

**CONSUMER'S AWARENESS AND PURCHASE DECISION PRECEDENCE  
TOWARDS SOLAR ENERGY PRODUCTS IN KANO CITY OF NIGERIA**

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**Abstract**

*The use of solar energy goods by consumers is likely to continue changing as renewable energy plays a larger role in the world's energy mix. Numerous factors can affect how consumers purchase decision on solar energy items. This research explores consumer awareness towards the usage of solar energy products (SEPs) in Kano City, Nigeria. The study aims to understand the factors that influence consumer purchase decision and factors considered in adoption of solar energy products in the city. Through a comprehensive analysis of demographic characteristics, decision-making processes, awareness levels and motivations. The analysis and interpretation highlight that consumer purchasing aspects is influenced by various factors, including age, income, education, and occupation. Price, quality, brand reputation, environmental concerns, energy savings, convenience, and access to financing options were identified as key drivers shaping consumer decisions. Limited awareness and understanding about solar energy products emerged as a necessitating awareness campaigns and educational initiatives to promote consumer understanding. The study also revealed the importance of supportive policies and regulations, such as preferences and priorities, streamlined permitting processes, facilitate the implementation of SEPs.*

**Keywords:** Consumer purchasing decision, Solar energy products (SEPs), Preferences and priorities

**Introduction**

All forms of energy have their origin in solar energy. There are two ways to utilize this energy: thermally, which involves using heat for things like drying, heating, cooking, and power generation, and photovoltaic, which involves turning solar energy into electrical energy. Converting energy into electricity, which can be utilized for a variety of things including lighting and pumping and electricity production. With its nearly endless supply and pollution-free nature and widespread use, solar energy is a very appealing energy source. Nigeria being tropical country

receives adequate solar radiation for 300 days amounting to 3000 hours of sunshine equivalent to over 5,000 trillion Kwh. Almost all the region receives in the northern and southern region of Nigeria has been reported as 5.62 up to 7.01 and 3.54 up to 5.43 kWhm<sup>-2</sup> respectively using artificial neural networks. Kano Electricity Distribution Company (KEDCO) take the responsibility of distribution of electricity to Kano city but still most of the industries and household depends on generator because of less supply. Nigeria is in a pressing need to find a solution to these problems to achieve sustainable growth and development of the state. For a growing nation like Nigeria, where having power in every home was once unthinkable but is now a possibility. Through structural reforms, Nigeria is progressing toward strengthening its industrial and economic health. The nation has made the decision to go from producing electricity using fossil fuels to using green energy. It's anticipated that solar-powered devices will predominate in the future. People have started using technologies to harness the abundant solar energy since non-renewable energy sources are running out, electricity costs are growing, and more people are becoming aware of green energy sources. It is safe, dependable, clean, and used properly, it may lessen our reliance on traditional energy sources while also saving money and the environment. Solar phones, solar chargers, solar shavers, solar candles, solar lamps, solar headphones, solar exhaust fans, solar heating gadgets, solar energy savers, etc. are all available now on the market.

### **Need for the study**

Conducting research on the usage of SEPs in Kano City, Nigeria can provide valuable insights and benefits. Kano City, like many urban areas in Nigeria, faces significant energy challenges, including frequent power outages and limited access to reliable electricity. Research on SEPs can assess the energy demand in the city and determine how solar solutions can bridge the energy gap and provide sustainable electricity access. Research can evaluate the feasibility of solar energy systems, such as photovoltaic panels, solar water heaters, and solar-powered streetlights, to harness this renewable energy resource effectively. It can assess the potential cost savings for households, businesses, and the local government by reducing dependence on conventional energy sources and their associated costs. Additionally, the deployment of solar energy systems can create job opportunities in the local solar industry. Nigeria faces environmental challenges due to carbon emissions and reliance on fossil fuels. Research on SEPs can quantify the environmental benefits of reducing greenhouse gas emissions and improving air quality through the adoption of clean and renewable solar energy. Overall, research on the usage of SEPs in Kano City, Nigeria can inform policy decisions, spur economic growth, promote sustainable development, and contribute to the transition towards a cleaner and more resilient energy system.

