

## Empowering Youth for Sustainable Energy Consumption

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### Abstract

This paper aims to assess the understanding and attitudes of youth towards energy conservation in Nepal and Indonesia. This research used a quantitative mixed methods approach, including questionnaires and focus group discussions with 101 Nepalese and Indonesian respondents. Qualitative data was obtained from the results of FGDs with 15 respondents from each country. The results show that the training has greatly impacted understanding related to energy conservation. Before being given the training, the level of awareness was 38%. After being given the training, it increased to 65%. The results of the FGD also show that this awareness program has opened the participants' eyes to become aware of energy saving and energy conservation, including water conservation. The study concludes that empowering young people to take action is critical to achieving sustainable energy consumption and highlights the importance of targeting consumer behavior to achieve sustainable energy savings and encourage sustainable consumption patterns. This study also provides insight into the potential of young people to encourage wise energy behavior throughout society and contribute to achieving sustainable energy consumption.

**Keywords:** Energy saving; sustainable energy; youth; energy conservation

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### Introduction

Energy is an indispensable issue in modern society to maintain the current standard of living. And therefore, energy consumption is increasing yearly, mainly from fossil fuels (Khulaemi, 2022). Energy usage at the national level still needs to be categorized as very uneconomical. It is indicated by the high ratio between the growth rate of energy consumption and the national economic growth rate, called energy elasticity (EIA, 2021). On the other hand, we are faced with the issue of global warming, which results in climate change. The increase in the earth's temperature can also cause a chain reaction worldwide, including various natural disasters. Public awareness to save energy still needs to be improved. Moreover, a series of initial studies showed that youth groups were considered to be indifferent to efforts to save energy, especially electricity. Besides feeling irresponsible for paying for electricity, young people think they don't know the reason why they have to save electricity (Md Salleh, 2016).

Energy consumption can be reduced significantly by targeting consumer behavior to achieve sustainable energy savings and promote sustainable consumption patterns. All groups, including the youth, must act to save energy. Youth have enormous potential to contribute to the energy transition in many ways, for example, through involvement in decision-making processes at local and international levels and as skilled workers supporting the development of renewable energy and energy efficiency (GFSE, 2020). The role of youth participation in energy efficiency programs needs to be addressed and utilized in providing energy consumption savings (Bulman & Ehrendreich, 2010). Youth should be a privileged target group to promote wise energy behavior throughout society. It is very important to provide understanding to youth, especially about energy-saving concerns. Young people should be a privileged target group to promote wise energy behavior throughout society. It is very important to provide understanding to the younger generation, especially regarding concern for energy savings.

The youth targeted in this research were students in Yogyakarta and Kathmandu (Nepal). Yogyakarta is famous for its dynamic youth population due to its status as a student city (Devi et al., 2019; Roostika, 2017). Yogyakarta opens up vast opportunities for students from various regions to continue their education in Yogyakarta, which has implications for high energy needs. Likewise, Nepal is one of the developing countries with the fastest rate of urbanization, and it is estimated that 1 million houses will be built in Nepal in the next decade. Awareness and capacity of MSMEs in the development sector regarding energy-efficient buildings and services is still low (SWITCH-Asia, n.d.). Kathmandu also has a youth proportion of more than 30% of the total population (UNICEF et al., 2021), (Hasibuan et al., 2022). Youth have great potential to play an active role in the energy transition because they are the generation best prepared to drive this change (Kalossaka et al., 2022). Empowering young people to act towards sustainable energy consumption is critical to sustainable development.

Focus group discussion (FGDs) were selected specifically to gain a deeper understanding of social issues by facilitating conversations among individuals who share similar experiences (Alexander et al., 2019). This research looks directly at the behavior of young people selected from Indonesia and Nepal, starting before training until they are involved in making an energy-saving video campaign.

### Methods

This research uses a mixed method: descriptive and qualitative statistics through focus group discussions. The study used questionnaires to collect data from 101 respondents in Nepal and Indonesia. The questionnaire was used to assess the respondents' understanding of energy conservation before and after training. This research uses FGDs to collect qualitative data from 15 Nepalese participants 19 Indonesian participants. Participants were distributed into 3 FGs in Nepal, each FG numbering n = 5 people. Meanwhile, in Indonesia, it is divided into 4 FGs, some numbering n=4 and n=5. Each FG is involved in a program to create awareness videos about energy conservation. Participants are given guidelines for making videos, including assessment criteria with a duration of discussion time in each group, i.e., two weeks. FG in each country received assistance from the research team. As part of the awareness program, the video-making competition has also been conducted. Participants were divided into groups with five members each and were given guidelines to make a video on energy awareness and energy conservation, including the criteria for evaluation. FGDs are particularly suitable for researching adolescents' attitudes, values, norms, and meanings revealed in discussions (Adler et al., 2019).

### Results and Discussion

#### Youth's knowledge of energy conservation

Empowering youth to be the doers in energy conservation activities plays a vital role in the sustainable future. The interview with the respondents shows that the awareness level varies among them. This various level of awareness is mainly because of the different level of knowledge about energy conservation they individually possess.

