



RESTRUCTURING PAPER
ON A
PROPOSED PROJECT RESTRUCTURING
OF
ID-GEOTHERMAL ENERGY UPSTREAM DEVELOPMENT
APPROVED ON FEBRUARY 9, 2017
TO
PT SARANA MULTI INFRASTRUKTUR (PERSERO)
ENERGY & EXTRACTIVES
EAST ASIA AND PACIFIC

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ABBREVIATIONS AND ACRONYMS

AM	Aide Memoire
BG	Badan Geologi (Geological Agency)
CTF	Clean Technology Fund
EBTKE	Energi Baru, Terbarukan, dan Konservasi Energi (Directorate General for New, Renewable Energy and Energy Conservation)
EMC	Exploration Management Consultant
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSC	Environment & Social Management Consultant
FA	Financial Analysis
GEF	Global Environmental Facility
GEUDP	Geothermal Energy Upstream Development Project
GDE	Geo Dipa Energi
GHG	Greenhouse gas
GoNZ	Government of New Zealand
Gol	Government of Indonesia
GREM	Geothermal Resource Risk Mitigation
IA	Implementing Agency
JC	Joint Committee
LARAP	Land Acquisition and Resettlement Action Plan
MEMR	Ministry of Energy and Mineral Resources
MoF	Ministry of Finance
MoU	Memorandum of Understanding
MTR	Mid-Term Review
MW	Megawatt
PAD	Project Appraisal Document
PDO	Project Development Objective
PFS	Pre-Feasibility Study
PLN	Perusahaan Listrik Negara
PMU	Project Management Unit
PISP	Pembiayaan Infrastruktur Sektor Panas Bumi (Infrastructure Financing for Geothermal Sector)
RF	Results Framework
SMI	Sarana Multi Infrastruktur
SMV	Special Mission Vehicle
SOE	State-Owned Enterprise
WB	World Bank



BASIC DATA

Product Information

Project ID P155047	Financing Instrument Investment Project Financing
Original EA Category Full Assessment (A)	Current EA Category Full Assessment (A)
Approval Date 09-Feb-2017	Current Closing Date 31-Dec-2025

Organizations

Borrower PT Sarana Multi Infrastruktur (Persero)	Responsible Agency PT Sarana Multi Infrastruktur (Persero),PT Geo Dipa Energi
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Project Development Objective (PDO)

Original PDO

The PDO is to facilitate investment in geothermal power generation and reduce greenhouse gas emissions.

Summary Status of Financing (US\$, Millions)

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net Commitment	Disbursed	Undisbursed
TF-A4086	09-Feb-2017	07-Mar-2017	04-Aug-2017	31-Dec-2025	6.25	2.98	3.27
TF-A4089	09-Feb-2017	07-Mar-2017	04-Aug-2017	31-Dec-2025	49.00	8.24	40.76

Policy Waiver(s)

Does this restructuring trigger the need for any policy waiver(s)?

No



I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

1. The Indonesia Geothermal Energy Upstream Development Project (GEUDP) was approved on February 9, 2017 and became effective on August 4, 2017. The Project Development Objective (PDO) is to facilitate investment in geothermal power generation and reduce greenhouse gas emissions. To this end, the Project finances geothermal exploration drilling to confirm the sufficient generating capacity-equivalent of steam yield from wells drilled to enable the development of 65 MW of the electric power generation capacity.
2. The Project has two components: Component 1 – Risk Mitigation for Geothermal Exploration Drilling (US\$49 million from the Clean Technology Fund (CTF)), and Component 2 – Capacity Building on Geothermal Exploration and Environmental and Social Safeguards Management (US\$6.25 million from the Global Environmental Facility (GEF)). The Project is being implemented by PT Sarana Multi Infrastruktur (PT SMI), a non-banking financial institution fully owned by the Ministry of Finance (MoF) as well as Fund Manager for the Government’s Infrastructure Financing for Geothermal Sector (Pembiayaan Infrastruktur Sektor Panas Bumi, or PISP), which provides no less than US\$49 million co-financing to the Project.
3. Following the Mid-Term Review (MTR) Implementation Support Mission in January 2020, the achievement of the PDO and the Overall Implementation Progress were downgraded to Moderately Unsatisfactory due to accumulated implementation delays and systemic bottleneck in PT SMI’s decision-making explained further below. As of May 2021, the Project has disbursed US\$11.22 million (20 percent), including US\$8.24 million under Component 1 and US\$2.98 million under Component 2.

