The Making of *Indonesia's Solar Decade*

DELIVERING THE 100 GWp SOLAR AMBITION

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Indonesia's ambition to propel the expansion of its current solar power capacity through the 100 GWp solar program marks an inflection point after years of protracted solar development. With solar power capacity currently low, the country has a window in which to prioritise deployment before major investments in grid flexibility become more pressing. Nevertheless, integrating this ambition into electricity planning, utility readiness and grid modernisation should be treated as immediate priorities. The forthcoming presidential regulation on the 100 GWp solar program is therefore a key foundation for establishing a clear delivery mechanism ahead of the program's initial rollout. At the same time, Indonesia should leverage existing international cooperations, such as COP 31 Climate Implementation Bridge, to deliver its 100 GWp solar ambition at scale.

Indonesia's 100 GWp solar program provides an opportunity to strengthen the country's energy security without returning to a fossil fuel detour. Announced in July 2025, the program is evolving into concrete delivery plans that include an ambitious target of deploying a first phase of 17 GWp within the initial implementation timeframe.

A program of this size will not come without challenges. In the table on the following page, we summarise some of the key concerns around the program and how the government is addressing them. In the remainder of this briefing, we analyse what will be needed to make the 100 GWp solar program a success, and provide recommendations to the government.

Table 1: Key concerns, government responses, and potential remaining challenges for Indonesia's 100 GWp solar program.

Concerns	Current responses	Remaining issues and suggestions
Sufficient demand to absorb additional capacity from the new solar power plants	Government's ongoing efforts on "fat-burning programs" (replacements for diesel-fired power plants)[1] and high electrification (e.g. midstream industries, productive use of economy) can drive electricity demand.	Demand may be overestimated, further increasing already-high reserve margins in some regions. Therefore, new capacity should not only meet demand growth but also replace ageing, high-cost fossil plants.
Grid flexibility becoming a concern as the rollout of solar scales up	The government has committed to modernising the transmission and distribution network in parallel with renewable energy deployment.	The initial rollout is expected to require limited system flexibility. However, without rapid grid upgrades, the program scale-up could be constrained by fragmented interconnections and varying levels of baseload generation across regions.
Limited solar project bankability in Indonesia	The government is revising regulations to de-risk solar projects, offer more favourable tariffs, and streamline procurement processes.	Take-or-pay clauses in existing thermal Power Purchase Agreements (PPAs) require PLN to pay for contracted electricity even when it is not fully dispatched, potentially reducing the flexibility to accommodate additional solar generation. This can increase the risk of renewable energy curtailment and jeopardise the revenue certainty and bankability of new solar PPAs.
Land constraints	The energy minister has coordinated efforts to identify land availability and is exploring tender-ready projects with clear land status. The government is also using reservoirs for floating solar PV and utilising rooftops for solar projects.	Social concerns around land acquisition may persist if there are no clear procedures and safeguarding policies for land expropriation. Water-surface usage fees need to be designed in a way that preserves the economic viability of floating solar projects.
Uncertain governance and delivery mechanism	The government has unveiled several tender-ready projects and indicative procurement timelines. The new presidential regulation is expected to reformulate the procurement process for solar projects.	Formal regulations, including the forthcoming presidential regulation, and updated electricity plans (RUKN and RUPTL)[2] are still needed to institutionalise the procurement process and provide certainty over the contracted capacity.

***Source**: Compiled by the authors based on multiple stakeholder discussions, public statements, and policy developments.*

[1] MetroTV, 28 August 2026, **Electricity still uses diesel; solar power plant could become the substitute**

[2] Annex I summarises existing regulations relevant to the 100 GW solar program and the extent to which they are aligned with the program.

The 100 GWp design: From political signalling to systemic reform

Indonesia's 100 GWp solar program has gradually evolved from a largely political statement at its initial announcement, into a broader energy security imperative shaped by fiscal pressure, geopolitical developments, and the need for electricity sector reform (Figure 1).

Timeline of key developments for the 100 GWp solar program

Q1–Q3 2025

- The government issued and updated its electricity master plan (RUKN) and approved PLN's electricity development plan (RUPTL), both of which **did not indicate the 100 GWp solar plan**.
- In January, President Prabowo met PM Narendra Modi in Delhi, and highlighted **cooperation on sustainable energy transition** and Indonesia's potential participation in the **International Solar Alliance**.
- Around July-August, President Prabowo indicated Indonesia's **intention to develop a 100 GW solar program**, consisting of 80 GW of distributed solar PV with 320 GWh of battery storage to be managed by *Merah Putih Village Cooperatives* across 80,000 villages, and 20 GW of utility-scale capacity.

Q4 2025 – Q2 2026

- In December 2025, the Ministry of Cooperatives and Pertamina New & Renewable Energy **launched a pilot project on Sembur Island** with 40 kW of solar capacity and 1 MWh of battery storage.
- In March 2026, President Prabowo established the **Energy Transition Acceleration Task Force**, chaired by the energy minister, to accelerate electrification and address ongoing fuel supply constraints from the West Asia conflict.
- President Prabowo mentioned the 100 GW solar program at the Japan–Indonesia Forum, stating that the program **will be executed within three years**. He reiterated a similar message during the BIMP-EAGA agenda at the ASEAN Summit and other high-level state meetings.

Q3 2026 – present

- Around April, the government explicitly announced a target to **procure 17 GW of additional solar capacity in 2026**, primarily to replace diesel generation.
- **A set of regulations, including a new presidential regulation**, is currently under preparation, aiming to address potential barriers to execution of the program.
- PLN is revising its RUPTL and positioning its ongoing 1.2 GW solar procurement (Mentari Nusantara I Project) as part of the 100 GW program.
- On 25 August, **President Prabowo officially launched the 100 GWp* solar projects**, starting with 14 projects totalling 5.3 GWp across six provinces and targeting 17 GWp in the first phase, with full deployment targeted within three years.

