Policy Brief

October 2026

Highlights

- Bangladesh's renewable energy ambitions depend on bankable Power Purchase Agreements (PPAs), but the current template places most risks on private investors while offering limited protection in return.
- Applying a contract-theoretic lens, this study finds that enforcement strength and risk allocation are the weakest links in public–private PPAs, both significantly lower than in private–private deals.
- Regional peers like Vietnam, India, and the Philippines show that bankability can be improved either by rewriting the contract or by layering protection mechanisms like escrow accounts, deemed contracts, and multiparty arrangements around it, but guarantees only work when backed by genuine institutional follow-through.
- A calibrated, sequenced reform package, covering payment security, enforcement, flexibility, and inter-agency coordination, can attract Chinese and other foreign investment without abandoning legitimate public-interest safeguards.

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Revisiting Power Purchase Agreements (PPAs)

Case of Chinese Investment in the Renewable Energy Sector

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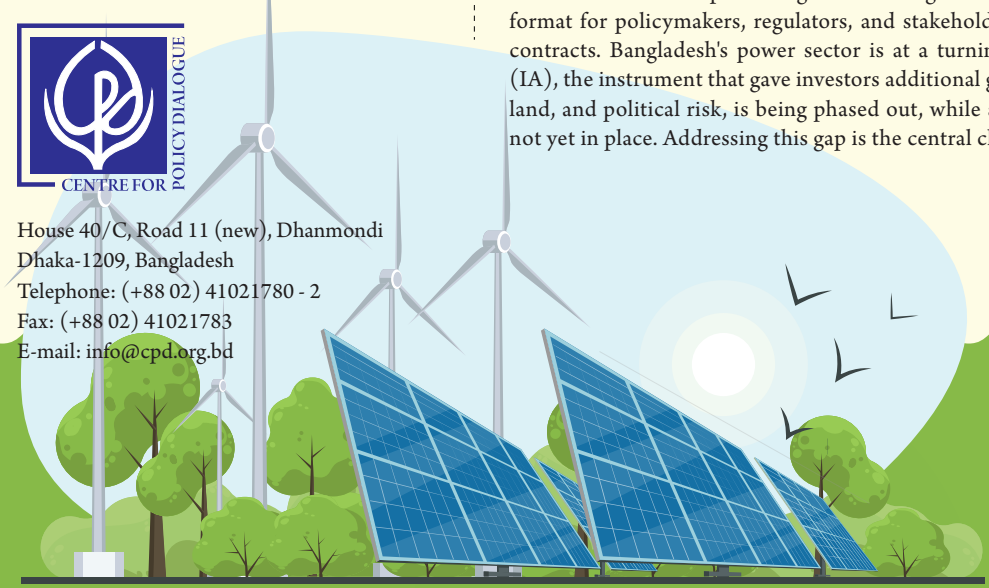
1. Study Context

Power Purchase Agreements (PPAs) are the foundational contracts that determine whether private electricity investment actually happens. They set the price, the risk-sharing arrangement, the capacity commitment, the contract duration, and the consequences of default, and because they provide revenue certainty over many years, they are what makes private power projects financeable in the first place. Without a credible PPA, lenders will not commit capital, and projects do not get built. Rethinking how Bangladesh structures these agreements is therefore not a procedural matter; it is a prerequisite for energy sector investment at the scale the country's development trajectory demands.

This imperative is sharpening as Bangladesh's power market diversifies. Rooftop solar installations, merchant power plants, corporate PPAs, and direct offtake by large exporters are all emerging alongside the conventional utility-to-BPDB model; and each carries a different risk profile, a different set of counterparties, and a different set of financing requirements. It is now necessary to understand how strong bankable contracts can be developed so that related parties can optimise their positions.