A. PROJECT STATUS

4. During the first three and a half years of implementation, significant progress has been achieved on the institutional set-up for geothermal development. The Project has a fully operational Joint Committee (JC), consisting of representatives from MoF and the Ministry of Energy and Mineral Resources (MEMR), which provides oversight and guidance on the Project’s governance, and which also has become an important venue for discussion of how the Government of Indonesia (GoI) can realize its renewable energy targets through scaling up of geothermal. The Project has a Project Management Unit (PMU) that is headed by a Project Director and consists of PT SMI’s own staff and individual consultants for procurement and safeguards functions. The PMU has been supported by a specialized geothermal consultancy hired as an Exploration Management Consultant (EMC) – a role currently filled by Jacobs New Zealand – and co-financed by a parallel Government of New Zealand (GoNZ) grant.
5. To implement this first-of-its-kind government-sponsored exploration drilling program, PT SMI’s efforts during this period have mainly focused on developing the screening and evaluation procedures, as well as terms of reference (ToR) and template bidding and contract documents for works and consulting services for the various subprojects. As the PMU implements procurement and safeguards tasks, the EMC has provided significant support to PT SMI in the preparation of pre-feasibility studies (PFS) and engineering design for equipment supply and works contracts. The EMC consists of experts of diverse disciplines and geosciences related to geothermal development, such as geology, geophysics, and geochemistry. They have been extensively involved in supporting PT SMI in the development of the technical design and drilling strategy for Waesano as the first subproject.
6. The JC has approved two subprojects – Waesano and Jailolo – for exploration drilling. In December 2019, two additional subprojects – Bittuang and Nage – were assigned to PT SMI. These projects were screened and selected for support by the Project based on a pipeline provided by the Geological Agency (Badan Geologi, or BG), and the Directorate



General for New, Renewable Energy and Energy Conservation (Energi Baru, Terbarukan, dan Konservasi Energi, EBTKE) under MEMR. Table 1 provides a summary of these subprojects.

Table 1: Subproject Pipeline and Financing Plan

Subproject	Location	Estimated Capacity (MW)	Approval Status	Planned Financing
Waesano	Flores, East Nusa Tenggara	30	JC's approval for implementation issued	100% CTF
Jailolo	Halmahera, North Maluku	75 (although economic demand is currently estimated at 10-20)	JC's approval for implementation issued	Mostly CTF and remaining by PISP
Bittuang	Tana-Toraja, South Sulawesi	28	MoF issued the official project assignment decree to PT SMI	Mostly PISP
Nage	Flores, East Nusa Tenggara	30	MoF issued the official project assignment decree to PT SMI	100% PISP

7. Through the preparation of the subprojects, PT SMI has gained significant experience in preparation for geothermal exploration drilling. PT SMI has managed procurement for consulting services, infrastructure, and drilling works; and handled the relevant permitting, land acquisition, and public consultation for Waesano.

B. RATIONALE FOR RESTRUCTURING

8. During the MTR mission, the Project was found to have lagged behind schedule. As a financial institution with no prior experience in geothermal exploration financing, PT SMI has often taken a conservative approach to procurement of technically complex contracts and its internal decision-making processes have been slow and ineffective. Even though at Project Appraisal, it was envisaged that PT SMI would internalize some geothermal management expertise, this has not happened, and PT SMI has continued to rely extensively on international consultants with high costs to the technical assistance (TA).

9. Meanwhile, MoF has expressed a wish to accelerate geothermal development through continued support to the government-sponsored exploration drilling scheme and a greater role for Geo Dipa Energi (GDE) in the sector. GDE is a state-owned enterprise (SOE) established as a Special Mission Vehicle to implement the Gol's objective to accelerate the country's geothermal development. It is owned by 93% from MoF and 7% from PT Perusahaan Listrik Negara (PLN), the state utility company. As an SOE under MoF, GDE has an obligation to support Gol's geothermal development target. GDE currently holds several geothermal licenses directly assigned by MoF, and has in-house capacity for geosciences, drilling management, and safeguards implementation.

10. PT SMI has expressed interest in sticking to its core competency as a financial intermediary and leveraging the general knowledge on geothermal energy gained under this Project to implement the other WB-supported Geothermal Resource Risk Mitigation (GREM) Project (P166071).

11. The JC had discussed the need for an increasing role for GDE in the government-sponsored exploration drilling program. On July 10, 2019, PT SMI and GDE signed a Memorandum of Understanding (MoU) on the financing cooperation on geothermal development. During the MTR Mission, the key stakeholders – MoF, MEMR, and PT SMI – requested the WB to explore the feasibility of having GDE as an additional IA of the Project. GDE's involvement in the government-sponsored drilling program supported by GEUDP is stipulated in: i) an MoF Decree assigning PT SMI to conduct



exploration and ii) a PT SMI-GDE cooperation agreement for GDE to undertake the work. Upon completion of exploration drilling managed by GDE, GEUDP subprojects will be tendered out first to facilitate private sector participation in line with the Project design.

12. The MTR mission also confirmed that: (i) the PDO remains highly relevant, (ii) there continues to be a strong rationale for the Bank's involvement and the Project design should be maintained, and (iii) given the current Closing Date of December 31, 2022, the Project is no longer on track to meet its DO and achieve the agreed indicators. The PDO remains achievable, but would require an extension of the Closing Date from December 31, 2022 to December 31, 2025.