***Note:** * The government have increasingly referred to the 100 GW solar ambition as a 100 GWp ("peak")[3] solar PV program in official Ministry of Energy and Mineral Resources communications since its project launch in August 2026.*

***Source:** E3G analysis based on available information and official public release*

Figure 1: The 100 GWp solar commitment has increasingly progressed to implementation.

[3] GWp (gigawatt-peak) refers to the peak-rated capacity of solar PV modules on the direct current (DC) side. This differs from the contracted capacity or power output on the alternating current (AC) side, which is typically expressed in GW and may be lower depending on the system configuration.

President Prabowo's development agenda has been strongly associated with populist and welfare-oriented programs, including village-based economic initiatives. Within this broader agenda, the 100 GWp solar ambition is positioned as a means of expanding access to reliable and affordable electricity, particularly in rural and remote areas.

Several developments explain how the program evolved into a more concrete policy agenda:

- The 100 GW solar program was first informally announced around July 2025. Since its announcement, the program had been presented with a strong emphasis on village electrification. As a result, ministries responsible for cooperatives and least-developed regions began developing their own approaches to the program. By the end of 2025, however, it remained unclear which institution would lead the program, with multiple ministries pursuing parallel planning efforts.

- The West Asia conflict further reinforced the rationale for Indonesia's 100 GW solar program, as the government sought to reduce vulnerability to fuel supply disruptions through electrification plan.[4] In March 2026, President Prabowo established the Energy Transition Acceleration Task Force to formulate strategies for replacing diesel-fired power plants with solar energy and accelerating the mass adoption of electric vehicles.[5] The Energy and Mineral Resources Minister (MEMR) was appointed to lead the task force, giving the ministry greater political leverage to consolidate competing ministerial interests and resolve the power struggle over the program's implementation.

- The initial concept of the 100 GW solar program was heavily linked to the government's village cooperative program (*Koperasi Desa Merah Putih/KDMP*).[6] Under the early design, around 80 GW of capacity would be deployed through a decentralised mechanism (e.g. off-grid system) and involving approximately 80,000 villages, with each village expected to host around 1–1.5 MW of solar capacity. The remaining 20 GW would be developed through the state utility mechanism. [7]

- MEMR later recalibrated the concept, indicating that the majority of the capacity would instead be developed through the utility-scale scheme (Figure 2). This indicates the ministry's reservations about scaling the decentralised mechanism in the near term,

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[4] Cabinet Secretariat of the Republic of Indonesia, 11 March 2026, **President Prabowo Accelerates Energy Transition, Aims to Build 100 Gigawatts of Solar Panels, Optimizes Geothermal Energy**

[5] Cabinet Secretariat of the Republic of Indonesia, 5 March 2026, **Government Forms Task Force to Accelerate National Energy Transition**

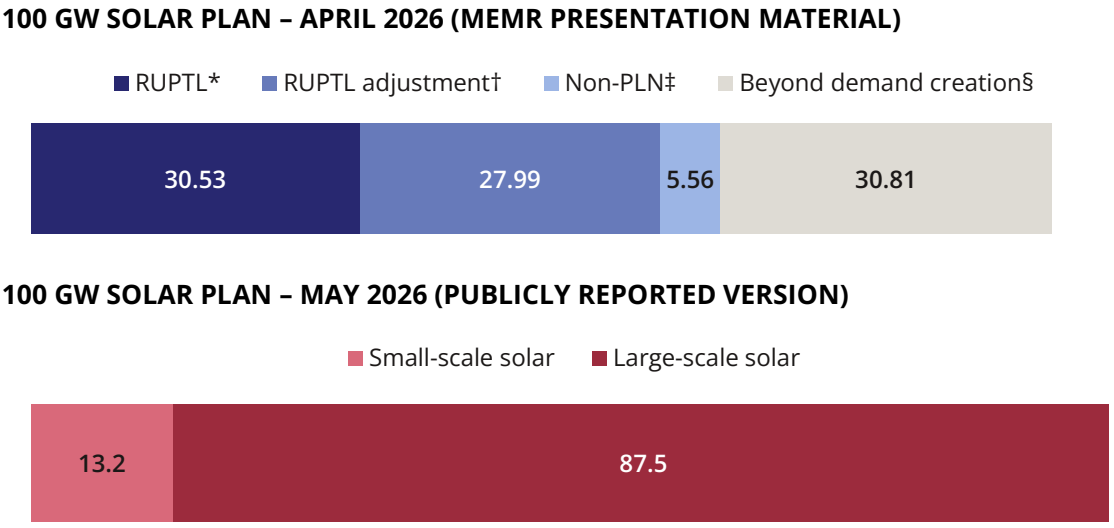
[6] *Koperasi Desa Merah Putih* (KDMP) is a village-based cooperative established under Indonesia's cooperative legal framework, governed by a management and supervisory structure involving village leadership, and eligible for government-supported financing to support local economic activities, working capital, and infrastructure development. The government is targeting the establishment of 80,000 entities. For more: **Quick Look of the Newly-initiated Koperasi Merah Putih, 2025**

[7] Institute for Essential Services Reform, 12 December 2025, **Realizing One Village, One Megawatt of Solar Energy**

given the country's limited successful precedents and unresolved commercial challenges.[8]

- In early August 2026, the government began discussions on the initial rollout of the 100 GWp solar program, with the procurement of 30 GWp expected to begin this year.[9] This was a significant step up from the government's indication in April that the initial rollout would comprise 17 GW,[10] a capacity comparable to the total solar capacity allocated over the ten-year period in PLN's Electricity Supply Business Plan (RUPTL).

