# Article information:

Are emission reduction policies effective under climate change conditions? A backcasting and exploratory scenario approach using the LEAP-OSeMOSYS Model - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0306261918318658>

# Article summary:

1. The effectiveness of policies to reduce greenhouse gas emissions from electricity generation in Australia has been barely investigated.

2. A study using the LEAP-OSeMOSYS model for optimisation analysis found that cost optimisation scenarios, renewable energy targets, and energy productivity scenarios were the most effective potential energy reduction policies for the Australian power sector.

3. The study also found that carbon tax policies would yield economic benefits in installation cost, resource savings, and environmental externalities reductions by 2050, while future temperatures may double emissions from the base case scenario.

# 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:

The article "Are emission reduction policies effective under climate change conditions? A backcasting and exploratory scenario approach using the LEAP-OSeMOSYS Model" presents an analysis of the effectiveness of emission reduction policies in Australia's power sector. The study uses a combination of backcasting and exploratory scenario approaches to identify potential energy reduction policies and climate change scenarios for the Australian power sector.

The article provides valuable insights into the effectiveness of different policy options, such as cost optimization scenarios, renewable energy targets, and energy productivity scenarios. The economic analysis shows that carbon tax policies can yield economic benefits in installation cost, resource savings, and environmental externalities reductions by 2050. However, the environmental analysis reveals that emission reduction policy may increase cumulative emissions, while future temperatures may double the emissions from the base case scenario.

One potential bias in this article is its focus on Australia's power sector. While this is an important area to consider when examining emission reduction policies, it is only one part of a larger global issue. The study could benefit from a more comprehensive analysis that considers other sectors and countries' contributions to global greenhouse gas emissions.

Another potential bias is the assumption that clean energy substitutions and innovative energy policies are the only low-carbon pathways for the future. While these are undoubtedly important strategies, there may be other options worth exploring that were not considered in this study.

Additionally, while the article provides some evidence to support its claims, there are areas where further evidence would be beneficial. For example, it would be helpful to have more information on how different policy options impact different stakeholders' interests.

Overall, "Are emission reduction policies effective under climate change conditions? A backcasting and exploratory scenario approach using the LEAP-OSeMOSYS Model" provides valuable insights into emission reduction policies' effectiveness in Australia's power sector. However, readers should be aware of potential biases and limitations in this study's scope when interpreting its findings.

# Topics for further research:

* Global greenhouse gas emissions by sector and country
* Alternative low-carbon pathways for reducing emissions
* Stakeholder analysis of emission reduction policies
* Impacts of climate change on different sectors and regions
* Comparative analysis of emission reduction policies in different countries
* Technological innovations for reducing emissions in different sectors

# Report location:

<https://www.fullpicture.app/item/4df41b5a0b740bbe2529727e5c607c89>