Original Research Article

The Impact Of Socio-Economic Factors On The Perception Towards Solar Energy

ABSTRACT

Solar Energy is an upcoming solution to one of the world's biggest problems: The lack of clean energy. This research paper focuses on understanding the factors that influence the perception of Indian respondents toward solar energy~~, in order~~ to fill in the gap in the data regarding how basic socio-economic factors such as age, education and income level can influence one's thoughts towards solar energy. This is a mixed-method study that aims to draw relations and trends between the above-stated factors and the perceptions of the respondents. It was concluded after analyz~~s~~ing a dataset of 140 respondents (m~~M~~iddle c~~C~~lass and u~~U~~pper-class respondents from Metropolitan cities of Delhi, Mumbai, Bangalore and Chennai, and Lower Class respondents from Kishangargh Village, New Delhi), from different income and education levels, that there was a positive relation between e~~E~~ducation level and awareness as well as i~~I~~ncome and l~~L~~ikelihood of adoption. Other factors such as age and gender of the respondents have also been taken into account in the study.

Keywords: Solar Energy, Solar Technology, Sustainability, Consumer Behavio~~u~~r, Socioeconomic Background, Electricity, Sustainability Goals, Income level, Education and Awareness

INTRODUCTION

The amount of sunlight that strikes the earth's surface in an hour and a half is enough to handle the entire world's energy consumption for a full year (Office of Energy Efficiency and Renewable Energy, 2021). Solar technologies convert sunlight into electrical energy either through photovoltaic panels or through mirrors that concentrate solar radiation. This energy can

be used to generate electricity or be stored in batteries or thermal storage (Office of Energy Efficiency and Renewable Energy, 2021). In recent years countries across the world have started to shift towards this cleaner method of energy.

According to data from the International Energy Renewable Agency, at the end of 2020, the worldwide capacity of solar PV has increased to 714 GW and upward trends in solar have been observed since 2004 (Ministry of New and Renewable Energy, 2021). Solar eEnergy continues to lead the percentage capacity expansion with a 22% (127 GW) increase in the year 2020.

Solar eEnergy can help solve one long-existing problem in India: the lack of electricity and clean energy in several parts of the country. India was an early adopter of Solar Technology and recently achieved the 5th global position in solar power deployment by surpassing Italy. Exponential growth can be seen in India's Solar PV outlook by analyzsing data from the International Energy Renewable Agency, since 2011 India has increased its installed solar capacity by 7200% as of 2020 and its electricity generation by 10100% as of December 2018. (International Renewable Energy Agency, 2021) [See in Appendix: Graph A & Graph B]

Solar energy is an increasingly important part of India's current energy mix and will play a vital role in our clean energy future. As per the Ministry of Commerce and Industry, Government of India, the Indian renewable energy sector is the fourth most attractive renewable energy market in the world. As of October 2018, India was positioned the fifth in installing a sustainable power source limit. The National Institute of Solar Energy has assessed the cCountry's solar potential of about 748 GW assuming 3% of the wasteland area to be covered by Solar PV modules, as of 31st March 2021 India only has an installed capacity of 40.1 GW which is 5.4% of it's potential (International Renewable Energy Agency, 2021). The entire solar industry needs to analyzse why this technology is not being harnessed to its full potential and that is where understanding the perceptions of the Indian public plays an important role.

Previous literature on domestic PV diffusion has shown that "barriers and enablers tend to go beyond technical and policy advancement" and instead reside at the intersection of "social, economic, and technical context" (Sovacool, 2014). The current data points and research in India