Breakdown of the 100 GW scheme (in GW)



Notes: ******* *Capacity additions currently included in the RUPTL (PLN's business plan);* ***†*** *Adjustments to the RUPTL arise from the optimisation of gas-fired power plants, the addition of hybrid hydropower projects, and new electricity demand not captured in the current RUPTL;* ***‡*** *There is currently limited clarity regarding the non-PLN scheme, although it may potentially be developed by private utilities under certain conditions;* ***§*** *Includes captive power development in upstream and midstream industries, the EV ecosystem, domestic electrification and appliances, green industrial parks, and other private utility schemes.*

Source: *Ministry of Energy and Mineral Resources, April 2026 and Bloomberg Technoz, May 2026*

Figure 2: Utility-scale projects initially accounted for the majority of Indonesia's 100 GW solar program.

[8] Katadata, 12 December 2026, ***Program PLTS Desa yang Digagas Pemerintah Banyak yang Mangkrak, Apa Penyebabnya?***

[9] Cabinet Secretariat of the Republic of Indonesia, 14 August 2026, **Gov't to Strengthen Energy Self-Sufficiency through Solar Farm, National EV Project.**

[10] Cabinet Secretariat of the Republic of Indonesia, 21 April 2026, ***Pacu Program Energi Surya Nasional 100 Gigawatt, Presiden Prabowo Targetkan 17 Gigawatt PLTS Terbangun Tahun Ini***

- Despite the several iterations and varying versions of the plan and capacity, President Prabowo formally launched Indonesia's solar program at the end of August, now referred to as the "100 GWp" (gigawatt-peak) solar program. The first 14 announced projects total 5.3 GWp (Table 2).

- While Table 2 provides an indication of current projects and development directions, no official or legally adopted implementation plan has yet been issued, particularly to facilitate projects that are not acknowledged under the current electricity plan. Based on the list, the initial projects are expected to be concentrated in Java, Indonesia's largest interconnected power system.[11]

Table 2. Solar projects totalling 5.3 GWp under the initial phase of the 100 GWp solar program. Some of these projects are not reflected in the existing electricity plans.

Project name	Capacity (MWp)	BESS capacity (MWh)	Status	Project listed in PLN's plan (RUPTL)*	Remarks
1. Rengit	0.078	0.2	Completed	N/A	Off-grid project
2. Pulau Sembur	0.92	1	Completed	N/A	Off-grid project
3. Karangkates	133	No	Construction	Yes	Floating solar
4. Saguling	92	No	Construction	Yes	—
5. Tembesi	46	No	Construction	Yes†	Floating solar
6. Gajah Mungkur	134.2	No	Groundbreaking	Yes	Floating solar
7. Pasuruan	132	N/A	Groundbreaking	Yes‡	—
8. Banyuwangi	130.2	N/A	Groundbreaking	Yes‡	—
9. Purwakarta	69	N/A	To be procured	Not found	—
10. Jatiluhur	1.688	N/A	To be procured	Potential project	Floating solar
11. Cirata	1.250	N/A	To be procured	Not found	Floating solar
12. Jatigede	636	N/A	To be procured	Not found	Floating solar
13. Madura	605	N/A	To be procured	Not found	Floating solar
14. Gilimanuk dan Buleleng	300 + 118	N/A	To be procured	Not found	—

***Notes:* *** *Project status is marked as "Yes" if the project is included in the system power balance planning and the recapitulation of generation development plans.;* **†** *Potentially covered under PLN Batam's Plan (RUPTL PLN Batam).* **‡** *This project may fall under Jawa Timur or Jawa Bali Solar Projects.*

[11] Indonesia does not have a single interconnected national grid. It has several grid systems with different shares of technology.

Foundations for a credible 100 GW solar program

Although the 100 GW ambition reflects growing political commitment to renewable energy, Indonesia's current electricity market structure and fossil-fuel-based infrastructure may significantly impede the execution of the program.

The following considerations will help provide confidence that the 100 GW ambition is both technically achievable and capable of delivering tangible outcomes, but only if the program is equipped with new policy and institutional approaches.

1. Aligning the first rollout of the program with electricity planning and regulations to build market confidence

- While MEMR indicated on 19 August that the first procurement round would reach 30 GWp, the program's launch on 25 August again identified 17 GWp in Phase I, 18 GWp in Phase II, and 35 GWp in Phase III, with the remaining ~30 GWp to be allocated in subsequent phases.[12] **The relationship between the announced procurement volume and the stated phasing plan remains unclear**, indicating the need to consolidate the initial procurement scope and implementation timeline in official planning or regulatory documents.

- PLN's current 10-year procurement plan is designed to deploy around 17 GW of solar by 2034 across multiple regions (Figure 3).[13] If this entire capacity were to become designated as part of Phase I of the 30 GW solar, compressing this deployment into a 2–3-year timeframe would require substantial alterations, particularly to identify suitable locations and ensure system readiness. If PLN continues to procure coal and gas capacity during this period as stated in its plan (Figure 3),[14] additional solar capacity could further increase system overcapacity rather than meet new demand.

- Recent discussions indicate that PLN is concerned about reserve margins exceeding normal levels in some grid systems, particularly the Java (Jamali) Grid, where margins reach around 39%.[15] This raises concerns about oversupply if large-scale solar procurement proceeds without sufficient demand growth or adjustments to existing generation plans.[16]

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[12] Jakarta Global, 25 August 2026, **Prabowo Launches 100 GW Solar Power Program.** This plan also stipulates this capacity in the Minister of National Development Planning/Head of the National Development Planning Agency Regulation of the Republic of Indonesia No. 4 of 2026 on the Draft Government Work Plan for 2027.

