



# A STUDY ON CONSUMER AWARENESS TOWARDS SOLAR WATER HEATER WITH SPECIAL REFERENCE TO COIMBATORE CITY

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## ABSTRACT

*Solar energy, radiant light and heat from the sun, is harnessed using a range of ever-evolving technologies such as solar heating, solar photovoltaic, solar thermal electricity, solar architecture and artificial photosynthesis. A great amount of energy can be harnessed from the sun. The amount of energy reaching the Earth Surface every day from the Sun is far greater than the energy that of man needs for the foreseeable future. This paper describes about consumer awareness towards solar water heater with special reference to Coimbatore city. The data has been collected by survey through questionnaire with 72 respondents. The primary data and secondary data are used for the study, the primary data is collected using questionnaires and secondary data is collected from articles, books and websites. Convenient sampling technique is used and the tools used for the analysis are Simple Percentage and Likert-scale analysis. This study concluded that the most of consumers are aware of solar water heater.*

**KEY WORDS:** *Solar water heater, Consumer awareness, Solar energy*

## 1. INTRODUCTION

Solar energy, radiant light and heat from the sun, is harnessed using a range of ever-evolving technologies such as solar heating, solar photovoltaic, solar thermal electricity, solar architecture and artificial photosynthesis. Solar energy products are launched mainly with the objective to create environmental awareness of the mass power using solar energy products. Though most people still prefer the usage of electrical products, the attitude of the customers is steadily changing owing to the current environmental hazards caused by the former and increasing in the awareness of solar energy.

## 2. STATEMENT OF THE PROBLEM

This study focuses on the consumer awareness towards Solar Water Heaters. In the market, a consumer will buy the product when that product fulfil their wants and when they are aware of the

product's existence and usefulness. In today's world usage of electricity is high and its price also high, so consumers go for the solar water heaters to reduce the electricity. But the consumers are expecting more from the solar water heater companies. So the present survey is conducted to find out the level of consumer awareness on Solar Water Heater.

## 3. OBJECTIVES OF THE STUDY

- To study the awareness of the customers of Solar Water Heaters.
- To analyze the factors influencing the level of customers awareness of Solar Water Heaters.
- To offer suitable suggestions to increase the awareness to enhance the usage of the Solar Water Heater System.

## 4. RESEARCH METHODOLOGY

Area of study	Coimbatore city
Sample size	72 respondents
Sources of data	Primary data and Secondary data
Sampling techniques	Convenient Sampling technique



**5. STATISTICAL TOOLS**

- Simple Percentage Analysis
- Likert-scale Analysis

**6. REVIEW OF LITERATURE**

**Indrajith.P and Dr. K.Vanaja (2020)** made “A study on Customer’s Satisfaction on Solar Energy Products with special reference to Coimbatore City”. At present we depended the non-renewable source of energy. In such way one of the alternative renewable energy is solar energy. Solar power is an immense source of directly usable energy and ultimately creates others energy resources biomass, wind, hydropower and wave energy.

**Dr. R. Mohanasundari and Nirmala Devi (2018)** analysed Consumer Awareness of Solar Energy Products; a special reference to Tripur District. From this study it can be concluded that consumer attitudes towards solar energy products is definitely changing due to many valid reasons and also there has been a significant increase in the awareness and benefits of using solar energized

products over electrical products in Tripur district of Tamil Nadu.

**Dr. S. B. Gayathri and A. Abitha (2017)<sup>4</sup>** analyzed Satisfaction Towards Solar Water Heater At Households- A Study with special reference to Pollachi Taluk. Solar power system has been applied to heat water for night time activity in rural areas. . Most of the consumers are aware about solar products through their friends and most of them using solar products. Solar products ensure the green quality of products. There is significant scope in future for direct energy through the installation of solar products.