13. The GoI requested a Project restructuring through an MoF letter dated March 12, 2020 and a PT SMI letter dated April 17, 2020, with the following changes:

- i. **Inclusion of GDE in the institutional arrangement:** GDE will become the Implementing Agency (IA) responsible for all technical, procurement and safeguards aspects of the Project. PT SMI shall remain responsible for all financial management under the Project as the Grant Recipient, as well as implementation of Subcomponent 2(e), as described in the Description of Proposed Changes Section and also referred to in the Amended and Restated CTF Grant Agreement.
- ii. **Extension of the CTF and GEF Grant Closing Dates** from December 31, 2022 to December 31, 2025: This is required to complete the exploration subprojects and achieve the PDO.
- iii. **Changes to the Results Framework (RF):** Adoption of the proposed changes in the RF per the MTR Aide Memoire to accommodate the delayed work progress, the extended time needed for implementation, and the added clarifications on the key outcome indicators. The revised results indicators and implementation arrangement have been reflected in the updated Project Implementation Manual (PIM).

14. In December 2020, the extension of the grant closing dates was approved by the Regional Vice President in a first restructuring. On April 16, 2021, the Bank notified the client on the approved extension of the closing dates. **This second restructuring paper is to process the changes associated with (i) and (iii) above.**

II. DETAILED IMPLEMENTATION PROGRESS

A. SUBPROJECT IMPLEMENTATION

15. Since the signing of the MoU between PT SMI and GDE, PT SMI has entered into a consultancy contract with GDE to support finalization of consultations on the ground and commencement of infrastructure works for Waesano. Once the second restructuring is approved and GDE becomes the full IA for the Project, this consultancy contract will be terminated. No conflict of interest for GDE is anticipated.

16. In March 2020, a complaint letter was sent to the WB Country Director for Indonesia with copy to WB President, alleging that the Waesano project threatens the customary community's livelihood and will cause social, cultural and religious harm. The complainant alleged that (i) the project's negative consequences were not properly explained; (ii) the exploration drilling, to which they oppose, is expected to take place too close to their dwellings and village center; and (iii) "broad approval" on the project was not obtained. Two additional letters were sent since then.

17. Immediately following the receipt of the first letter, the Bank team advised the client on the development of an action plan, as agreed with the Regional Safeguards Service (RSS) and the Bank's Grievance Redress Service (GRS). The



plan encompassed a pause to all project activities on the ground until the issues have been resolved, and specific actions to be carried out by the client to achieve broad community support, including additional social assessments and stakeholder consultations, especially with the affected community. The first round of stakeholder consultations was conducted in October – December 2020 and a report has been shared with the Bank and the GRS and RSS teams. The report includes a proposal to adjust the technical design of the project using an alternative access route and a drilling strategy focusing on other well pad area further away from the community.

18. The next steps are that GDE will: i) carry out a more detailed assessment of the potential impacts of the alternative technical design, though the preliminary observations are that it would have less social impact; ii) conduct a second round of stakeholder consultation to obtain broad community support to the updated plan to allow the project to move forward, and iii) finalize the social assessment reports and relevant safeguards instruments, which include the updated Stakeholder Engagement Plan, Livelihood Restoration Plan, and Indigenous Peoples Plan.

19. Further details of the subproject implementation are provided below.

a. Waesano:

- i. All the geoscientific investigations and studies have been completed.
- ii. On January 2, 2020, PT SMI signed a contract for Infrastructure and Civil Works, but the work has not started due to the social issues at site (refer to point iv). PT SMI has not provided notice-to-proceed to the contractor, and no claim from the contractor has been made.
- iii. A Slimhole Drilling contract was tendered in 2019, but since no fully compliant bid was received, the contract is being re-tendered. The contract for Site Services has been cancelled since this service will instead be provided by GDE as the IA after this restructuring. A standard well drilling contract will also be tendered and implemented as part of the project's drilling campaign.
- iv. The safeguards assessments and documentation, including the Environmental and Social Impact Assessment (ESIA), the Environmental and Social Management Plan (ESMP), and the Land Acquisition and Resettlement Action Plan (LARAP) have been completed and disclosed. During implementation, it was found that the local communities are not officially recognized as indigenous peoples by the Government, but they meet the WB criteria for Indigenous Peoples based on OP 4.10 and therefore an Indigenous Peoples Plan (IPP) is being prepared per the Project's Indigenous Peoples Planning Framework (IPPF). Land for the drilling pads and other supporting facilities will be acquired, mainly through land lease arrangements. PT SMI is providing compensation for land acquired for the access road according to the agreement with the local government and the individual land-owners.
- v. Over the last year, concerns have been raised by some community groups who consider that Well Pad B, which is a key part of the drilling program, is close to their residential areas and can cause significant negative impacts on the sustainability of the local environment and their livelihoods. Work related to mobilization and land acquisition has since been suspended, as PT SMI and GDE have organized extensive stakeholder engagements with both the project supporters and opponents. Opposition has reportedly subsided as a result, but a number of community members have continued to oppose project development in Waesano. PT SMI and GDE plan to initiate a second round of stakeholder engagement, aiming to clearly define the criteria for and achieve broad community support for the project.
- vi. PT SMI and GDE have proposed a plan, which has been endorsed by the JC, to update the technical design and drilling strategy with an alternative access road and moving most of the drilling works far away from Well Pad B, where most of the complainants reside. Using the horizontal drilling technique, the resources expected to be under Well Pad B can potentially be accessed and later exploited from Well Pad A. There has been informal indication that this is something that the complainant would be receptive to. Final consultations with the project-affected people are ongoing and expected to be finalized in June-July 2021, which will provide a possible pathway for the project to move forward with broad support from the community.