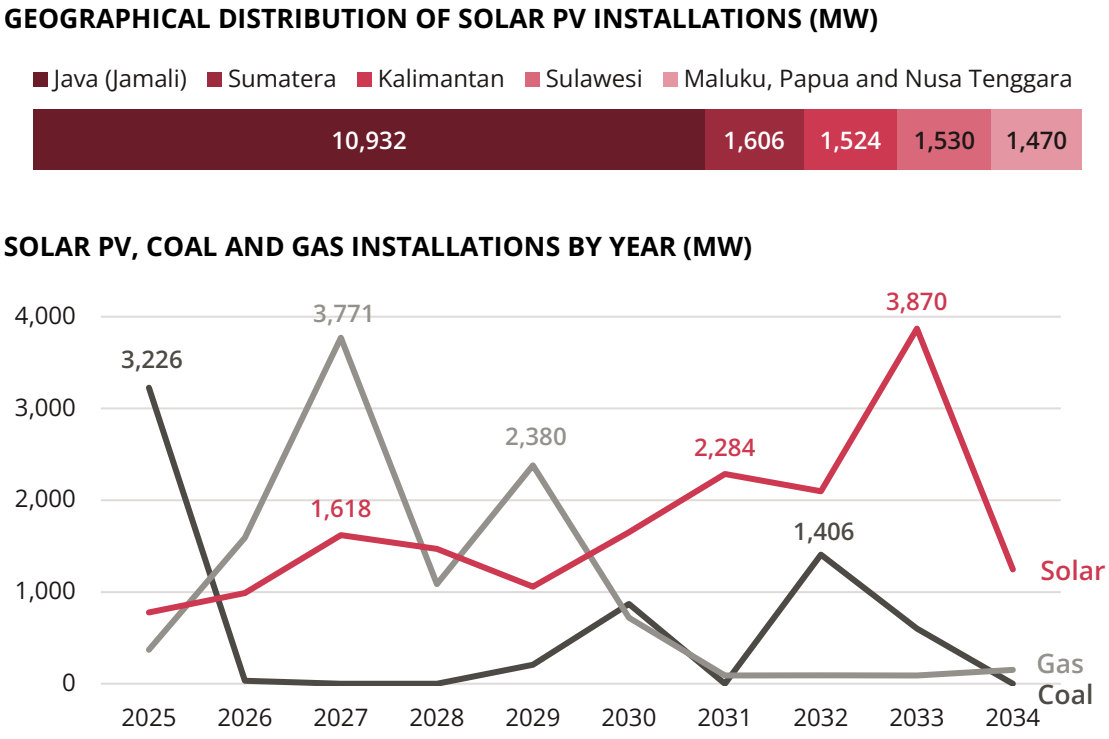
[13] Antara, 26 May 2025, **Indonesia to Add 69.5 GW in Electricity Capacity Through Power Plants**

[14] The current Indonesia Electricity Plan still envisages fossil fuels accounting for 40% of planned additional power generation capacity.

[15] Institute for Energy Economics and Financial Analysis, 19 November 2025, **Transforming Indonesia's Coal Dependence Into Clean Energy Opportunities.**

[16] Electricity demand is growing constantly; growth in 2024 was over 9%: IEA, November 2025, **World Energy Outlook 2025**

PLN's planned solar capacity additions (MW) until 2034



Source: *PLN RUPTL – ARED Scenario, 2025*

Figure 3: The existing 10-year plan for 17 GW of solar deployment, which could potentially be compressed into a 2–3-year timeline, compared with other generation sources planned over the same period.

- **High reserve margins have been attributed to overinvestment in fossil fuel power plants** driven by overly optimistic electricity demand forecasts.[17] Although national electricity demand continues to grow, potential mismatches between generation capacity, demand, and grid conditions could increase the risk of renewable energy curtailment. Proactive measures to manage potential renewable energy curtailment from the program are necessary for its execution in the Jamali system.[18]
- Greater integration with national electricity planning, particularly the Electricity Master Plan and PLN's business plan (RUPTL), is imperative to provide clear signals to investors, given Indonesia's longstanding challenges in delivering renewable energy procurement on schedule. Such integration would align the programme with projected

[17] IEA, 9 August 2022, **Enhancing Indonesia's Power System Pathways to meet the renewables targets in 2025 and beyond**

[18] Government has allocated approximately 8,500 hectares of land to develop around 8.5 GWp of solar capacity in Java as part of initial rollout of the 100 GW solar program: Indonesia Investments, 4 July 2026,

electricity demand and grid modernisation, reducing the risk of implementation delays caused by technical unpreparedness.

- Dedicated regulations and a clear implementation pathway for the 100 GWp solar program should further align industrial electricity demand, domestic manufacturing capacity, and land availability. Annual, phased procurement plans and regular market sounding can improve price discovery, strengthen competition and infrastructure readiness, and incorporate lessons learned from early projects into subsequent tenders.

- **A dedicated solar deployment pathway** is a common policy instrument used to translate high-level solar targets into implementation plans. For example, India set year-on-year targets when Prime Minister Narendra Modi announced a goal to increase solar power capacity to 100 GW by 2022. Brazil and Germany also have annual or rolling solar procurement plans that provide clear visibility over future project pipelines.

2. System flexibility may not be the immediate constraint given Indonesia's currently low VRE penetration.

- Wind and solar generated only around 1.8 TWh in 2024, or approximately 0.5% of total electricity generation.[19] With this share,[20] Indonesia is still in phase 1 of variable renewable energy (VRE) integration according to the IEA.[21] At this level VRE generation is not close to the threshold where system-wide flexibility becomes a major issue. Rather than treating investments in storage and flexibility as prerequisites for solar deployment, Indonesia can plan and scale its system flexibility in parallel with increasing renewable penetration.

- Executing the first rollout of 17 GW is expected to increase solar capacity to 14–15% of electricity generation capacity. However, its contribution to annual generation would likely be only around 5–7%;[22] or even around 4–5% based on the projections of the electricity plans.[23] This suggests that **the primary implementation challenge is likely to be the pace of deployment and system integration**, rather than a high level of variable renewable energy penetration at the national level.

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[19] Ember, 21 April 2026, **Key Energy Data for Indonesia**

[20] Given Indonesia's current low renewable penetration where solar PV accounts for only around 1.4% of Indonesia's total installed power generation capacity (1.49 GW out of 107 GW) in 2025, flexibility considerations should not hinder the immediate deployment of this flagship program.