The urgency of this is compounded by the current state of the Bangladesh Power Development Board (BPDB), the single buyer in most existing arrangements. BPDB is under financial stress: payment delays are common, disputes have grown more frequent, and recent cross-border disagreements over unpaid bills have underlined how important clear, enforceable contract terms are for keeping investors confident. Countries facing similar constraints: India, Vietnam, Pakistan, have improved project bankability through layered payment-security systems or by opening direct offtake channels for large industrial buyers. Bangladesh can learn from both experiences.

This brief draws on CPD's research report examining Bangladesh's PPA framework, with particular attention to attracting sustained Chinese investment into the renewable energy sector. It distils the report's diagnostic findings and recommendations into a decision-oriented format for policymakers, regulators, and stakeholders shaping the next generation of power contracts. Bangladesh's power sector is at a turning point. The Implementation Agreement (IA), the instrument that gave investors additional government-backed assurances on permits, land, and political risk, is being phased out, while a fully designed replacement framework is not yet in place. Addressing this gap is the central challenge this brief speaks to.

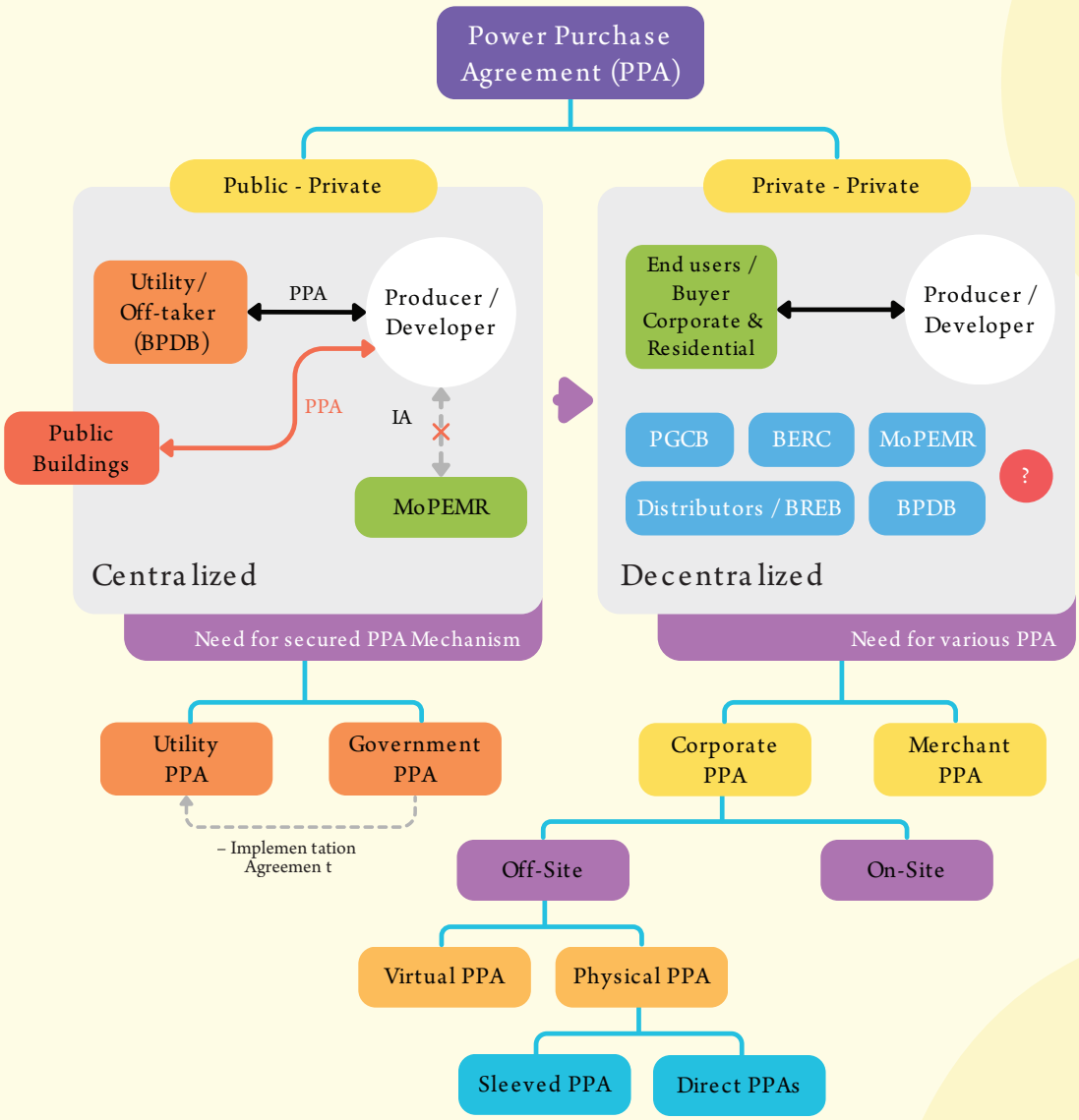


2. Overview of Power Purchase Agreements in Bangladesh

A Power Purchase Agreement or PPA is a long-term contract between an electricity producer and a buyer, whether a distribution utility, a large industrial consumer, or a government entity. It sets the electricity price, how risk is shared, how much capacity the producer commits to deliver, how long the deal runs, and what happens if either side fails. Because PPAs provide revenue certainty over many years, they are what make private power projects financeable: without one, lenders generally will not commit capital.

Different parties come to a PPA with different priorities (Figure 1). In the current public-private arrangement, government off-takers want energy security at a predictable cost; private off-takers focus more on cost efficiency and sustainability targets. Power producers want revenue certainty and a fair share of risk. Lenders assess whether the PPA is 'bankable', whether payment security and termination rules are clear enough to justify financing. Investors care most about policy stability and enforceability. A good PPA must balance all four sets of priorities.

