

Renewable Energy Development Through the Utilization of Palm Oil Mill Effluent (POME) in Indonesia

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Introduction

- This research aims to find out how to develop renewable energy through the utilization of Palm Oil Mill Effluent (POME) in Indonesia.
- POME is a byproduct of the palm oil industry, originating from the condensate of the sterilization or extraction process
- The Importance of POME can reduce dependence on conventional energy sources
- **Indonesia's Potential**

Stands as the largest producer and exporter of palm oil globally

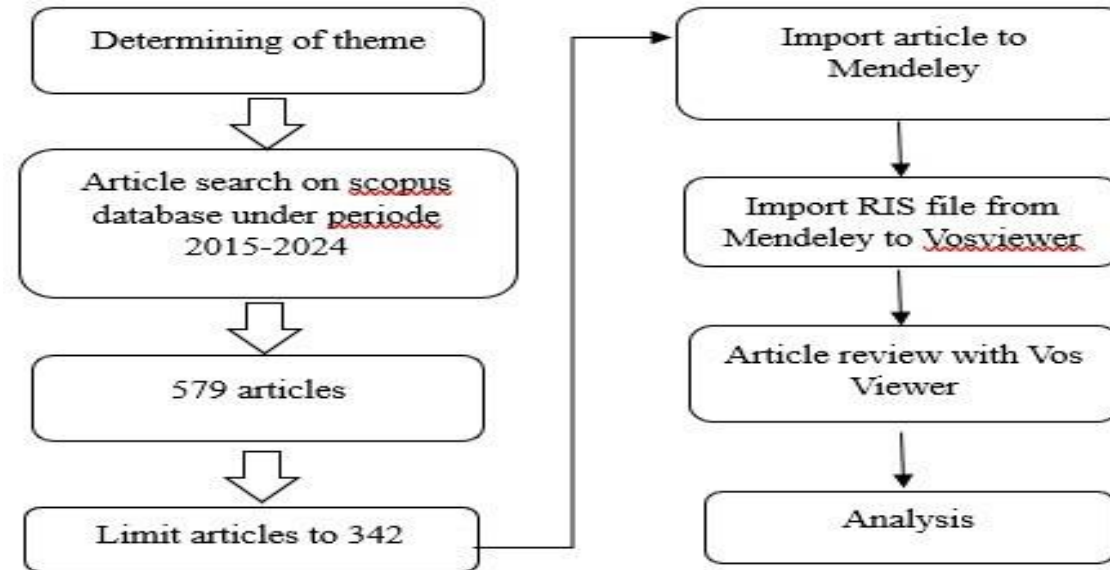
The strategic utilization of POME as a renewable energy resource offers a valuable opportunity for the country

Indonesia can effectively tackle environmental challenges and contribute to the broader goal of sustainable energy development

Method



- This research used a qualitative method



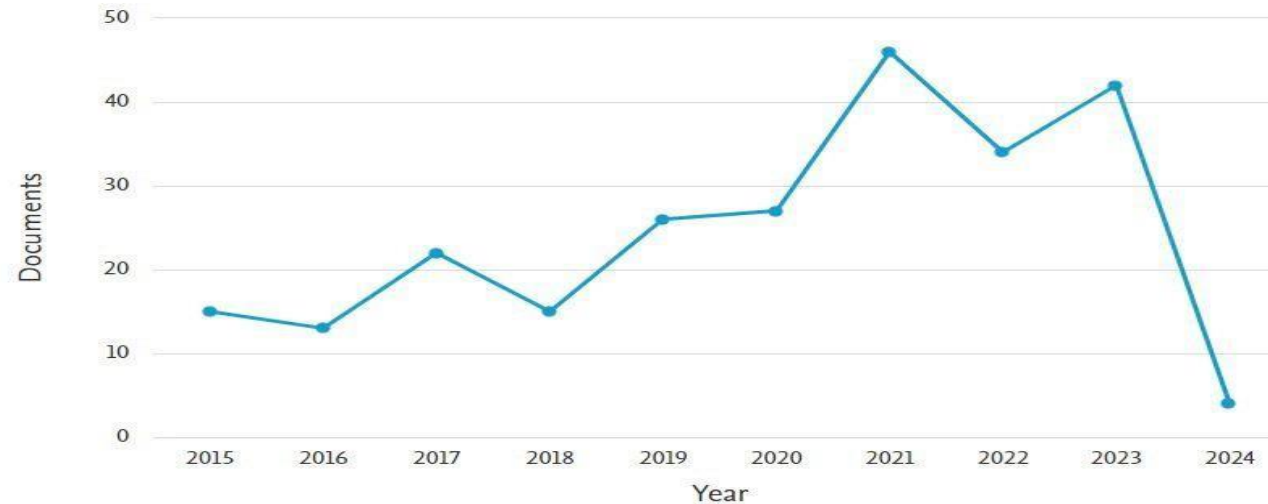
Collecting data from Scopus, keywords "Renewable energy, palm oil waste"

