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Green Transition Governance in the Energy Sector in Viet Nam



1. Introduction

Viet Nam has set an ambitious vision for a green future, committing to net-zero emissions by 2050 and targeting 70% renewable energy in its power mix. This ambition is translated into key strategies and sectoral plans, including the Resolution 55, the Green Growth Strategy and the recently revised Power Development Plan VIII. These frameworks are grounded on Viet Nam's significant renewable energy (RE) potential, particularly in wind and solar.

Meanwhile, Viet Nam is facing substantial challenges in securing a stable and reliable supply of energy, considering that the country is highly dependent on imported fuels, and a double-digit annual growth of the economy is expected towards 2030, which inevitably increases the demand for energy.

Expanding renewable energy and improving energy efficiency are the most cost-effective ways to strengthen energy security and move toward net-zero emissions Viet Nam. Yet, despite strong political commitment and strategic planning, progress in expanding RE capacity, improving energy efficiency, upgrading grid infrastructure, and adapting regulatory frameworks have not kept pace with national targets. Institutional inertia is a critical factor hampering the realization of the political visions on green transition, among other factors, caused by delayed and incoherent policy framework, fragmented coordination and implementation as well as insufficient monitoring and enforcement of regulation.

As such, bridging the gap between ambitions and action requires more than technical solutions. The current circumstances highlight the pressing need for more effective governance. In this context, governance refers to the institutions, rules, and processes through which decisions are made and carried out. It includes well-functioning coordination, clearly defined roles and responsibilities as well as the adequacy of institutional resources.

Viet Nam's green energy transition is a complex, multi-actor effort, requiring coordination across various levels of government, state-owned enterprises (SOEs), and the private sector. While the government sets the strategic direction, the involvement of SOEs and private enterprises is crucial to achieving the transition's goals. The energy sector needs substantial investments—estimated at USD 13.5 billion annually from 2021 to 2030, and increasing to USD 20–26 billion per year from 2031 to 2050. SOEs play a pivotal role in ensuring energy security and in developing infrastructure. Effective governance, supported by a robust institutional framework, is essential for attracting and securing these investments. Transparent policies and resilient governance structures reduce investment risks, providing the predictability and stability needed to encourage both public and private sector engagement in the green transition.

This policy paper, *Green Transition Governance in the Energy Sector in Viet Nam*, examines Viet Nam's governance framework and offers recommendations to improve its effectiveness, with a focus on enhancing engagement from both private and state-owned enterprises in the green energy transition. The analysis covers three key phases of policy—development, implementation, and monitoring/enforcement—highlighting critical governance factors such as coordination, resources, and institutional capacity.

As the development of the institutional and regulatory framework is a moving target, this policy paper is developed in parallel and with acknowledgement of the current efforts to strengthen the institutional framework of the Vietnamese Government by reorganizing the central and provincial level in order to enhance the efficiency and create a more business friendly environment. Thus, the aim of the present policy paper is to provide constructive input to the ongoing efforts, contributing to reach the common goal of realizing the green energy transition in Viet Nam. This is based on policy documents as well as interviews with national stakeholders as well as field trips to provinces throughout Viet Nam conducted in 2024.

The policy paper is developed within the Energy Partnership Programme between Denmark and Viet Nam and in collaboration between the Agency for Enterprise Development and Collective Economic Development, Institute for Policy and Strategy and the Danish Energy Agency. As such, the policy paper draws on Denmark's experiences in the green transition, especially in relation to efficient governance and institutional structure — providing learnings and inspiration on how Viet Nam can strengthen governance to accelerate its green energy transformation.

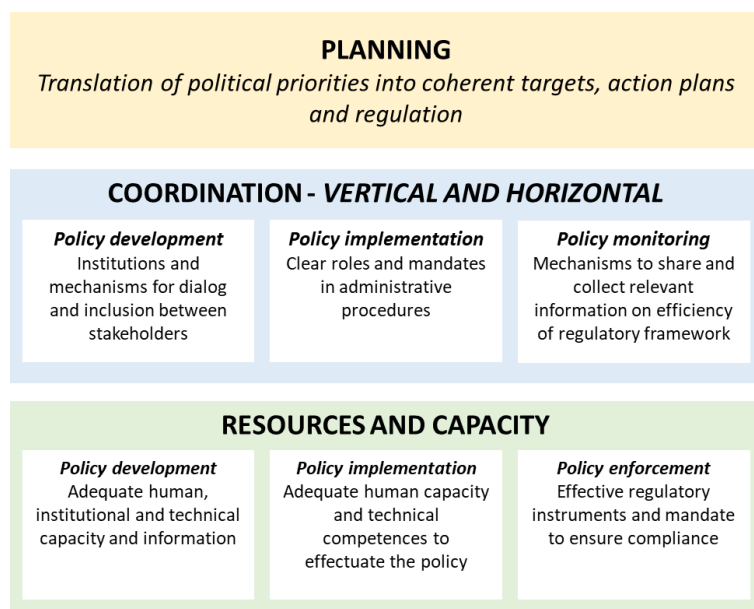
2. Project scope

This policy brief draws on a comprehensive report analyzing governance in Viet Nam's green energy transition. The research was conducted in two phases. The first phase involved a review of current policies related to the green energy transition in Viet Nam. It provided a foundational analysis of key political visions and priorities, as well as the legal and regulatory frameworks guiding the shift to sustainable energy. Special attention was given to how political visions are translated into actual policy, examining the coherence between core strategies and regulatory frameworks. This phase also explored the balance between market-based approaches (e.g., liberalization and privatization) and state-led methods (e.g., direct regulation) in the energy transition to identify the means in reaching the targets.

Building on these insights, the second phase, i.e. *review of governance*, investigates how governance and institutional structures influence the efficiency of implementation of selected energy transition policies. The analysis is structured with the application of a developed analysis framework, focusing on two core determinants of effective implementation: coordination (both vertical and horizontal) as well as resources and capacity. These core determinants are applied within the three phases of policy - policy development, implementation and policy monitoring.