### **Statement of the problem**

The usage of SEPs in Kano City, Nigeria, is an emerging trend with the potential to address the energy challenges faced by the city. However, understanding consumer purchasing aspects towards these products is crucial for effective adoption and widespread use. Despite the potential benefits and increasing availability of SEPs, there is limited understanding of consumer purchasing

decision and preferences in relation to these products in Kano City. The study seeks to understand and analyze the key aspects such as demographic characteristics of consumers in Kano City, factors that impact consumer decision-making processes when considering the adoption of SEPs, consumer awareness and knowledge on SEPs influence their purchasing decision, perceived benefits and drawbacks of SEPS, cultural and social factors, sources of information and channels that consumers rely on when seeking information about SEPs. By addressing these key aspects, the study aims to provide insights into the consumer purchasing aspects towards SEPs in Kano City. This research will contribute to a better understanding of consumer preferences, motivations, and barriers, enabling policymakers, businesses, and other stakeholders to develop effective strategies to promote the adoption and usage of SEPs in the city.

### **Review of literature**

**Dhanabhakym, M. and Sumathi, N. (2012)** study reveals that SEPs can solve all obstacles which people are facing today for using electricity in day-to-day activities and to introduce the SEPs in the building is very simple and cream puff process any one can do it with portable experience.

**Shamsun NaharMomotaz and Asif Mahbub Karimb (2012)** has analyzed in day-to-day activities solar home system service is becoming more popular especially for remote areas where no infrastructure for conventional energy supply.

**Kevin Bullis (2013)** it expresses that the overabundance of solar oriented boards is expected incompletely to critical government upheld interests in solar based board industrial facilities in china, which has come about 60% dropping the cost of solar powered boards from 2011 to 2013.

**Thilagavathi, P and Mownica, C (2014)** This Study designed to know the factor influence the customer in purchasing solar water heater (SWH). The investigation and the findings of the study covers that the maximum of the respondents face the problem of high price for the SWH and majority of respondents are satisfied about the solar water heater.

**D Abdullahi, S Suresh, S Renukappa and D Oloke (2017)** study highlights Nigeria has abundant sunshine throughout the year, making it full thirst for solar energy generation. Inadequate solar initiative's research, lack of technological knowhow, short-term policies, lack of awareness and political instability are the major barriers thatmade the implementation of solar initiatives almost impossible in Nigeria.

**Brindha, K and Sumathi, T (2017)** study shows that respondents having positive attitude towards solar water heater. To improve the utilization of solar energy government should make very strict rules and give subsidy to install the solar energy systems in their homes for domestic purpose.

**Annie Yong IngIng, et al. (2017)** focused on relationship between factors such as global and local economic factors, personal characteristics, perceived price and perceived product benefits to consumer perception towards renewable energy.

**Vikas Kumar and Bikramjit Singh Hundal (2019)** analysis validated that consumer buying behaviour is significantly determined by cost, performance and government initiatives dimensions.

However, dimensions such as eco-friendly product, information regarding product and company, environmental concern and social influence were found insignificant.

**Charles Rajesh Kumar and M.A Majid (2020)** climate change is the major drawback of renewable energy sources. The Government should take necessary steps in improving the usage of renewable energy sources. Hence, making investments economically possible with planning and efforts of various effective policies and tax incentives will conclude in social benefits above and beyond the economic advantage to enrich a renewable energy sources.

### **Research Gap**

With reference from earlier reviews and past publications, the researcher find some gap and uncovered area of the study in renewable energy sources like solar energy, there is still a research gap regarding the consumer's purchasing decision towards the usage of SEPs in Kano City, Nigeria. Some potential research gaps are lack of exploring the level of awareness and understanding of solar energy technologies, and their applications could provide insights into the factors influencing consumer purchase decision , not much focused to identify barriers and opportunities for their adoption. Moreover, very less research focused on cost-effectiveness of SEPs in comparison to traditional energy sources, initial investment, maintenance costs, and payback periods could impact consumer decision-making. Very limited studies are focused on government and policy frameworks, such as subsidies, tax incentives, and regulatory frameworks. Addressing these research gaps can contribute to a better understanding of the factors influencing consumer purchasing decision towards SEPs in Kano City, Nigeria.

### **Research Questions**

Specifically, the study seeks to address the following questions:

- How does the demographic profile (age, income, education, etc.) influence consumer purchasing decision in relation to SEPs?
- What are the awareness levels of consumer knowledge and understanding towards SEPs?
- What are the preferences and priorities of consumers regarding specific SEPs, such as solar panels, solar water heaters, or solar-powered appliances?
- What are the factors influencing consumer purchasing decisions related to SEPs in Kano City?

