

## Documents

Nor, B.A.<sup>a</sup>, Yusof, Y.<sup>b</sup>, Warsame, Z.A.<sup>c</sup>

**Exploring the Potential for Renewable Energy Consumption in Reducing Environmental Degradation in Somalia**  
(2024) *International Journal of Energy Economics and Policy*, 14 (5), pp. 643-650.

**DOI:** 10.32479/ijeep.15508

<sup>a</sup> Faculty of Management Science, SIMAD University, Mogadishu, Somalia

<sup>b</sup> Department of Finance, Kulliyah of Economics and Management Sciences, International Islamic University Malaysia, Selangor, Malaysia

<sup>c</sup> Faculty of Economics, SIMAD University, Mogadishu, Somalia

### Abstract

Somalia has a relatively small amount of forested land, covering only about 10.5% of the nation's total land area. The reason for this is that much of the country's tropical forests, which were originally located along the Shabelle and Jubba rivers reclaimed agricultural land. This study examines the relationship between environmental degradation and various variables, including renewable energy consumption, GDP, FDI inflow, and population. The study employed ARDL model to analyze the econometric relationship between various latent variables. This study found that that in Somalia, renewable energy consumption, GDP and FDI have both short-term and long-term negative and statistically significant effects on environmental degradation. However, FDI exhibits a positive and significant relationship with environmental degradation in both the short and long run. The findings of the study suggest that there is a positive correlation between renewable energy consumption and economic growth, and a negative correlation between renewable energy consumption and environmental degradation. The study also suggests that FDI may play a role in promoting renewable energy consumption and economic growth. The limitation of this study is that the study does not control for all of the potential factors that could influence the relationship between the variables. For example, the study does not control for the level of corruption in Somalia, which could potentially affect both economic growth and environmental degradation. Future research should address the limitations of this study by controlling for all of the potential factors that could influence the relationship between the variables. © 2024, Econjournals. All rights reserved.

### Author Keywords

Energy Consumption; Environmental degradation; FDI; GDP; Somalia

### Funding details

SIMAD UniversitySU

This research was fully funded by Simad University.

### References

- Ahmed, Z., Wang, Z., Ali, S.  
**Investigating the non-linear relationship between urbanization and CO<sub>2</sub> emissions: An empirical analysis**  
(2019) *Air Quality, Atmosphere and Health*, 12 (8), pp. 945-953.
- Awan, A.M., Azam, M.  
**Evaluating the impact of GDP per capita on environmental degradation for G-20 economies: Does N-shaped environmental Kuznets curve exist?**  
(2022) *Environment, Development and Sustainability*, 24 (9), pp. 11103-11126.
- Bekhet, H.A., Othman, N.S.  
**Impact of urbanization growth on Malaysia CO<sub>2</sub> emissions: Evidence from the dynamic relationship**  
(2017) *Journal of Cleaner Production*, 154, pp. 374-388.
- Cheng, C., Ren, X., Wang, Z., Yan, C.  
**Heterogeneous impacts of renewable energy and environmental patents on CO<sub>2</sub> emission evidence from the BRIICS**  
(2019) *Science of the Total Environment*, 668, pp. 1328-1338.
- Chopra, R.  
**Environmental degradation in India: Causes and consequences**  
(2016) *International Journal of Applied Environmental Sciences*, 11 (6), pp. 1593-1601.