The research is based on qualitative data, including key policy documents as well as numerous interviews with national and provincial authorities, as well as business associations, private companies, state-owned enterprises and energy experts.

Figure 1. Analytical Framework



3. Planning of the green energy transition - from vision to policy

This section outlines the main political visions driving the green transition in Viet Nam, along with the supporting policies and regulations. It then assesses the balance between state control and market mechanisms, as well as the coherence between strategic goals and the translation into concrete regulation.

3.1 Political visions of the green energy transition

Viet Nam's political vision on the green energy transition is driven by some key policies and strategies, aimed at ensuring energy security, promoting economic development, and addressing sustainability. Resolution 55 of the Politburo in 2020 on the orientations of strategy for national energy development by 2030, with a vision towards 2045 has been considered as the foundation for the green energy transition, setting out directions and targets for energy development, including: (i) Ensuring robust national energy security; (ii) Develop a synchronized, competitive, and transparent energy market, diversifying ownership forms and business methods; (iii) Developing a synchronized and diversified energy system; prioritizing the thorough and efficient exploitation and use of renewable energy, new and clean energy sources; (iv) Promoting digital

transformation in the energy sector; gradually master modern technology and moving towards self-sufficiency; and (v) Efficient and economical use of energy.

Resolution 55 is being translated to the Governmental Resolution 140, stating out the assignments to relevant ministries and local authorities, and into a number of policies, such as the National Comprehensive Energy Plan for the 2021–2035 period, with a vision to 2050 (Decision 893), Viet Nam's National Energy Development Strategy (Decision 215), the National Power Development Plan for the 2021–2030 period, vision to 2045 (Decision 500, then revised by Decision 768), the Electricity Law (Law No. 61 in 2024). For the implementation of such policies, engaged ministries and agencies have promulgated a series of policies, described in Decrees and Circulars on price mechanisms, bidding and selection of investors, among others. Also, the proposal to establish a competitive energy market is being developed.

A coherent green transition requires a foundation of robust, evidence-based analysis to inform political visions and targets. Given the inherent complexity of the transition—spanning energy systems, economic development, and environmental protection—policy design must be grounded in realistic assessments. This includes a clear understanding of resource requirements, infrastructure demands, regulatory capacity, and institutional readiness to ensure that plans for the green energy transition are both actionable and effective.

3.2 Balances between state-approach and marketization

The most critical documents shaping the green energy transition in Viet Nam reflect a dual-track approach of maintaining a strong state oversight (through state ownership of critical infrastructure and the leading/dominant role of SOEs in energy supply) while gradually introducing market mechanisms. These include shifting from Feed-in Tariffs (FIT) to auctions, attracting private and foreign investments, and developing a roadmap for a competitive wholesale electricity market. However, this balance bring several challenges, including:

- Policy coherence: Market-oriented reforms often clash with top-down planning practices. Delays in auction regulations and inconsistent Power Purchase Agreements (PPAs) create uncertainty for private investors.
- Dominance of SOEs when SOEs continue to control grid infrastructure and power generation. Centralized approval weakens market signals and slow implementation.

3.3 Coherence between strategies and policies or potential overlaps

The coherence between selected strategies and policies has been reflected through sharing some common goals and a signal of strong political will. Despite this alignment in principle and the single importance of each document, their concurrent implementation without comprehensive integration has fostered policy fragmentation, overlaps in responsibilities, and critical gaps, ultimately hindering the overall effectiveness of the nation's green transition efforts. Specifically, ministries have interconnected responsibilities, such as MOIT leads energy planning, MONRE oversees climate policy and land-use planning, MPI manages investment licensing. Because of weak coordination mechanisms, critical plans often lack alignment. For example, the Power Development Plan 8 (PDP8) revised sets ambitious RE targets (28-36% by 2030 and up to 74-74% by 2050), but lacks binding implementation tools or mechanisms to ensure that these targets are met through coherent coordination with land-use planning, investment licensing, or local implementation.

3.4 Delaying in the issuance of relevant regulation and documents

Significant delays in issuing regulatory documents, at least two to three years after schedule, particularly those related to Resolution 140 and Resolution 55, have hindered the timely development of crucial energy infrastructure like power plants, transmission lines, and renewable energy facilities. Such delaying thereby threatens energy security and causes regional energy shortages. The prolonged regulatory inaction has led to a stagnation of investment in the energy sector, and the withdrawal of several major foreign and domestic investors in 2023-2024.

Recent legal updates to the end of 2024, like the Laws on Electricity and Planning, have not fully resolved overlaps and inconsistencies, especially between national and local power infrastructure plans. This causes delays for crucial energy projects, particularly smaller grid connections that depend on unclear local planning. At the provincial level, delays in translating national targets into spatial plans have caused regulatory bottlenecks and grid curtailment, as seen in provinces like Ninh Thuan.

The evident delays in issuance of regulation and policy documents raise questions about its cause. While multiple elements affect policymaking, indications from interviews lead to the importance of examining the role of governance, i.e. insufficient coordination among authorities, coupled with constrained resources and institutional capacity. In the next section, core determinants of governance within three core areas of the green transition will be analyzed, examining the phases of policy from development and implementation to monitoring and enforcement. This includes examination of 1) Investment in renewable energy, 2) green transition in state-owned enterprises and 3) energy efficiency.

4. Barriers to Effective Governance: Insights from Selected Cases

Building on the analytical framework and insights from the previous section, the analysis will examine governance within the three phases of policy: 1) development, 2) implementation, 3) monitoring and enforcement. The analysis will address barriers to effective governance within three core areas of the green energy transition: renewable energy investment, state-owned enterprises, and energy efficiency. The analysis is structured by identifying the problems and underlying causes that hinder effective governance, and provide recommendations to address these challenges.

