

Developing Rural India, focussing on Implication of Renewable Energy Sources – A Review Paper

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ABSTRACT : *The energy circumstances in Rural India is portrayed by lower quality fuel, inefficient use, non reliable power supply and restricted approach towards the usage of current energy sources (Reason being Financial, Social or Cultural Barriers). Poverty declination and economic prosperity can be achieved only if natural resources are managed on a sustainable basis. Millions of people in rural India are still without access which is provided by Contemporary/Renewable energy services. Not only does this affects their economic growth, but also improves and diversifies their standard of living and affects the environment too. The unsustainable use of local biomass and an increasing dependence on fossil fuels are leading to environmental depreciation at local level, territorial and global levels. The paper will analyze the current state of the usage of renewable energy systems and technologies and henceforth throw light upon necessary remedial actions that are vital in order to enhance the use of these applications/technologies.*

Keywords – *Decentralized Distributed Generation, Renewable Energy, Rural Development, Sustainable Energy*

I. INTRODUCTION

Renewable energy sources (hereafter, RES) is being taken as a prominent new resource of jobs and rural growth in Developing countries such as India, and a method of validating environmental and energy security issues. In many of the countries, government have invested large amounts of public money to support RES development and are requiring significant amounts of it to be sold by energy generators. Can RES really help to rejuvenate rural economies? This is explored with the help of this Paper. It finds that while RES indeed shows an opportunity for stimulating economic growth in hosting communities, it also requires a stringent but flexible policy regulation and a long-term planning. RES is not going to create lot of jobs, but rather some additional employment opportunities in rural areas.

II. CURRENT SCENARIO IN INDIA

The current state is such that still many places in India exist which are still deprived of electricity. Most of the rural people are with a very low or no employment. Current Applications which are going on in Rural Regions based on the RES can include Liquid fuel lighting (obtained from biomass, bio fuels, etc), Solar based Water Pumping along with Street lighting, solar lanterns and domestic lighting, and Wind energy based Motor and Pumping systems, Hybrid Systems etc. But still the lack of the energy resources and improper utilization of these available energy resources causes economic stagnancy and community turbulence.

Idea for Energy Generation

It can be obtained from crops and residues. It can generate types of fuel mainly Liquid fuels like ethanol etc. ; Gaseous fuel like methane and Electricity generation via biomass power plants.[3] With increased industrial demand for fuel and electricity, large tracts of farmlands may come under fuel crops cultivation and promotion.

Energy Devices Development and Enhancement

High end technology equipments are the basic demand for rural areas as it will lead to efficient and high energy generation. The Renewable Energy Resources should be in debasing forms. The Distinctive characteristic of evolution is characterized by decrease in size and increase in complexity and efficiency.

III. VANTAGE POINT FOR RENEWABLE ENERGY SOURCES

The policy drivers of renewable energy

The growth in the distribution forces of RES has observed interlinked reasons such as they enhance energy security; preserve the climate and the environment from wallop of fossil fuels use and at the same time inspires economic growth.

IV. KEY CHALLENGES AND BARRIERS

Integration of RES within greater supply chains in rural economies, such as agriculture, forestry, traditional manufacturing and green tourism along with the Limiting subsidies in both scope and duration, and only uses them to promote RES projects that are close to viability in market scope.

Barriers include the Economic barriers which is the main reason that RE Technologies are not generally cost effective as compared to conventional technologies.

Structural barriers also exist as it includes regulatory and policy uncertainties, institutional and administrative frameworks and infrastructure which play a very vital role.

V. RENEWABLE ENERGY AND RURAL DEVELOPMENT: THE LINK

The characteristics of renewable energy commitment in rural areas are very attractive as rural areas attract a large part of overall investment. Installations have to be made where renewable sources of energy are available in abundance. New sources of revenue to strengthen key public services and infrastructure as RES provides rural communities with new sources of income generation that can in return benefit public services and infrastructure.

Although RES is widely thought of to be more labour intensive than conventional fuels usage but it still remains a capital-intensive commodity. The energy sector in general is capital intensive, and this remains valid for solar, wind, and hydroelectric energy production. RES policy can build capacity addition and community authorization by helping rural communities distributing workforce for sustainable energy management according to their needs and requirement.

VI. REMEDIES

This base of this paper was to analyze the main problems involving energy provision for poor people and the rural commodities. Some of the remedies which can be beneficial are that financial support policy should be given as options for the electricity sector and the Concept of Feed-in tariffs (FITs), Net Metering should ensure that the renewable energy/electricity generator is guaranteed a fixed purchase price per kWh for their production.

Tenders should be issued when a regulatory body announces that it wishes to install a certain capacity of a given technology in a particular place or region and also Tax incentives or credits should be given to support and increase the use of RE technologies.

There should be a right policy mix through national and regional level by an effective policy response would be able to resolve the non financial barriers, also providing financial support measures where required. [5] The mismatch between renewable energy and transmission infrastructure policy should be removed by an up gradation of old infrastructure that is required to distribute the additional energy generated by the RES installations.

The Policies should ensure that renewable energy deployment benefits rural areas by Avoiding the application of generic criteria's that ignore the acceptability of local conditions and the opportunities for integrating RE into local structure.[6]

VII. CONCLUSION

The base of this paper focused on the link towards the rural development through the renewable energy resources. It explained the current status of the rural India and what all were the factors which were responsible for the usage of the renewable energy sources what were the vantage points for the Renewable energy sources. It was also discussed what were key challenges and the barriers which led to the shortfall for the RES to be used in the rural regions. Further moving on it was realized that after the implementation of certain remedial measures, the stagnant issues could be removed and the usage of RES in the rural development would be greatly beneficial for the stability in Energy Security for Rural India. This also has an adverse effect on the people and the society

on a whole. So on the whole the society with the Government of India's intervention can lead to a better Energy secured India with the Climate and environment protection leading to a sustainable Economic Growth.

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