about Solar Technology do not focus on the ideas of people, the closest possible literature related to the social acceptance of Solar Energy amongst farmers focuses on their risk aversion, business activity and community trust (Aklin, Bayer, Harish, S.P and Urpelainen, 2018). Partially, the failure of these mechanisms and mixed findings in the literature have been attributed to the inability of policymakers and researchers alike in understanding the bandwidth of drivers and inhibitors of the investment decision process and to fit the broader socio-economic context in which they are deployed (Sener et al., 2018; Gimeno et al., 2018; Masini and Menichetti, 2013). Innovations such as solar energy spring from urban areas and slowly transition to rural states hence industries must have access to data from urban populations as well. Various other researches point to different socio-economic considerations including "high capital and maintenance costs; limited experience with new energy technology; as well as of under-valuing the long-term benefits of environmental investments (Masini and Menichetti, 2013). Consumers must also contend with their lack of trust in available information on PV, "uncertainty of the costs associated with operation and maintenance" and "the long timeline
for return on investment (ROI)" (Rai et al., 2016, p. 502; Rai and Robinson, 2013; Rai and McAndrews, 2012). Some other studies have shown that due to path dependence of previous carbon-based technology, "consumers must see that the present value of a PV investment greatly exceeds the investment cost by a factor that can surmount consumer uncertainty" (Bauner and Crago, 2015, p. 31). All these fluctuations lead to individual investors going away from the adoption of PV "until market and policy maturity reach a satisfactory level of perceived risk, known as the optional value" (Bauner and Crago, 2015, p. 31).

This research focuses on understanding how the socio-economic background of Indian respondents affects their perception of solar technology. It is believed that richer and economically stable households with less binding budget constraints are more likely to have a positive outlook toward new technology in the form of solar microgrids (Aklin, Bayer, Harish, S.P and Urpelainen, 2018). Such research holds key importance in the development and implementation of s~~S~~olar t~~T~~echnology as it will help governments and firms plan their course of action to achieve high solar electrification rates in the Indian subcontinent.

Data regarding the perceptions were collected using digital and printed surveys, these surveys were targeted to collect data regarding the opinions of people from different socioeconomic backgrounds. Measurable factors such as iIncome and professions were used to understand the socio-economic background of the respondents and a Likert scale was used to collect the data.

METHODOLOGY

Aim of the Study

This study aimed to explore how the socio-economic background of respondents affects their perception of solar technology. This study focuses on understanding and drawing the connections between demographic/economic factors and views of people towards the sSolar tTechnologies. This information is also closely in line with the following United Nations sSustainable dDevelopment gGoals: Affordable and clean energy, sustainable cities and communities, and climate action.

Research Design

This research study wasis mixed-method research that useds surveys and secondary data that was collected using various methods such as online and paper-based survey forms, and interviews. The independent variables that were used in the study were the demographic and economic information of the respondents, which includeds the following: age, level of education, profession, area of residence and monthly income (both were used to identify the socio-economic background of the respondents). The dependent variables used were the awareness and opinion of the respondents about solar technology, and the willingness of the respondents to adopt solar energy in their homes.

Hypothesis

Null hypothesis 1 - The socioeconomic background of respondents does not affect their perception of new and upcoming technologies such as solar technology

Alternative hypothesis 1 - The socio-economic background of respondents affects their perception towards new and upcoming technologies such as solar technology.

Null hypothesis 2 - There is no relationship between the level of education people have received and the level of awareness they have regarding Solar Technology.

Alternative hypothesis 2 - The level of education of respondents and their awareness of Solar Technology have a direct relationship.

Consent and Ethical Issues

The survey was conducted to collect data on the impact of people's socioeconomic background and the effect and how the differences in the same impacted their perception of sSolar tTechnology. A rather unconventional method was used to collect data as using regular online-based forms would have restricted the audience to only those who have access to the internet. To overcome this problem, two separate methods of data collection were used. The first method was an online google form which was designed in English. Confidentiality and privacy of the respondents were maintained; no data would be disclosed to a third party. No identifiers such as names or pictures were disclosed in the article or while conducting the study. Ethical guidelines of research were followed.

Sampling and Data Collection

The form consisted of 12 questions that were divided into 2 different sections, Section 1 to collect data relating to the socioeconomic background of the respondents and Section 2 to collect the data corresponding to their perception of sSolar tTechnology. This form was distributed

using social media and online communication platforms, primarily WhatsApp, Facebook, Discord, LinkedIn and Slack. Forms were also mailed to business personnel to collect data. A total of 110 responses were recorded on this online form.

To collect data from underprivileged groups, an alternative approach of data collection was taken where paper-based forms were made. These forms were designed in Hindi to ensure that they were understood completely by the respondents. The questions were first literally translated from the online paper-based form and then refinements were made to the language and the design of the questions using Google Transliteration. These forms were then checked and compared to the online forms to ensure uniformity and eliminate any sort of bias that might have been generated during translations.