4.1 Investment in renewable energy

Policy development: Insufficient coordination and sectoral alignment

Viet Nam's renewable energy policy framework is built on a broad foundation of national strategies, laws and regulation, reflecting high-level political commitment. The involvement of diverse government institutions reflects a whole-of-government approach and enhances the legitimacy of the energy transition.

However, in practice, the institutional plurality partially tends to cause overlapping mandates, leading to an often unsynchronized policy development and incoherent policy framework across sectors and areas. Particularly in complex, crosscutting areas, such as energy transition, climate change, and infrastructure investment.

This has led to fragmented policy development at the national level, where coordination between sectors is insufficient for cross-sectoral planning. Coordination challenges are especially evident in efforts to align major strategic frameworks such as the Energy Master Plan, the PDP8, the Land Use Master Plan, the National Climate Change Strategy, and the Viet Nam Green Growth Strategy. Despite being ambitious and well-established, these key strategies and plans have been developed in parallel therefore somehow resulting in inconsistencies. For instance, ambitious renewable energy targets sometimes are not backed up in land-use planning.

Such incoherence and insufficient cross-sectoral alignment in the development of the policy framework leads to ambiguity in the implementation, particularly at the provincial level, where authorities are tasked with translating national goals into concrete action. For example, decentralized procedures for land allocation and permitting further complicate the process. Each province may interpret and implement national laws and policies differently, especially regarding land classification, environmental permitting, and compensation procedures. Local authorities are responsible for land-use planning and site approvals, but are often not provided with clear, binding guidance on how to spatially translate national targets, e.g. in PDP8. As a result, many provinces have either overcommitted or underplanned for RE development. In high-potential provinces like Ninh Thuan and Binh Thuan, rapid RE project approvals without coordination with Electricity of Viet Nam's (EVN) grid planning have resulted in curtailment and stranded investments due to inadequate transmission capacity.

Despite the persistence of inter-agency coordination mechanisms (i.e. the National Steering Committee for power development previously, and the National Steering Committee for key programs, projects in the energy sector recently) effective enforcement lacks robust compliance mechanisms and sanctions, which undermines the credibility of inter-agency coordination and disincentivizes proactive enforcement.

Policy implementation: Challenging in realizing renewable energy targets

Viet Nam's RE development faces a significant gap between the ambitious national targets and the readiness of the governance structure and regulatory framework, as well as grid infrastructure. While national strategies such as PDP8 outline bold objectives—targeting up to 72% renewable energy in the power mix by 2050—

translating these goals into practical outcomes remain challenging due to complicated governance structures, regulatory complexity, and infrastructure constraints.

Within the current governance structure, private developers often face significant challenges navigating the approval process for renewable energy projects due to ambiguities in who is responsible for various stages of project development. Key steps—such as pre-feasibility studies, environmental impact assessments, and grid connection certifications - typically involve multiple ministries and agencies, each with distinct procedures, requirements, and timelines. This lack of clarity and coordination creates delays and adds to the overall complexity and cost of project development.

The recent transition from FiT regime - without an immediate or fully defined replacement—has contributed to a temporary slowdown in project implementation. More than 30 GW of projects await clarity on pricing and regulatory direction, creating financing challenges and investor hesitation. In parallel, inconsistencies in permitting procedures across provinces and limited alignment between land-use planning and energy development priorities have also contributed to project delays, as seen in provinces such as Ninh Thuan and Ca Mau.

Infrastructure readiness, particularly regarding transmission capacity, remains a critical factor. While many projects have advanced through permitting stages, delays in grid expansion and limited transmission capacity have made it difficult for them to connect. This gap between project readiness and infrastructure availability contributes to regulatory uncertainty and increases the perceived risk for investors.

These factors lead to higher risk premiums, leading to increased cost of capital and thereby the overall cost of RE projects. In turn this can reduce the ability to attract private investments in Viet Nam's renewable energy market and slow progress toward national goals.

Policy implementation: Challenges in attracting resources and building capacity

Viet Nam has made notable progress in mobilizing resources and building capacity for RE development, yet faces persistent challenges across technological, institutional, and data dimensions.

- **Domestic Technological Resources:** Viet Nam has adopted mature RE technologies and begun developing domestic manufacturing capacity, aided by international partnerships. Still, the sector depends heavily on imported high-tech equipment and expertise, and domestic R&D remains underfunded. Advanced grid technologies and storage systems are in early stages, limiting the integration and resilience of RE systems.
- **Institutional and Human Capacity:** On national level, the governmental agencies have established specialized units and legal frameworks for RE governance, while EVN has improved technical capabilities. Nevertheless, fragmented mandates and poor inter-agency coordination hinder decision-making and policy implementation. Subnational authorities often lack the skills and resources to manage RE projects effectively. Human capital development is ongoing, but unevenly distributed. Provinces like Ninh Thuan and Binh Thuan have demonstrated robust development in solar and wind energy investments by establishing dedicated task forces within their Provincial People's Committees (PPCs) to streamline processes such as investment licensing, land clearance, and connection to the EVN grid. Proactive coordination with the Ministry of Industry and Trade (MOIT) and EVN ensured that provincial power plans were submitted early and aligned with national Power Development Plan (PDP) drafts. Other provinces - such as Ca Mau - have faced challenges in executing renewable energy projects. These challenges stem from a combination of factors, including: (i) a shortage of trained technical staff in provincial departments, which complicates the assessment and processing of renewable energy proposals as well as alignment with environmental standards, (ii) insufficient inter-agency provincial coordination between key departments such as natural resources, construction, and industry, leading to delays in permitting and land allocation, and (iii) limited dialogue with EVN or MOIT, resulting in mismatches between planned projects and actual grid capacity or the priority areas outlined in PDP8. This often leads to inconsistent enforcement of regulations, delays and complexity in project approvals as well as a heavy reliance on external consultants to fill the knowledge gap.

