AN ASSESSMENT OF THE ENERGY GROWTH NEXUS IN INDIA: A SUSTAINABILITY PERSPECTIVE

HARINI SIVARAM

A project report submitted

***in partial fulfillment of the requirement for the award of the degree* of**

MASTER OF ARTS

IN

FINANCIAL ECONOMICS

May 2024

MADRAS SCHOOL OF ECONOMICS

Chennai – 600025

ABSTRACT

This research investigates the impact of renewable and non-renewable energy consumption on economic growth in India from 1990 to 2019, with a focus on sustainability. Using cointegration tests and Vector Error Correction Model (VECM), the study finds a long-run positive relationship between renewable energy consumption, total natural resources rents, fossil fuel energy consumption, and economic growth. Specifically, renewable energy consumption is associated with decreased CO2 emissions, while natural resources rents and fossil fuel energy consumption lead to increased CO2 emissions in the long run. These results underscore the importance of reducing non-renewable energy consumption and promoting renewable energy policies for sustainable economic development in India. The study recommends encouraging household adoption of renewable energy technologies through subsidies and implementing differential pricing mechanisms for industries to incentivize the shift towards renewable energy sources. Despite the contribution to energy economics literature, the study has limitations related to model misspecification and the chosen time period. The study recommends investing in renewable energy capacity, creating awareness to reduce non-renewable energy consumption, encouraging household adoption of renewable energy technologies through subsidies and implementing differential pricing mechanisms for industries to incentivize the shift towards renewable energy sources and foster international collaboration to learn from global best practices.

Keywords: Renewable Energy, Non-Renewable Energy, Economic Growth, GDP, Sustainable Economic Growth, Green GDP