These Paper-based Hindi forms were printed and distributed in the Kishangarh Village, which is mostly populated by domestic help, drivers, small-time shopkeepers and manual labour. Some of the forms were collected back from the people and some of the forms were filled on the spot in the village. A total of 40 paper-based responses were collected.

RESULTS AND DISCUSSION

The data were divided into two groups, one being students and the other one being working professionals. This was done to ensure that the results weren't skewed due to a difference in the type of respondents. There were 44 total responses in the student's dataset where 19 responses were from males whereas 25 responses were from females. The gender of the students showed no significant impact on any of the results. When students were asked about their awareness of solar energy on a scale of 1 to 7, the mean of their awareness was recorded at (M= 4.614, SD =1.185) which was lower than the mean of awareness of working professionals which recorded a mean of (M= 4.988, SD =1.637). However, when asked about the benefits of solar energy, the students recorded a higher mean of (M= 6.250, SD =0.943) compared to a mean of (M= 5.588, SD = 1.748) for working professionals. The likelihood of adoption for both students and working professionals was almost similar at (M= 5.614, SD = 1.401) and (M = 5.764, SD = 1.315) respectively.

Table 1: Mean values (M) for all dependent variables (~~-~~Awareness of respondents, Degree of perceived benefit, Likelihood of Adoption) comparing students and working professionals.

Variables	Students (M)	Working Professionals (M)
Awareness of respondents	4.614	4.988
Degree of perceived benefit	6.250	5.588
Likelihood of Adoption	5.614	5.765

When asked if they thought solar energy systems will help shape the sustainable future of the Indian economy, 79.5% of students responded with "yes" in agreement to the statement whereas the remaining students were "unsure". On the other hand, 82.3% of working professionals responded with "yes", 14.1% of them were "unsure" and the remaining respondents responded with a "no" saying that solar energy will not be beneficial in shaping a sustainable future of the Indian economy.

Another comparison ~~that was drawn~~ between students and working professionals was the reasons why they thought solar technology had low adoption rates in India, the respondents were provided with 3 options as well as a blank to fill in their response. For students, the majority of the respondents believed that high installation and maintenance costs are the key reason for low adoption rates with over 68% of the respondents choosing this option. The data from the student responses can be seen in the p~~P~~ie c~~C~~hart b~~B~~elow.

