

# TOWARDS THE SECOND NDC

## Call for a National Dialogue on the Acceleration of Energy Decarbonization

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## KEY RECOMMENDATIONS

A National Dialogue on the Acceleration of Energy Decarbonization in Indonesia would be a key tool to help move forward the alignment and optimisation of implementation efforts associated with key Indonesian energy-related decarbonization strategies. The upcoming process to update the current NDC and underpinning LTS is well positioned to host this National Dialogue given its whole-of-the economy approach, timing and the potential to articulate national and international commitments into a single framework. By doing it in the context of the Second NDC, alignment will make possible a clear milestone for 2035 of the path and ambition level of the country to credibly achieve the goal of net-zero emissions by 2060 or sooner.

Based on the points developed in this brief, please find below our key recommendations:

- 1. Organized and handled by national governmental stakeholders:**  
This is crucial to ensure that the discussions which come out of it are country-driven, country-owned and country-led. As the JETP current programs are mainly focused on the power sector, the roles of Directorate General of Electricity (DJK) of MEMR and Directorate General of Mineral Resource and Coal Mining (Minerba) of MEMR are important for streamlining the JETP program implementation into the strategic plans of the DJK and Minerba.
- 2. Structured through a stakeholder engagement process:** Diverse stakeholders should be helped to develop and express a vision on an integrated approach to reach net zero emissions by 2060 or sooner, and on the systems transformations necessary and associated enabling conditions to achieve it. The dialogue would help convergence on visions and enablers. This will ensure that all policies and plans to decarbonize are coherent and consistent. Furthermore, sectoral working groups focusing on the main carbon intensive sectors are necessary to address them appropriately.

3. **Focusing on the socio-economic dimension of the transition:** this will help ensure that the transition can be designed to be “just”. Anticipation and streamlining affected stakeholders’ perspectives into the design of specific policies and measures are the most important.
4. **Considering the tools at hand to finance the transition:** bringing the finance community, business and public representatives of fiscal and economic policies of the country will support the identification of specific needs and constraints, if the dialogue provides granular picture of the transformations needed over the short-, medium- and long terms.

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## INTRODUCTION

Indonesia's overarching climate goal to reach net-zero emissions by 2060 or sooner was set in stone in its [Long-Term Strategy for Low Carbon and Climate Resilience](#) (LTS-LCCR), submitted to the UNFCCC in 2021. Since then, a number of policy processes – some triggered by international dynamics, some more fundamentally national (see hereunder) – have been developed and should all converge to define regulation and concrete implementation plans towards this objective, based on the changes in structural drivers that have been identified. In particular, the more recent Indonesian [Just Energy Transition Partnership](#) (JETP), launched at the G20 Leaders' Summit in Bali in November 2022 with a group of countries co-led by the United States and Japan, has shed light on the critical importance of the actual challenges for cooperative approaches to be grounded on country-specific drivers for systemic transformations at different time horizons. Focused on coal phase down and renewable energy infrastructure in the on-grid power system, it aims at mobilizing an initial USD20 billion in public and private financing. With specific & ambitious targets, this is the second and largest JETP announcement so far.

Efforts to set up a domestic institutional governance and to translate the political deal into an investment plan have been a very intense one-year long process. The [JETP Comprehensive Investment and Policy Plan](#) (CIPP), published on November 21<sup>st</sup>, 2023, reveals that, although the carbon neutrality objective is a key driving force behind national and economy-wide

efforts to decarbonize, strategies on how to specifically reach it, and their identified enabling conditions including the nature of the finance needs, differ across stakeholders.

As the JETP process has shown, [we are entering a critical moment for implementation when there should be an acceleration of concrete decisions to put the country on track to attain its development and climate ambitions](#). To support this, it is critical that a clear overarching country-led, country-driven and country-owned trajectory<sup>1</sup> for the decarbonization of the Indonesian economy, and notably of its energy sector, is used as a guide to all other sectoral decarbonization strategies and their support instruments (namely investment plans but also policy and regulation packages), to assist short-term decision-making.

The objective of this brief is to provide insight into the value of such a national dialogue, under which conditions it can succeed and propose options to structure a conversation that guarantees a continuous country-owned assessment of the transition in all systems, anchored on existing processes, including during the preparation of the Second NDC.

<sup>1</sup> Country-led refers to the process being steered by national decision-makers and/or other legitimate local stakeholders. Country-driven implies that the process is shaped according to an agenda of national interest. Country-owned means that national stakeholders have adopted and made this process their own.