### **Objectives of the study**

1. To examine the level of knowledge gained about the awareness towards usage of SEPs
2. To find out the preferences and priorities of consumers regarding specific SEPs, such as solar panels, solar water heaters, or solar-powered appliances
3. To analyze the factors influencing consumer purchasing decisions related to SEPs in Kano city of Nigeria

### **Methodological Framework**

In this study, the descriptive research design was adapted through both primary and secondary source of data's are utilized. The questionnaire method was used to collect the facts as

per the objectives of the study related to consumers purchasing decision on usage of SEPs. Secondary data are utilized from various journals, magazines, periodicals, reports and daily newspapers to know the current usage pattern and practice of SEPs. By adopting convenience sampling method, the researcher collected 325 samples collected the data through survey method and applied descriptive research design for the same. The collected primary data have well sorted out through simple tables and analyzed with the help of appropriate statistical tools such as simple percentage analysis, factor analysis, Henry Garret analysis were used.

**Scope of the study**

The study can focus only on residential consumers and consider demographic variables such as age, income, education, and location to segment the consumer population within Kano City. This segmentation help identify differences in purchasing decision and preferences among different consumer groups. The study explore a range of SEPs, including but not limited to solar panels, solar water heaters, solar-powered appliances, and solar lighting systems. Understanding consumer preference towards specific product categories can provide valuable insights for market stakeholders. Understanding these factors can help identify key drivers and barriers to consumer adoption of SEPs. The research can delve into the barriers and motivations for consumers to adopt SEPs, as discussed earlier. Identifying these factors can inform strategies to overcome barriers and leverage motivations effectively.

**Data Analysis and Interpretation**

**Table - 1 Demographic profile of the sampled respondents**

<b>Demographic Segment</b>	<b>Particulars</b>	<b>No. of Respondents</b>	<b>% of Respondents</b>
Gender	Male	288	88.62
	Female	37	11.38
Age	Below 30 years	63	19.38
	31-40years	90	27.69
	41-50years	87	26.77
	Above 51	85	26.15
Educational Qualification	Diploma / Certificate Course	132	40.61
	Graduate	97	29.85
	Masters	62	19.08
	Professional	34	10.46
Occupation	Employees	167	51.38
	Professional	45	13.85
	Business	68	20.92
	Agriculture	45	13.85
	Below 200,000	125	38.46
	200,001-400,000	102	31.38

Monthly Income (in Naira)	400,001-600000	55	16.92
	Above 600,001	43	13.23
	Total of each segment	325	100.00

Source: Computed from Excel - Primary data

With reference from the above analysis on demographic profile of the respondents, the outcome shows for 325 respondents with positioning towards gender segment of sampled respondents, a high of 288 (88.62%) of them are male and low of 37 (11.38) are female, regarding age aspects a high of 90 respondents (27.69%) are between 31-40 years and low of low of 63 (19.38%) respondents are belongs to below 30 years. Next regarding educational qualification a high of 132 (40.61%) of them are diploma / certificate course holders and the low of 34% (10.46) of them holds the professional certification, regarding occupation a high of 167 (51.38%) of them are employees of private and public sectors and low 45 (13.85%) were engaged in agricultural sector. Additionally concerning about the monthly income, a high of 125 (38.46%) of the respondents have monthly income of below 200,000 naira and low of 43 (13.23%) of the respondents have above 600,000 naira as their monthly income.

**Table–2 Respondent’s awareness level towards knowledge gained on usage of solar energy products**

Particulars	Level of Awareness			
	High	Medium	Low	Total
Potential for reliable power supply	250(76.92)	44(13.54)	31(9.54)	325(100.00)
Energy independence	231(71.08)	69(21.23)	25(7.69)	325(100.00)
Safest energy to meet the present energy needs	185(56.92)	82(25.23)	58(17.8)	325(100.00)
Environmental sustainability	192(59.08)	96(29.54)	37(11.4)	325(100.00)
No carbon or pollution free	171(52.62)	97(29.85)	57(17.5)	325(100.00)
Best alternate to the electrical energy	165(50.77)	125(38.46)	35(10.8)	325(100.00)
Reflecting the modern life style	233(71.69)	68(20.92)	24(7.38)	325(100.00)
Reduced electricity costs	185(56.92)	92(28.31)	48(14.8)	325(100.00)
Connect a solar panel system for home consumption	266(81.85)	36(11.08)	23(7.08)	325(100.00)
Know some solar appliances	241(74.15)	63(19.38)	21(6.46)	325(100.00)