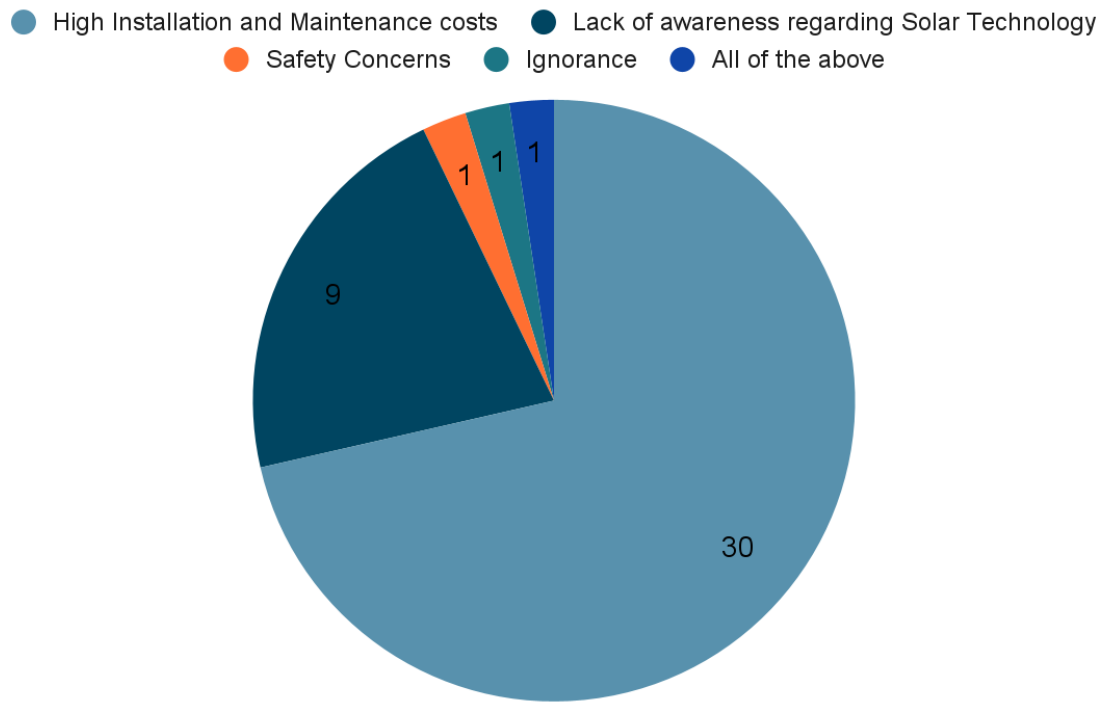

Figure 1: Key Driving Reason for Low Solar Adoption Rates(Students).

For working professionals, the majority of the respondents believed that High installation and maintenance costs along with a Lack of awareness regarding Solar Technology are the key reasons for low adoption rates. Around 71.4% of respondents chose high installation and maintenance costs and 21.4% chose Lack of awareness as their response.

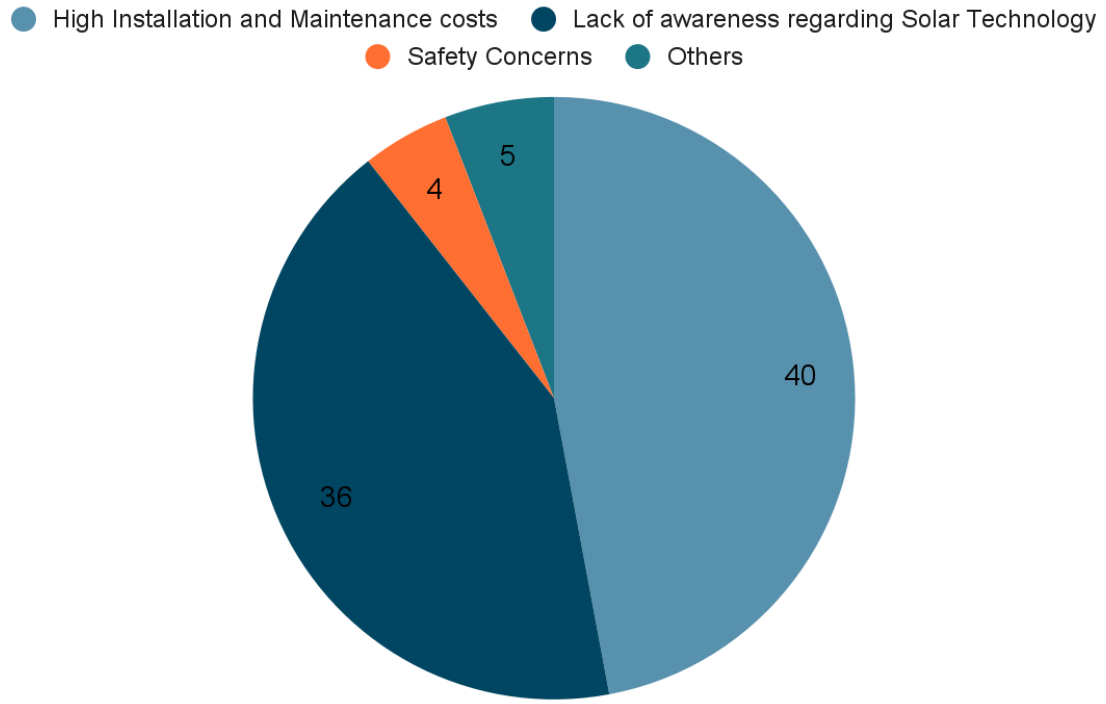

Figure 2: Key Driving Reason for Low Solar Adoption Rates (Working Professionals).

When Respondents were asked to elaborate on their responses for this question most of the responses revolved around a combination of all factors, some examples of elaborate responses are given below:-

Responses for what people think is the driving reason for the low Solar Technology adoption rates in India?

"Residential flats have limited options for reaping the solar energy in homes (mostly solar panels are being used for hot water) Ideally solar panels can also be used for generating electricity for households etc. Also, different states have different regulations (e.g. net metering etc) when it comes to solar policies ideally there should be some unified policy at the Central level. While solar installations are subsidi~~s~~zed, however, there is still a lot of scope for product improvement."

