



CONSUMER PERCEPTION TOWARDS THE SOALR RENEWABLE ENERGY: A STUDY IN TAMIL NADU

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Abstract

Solar energy is the prime mover in economic development. The fast industrialization and rapid urbanization besides mechanized farming have generated a high demand of energy in all forms. This is a small survey conducted in selected areas of Tamil Nadu. Respondents were contacted in person and a questionnaire was distributed among them. 200 respondents were selected. So, the study concludes that the government has to do a lot to make radical changes in the usage of solar energy in the place of traditional energy.

Key Words: Solar Energy, Renewable, Custoerm Perception.

Introduction

The Indian economy has experienced tremendous growth over the past several years. Energy in all its forms, underpins both past and future growth. For the Indian economy to continue its trajectory, needs to address its energy challenges, which cross all sectors and impact all citizens. Electricity – both in terms of quantity and access – is a key challenge. To meet this challenge an alternative source namely, non conventional energy sources need to be developed and put to use.

Solar energy is the prime mover in economic development. The fast industrialization and rapid urbanization besides mechanized farming have generated a high demand of energy in all forms i.e., Thermal, Mechanical and Electrical. To meet this over increasing demand, fossil fuel such as coal, oil and natural gas have been over exploited in an unsustainable manner. The over exploitation of fossil fuel have been posing serious environmental problems such as global warming and climate change. But we have shortage of energy and more dependent on imports in the case of petroleum, we are fortunate enough to be blessed with plenty of natural resources of energy (non conventional energy sources) such as solar, wind, bio mass and hydro electric power. These sources are environmentally good and plenty available from nature in most part of the country throughout the year.

The voluntary renewable energy market has grown considerably since its inception in the 1990s. In 2009, more than 30 million MWh of renewable energy were sold in the voluntary market, a nearly four-fold increase compared to 2005 and almost equal to the amount of new renewables required to meet 2009 state renewable portfolio standards. Renewable energy is available to consumers in three forms: (1) utility green pricing programs offered in regulated states, (2) competitive retail electricity products in deregulated or competitive markets, and (3) renewable energy certificates (RECs) purchased in over-the-counter transactions or through independent REC marketers. Customer participation in utility green pricing programs and competitive market programs has increased over the years, though penetration rates remain low. More than 1.4 million consumers purchase green power through their utility or retail electricity provider or in the REC market, with the vast majority (99%) of consumers purchasing through their utility or retail electricity provider. However, in 2009, the average participation rate among utility green pricing programs was 2.0%, while penetration rates in competitive markets ranged from 1.7% to 2.5%. The top 10 programs in 2009 had participation rates ranging from 5.1% to 20.8%. (Bird and Sumner 2010)

Energy has been recognized as the core power conductor of any development process. It is required for all sectors right from every day need, facilities and entertainments. The availability of conventional energy sources like oil, natural gas and coal are depleting at an alarming rate worldwide. It is our duty to sensitize people to save our future generations from the impending energy crisis. For this, a multi-pronged strategy – (i) energy conservation; and (ii) Encouragement of non conventional energy sources – is imperative.

The solar energy is needed for the people and the society in their every walk of life. Industrial and other development is possible only if there is availability of sufficiency of energy. The changes world over in general and the state in particular in respect of availability and the use of energy changed from time to time. This is more so in the case of conventional sources of energy. The conventional energy sources are being exhausted gradually due to high density of population. So in future we cannot depend purely on the conventional sources of energy. In this scenario alternative energy sources viz., non-conventional energy sources like solar lantern, solar light system, bio-gas and solar water heater need to be used exhaustively.

Review of Literatrue: Shina. D (2009) highlighted that the sole source of energy for the earth is the sun. 3 per cent of solar energy received is converted into wind energy, which if trappable would be more than sufficient to meet the worldwide energy demand. It is no wonder that wind power has emerged as a major non conventional option for power.



R.V.G. Menon (2009) in his article on Energy won't be easy pointed out that electricity generation is, of course, the major energy sector. Here the importance of Renewable Energy Sources has been well recognized and given ample lip sympathy. We are still hiding behind the excuse of high costs thereby allowing the market to dictate policy.

