



*“Gheorghe Asachi” Technical University of Iasi, Romania*



---

## COVID-19-INFORMED ENERGY CONSUMPTION FOR ECO-FRIENDLY HOTELS IN THAILAND'S ANDAMAN REGION

**Mareena Madlaeh<sup>1</sup>, Montri Luengchavanon<sup>2</sup>, Prachyakorn Chaiyakot<sup>3\*</sup>,  
Parichat Singsaktrakul<sup>3</sup>, Md Shahariar Chowdhury<sup>4,5,6</sup>**

<sup>1</sup>Community Ecotourism Management Programme, Faculty of Environmental Management, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand

<sup>2</sup>Wind Energy and Energy Storage Systems Centre (WEESYC), Sustainable Energy Management Programme, Faculty of Environmental Management, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand

<sup>3</sup>Ecotourism Innovation Management Centre, Faculty of Environmental Management, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand

<sup>4</sup>Faculty of Environmental Management, Prince of Songkla University, Hat Yai-90110, Songkhla, Thailand

<sup>5</sup>Health and Environmental Research Centre, Faculty of Environmental Management, Prince of Songkla University, Hat Yai-90110, Songkhla, Thailand

<sup>6</sup>Faculty of Vocational Studies, Universitas Airlangga, Surabaya-60285, East Java, Indonesia

---

### Abstract

This study examined the potential of the Green hotel model for sustainable energy consumption and environmental management within the Thai tourism industry, which has been significantly impacted by both the high cost of energy and the COVID-19 pandemic. Energy consumption data was collected from three different category hotels namely A, B, D and one demonstration hotel (C) in the Andaman region of southern Thailand during the pandemic. These data revealed that the energy consumption of these hotels decreased by 59-72% between March and April 2020, corresponding with a significant decline in tourist numbers. Despite this trend, energy consumption in hotels can still expand due to factors beyond the control of the industry. To address this, the Green Hotel training was assigned to hotels A, B, and D in 2021, resulting in a reduction of approximately 80% in energy consumption. The objective of this investigation can be correlated to the COVID-19 situation in Thailand in terms of the energy consumption of hotels, while the activities of Green hotels were trained in order to reduce energy consumption and improve environmental management. These findings highlight the potential benefits of Green Hotel training in terms of sustainable energy management and environmental friendliness, offering valuable insights into the Thai tourism industry.

**Key words:** Covid-19, energy management, green hotel, sustainable tourism

*Received: August, 2023; Revised final: September, 2024; Accepted: September, 2024; Published in final edited form: March, 2025*

---

---

\* Author to whom all correspondence should be addressed: e-mail: [prachyakorn.c@psu.ac.th](mailto:prachyakorn.c@psu.ac.th)