"Solar technology should be a primary target for the government of the country as to make it available at micro-level with every household & industrial. The Government should announce benefits schemes, like tax benefits, payback or incentives for lower / middle Social-economic sections of the county so they get encouraged to adapt this technology. At present the

infrastructure to get solar technology for home and vehicles are expensive and infrastructure is not readily accessible at the economic level."

"People are neither aware nor they avoid the hassle, change always needs some time to get adapted. Solar energy should be introduced in our education system right now at all levels. Millennials are more open to new things and they can also be targeted. In any case, the government is mandating it all new constructions so it shall be the ~~must~~ essential thing of future, the only challenge left is the old construction and population"

Table 2: Student responses for "In your view, will Solar Energy systems help shape the sustainable future of the Indian e~~E~~conomy?"

Yes	35
Maybe	9
No	0

When the respondents were asked: "In your view, will s~~S~~olar e~~E~~nergy systems help shape the sustainable future of the Indian e~~E~~conomy?" Both students and working professionals had similar responses with the majority of respondents choosing "Yes".

Table 3: Working Professional responses for "In your view, will Solar Energy systems help shape the sustainable future of the Indian e~~E~~conomy?"

Yes	70
Maybe	12
No	3

Age

The dataset was then analyz~~s~~ed on the basis of the age of the respondents where data was divided into 4 different categories and means were calculated for responses to different questions. A general upwards trend was seen for Awareness and perceived benefit as the age of

respondents increased with an exception in the “Below 18” age bracket. This is likely because the incomes of people are likely to grow as they become more experienced and hence solar energy might become more affordable to them. Age is also likely to have a positive relationship with the likelihood of adoption as older people are more likely to have settled in life and hence would find it easier to take money out from their budget to spend on a solar panel system. For the age bracket under 18 on the other hand, most respondents were students and hence it can be inferred from the data that students have a more positive outlook toward solar energy.

Table 4: Mean values of dependent variables for different age brackets

Age Bracket / Mean	Awareness of respondent	Degree of perceived benefit	Likelihood of Adoption
Below 18	4.622	6.156	5.556
18-25	4.300	5.200	5.500
26-40	4.786	4.964	5.250
Above 40	5.229	6.057	6.171

Income

The dataset was then analyzsed based on income as an identifying variable, the data for all students were excluded for this variable as none of the students was earning and hence the data would have been skewed as the responses of students and those who are working professionals but don't earn differ by a high margin. There was a positive correlation between income and the other identification variables that were used to capture the perceptions of respondents with an exception in the “Not earning at the moment” bracket. Further analysis showed that this was because some respondents were perfectly eligible to be employed and had jobs in the past but were either temporarily or willingly unemployed.

Table 5: Mean values of dependent variables for different Income brackets

Income	Awareness of	Degree of perceived	Likelihood of

Levels(monthly)/ Mean	respondent	benefit	Adoption
Not earning at the moment	5.200	4.600	5.200
Under 10000	3.545	3.545	4.727
Between 10001-25000	3.706	4.294	4.882
Between 25001-75000	5.400	6.467	6.133
Above 75000	5.811	6.568	6.405

Education

The last variable used to analyzse the dataset was education level, education level relates directly to the awareness of people about things going around them. Education is closely related to the level of income and self-awareness of happiness. Education is also closely related to economic freedom (Stryzhak, O. O. 2020). This is supported by an analysis of the dataset with education and perception of solar energy having a positive correlation. During the analysis of the dataset with education level as a variable, the data for the students were excluded so that the data was not skewed. The education levels were divided into three different brackets to ensure that the size for all groups was the same and there isn't any bias while calculating the mean.

Table 6: Mean values of dependent variables for different education brackets

Education Level/mean	Awareness of respondent	Degree of perceived benefit	Likelihood of Adoption

Primary and High School	3.211	3.474	4.421
Bachelors Degree	5.273	5.545	5.681
Masters Or PhD	5.614	6.522	6.386

Three different T-Tests were also conducted between the different education levels out of which two were significant and one was insignificant. The first T-Test was done between the respondents who went to primary and high school and respondents who have a Bachelor's degree. The results of this T-test support the Alternate Hypothesis 2 which states that the level of education of respondents and their awareness regarding Solar Technology has a direct relationship.