[21] IEA, 18 September 2024, **Integrating Solar and Wind Global experience and emerging challenges**

[22] Assuming a capacity factor of **13–18%**.

[23] The projection is based on the 2034 Electricity Master Plan, assuming solar capacity additions are aligned with PLN's RUPTL target of 17 GW by 2034. This estimate should be interpreted with caution, as the Electricity Master Plan also includes captive power capacity. Considering only electricity supplied by PLN, solar generation is projected to reach 31,149 GWh in 2034, accounting for approximately 5.36% of PLN's total electricity generation.

- Gas-based power currently contributes approximately 15–20% of Indonesia's electricity generation and accounts for around 20 GW of installed capacity.[24] This existing capacity could provide sufficient operational flexibility and system balancing capability, if PLN adopts appropriate power system planning and dispatch strategies.

- Indonesia does not have a nationally unified grid. Hence, some regions will still require firm clean power (e.g. renewables backed by storage) to substitute baseload generation, which is usually supplied by fossil-fuel generation. Co-development of solar and storage (for instance through firm renewable energy tenders) should be prioritised in regions with low gas and hydro capacity, to address the twin needs of growing renewables and system integration.

3. Leveraging the 100 GW program to improve solar project bankability

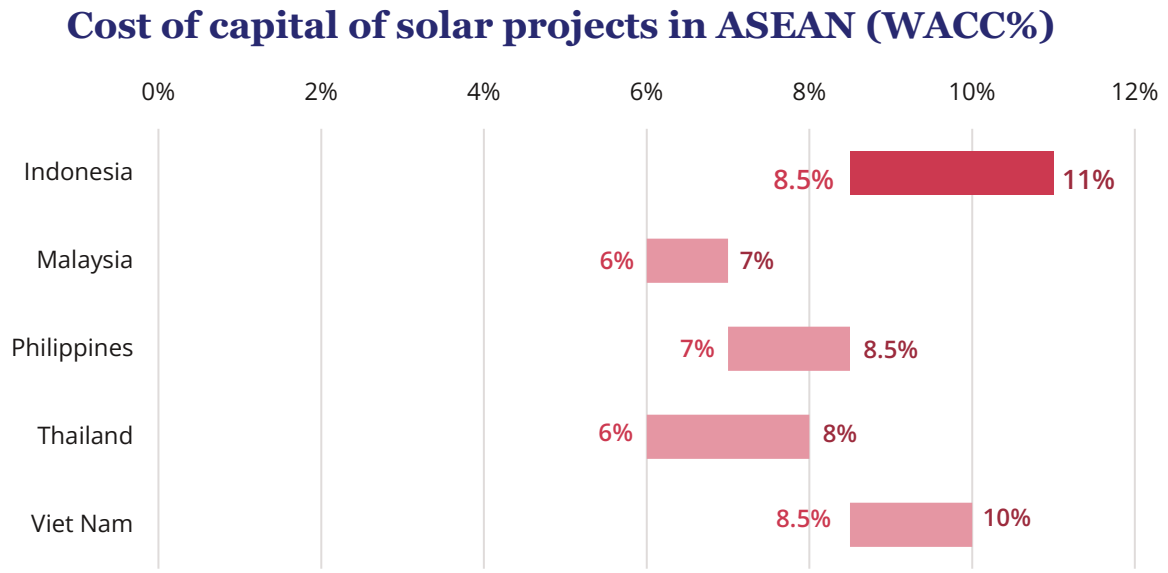
- Bankability has been cited as a substantial barrier for most solar projects in Indonesia. There are at least two main impediments hampering solar project bankability: **(1) onerous procurement processes and varying Power Purchase Agreement (PPA) terms; and (2) high capital costs for solar projects.**

- **First, making procurement process effective**. The first rollout of the programme provides an opportunity to test more efficient procurement processes and balanced risk allocation in PPAs. Over time, Indonesia could evolve beyond a purely capacity-based procurement model towards approaches that reward system value and reliability. This could include hybrid solar-plus-storage projects, dispatchable renewable energy procurement, time-of-delivery pricing, and availability-based incentives for firm renewable electricity supply.

- An institution or dedicated task force could also help modernise renewable energy procurement by aggregating demand across projects. This approach draws on lessons from India's Solar Energy Corporation of India (SECI), which aggregates demand and conducts centralised auctions, as well as Brazil's competitive energy auctions that have successfully provided long-term price signals and scaled renewable energy deployment.

- **Second, addressing the high cost of capital** (Figure 4). Policies that provide revenue certainty, predictable procurement processes, clear tariff structures, bankable PPAs, certainty around grid connections and land availability, and a stable regulatory environment can help reduce perceived investment risks. In turn, this can lower both the cost of debt and the cost of equity, reducing the overall cost of capital (WACC).

[24] IEA, 9 August 2022, **Enhancing Indonesia's Power System Pathway to Meet the Renewable Targets in 2025 and Beyond**



Source: *IEA Cost of Capital Observatory, 2025*

Figure 4: Indonesia's cost of capital for utility-scale solar (50–100 MW) remains higher than that of several ASEAN peers, reflecting persistent regulatory and project risks.

- Beyond relying on development funds, deploying capital from Danantara, Indonesia's sovereign wealth fund, could help de-risk solar projects and grid modernisation while lowering the cost of capital.[25] With approximately US$900 billion in assets under management, Danantara has the financial capacity to support the early phase of the 100 GW solar program.
- Its recently established subsidiary, Danantara Development Management Fund, could provide de-risking instruments, such as project development facilities and revolving funds, for long-term infrastructure projects, including solar projects. Danantara is also exploring issuing "Patriot Bonds" to provide alternative blended financing to support the program.[26] Such mechanisms should be designed to finance solar projects at scale while mobilising and crowding in commercial capital for similar projects.