- Using Vos viewer to analyze the data

Result and Discussion

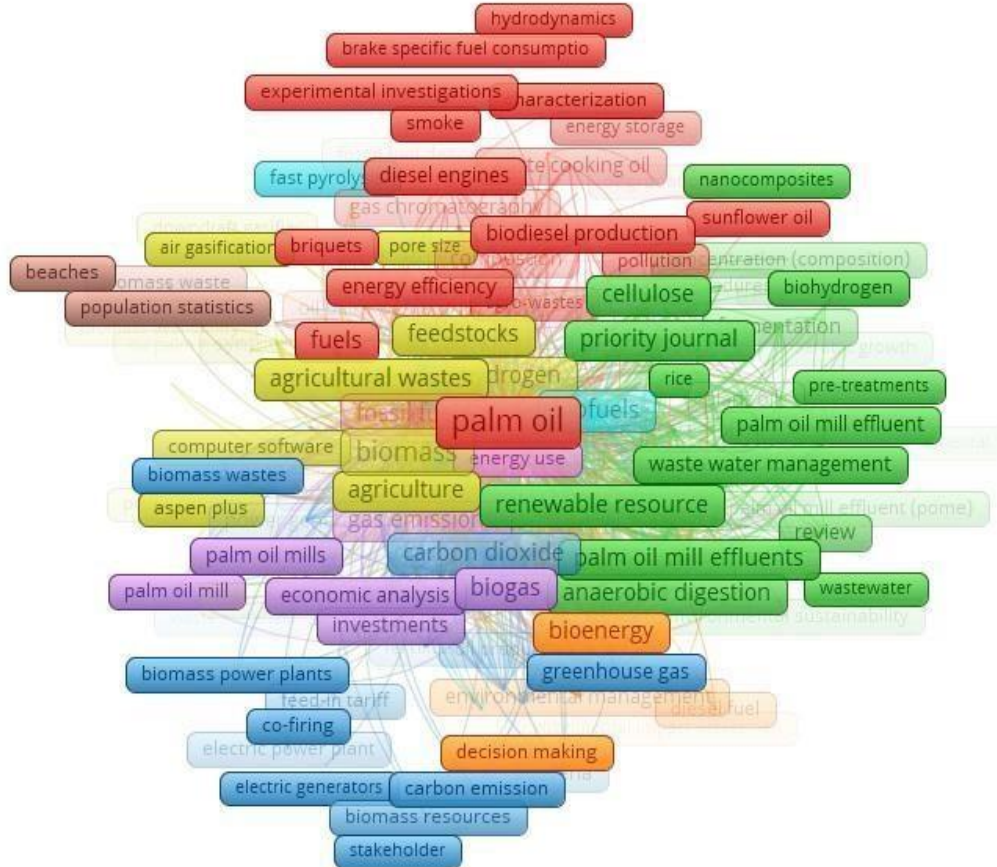
- There are 342 articles published on the scopus data base, from 2015-2024

Documents by year



- Publications will continue to grow because topic of renewable energy development often discussed every year.

Result and Discussion



Cluster	Keywords
Cluster 1	Renewable energy resources, energy efficiency, energy production, fuel
Cluster 2	Environmentally sustainable, biomass conversion, carbon source, butanol
Cluster 3	Biomass, greenhouse gas, electric generators, carbon emission

- Cluster 1, potential for energy resources (biodiesel), fuel for boat engines and agricultural machines
- Cluster 2, to achieve sustainability, the Indonesian government has organized initiatives (B30), and strengthened the capacity
- Cluster 3, shows that POME can be used for electric generation (POME-to-electricity)

Conclusion

- The results show that studies related to renewable energy development are important to be widely presented. Overall, the visualization results, present a comprehensive overview of the multifaceted roles of palm oil in the context of renewable energy.
- Highlights the function of palm oil as a versatile resource (fuel, electric generators)
- However, palm oil base sources have not produced adequate results, due to a lack of policy, and technology utilized in the process



Reference

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