Figure 1 **Overview of the Current and Upcoming System Around PPAs in Bangladesh**



Source: Authors' compilation and illustration.

Bangladesh's power sector historically relied on government-backed PPAs structured around two linked documents: the Utility PPA and a separate Implementation Agreement (IA), which gave investors additional assurances on permits, land, and political risk. This model helped expand generation capacity but left BPDB carrying a growing burden of payment arrears. Concerns about financial solvency eventually led the government to discontinue the IA altogether.

Today's standard arrangement is the Utility PPA alone, with no IA behind it. Fossil fuel projects enjoyed that government backing for years; renewable developers are now asked to invest without it, precisely as the sector is supposed to scale up. A new Policy for Enhancement of Private Participation in Renewable Energy-based Power Generation is expected to partly fill this gap. Under the draft policy, BPDB would purchase only a portion of output from private generators (up to 20 percent depending on demand; and industries would be permitted to install rooftop or open-land solar, sell surplus through wheeling, and access PPP-based long-term PPAs with Bangladesh Bank refinancing support. This matters for export competitiveness too: from 2027, the EU's Carbon Border Adjustment Mechanism will apply carbon levies to imports, and Bangladesh's RMG and textile exporters will face higher costs in their largest market unless they can demonstrate a credible shift to renewable power, making access to well-structured renewable PPAs an export policy concern, not just an energy one.

A parallel shift is underway towards private-to-private PPAs, corporate PPAs and merchant power arrangements that let generators sell directly to industrial or commercial buyers. Cost pressures and international brands' green supply-chain requirements are driving this, with RMG sector players reportedly exploring direct investment under merchant models. This marks a meaningful step towards decentralising Bangladesh's power system.