vii. The issue on the critical path is resolving the community concerns in order to finalize land acquisition and start work under the Infrastructure and Civil Works contract. Land acquisition has been undertaken by local government, with whom PT SMI has closely coordinated. GDE will continue the same approach, which has also been clearly laid out in the ESMF.

b. Jailolo:

- i. Most of the geoscientific investigations have been completed. The PFS and the drilling plan have been prepared and are to be finalized. A new EMC to prepare these documents, and an Environment & Social Safeguards Consultant (ESSC) for the ESIA, ESMP, and LARAP are under procurement. The procurement and contract signing for EMC and ESSC is expected to be completed by July-August 2021. An initial environmental and social (E&S) screening has been conducted, but additional information from the local government is needed to finalize the screening report.
- ii. The issue on the critical path is the signing of the framework EMC and ESSC contracts to support the preparation of drilling for Jailolo and finalization of relevant geotechnical surveys for Bittuang and Nage.

c. Bittuang and Nage:

- i. Bittuang is a medium-enthalpy site with an estimated potential of 28 MW and will have no limitation due to the presence of demand.
- ii. Nage has an estimated potential of 30 MW. This will be the second site under GEUDP on Flores Island and there appears to be limited demand if Waesano and several other ongoing and planned geothermal developments on the island are to be developed first. PLN has plan to interconnect the whole islands, which would strengthen the project economics. While further studies on this are ongoing, the project will be fully financed by PISP.

20. A new implementation timeline is envisaged in Figure 1.

Figure 1: New Project Timeline with the Approved Closing Date Extension

Subprojects	2020				2021				2022				2023				2024				2025			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Waesano	Proc		Handling social issue		Infrastructure & Drilling				Concession Tender by MEMR															
Jailolo	Engineering & Procurement				Infrastructure & Drilling				Concession Tender by MEMR															
Bittuang									Engineering & Procurement				Infrastructure & Drilling				Concession Tender by MEMR							
Nage													Engineering & Procurement				Infrastructure & Drilling				Tender			

B. DETAILED PROJECT PERFORMANCE AND ASSESSMENTS OF GDE AS AN IA

21. PT SMI has remained in compliance on fiduciary and safeguards requirements of the Project. The Bank’s safeguards and fiduciary teams assessed GDE’s capacity to become an IA for the Project and concluded that GDE has the capacity to implement the exploration drilling program. Some gaps have been identified, but they can be filled through capacity strengthening activities and outsourced consultants financed through the Project. The key assessments of the fiduciary and safeguards performance are as follows:



- i. Safeguards: Safeguards performance has been satisfactory to date. The implementation of the Environmental and Social Management Framework (ESMF), Land Acquisition and Resettlement Policy Framework, and the Indigenous Peoples Planning Framework has been satisfactory. The Waesano subproject was screened and an ESIA, an ESMP and a Preliminary LARAP were prepared during project preparation. The implementation of the Waesano ESMP has been satisfactory. The ESMP was included in the civil works and drilling bid documents.

Consultations on the risks, impacts, and benefits of the project have been conducted with affected people and other stakeholders to get their feedback for the project design. To ensure a fair compensation, the value of affected assets has been assessed by an independent appraisal team. In managing community grievances related to concerns about the impact of geothermal activities, PT SMI has been employing a full-time community liaison person on site. The availability of a Grievance Redress Mechanism (GRM) was discussed during the consultations. The communities have raised concerns with the local government, with PT SMI, and through the media. To date, there has been no environmental, health, or safety incidents or near-misses on the project, even though there has been a number of field visits to Waesano and Jailolo by staff and consultants. Physical works are yet to commence in Waesano.

A Project-level GRM has been set up and operational at both PT SMI and GDE. A grievance mechanism is a process for systematically receiving, investigating, and responding to stakeholder complaints. GDE and PT SMI promote transparency and accountability for sustainable infrastructure development in Indonesia, not only from the E&S perspectives but also from the technical, financial, economic, and political viewpoints. In this light, GDE as the IA for all safeguards work under the Project is open to constructive inputs from the public and stakeholders of GEUDP. Currently, GDE already has a GRM at the operational level that is in accordance with international standard for exploration projects, while PT SMI's GRM function at the corporate level serves as an effective tool for early identification, assessment, and resolution of complaints on the GEUDP subprojects. A detailed mechanism of the project-level GRM is presented in the ESMF's Section 12.

The PMU under PT SMI currently has a full-time Environmental Specialist Consultant and a full-time Social Specialist Consultant dedicated to implementing the safeguards instruments, and they are also supported on an *ad hoc* basis by E&S advisory consultancy services. GDE will mobilize personnel to manage E&S safeguards in both their Exploration Management Unit (EMU) based in Jakarta and Site Management Team (SMT) based in the subproject locations as they take over E&S management responsibilities from PT SMI after the restructuring. GDE is familiar with the on-going social issues in Waesano, as they have been involved in the intensive consultations and engagement with various stakeholders conducted by PT SMI.

