

**Memorandum for Clean Technology Fund Trust Fund Committee***Restructure requests for CTF Funding to the Rantau Dedap Geothermal Power Project in Indonesia*

<b>CTF Programs:</b>	1. <a href="#">ADB Private Sector Geothermal Energy Program (\$150 million), 2013</a> <sup>1</sup> 2. <a href="#">ADB CTF Private Sector Geothermal Program: Indonesia &amp; Philippines (\$30 million), 2016</a> <sup>2</sup>
<b>ADB Projects<sup>3</sup>:</b>	1. <a href="#">Rantau Dedap Geothermal Power Project (Phase I)</a> <sup>4</sup> 2. <a href="#">Rantau Dedap Geothermal Power Project (Phase II)</a> <sup>5</sup>
<b>Borrower (Phase I):</b>	PT Supreme Energy Rantau Dedap (Marubeni Corp, Engie SA and Supreme Energy Group PT) (the "Borrower")
<b>Sponsors (Phase I):</b>	Marubeni Corp, Engie SA and Supreme Energy Group PT
<b>Project Cost (Phase I):</b>	\$200.4 million (actual to March 2017)
<b>CTF Financing (Phase I):</b>	\$50 million
<b>Current loan terms (Phase I):</b>	4-year interest only exploration facility with bullet payment due September 2018

**A. BACKGROUND**

1. The 2013 \$150 million [ADB Private Sector Geothermal Energy Program](#) has been instrumental in breaking the hiatus in private sector financing in Indonesia that existed since the Asian financial crisis of the late 1990s. ADB financed three private sector geothermal projects in Indonesia with CTF support from this program in order to demonstrate a track record of successful limited recourse financing and increase private sector participation. CTF funds are fully disbursed for three projects:

- a) **Sarulla Geothermal Power Generation Project** (\$80 million CTF project finance loan)<sup>6</sup> in 2013
- b) **Rantau Dedap Geothermal Power Project (Phase I)** (\$50 million CTF exploration loan) in 2014
- c) **Muara Laboh Geothermal Power Project** (\$19.25 million CTF project finance loan)<sup>7</sup> in 2016

2. The 2016 \$30 million [ADB CTF Private Sector Geothermal Program: Indonesia & Philippines](#) is largely a continuation of ADB's 2013 CTF geothermal program. This program has similar objectives to the 2013 geothermal program; evidence from the initial projects financed with concessional capital suggests private sector interest in the geothermal sector is increasing and more momentum is needed to scale up. To date, ADB has not yet disbursed CTF funds from the 2016 program (part of this memo requests permission to invest this capital into the **Rantau Dedap Geothermal Power Project (Phase II)**).

3. Approved by ADB in June 2014, the **Rantau Dedap Geothermal Power Project (Phase I)** financed exploration, drilling and well testing at the site in South Sumatra to verify the Sub-

<sup>1</sup> <https://www-cif.climateinvestmentfunds.org/projects/private-sector-geothermal-energy-program>

<sup>2</sup> [https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/160701\\_adb\\_private\\_sector\\_geothermal\\_program\\_ino\\_phi.pdf](https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/160701_adb_private_sector_geothermal_program_ino_phi.pdf)

<sup>3</sup> Note that the project is technically a "sub-project" following CTF nomenclature, because the ADB approves the sub-project investment under a CTF approved program

<sup>4</sup> <http://www.adb.org/projects/47937-001/main>

<sup>5</sup> <https://www.adb.org/projects/50330-001/main>

<sup>6</sup> <http://www.adb.org/projects/42916-014/main>

<sup>7</sup> <https://www.adb.org/projects/50156-001/main>

Project's geothermal resource and help de-risk Phase II for final drilling, construction and operation. ADB is now developing the **Rantau Dedap Geothermal Power Project (Phase II)**, which will utilize geothermal steam resources at the site through: (i) further drilling of production and injection facilities, and (ii) the construction, operation, and maintenance of a single power generation unit. Phase II has an estimated cost of \$700 million. Sponsors have advanced early development costs. The ADB is expected to provide a direct loan to the project and additional investment from the private sector is expected to be mobilized.

## B. STATUS UPDATE

4. The Phase I drilling and exploration for Rantau Dedap identified a lower than expected geothermal resource - less than half of the 240MW estimate that was used to negotiate the power purchase agreement ("PPA") in 2012 with the offtaker (Indonesia's national electric utility, PLN). As a result, the project will produce lower levels of cash and requires continued support from concessional finance to reach commercial operations. At a resource size of 240MW, the originally negotiated PPA tariff was sufficient to cover the project's fixed and operating costs, debt service and equity return. However, the tariff required to make the project economically viable at the now confirmed project size under the current financing assumptions is significantly higher (spreading capex across a smaller MW amount reduces scale efficiency and requires a higher tariff). As of October 2017, a new tariff rate has been negotiated between PLN and the Project Sponsors but it is less than required to make the project attractive to private sector financiers without concessional finance.

## C. CTF RESTRUCTURE REQUIREMENTS

5. As a result, the project is now facing a genuine risk of becoming stranded. Without restructuring for Phase II and the use of additional concessional finance, there is a material risk the project will not proceed further. Should this occur, ADB may need to pursue a recovery/workout situation for the \$50 million Phase I CTF loan and the proven resources would likely not proceed to commercialization.

