# Article information:

Coal vs. renewables: Least-cost optimization of the Indonesian power sector - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0973082622000643>

# Article summary:

1. This article examines the potential role of renewable energies in Indonesia's power sector, and develops a cost optimization model to assess capacity expansion, electricity generation, resulting CO2 emissions, and total system costs until 2040.

2. The study finds that official power sector development plans would lead to higher electricity generation costs due to overcapacity and negligence of future least-cost technologies, especially solar PV.

3. Carbon pricing as low as 5 USD per ton of CO2 would make coal an economically unviable alternative and foster the integration of biomass and geothermal power plants.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

This article is generally reliable in its analysis of the potential role of renewable energies in Indonesia's power sector. It provides a comprehensive overview of the current state of the Indonesian power sector, including its reliance on fossil fuels such as coal, and examines how cost reductions for renewables could be integrated into the country's energy mix. The article also provides a detailed description of the modelling methodology used to assess different scenarios for capacity expansion, electricity generation, resulting CO2 emissions, and total system costs until 2040.

The article does not appear to have any major biases or unsupported claims. It presents both sides equally by examining both official Indonesian power development plans as well as cost-optimized pathways for integrating higher shares of RE into the Indonesian power system. Furthermore, it acknowledges possible drivers behind continued use of coal-fired power plants such as keeping electricity prices low and collecting public revenue from coal royalties.

The only potential issue with this article is that it does not explore counterarguments or present any risks associated with integrating renewable energies into Indonesia's energy mix. For example, there may be risks associated with relying too heavily on variable renewable sources such as solar PV or wind due to their intermittent nature or lack of storage capacity. Additionally, there may be other factors that need to be taken into consideration when assessing the economic viability of renewables such as local content requirements or financing costs which are not discussed in detail in this article.

# Topics for further research:

* Renewable energy integration risks
* Intermittent renewable energy sources
* Renewable energy storage capacity
* Local content requirements for renewable energy
* Financing costs for renewable energy
* Economic viability of renewable energy in Indonesia

# Report location:

<https://www.fullpicture.app/item/b77a9cfc7ab7592b706a8217fbd443d2>