Table 7: T-test 1 - Summary of Independent T-test Analysis between Primary and High School vs Bachelors Degree

Source	**Primary and High school Students**		**Bachelor's Degree**		**t**	**p**
	M	**Var**	**M**	**Var**		
Awareness	3.21	2.18	5.27	1.92	1.68	4.97E-05

The second T-Test was done between the Lowest education level and the Highest education level which were 'Primary and High School' and 'Masters Or PhD' respectively. The results of this T-test support Alternate Hypothesis 2 which states that the level of education of respondents and their awareness regarding Solar Technology has a direct relationship. This relation above also shows that Hypothesis 2 is false.

Table 8:T-test 2 - Summary of Independent T-test Analysis between Primary and High School vs Masters Or PhD

Source	Primary and High school Students		Masters or PhD		t	p
	M	Var	M	Var		
Awareness	3.21	2.18	5.61	1.54	1.67	3.85E-07

The Third T-Test was done between the Middle education level and the Highest education level which were 'Bachelors Degree' and 'Masters Or PhD' respectively. This T-Test was insignificant as it had a P-value that was greater than 0.05. This shows that there is no significant difference in the level of Awareness between respondents with a bachelor's degree and a Master~~s~~'s or PhD Degree.

Table 9: T-test 3 -Summary of Independent T-test Analysis between Bachelor's Degree vs Masters Or PhD

Source	Bachelor's Degree		Masters or PhD		t	p
	M	Var	M	Var		
Awareness	5.27	1.92	5.61	1.54	1.68	0.336

CONCLUSION

From the results of this study, it can be concluded that both the hypotheses hold true, which are, "The socio-economic background of respondents affects their perception towards new and upcoming technologies such as solar technology" ~~and -~~ "and "The level of education of respondents and their awareness regarding Solar Technology has a direct relationship". A similar relationship was derived between the likelihood of adoption and the income of the respondents which supports the other hypothesis. The socio-economic background of Indian respondents affects their perception in a way where the people with high-income levels will have a more positive outlook towards new and upcoming technologies such as solar technology.

Some other findings during this study were that the general trends did not apply to the responses from the students as data from student responses showed that they had a more positive outlook towards solar

energy compared to working professionals. The aim of this study has been fulfilled and the data from the study can definitely be used for further research into consumer ~~behaviour~~behavior and sustainable energy.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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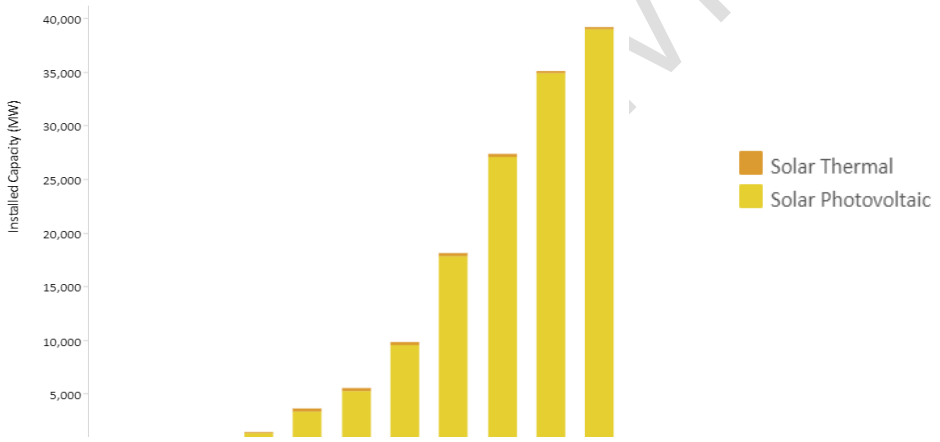
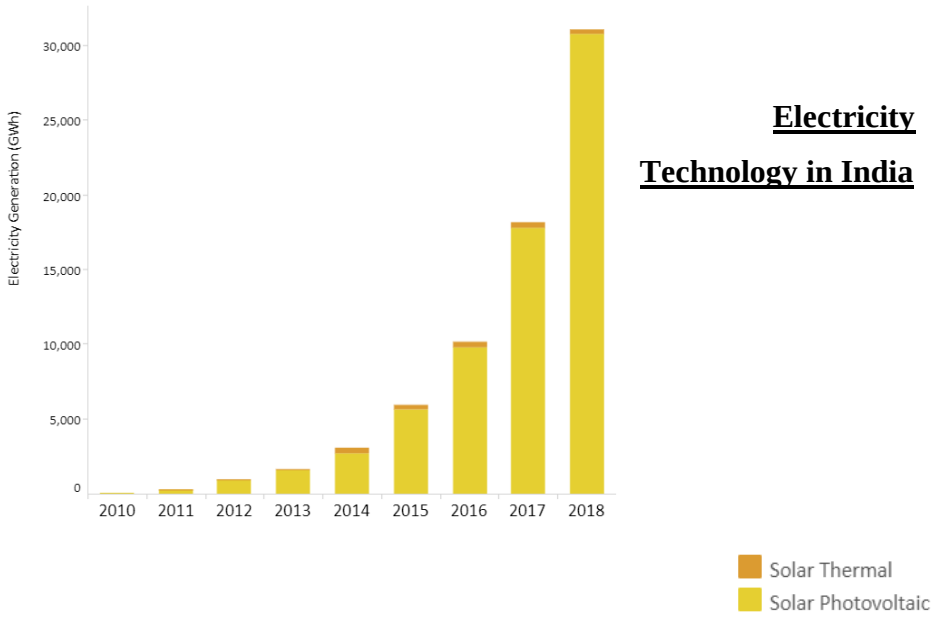
APPENDIX