**7. TABLE**

**7.1 SIMPLE PERCENTAGE ANALYSIS**

Percentage analysis is used to find out the percentage value of all the entirely different questions used in findings comparison between two or more series of data.

$$\text{Percentage analysis} = \frac{\text{Number of Respondents}}{\text{Total Number of Respondents}} * 100$$

**Table 1: Table showing level of awareness of solar water heater of respondents**

S. No	Categories	No. of Respondents	Percentage (%)
1	Well-Known	25	34.72
2	Moderate	40	55.56
3	Not Aware	7	9.72
	Total	72	100

Source (Primary Data)

**INTERPRETATION**

The table shows that 34.72% of respondents are Well-known awareness of solar water heater, 55.56% of respondents are Moderately aware of solar water

heater and 9.72% of respondents are Not aware of solar water heater.

**Hence, the majority of 55.56% of respondents are Moderately aware of solar water heater.**

**Table 2: Table showing which factor influenced respondents to buy solar water heater**

S. No	Categories	No. of Respondents	Percentage (%)
1	Price	5	6.94
2	Quality	24	33.33
3	Pollution free	20	27.78
4	All the above	23	31.95
	Total	72	100

Source (Primary Data)

**INTERPRETATION**

The table shows that 6.94% of respondents are influenced by Price, 33.33% of respondents are influenced by Quality, 27.78% of respondents are

influenced by Pollution free and 31.95% of respondents are influenced by all the 3 factors.

**Hence, the most of 33.33% of respondents are influenced by Quality.**



**Table 3: Table showing what is respondent’s Reason for adopting solar water heater**

S. No	Categories	No. of Respondents	Percentage (%)
1	Environmental Friendly	29	40.28
2	Reduces Electricity Consumption	24	33.33
3	Reduction in Bill	14	19.45
4	Others	5	6.94
	Total	72	100

Source (Primary Data)

**INTERPRETATION**

. The table shows that 40.28% of respondents adopted solar water heater because it is Environmental Friendly, 33.33% of respondents adopted solar water heater because it Reduces Electricity Consumption, 19.45% of respondents adopted solar water heater because of Reduction in

Bill and 6.94% of respondents adopted solar water heater because of Other factors.

**Hence, the most of 40.28% of respondents adopted solar water heater because it is Environmental Friendly.**

**7.2. LIKERT SCALE ANALYSIS**

$$\text{Likert scale} = \frac{\text{Sigma equation } \sum fx}{\text{Total No. of respondents}}$$

While,

f = No. of Respondents  
 x = Likert scale value

**Table showing satisfaction level of solar water heater**

S.No	Factors	Likert Scale Value (X)				Total	Likert Scale
		3	2	1			
1.	Saves electricity	f	46	22	4	72	2.583
		fx	138	44	4	186	
2.	Eco-friendly	f	27	41	4	72	2.319
		fx	81	82	4	167	
3.	Low maintenance	f	36	21	15	72	2.291
		fx	108	42	15	165	
4.	Cheap installation	f	16	45	11	72	2.069
		fx	48	90	11	149	

Source (Primary Data)

**INTERPRETATION**

The Likert scale value 2.583% which is higher than the mid-value (2) that shows the customers are satisfied with the factor of saves electricity.

customers are satisfied with the factor of saves electricity.

**8. FINDINGS**

- The majority of 55.56% of respondents are Moderately aware of solar water heater.
- The most of 33.33% of respondents are influenced by Quality.
- The most of 40.28% of respondents adopted solar water heater because it is Environmental Friendly.
- The Likert scale value 2.583% which is higher than the mid-value (2) that shows the

**9. SUGGESTIONS**

1. Some of the people are not aware of solar water heater. Hence, the manufacturers should create a better awareness about solar water heater through advertisement.
2. The price of the solar water heater may be considerably reduced, so that more people from low income group can also adopt solar water heater.
3. The installation and maintenance of solar water heater can be reduced so that the customers will continue to use it without



worrying about high installation charges and maintenance expenses.

4. Solar water heater should also work during rainy season without any drawbacks.

## 10. CONCLUSION

In today's world, the consumption of energy has been increasing in abundant amount and the consumers have become more conscious about saving power and switching onto other sources of power like solar energy for their consumption. From this study, it can be concluded that most of the consumers are aware of the solar water heater. It is identified that the consumers are influenced by the factor (Quality) to buy the solar water heater. Producers also should create awareness of solar water heater among old customers and to make new costumers through advertisements.

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