[25] Indonesia is estimated to require around **US$2.4 billion** in annual transmission investment to support a high-renewables power system.
[26] Antara, 26 August 2026, **Danantara: Pengembangan PLTS 100 GW Butuh Investasi IDR 1.130 Triliun**

4. Harnessing international partnerships to power Indonesia's 100 GW solar ambition

- The 100 GW solar program is closely aligned with Indonesia's diplomatic positioning on the clean energy transition. President Prabowo's 2024 G20 Summit statement on phasing out coal-fired power generation within the next 15 years, alongside the ambition to develop 75 GW of renewable energy,[27] provides a political foundation for positioning the 100 GW solar program as a key instrument for translating Indonesia's international pledges into tangible domestic action.

- E3G's recent report *Powering Across Divides* finds that the central challenge in clean energy cooperation is increasingly not a lack of ambition or technology, but the ability to translate plans and investment commitments into projects on the ground.[28] For Indonesia, international cooperation will be essential to further strengthen programme implementation. Existing initiatives, including the Indonesia–Singapore cross-border clean energy initiative[29] and the Asia Zero Emission Community (AZEC),[30] or even COP 31 Climate Implementation Bridge[31] offer platforms through which international cooperation can support Indonesia's solar deployment ambitions.

- Globally, continued interdependence in energy systems reinforces the case for practical collaboration. Indonesia could draw lessons from India and Brazil on managing solar curtailment and institutionalising large-scale renewable energy programmes, as well as from China on linking large-scale solar deployment with industrial development. In turn, international partners could support Indonesia's energy security and economic transformation by mobilising the finance, technology, investment, and institutional capacity needed to deliver the programme.

  As Indonesia enters a potential boom phase in solar deployment, it has an opportunity to gain international prominence through substantial annual capacity additions, at a time when growth in more mature markets may be beginning to plateau.[32] Indonesia could position itself as a new driver of global solar expansion while contributing to shared international objectives, including the COP31 Presidency's "35-by-35" goal, and the COP28 agreements to triple renewable energy capacity and double the rate of energy efficiency improvements by 2030.

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[27] Cabinet Secretariat of the Republic of Indonesia, 20 November 2024, **G20 Summit: President Prabowo Subianto Highlights Indonesia's Green Energy Vision, Global Climate Role**

[28] E3G, November 2026, **Powering Across Divides: Clean energy cooperation in a fragmented world**

[29] Cabinet Secretariat of the Republic of Indonesia, 06 July 2026, **Singapore to Enhance Strategic Partnership, Energy, Defense Cooperation with Indonesia**

[30] E3G, October 2025, **Getting AZEC Right How Can the AZEC Help Its Members Meet Renewable Energy Objectives**

[31] Marcos Neto, November 2026, **Climate Implementation Bridge is designed to turn bold climate plans into bankable realities**

[32] Reuters, 22 July 2026, **China's new solar installations fall 66% on the year in first half as pricing reform rush unwinds**

Recommendations

- **Fast-track establishment of the necessary legal, regulatory, and institutional foundations as well as the policy alignment for the 100 GWp program.** The revision of RUPTL will help provide an executable pathway for developing 17 GWp solar capacity in the next 2–3 years and action the 100 GWp program. A dedicated year-on-year target linked to demand forecasts, assessments of land availability, and investment needs will help to provide confidence to the market.

- **Position the 100 GW solar program not only to meet demand growth but also to replace ageing, high-cost fossil plants.** The growth of solar in Indonesia is largely dependent on fossil fuel retirement. The next phase of demand and capacity planning should therefore explicitly incorporate fossil fuel retirement, creating additional space for new solar capacity while supporting a more cost-effective transition away from ageing fossil plants.

- **Place greater emphasis on deployment of utility-scale solar and battery energy storage systems (BESS) while advancing long-term grid readiness.** Grid flexibility constraints should not delay solar deployment in Indonesia. Instead, efforts should focus on ensuring that grid modernisation progresses in parallel with the 100 GW solar program, alongside strategic planning for future electricity demand, transmission expansion, and system flexibility requirements.

- **Improve project bankability and develop "flagship" renewables projects** through effective procurement processes, balanced risk allocation in PPAs, and supportive financial policies for renewable energy projects. Flagship projects should aim to bring together MDBs, DFIs, international partners, Danantara and different ministries to fast-track the deployment for renewable energy projects to build investor confidence. Similar efforts in countries have been successful in bringing down costs, demonstrating feasibility, and galvanising local economy growth (see examples in Annex II).

- **Mobilise international support for Indonesia's broader power system transformation needs.** International support and investment should extend beyond the generation pipeline and support the wider electricity system transformation required to accommodate large-scale renewable energy integration. Efforts should focus on accelerating project implementation while simultaneously mobilising financing and technical support for grid modernisation, storage solutions, and future flexibility needs.

Annex I. Policies and regulations relevant to the implementation of the 100 GWp solar program

