



Workshop Report: Funding Indonesia's Resilient and Sustainable Transformation (FIRST)

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This report synthesizes discussions and presentations from the FIRST Workshop. The recommendations reflect participant perspectives and emerging consensus rather than formal institutional positions. Implementation will require continued dialogue, detailed design, and sustained commitment from all stakeholders.

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Contents

Executive Summary	ES-1
Session 1: Bridging Policy and Practice	1
Breakout Sessions: Financing Transport, Energy, and Water Projects	4
Session 2: Operationalizing Blended Finance at Scale	6
Workshop Recommendations: Actions for Transformation	9
Conclusion: The Transformation Imperative	11

Executive Summary

Background

On August 21, 2025, RTI International and KEMITRAAN – the Partnership for Governance Reform co-convened the Funding Indonesia's Resilient and Sustainable Transformation (FIRST) workshop, bringing together public and private sector stakeholders to address Indonesia's critical infrastructure financing gap and explore innovative mechanisms for mobilizing climate finance.

The workshop revealed a mature ecosystem of financing platforms and risk mitigation tools ready for deployment at scale. Through presentations from government agencies, non-state actors, and financial institutions, participants identified concrete pathways to bridge the financing gap through standardized project preparation, innovative blending structures, and programmatic delivery models that can replicate successful pilots across the archipelago.

The Infrastructure Challenge: Scale, Urgency, and Opportunity

With infrastructure needs totaling IDR 1,905 trillion (USD 117 billion) for 2025-2029 and a financing gap of IDR 753 trillion (USD 47 billion), Indonesia requires transformative approaches to leverage blended finance, strengthen institutional capacity, and align public-private partnerships with climate resilience objectives.

Indonesia's infrastructure deficit represents both an immediate development constraint and a generational opportunity for transformation. The nation's commitment to achieving net-zero emissions by 2060 requires USD 2.4 trillion in climate finance – yet between 2015–2021, only 15% of these needs were met. This gap reflects capital scarcity and structural challenges in project preparation, risk allocation, and institutional coordination, including delays in land acquisition, low inter-ministerial coordination, and limited subnational capacity to structure bankable projects.

Traditional public financing through national (APBN) and regional (APBD) budgets can address only 60% of infrastructure needs, leaving an IDR 753 trillion gap that demands creative solutions. This has spurred greater interest in blended finance, green bonds, and sovereign wealth fund participation. Inadequate infrastructure also perpetuates climate vulnerability—coastal flooding in Java, power outages in eastern Indonesia, and water scarcity in Nusa Tenggara highlight the costs of underinvestment. These weaknesses raise logistics costs, restrict access to clean energy, and undermine connectivity across islands.

The convergence of development imperatives and climate commitments creates both urgency and opportunity for reimagining infrastructure finance. By scaling innovative mechanisms such as the Indonesia Investment Authority's co-financing platforms or PT SMI's climate facilities, Indonesia can accelerate investment pipelines while advancing its Sustainable Development Goals. This moment is not just a financing challenge but an opportunity to build a more inclusive, resilient, and sustainable growth trajectory for generations to come.

The Convergence Opportunity

The workshop revealed remarkable alignment across previously disparate elements of Indonesia's infrastructure finance ecosystem. Government priorities, community innovations, and financial platforms are converging around common principles:

- **Standardization enables scale:** Using proven contract templates, risk-sharing structures, and documentation lowers transaction costs and speeds up implementation.
- **Measurement drives investment:** Verifiable outcomes in kilometers, kilowatts, and cubic meters saved creates the basis for revenues and performance-based payments
- **Integration multiplies impact:** Projects delivering infrastructure services, climate resilience, and community development attract a wide range of funding sources

Building Bankable Infrastructure

Participants identified two foundational elements that transform projects from concepts to investments:

- **Payment Certainty:** Availability payments, output-based aid, and results-based financing backed by sovereign guarantees, escrow accounts, or partial risk guarantees convert policy objectives into predictable cash flows that banks can finance.
- **Measurement, Reporting, and Verification (MRV):** Standardized systems for tracking service delivery and climate outcomes reduce due diligence costs, enable carbon finance, and provide the performance data required for results-based payments.

These elements, payment certainty and MRV, are as essential as feasibility studies or environmental assessments.