- **Data and Information Management:** Data collection on RE has improved, with some digital platforms enhancing transparency. However, the absence of a centralized, interoperable data system leads to fragmented, siloed information across ministries and provinces. Critical data on grid capacity, curtailment risks, and environmental compliance is often inaccessible, reducing investor confidence and impeding planning.

Policy monitoring: Fragmented monitoring and feedback mechanisms

The monitoring and feedback mechanisms that support Viet Nam's renewable energy policy framework are currently fragmented, with limited coordination across institutional levels. While a range of tools—such as reporting obligations, consultation forums, periodic policy reviews, and sectoral data collection—have been introduced, their effectiveness in guiding and refining policy implementation is constrained by fragmented institutional responsibilities and the absence of a centralized, standardized data system.

Data related to renewable energy development is often siloed among ministries, inconsistently formatted, and not readily accessible, which hampers efforts to evaluate progress in real time or identify emerging implementation challenges. Current monitoring practices tend to prioritize quantitative indicators such as installed capacity, while underemphasizing equally important qualitative aspects like grid integration moving from connection to optimization, operational performance such as publicly available national database tracking curtailment, outages, or environmental non-compliance, or insufficient in-country capacity for operations and maintenance, and long-term project viability.

Moreover, feedback from provincial authorities and private project developers is not yet systematically integrated into national-level decision-making. Mechanisms to capture and respond to on-the-ground challenges—such as project delays or underperformance—remain limited. This was particularly evident in the period following the expiration of the Feed-in Tariff (FiT), when a large number of projects experienced setbacks with few formal avenues for resolution or adjustment.

4.2 Green transition in State-owned Enterprises

State-owned enterprises, particularly key actors such as Electricity of Viet Nam (EVN), the Viet Nam Oil and Gas Group (PVN), and the Viet Nam National Coal – Mineral Industries Holding Corporation (TKV), have historically played a central role in shaping Viet Nam's energy policy landscape. These entities were instrumental in establishing a robust energy sector with a high level of supply security. While PVN and TKV still possess sufficient financial and institutional capacity to sustain their investments, the power sector increasingly requires greater private sector participation—particularly in power generation—to meet rapidly growing electricity demand and support the green energy transition.

However, EVN's current institutional setup poses significant challenges to attract private investments in renewable energy. As both the dominant power purchaser and grid operator, EVN wields considerable influence over project viability by setting grid connection terms, determining tariffs, and controlling grid expansion. This concentration of mandates presents an inherent conflict of interest: facilitating new renewable projects may directly affect EVN's own commercial interests as a generator.

This ambiguous and often unbalanced relationship between EVN and private investors drives up perceived investment risks, compelling developers to compensate for uncertainty, leading to increased cost of capital. Consequently, renewable energy - particularly solar and wind - appears more expensive in Viet Nam than in many other countries, where similar technologies have become the most cost-effective energy options. Addressing this structural conflict is essential to unlock Viet Nam's RE potential and attract competitive private investment.

Policy development: Participation of SOEs in formulating policy

The involvement of SOEs in policy-making processes is both substantial and influential, with some level of engagement, including:

- i. Provision of data and technical analysis for policy-making processes. As the primary producers, transmitters, and distributors of energy in Viet Nam, SOEs provide essential data regarding sectoral performance, future demand projections, energy development potential, and operational challenges. Such input forms the empirical basis for policy formulation.

- ii. Expert contributions to policy discourse. SOE representatives actively participate in technical working groups, stakeholder consultations, and policy workshops. Their involvement ensures that proposed policies are assessed for feasibility, technical soundness, and economic viability, drawing on real-world operational experience.
- iii. Policy proposals and strategic recommendations. Informed by their operational insights and strategic priorities, SOEs often propose new policy mechanisms aimed at sectoral development, investment attraction, and energy security. These recommendations can influence the prioritization of investment areas and policy tools.

Input from SOEs helps ground energy policies in real industry conditions, enhancing their relevance and practicality. However, their influence can also introduce biases, as their recommendations may reflect organizational interests that do not always align with broader national priorities. To ensure balanced and effective policy outcomes, it is essential to consider a diverse range of perspectives, including those of private investors, to foster a level playing field. Policy and planning should also reflect the broader socio-economic context and be guided by analysis of system-level, cost-effective pathways that benefit the society as a whole, including consumers, users of energy and the environment.

Policy implementation: Engagement of SOEs in energy transition

EVN plays a pivotal role in the country's energy sector as the dominant state-owned enterprise responsible for electricity generation, transmission, and distribution. Historically, EVN has led the development of coal, gas, hydropower projects, and the expansion of national transmission networks, ensuring energy security and supporting economic growth.

However, the clean energy transition under PDP8 presents growing challenges for EVN, especially in upgrading transmission infrastructure to accommodate increasing shares of renewable energy. Transmission projects often take 5–7 years to complete, yet annual investment needs are nearly double what EVN currently handles, exposing a major funding and implementation gap.

Compounding this are structural issues: low electricity tariffs limit financial returns, investment policies are misaligned with green transition goals, and project approvals remain slow and bureaucratic. These constraints delay grid expansion and hinder the integration of renewables, positioning EVN as both a key enabler and potential bottleneck in Viet Nam's energy transition. Addressing these challenges will be essential to accelerate progress toward a sustainable power system.

Policy implementation: Engagement of SOEs in RE development

SOE investment in RE has been significantly influenced by government policies and corporate governance. SOEs are increasingly recognizing the strategic importance of RE for long-term energy security, environmental sustainability, and diversification of their energy portfolios. This growing awareness is likely to drive further RE investments in the future, aligning with national green transition goals.

SOEs possess significant advantages in terms of land access (e.g., TKV's mining areas, EVN's substation land) and existing infrastructure (e.g., EVN's grid/transmission lines, PVN's offshore platforms) that can be repurposed or utilized for RE projects, reducing land acquisition costs and potentially streamlining development.