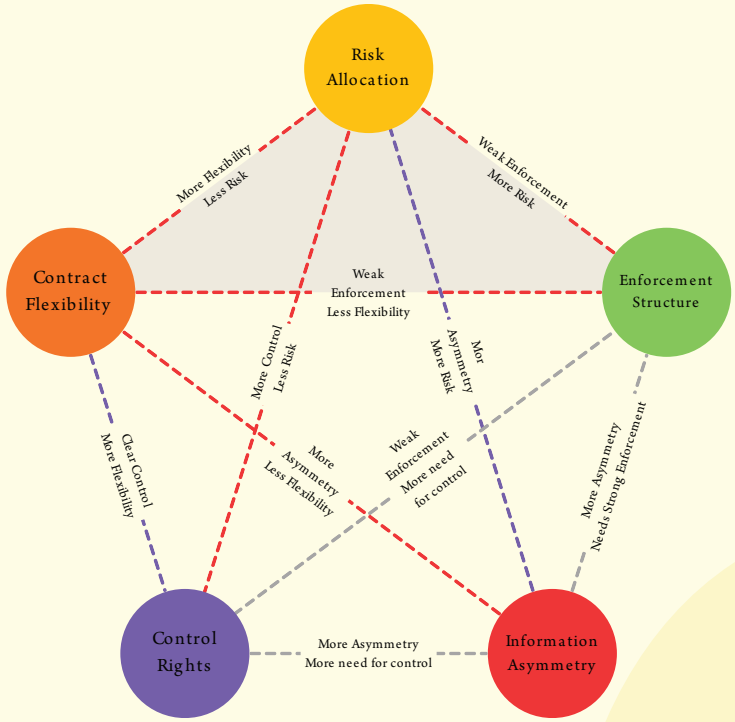
Corporate PPAs can be onsite (solar at the buyer's own premises) or offsite (grid-delivered, physically or through virtual financial settlement). Merchant PPAs require a functioning wholesale electricity market, which Bangladesh does not yet have. Open questions remain about whether PGCB will permit offsite transmission and whether surplus power can be sold to the grid, issues that, left unresolved, create friction with the government's supply obligations. Clear, standardised guidelines will be essential as this segment grows.

3. Issues Highlighted in PPAs: Cross-Country Analysis

This brief draws on the idea of complete and incomplete contracts: a complete contract would specify all relevant contingencies and be backed by strong enforcement but given the long duration of PPAs and Bangladesh's complex regulatory environment, full specification is not possible. PPAs in Bangladesh therefore function as incomplete contracts, governed through risk-allocation rules, control mechanisms, enforcement substitutes, and monitoring arrangements (Sciences, 2016).

Five dimensions (Figure 2) shape how well such a contract performs under uncertainty: risk allocation (who bears the cost when something goes wrong), enforcement capacity (whether courts, regulators, or arbitration can make a promise stick), flexibility (whether terms can adapt without inviting opportunistic reinterpretation), control and residual rights (who decides when unforeseen

Figure 2 Interactions Within the Dimensions of Incomplete Agreements



Source: Authors' illustration.

circumstances arise), and information asymmetry (how much each side knows about the other's finances and operations). Strengthening these dimensions together moves a contract closer to the benchmark of a complete one.

Under these dimensions and benchmarked against templates in Vietnam, the Philippines, Kenya, Tanzania, India, Pakistan, and Saudi Arabia, Bangladesh's BPDB tender document stands out for what it lacks rather than what it includes.

3.1 Clauses Protecting the Developer and Lenders

This is where Bangladesh's template shows the clearest gap. It lacks both a Payment Security Mechanism and an Implementation Agreement, the two provisions that most directly determine bankability. Bangladesh does include termination compensation, change-in-law protection, curtailment compensation, and FX convertibility, but without a Payment Security Mechanism, a revolving Letter of Credit, escrow account, or sovereign-backed guarantee, lenders cannot rely on revenue continuity even when project fundamentals are sound. Countries like Pakistan, the Philippines, and Saudi Arabia include both protections as standard.

3.2 Clauses Protecting the Government/ Off-taker

Bangladesh's template performs well and broadly aligns with international practice on this side: performance guarantees, testing and commissioning protocols, tariff transparency, grid interconnection rules, and environmental compliance requirements are all present. These provisions protect public resources from underperforming assets, verify construction quality before commissioning, and keep tariff-setting predictable.