6. However, in order to remedy this situation, ADB is proposing to restructure the existing \$50 million CTF senior early stage loan to the **Rantau Dedap Geothermal Power Project (Phase I)** into a 20.5 year \$50 million CTF senior project finance loan to the **Rantau Dedap Geothermal Power Project (Phase II)**, resulting in a total tenor for the CTF \$50 million of 24.5 years.

7. ADB is also requesting permission to provide an additional \$28.5 million of CTF financing to the **Rantau Dedap Geothermal Power Project (Phase II)** from the ADB CTF Private Sector Geothermal Program: Indonesia & Philippines. This CTF program currently provides *senior debt* of \$10 million, *subordinated debt* of \$14.5 million, and a *convertible grant* of \$4 million. ADB requests permission to use the additional \$28.5 million financing as 20.5-year *senior debt* (no *subordinated debt* and no *convertible grants*), to support the project's economic viability in light of the lower resource size. This would bring the total CTF support for **Rantau Dedap Geothermal Power Project (Phase II)** to \$78.5 million<sup>8</sup>.

8. The longer tenor and additional concessional debt will help reduce financing costs and support the economic viability of the project. As mentioned in para 3, the restructure would result

<sup>8</sup> The possibility of using funds from the 2016 geothermal program to support projects in the 2013 geothermal program was flagged in the program document; see p.11 paragraph 29 and p.12 paragraph 31 of [https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/160701\\_adb\\_private\\_sector\\_geothermal\\_program\\_ino\\_phi.pdf](https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/160701_adb_private_sector_geothermal_program_ino_phi.pdf)

in the leverage of additional financing from ADB and considerable amount from the private sector. In the event that the CTF financing is not restructured, this additional financing would not be leveraged. In the event that the CTF financing is restructured, the extended 20.5 year tenor is expected to be equal to the tenor of the ADB loan and private sector debt.

9. The terms and conditions will be negotiated with the Sponsors during due diligence according to the principle of minimum concessionality. Based on current estimated project costs, the amount of concessional project finance (\$78.5 million) is not expected to exceed around 15 per cent of the project cost. Given CTF participation of \$80 million in the 2013 Sarulla project, this is also aligned with previous CTF exposures for ADB's geothermal projects.

#### D. ANTICIPATED EFFECT ON PROGRAM INDICATORS

10. The tables below outline the impact "with" and "without" restructuring at the project level. The tables show that on a combined basis, the 'restructuring' results in positive impacts to all of the CTF indicators.

**Table 1. Without restructure** (assumes recovery/workout for Rantau Dedap Phase I, and that the additional \$28.5 million would be allocated to a new project that achieves results on par with program targets)

	2013 & 2016 Program Results anticipated at TFC approval	MDB Approved/ Implemented				
		Rantau Dedap Phase I	Sarulla	Muara Laboh	Other (TBC)* Assuming we meet program targets	Total* *not inc implementation fees
CTF financing (US\$m)*	\$180	\$50	\$80	\$19.3	\$28.50	\$178
Co-financing (US\$m)	\$2,570	\$0	\$1,502	\$572	\$120	\$2,194
Leverage	1:14	0	1:19	1:30	1:4	1:12
Installed Capacity (MW)	840	0	320	80	90	490
Annual generation (GW h)	6504	0	2529	625	591	3,745
GHG reductions - annual (Mt CO <sub>2</sub> e p.a.)	4.8	0	1	0.47	0.375	2.1
GHG reductions – program lifetime (Mt CO <sub>2</sub> e)	96	0	26	9	7.5	42.9
CTF cost-effectiveness (\$/tCO <sub>2</sub> e)	\$1.88	NA	\$3	\$2	\$4	\$9

**Table 2. With restructure** (assumes restructuring is approved and Rantau Dedap Phase I proceeds to Phase II)

	2013 & 2016 Program Results anticipated at TFC approval	MDB Approved/ Implemented				
		Rantau Dedap Phase I & II	Sarulla	Muara Laboh	Total* *not inc implementation fees	
CTF financing (US\$m)*	\$180	\$78.5	\$80	\$19.3	\$178	
Co-financing (US\$m)	\$2,570	\$624	\$1,502	\$572	\$2,698	↑
Leverage	1:14	1:8	1:19	1:30	1:15	↑
Installed Capacity (MW)	840	92	320	80	492	↑
Annual generation (GW h)	6504	604	2,529	625	3758	↑
GHG reductions - annual (Mt CO <sub>2</sub> e p.a.)	4.8	0.458	1.30	0.47	2.23	↑
GHG reductions – program lifetime (Mt CO <sub>2</sub> e)	96	9.2	26	9.4248	44.6	↑
CTF cost-effectiveness (\$/tCO <sub>2</sub> e)	\$1.88	\$8.57	\$3.08	\$2.04	\$3.99	↑

## E. REQUESTS TO THE CTF TRUST FUND COMMITTEE

11. To support the proposed approach, ADB requests TFC approval for the following changes:
  - a) ADB's restructure of the tenor of the existing USD 50.0 million four-year senior loan for the **Rantau Dedap Geothermal Power Project (Phase I)**, into a 20.5 year, USD 50.0 million senior loan to the **Rantau Dedap Geothermal Power Project (Phase II)** – resulting in a total tenor for the USD 50.0 million senior loan of 24.5 years.
  - b) ADB's restructure of the financing of the USD 28.5 million for the Indonesia and Philippines: Private Sector Geothermal Program, submitted under the DPSP II Program, into a 20.5 year senior loan to be deployed to the sub-project **Rantau Dedap Geothermal Power Project (Phase II)**.