

# Chapter 3

## The Role of Green Sukuk for Sustainable Energy Production

**Hasan Dincer**

*Istanbul Medipol University, Turkey*

**Serhat Yüksel**

*Istanbul Medipol University, Turkey*

**Hüsne Karakuş**

 <https://orcid.org/0000-0003-1354-9580>

*Istanbul Medipol University, Turkey*

### ABSTRACT

*Renewable energy sources are clean energy sources that meet the energy needs in a sustainable way. Therefore, it is necessary to invest in renewable energy sources. However, there are some difficulties in renewable energy investments. It has problems such as high initial installation cost, underdeveloped technological infrastructure, and insufficient financial support. Several financial products are being developed in order to overcome the mentioned difficulties. In this context, the purpose of this study is to explain the role of green sukuk in the financing of renewable energy investments. Depending on this purpose, the study has been examined with a literature review. The production of renewable energy sources can be encouraged with green sukuk. However, green sukuk is an advantage for Islamic companies that want to realize environmental projects. On the other hand, it offers the opportunity to the environmentally friendly Islamic investors to evaluate their savings.*

### INTRODUCTION

Renewable energy sources are among the energy types that are inexhaustible and renew themselves in nature. In this context, it meets the energy demand uninterruptedly and ensures energy supply security. On the other hand, renewable energy sources are clean energy. It reduces the carbon emissions caused by fossil resources (Zhong et al., 2020). Therefore, it has a positive effect on the climate. However, it

DOI: 10.4018/978-1-7998-8900-7.ch003

lowers the import dependency of countries that are dependent on foreign countries in energy. It promotes domestic energy production in countries. This situation positively affects the current account balance of countries (Ubay and Karakuş, 2020). In this context, renewable energy resources are important in terms of ensuring the social and economic welfare of the countries. Because it increases the social welfare as it provides the energy demand and energy supply security in an uninterrupted manner. At the same time, it increases economic prosperity in countries as it nationalizes energy production (Zhu et al., 2020; Zhao et al., 2021). Therefore, renewable energy investments should be encouraged.

Renewable energy is an environmentally friendly energy source. However, some systems need to be developed in order to benefit from renewable energy sources. In this context, there are many difficulties in renewable energy investments (Li et al., 2020; Xie et al., 2021). The initial setup costs of renewable energy investments are high. At the same time, the technological infrastructure used in renewable energies is not very developed. This situation cannot provide the targeted efficiency from energy. However, renewable energy sources are affected by seasonal changes (Li et al., 2021; Zhou et al., 2021). This situation increases the cost of the systems. Therefore, the funds provided are important in promoting renewable energy investments. Government incentives fund renewable energy investments. However, tax cuts and low interest loans by banks encourage renewable energy investments (Dixon et al., 2016). On the other hand, it is important to consider financial instruments in the financing of renewable energy investments.

Sukuk is an Islamic instrument that firms or entrepreneurs export to provide financing. The instrument in question is issued based on the asset or the project. In this context, the asset or project constitutes a guarantee for investors. The issuing party is a special purpose organization. The resource institution transfers a certain part of its income from its assets to a special purpose institution until a certain maturity in order to obtain financing (Halim et al., 2017). The special purpose organization, on the other hand, structures the income as a certificate. It sells the structured certificates to investors and transfers the funds obtained to the source institution. The resource institution meets the funding needs in the short term. In addition, the resource institution pays the lease to the special purpose company until the agreed maturity. Income from the rent payment is distributed to investors in proportion to their shares. At the end of maturity, the special purpose organization sells the revenues it holds back to the originating organization. In this way, the principal capital obtained from the investors at the beginning is paid back to the investors in proportion to their shares (Smaoui and Khawaja, 2017).

There are some types of sukuk that have been developed based on assets or projects. However, sukuk types such as ijara, mudaraba, musharaka, murabaha and selem are often used. There is a new instrument that is similar to the operating structure of the mentioned types of sukuk but attaches importance to the financing of environmentally friendly and renewable energy projects. Green sukuk is an Islamic instrument created to finance environmental and renewable energy investments. Green sukuk, which is the same as the functioning of the sukuk market, focuses only on investors and resource institutions that are Islamic and environmentally sensitive. Thanks to green sukuk, renewable energy production is encouraged. However, it provides funds to Islamic investors who want to make environmental projects. On the other hand, considering environmentally sensitive non-Islamic investors increases the investor portfolio (Abubakar and Handayani, 2020). Considering all these issues, green sukuk is important in financing renewable energy investments. The aim of this study is to explain the role of green sukuk in the financing of renewable energy investments.

This study consists of 5 parts. This section includes basic information on renewable energy, sukuk and green sukuk. In the second part of the study, the literature will be reviewed and the studies on green sukuk will be mentioned. In the third part of the study, theoretical information about sukuk will

12 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/the-role-of-green-sukuk-for-sustainable-energy-production/286436](http://www.igi-global.com/chapter/the-role-of-green-sukuk-for-sustainable-energy-production/286436)

## Related Content

---

### WSN-Based Information Dissemination for Optimizing Irrigation Through Prescriptive Farming

Balakrishna K. (2020). *International Journal of Agricultural and Environmental Information Systems* (pp. 41-54).

[www.irma-international.org/article/wsn-based-information-dissemination-for-optimizing-irrigation-through-prescriptive-farming/262597](http://www.irma-international.org/article/wsn-based-information-dissemination-for-optimizing-irrigation-through-prescriptive-farming/262597)

### An Ontology-Based Framework for Authoring Tools in the Domain of Sustainable Energy Education

Sotirios Karetsos, Dias Haralampopoulos and Konstantinos Kotis (2012). *New Technologies for Constructing Complex Agricultural and Environmental Systems* (pp. 120-142).

[www.irma-international.org/chapter/ontology-based-framework-authoring-tools/63758](http://www.irma-international.org/chapter/ontology-based-framework-authoring-tools/63758)

### Evolutionary Bayesian Belief Networks for Participatory Water Resources Management under Uncertainty

R. Farmani, D.A. Savic, H.J. Henriksen, J.L. Molina, R. Giordano and J. Bromley (2011). *Handbook of Research on Hydroinformatics: Technologies, Theories and Applications* (pp. 156-171).

[www.irma-international.org/chapter/evolutionary-bayesian-belief-networks-participatory/45444](http://www.irma-international.org/chapter/evolutionary-bayesian-belief-networks-participatory/45444)

### Trust-Based Opportunistic Network Offloaders for Smart Agriculture

Prince Sharma, Shailendra Shukla and Amol Vasudeva (2021). *International Journal of Agricultural and Environmental Information Systems* (pp. 37-54).

[www.irma-international.org/article/trust-based-opportunistic-network-offloaders-for-smart-agriculture/273709](http://www.irma-international.org/article/trust-based-opportunistic-network-offloaders-for-smart-agriculture/273709)

### The Role of Green Sukuk for Sustainable Energy Production

Hasan Dinçer, Serhat Yüksel and Hüsne Karaku (2022). *Disruptive Technologies and Eco-Innovation for Sustainable Development* (pp. 42-55).

[www.irma-international.org/chapter/the-role-of-green-sukuk-for-sustainable-energy-production/286436](http://www.irma-international.org/chapter/the-role-of-green-sukuk-for-sustainable-energy-production/286436)