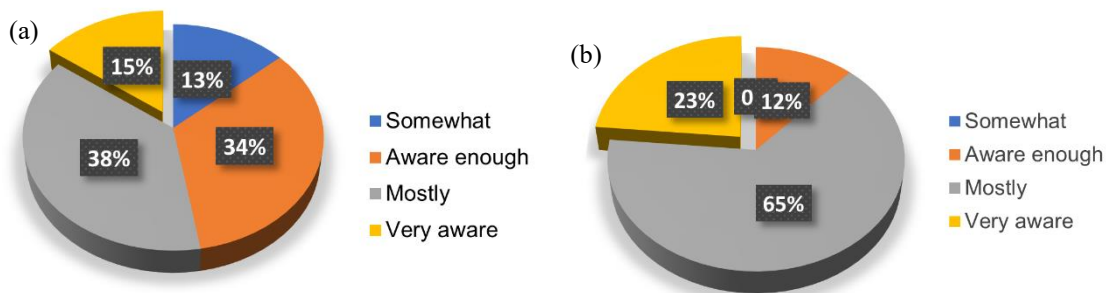
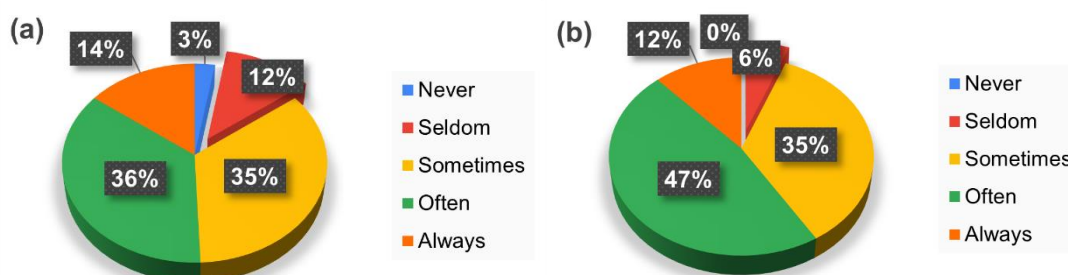


Figure 1. Level of awareness of energy costs: (a) before training; (b) after training

Figure 1 shows the level of youth awareness of energy costs before training (Figure 1a). The percentages were aware (38%), aware enough (34%), somewhat (13%), and very aware (15%). After respondents participated in the training, the percentage who were aware increased (Figure 1b), namely mostly/aware (65%), aware enough (12%), and very aware (23%). This is evidence that young people's low awareness of concern for saving energy is caused by low knowledge. Clear messages such as those conveyed in training can motivate people to reduce energy use (Żywiołek et al., 2021). Knowledge and awareness are critical to saving energy, and education and well-designed campaigns can motivate people to reduce energy use (Bishoge et al., 2021).

This study shows that before the energy conservation training, there were fewer people trying to influence others to get involved in energy conservation activities. 3% of respondents even mentioned that they had never been involved in such activities (Figure 2a). However, after the training program was conducted, the survey showed an improvement in the level of involvement in energy conservation actions among participants. The frequency of participants showing "often" involvement has increased from 36% to 47%, while the frequency of participants who never get involved in energy conservation activities has decreased from 3% to 0% (Figure 2b).



**Figure 2.** Frequency of participants' involvement in awareness on energy conservation before (2a) and after (2b) the training program.

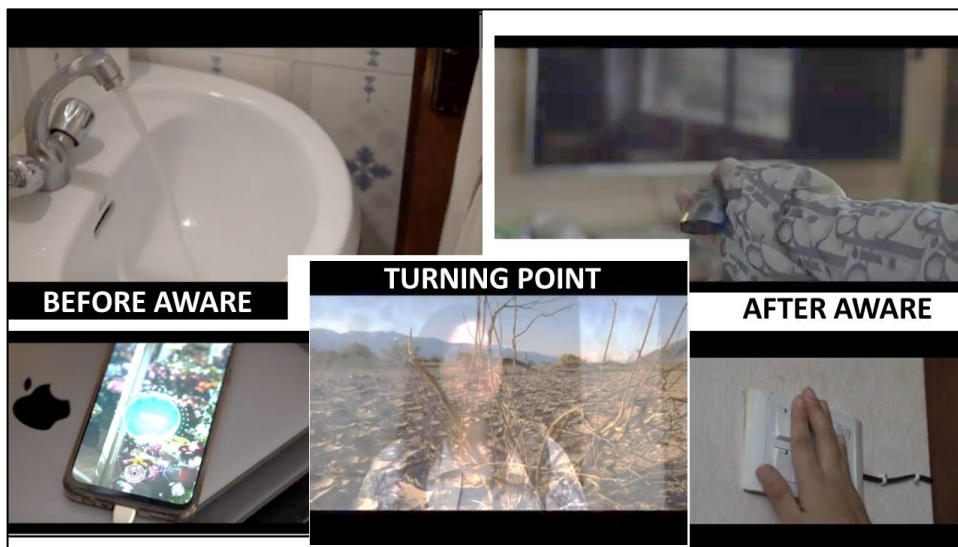
**FGD results**

The FGD participants made short videos following the guidelines on energy awareness and energy conservation videos in an energy-wise awareness program (Figure 3). Friendly competitions are held, and their work is evaluated professionally. Through FGD, the relationship between researchers and those surveyed is more open and equal (Gailing & Naumann, 2018).