Under the restructured Project, GDE will be fully responsible for safeguards management. Specifically, GDE will be responsible for the preparation and exploration drilling of all four subprojects, including the preparation of safeguards instruments and the supervision of E&S safeguards implementation associated with infrastructure and drilling activities. There will be no change in the safeguard policies triggered or newly identified E&S risks. In order to address the potential E&S risks and impacts of the subprojects, the ESMF has been revised with: (i) a new implementation arrangement to include GDE and its respective roles and responsibilities related to safeguard management, (ii) GDE's safeguard capacity assessment, and (iii) an updated capacity building plan. Following the Bank's clearance, the final ESMF has been disclosed on the client's websites as well as on the Bank's website in May 2021.

GDE's safeguard capacity assessment, carried out by the Bank team, highlighted that the on-going engagement with the Asian Development Bank on the development of Dieng and Patuha geothermal projects has provided GDE's E&S team with knowledge and experience in managing E&S safeguard issues to international standard.



Formal training will be required to strengthen the capacity to implement the WB's safeguard policies. Additional staff will be needed for the workload that will come from GEUDP.

- ii. *Procurement*: In the latest ISR procurement performance was rated moderately satisfactory with several delays and slippages in procurement of consultancy services and works packages against the procurement plan timelines. The delays have mostly been due to PT SMI's capacity and internal procurement process. To fast-track its becoming an IA on the Project, GDE has prepared a Procurement Plan and started to undertake early work to have contracts on the critical path ready for signing, as soon as it officially becomes the IA. This has been much welcome efforts to avoid further delays under the Project.
- iii. *Financial management*: In the latest ISR FM performance was rated moderately satisfactory. Submission of the Interim Financial Report (IFR) has recently improved. Backlog expenditures tagged to GEF funds have been uploaded in STEP. PT SMI has submitted withdrawal application from GEF funds for reimbursement of pre-financing, to which the Bank has provided No-Objection. Internal control of the Project was reviewed by PT SMI internal audit in November 2020 and recommendations provided are currently implemented. The FM arrangement with GDE and related requirements have been included in the revised PIM. There is no pending audit submission or follow-up action on audit findings. The FY 2019 audit report of PT SMI was received on May 15, 2020. No management letter was issued by the auditor, and therefore no audit finding needs follow-up action.

C. RISK ASSESSMENTS

22. The Project's inherent risk to date can mainly be attributed to PT SMI's implementation capacity. The accumulated delay in technical preparations and procurement was two years. During the MTR mission, the key issue identified for causing this delay was that PT SMI as a financial intermediary is unfamiliar and uncomfortable with practical project implementation aspects and therefore has often taken a conservative approach to managing procurement of complex technical contracts. PT SMI being (overly) cautious has led to prolonged internal approval procedures and general ineffectiveness in decision-making.

23. This will be addressed by bringing on board GDE as the IA with the necessary geothermal technical background to carry out procurement and safeguards in an expedient manner. This proposed Restructuring will be crucial to bringing the Project back on schedule and meeting the PDO. The Bank has already provided training to GDE on the Bank's procurement regulations and guidelines. GDE has started preparing procurement documents to meet Bank's standards. Support to further improve safeguards capacity will be provided as early as feasible in light of the COVID-19 related restrictions.

24. A comprehensive assessment of risk during the remainder of the Project implementation period is included in Box 1 below. The overall risk rating is expected to be Substantial.

Box 1: Risk assessment based on SORT

The *Political and Governance* risk is expected to be **Moderate** since the presidential election has been completed and the position of ministers has been finalized. The OMNIBUS law has triggered some protests and is being monitored by the team, but this is not seen as directly affecting the Project implementation and achievement of its development objective.

The *Macroeconomic* risk is expected to be **Moderate**, since there is no risk to Counterpart Funding in spite of COVID-19-induced budgetary shortfall envisaged.



The *Sector Strategies and Policies* risk is expected to be **Substantial**, mainly due to laws and regulations that are being developed that may impact the regulatory framework surrounding the Project. Consultations with the relevant entity – MEMR – have confirmed that there is no aspect that would negatively affect Project implementation or achievement of its PDO.

The *Technical Design of Project and Program* risk is expected to be **Moderate**, as MoF and PT SMI fully understand the Project’s technical design and PT SMI and GDE both have a good understanding of Project implementation. It is still the GoI’s first geothermal exploration drilling program, so this risk rating cannot be lowered.

The *Institutional Capacity for Implementation and Sustainability* risk is expected to be **Substantial**, in light of the need for Project Restructuring due to PT SMI’s challenges explained above. The bolstering of the Project implementation arrangement with the proposed new IA justifies this risk as Substantial.

The *Fiduciary* risk is expected to be **Moderate**, in light of the close coordination between PT SMI and the Bank team to date and the steadily increasing proficiency with which GDE is handling procurement management tasks and procurement / contractual issues, first as PT SMI’s consultant and expectedly as the incoming IA.

