

## ABSTRAK

Pemanfaatan teknologi photovoltaic (PV) di Indonesia menghadapi tantangan meskipun potensi energi surya nasional mencapai 3.294 GW. Realisasi pemanfaatan PLTS atap masih rendah. Berdasarkan masalah ini, penelitian ini bertujuan untuk mengidentifikasi faktor pendorong dan penghambat dalam penerapan teknologi Solar *Photovoltaic* (PV), serta menganalisis hubungan sebab-akibat antar faktor tersebut menggunakan metode DEMATEL untuk menghasilkan *Network Relationship Map* (NRM). Selanjutnya, penelitian menentukan bobot prioritas faktor melalui pendekatan *Analytical Network Process* (ANP). Berdasarkan hasil analisis hubungan dan prioritas faktor, penelitian ini mengembangkan strategi untuk mengatasi hambatan serta mempercepat adopsi teknologi *photovoltaic*. Berdasarkan tinjauan literatur, penelitian ini menggabungkan model penelitian dari Cerdá et al., 2024; Islami et al., 2021; dan model dari Nsude et al., 2025. Kuesioner didistribusikan kepada sepuluh *expert dari* akademisi, praktisi industri, dan ESDM. Pengolahan data dilakukan menggunakan Dematel based ANP. Hasil penelitian ini menunjukkan bahwa tiga faktor prioritas pada faktor penghambat adalah ketidaksesuaian regulasi, inersia institusi, dan kompleksitas teknologi dan tiga faktor prioritas pendorong pada faktor pendorong adalah tekanan kebijakan iklim dan dekarbonisasi, penurunan biaya investasi, dan penerapan pajak karbon.

**Kata kunci : *Photovoltaic*, Dematel berbasis ANP, Faktor Penghambat, Faktor Pendorong.**

## ABSTRACT

*The utilization of photovoltaic (PV) technology in Indonesia faces significant challenges despite the country's substantial solar energy potential of 3.294 GW. The realization of rooftop PV adoption remains low. In response to this issue, this study aims to identify the driving and inhibiting factors in the implementation of Solar Photovoltaic (PV) technology and to analyze the cause-effect relationships among these factors using the DEMATEL method to construct a Network Relationship Map (NRM). Furthermore, the study determines the priority weights of these factors through the Analytical Network Process (ANP). Based on the relationship analysis and factor prioritization, the study formulates key strategies to address existing barriers and accelerate the development of photovoltaic technology. Drawing on a literature review, this research incorporates models from Cerdá et al. (2024), Islami et al. (2021), and Nsude et al. (2025). Questionnaires were distributed to ten experts consisting of academics, industry practitioners, and representatives from the Ministry of Energy and Mineral Resources (ESDM). Data analysis was conducted using DEMATEL-based ANP. The results indicate that the three priority inhibiting factors are regulatory misalignment, institutional inertia, and technological complexity, while the three priority driving factors are climate policy and decarbonization pressure, reduction in investment cost, and the implementation of a carbon tax.*

**Keywords: *Photovoltaic*, DEMATEL-based ANP, Inhibiting Factors, Driving Factors.**