Graph A- Installed Capacity of Solar Energy in India/Megawatts



Graph B- Electricity generation by Solar Technology in India



GOOGLE FORM QUESTIONNAIRE (Online)

Impact of socio-economic background on Solar Energy in India

Dear Invitee,

My name is Viraj Malik and I am a high school student in New Delhi. I am kindly requesting your participation in a research that I am conducting on the economics behind Solar Technology in India. The intention of this study is to assess how the Socio-economic background of Indian respondents affects their perception towards Solar Energy.

The study is completely anonymous and does not require you to provide your name or any other identifying information. Your participation in the research will be very valuable in exploring the future of Solar Energy in India, which will provide a base for government authorities and Industrial firms to analyse and plan the upcoming few years of Solar development in our nation.

Thank you for your time and participation.

Regards,
Viraj Malik

* Required

1. What is your age? *

_____

2. What is your gender? *

Mark only one oval.

- ◯ Female
- ◯ Male
- ◯ Prefer not to say
- ◯ Other: _____

3. What is your highest education level? (or the education level you are currently in) *

Mark only one oval.

- ◯ None
- ◯ Primary School
- ◯ High School (9th-12th Grade)
- ◯ Bachelor's Degree
- ◯ Master's Degree
- ◯ Doctorate

4. What is your current Profession? *

_____

5. What is your average Monthly Income? *

Mark only one oval.

- ◯ Not earning at the moment
- ◯ Under 10000
- ◯ Between 10001-25000
- ◯ Between 25001-75000
- ◯ Above 75000

6. What is your area of residence?(exact locality) *

_____

7. How aware do you think you are about Solar Technology? *

Mark only one oval.

	1	2	3	4	5	6	7	
Not aware at all	◯	◯	◯	◯	◯	◯	◯	Fully aware

8. How beneficial do you think Solar energy is when compared to oil and gas? *

Mark only one oval.

	1	2	3	4	5	6	7	
Not beneficial at all	◯	◯	◯	◯	◯	◯	◯	Very beneficial

9. In your view, will Solar Energy systems help shape the sustainable future of the Indian Economy ?(improved energy production methods, lower costs and sustainable environment) *

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Maybe

10. If given the choice, how likely are you to adopt Solar Energy in your home? *

Mark only one oval.

	1	2	3	4	5	6	7	
Not Likely at all	◯	◯	◯	◯	◯	◯	◯	Very Likely

11. In your view, what is the driving reason for the low Solar Technology adoption rates in India? *

Mark only one oval.