3.3 Clauses Protecting Both Parties

Bangladesh includes most mutual protections, staged arbitration, metering and billing rules, audit rights, insurance, force majeure, and assignment rules. The one clear gap is lender step-in rights, present in Indian, Pakistani, Philippine, and Saudi templates. Step-in rights allow lenders to take over operations if a developer defaults, preventing project collapse, an important safeguard whose absence is a notable weakness relative to regional practice.

3.4 Regional Policy Outcomes

Regional experience shows bankability gaps can be closed in more than one way, either by rewriting the PPA or by layering protection mechanisms around it. India's template, like Bangladesh's, lacks a payment-security clause, but a separate aggregator-administered guarantee fund and government-backed support arrangement sitting outside the contract have substituted for this gap and even improved the credit rating of the implementing agency. Vietnam introduced a direct power-purchase mechanism allowing large industrial consumers to buy electricity straight from generators, bypassing a financially weaker utility, though curtailment compensation remains absent. The commitment from Pakistan government to purchase all output from Chinese-financed projects, backed by Chinese state insurer political risk coverage, attracted real investment, but when payments fell behind, the insurer paused coverage and contracts required renegotiation regardless of what was promised on paper.

The lesson is that a guarantee is only as credible as the institutional follow-through behind it. For Bangladesh, a guarantee fund or direct offtake channel could substitute for protections BPDB cannot provide on its own balance sheet, but any such mechanism still needs consistent payment behaviour and credible enforcement behind it.

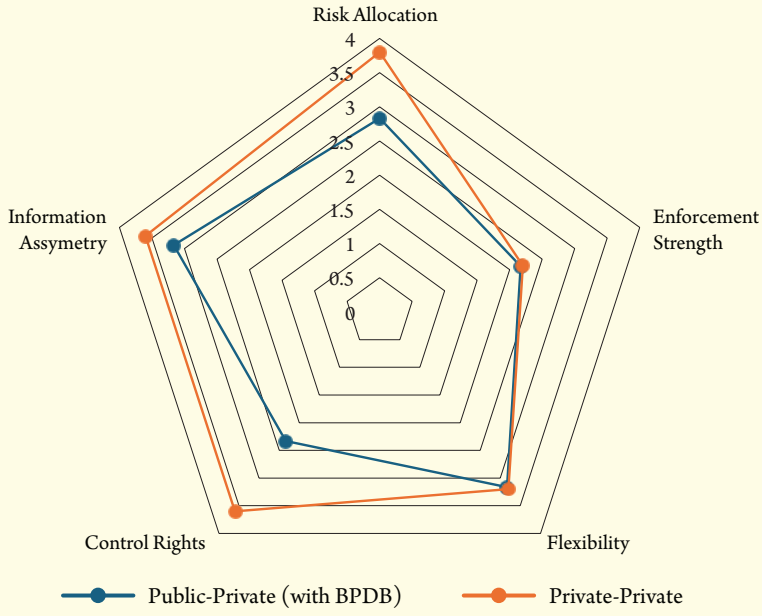
4. Gap Analysis of Key Issues in Bangladesh PPAs

To assess how the current framework performs in practice rather than on paper, the study collected structured expert assessments through key informant interviews and focus group discussions, scoring each of the five contract dimensions on a 1-to-5 scale (1 = very weak, 5 = very strong) for public–private and private–private arrangements separately, as shown in Figure 3.

Two findings stand out. First, enforcement strength is the weakest dimension across both contract types, barely above 2, regardless of off-taker type, pointing to a structural problem with how disputes are resolved and promises are honoured, not something specific to BPDB. Second, public–private PPAs consistently score lower than private–private deals on risk allocation and control rights, confirming that the public-sector contracting model concentrates risk and decision authority with the government side more than even the domestic private market does.