The Programmatic Imperative

The shift from bespoke, one-off projects to programmatic delivery emerged as perhaps the workshop's most important insight. Cohort-based programs—multiple similar projects moving in parallel—offer compelling advantages:

- **Efficiency gains:** Shared preparation costs, standardized documentation, and bulk procurement reduce per-project expenses
- **Learning acceleration:** Each completed project refines the model for subsequent deployments
- **Market confidence:** Repeated successful execution builds investor familiarity and reduces risk premiums
- **Portfolio effects:** Diversification across multiple projects reduces concentration risk

Recommendations emerging from the workshop can be found on [page 9 of this report](#).

Session 1: Bridging Policy and Practice

The Ministry of Public Works and Housing Perspective

Pandu Gunadi Atmosukarto, B.Eng., M.U.M., Director of Systems and Strategy for Human Settlements Infrastructure Delivery (Cipta Karya) presented an ambitious yet essential roadmap for 2025-2029, anchored in the national development plan (RPJMN) and Presidential Regulation No. 12/2025. The targets reflect Indonesia's commitment to universal basic services while integrating climate resilience and circular economy principles:

- **Safe drinking water access:** Expanding from 20.49% (2023) to 43% by 2029
- **Safe sanitation coverage:** Increasing from 10.25% (2024) to 30% by 2029
- **Treated solid waste:** Rising from 15% (2022) to 38% by 2029

These goals represent a shift toward integrated, climate-resilient service delivery, incorporating City-Wide Inclusive Sanitation, nature-based drainage, and waste-to-energy systems.

Operational Realities Shape Financial Solutions

The Ministry underscored operational challenges that frame financing design:

- **Utility performance:** Only 65.48% of local water utilities (BUMD) are financially healthy, with just 46.45% achieving full cost-recovery tariffs
- **System inefficiencies:** Non-revenue water persists at 33.51%, treatment infrastructure operates below capacity (65% for wastewater plants, 75% for septage facilities)
- **Institutional fragmentation:** Weak planning documents, inconsistent local regulations, and misaligned data systems create transaction frictions that deter private investment

Rather than barriers, these become design parameters—where zone-based NRW programs, integrated waste hubs, and performance-based contracts create pathways for improvements.

Demand Side: Affordability and Participation

The Ministry also addressed demand-side issues that may create “transaction frictions,” including low public participation (community-based operations and maintenance for public infrastructure) and ability to pay for services (e.g., up-front cost of water). Architectural designs function to “nudge” community behavior to desired outcomes.

Financing Architecture: Beyond Traditional Budgets

The Ministry outlined a financing architecture that moves beyond traditional budget allocations:

- **Public-Private Partnerships (KPBU):** Structured to attract private capital
- **Results-based financing:** Payment mechanisms tied to verified outcomes
- **Blended structures:** Combining grants, concessional finance, and commercial capital

This multi-source approach acknowledges that closing the financing gap requires not just more capital, but smarter capital allocation that aligns incentives across stakeholders.

KEMITRAAN's Catalytic Role

KEMITRAAN highlighted the unique value that non-state actors bring to infrastructure finance in Indonesia. Established in 2000 as a partnership between UNDP and Bappenas, KEMITRAAN has implemented more than 400 projects worth USD 160 million across all 38 provinces. As the Adaptation Fund's National Implementing Entity and a Direct Access Entity for the Green Climate Fund, it leverages its mandate to address three critical functions:

1. **Project development and preparation:** Providing grant capital and technical assistance to build pipelines of bankable projects
2. **Policy and regulatory reform:** Strengthening accountability, transparency, and the enabling environment for investment
3. **Innovative financing mechanisms:** Deploying patient, risk-tolerant capital that crowds in private co-investment



KEMITRAAN Executive Director Nurina Widagdo addresses FIRST Workshop attendees.

Coastal Resilience: Integration at Scale

KEMITRAAN's North Java coastal program exemplifies scalable resilience. A modular breakwater system offers rapid protection while 22,600 mangrove seedlings restore ecosystems across three villages. Livelihood integration—ecotourism, aquaculture, and circular ventures like eco-friendly batik—extends benefits beyond infrastructure. This “safekeeping-surviving-sustaining” model unites physical protection, ecosystem recovery, and economic opportunity. Embedding the program into local plans (RAD-API) and RPJMD budgets ensures sustainability beyond project cycles.

Urban Services: Community Management Models

KEMITRAAN's urban pilots showcase inclusive service delivery. In Kertoharjo, a community-run waste facility processes 10 tons daily for 1,678 households, while adaptive sanitation delivers 23 facilities to nearly 1,000 households with formalized local management. These examples show that community-anchored delivery improves both performance and social outcomes. Quantifiable outputs—tons processed, households served, facilities maintained—enable results-based financing and potential carbon revenues.