Source: Computed from Excel - Primary data

The awareness level towards knowledge gained on the usage of SEPs can vary among individuals and communities. From the above, it is indicated that, out of 325 respondents, 76.92% of them are high awareness about potential for reliable power supply and the low of 9.54% of them have low awareness on Potential for reliable power supply. Secondly regarding to ‘Energy independence’ a high of 71.08% of them have high level of awareness and 7.69% of the have low level of awareness, thirdly regarding to ‘Safest energy to meet the present energy needs’ a high of 56.92% have high level of awareness and 17.8% of them have low level of awareness. Next regarding to

'Environmental sustainability' a high of 59.08% have high level of awareness and 11.4% of them have low level of awareness. In addition to the above fifth and sixth component 'No carbon or pollution free' and 'Best alternate to the electrical energy' a high of between 52.62% and 50.77% are having high level of awareness and 17.5% and 10.8% of them are having low level of awareness. Next regarding 'Best alternate to the electrical energy' and 'reflecting the modern life style' a high of between 50.77% and 71.79% are having high level of awareness and 10.8% and 7.38% of them are having low level of awareness. Next regarding 'Reduced electricity costs' and 'Connect a solar panel system for home consumption' a high of between 56.92% and 81.85% are having high level of awareness and 14.8% and 7.08% of them are having low level of awareness. Finally with reference to 'Know some solar appliances' a high of 74.15% have high level of awareness and 6.46% of them have low level of awareness. By understanding the existing awareness levels, stakeholders can develop targeted awareness campaigns, educational initiatives, and information dissemination strategies to bridge any gaps and enhance consumer knowledge about SEPs.

**Table -3 Preferences and priorities on various solar energy products by the respondents**

Particulars	Total Score	Mean Score	Rank
Solar powered radio, watch and calculator	18140	82.45	10
Solar powered flashlight	19995	90.89	3
Solar ups / inverter	18907	85.94	9
Solar water heater	20462	93.01	2
Solar induction stove	19784	89.93	5
Solar lamp / lantern / light	20537	93.35	1
Solar powered fan, toys	19930	90.59	4
Solar mobile charger and solar dryer	19505	88.66	6
Solar oven solar	19028	86.49	8
Solar powered fan and solar powered pump	19143	87.01	7

Source: Computed from Excel - Primary data

From the above table -3, describes that 'Solar lamp / lantern / light' is ranked first with 93.35 mean score points. 'Solar water heater' gets 93.01 mean score points and ranked second. 'Solar powered flashlight' gets 90.89 mean score points and ranked third. In this way, 'Solar powered fan, toys' gets 90.59 mean score points and ranked fourth. It is followed by 'Solar induction stove' (89.93 mean score points), 'Solar mobile charger and solar dryer' (88.66 mean score points) and 'Solar powered fan and solar powered pump' (87.01 mean score points). It is inferred that 'Solar oven solar', 'solar ups / inverter' and 'solar powered radio, watch and calculator' are the main preferences and priorities on various SEPs by the respondents

**Table-4 Factors influencing consumer purchasing decisions related to solar energy products**

**Factors Extraction – Conservation of solar energy products**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.275	36.913	36.913	6.275	36.913	36.913	3.252	19.130	19.130
2	2.053	12.075	48.988	2.053	12.075	48.988	2.688	15.812	34.943
3	1.338	7.869	56.857	1.338	7.869	56.857	2.532	14.894	49.837
4	1.174	6.909	63.765	1.174	6.909	63.765	2.368	13.929	63.765
5	.877	5.157	68.922						
6	.840	4.940	73.862						
7	.766	4.504	78.367						
8	.691	4.065	82.432						
9	.599	3.523	85.955						
10	.563	3.310	89.265						
11	.497	2.926	92.191						
12	.411	2.420	94.611						
13	.388	2.283	96.894						
14	.328	1.932	98.826						
15	.200	1.174	100.000						
16	- 3.270E-16	- 1.924E-15	100.000						
17	- 8.580E-16	- 5.047E-15	100.000						

Extraction Method: Principal Component Analysis.