## MAIN EXISTING STRATEGIES SUPPORTING THE IMPLEMENTATION OF THE COUNTRY'S NET-ZERO OBJECTIVE

Based on the goal of net zero emissions by 2060 or sooner, established in Indonesia's LTS-LCCR and endorsed by its Enhanced NDC, several domestic and international measures and support instruments, both from the public and the private sectors, are being deployed to accelerate the decarbonization of the energy system. Along with LTS-LCCR and NDCs, two specific instruments in the power sector: the RUPTL, a national strategy, and the JETP CIPP, the outcome of an international partnership deal, reveal the benefits for pursuing further alignment on the specifics of the transition ahead.

### a. Indonesia's LTS-LCCR & Enhanced NDC

Indonesia's LTS-LCCR was submitted to the UNFCCC in 2021 and the **Enhanced NDC** (ENDC) in 2022. The LTS-LCCR (NZE 2060) is presented as an extent of the ENDC scenario, showing the consistency between the two. The two processes were the result of extensive stakeholder reviews and consultative processes, as well as scientifically robust scenario development and modeling developed in the country.

In addition to setting the goal of reaching net-zero emissions by 2060 or sooner, Indonesia's LTS-LCCR spells out the detailed strategic visions supporting the emission pathways which reveal the required efforts for the national low-carbon transition and highlights the key domestic and international enablers. It is endorsed by the President of the Republic as the instrument to provide response to the country's commitment to the Paris Agreement and the state obligation to guarantee decent life and healthy environment for all citizens (Vision Indonesia 2045).

The ENDC is an update on the country's First NDC submitted to the UNFCCC in 2016, offering enhanced ambition on mitigation and adaptation, but also improved alignment with development policies. The mitigation goal listed out in the ENDC is: 'to reduce greenhouse gas (GHG) emissions unconditionally by 31.89% and conditionally (with international support) to 41.20% compared to business-as-usual (BAU) scenarios by 2030'. Concerning the power sector more specifically,

the unconditional GHG reduction target is 204.56 Mt CO<sub>2</sub>e, and the conditional target amounts to 293Mt CO<sub>2</sub>e, compared to a baseline of 649.40Mt CO<sub>2</sub>e.

To ensure that the ENDC mitigation goal is met, an NDC implementation roadmap was drafted, based on stakeholder consultations.

### b. PLN's RUPTL (Electricity Business Plan) (2021-2030)

The RUPTL is an example of a key national-level plan to implement energy decarbonization in Indonesia, among others. It is PLN's (Perusahaan Listrik Negara or "Electricity State Company") 10-year business plan (RUPTL 2021-2030) which is now aligned to the targets of the ENDC.

The most important element of the RUPTL includes: (1) limiting the development of fossil-fuelled power plants, and (2) pursuing a massive deployment of renewables. PLN's decarbonization portfolio also includes nuclear electricity production, as well as other power generation systems to be developed in the future, such as ammonia fuelled power plants. The type of renewables to be built in Indonesia looking forward include hydroelectricity, geothermal energy, solar energy and wind turbines. What is more, according to this plan, solar photovoltaics will be the main contributor of renewable energy in the future. In order to neutralize the key issue of intermittency, battery systems with large capacities will be built and may be combined with pumped-storage hydroelectricity.

Looking at fossil fuels and coal more specifically, the current PLN plan does not completely phase out the use of coal in the power sector by 2030 as it equips some power facilities with CCS/CCUS. If repowering with co-firing technologies (including biomass, ammonia, H<sub>2</sub>, and other zero-carbon fuels) or replacing coal boilers with nuclear reactors and heat from geothermal is considered, further use of coal would be envisaged in the updated plan. These choices are considered against considerations on investment costs, financial risks, economic sustainability of the power sector as well as broader social and economic implications of the mining sector and the

regional development where income depends on coal mining activities.

Lastly, the RUPTL states that the development of future power generation systems may not always necessarily be by PLN, but also by others, including independent power producers and private industries.

This plan is a living document, and is regularly updated. It is namely planned to be revised in order to be aligned with country needs: including [increasing green electricity demand from the industry sector](#) and [JETP objectives](#).