Systemic Barriers Require Systemic Solutions

Persistent obstacles—including regulatory gaps, sectoral silos, and restricted access to decision-making forums—underscore the need for reforms that formalize non-state actor roles, harmonize funding streams, and create structured platforms for collaboration.

Breakout Sessions: Financing Transport, Energy, and Water Projects

Workshop attendees were divided into eight groups and given one of three hypothetical climate-friendly projects in either transport, energy, or water. Each group then collaborated to answer prompts on challenges, opportunities, and potential solutions. Insights include:

Key Cross-Cutting Insights

1. **Payment certainty is essential.** Predictable government payments unlock private investment, whether through per-kilometer availability payments for e-buses, performance-based ESCO contracts, or output-based water loss reduction agreements. Without payment security mechanisms—escrow, guarantees—even strong pilots stall.
2. **Advancing Demand-Side.** Increase public participation through infrastructure design and other approaches to “nudge” community behavior, which will raise demand and improve investment outcomes.
3. **Data gaps are financing risks, not administrative details.** Missing baselines on kilometers served, kilowatt-hours saved, or cubic meters lost create uncertainty that inflates risk pricing and slows decisions. Standardized monitoring, reporting, and verification (MRV) templates are immediate enablers for both carbon crediting and results-based financing.
3. **Coordination overhead stops deals.** Fragmented roles across ministries, SOEs, and private operators add complexity that financiers price as risk. A single coordination mechanism is essential to align procurement, permits, and payment security.
4. **Quick wins build momentum.** Participants stressed near-term actions that show value while frameworks mature: solar at bus depots, green procurement in public buildings, and district-level water loss pilots.

Sector-Specific Opportunities

- **Transportation:** Leverage existing provincial e-bus fleets as case studies while addressing charging infrastructure gaps through depot solar installations
- **Energy:** Focus on public facilities with solar additions and standardize ESCO performance contracts to unlock small-scale renewable energy financing
- **Waste Management:** Improve demand for waste management infrastructure through community-driven design to encourage usage
- **Water:** Target district-metered areas with pressure management and smart metering to achieve measurable non-revenue water reductions

The Path Forward: Near-Term Wins

The ecosystem has enablers in place—LKPP for procurement, MEMR for energy policy, PLN for distribution, INA for anchor equity, KIAT for technical support. The immediate priorities are:

1. **Publishing standard term sheets** for e-bus PPPs, ESCO performance contracts, and water output-based agreements
2. **Launching pilot cohorts** in 2-3 corridors/facilities per sector with pre-cleared land and streamlined approvals
3. **Establishing MRV starter kits** with clear verification protocols for service delivery and emissions reductions
4. **Structuring payment security** through escrow mechanisms and partial risk guarantees

Bottom Line: Indonesia has the ingredients for scaled climate infrastructure finance. Success depends on translating broad policy into operational guidance, standardized contracts, and visible pilots that prove bankability.



FIRST Workshop attendees participate in breakout sessions to discuss challenges and opportunities with infrastructure financing in Indonesia.

Session 2: Operationalizing Blended Finance at Scale

PT SMI and SDG Indonesia One: From Concept to Pipeline

PT Sarana Multi Infrastruktur (SMI), as the Ministry of Finance's Special Mission Vehicle, has built Indonesia's most comprehensive blended finance platform. SDG Indonesia One (SIO), launched in 2018, demonstrates that blended finance can move from theory to practice at meaningful scale:

- **Capital mobilization:** USD 3.19 billion in partner commitments
- **Project pipeline:** 123 projects supported across sectors
- **Partner ecosystem:** 39 institutions spanning development finance, risk mitigation, and equity investment

The platform's power lies in integration—housing project preparation, risk mitigation, and financing under unified governance. This "full-stack" approach compresses transaction timelines, standardizes documentation, and provides sponsors and lenders a single counterparty capable of structuring complex blends of grants, concessional finance, and commercial capital.