The *Environmental and Social* risk is expected to be **Substantial**. In spite of the fact that PT SMI’s capacity for handling safeguards issues has steadily increased, the outstanding social issues in Waesano will continue to require additional consultations and management of related risks. This will be re-assessed once the social issues have been fully resolved, as well as early indication of the safeguards implementation capacity of the new IA has begun to show.

The *Stakeholders* risk is expected to be **Substantial**. Similar to above, the prolonged social issues, in part due to COVID-19 restrictions, have posed significant risks of implementation delays to the Project. However, a major progress in signing an MoU with the community leader indicates good approach to stakeholder management by PT SMI and the relevant entities (MEMR). This will be re-assessed once the social issues have been fully resolved.

The *Other* risk, which is the effect of the COVID 19 pandemic, which initiated restrictions since March 2020, is **Substantial**. Since the end of the pandemic cannot be predicted and implementation of some project activities have had to be halted for some time, especially those requiring face-to-face activities and travel, this has and is expected to continue to slow the pace of Project implementation.

The rating of SORT subcategories will be evaluated regularly as part of the implementation support and reporting (ISR) process to see if the risks have been impacted by events linked to the COVID-19 pandemic.

The *Overall* risk is expected to be **Substantial**, based on the risk ratings of the various categories described above.

III. DESCRIPTION OF THE RESTRUCTURED PROJECT

A. IMPLEMENTATION ARRANGEMENT/IMPLEMENTING ENTITY

25. The restructured Project will consist of the following parts/components:

Component 1. Risk Mitigation for Geothermal Exploration Drilling: Carrying out activities designed to support the Recipient’s geothermal energy exploration drilling (“Exploration Sub-projects”), through:

- (a) drilling of exploration and confirmation wells;



- (b) construction of access roads and other associated infrastructure to facilitate the drilling activities, at select geothermal sites;
- (c) implementation of measures set forth in the Safeguards Instruments;
- (d) conducting monitoring and evaluation and reporting with respect to Project implementation; and
- (e) providing financial management support as required for Project implementation.

Component 2. Capacity Building on Geothermal Exploration and Environmental and Social Safeguards

Management: Carrying out a program of technical assistance and capacity building designed to establish an efficient and effective geothermal energy exploration and tendering program including such activities as:

- (a) advisory support in carrying out geology, geochemistry and geophysics surveys (3G surveys) and topographic mapping for geothermal sites;
- (b) advisory support for preparation of drilling, well completion and resource assessment reports (based on 3G surveys), as well as for the bidding process for exploration service companies;
- (c) recruitment of an exploration management team and exploration site teams;
- (d) advisory support for environmental and social safeguard management related to exploration and exploitation of geothermal energy; and
- (e) just-in-time assistance to the Ministry of Energy and Mineral Resources (“MEMR”) and the Recipient in response to request for international expertise to deal with questions related to, *inter alia*, geothermal tariff setting, benefit-sharing, and data management and sharing.

26. PT SMI will remain the Grant Recipient to the Project, and GDE the IA. PT SMI will implement Parts 1.(e) and 2.(e) of the Project and GDE will implement Parts 1.(a), 1.(b), 1.(c), 1.(d), 2.(a), 2.(b), 2.(c) and 2.(d) of the Project.

27. Currently, PT SMI is responsible for the Waesano Civil Works and Infrastructure contract under Part 1(a), with supervision support from GDE. Under the restructured Project, GDE will be responsible for this and all remaining contracts for Waesano and all new contracts for the remaining sub-projects. GDE will carry out procurement in accordance with the World Bank’s Procurement Guidelines.

28. PT SMI will maintain full financial management responsibility under the Project. All expenditures (including payment for contracts) incurred by GDE related to the implementation of the Project will be subject for approval by PT SMI. All the supporting documentation will be maintained in GDE. PT SMI and GDE will both follow the jointly held PIM. Both will be obliged to submit annual audit reports to the Bank. These arrangements will be reflected in the appropriate Legal Agreements guiding the relationships between PT SMI and GDE, GDE and WB, and PT SMI and WB.

29. Flow of Funds: PT SMI will maintain the current flow of funds arrangement with the Bank with the following modifications to include GDE:

- When GDE receives a payment request from a contractor, it will be forwarded to PT SMI for approval. PT SMI will then be responsible for payment of the contract using any of the allowed modalities available.
- A budget for GDE’s operating expenses will be agreed annually between PT SMI and GDE. Upon presentation of the satisfactory proof of the expenditures, such expenditures will be reimbursed by PT SMI from the relevant designated accounts.
- Revision of flow of funds arrangement will be modified to accommodate the new structure and presented in detail in the PIM.

B. RESULTS FRAMEWORK



30. Number of Subprojects: The number of subprojects for exploration drilling will be scaled down from the initial five-six to a new target of four. It is assumed that three of the subprojects will be successful (using the average exploration success ratio for Indonesian geothermal sites), which should be sufficient to meet the PDO indicator target of 65 MW electric power generation capacity-equivalent enabled through the issuance of geothermal development licenses. It is expected that GEUDP would support the following four subprojects: Waesano, Jailolo, Bittuang, Nage. This has been formalized through Assignment Decree from MoF to PT SMI.