### c. JETP CIPP

As the largest energy transition package deal in history, the JETP catalyses lessons learned in the journey to transform societies to meet the Paris Agreement goals. On November 21<sup>st</sup>, 2023 the Comprehensive Investment and Policy Plan (CIPP) of the JETP deal was published after an extensive set of analysis undertaken by the JETP Secretariat. This document spells out the following objectives that JETP will facilitate, namely: achieving peaking on-grid power sector emissions by 2030 with an emission target of no more than 250 MT CO<sub>2</sub>e in 2030 and reaching 44% of renewable energy in all power generation by 2030.

Among the supporting analysis, there were social and economic assessments to understand potential impacts of the accelerated transition. It is important to understand that achieving earlier peaking power sector emissions through coal phase out and replacing

it with imported renewable energy technology affects not only the coal power production sector, but also has significant implications for the mining sector economy, regional income, labor and balance of trade of the country.

The plan contains exhaustive information on the different aspects of JETP, namely the impact on the country's economy, details on the pathways used to define JETP goals and programs, a project-level framework seeking to ensure that JETP investments are "just", the financing structure and process of JETP, key enabling policies and finally governance and implementation. The next step is therefore moving into an implementation mode.

Domestic discussions with in-country stakeholders in the context of developing the JETP CIPP revealed different levels of understanding of some of the structural transformations required to meet net-zero, for instance, the nature of the evolution of the energy demand across final users (households, industry or mobility) or the expected role of key decarbonization technologies. These diverse views impede a focused deliberation on the optimal investments to materialize the desired climate and development goals; for instance, by lacking specific criteria for the identification of utilities that should be selected for earlier retirement in a transition that is robustly managed from an energy security, and social and economic perspectives. Furthermore, they block the development of a coherent policy environment that will enable project implementation and crowding in further investment. They also pointed out the need to better articulate national and province-level strategies.

## RATIONALE FOR A NATIONAL DIALOGUE

This alignment on 'how' the country achieves the objectives -beyond the alignment of headline emission targets- is essential, and needs to be one of the aims of the revision of key decarbonization strategies for the country. This could include: the yearly update of the CIPP until 2030 to be developed under the JETP process, the review of the Medium National Development Plan, the [revision of the 2021-2030 RUPTL \(Electricity Business Plan\)](#) and of the National Energy Policy (KEN), and also of the second round of Nationally Determined Contributions (NDCs) due in 2025 along with the update of its associated Long-Term Strategy.

Alignment entails coherence on the orientation to be taken to transition, which is critical in terms of the development storylines they represent. It also means that these strategies need to align on the drivers of ambition necessary to implement the transition, including future electricity demand. Such a convergence will allow different actors to clearly identify enablers (for example, specific regulations to facilitate the uptake of renewables or industrial policy orientations) for the action they can trigger from their positions.

Lack of alignment on the storyline at economy-wide and sectoral level as well as on drivers of the transition typically

hinders implementation efforts and limits the reach of the endeavor to reduce emissions in a transformative manner, and therefore, creating the risk of stranded assets, higher transition costs, and ultimately for not achieving the net-zero objective nor sustainable development. Triggering

the structural transformations necessary to achieve the development and climate goals requires society-wide support, and this is done by establishing a common country vision and the shared understanding of short-term implications and its enabling conditions.

## THE KEY QUESTIONS AROUND WHICH THE NATIONAL DIALOGUE SHOULD BE ORGANIZED IN ANTICIPATION OF THE UPDATE OF NATIONAL STRATEGIES AND PLANS

Questions on specific policy design and investment choices typically emerge in countries when moving into policy implementation, such as through the RUPTL. Hence, the significant role that instruments such as JETP play in contributing to the built up of national capacities and learning. In Indonesia concretely, a national dialogue on the acceleration of the energy transition would have the potential to unlock the necessary policy reforms and strengthen capacity to continue attracting and absorbing investment. It can also be essential for the successful implementation of the JETP CIPP. Considering existing strategies, this section provides an overview of the different key questions which the National Dialogue should discuss to enable the country to adequately prepare for the update of key strategies and to reach its goals of prosperity, resilience and net-zero emissions by 2060 or sooner:

### **a. Alignment around an integrated approach to the energy transition & its enabling conditions**

Taking an integrated approach when addressing the Indonesian energy transition is necessary to avoid several shortcomings. It allows the assessment of the impact that specific decisions or policies will have on other aspects of the transition, be it technical, social or economic, societal, and geographically speaking at community-, province- or sector system-level. Looking at the transition from an integrated perspective makes the interrelations between sectors clear, and this is particularly important between the land use and the energy sectors, as well as between energy supply and the evolution of economic sectors such as industry and the territorial and urban planning to name a few. A particular focus should be given to eliciting an

explicit vision of the energy demand, which calls notably for a detailed bottom-up work on transport, buildings and industry. These sectoral visions require ad-hoc sectoral working groups engaging the diversity of stakeholders who are part of the sectoral transition.