A review of the BPDB tender document's General Conditions of Contract shows why these scores emerge. On risk allocation, most construction, performance, and procedural risk falls on the contractor: default triggers unconditional asset transfer to the

Figure 2 **Analysis of the Dimensions of the Analytical Framework for Bangladesh**



Source: Authors' illustration.

government, and strict notification deadlines bar claims if missed. On enforcement, the staged dispute-resolution process looks adequate in form but is asymmetric in practice, contractors face strict deadlines that, if missed, forfeit claims entirely. On flexibility, terms are intentionally rigid: fixed timelines, formula-based adjustments, no room to respond to changed conditions over a 20–25 year term. On information, data-disclosure obligations fall mostly on contractors while the government's duty to share system-level data, grid availability, curtailment records, is underspecified. On control and residual rights, the government retains strong authority over termination and asset transfer, leaving contractors with weak financial protections.

The contract is not poorly drafted by the standards it was written for. The issue is that its underlying logic, protecting the public side first, does not match what international investors are accustomed to balanced risk-sharing expect from a bankable PPA.

Specific Challenges Relating to PPAs

a) General procurement rules were not built for power projects. The Public Procurement Act and Rules bring useful competitive discipline but were designed for goods and services, not long-duration power infrastructure. Their effective governance coverage ends at contract award, leaving land acquisition, grid connection, environmental clearance, and other post-award approvals without structured oversight.

b) The standard PPA has drifted away from its original, more balanced design. Successive revisions have shifted the template towards government-side provisions, to the point where some investors have had to arrange corporate guarantees from parent companies, including Chinese parent firms, simply to close financing.

c) Currency risk is not adequately addressed. The PPA does not sufficiently compensate for exchange-rate movements between invoicing and payment, a problem that worsens materially when delays stretch out.

d) Payment delays are persistent and serious. Total delays of five to six months are common; while delays of close to two years have also been documented. Once one payment slips, subsequent payments often follow, directly eroding investor returns.

e) Inter-agency coordination is weak. Approvals require sequential sign-off from BPDB, REB, Polli Bidyut, PGCB, and others. In documented cases, a stalled approval from one agency has blocked an entire project, forcing technically suboptimal workarounds.

f) Land that should be litigation-free often is not. Even after formal government clearance, local-level land disputes have arisen after the fact. Ministries and local authorities frequently operate in silos, unaware of approvals already granted elsewhere.

g) Contract terms were drafted for fossil-fuel plants, not renewables. Pre-commissioning testing requirements that presuppose dispatchable generation do not account for weather-dependent solar resource testing. The RCOD–COD milestone structure has imposed liquidated damages even when delays were caused by the government side extending the COD deadline without adjusting the RCOD.

h) Agreed tariffs have faced renegotiation pressure after investment is committed. Some investors found the government seeking to reopen previously agreed terms by reference to cross-country comparisons that do not reflect Bangladesh's specific cost and risk environment, a problem compounded by the absence of defined renegotiation procedures in the PPA.

i) Financing costs are compounded by compliance burdens. Domestic financing is limited and expensive (around 12–13 per cent), pushing most investors to foreign lenders who impose extensive due diligence. Layered on approval delays and payment uncertainty, cumulative transaction costs for developers rise significantly.

j) Tax incentives and force majeure relief are weak in practice. Revenue authorities are not parties to the PPA and are not bound by its terms, leaving fiscal incentives vulnerable to administrative friction. The COVID-19 pandemic demonstrated that disrupted projects found little effective compensation or flexibility under existing force majeure provisions.

5. Recommendations for Improvement of PPA Effectiveness

The recommendations below are grouped by the lead agency responsible for acting on them. BPDB carries most of the responsibility for closing these gaps, though several actions also need coordination with the Ministry of Finance, PGCB, SREDA, the Cabinet Division, and other agencies, marked against the relevant bullet.

