

Electric Vehicles to Drive Sustainable Development: A Bibliometric Analysis and Detailed Overview

Athiyyah Rofifah Salsabila¹, Lutvia Restu Putriana², Khafidzah Sausan Sakhilla³,
Ahmad Adam⁴

^{1,2,3,4}Universitas Negeri Semarang, Indonesia

Corresponding Author : arsabila22@students.unnes.ac.id,

Abstract

Sustainable development is an important thing that has an impact on the future needs. Electric vehicles are mainly due to the depletion of fossil fuels and rising fuel costs, public awareness and desire to combat climate change, technological advances and commercial effectiveness of renewable energy technologies, advanced technologies of electric motors and drive systems, and advances in supporting sustainable development. In order to gain a comprehensive view of sustainable development and electric vehicle (EV) technology and understand the current research emphasis, this study evaluates the most relevant themes related to those topics through bibliometric analysis using the keywords “sustainable development” and “electric vehicle” as input. The Web of Scopus database was used as it is considered ideal for bibliometric analysis. The VOSviewer software was used as a bibliometric analysis tool to visualize the network of authors, countries, journals, and keywords. The analysis conducted in September, 2024, retrieved a total of 5,418 documents. The subject area of the documents comes from environmental science and economic fields. The results show that for 30 years, the number of publications on SDs and EVs has grown non-significantly. The keyword analysis shows studies on SDs and has focused on EVs topic. Research on this topic can be developed in the future by adding relevant keywords such as those in clusters that intersect with the main cluster. There are several groups of researchers studying the relationship between electric vehicles and sustainable development with expert contributions and perspectives. China is the leading country in this topic research, contributing the largest number of publications in the world. The bibliometric analysis presented shows the publication trends of those topics and provides relevant information on the main themes studied about sustainable development and electric vehicles.

Keywords: electric vehicle, sustainable development, bibliometric analysis, Vosviewer