable energy system into energy system built on fossil fuels remains a challenge too. These fluctuations mean that some sort of balancing is required in the system, in order for electricity generation to meet consumption on a consistent basis without there being sharp changes in grid frequency or, in extreme cases, black-outs. This challenge has mostly been handled well so far by national grid system operators, at current levels of renewables penetration.

With the fact that world cannot just continue the use of fossil fuels (and & dumping Carbon in environment) and world commitment (December 2015 Paris Summit) where world leading nations came together to stop climate change any further and control the loss of healthy environment. As the efforts are continued, attractive cost of energy production through natural means are showing greater results than expected. Lengthy discussions resulted in an agreement finally stopping the catastrophic warming of earth. But the efforts are still not implemented fully after two year. One fact remains that that world cannot just keep continuing use of depleting fossil fuels.

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<sup>\*</sup>Energy Consultant Middle East Region Dubai, UAE

<sup>\*\*</sup>Department of Physics, Bareilly College Bareilly, Bareilly, Uttar Pradesh

<sup>\*\*\*</sup>Department of Physics, IFTM University Moradabad Uttar Pradesh

<sup>\*\*\*\*</sup>Department of Youth & Community New York City, New-York, United States

<sup>\*</sup>Corresponding Author: narain.aditya@ymail.com

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