Several structural and operational challenges hinder more robust SOE engagement in RE development:

- *Institutional inertia*: SOEs like EVN, PVN, and TKV have deeply entrenched structures, expertise, and business models centered around traditional energy sources (coal, gas, hydropower). Shifting focus and resources towards the relatively newer RE sector requires significant organizational and cultural changes.
- *Competing obligations*: While SOEs have significant capital, they also have existing obligations and investment plans tied to traditional energy infrastructure. Large-scale RE projects, especially offshore wind or advanced solar technologies, often require substantial upfront capital and have longer payback periods, potentially competing with other strategic priorities.

- *Technical and human capacity gaps:* SOEs may lack in-house expertise in the specific technologies and operational requirements of various RE resources. Building this capacity through training, recruitment, and technology transfer takes time and investment.
- *Bureaucratic complexity:* Operating under state oversight, SOEs face multiple layers of approval for project development. This slows down decision-making and reduces responsiveness in a sector where technological and market conditions are rapidly evolving. Promotion of corporate governance and operation of SOEs with an arm's length-principle could ease the complexity.
- *Flexibility challenges in system operation:* Integrating large volumes of intermittent RE resources into the existing grid infrastructure, largely developed for dispatchable power, poses significant technical and investment challenges for EVN. Development of incentives for flexible power production is a key element in integration of higher shares of RE while lowering the needed grid investments.

Despite these challenges, SOEs hold substantial potential to lead Viet Nam's green energy transition. Their scale, institutional ties, and infrastructure assets make them key enablers of long-term decarbonization, particularly if governance reforms and investment incentives are better aligned with national climate and energy goals.

A strategic and proactive approach, supported by clear government policies and effective coordination, will be crucial for SOEs to effectively navigate these challenges and capitalize on the opportunities presented by the renewable energy revolution in Viet Nam.

Danish Experience: Unbundling process and transforming of DONG to Ørsted

Unbundling and market liberalization have been central to Denmark's green energy success. Separating transmission from generation and breaking up vertically integrated utilities has fostered competition and laid the groundwork for incentivizing development of renewable energy. This structural shift not only lowered costs through market efficiency but also enabled new roles, business models, and innovation across the sector. This involved the creation of the national state-owned TSO (Energinet), as well as an independent energy regulator (Danish Utility Regulator). Transmission was open to be accessed by everybody, and generators were exposed to the electricity market and dynamic pricing.

Transformation of DONG to Ørsted

A key example is the transformation of Ørsted, formerly DONG (Danish Oil and Natural Gas), from a fossil-fuel-based national utility company (managing both generation as well transmission and distribution) to a global leader in offshore wind. This shift—supported by liberalization and a clear separation of competitive and monopolistic activities—allowed Ørsted to divest its distribution business and refocus its strategy.

In 2006, the company was 81 percent owned by the Danish state and had a portfolio 85 percent based on fossil fuels, making it one of the most coal-intensive companies in Europe, and responsible for around one third of Danish emissions. By 2019, the company changed name, implemented a new business model, was publicly listed with 50.1 percent of shares owned by the Danish state, and had a portfolio that consisted of 90 percent renewable energy.

The transformation was driven by the recognition that fossil fuels are unsustainable long-term, aligning with government goals and forcing Ørsted to find a way to remain relevant and grow.

The state ownership of Ørsted is organised as 'arm's length' in terms of decision-making, meaning that the company acts as a private company, i.e., it could make its own decisions without the interference of the state. This is essential so that Ørsted could not influence Denmark's energy policies more than other companies and vice versa, which is important if a fair, transparent and competitive market for renewable energy developers is to exist. One implicit benefit of state ownership is that Ørsted could look to the long-term view when transitioning to renewable energy.

Lessons learned

Denmark's experience highlights key enablers: a stable regulatory framework, clear separation of market and monopoly functions, effective public ownership where necessary, and transparent economic incentives. This coordinated approach has not only de-risked investments but also aligned commercial innovation with public policy goals—making Ørsted's transformation both possible and replicable.

4.3 Energy Efficiency

Energy efficiency (EE) is explicitly stated as a key priority in numerous national strategies and legal documents, including the National Energy Development Strategy, the Viet Nam Green Growth Strategy, and specific laws like the Law on Economical and Efficient Use of Energy. This high-level political commitment provides a strong foundation. Policies and programs targeting specific sectors like industry, buildings, transportation, and households have been developed. These often include regulations, standards, and incentives.

Viet Nam has adopted quantifiable EE targets, particularly in terms of reducing energy intensity across major economic sectors. These targets reflect the country's ambition to improve energy performance and serve as an organizing framework for policy design and implementation. Furthermore, Viet Nam has pursued extensive international cooperation to enhance its EE capacity. Through bilateral and multilateral partnerships, the country has gained access to global expertise, technical assistance, and financial resources that support the design and execution of EE programs.

Experiences from numerous energy efficiency projects indicate that EE offers the most cost-effective means to reduce CO₂ emissions. Moreover, EE has a co-benefit of increasing the competitiveness of industrial enterprises while increasing the energy supply security following a reduced energy demand growth rate.

However, challenges to realize the significant potentials of EE exist in both the policy development, implementation and enforcement process.

Integrating EE policies into the national energy policy

Despite being recognized as a national priority, EE in Viet Nam suffers from significant policy and institutional challenges. The country lacks a clear and actionable implementation strategy, with no detailed roadmap outlining specific roles, responsibilities, or timelines to guide progress. National EE targets are not sufficient to tailor plans for sectors like industry, buildings, and transport. Furthermore, EE policies are not often aligned with national energy, climate change, and industrial development plans.

