

別記様式第6

論文審査の要旨
(Summary of Dissertation Evaluation)

博士の専攻分野の名称 (Major Field of Ph.D.)	博士 (経済学) Ph.D. in Economics	氏名 (Candidate Name)	YOU VITHYEA
学位授与の要件	学位規則第4条第1・2項該当		
論文題目 (Title of Dissertation) Essays on CO2 Emissions and Renewable Energy Development in Developing Countries			
論文審査担当者 (The Dissertation Committee)			
主 査 (Name of the Committee Chair) Professor Daisaku Goto			
審査委員 (Name of the Committee Member) Professor Masaru Ichihashi			
審査委員 (Name of the Committee Member) Professor Yoshi Takahashi			
審査委員 (Name of the Committee Member) Professor Makoto Kakinaka (College of Economics, Ritumeikan University)			

〔論文審査の要旨〕 (Summary of the Dissertation Evaluation)

This dissertation empirically examines and investigates the intersection of renewable energy sources and environmental sustainability within the framework of the Sustainable Development Goals (SDGs).

The chapters of this dissertation are organized as follows:

Chapter 1 presented the academic motivation and research objectives.

In chapter 2, the study delves into the differential impacts of traditional and modern renewable energy sources on CO₂ emissions in emerging economies, utilizing an autoregressive distributive lag (ARDL) model across 31 countries from 1990 to 2016. The findings underscore a negative long-run correlation between CO₂ emissions and both energy types, with a pronounced sensitivity to modern renewables. This suggests that modern renewable energy is a more efficacious target for environmental policies in these nations, highlighting the imperative for international support in green technology transfer.

Chapter 3 shifts the focus to Southeast Asia, where the burgeoning hydropower sector along the Mekong River is scrutinized for its environmental and public implications. Employing a vignette experiment to circumvent conventional survey biases, it evaluates Cambodian residents' attitudes influenced by varied informational framings—environmental impact, funding origins, and international aid. The results reveal a predominant sway of negative environmental framing on public opinion and a discernible distrust towards the international assistance, signaling a call for policymakers to enhance public engagement and trust through transparent and sustainable practices in hydropower development.

Chapter 4 explores the global ascent of solar home systems as a sustainable electricity alternative, assessing household attitudes through vignette experiments that manipulate framing around cost, accessibility, and environmental benefits. It finds that eco-friendly framing garners positive responses, whereas emphasis on high costs elicits adverse perceptions. It advocates for strategic communication that balances environmental merits with economic considerations, tailored specifically to influential demographics such as women heads of households, to foster informed and favorable engagement with solar energy solutions.

Chapter 5 is the conclusion.

The dissertation contributes to the literature in that it provides a multifaceted exploration of the role of renewable energy in climate change mitigation, particularly focusing on the context of developing countries. Additionally, chapter 3 and 4 illuminate the nuanced relationships between renewable energy adoption and public perception, emphasizing the need for nuanced policy approaches that consider both technological efficacy and socio-environmental communication strategies to advance global environmental sustainability.

The core content of this dissertation has already been published as a SSCI journal article.

As a result of the above examination, the committee unanimously agreed that the dissertation is of sufficient value to confer the degree of Ph.D in Economics.

[SSCI journal article]

You, V., Kakinaka, M. Modern and traditional renewable energy sources and CO₂emissions in emerging countries. *Environ Sci Pollut Res* **29**, 17695–17708 (2022). <https://doi.org/10.1007/s11356-021-16669-2> (2022 Journal Impact Factor: 5.8, Q1 in Environmental Science)

令和 6 年 1 月 31 日

備考 要旨は、A4版2枚 (1,500字程度) 以内とする。

(Note: The summary of the Dissertation should not exceed A4 size, 2pages (about 500 words).)