Tailored Structures for Diverse Projects

PT SMI's portfolio demonstrates how financing structures are tailored to project-specific risks and development goals. The **Padang Guci-2 Mini Hydro project** (7 MW, USD 13.2 million) combined a USD 9.7 million commercial loan with robust environmental safeguards, including a biodiversity management plan, showing that sustainability measures can strengthen bankability. The **SPAM Gresik Water Supply project** (USD 40 million, 1,000 L/s capacity) relied on donor-funded feasibility and legal due diligence, with PT SMI providing a take-out facility in years 9–15 to extend tenor. This created critical adaptation infrastructure in a water-stressed region. The **Tembesi Floating Solar project** (USD 29.1 million) blended loans, grants, and just transition funding to de-risk new technology and create a replicable template for distributed renewables.

System-Level Transformation Platforms

Beyond individual projects, PT SMI is shaping Indonesia's low-carbon future through transformative sectoral programs. As Country Platform Manager for the **Energy Transition Mechanism**, it coordinates the coal phase-out and renewable scale-up by aligning policies, convening stakeholders, and structuring innovative financing, including carbon markets and just transition support. Through **Geothermal Risk-Sharing facilities such as GEUDP and GREM**, PT SMI blends public, donor, and private capital to manage exploration risk and unlock geothermal potential. Its **Climate Finance Facility**, a USD 250 million partnership with the Green Climate Fund, targets small-scale renewables in underserved eastern regions, with a full proposal planned for 2026.

PT IIF: Bridging Public Purpose and Private Capital

PT Indonesia Infrastructure Finance (IIF) represents a unique institutional model—established by Indonesia’s government and multilateral development banks (ADB, IFC, KfW, SMBC) to serve as the bridge between public development objectives and private investment requirements. IIF leverages its expertise in project preparation, financing, and ESG integration to blend government, MDB, DFI, climate finance, and private capital.

Infrastructure Finance Leadership and Recognition

IIF promotes blended finance by strategically combining its own resources with concessional public and philanthropic capital to de-risk projects and make them bankable. Its toolkit includes guarantees, subordinated financing, green bonds, long-term project finance, and PPP structuring. IIF also acts as a policy sounding board and ESG advisor, ensuring compliance with international standards such as IFC Performance Standards and the World Bank’s Environmental and Social Framework (ESF). Notably, IIF has embedded its Social and Environmental Management System (SEMS) into all operations, recognized globally as a best practice. IIF’s achievements are reflected in multiple awards, including Best ESG Service Provider (2024) and Project Finance House of the Year (2025). These recognitions affirm its role in bridging financing gaps while embedding sustainability, accountability, and resilience into Indonesia’s infrastructure future

IIF hosted the Millennium Challenge Corporation's Blended Finance Delivery Mechanism (BFDM), a USD 45 million facility with clear leverage requirements:



Case Study: The Blended Finance Delivery Mechanism

- **Minimum leverage ratio:** 3:1 private-to-grant capital for each project
- **Instrument menu:** First-loss tranches, credit enhancements, concessional debt/equity, guarantees, and technical assistance
- **Selection criteria:** Economic rate of return assessments and gender/social inclusion metrics ensure development impact alongside financial returns

This mechanism transforms near-bankable projects into investment-ready opportunities by absorbing specific risks that deter commercial capital while maintaining discipline through minimum leverage requirements.

MUFG: Bringing Global Solutions to the Indonesian Market

MUFG Bank is one of the world's largest financial institutions, with a longstanding presence in Asia and a strong track record of structuring innovative financing for infrastructure, energy, and climate-related investments. Leveraging its global network and capital strength, MUFG collaborates closely with multilateral development banks to deliver blended finance solutions that de-risk investments and mobilize private capital at scale. As an accredited entity to the GCF, MUFG is positioned to channel international climate finance into high-impact projects across Indonesia, aligning with the country's adaptation and mitigation priorities.

GAIA Climate Loan Fund: Tiered Capital for Climate Resilience

MUFG's GAIA Fund is a global climate adaptation investment fund that seeks to address the risk-return mismatch constraining climate investment in emerging markets through sophisticated structuring:

- **Capital structure:** USD 1.17 billion senior equity protected by USD 310 million junior concessional equity
- **Risk mitigation layers:** Unfunded guarantees, USD 50 million technical assistance facility, USD 25 million FX hedging, reserve accounts
- **Portfolio focus:** 70% adaptation / 30% mitigation split aligned with Indonesia's vulnerability profile
- **Credit enhancement:** Transforms B/B+ underlying assets into BBB-equivalent risk for institutional investors

Green Guarantee Company: Unlocking Bond Markets

The Green Guarantee Company (GGC) is the first ever global institution dedicated to providing guarantees for climate bonds in Emerging and Developing Economies. It represents a breakthrough for emerging market climate finance:

- **Capitalization:** USD 100 million from Green Climate Fund, UK FCDO, and others
- **Leverage capacity:** Up to USD 1 billion in guarantees
- **Coverage terms:** Up to 100% principal protection for bonds up to USD 50 million
- **Credit rating:** BBB (Fitch) enabling access to investment-grade restricted portfolios
- **Standards alignment:** Climate Bonds certification and IFC Performance Standards compliance required

With Indonesia designated as a priority country, GGC can transform the market for municipal green bonds, renewable energy portfolios, and resilience infrastructure—aggregating smaller projects into investment-grade securities accessible to global institutional capital.



