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Evaluation of Taiwan's Environmental and Social Inspection Mechanism of Aquavoltaics Policy and Its Solar Energy Targets

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Abstract

This study evaluates the frameworks and current situation of the Environmental and Social Inspection Mechanism, and how it affects the achievement of the solar energy targets in Taiwan. The Taiwan government has set the target to reach 29 GW of Taiwan's electricity from renewable sources by 2025, 20 GW of which will be from solar energy.

4 GW of the solar energy target is set to achieve by promoting aquavoltaics which is to maximize the use of nearly 40,000ha of aquacultural land in Taiwan for both aquacultural production and electricity generation through ground-mounted solar photovoltaics. However, prompting solar photovoltaic installations in aquacultural lands within fishing villages and rural areas may generate environmental or social issues such as siting conflict, residents' concerns, and changes in the landscape. Therefore, the Taiwan government developed the "Environmental and Social Inspection Mechanism" to reduce the impacts of its aquavoltaics policy and to reach its solar energy targets in a timely manner.

The mechanism is designed to address both environmental and social aspects while deploying solar power in aquacultural land. The methods of environmental inspection include site surveys, ecological information mapping, and public consultation meetings, while social inspection includes document analysis, on-site interviews, etc. The findings of this study show that the Environmental and Social Inspection Mechanism, serving as a fast-sorting mechanism to better site selection, can effectively address identified local environmental and social issues. However, the process of identification may take longer time than expected when it comes to more complex issues. In conclusion, reaching solar energy target in Taiwan may benefit from such a mechanism as it enables a deeper transformation in civic consciousness and industry.

Keywords: aquavoltaics, renewable energy, solar energy