- ◯ Lack of awareness regarding Solar Technology
- ◯ High Installation and Maintenance costs
- ◯ Safety Concerns
- ◯ Other: _____

12. Please elaborate on the choice you have made in the previous question .

_____

_____

_____

_____

_____

GOOGLE FORMS QUESTIONAIRE(Paper-Based)

भारत में सौर ऊर्जा पर सामाजिक-आर्थिक पृष्ठभूमि का प्रभाव

प्रिय आमंत्रित,

मेरा नाम विराज मलिक है और मैं नई दिल्ली में हाई स्कूल का छात्र हूँ। मैं भारत में सौर प्रौद्योगिकी के पीछे के अर्थशास्त्र पर अनुसंधान में आपकी भागीदारी का अनुरोध कर रहा हूं। इस अध्ययन का उद्देश्य यह आकलन करना है कि भारतीय उत्तरदाताओं की सामाजिक-आर्थिक पृष्ठभूमि सौर ऊर्जा के प्रति उनकी धारणा को कैसे प्रभावित करती है।

अध्ययन पूरी तरह से गुमनाम है और इसके लिए आपको अपना नाम या कोई अन्य पहचान संबंधी जानकारी प्रदान करने की आवश्यकता नहीं है। अनुसंधान में आपकी भागीदारी भारत में सौर ऊर्जा के भविष्य की खोज में बहुत मूल्यवान होगी, जो हमारे देश में सौर विकास के आगामी कुछ वर्षों के विश्लेषण और योजना के लिए सरकारी अधिकारियों और औद्योगिक फर्मों को आधार प्रदान करेगी।

आपके समय और भागीदारी के लिए धन्यवाद।

सादर,
विराज मलिक

1. आपकी उम्र क्या है?

_____

2. आपका लिंग क्या है?

Mark only one oval.

- ◯ नर
- ◯ महिला
- ◯ चुप रहना पसंद करूंगा
- ◯ Other: _____

3. आपका उच्चतम शिक्षा स्तर क्या है? (या वर्तमान में आप जिस शिक्षा स्तर पर हैं)

Mark only one oval.

- ◯ कोई नहीं
- ◯ प्राथमिक स्कूल
- ◯ उच्च विद्यालय
- ◯ स्नातक की डिग्री
- ◯ स्नातकोत्तर उपाधि
- ◯ डॉक्टर की उपाधि

4. आपका वर्तमान पेशा क्या है?

_____

5. आपकी औसत मासिक आय क्या है?

Mark only one oval.

- ◯ फिलहाल कमाई नहीं
- ◯ 10000 तक
- ◯ 10001-25000 के बीच
- ◯ 25001-75000 के बीच
- ◯ 75000 से ऊपर

6. आपका निवास क्षेत्र क्या है? (सटीक स्थान)

_____

7. आपको क्या लगता है कि आप सौर प्रौद्योगिकी के बारे में कितने जागरूक हैं?

Mark only one oval.

	1	2	3	4	5	6	7	
बिल्कुल पता नहीं	◯	◯	◯	◯	◯	◯	◯	पूरी तरह से जानते हैं

8. आपके विचार में तेल और गैस की तुलना में सौर ऊर्जा कितनी लाभदायक है?

Mark only one oval.

	1	2	3	4	5	6	7	
कतई फायदेमंद नहीं	◯	◯	◯	◯	◯	◯	◯	बहुत फायदेमंद

9. आपके विचार में, क्या सौर ऊर्जा प्रणालियां भारतीय अर्थव्यवस्था के भविष्य को आकार देने में मदद करेंगी? (बेहतर ऊर्जा उत्पादन के तरीके, कम लागत, साफ़ वातावरण)

Mark only one oval.

- ◯ हां
- ◯ नहीं
- ◯ शायद

10. यदि विकल्प दिया जाता है, तो आप अपने घर में सौर ऊर्जा को अपनाने की कितनी संभावना रखते हैं?

Mark only one oval.

	1	2	3	4	5	6	7	
बिलकुल नहीं	◯	◯	◯	◯	◯	◯	◯	बहुत संभावना है

11. आपके विचार में, भारत में कम सौर प्रौद्योगिकी अपनाने की दर का प्रेरक कारण क्या है?

Mark only one oval.

- ◯ सौर प्रौद्योगिकी के बारे में जागरूकता की कमी
- ◯ स्थापना और रखरखाव लागत
- ◯ सुरक्षा चिंताएं
- ◯ Other: _____

12. कृपया पिछले प्रश्न में आपके द्वारा चुने गए विकल्प के बारे में विस्तार से बताएं।

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