

# ***The Economic Impact of Energy Poverty and Sustainable Development Goals (SDGs)***

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## **Overview**

There has been a growing interest in global energy issues and the international policies needed to conserve energy, which is important for global economic growth and achieving sustainable development goals. Countries with different economic components seek to focus on specific sectors in order to direct the course of development in a way that is in line with current changes at the local and global levels. More than 40 percent of the world's population depends on biomass energy, which uses local resources and preserves traditional and primitive forms of energy, according to the OPEC Organization for International Development (OFID). Thus, energy poverty constitutes a fundamental challenge for transforming developing countries into developed ones.

There is a debate about the possibility that this poverty will have a significant negative impact on the development path, as energy poverty is an integral part of the overall factors of underdevelopment that surround underdeveloped societies. Therefore, it is important to investigate the impact of energy poverty on economic growth and the Sustainable Development Goals (SDGs) to provide advice and recommendations to developing countries on what to do in the future to balance economic growth and reduce energy poverty.

This paper investigates the impact of energy poverty on economic growth and the Sustainable Development Goals (SDGs) in developing countries. These countries witnessed various changes in the economy, consumption and production. The main study question is; How can people get out of energy poverty in line with the seventh goal of the Sustainable Development Goals (SDG)? Then followed by several questions: 1- What is energy and what is meant by energy poverty? 2- What is sustainable development, and what are its goals? 3- How important is energy for climate and sustainable development? 4- How can the seventh goal of the sustainable development goals be achieved? To achieve the study objectives, the study assumes that: 1-there is a strong and direct relationship between energy and poverty. 2- Renewable energy is essential in achieving indicators of sustainable development.

## **Methods**

The methodology and this part consists of four procedures to obtain results showing the impact of energy poverty on economic growth and the Sustainable Development Goals (SDGs) in developing countries.

First: A questionnaire was designed to study energy poverty and the Sustainable Development Goals (SDGs) in developing countries. Second: The study chose a random sample from inside and outside the Kingdom, by distributing the questionnaire electronically. The responses reached (256) and they are distributed according to the variables of gender, academic degree, and type of job. Third, to verify the validity of the study tool represented in a questionnaire, the stability was calculated using the internal consistency method using the Cronbach's Alpha equation on the responses of the total study sample when analyzing the results. The following table shows the reliability analysis of the study scale, showing the values of the Cronbach's alpha coefficient for the study concepts.

Table 1: Cronbach's Alpha Analysis

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of Items
.915	17

Source: Authors calculations

Fourth, the statistical analysis of the degree of agreement using the statistical package for social sciences (SPSS). In order to interpret the results and find out how people can be lifted out of energy poverty, in line with the seventh goal of the Sustainable Development Goals. The following evaluation criteria were adopted: from 1 to 1.80 strongly disagree, from 1.81 to 2.60 disagree, from 2.61 to 3.40 neutral, from 3.41 to 4.20 agree, from 4.21 to 5.00 fully agree

## Results

In order to answer the research questions, this paper presents the descriptive statistics for each variable. Table 2 presents the calculated value, the arithmetic mean, standard deviations, and the significance of the calculated value.

**Table 2: Descriptive Statistics**

	N	Mean	Std. Deviation	Indication	calculated value
The first question: Is there a strong and direct relationship between energy and poverty?					
.Access to energy is critical to reducing poverty	256	4.4688	.61277	Fully agre	7
Energy poverty negatively affects economic development in the short term	256	4.4531	.79072	Fully agre	9
Decreased energy costs are a major part of the global energy landscape	256	4.5156	.73013	Fully agre	4
Many countries still subsidize fossil fuels as a way to reduce costs to consumers	256	4.0938	.80623	Agre	16
Energy conservation efforts, mostly benefiting the wealthy who .consume, and undermining, the poor	256	4.4063	.74558	Fully agre	11
Recently, international public financial flows to developing .countries to support clean energy have been declining	256	4.0625	.88340	Fully agre	17
There must be a global effort to understand the needs of the very .poor and vulnerable countries and how to address them	256	4.5625	.82842	Fully agre	3
Although the private sector finances most investments in renewable energy, public financing remains key to attracting .private capital	256	4.4062	.82545	Fully agre	12
Billions in low- and middle-income countries still do not have .access to clean fuels	256	4.4531	.77063	Fully agre	10
The second question: Is renewable energy necessary in achieving sustainable development indicators?					
Renewable energy is playing an increasingly important role in .helping countries develop modern and secure energy systems	256	4.6406	.64758	Fully agre	1
Disruptive technologies such as smart grids, smart meters, and .geospatial data systems have improved energy planning	256	4.5000	.66273	Fully agre	5
Clean energy protects organisms of all kinds, especially .endangered organisms	256	4.3906	.84235	Fully agre	13
The use of clean energy limits the formation and accumulation of .solid, liquid and gaseous wastes	256	4.4844	.81153	Fully agre	8
The level of financing remains below what is required to achieve .SDG 7, especially in the least developed countries	256	4.5000	.73030	Fully agre	6
International public flows to countries that lack financial resources to support energy transitions constitute a large part of international .cooperation	256	4.2969	.78575	Fully agre	15
.Energy is central to the development process	256	4.6250	.62622	Fully agre	2
Low-cost electricity generated from renewable sources can .provide large proportions of the world's total electricity supply	256	4.3906	.80425	Fully agre	14
Valid N (listwise)	256				

Source: Authors calculations

From the previous table, the following can be concluded:

- 1- The estimates of the study sample are in the field of the strong and direct relationship between energy and poverty. She strongly agreed with all items of the question except for the paragraph (many countries still subsidize fossil fuels as a way to reduce costs for consumers). She agreed. The arithmetic mean ranged between (4.56-4.06).
- 2- The sample's estimates in the field of renewable energy being necessary in achieving sustainable development indicators were strongly agreed on all items, where the arithmetic mean ranged between (4.64 -4.29).

The analysis of the basic data of the study hypotheses: A one-sample test was used to analyze the study data and answer its questions.

## Discussion Results

The finding shows that the level of statistical significance is equal to (0.000), which confirms that the factors mentioned for the first and second questions are statistically significant.

Overall, the results showed that there is a strong and direct relationship between energy and poverty, according to the results of the study sample. Which means that the higher the energy, the lower the poverty rate. She also explained that renewable energy is essential in achieving indicators of sustainable development, despite the high costs of its production compared to fossil energy and the difficulty of expanding its use, as its positive role in combating environmental pollution and diversifying sources of energy consumption.

## Conclusions

This paper tested the impact of energy poverty on economic growth and the Sustainable Development Goals (SDGs) in developing countries. Based on the findings of the study, it recommends the following:

- Renewable energy resources that are common to all should be invested, with the aim of achieving a green economy, through energy conservation
- Necessarily protecting renewable energy from waste and protecting fossil energy from depletion.
- Protecting the environment from pollution, especially in the oil-producing countries, and preserving the financial resources to combat the environment from pollution.
- Environmental culture should be given great importance in the educational and cognitive aspects.
- Seeking the concept of creativity that puts scientific skills and expertise in the development of the renewable energy industry, with the aim of transforming scientific and laboratory knowledge into a tangible reality that can be invested in an optimal way.
- There should be a global effort to understand the needs of the very poor and vulnerable countries and how to address them.
- Developed economies should play an active role in Africa and avoid a slow energy transition that causes Africa to lag behind global markets and miss emissions reduction targets.

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