Kavya Michael (2010)⁷⁸ in his article on Rural Energy Security and Climate Injustice in India Stated that economic growth doesn't become a reality when it happens at the expense of the marginalized sections of the society. In this context the need for rural energy security to prevent the hazards of climate injustice becomes important. Economic growth in the country has to be de carbonized and at the same time the energy policy of the country should be redrafted.

Importance of the Study

Power sector in Tamil Nadu plays a vital role in all developmental activities of the well-being and for economic development. Obviously, power crisis is the prime obstacle to start new initiatives in the industrial field. The need for power is increasing. Similarly the production of power should also increase correspondingly. The need of the hour is the availability of sufficiency of power for meeting the industrial and other consumption needs. So to find an alternative way to solve it is an urgent necessity which calls for the development and full utilization of non conventional energy sources. The development and its use depends mainly on the agencies involved like Governmental and Non- Governmental organizations under organized sector and other private trained personnel under unorganized sector. So, the present study gains importance.

Scope of the Study

Renewable Energy Technologies (RETs) have long been recognized for their potential as environment friendly, versatile and sustainable energy alternatives for rural masses of India. However, despite efforts by the Ministry of Non Conventional Energy, RETs have not yet succeeded as a major alternative source of energy in rural India. The programmes of Ministry of New and Renewable Energy Sources (MNRE) and Indian Renewable Energy Development Agency (IREDA) designed to support small scale distributing systems have relied on heavily subsidized credit, technology training and consumer awareness activities to substitute the market for end-user finance for renewable energy systems (Solar and Bio gas) for domestic use and a tiered set of capital and interest rate subsidies for water pumping in the agricultural sector, while end users in some rural areas now have access to solar, powered lanterns or lights and bio gas systems for their home and agricultural operators are taking advantage of remarkable capital subsidies for solar energy to use for water pumping, the control of the credit and resources by an agent in the centre with limited reach in rural areas, the use of heavy capital and interest rate subsidies, and the focus on domestic use rather than on marketing renewable energy technology applications with income enhancement opportunities have tied the success of these programmes to government budgets and political cycle limiting both the breadth and depth of development penetration of projects that harness renewable energy sources.

Statement of the Problem

The energy sector has become a matter of major concern over the years due to the fast rising demand for petrol and diesel over the globe. Heavy reliance upon the conventional fossil fuel has given birth to indefinite headaches for the economies worldwide. So the need of the hour is to rely more upon the non-conventional or renewable energy sources like solar, wind and bio-mass.

India is a global hub for renewable energy technologies and their implementation with a large availability of solar irradiations, vast wind energy sources and a large amount of agricultural land, we can adopt an integrated energy and a systematic approach to bring about a total solution which takes into account the vital renewable energy sources namely, wind, solar and bio fuels. In Kerala the density of population is very high and the energy needed for meeting their immediate necessities of life is also very high on the one hand and the depletion of conventional energy sources on the other. For the sustainable development in the field of energy is urgently needed. In order to conserve the conventional energy sources, we have to develop and use non-conventional energy sources. For its development and use by all people, it needs creation of awareness to the people about its sources, manner in which it is used and from where it is available. In this respect a great help is given by the agencies. The present study takes these problems.

Objectives of the Study

Following are the objectives of the study

1. To examine various sources of the awareness towards the solar energy among the general public in Tamil Nadu.
2. To find out the attractive factors of the respondents towards the usage of the solar energy.

Research Methodology

This is a small survey conducted in selected areas of Tamil Nadu. Respondents were contacted in person and a questionnaire was distributed among them. 200 respondents were selected at random and their responses were analysed. The collected data are validated, tabulated and classified. Statistical tools used for analysis are the Percentage, Apart from percentage, chi square test has been used in this study.

Discussion and Results

The following section deals with the analysis of the data.

Demography of the sample Respondents

The sample respondents consisting of the following features: Gender: [male – 115, female – 85]. Age: [Below 20 – 40 respondents, 20-30 – 77 respondents, 30-40 – 46 respondents, 40-50 – 21 respondents and above 50 – 16 respondents].