\*source: spss output

Factor analysis was carried out in SPSS to understand the prominent factors that have more impact on the solar energy conservation. 63.765 percent of the variance was explained by four components by Principal component analysis method in SPSS. The tabled results showed the components' contribution to the total variances. The first four components have significant because they have the Eigen values as more than one. The first component contributes to the 36.913 percent of the variances. When comparing with the components two, three and four this is much higher and it indicates clearly the first component plays a very critical role in the conservation of SEPs. The eigen value is also 6.275 which is very significant. The second, third and fourth components are



also contributed significantly which can be explained by the percent of variances of their contributions respectively has deduced as 12.075, 7.869 and 6.909.

**Table -5 Factors on Convention of Solar Energy Products**

S.No	Particulars	Factor 1	Factor 2	Factor 3	Factor 4
		Utility Values	Technology and influence	Environmental awareness	Promotions
Utility Values					
1	Government policies and subsidies	.926			
2	Cost of solar energy	.926			
3	Perceived usefulness of solar energy	.805			
4	Perceived ease of solar energy	.745			
Technology and influence					
5	Social influence		.683		
6	Peers influence		.678		
7	Reduces use of fossil fuel		.659		
8	Feasible technology		.634		
9	Customer service		.579		
Environmental awareness					
10	Prepares India for future			.705	
11	Attitude towards solar energy by consumer			.581	
12	Saves the environment / Eco Friendly product			.559	
13	Maintenance for solar			.542	
14	Saves money / cost effectiveness			.527	
Promotions					
15	Good Return of Investment				
16	Purchasing intentions				.920
17	Promotion and advertisement				.920

The dominant factors derived from the rotated component matrix of the factor analysis are named as utility values of the energy products, Technology and influence, Environmental awareness and Promotions. The all seventeen variables have been reduced to four factors as above by the factor analysis.

**Factor one - Utility Values** - The variables such as Government policies and subsidies, Cost of solar energy, Perceived usefulness of solar energy and Perceived ease of solar energy focus on the usefulness or the utility values when they use solar energy as their source of power consumptions. The variables have the factor loadings such as 0.926, 0.926, 0.805 and 0.745. It indicates that people opt for solar energy to use the subsidies offered by the government and to gain from the policies of the government which support using solar energy as an alternative and attractive source of power consumption.

**Factor two - Technology and influence** - The second predominant component arrived consists of the variables such as Social influence, Peers influence, Reduces use of fossil fuel, Feasible technology and Customer service with the factor loadings such as 0.683, 0.678, 0.659, 0.634 and 0.579. The statistics obtained shows the influence of peer groups and others play a critical role in moving towards SEPs. It is also understood the influence comes from technology advancement because the other three variables in the component focus on the technology shift.

**Factor three - Environmental awareness** - The third component arrived consists of the variables such as Prepares India for future, Attitude towards solar energy by consumer, Saves the environment / Eco Friendly product, Maintenance for solar and Saves money / cost effectiveness with the factor loadings such as 0.705, 0.581, 0.559, 0.542 and 0.527 respectively. The statistics obtained shows the environmental awareness has raised to significant level among the respondents which make them to use SEPs.

**Factor four – Promotions** - The fourth component arrived consists of the variables such Good Return of Investment, Purchasing intentions and Promotion and advertisement in which the later two are considerably significant with the factor loadings such as 0.920 and 0.920. The results indicate clearly that advertisements, promotions and purchase intentions are important variables in the convention of SEPs.

## Results and Discussion (Summary of Findings)

- 1. Demographic profile** – majority of sampled respondents are male at 88.62%, regarding to the age aspects a high of 27.69% are between 31-40 years, pertaining to educational qualification a high of 40.61% of them are diploma / certificate course holders, in relation to occupation a high of 51.38% of them are employees of private and public sectors. Additionally with respect to monthly income, a high of 38.46% of the respondents have monthly income of below 200,000 naira.
- 2. Awareness level on knowledge gained on solar energy products** – Out of 325 sampled respondents with reference to awareness level, mostly all ten factors (potential for reliable power supply, energy independence, safest energy to meet the present energy needs, environmental sustainability, no carbon or pollution free, best alternate to the electrical energy, reflecting the modern life style, reduced electricity costs, connect a solar panel system for home consumption, and know some solar appliances) related to usage of SEPs are between minimum of 50.77% and maximum of 81.85%, in the medium level mostly all ten factors are between

11.08% to 38.46%, in the low level awareness category the minimum of 7.08% and the maximum of 17.8% of the respondents.