- Dawson, B., Spannagle, M.  
**United Nations framework convention on climate change (UNFCCC)**  
(2008) *The Complete Guide to Climate Change*, pp. p392-p403.  
United Kingdom: Routledge
- Dietz, T., Rosa, E.A.  
**Effects of population and affluence on CO<sub>2</sub> emissions**  
(1997) *Proceedings of the National Academy of Sciences of the United States of America*, 94 (1), pp. 175-179.
- Djellouli, N., Abdelli, L., Elheddad, M., Ahmed, R., Mahmood, H.  
**The effects of non-renewable energy, renewable energy, economic growth, and foreign direct investment on the sustainability of African countries**  
(2022) *Renewable Energy*, 183, pp. 676-686.
- Dubow, A.Z.  
**Somalia Needs Its Trees to Restore Landscapes and Livelihoods**  
(2022),  
World Bank Blogs
- Hu, H., Xie, N., Fang, D., Zhang, X.  
**The role of renewable energy consumption and commercial services trade in carbon dioxide reduction: Evidence from 25 developing countries**  
(2018) *Applied Energy*, 211, pp. 1229-1244.
- Huo, T., Li, X., Cai, W., Zuo, J., Jia, F., Wei, H.  
**Exploring the impact of urbanization on urban building carbon emissions in China: Evidence from a provincial panel data model**  
(2020) *Sustainable Cities and Society*, 56, p. 102068.
- Kahia, M., Ben Jebli, M., Belloumi, M.  
**Analysis of the impact of renewable energy consumption and economic growth on carbon dioxide emissions in 12 MENA countries**  
(2019) *Clean Technologies and Environmental Policy*, 21 (4), pp. 871-885.
- Kasperowicz, R.  
**Economic growth and CO<sub>2</sub> emissions: The ECM analysis**  
(2015) *Journal of International Studies*, 8 (3), pp. 91-98.
- Khan, M.K., Teng, J.Z., Khan, M.I., Khan, M.O.  
**Impact of globalization, economic factors and energy consumption on CO<sub>2</sub> emissions in Pakistan**  
(2019) *Science of the Total Environment*, 688, pp. 424-436.
- Lau, L.S., Choong, C.K., Eng, Y.K.  
**Investigation of the environmental Kuznets curve for carbon emissions in Malaysia: Do foreign direct investment and trade matter?**  
(2014) *Energy Policy*, 68, pp. 490-497.
- Munir, Q., Lean, H.H., Smyth, R.  
**CO<sub>2</sub> emissions, energy consumption and economic growth in the ASEAN-5 countries: A cross-sectional dependence approach**  
(2020) *Energy Economics*, 85, p. 104571.
- Nassani, A.A., Aldakhil, A.M., Abro, M.M.Q., Zaman, K.  
**Environmental Kuznets curve among BRICS countries: Spot lightning finance, transport, energy and growth factors**  
(2017) *Journal of Cleaner Production*, 154, pp. 474-487.
- Nurgazina, Z., Ullah, A., Ali, U., Koondhar, M.A., Lu, Q.  
**The impact of economic growth, energy consumption, trade openness, and financial development on carbon emissions: empirical evidence from Malaysia**  
(2021) *Environmental Science and Pollution Research*, 28 (42), pp. 60195-60208.

- Omri, A., Euchè, J., Hasaballah, A.H., Al-Tit, A.  
**Determinants of environmental sustainability: Evidence from Saudi Arabia**  
(2019) *Science of the Total Environment*, 657, pp. 1592-1601.
- Pesaran, M.H., Shin, Y.  
(1995) *An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis*, 9514.  
Cambridge, UK: Department of Applied Economics, University of Cambridge
- Pesaran, M.H., Shin, Y., Smith, R.J.  
**Bounds testing approaches to the analysis of level relationships**  
(2001) *Journal of Applied Econometrics*, 16 (3), pp. 289-326.
- Romero, J.P., Gramkow, C.  
**Economic complexity and greenhouse gas emissions**  
(2021) *World Development*, 139, p. 105317.
- Saboori, B., Sulaiman, J.  
**Environmental degradation, economic growth and energy consumption: Evidence of the environmental Kuznets curve in Malaysia**  
(2013) *Energy Policy*, 60, pp. 892-905.
- Shahbaz, M., Nasreen, S., Abbas, F., Anis, O.  
**Does foreign direct investment impede environmental quality in high-, middle-, and low-income countries?**  
(2015) *Energy Economics*, 51, pp. 275-287.
- Shao, Y.  
**Does FDI affect carbon intensity? New evidence from dynamic panel analysis**  
(2018) *International Journal of Climate Change Strategies and Management*, 10 (1), pp. 27-42.
- Sharma, S.S.  
**Determinants of carbon dioxide emissions: Empirical evidence from 69 countries**  
(2011) *Applied Energy*, 88 (1), pp. 376-382.
- Stern, D.I.  
**The rise and fall of the environmental kuznets Curve**  
(2004) *World Development*, 32 (8), pp. 1419-1439.
- Wang, W.Z., Liu, L.C., Liao, H., Wei, Y.M.  
**Impacts of urbanization on carbon emissions: An empirical analysis from OECD countries**  
(2021) *Energy Policy*, 151, p. 112171.
- (2012) *Overview of Harvesting Non-productive Rubber Trees and Charcoal Production in Lower Shabelle Region*,  
United States: World Bank
- (2022) *Somalia Needs Its Trees to Restore Landscapes and Livelihoods*,
- York, R., Rosa, E.A., Dietz, T.  
**STIRPAT, IPAT and ImPACT: Analytic tools for unpacking the driving forces of environmental impacts**  
(2003) *Ecological Economics*, 46 (3), pp. 351-365.
- Zhang, C., Zhou, X.  
**Does foreign direct investment lead to lower CO<sub>2</sub> emissions? Evidence from a regional analysis in China**  
(2016) *Renewable and Sustainable Energy Reviews*, 58, pp. 943-951.
- Zhu, H., Duan, L., Guo, Y., Yu, K.  
**The effects of FDI, economic growth and energy consumption on carbon emissions in ASEAN5: Evidence from panel quantile regression**  
(2016) *Economic Models*, 58, pp. 237-248.

**ISSN:** 21464553

**Language of Original Document:** English

**Abbreviated Source Title:** Int. J. Energy Econ. Policy

2-s2.0-85204345646

**Document Type:** Article

**Publication Stage:** Final

**Source:** Scopus

---

**ELSEVIER**

Copyright © 2024 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

 **RELX Group™**