Table No. 1, Major Source of Awareness towards the Usage Solar Energy

Sl.No.	Major Source of Awareness	No. of Respondents	%
1	Government agencies	26	13
2	Print media	154	77
3.	Visual media	18	9
4.	NGOs	42	21
	Total	200	100

Source: Primary Data

In respect of the awareness of the respondents towards the usage of the solar energy, print media are the sources to majority respondents (77%) and it implies that the respondents have knowledge through the newspapers and journals.. 21% of the respondents have got the awareness through the propaganda of the NGOs.

Table 2, Attractive Factors towards the Solar Energy

Sl.No.	Attractive Factors	No. of Respondents	%
1.	Convenience	86	43
2.	Time saving	26	13
3.	Environmental protection	16	8
4.	Subsidy from the Government	60	30
5.	Less expensive	5	2.5
6.	safety	7	3.5
	Total	200	100

Source: Primary data

Form the above table it is clear that the convenience is the attractive factor that has majority of the respondents (43 %). At the same time, subsidy from the Government is another important factor (supported by 30 % respondents). Time saving is mentioned as the attractive factor to 13% respondents. Environmental protection, safety and less expensive are the other factors.

Testing the Hypotheses : Age of the Respondents and Overall Satisfaction on Solar Energy

Null hypothesis (H0): There is no significant relationship between age of the respondents and satisfaction towards solar energy.

Table No. 3, Age and satisfaction towards solar energy - cross tabulation

Age	Satisfactory Level on towards Solar Energy					Total
	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	
Below-20	9	13	10	6	2	40
20-30	35	21	15	5	1	77
30-40	9	16	10	8	3	46
40-50	4	8	5	2	2	21
Above-50	6	4	4	2	0	16
Total	63	62	44	23	8	200

Source: Primary data

Table No. 4, Chi-square test

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.738	16	.282
Likelihood Ratio	19.418	16	.248
Linear-by-Linear Association	.319	1	.572
N of Valid Cases	200		

Degrees of Freedom = 16
Chi Square Value = 18.738
Table Value = 19.418
At 5% level of significant.

Since the calculated value is less than the table value, the null hypothesis is accepted.

There is no significant relationship between age of the respondents and satisfaction towards solar energy.

Gender of the Respondents and Overall Satisfaction towards Solar Energy

Null hypothesis (H0): There is no significant difference between gender of the respondents and overall satisfaction towards the solar energy.

Table No. 5, Gender and overall Satisfaction - cross tabulation

Gender of the Respondents	Overall Satisfaction on Solar energy					Total
	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	
Male	38	33	11	21	12	115
Female	30	26	13	8	8	85
Total	68	59	24	29	20	200

Source: Primary data

Table No. 5, Chi-square test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.160	4	.385
Likelihood Ratio	4.271	4	.371
Linear-by-Linear Association	.806	1	.369
N of Valid Cases	200		

Degrees of Freedom = 4
Chi Square Value = 4.160
Table Value = 4.271
At 5% level of significant.

Hence it is understood that the calculated value is less than the tabular value, there for null hypothesis (H0) is accepted. There is no significant difference between gender of the respondents and overall satisfaction towards the solar energy.

Findings

1. In respect of the awareness of the respondents towards the usage of the solar energy, print media are the sources to majority respondents (77%) and it implies that the respondents have knowledge through the newspapers and journals.
2. The convenience is the attractive factor that has majority of the respondents (43 %). At the same time, subsidy from the Government is another important factor (supported by 30 % respondents).
3. There is no significant relationship between age of the respondents and satisfaction towards solar energy.
4. There is no significant difference between gender of the respondents and overall satisfaction towards the solar energy.

Conclusion

The study concludes that the solar energy has adequate awareness among the general public in selected areas of Tamil Nadu. The awareness is created among them by the governmental agencies, print media, visual media and the NGOs. The role of visual media is not remarkable one in bringing awareness towards the solar energy. Convenience is the major attracting factor in respect of the solar energy. The subsidy from the government has earned attention from the general public. So, the study concludes that the government has to do a lot to make radical changes in the usage of solar energy in the place of traditional energy.

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