Viet Nam's energy efficiency efforts face notable market and structural barriers. The Energy Service Company (ESCO), which provides performance-based solutions for energy savings, is still emerging, limiting access to services for consumers and businesses. Additionally, structural disincentives, such as the split incentive in rental properties, further hinder investment. In such arrangements, landlords are often reluctant to fund EE upgrades when tenants bear the energy costs, and tenants have little motivation to invest in improvements for properties they do not own. These dynamics create significant obstacles to scaling up EE adoption in both residential and commercial sectors.

Distorted economic signals continue to hinder EE efforts in Viet Nam. When electricity prices do not reflect the true cost of supply, they fail to send strong market signals that encourage consumers and businesses to invest in energy-saving technologies. This weakens the economic case for efficiency improvements and slows the adoption of cost-effective, energy-efficient practices.

Weak enforcement and limited capacity

Weak enforcement and limited evaluation capacity undermine the effectiveness of EE policies in Viet Nam. The insufficiency of standardized systems for monitoring, verification, and reporting makes it difficult to track progress, assess impact, and adjust policies based on evidence, ultimately slowing the pace of improvement and reducing accountability.

At the time of writing, the National Assembly is discussing a proposed revised law on energy efficiency. If adopted, this law revision will be an important first step to remove the above barriers.

Danish Experience: Incentivizing energy efficiency in energy intensive industries

In 1990, Denmark launched the Plan of Action for Sustainable Development – Energy 2000, aiming for a 20% reduction in CO2 emissions by 2005 compared to 1988.

As a result, a CO2-tax on energy was introduced in Denmark in the early 1990s. In order not to compromise the competitiveness of the energy intensive companies, the government implemented a Voluntary Agreement Scheme (VAS), whereby energy intensive companies could get a CO2-tax refund if they carried out energy audits, implemented energy management, and undertook investment in viable energy efficiency projects.

The VAS has proven highly effective for over 30 years. Companies have consistently saved 5% of their energy use per agreement period since the mid-1990s, with further savings potential identified.

Key lessons learned:

- Strong economic incentives and clear implementation rules increase participation.
- Effective schemes require dedicated oversight, independent evaluations, continuous innovation, and strong industry dialogue.
- Robust data systems help prioritize actions and track progress.

5. Key governance challenges in green energy transition

Drawing on the case-specific findings on the barriers to effective governance related to renewable energy development, state-owned enterprises, and energy efficiency, this section provides a crosscutting overview of the overall and general governance challenges identified and the underlying causes. As such, this section will lay the foundation for formulating the recommendations in the next section, aimed at enhancing the efficiency of the governance in the green energy transition.

5.1 Limited local flexibility slows down the transition process

The concentration of decision-making authority at the central level has presented some governance challenges in the green energy transition, particularly for provinces with significant renewable energy potential. While centralized governance aims to ensure national coherence, it can sometimes overlook the diverse conditions and opportunities present at the local level, limiting the ability of provincial and district authorities to tailor policies and projects to their specific and local contexts.

As a result, the effectiveness of policies can be undermined and slow the pace of the green energy transition, as regions with strong readiness and investor interest may face unnecessary delays.

To address these challenges, it would be beneficial to explore ways to balance centralized oversight with greater autonomy for local authorities. Providing local governments with more discretion within a clear national framework could help accelerate the green energy transition, ensuring that policies are not only aligned with national objectives, but also better suited to the diverse socio-economic and environmental conditions across the country.

5.2 Fragmented coordination between authorities

Policy development: Misalignment across policy areas

A significant governance challenge in the green energy transition is the fragmented coordination between authorities across different policy areas. Despite the presence of formal coordination mechanisms, there persists misalignment of policy areas such as energy transition, land acquisition, environmental requirements, etc., resulting in difficulties harmonizing objectives and timelines across ministries, which can create bottlenecks in policy implementation.

Recent issued/amended regulations have shown positive developments in actively aligning policy across policy areas. Thus, to address the present challenges, policy coherence should be maintained as a key focus and considered a requirement to include in the formulation phase.

Policy implementation: Complex administrative procedures

In addition to these coordination challenges, unclear roles and responsibilities within administrative procedures further complicate the process. This lack of clarity can lead to significant delays, as developers struggle to identify the appropriate agencies, understand the approval steps, and meet the necessary conditions. The uncertainty around who holds decision-making authority for each step—whether it's environmental permits, land use clearances, or grid access—can create a bureaucratic bottleneck, discouraging private investment and slowing the pace of project development.

Strengthening coordination mechanisms and streamlining administrative procedures would help mitigate these issues. A more structured, transparent, and efficient approval process could not only accelerate the deployment of renewable energy projects but also increase confidence among private investors, ultimately facilitating a faster transition to greener energy solutions.

Danish Experience: One-Stop-Shop for consenting procedures in offshore wind energy

The Danish Energy Agency is the lead authority for planning, licensing, and commissioning offshore wind farms in Denmark, including grid connection approvals. It acts as a one-stop shop for developers, streamlining coordination across multiple authorities and thereby limiting the complexity in administrative procedures.

Four sequential licenses are required to develop an offshore wind project:

1. Preliminary investigation license
2. Establishment license (requires an Environmental Impact Assessment)
3. License to exploit wind power (25 years, extendable)
4. Electricity generation license

The DEA coordinates permitting with relevant agencies (e.g., Nature Agency, Maritime Authority, Defense Ministry) and includes their conditions in the licenses it issues. Additional licenses from other authorities may still be needed.

Permits can be appealed by affected individuals and environmental organizations within four weeks of publication to the Energy Board of Appeal (offshore elements) or the Environmental Board of Appeal (onshore infrastructure). However, due to comprehensive marine spatial planning, appeals are rare.