31. Results and Intermediate Indicators: In the original GEUDP concept, all exploration was planned to be undertaken using standard-sized exploration wells (production casing typically being 9 5/8" in diameter). However, in order to reduce costs, GEUDP will execute one of two drilling strategies: (i) standard-sized (as originally assumed) or (ii) slim hole drilling based on economic viability on a case-by-case basis. Slim holes deliver much less steam production; however, they provide much of the same data as can full-sized wells, which is the prime objective of this resource confirmation program. The change in the indicators considers output conversion of slim-hole drilling to equivalent standard diameter well (in the case when the slim-hole drilling strategy was used). The achievement of targets will be reflected in the implementation schedule in the PIM.

32. The updated Results Framework based on agreements with PT SMI and GDE from the MTR mission is provided below.

C. CHANGE IN LEGAL COVENANTS

33. The existing legal agreements will be amended to reflect the changes proposed in this restructuring, and a new Project Agreement with GDE will be required. The following will be required for this restructuring:

- An amended and restated CTF and GEF Grant Agreements adjusting the scope of PT SMI's responsibilities and GDE's involvement in the Project implementation.
- A new Project Agreement between GDE and WB to cover the supervision responsibilities by the Bank and obligations of GDE with regards to Project implementation.
- A new Subsidiary Agreement between PT SMI and GDE to guide the use of CTF/GEF funds, which has also been referred to as the Fund Cooperation Agreement.



Results framework

COUNTRY: Indonesia

ID-Geothermal Energy Upstream Development

Project Development Objectives(s)

The PDO is to facilitate investment in geothermal power generation and reduce greenhouse gas emissions.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	PBC	Baseline	Intermediate Targets									End Target	
			1	2	3	4	5	6	7	8	9		
To facilitate investment in geothermal power generation													
Electric power generation capacity enabled through the issuance of geothermal development licenses (Megawatt)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.25	32.50	65.00	65.00
Action: This indicator has been Revised	Rationale: The indicator has been revised to reflect the longer implementation period.												
Commercial capital mobilized for investment in geothermal power		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.75	97.50	195.00	195.00



Indicator Name	PBC	Baseline	Intermediate Targets									End Target	
			1	2	3	4	5	6	7	8	9		
generation (million) (Amount(USD))													
Action: This indicator has been Revised	Rationale: The indicator has been revised to reflect the longer implementation period.												
To reduce greenhouse gas emissions													
Estimated GHG emission reduction compared to a business-as-usual baseline (Metric ton)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80,000.00	160,000.00	330,000.00	330,000.00
Action: This indicator has been Revised	Rationale: The indicator has been revised to correct an error in original PAD (which stated 0.33 instead of 330,000 tonnes of CO2) and to reflect the longer implementation period.												

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
Risk Mitigation for Geothermal Exploration Drilling (Action: This Component has been Revised)												
Total generating capacity-equivalent of steam yield from		0.00	0.00	0.00	12.00	0.00	0.00	12.00	24.00	36.00	48.00	48.00



Indicator Name	PBC	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
all wells drilled when converted to equivalent standard diameter well production (Megawatt)												
Action: This indicator has been Revised	Rationale: The indicator has been revised to specify "converted to equivalent standard diameter well production" per the rationale provided above.											
Average generating capacity-equivalent of steam yield per well drilled when converted to equivalent standard diameter well production (Megawatt)		0.00	0.00	0.00	0.00	0.00	0.00	6.00	6.00	6.00	6.00	6.00
Action: This indicator has been Revised	Rationale: The indicator has been revised to specify "converted to equivalent standard diameter well production" per the rationale provided above.											
Issuance of geothermal development licenses (Number)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	3.00	3.00



Indicator Name	PBC	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
Action: This indicator has been Revised	Rationale: The indicator target value has been revised from 4 to 3 per the rationale provided above.											
Estimated increase in the number of connected households for the associated local electricity networks (Number)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29,102.00	58,205.00	116,411.00	116,411.00
Action: This indicator has been Revised	Rationale: The indicator has been revised to reflect the extension of the implementation period.											
Direct project beneficiaries (Number)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	145,510.00	291,025.00	582,055.00	582,055.00
Action: This indicator has been Revised	Rationale: The indicator has been revised to reflect the extension of the implementation period.											
Female beneficiaries (Percentage)	0.00	0.00	0.00	0.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00



Indicator Name	PBC	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
Action: This indicator has been Revised	Rationale: The indicator has been revised to reflect the extension of the implementation period.											
Delivery of Inferred Resource Capacity Reports by Exploration Management Team (Number)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	3.00	4.00	4.00
Action: This indicator has been Revised	Rationale: The indicator target value has been revised from 5 to 4 per the rationale provided above.											
Villages located next to exploration sites with at least one public consultation held (Percentage)	0.00	0.00	0.00	0.00	0.00	0.00	20.00	40.00	60.00	80.00	100.00	100.00
Action: This indicator has been Revised	Rationale: The indicator has been revised to reflect the extension of the implementation period.											
Share of public consultations segregated by gender (Percentage)	0.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Action: This indicator has been Revised	Rationale: The indicator has been revised to reflect the extension of the implementation period.											