FIRST Workshop attendees celebrate a successful day discussing challenges and opportunities with infrastructure financing in Indonesia.

Workshop Recommendations: Actions for Transformation

Based on workshop discussions and emerging consensus, participants identified priority actions to scale climate-resilient infrastructure investment:

Standardize Documentation and Procurement

Mandate standardized term sheets, contracts, and procurement specifications for common project types. Pre-populated schedules should cover payment mechanisms, MRV protocols, and risk allocation matrices. Embedding these tools into LKPP will ensure systematic adoption.

Institutionalize Risk Mitigation Mechanisms

Offer a menu of risk mitigation options—sovereign guarantees, escrow accounts, partial risk guarantees, and standby facilities—with clear eligibility criteria and standardized documentation. Payment triggers should link to independently verified performance metrics.

Scale Project Preparation Support

Expand grant funding for feasibility studies, environmental and social assessments, participatory planning, demand appraisal, and detailed designs. Prioritize projects with replication potential and clear pathways to financial close, pairing preparation with capacity building for local governments and utilities.

Launch Programmatic Delivery Initiatives

Develop flagship programs in e-bus corridors, public building retrofits, and non-revenue water reduction zones to refine templates, build market confidence, and demonstrate scalability.

Utilize Blended Finance Facilities

Work with the GGC and other experts to structure internationally rated municipal green bonds. Use GAIA Fund facilities to support adaptation-focused investments, establishing benchmarks and expanding the investor base. Support NGOs to access concessional funding from global funds like Green Climate Fund and Adaptation Fund.

Deploy Digital Infrastructure

Introduce smart metering, IoT sensors, and digital payment systems. Integrated platforms should automate KPI calculation, trigger payments, and generate verification for results-based financing.

Strengthen Sub-National Capacity

Launch a comprehensive capacity building program for local governments and utilities focusing on project development, financial management, and climate risk assessment. Provide embedded technical advisors and link capacity improvements to preferential financing terms through sustainability-linked loans.

Conclusion: The Transformation Imperative

The FIRST Workshop demonstrated that Indonesia possesses both the institutional architecture and financial innovations necessary to close its infrastructure financing gap. The convergence of government commitment, private sector innovation, and sophisticated financial platforms creates unprecedented opportunities for transformation.

Success requires moving beyond pilot projects to programmatic implementation—deploying standardized solutions repeatedly across the archipelago. The financing mechanisms exist: PT SMI's integrated platform, IIF's blending expertise, and MUFG's market access tools can channel billions in climate-aligned capital. The delivery models are proven: community-anchored management, hybrid infrastructure solutions, and circular economy approaches that generate multiple value streams.

The path forward demands disciplined execution of the basics: payment certainty, standardized MRV, and programmatic delivery. These foundational elements enable development of bankable infrastructure projects. With these in place, Indonesia can compress transaction timelines from years to months, reduce costs through repetition and scale, and build the market confidence necessary to attract institutional capital.

Indonesia's infrastructure transformation intersects with global imperatives around climate action, sustainable development, and inclusive growth. The solutions developed here—blending public and private capital, integrating grey and green infrastructure, embedding community management—offer lessons for emerging markets worldwide. By demonstrating that climate-resilient infrastructure can be delivered at scale, on time, and within budget, Indonesia can become the exemplar for sustainable development finance.

The workshop participants expressed clear consensus: the tools exist, the partners are aligned, and the opportunity is immediate. What remains is coordinated implementation—transforming workshops into workflows, presentations into projects, and ambitions into assets that improve lives, build resilience, and secure Indonesia's sustainable future.

This report synthesizes discussions and presentations from the FIRST Workshop. The recommendations reflect participant perspectives and emerging consensus rather than formal institutional positions. Implementation will require continued dialogue, detailed design, and sustained commitment from all stakeholders.