Policy implementation: Insufficient incentives for local government

One of the major shortcomings in the coordination mechanism is the absence of clear incentives—financial, institutional, or political—for provincial authorities to actively support and align with national energy transition goals. In terms of financial, provinces do not receive direct fiscal benefits or participate in revenue-sharing schemes derived from hosting RE, resulting in low motivation to prioritize RE. The budget allocations for areas such as capacity building, technical staffing, and support for energy governance remain limited - particularly in provinces with strong RE potential but underdeveloped administrative structure. In addition, local authorities are tasked with mandates such as licensing, land clearance, and environmental monitoring—often without adequate resources. As a result, these responsibilities can be seen as compliance burdens rather than opportunities. In some cases, local governments may deprioritize renewable energy facilitation in favor of more immediate development needs. There is no system of performance evaluation or reward for provinces that successfully implement RE projects, align land-use plans, or meet national energy and climate goals – highlighting an absence of accountability mechanisms.

Policy implementation: Insufficient capacities on provincial level

A significant challenge in the green energy transition is the uneven implementation across provinces, which reflects differences in local capacities for effective policy execution. The planning, coordination, and execution of renewable energy projects can vary significantly from one province to another, leading to inconsistencies in process, progress and outcomes.

The disparities between these provinces highlight the varying levels of local capacity and institutional readiness, which can affect the efficiency and effectiveness of renewable energy development. Provinces with stronger coordination and more dedicated resources tend to make faster progress, while others face delays due to institutional gaps and technical shortcomings.

To address these challenges, there is a need for more targeted capacity building at the provincial level, as well as improvements in cross-agency coordination and local expertise to ensure that renewable energy projects can be effectively planned and implemented in line with both local and national objectives.

Danish Experience: RE Task Force to capacitate and assist provinces in implementing RE targets

The RE Task Force was launched under the June 2022 Green Electricity and Heating Agreement to help enable the target of a fourfold increase in land-based solar and wind power by 2030.

Local acceptance and successful regulatory processes are crucial for achieving the expansion of renewable energy on land. Therefore, the RE Task Force is supporting municipalities in their work by, among other things, ensuring the dissemination of best practices in the implementation of RE projects, providing guidance, and offering professional expertise and capacity building in areas such as energy, planning, environmental assessment processes, habitat regulations, and public engagement.

The RE Task Force consists of a permanent interdisciplinary team of employees from the Danish Energy Agency, the Agency for Green Land Use and Water Environment, and the Planning and Rural Development Agency. The task force conducts a series of workshops and thematic presentations across the country.

The main tasks of the RE Task Force include:

- Serving as a central point of contact within the state, proactively and supportively assisting municipalities in their efforts to expand renewable energy on land.
- Providing professional guidance and expertise to municipalities in specific areas related to the expansion of renewable energy.
- Facilitating and contributing to knowledge sharing among municipalities and between the state and municipalities.
- Supporting municipalities in their citizen engagement efforts.

The RE Task Force does not provide advice in relation to specific projects. Similarly, the task force does not engage in specific analyses and area designations, actively contributing to the preparation of project proposals or specific case processing in the municipalities.

5.3 Insufficient policy monitoring and feedback loops

One of the key governance challenges in the green energy transition is the weakness of policy feedback loops. While consultative mechanisms are in place, the feedback generated from policy implementation—particularly from local levels—has not always been effectively integrated into subsequent policy updates. In addition, formal reporting systems also exist yet relying on periodic submissions and informal communication. This gap in the feedback process can hinder the continuous improvement of policies and delay necessary adjustments based on on-the-ground realities.

At the core of this issue is the disconnect between the design of policies at the national level and the realities faced by stakeholders at the local level. This governance challenge is compounded by the limited capacity for local authorities and actors to provide timely feedback that can influence national policy adjustments. Strengthening the policy feedback loop, particularly through more consistent and structured channels for local input, could enable a more agile and responsive policy environment—one that evolves in alignment with both the national energy goals and the practical experiences of those implementing the policies on the ground.

Danish Experience: Climate Law and annual climate and energy policy evaluation

The 2020 Climate Law sets targets for climate neutrality in 2050. In order to ensure sufficient regulatory framework to reach the targets, an annual process is established to present and evaluate progress toward climate targets and identify measures to bridge potential gaps. The ‘annual cycle’ ensures a consistent focus on how to reach the long-term climate targets, serving as a strong governance framework to ensure progress in the process from policy development to implementation and monitoring.

- *February*: The independent Climate Council publishes its status report, assessing government efforts, international obligations, and whether targets are on track.
- *April*: The Ministry of Climate, Energy and Utilities releases the Annual Climate Status and Projection, outlining historical and projected greenhouse gas emissions under a “frozen policy” scenario—i.e., assuming no new initiatives.
- *September*: The Climate Programme is published, assessing whether current efforts meet targets or trigger the obligation to act. It includes planned measures with both short- and long-term impacts.
- *September – December*: Political negotiations on the national budget take place. Under Danish law, green transition policies must be fully financed—either within existing limits or through reallocation or new revenues. Some measures may be approved in principle with financing finalized later.
- *December*: The Minister submits a report to Parliament summarizing the overall effect of climate policy, based on the Climate Programme and budget agreement.

6. Recommendations for further improvement of governance in the green energy transition

As Viet Nam continues its green transition in the energy sector, recent reforms and structural changes within the state apparatus signal a shift toward more effective governance. These efforts reflect meaningful progress, emphasizing the central role of SOEs in leading the transition, while also fostering a more supportive environment for private sector participation in renewable energy development. To build on this momentum, the following sections present recommendations to enhance governance and accelerate the green transition in Viet Nam's energy sector, for ensuring its long-run effectiveness.