The table 1 below gives a quick summary by lead agency and urgency; the detailed recommendations, grouped the same way, follow in the original wording of the study.

Table 1 Policy Action Matrix

Recommendations	Entity	Urgency
Introduce a payment security mechanism (revolving Letter of Credit, 3–6 months) and make late-payment surcharges mandatory and automatic	BPDB (with Ministry of Finance)	Immediate
Define a clear termination compensation formula, link asset transfer to fair valuation, and introduce lender step-in rights	BPDB	Immediate
Consider partial government risk-sharing for system-level or external disruptions	BPDB	Medium-term
Expand force majeure clauses (tenure extension, tariff adjustment, cost pass-through)	BPDB	Medium-term
Establish time-bound, deemed-approval mechanisms and a Dispute Adjudication Board ahead of arbitration	BPDB	Medium-term
Relax the 28-day claim-forfeiture rule and ease procedural rigidity around claims	BPDB	Immediate
Build automatic tariff adjustment into change-in-law clauses; set a 5–7-year PPA review cycle	BPDB	Medium-term
Define clear renegotiation triggers and differentiate claim timelines by complexity	BPDB	Medium-term
Establish a mandatory data-sharing protocol, independent metering, and mutual audit rights	BPDB (with PGCB & other agencies)	Immediate
Broaden stakeholder engagement and strengthen enforcement of existing commitments	BPDB	Ongoing
Strengthen payment discipline and currency-risk protection	BPDB (with Ministry of Finance)	Medium-term
Develop a dedicated Renewable Energy Procurement Guideline	BPDB (with Cabinet Division)	Medium-term
Develop renewable-specific PPA provisions (COD flexibility, RCOD–COD milestones)	BPDB (with SREDA)	Medium-term
Invest in capacity development and joint training on power-sector procedures	BPDB (with Developers)	Ongoing
Declare power and energy a national priority sector; establish the IATF	Power Division (MoPEMR)	Immediate
Introducing binding, time-bound approval procedures across agencies	Power Division (MoPEMR)	Immediate
Ensure land provided for projects is genuinely litigation-free	BPDB, Ministry of Land, & Local Authorities	Ongoing
Expand company courts with commercial-law expertise	Ministry of Law	Long-term

Source: Authors' analysis.