Indicator Name	PBC	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
Capacity Building on Geothermal Exploration and Environmental and Social Safeguards Management												
Practice guides for safeguards implementation (Number)		0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	2.00	2.00	2.00
Action: This indicator has been Revised	Rationale: The indicator has been revised to reflect the extension of the implementation period.											



IV. SUMMARY OF CHANGES

	Changed	Not Changed
Implementing Agency	✓	
Results Framework	✓	
Legal Covenants	✓	
Institutional Arrangements	✓	
DDO Status		✓
Project's Development Objectives		✓
PBCs		✓
Components and Cost		✓
Loan Closing Date(s)		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Disbursements Arrangements		✓
Disbursement Estimates		✓
Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Financial Management		✓
Procurement		✓
Implementation Schedule		✓
Other Change(s)		✓
Economic and Financial Analysis		✓
Technical Analysis		✓
Social Analysis		✓
Environmental Analysis		✓



IV. DETAILED CHANGE(S)

IMPLEMENTING AGENCY

Implementing Agency Name	Type	Action
PT Sarana Multi Infrastruktur (Persero)	Implementing Agency	No Change
PT Geo Dipa Energi	Implementing Agency	New

LEGAL COVENANTS

Loan/Credit/TF	Description	Status	Action
TF-A4089	Section IA1 of Schedule 2. The Recipient shall take all measures within its control to ensure that a Joint Committee is established and maintained, at all times during the implementation of the Project, with functions, composition (including representatives of the Ministry of Finance and Ministry of Energy and Mineral Resources), and resources satisfactory to the World Bank.	Complied with	No Change
TF-A4089	Section IA3 of Schedule 2. The Recipient shall take all measures within its control to ensure that PT Geo Dipa Energi (PT GDE) maintains an Exploration Management Unit with qualifications, experience, funding, facilities, services and other resources satisfactory to the World Bank.	Complied with	Revised
Proposed	Section IA3 of Schedule 2. The Recipient shall take all measures within its control to ensure that PT Geo Dipa Energi (PT GDE) maintains an Exploration Management Unit until Closing Date; with functions and responsibilities, qualified and experienced staff in sufficient numbers, adequate funds, facilities and other resources necessary for Project implementation.	C	



TF-A4089	Section IC1 of Schedule 2. The Recipient, jointly with PT GDE shall cause the Project to be implemented, in accordance with the Project Implementation Manual.	Complied with	Revised
Proposed	Section IC1 of Schedule 2. The Recipient, jointly with PT GDE shall (a) cause the Project to be implemented, in accordance with the Project Implementation Manual (PIM); (b) ensure that the PIM is: (i) made available, at all times until completion of the project, to among others, contractors, service providers, and other agencies involved in implementation; and (ii) applied during Exploration.	C	
TF-A4089	Section IG1 of Schedule 2. The Recipient shall, and shall cause PT GDE to apply the Environmental and Social Management Framework.	Complied with	No Change
TF-A4089	Section IB1 of Schedule 2. The Recipient shall make the proceeds of the Grants available under a subsidiary agreement with PT GDE, under terms and conditions approved by the Bank to facilitate the carrying out of PT GDE's respective part of the Project.	Complied with	Revised
Proposed	Section IB1 of Schedule 2. To facilitate the carrying out of PT GDE's respective part of the Project, the Recipient shall make the proceeds of the GEF Grant available to PT GDE under a subsidiary agreement between the Recipient and PT GDE, under terms and conditions approved by the Bank.	C	
TF-A4089	Article 2.01. This Agreement shall become effective upon its countersignature and on the date the Bank notifies the Recipient of its receipt of the evidence satisfactory to the Bank. Conditions for effectiveness are provided below:	Complied with	New
TF-A4089	Article 2.01 a). The Project Agreement between the Bank and PT GDE for the Project has been executed and delivered by all necessary corporate action on behalf of the Recipient and all conditions precedent to its effectiveness (other than the effectiveness of this Agreement) have been fulfilled.	Complied with	New



TF-A4089	Article 2.01 b). The Subsidiary Agreement between the Recipient and PT GDE for the Project has been executed and delivered by all necessary corporate action on behalf of the Recipient and PT GDE and all conditions precedent to its effectiveness (other than the effectiveness of this Agreement) have been fulfilled.	Complied with	New
TF-A4089	Article 2.01 c). The Project Implementation Manual has been jointly updated and adopted by the Recipient and PT GDE to reflect the implementation arrangements detailed in the Amended and Restated CTF Grant Agreement in Annex 1 to this Agreement and the Amended and Restated GEF Grant Agreement in Annex 2 to this Agreement.	Complied with	New



The World Bank

ID-Geothermal Energy Upstream Development (P155047)