Policy and regulations	Description	Support level/ alignment to the 100 GWp Program	Remarks
A. Power sector planning and government programs			
MEMR Decree No. 85.K/TL.01/MEM.L/2025 on the National Electricity Masterplan (RUKN)	Document outlining national electricity policy directions, national electricity supply conditions, projections of electricity demand and supply until 2060, and the development plan for the national electricity supply system.	**Not yet aligned**	The RUKN projects that Indonesia will reach 100 GW of installed solar capacity by 2060, which is not aligned with the timeline of the current 100 GWp solar program. The document was adopted before President Prabowo announced the 100 GW solar program. Revising the RUKN should therefore go beyond adjusting solar capacity targets to also address electricity demand projections and the strategy for upgrading the national power system.
MEMR Decree No. 118.K/TL/03/MEM.L/2025 on the Approval of the Electricity Supply Business Plan of PT PLN 2025-2034 (RUPTL)	Establishes PLN's electricity supply plan for 2025–2034, including planned generation capacity and the development of renewable energy and supporting infrastructure.	**Not yet aligned**	The RUPTL envisages an additional 17 GW of solar PV capacity over the next ten years, which could be brought forward to serve as the initial phase of the program. Although PLN has reportedly been developing a supplementary document of RUPTL to accommodate the 100 GWp solar program, the anticipated increase in solar deployment should also prompt PLN to strategically reassess and adjust its existing power procurement plans from other sources as well as solar-linked transmission segments.
Minister of National Development Planning/Head of the National Development Planning Agency Regulation No. 4 of 2026 on the Draft Government Work Plan for 2027.	This regulation governs the national development planning document for a one-year period, namely the 2027 Government Work Plan, which outlines the Government's priority programmes.	**Aligned**	The 100 GWp solar program has been included as a national priority program for 2027, with an allocation of IDR 90 billion from the state budget and IDR 306 trillion from non-state budget sources. Relevant sectoral ministries need to follow up by developing more detailed implementation plans.

Policy and regulations	Description	Support level/ alignment to the 100 GWp Program	Remarks
B. Electricity business, procurement, and technical aspects			
Presidential Regulation No. 112 of 2022 on the Acceleration of Renewable Energy Development for Electricity Supply	Several of provisions under this regulation stipulates renewable energy procurement processes and the purchase tariffs for electricity generated from renewable energy sources including solar.	**Broadly aligned, but requires strengthening**	The procurement process under this regulation should be reviewed to identify opportunities for streamlining and accelerating project delivery. Existing tariff regulations also do not adequately address solar-specific costs, such as water surface fees and rooftop rental costs, which are important for overcoming land availability constraints. Furthermore, there is no dedicated tariff or procurement mechanism for standalone battery energy storage systems (BESS). A dedicated Presidential Regulation regarding 100 GWp is planned to address these gaps by introducing tailored provisions for solar projects, establishing new institutional governance arrangements, and setting annual solar procurement targets.
MEMR Regulation No. 5/2025 on the Guideline for the Power Purchase Agreement from Renewable Sources	Regulating specific PPA provisions for renewable energy power plants, including duration, risk allocation, commercial operation date, environmental attributes, and other relevant provisions.	**Broadly aligned, but requires strengthening**	Renewable energy-specific PPA provisions help strengthen investor confidence by recognising the distinct characteristics and technical requirements of renewable energy projects. However, important bankability questions remain insufficiently addressed such as the capacity payment, the scope of curtailment events eligible for compensation, the application of performance penalties to solar-plus-storage projects, and the allocation of battery replacement costs
MEMR Regulation No. 2 of 2024 on Rooftop Solar Power Plants Connected to the Electricity Networks of Public Electricity Supply Business Licence Holders (IUPTLU).	This regulation establishes the mechanism for the development and operation of rooftop solar power plants connected to the electricity networks of utilities including quota allocation and export of excess electricity to the grid.	**Broadly aligned, but requires strengthening**	The government could consider aligning quotas with substation-level hosting capacity rather than imposing cumulative system-wide ceilings. In addition, government could consider exploring a utility-led procurement mechanism for distributed rooftop solar, allowing PLN to purchase surplus electricity generated by consumer-owned or third-party-developed systems under dedicated tariff and contractual arrangement.

Policy and regulations	Description	Support level/ alignment to the 100 GWp Program	Remarks
MEMR Regulation No. 20 of 2020 on the Electricity Grid Code.	This regulation sets out grid connection standards, operational procedures, and performance requirements for power plants, including renewable energy generators, to maintain system stability and reliability.	**Broadly aligned, but requires strengthening**	Government can consider superseding technical rules particularly provisions to anticipate large volume of solar uptake including system flexibility, battery integration, distributed system, potential ancillary services.
MEMR Regulation No. 19 of 2025 on Hybrid Power Plants jo. MEMR Decree No. 264.K/EK.01/MEM.E/2026 on Guidelines for Electricity Procurement from Hybrid Power Plants	The regulation establishes the framework for hybrid power plants, including the integration of renewable energy, BESS, and existing conventional power plants. It sets out technical requirements to ensure system reliability, as well as procurement and electricity pricing mechanisms for hybrid projects.	**Broadly aligned, but requires strengthening**	The government therefore needs to issue a separate ministerial decree establishing a dedicated hybrid power plant tariff that reflects the actual cost of supplying remote and isolated systems and addresses the gap between generation costs and applicable tariffs. Recognise standalone BESS developers as distinct legal entities and establish commercial compensation models (e.g., capacity payments, grid stabilisation/congestion tariffs) for ancillary services
MEMR Regulation No. 11/2024 on the Use of Domestic Products for Electricity Infrastructure Development	Domestic content (TKDN) requirements or thresholds (minimum percentage of local products) for electricity infrastructure projects, including solar generation, transmission, distribution and substations.	**Broadly aligned, but requires strengthening**	The regulation can support domestic manufacturing and local supply-chain development for solar infrastructure. However, TKDN requirements should be aligned with the annual solar procurement volumes once established for the 100 GWp program, ensuring that domestic supply capacity, quality and delivery timelines can meet deployment needs. Drawing lessons from past solar projects and existing rules, clear and predictable flexibility should be built into the framework where domestic products cannot meet project requirements, avoiding repeated case-by-case exemptions.
C. Other relevant regulations			
Ministry of Finance Regulation No. 5/2025 on Government Guarantees	Regulating provisions for obtaining fiscal incentives for renewable	**Broadly aligned, but**	The facility provides a guarantee mechanism for financing coal plant early retirement through country platforms. It can also