To BPDB

- [With Ministry of Finance] A payment security mechanism, a revolving Letter of Credit covering 3–6 months of payments, backed by a sovereign guarantee or central bank support, can be introduced to provide investors with meaningful revenue certainty, alongside late-payment surcharges made mandatory and automatic (e.g., LIBOR/SOFR + margin), without requiring the investor to initiate a dispute.
- [With Ministry of Finance] Payment discipline and currency-risk management should be strengthened through clearer payment timelines, improved BPDB budget planning, and financial instruments that protect investors from exchange-rate movements between invoicing and settlement.
- A clear termination compensation formula should be defined (outstanding debt, equity, and a reasonable return), with asset transfer linked to a fair, independent asset-valuation mechanism rather than unconditional transfer, and lender step-in rights introduced so financiers can take over operations before a project collapses.
- Partial government risk-sharing where disruption or termination is linked to system-level or external factors rather than developer fault should be considered.
- The force majeure clause should be expanded to allow contract-tenure extension, tariff adjustment, and partial cost pass-through during prolonged events.
- Time-bound payment obligations with a deemed-approval mechanism should be established in case there is no response provided within the specified window, and a Dispute Adjudication Board should be introduced, as used in FIDIC-based contracts internationally, for faster, lower-cost resolution before arbitration.
- The strict 28-day claim-forfeiture rule should be relaxed to allow exceptions based on reasonable justification, particularly for external or uncontrollable factors, and procedural rigidity around claims should be relaxed so that late submissions can be evaluated on merit rather than rejected automatically on timeline grounds.
- Automatic tariff adjustment into change-in-law clauses to cover tax, regulatory, and macroeconomic changes should be built, along with a periodic review mechanism of the PPA (every 5–7 years) within clearly predefined parameters.
- Renegotiation triggers, such as significant exchange-rate movements, prolonged grid unavailability, or policy-induced curtailment, should be clearly defined so any future renegotiation, including revision of tariffs or terms, follows a transparent, predefined process rather than informal pressure after investment is committed; claim timelines should also be differentiated by complexity.
- [With other Government Parties] A mandatory data-sharing protocol should be established requiring BPDB and other government parties to provide grid availability, dispatch instructions, and curtailment records on a regular, defined basis, supported by independent metering and verification for generation and performance, and mutual audit rights covering technical performance, billing, payments, and operational data.
- Stakeholder engagement in project governance should be broadened, including EPC contractors and technical stakeholders, to ensure their feedback is genuinely incorporated in project decisions, and enforcement of existing contractual commitments should be strengthened across government agencies, since investor confidence depends as much on consistent follow-through as on new contractual provisions.
- [With Cabinet Division] A dedicated Renewable Energy Procurement Guideline should be developed. The Public Procurement Act and Rules effectively cease to apply once a contract is awarded, leaving land acquisition, grid connection, and commissioning without structured governance. A specialised guideline, operating within the existing PPR framework, should define renewable-specific procurement methods, sector-appropriate qualification criteria, institutional responsibilities, and enforceable post-award rules covering the full project lifecycle.
- [With SREDA] Renewable-specific PPA provisions should be developed reflecting the operational realities of solar and other variable technologies, including flexibility in COD timelines for weather-dependent resource testing, and revision of the RCOD–COD milestone structure so that extensions to one do not automatically expose developers to liquidated damages.
- [With Developers] Developers should invest in capacity development for local project teams and joint BPDB training to reduce administrative friction stemming from inexperience with complex power-sector procedures.
- [With Ministry of Land and Local Authorities] It should be ensured that land provided for projects is genuinely litigation-free, with improved coordination between ministries and local authorities to prevent post-clearance disputes of the kind already documented.

To the MoPEMR

- The power and energy sector should be declared as a national priority sector to encourage consistent inter-agency coordination and signal that PPA commitments will be honoured across all institutions involved in implementation. An Inter-Agency Task Force (IATF) should be established with mandatory representation from BPDB, PGCB, REB, SREDA, the Power Division, and the Ministry of Finance (BERC as observer), chaired at minimum Joint Secretary level. The IATF should coordinate technical approvals, monitor agencies' timeline compliance, and serve as first point of escalation when projects stall. Where delays result

from an agency's failure to act in good faith, the IATF should be empowered to recommend the delay be treated as a Government Event of Default under the PPA.

- Binding, time-bound approval procedures should be introduced for critical project authorisations across all relevant agencies, to reduce the administrative uncertainty that currently compounds contractual risk.

To the Ministry of Law

- Company courts with genuine commercial-law expertise should be expanded, building on recent steps to increase their number, so power-sector disputes can be resolved competently and promptly.

The overall intent is a gradual shift from strict risk transfer toward balanced risk-sharing, without compromising public-sector control or project discipline.

6. Conclusion

Bangladesh's PPA framework is at a structural inflection point. The diagnostics in this brief show that while contractual provisions look adequate in form, real weaknesses persist in enforcement, payment security, and inter-agency coordination, and these weaknesses are directly translating into higher financing costs, project delays, and reduced competitiveness relative to peer markets. The phasing out of the Implementation Agreement has removed a key layer of investor protection without a credible substitute in place. Filling this gap, through a combination of template reform, institutional coordination, and payment-discipline measures, is the most direct lever available to unlock renewable energy investment, including from Chinese developers, at the scale Bangladesh's energy transition requires. The reform path recommended here is calibrated, not wholesale: it preserves legitimate public-sector oversight while progressively reducing the asymmetries that currently deter bankable investment.