3. **Preferences and priorities on various SEPs** – the result derived from Henry Garret Ranking method are Solar lamp / lantern / light with total score of 20537 and mean score of 93.35 which ranked first, Solar water heater with total score of 20462 and mean score of 93.01 which ranked second and the remaining seven products (solar powered radio, watch and calculator, solar UPS/inverter, solar induction stove, solar powered fan and toys, solar mobile charger and solar dryer, solar oven solar, solar powered fan and solar powered pump) are total scores are maximum of 19995 and minimum of 18140 with mean score of maximum of 90.89 and minimum of 82.45 which are ranked between 3 to 10.
4. **Factors influencing consumer purchasing decisions related to SEPs-** the result derived from factor analysis are out of seventeen variables under the classification of four factors like utility values, technology and influence, environmental awareness and promotions in that the priority derived are Government policies and subsidies (.926), Cost of solar energy (.926), Purchasing intentions (.920) and Promotion and advertisement(.920)

### **Suggestion and Recommendations**

1. Launch comprehensive awareness campaigns to educate consumers can be done through community workshops, public seminars, and targeted media campaigns to reach a wide audience about the benefits of SEPs usages in Kano city.
2. Implement financial incentives and support mechanisms such as subsidies, tax credits, low-interest loans, and grants to make SEPs more affordable and accessible for consumers.
3. Collaborate with financial institutions to develop specialized financing options such as loan programs, introducing favorable interest rates, and establishing partnerships with local banks to facilitate easier access to financing for consumers.
4. Encourage the development of local manufacturing capabilities for SEPs which help to reduce costs, create job opportunities, and enhance the availability of affordable and reliable SEPs within Kano city.
5. Develop clear and supportive regulations and policies such as net metering policies, and grid interconnection standards that encourage the integration of solar energy systems into the existing electricity infrastructure.
6. Provide training programs and capacity-building initiatives for local technicians and installers who can maintain, and service solar energy systems, thus boosting consumer confidence in the technology.
7. Foster partnerships and collaborations between government agencies, solar energy companies, NGOs, and other stakeholders to facilitate knowledge sharing and joint awareness campaigns, to demonstrate the benefits of solar energy in real-world scenarios.
8. Involve local communities in decision-making processes on SEPs implementation through community-based projects, cooperative solar initiatives, and involving community leaders in promoting solar energy awareness and adoption.

### Practical implications of SEPs in Kano

It is important to note that the successful implementation of SEPs in Kano City would require addressing challenges such as initial investment costs, technical expertise, policy and regulatory frameworks, and public awareness and acceptance. Collaborative efforts from the government, private sector, and local communities would be crucial for the widespread adoption and long-term sustainability of solar energy in Kano city of Nigeria.

### Conclusion

Understanding consumer purchase decision towards the usage of SEPs in Kano city, Nigeria, is crucial for promoting their adoption and achieving a sustainable energy future. Through an analysis of various factors influencing consumer preference, it becomes evident that consumers in Kano city face both challenges and barriers when considering the adoption of SEPs. The research has shed light on some analysis and interpretation through survey and suggestions are recommended to implement. Consumers in Kano City exhibit a diverse range of demographic characteristics that influence their purchasing decision making. Understanding the factors such as utility values, technology and government influence, environmental awareness and promotions enables stakeholders to develop targeted strategies to overcome barriers and leverage motivations effectively. Tailoring marketing and awareness campaigns to align with local cultural norms and values can increase consumer receptiveness. To improve the usage of SEPs in Kano City, various recommendations have been proposed few of such are providing financial incentives and strengthening local manufacturing and supply chains, establishing supportive regulations, and fostering collaborations among stakeholders. By implementing these recommendations, Kano City can unlock the potential for widespread adoption of SEPs, leading to reduced dependence on traditional energy sources, cost savings, environmental sustainability, and improved energy access for its residents.

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