6.1 Institutional aspects

- Strengthen the roles and mandates of National Committee of Power Development and National Committee of key projects of energy sector to monitor the gaps and shortcoming in the policy implementation; Establish clear prioritization criteria and policy initiatives to guide resource allocation and policy focus; Forming inter-agency working groups/task forces at the technical level to jointly develop specific policies and regulations related to cross-cutting issues; and Produce regular progress reports and independent reports to identify areas for improvement and ensure accountability.
- Continue to promote and clarify the responsibilities of relevant agencies in the ongoing reform and restructuring of the state apparatus, especially given the enhanced role and greater decentralization to provinces/localities. The effective and disciplined implementation of these orientations will lead to better policy execution and coordination, which resulted in significant improvement of the quality and processes of the state machinery.
- Carefully avoid overlaps between policy areas when developing and revising related laws and regulations to ensure seamless implementation. Timely issue under-law guiding documents; prioritize the issuance of guiding documents for the most critical and time-sensitive aspects of the energy transition policies to unlock immediate implementation; and consider a phased approach for less urgent guidance. The Investment Law should be revised in the direction of removing unnecessary

barriers for the development of the private sector; of which the regulation on investment policy approval for private investors.

- Establish robust coordination mechanisms among all government bodies (national, provincial, local) in the development of regulatory frameworks related to green transition.

6.2 Coordination in implementation and enforcement

Improving monitoring and feedback mechanisms

- Improving the feedback loops from local to central level and between ministerial agencies. Formalizing feedback loops with clear channels for input from provincial authorities, developers, local communities, and EVN to inform policy reviews and adjustments.
- Improving the collection, consolidation and sharing of relevant data needed to inform policy enforcement; Establishing a national digital platform for data collection, storage, and sharing across all relevant agencies and stakeholders.
- Developing standardized reporting formats and key performance indicators that capture both quantitative and qualitative aspects of RE investment.
- Strengthening the capacity of local authorities and relevant agencies in data collection, analysis, and the implementation of monitoring frameworks.

More emphasis on the role of SOEs in a competitive market

- Redefine the mandate of SOEs to focus on public service obligations (e.g., transmission, rural electrification, or backup capacity) while encouraging competition in generation and new investments in renewables.
- SOEs should significantly increase investment in dedicated R&D facilities and programs focused on core green technologies, particularly wind and gas turbines relevant to Viet Nam's energy mix. This includes establishing partnerships with domestic universities and research institutions.
- Technology transfer with localization requirements should be paid more attention. SOEs should prioritize contracts that include clear and binding clauses for technology localization, including manufacturing capabilities and intellectual property sharing over time.
- Improving the development of domestic manufacturing capabilities, where SOEs should strategically invest in establishing or expanding domestic manufacturing plants for the green energy transition, especially turbines and core technology. This reduces reliance on foreign suppliers, fosters job creation, and builds national technological self-sufficiency.

Promoting private investments

- Creating a level playing field for private investors by: (i) Publishing uniform technical and financial criteria for project approvals and PPAs; removing implicit or informal preferences for SOE-led project; requiring SOEs to compete in auctions on equal terms with private developers.
- Joint ventures with leading international companies/technology leaders (with knowledge transfer focus), where including explicit and measurable targets for technology and knowledge transfer to Vietnamese engineers and technicians.
- Clarify and stabilize pricing mechanisms, such as time-bound frameworks for transitioning from FiT to auctions, with clearly defined timelines and standardized procedures to reduce uncertainty.
- Improve legal recourse and dispute resolution mechanisms for RE investors, particularly in land-use, environmental licensing, and tariff disputes.
- Develop a centralized "One-Stop Shop" for renewable energy investment licensing at the national or regional level to simplify project navigation and reduce administrative friction. At the provincial level, establish a single point of contact or "one-stop-shop" within the provincial government to guide renewable energy investors through the entire project development and approval process, involving representatives from all relevant agencies.

- Develop and monitor key performance indicators related to the efficiency and effectiveness of inter-agency coordination in facilitating renewable energy projects at both the ministerial level and provincial level.
- Accelerating and coordinating grid expansion:
 - Streamline grid project approvals through (i) Consolidating procedures between related stakeholders to avoid duplications; and (ii) Creating “fast-track” designations for transmission projects supporting high-priority RE zones.
 - Mandate integrated generation and transmission planning where national PDPs define total capacity additions needed by province (e.g., MW per region), while provinces are empowered to identify specific project sites and implementation schedules aligned with local plans;
 - Prioritize grid investments in RE-heavy regions (e.g., South-Central provinces) and link them to renewable project pipelines to reduce curtailment and stranded assets. Establish a dedicated grid development fund, potentially supported by climate finance or concessional loans, to finance transmission infrastructure in advance of private RE deployment.

Strengthen policies on EE to secure effective support to industries to improve energy efficiency

- Establish a clear understanding of the potential for EE in each individual sector, with main focus on the industrial sector, where the energy efficiency potential is largest.
- Assess the economically viable potential for energy efficiency as well as the economic impacts of improving energy efficiency.
- Develop clear policies to secure implementation of economically viable EE investments. Strengthen the capacity of the private sector to develop viable EE solutions, as well as the local agencies to effectively implement the legislation.

6.3 Resources and capacity

- Invest in specialized training and education programs, creating vocational training, university programs, and upskilling initiatives focused on the specific technical and business skills required for the green transition (e.g., renewable energy engineering and smart grid technology).
- Provide targeted capacity building at the provincial level:
 - Conduct thorough assessments of the specific institutional and technical capacity gaps in each province regarding renewable energy planning, permitting, implementation, and grid integration. Develop tailored capacity-building programs based on these needs, rather than a one-size-fits-all approach.
 - Provide dedicated training programs for provincial and district-level officials on renewable energy technologies, policy frameworks, project development and management, environmental and social safeguards, and grid connection procedures. This should involve both theoretical knowledge and practical, hands-on workshops.
 - Facilitate the exchange of knowledge and best practices between provinces that have successfully advanced renewable energy development and those facing challenges. This can be done through workshops, study tours, and peer-to-peer learning initiatives.
 - Consider establishing dedicated units or teams within provincial Departments (DOIT) with specialized expertise in renewable energy to provide technical assistance and guidance to project developers and other stakeholders.
 - Engage national research institutions, universities, and international organizations with expertise in renewable energy to provide technical support, training, and advisory services to lagging provinces.