Reconciling urgent action and transformational change requires all the different strategies and plans adopt the same integrated approach to the transition for a clear direction of travel and making sure different measures and projects implemented will be coherent and consistent with one another, avoiding contradictions leading to a loss of efficiency. For instance, focused sectoral policies or support mechanisms, such as RUPTL or the JETP respectively, need to be combined with a broader policy package, for instance the LCCR and the National Development Plan.

The use of several economy-wide scenarios and modelling approaches to inform decision-making is important to enhance robustness and provide most pertinent answers to specific policy questions. A common understanding of the drivers and enablers underpinning the country vision for a resilient and net-zero economy can emerge from bringing a diverse and multi-disciplinary evidence as input to a national dialogue. Evidence-based decision-making requires continuous and strengthen support to government expertise within key ministries, as well as independent expertise in national research organisations. Comparing the different scenarios at hand should therefore help a common vision of the transition emerge and facilitate discussions around the systems transformations necessary and their enabling conditions. This second step is key to move from ambition to implementation and allow stakeholders to understand the role they each should play to accelerate the transition.

### **b. Explicit discussions around the socio-economic dimension of the transition**

By nature, considering the different aspects of systems transformations should also therefore ensure that the transition is “just”. This aspect is the leading reasoning behind Vision Indonesia 2045 and was again brought to the forefront of the energy decarbonization discussion by the JETP.

The JETP CIPP introduces a Just Transition Framework at project level, which notably includes “robust stakeholder engagement” and aims to help guide these actors identify the areas in which investments linked to the JETP may have positive or negative impacts. It is based on three foundational concepts (human rights, gender equality and empowerment, accountability), which are then compiled into two pillars (Leave No One Behind; Sustainability and Resilience).

However, integrating this aspect within the systems transformations cannot only happen at the project level, but should be a key aspect upstream of the decisions made towards decarbonization. In the coal sector namely, **it is necessary to start investments now for measures to be as effective as possible** and to avoid leaving coal communities behind. This requires the creation of a cross-cutting working group, which would be tasked with analyzing the social and economic aspects of the transitions and put forward the necessary conditions for the transition to address country socio-economic needs. This analysis, to be meaningful, need to be anchored in a shared understanding of structural transformations and how they would be enabled in the short term.

### **c. How to finance the transition**

The financing of the energy transition in Indonesia should reflect the needs identified through the overarching chosen country vision.

While part of the transition can be funded by domestic resources (either government funds or private investment), international resources need to act as complement and should be focused where domestic resources

are lacking. In this case, the international resources should fully cover the lacking to avoid an increased burden of debt on Indonesia considering the funding gaps to make an early transition is huge. In addition, the option for debt forgiveness or restructuring to alleviate the financial burden on the country should be opened recognizing the global nature of the challenge and shared responsibility in addressing climate change.

In that sense, the JETP appears as one of the available tools to blend finance for the transition. Its funds are expected to be channelled into the development of specific infrastructure including renewable energy projects, smart grid, and energy storage as this will create long-term economic opportunities and contribute to the shift away from fossil fuel. In addition, it will be required to develop risk mitigation mechanisms to alleviate concerns about stranded assets which can involve insurance or other financial instruments that provide a safety net for investments affected by the transition.

Other complementary financial instruments, which use different arrangements and configurations, will be needed for the plans such as the RUPTL to come to life. The JETP is also expected to mobilise private sector finance, hence, contributing to the involvement of businesses in the acceleration of the decarbonization of the energy sector. Discussions with the private sector are already in place with regards to the promotion of domestic manufacturing of solar PVs (while using this same technology to fuel the facilities), real estate and industrial estate, or promotion of low-carbon services and low-carbon value chains.

Note: This brief emerges from discussions led by the Center for Research on Energy Policy at Institut Teknologi Bandung (CREP-ITB), the Center for Climate Risk and Opportunity Management in Southeast Asia Pasific at Institut Pertanian Bogor (CCROM- SEAP at IPB University) and IDDRI. As part of these discussions, a workshop entitled: “The Acceleration of Decarbonization in the Indonesian Energy Transition” was organized in September 2023.

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