

# **A study of Taiwan international tourism and carbon emissions: Meta-Synthesis of Qualitative case studies**

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Since World War II, the tourism business has grown significantly as a result of rising living standards and more leisure time. Because tourism is important for many countries, the tourism sector has therefore long been viewed as a vital instrument to promote economic growth and reduce income inequality because of its high level of labor intensity, significance, and widespread penetration (Gan, Voda, & Wang, 2024). Therefore, many countries rely on the tourism. In recent years, Taiwan's government has made many efforts to develop a more diverse travel environment and enhance competition to attract more inbound tourists and domestic travellers. As a result of these efforts, tourism business volume has greatly increased islandwide. These initiatives were effective, resulting in a notable increase in international arrivals prior to the COVID-19 pandemic, with inbound tourist numbers reaching a record high of 11.87 million in 2019. Although the industry has shown resilience in responding to and recovering from various types of hazards, it has never faced a sudden and substantial decline in demand as experienced during the COVID-19 pandemic, which has had a profound negative impact on the global economy. The performance of international tourists in Taiwan in 2024 indicates a recovery compared to the pre-pandemic year of 2019, although it has not yet fully returned to its previous levels. While the total number of visitors to Taiwan has declined from 11.86 million in 2019, it has rebounded to 7.857 million in 2024 (Tourism Bureau, 2025).

Taiwan government is striving to development international tourism, However, since tourism operations often consume large amounts of energy and produce significant carbon emissions (CO<sub>2</sub>), this rapid economic expansion has resulted in considerable environmental damage (Duan et al., 2022). In particular, climate change and the reduction of carbon emissions have emerged as major problems and obstacles for all countries worldwide. As a result, authorities, practitioners, and academics cannot ignore the necessity of boosting CO<sub>2</sub> reduction efforts, which has become a fundamental purpose and responsibility for everyone. It is therefore imperative to review Taiwan international tourism and carbon emissions which has remained largely neglected. The current study fills this gap in the literature using meta-synthesis of qualitative case studies. Meta-synthesis generated theories are important in contexts where the use of standardized rules, procedures, and algorithms is growing. It can assist service providers or managerial levels in personalizing standardized tools to enable the implementation of the most efficient evidence-based, yet tailored, interventions. The results thus can also be used as an important reference for the authorities to activate developing mitigation policies and more sustainable plans, thereby achieving net-zero emission goals much more effectively and efficiently for Taiwan.

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