

Technology innovation and economic expansion likely to curtail India's transition to renewable energy

New study depicts gloomy picture for India's plans to reduce carbon emissions and boost reliance on renewable and clean energy.

SHARJAH, EMIRATE OF SHARJAH, UNITED ARAB EMIRATES, November 18, 2024 /

EINPresswire.com/ -- India, the world's most populous country, could be increasing instead of reducing its dependence on fossil fuels and other non-renewable energy sources in the long-term, a new study has found.

The study, published in the journal *Energy*, depicts a somewhat gloomy picture for India's future in terms of reducing carbon emissions by boosting its reliance on renewable energy. (Original Source URL: <https://www.sciencedirect.com/science/article/abs/pii/S0360544224027130>)

The study examines both short-term and long-term factors affecting consumption of renewable and non-renewable sources of energy in India, Asia's third largest economy and the world's third largest emitter of fossil fuels.

The study is the product of collaboration among scientists from Universities in Saudi Arabia, Bangladesh, the United Arab Emirates, Turkey, Taiwan, and Uzbekistan.

The scientists note that India, despite being the most populated country in the world and the world's third largest electricity consumer, "is incapable of meeting its domestic energy demand with indigenous supplies" turning it into a heavy importer of oil and coal.

The study provides statistics portraying India as a country which predominantly depends on fossil fuels or non-renewables to meet its consumption of energy. "In 2021, more than 65% of India's final energy consumption portfolio was captured by non-renewable energy resources while coal accounted for 75.3% of India's total electricity output in 2015," they write.

The scientists explore a host of factors affecting India's consumption of non-renewable sources of energy like coal and the consumption of renewable sources of energy like solar energy.

They write, "A novel attempt is made to not only assess the macroeconomic drivers of annual per capita consumption levels of non-renewable and renewable energy but also to understand

whether these drivers reduce or enlarge the vast differences between India's non-renewable and renewable energy consumption levels.

“While existing studies have either investigated how India's Non-renewable Energy Consumption (NREC) level is determined or have evaluated factors affecting Renewable Energy Consumption (REC) levels within the country, no empirical study is available regarding the macroeconomic factors influencing the NREC-REC divide from India's perspective.”

The scientists make clear that their target is not to criticize India's energy consumption policies but rather “to assist the Indian government in designing proper energy security policies with particular emphasis on boosting clean energy using propensities across India.”

They find that India's impressive leap in the global technology innovation, a testament to the country's technological growth and development, could play a negative role in its attempts to lean more on clean energy.

Technological innovation is generally believed to decrease a country's reliance on fossil fuels and other non-renewable sources of energy; however, the scientists discover that at least in the short-term India's advances in technological innovation will boost its reliance on non-renewable energy consumption.

In the short term, India may benefit from its integration with the world economy and engaging in financial globalization to reduce reliance on non-renewables and slash current rate of fossil carbon emissions, already among the highest in the world, the scientists say.

But this bit of good news comes with a warning that without adequate measures to curtail carbon emissions, India's expansion of international trade and further integration into financial globalization and development would “boost NREC in the long-run,” the scientists maintain.

If past trends of energy consumption and carbon emissions are any indication, India's path to reduce dependence on fossil fuels is still long. The authors mention “multiple constraining factors delaying the RET [Renewable Energy Transition] in India,” emphasizing the country's “poor state of infrastructure and insufficient financial investment” as among the major ones.

“Moreover, it is worth noting that such failure to undergo the RET has further manifested the need for the Indian government to import coal for generating electricity and meeting the local energy demand.”

The scientists “alarmingly” cite statistics demonstrating “that not only has India failed to undergo the Renewable Energy Transition (RET) within its power sector, but also the nation's fossil fuel reliance has persistently increased over time.

“Notably, in 1990, renewable energy accounted for 53% of India's final energy consumption

portfolio; however, this share dropped to below 35% by 2021.”

LEON BARKHO

University Of Sharjah

+971 50 165 4376

[email us here](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/761654326>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2024 Newsmatics Inc. All Right Reserved.