POLICY DIALOGUES

Enhancing environmental policies to boost a sustainable energy transition in Vietnam

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KEY FACTS

•Vietnam has been enhancing its environment protection legal framework to address challenges in human health protection and ecosystem safeguard, raised by its significant progress in renewable energy

•Yet, important gaps are identified in coordinated, adaptive policies to minimize environmental impacts across all states of renewable energy development project.

•This analysis identifies policy gaps in aligning environmental protection with renewable energy development, particularly in the absence of clear criteria for site selection, land and water use, and effective environmental impact assessments.

CONTEXT & MOTIVATION

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Geography Viet Nam

Themes Energy transition, Energy policy, Environmental policy

Find out more about this project: https://www.afd.fr/en/gemmes-vietnam-analysis-socio-economic-impacts-climate-change-energy-transition-and-adaptation-strategies

As a responsible member of the international community, Vietnam has actively participated in international environmental agreements such as the Paris Agreement on climate change and the 2030 Agenda for Sustainable Development. Vietnam has set short-term goals for 2030 and long-term goals for 2050 to reduce greenhouse gas emissions and promote renewable energy transition. These commitments have significantly promoted the rapid development of clean energy sources in Vietnam. However, this process poses several environmental challenges like habitat loss, land-use conflicts, water resource impacts from hydropower projects, waste treatment and renewable energy equipment recycling, noise from wind turbines.

The Law on Environmental Protection 2020, offers a strong legal foundation for environmental protection policies. However, it is necessary to require specific regulations for renewable energy projects to minimize their negative environmental impacts, especially in sensitive areas such as nature reserves, high biodiversity areas, forests, wetlands, etc. The Law's general provisions need to be supplemented with detailed guidelines to ensure these projects are developed sustainably and avoid negative consequences for ecosystems.

This study[1] uses policy analysis tools to identify gaps in environmental protection policies for renewable energy development projects in order to propose recommendations for improvement.

METHODOLOGY

The study applies:

(i) **A policy review and a SWOT analysis** of existing policies for energy development and environmental protection in Vietnam.

(ii) **A comparative analysis** of Vietnam's policies with global examples to identify gaps and best practices for completing the legal system.

(iii) **A consultation workshop** with 20 experts (from environmental policy, energy policy, environmental economics, wind and solar energy, marine thermal energy) to identify urgent environmental issues in energy development and policy gaps based on their experience and perspective.

KEY FINDINGS

Vietnam's renewable energy development has benefited from environmental protection policies, such as the zoning structures.

Vietnam has promptly implemented specific policies and solutions to encourage renewable energy via support mechanisms like competitive pricing for the renewable energy market, tax and fee incentives and international cooperation, especially for solar and wind energy projects. These policies include land and water rental exemptions and reductions from land and water surface rental fees for renewable energy projects.

By the end of 2023, Vietnam's total installed power capacity reached 80,555 MW, with renewable energy sources (wind, solar, hydropower) accounting 55% of the total.

To create a robust legal framework for promoting renewable energy development toward 2050, Vietnam has issued and implemented the National Renewable Energy Development Strategy to 2030, with a vision to 2050; the National Hydrogen Energy Development Strategy to 2030, with a vision to 2050; the Power Plan VIII; and relevant decrees and circulars. The Vietnamese Government has set ambitious targets for the renewable energy proportion in the national power structure by 2030 and 2050.

The ultimate goal of Vietnam's environmental protection policy is to safeguard ecosystems and biodiversity while protecting the health of humans. The Law on

Environmental Protection stipulates a unified environmental zoning from the national to the provincial level, based on environmental sensitivity and vulnerability from pollution. The goal is to divide it into three zones: strictly protected zone, emission-restricted zone, and another zone. The zoning result is the basis for screening investment projects with high environmental risks, determining suitable geographical locations of projects, developing and applying the environmental technical regulations, controlling waste, and minimizing pollution.

However, a first policy gap is the absence of integrated planning between infrastructure development and energy expansion.

The rapid development of renewable energy projects has caused overload to transportation and power grids. When renewable energy growth exceeds current infrastructure and technology, it will cause environmental impacts. The installation of renewable energy facilities and equipment affect the exploitation of land resources, and outdated recycling technology causes environmental pollution.

There is also an absence of specific guidelines for land and water use, deforestation, and site selection.

Although policies supporting renewable energy development have been issued, there is still a lack of strict environmental management criteria to control potential negative impacts on natural resources and ecosystems, especially in wind and solar power development projects. There are no specific criteria on land and water use or occupancy area, deforestation rate for wind, solar and hydropower projects, or criteria for selecting project locations to avoid high biodiversity areas, important wetlands, and important natural landscapes.

A weak implementation of environmental assessment regulations could undermine the synergies between energy and environmental regulations.

Environmental protection policies have not been implemented in synchronization with renewable energy development policies. The implementation of environmental protection policies in renewable energy projects lacks synchronization and high feasibility. Regulations on investment project screening, preliminary environmental impact assessment, and environmental impact assessment have not been fully and effectively implemented in some localities.

A coordinated implementation and synchronization of energy and environmental regulations is not yet systematized.

Renewable energy projects, especially wind and solar, can have significant environmental impacts due to large areas of land or water surface use requirements and infrastructure changes. While ineffective land management can lead to unsustainable use of resources, negatively affecting the environment, ecosystems, and natural landscapes.

The development of solar power in Ninh Thuan has revealed a lack of coordination between energy policy and land management, as some projects were built on land reserved for irrigation works, affecting water supply and not aligning with land use regulations.

RECOMMENDATIONS

- The Ministry of Agriculture and Environment (MAE) work in collaboration with the Ministry of Industry and Trade (MOIT) to develop a set of criteria for the selection of renewable energy project locations, including mandatory screening criteria on environmental sensitivity, which requires the exclusion of protected areas, wetlands and areas of high biodiversity from the list of potential locations.

- The MAE and provincial governments will issue specific regulations on land and water use in renewable energy development planning, limiting land occupation, deforestation and encouraging the use of degraded land or a dual-use land model.

- The MAE strengthens and standardizes environmental impact assessment (EIA) regulations in the Environmental Protection Law by mandating early-stage screening, implementing consistent procedures nationwide, and requiring biodiversity and ecosystem management plans in all renewable energy project assessments.

- Ministry of Science and Technology coordinate with MOIT and MAE to oversee investment in research and development (R&D) of advanced and environmentally friendly renewable energy technologies. Additionally, focus on developing appropriate technologies for the circular processing of solar panels and wind turbines to enhance sustainability of renewable energy transition of Vietnam

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[1] LUU The Anh and PHAM Le Quan (2025). Environmental policies for supporting sustainable energy transition in Vietnam: evaluation and policy recommendations, *AFD Research Paper* 368

[2] EVN. 2024. Overview of national power sources in 2023. evn.com.vn https://en.evn.com.vn/d6/news/Overview-of-national-power-sources-in-2023-66-142-4147.aspx#:~:text=By%20the%20end%20of%202023,is%2026%2C757MW%2C%20accounting%20for

[3] Huỳnh Hải. 2023. Cấp phép 4 dự án điện mặt trời chồng lấn hệ thống thủy lợi ở Ninh Thuận (Licenses granted for four solar power projects that overlap with irrigation infrastructure in Ninh Thuan). Pháp luật TP Hồ Chí Minh (26/12/2023). Trích xuất tại https://plo.vn/cap-phep-4-du-an-dien-mat-troi-chong-lan-he-thong-thuy-loi-o-ninh-thuan-pos...38.htm