**Figure 3.** Assistance in making videos

The feedback from participants in Nepal has been encouraging as they realized the importance of energy conservation to save the future. Nepal experienced a tough time during fuel crisis 2015 (Gupta, 2015). This awareness program is an eye-opener for the participants to be aware of energy saving and energy conservation, including water conservation. The video campaign created by the Nepalese group as an awareness program begins with the action of the characters (actors) turning on the cellphone charger, water tap, stove, stove, smoke exhauster, fan, and lamp even though they are not in use. When he left the house, the actor suddenly remembered world events related to drought, global warming, and poverty, until finally, the actor realized that his actions were inappropriate. The outline of the message conveyed in the video is presented in Figure 4. The video presented emphasizes that energy waste is one of the factors accelerating global warming. The waste of energy is similar to the lack of empathy for poverty and the energy crisis that occurs even in other parts of the world. Wasteful energy also hurts humanity's future.



**Figure 4.** The outline of the message conveyed in the video made by Nepali participants (Sumber: <https://www.youtube.com/watch?v=1sq9YEN1Y5E>)

The group of participants from Indonesia produced different things, in the awareness program video, the participants interviewed several sources at random to collect information about the forms of energy waste that had been carried out. Regarding their understanding of energy, at the end of the video, there are many reflections on the results of the interviews that have been conducted. Some of the actions suggested in the video are not turning off the laptop, not unplugging the phone charger when it is complete, not turning off the water tap and lights, and using private vehicles instead of public

transportation. The outline of the message conveyed in the video is presented in Figure 5.



Gambar 5. The outline of the message conveyed in the video made by Indonesia participants (Sumber: <https://www.youtube.com/watch?v=JhK9nd1-nhw> )

After the participants made an awareness program video about energy conservation, various responses were obtained from them. The evaluation revealed that most participants found the online platform suitable for use with FGDs. Due to the convenience and flexibility of participation and engagement through an online approach (Turner et al., 2021). The energy-saving campaign video towards increasing awareness was huge for the participants. These campaigns have the potential to motivate behavior change and drive significant energy savings (IEA, 2022). A detailed summary of the evaluation results after being involved in the energy-saving awareness program is presented in Table 1.

Table 1. Evaluation results after the awareness program

Responden	Opinion
1	<i>The significant benefit of participating in this campaign is that we become aware of ways to save energy</i>
2	<i>This activity provided significant benefits for me, especially in my understanding of the importance of saving and using energy wisely.</i>
3	<i>This activity also helps me with how and what steps I can apply to save energy and teaches and invites me to carry out a campaign to save energy for the people around me. This campaign is beneficial for all ages and provides learning that is easy for anyone to understand.</i>
4	<i>You can motivate yourself to be more aware of the energy you use and start having the courage to encourage others to save energy</i>
5	<i>Benefits after participating in this activity: you become more aware of how to use energy in moderation</i>
6	<i>I got a lot of benefits from taking part in this activity, not only that, I also had the opportunity to campaign for energy savings to other people where there are still few people out there who are aware of the importance of saving energy</i>
7	<i>Understand more about energy and how we can save energy for future life</i>
8	<i>It is very useful because energy is always related to whatever we do in our daily lives, so that we understand more about the importance of energy and saving energy for the future.</i>

Energy saving campaigns can overcome barriers to change and make energy saving behavior easy, convenient, relevant and socially desirable. Working with the group on creating educationally oriented videos to design youth projects has brought awareness to the wise use of energy (Hassan et al., 2009). Involvement in making video campaigns has built a sense of responsibility to save energy, which shows the effectiveness of awareness campaigns in influencing energy saving behavior (Ahmad et al., 2022).

## Conclusions

This research illustrates a significant change in the understanding of the young generation in Nepal and Indonesia regarding energy conservation after attending training. Although most respondents initially did not understand the importance of energy savings, the results of the webinars and training showed a positive shift in their perceptions. This highlights the crucial role of empowering young people to take the initiative in achieving sustainable energy consumption.

The importance of shaping consumer behavior that encourages sustainable energy consumption patterns is the focus of this research. The results provide an illustration of how providing knowledge through training can change the attitudes and actions of the younger generation regarding energy. This research emphasizes explicitly that these efforts impact individual understanding and have great potential to shape collective behavior toward greener energy consumption.

Thus, the conclusions of this study confirm that investing in increasing the understanding and involvement of the younger generation is a key step in achieving the goal of sustainable energy consumption. Joint efforts to create awareness of the importance of energy conservation among the younger generation can be the key to success in facing the challenges of climate change and achieving energy consumption patterns that support sustainability in the future.

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