Policy and regulations	Description	Support level/ alignment to the 100 GWp Program	Remarks
and Risk Assumption in Accelerating Renewable Energy Development for Electricity Supply	energy development, including financing support and guarantees through state-owned enterprises assigned by the government.	**requires strengthening**	support private-sector renewable energy development as part of replacement capacity. However, further guidelines are needed to clarify how this facility can be operationalised and linked to the 100 GWp solar program.
Minister of Energy and Mineral Resources Regulation No. 38 of 2016 on the Acceleration of Electrification in Undeveloped Rural Areas, Remote Areas, Border Regions and Inhabited Small Islands through the Implementation of Small-Scale Electricity Supply Businesses.	This regulation sets up a framework for small-scale, integrated electricity supply businesses with a total system capacity of up to 50 MW in underserved rural areas, remote areas, border regions and inhabited small islands.	**Broadly aligned, but requires strengthening**	The regulation provides an enabling framework for decentralised solar deployment, particularly for rural electrification in remote areas and small islands. However, implementation challenges remain, including subsidy uncertainty, licensing barriers and limited project bankability. Its revision presents an opportunity to address these constraints and establish a clearer mechanism for delivering part of the 100 GWp target through the *Listrik Desa (Lisdes)* programme.
Minister of Public Works and Housing Regulation No. 7 of 2023 on the Second Amendment to Minister of Public Works and Housing Regulation No. 27/PRT/M/2015 on Dams	The framework for the management and utilisation of dams and reservoirs, including provisions governing the use of reservoir surfaces for floating solar power plants.	**Broadly aligned, but requires strengthening**	The regulation enables floating solar development on reservoirs, but the water surface utilisation fee remains an important cost consideration for project developers. The government should establish a clear and predictable fee structure to provide cost certainty and ensure that the fee can be properly accounted for in project tariff calculations.

***Notes:* * Aligned** – *Consistent with and supportive of the program;* **† Broadly aligned, but requires strengthening** – *Generally aligned with the program, but requires further regulatory measures, including revisions to existing regulations or the issuance of implementing or superseding regulations, to address outstanding gaps;* **‡ Not yet aligned** – *Not yet aligned with or does not yet accommodate the program's objectives.*

Annex II. Examples of flagship solar projects

The below are examples of successful solar projects developed through collaboration between national governments, multilateral development banks (MDBs), and private-sector actors. These projects demonstrate how blended finance solutions can support the development of flagship renewable energy projects, helping to reduce costs, demonstrate commercial viability, and build investor confidence.

1. Project name: Rewa Ultra Mega Solar project

Location: Madhya Pradesh, India

Capacity: 750 MW (made up of 3 units)

Cost: ~US$658 million

Commissioned in 2018 and completed in 2020, the Rewa Ultra Mega Solar project was constructed with support from the World Bank (WB) and Clean Technology Fund through a US$18 million fund. The International Finance Corporation (IFC) was the transaction advisor for the project.

The project ships power across state boundaries, a first under India's Open Access rules, and provides 60% of the power needs for Delhi's famous metro system.[33] It was the first PV project in India to break the grid parity barrier, achieving a first-year tariff of INR 2.97/unit (previous record was INR 4.34/unit). The project was awarded the WB Group's President award for Innovation and Excellence. The project coalesced international investors into a state-led Independent Power Producer (IPP) for the first time, "developing a paradigm for future Open Access transactions" that the WB has heralded as an excellent example of scaling infrastructure.

WB: "*One of key innovations that stands out in this project is how a modern and transparent electronic competitive bidding process that went on for 33 hours achieved first-year tariffs of as low as Rs. 2.97 per unit. This has essentially brought down the cost of solar power to compete with that of coal-based power.*" [34]

2. Project name: Enel Villanueva PV Plant

Location: Coahuila, Mexico

Capacity: 828 MW (2,000 GWh+), made up of two plants

Cost: ~US$700 million+

[33] World Bank Group, 14 June 2021, **Climate stories: Solar-powered metro in India**
[34] World Bank, **Scaling Infrastructure: New Tools for a New Strategy**

Summary: Connected to Mexico's grid in 2018, the Villanueva solar project was constructed using an automated construction system, saving on time and money according to developer Enel Green Power. GPS-controlled machines moved earth, while drones were used for 3D topography and robots for panel installation. It had an initial capacity of 754 MW but was expanded to the above figure, highlighting the ease of adjusting PV projects when required. In 2018, Villanueva said it had secured a 15-year power purchase agreement and a 20-year clean certificate contract with Mexico's Federal Electricity Commission (CFE).

Political factors: Mexican President Andres Manuel Lopez Obrador has outlined plans to establish a renewable energy hub along the Mexico-US border. He had previously rowed back on earlier support for the clean energy sector which oversaw some of the lowest ever wind and solar prices in the country.

An April report for the Mexican government by the US' NREL found that Mexico is "ideally poised" to establish a renewables superhub given its world-class solar resources and low generation costs.[35]

3. Project name: Karapınar YEKA-1 solar farm

Location: Karapınar district, Konya Province, Türkiye

Capacity: 1.35 GWdc (1 GWac) once completed in full (1,700 GWh)

Cost: US$1.3 billion

Summary: Built in the Renewable Energy Resource Area (YEKA), the Karapınar YEKA-1 solar farm will be the biggest in Europe when completed. It is being built in two parts. The first part (700 MW) is already operational, with the second expected to come online in May 2023. Construction was won by a consortium of the Turkish Kalyon Group and South Korean conglomerate Hanwha, which offered the lowest kWh price (US$6.99 cents) via a 15-year PPA. In all, more than 1,500 people will be employed in the construction of the project. It was part financed by the UK government, which has provided a US$291 million buyer credit facility, and an Environmental Impact Assessment has been conducted.[36] Some environmental and social concerns around water usage and agricultural practices were raised, but no widespread opposition.

[35] National Renewable Energy Laboratory, April 2022, **Mexico Clean Energy Report: Mexico: North American Clean Energy Powerhouse**.

[36] UK Export Finance, March 2022, **Category A project supported: Kaparinar Yeka (Kalyon) Solar Power Plant, Turkey**8

ABOUT E3G

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