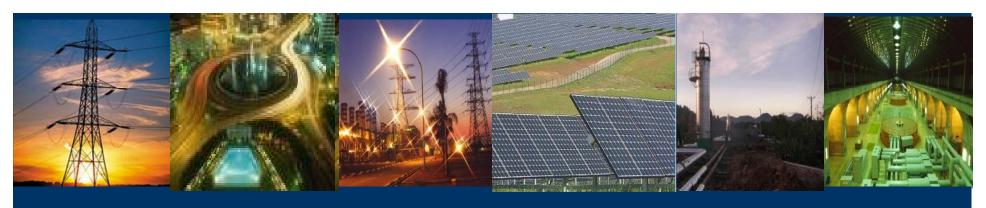




PD. PERTAMBANGAN DAN ENERGI

Gedung Bank Sumselbabel Lt.2 Suite 602 Jl. Gubernur HA Bastari No. 07 Jakabaring Palembang, Indonesia Email: pdpde@pdpde.co.id



PROFIL PLTS 1,6 MW – JAKABARING / PALEMBANG

WORKSHOP JCM FORUM CITY TO CITY COOPERATION Bogor, 26 Mei 2016

PLTS 1,6 MW in Jakabaring Sport City

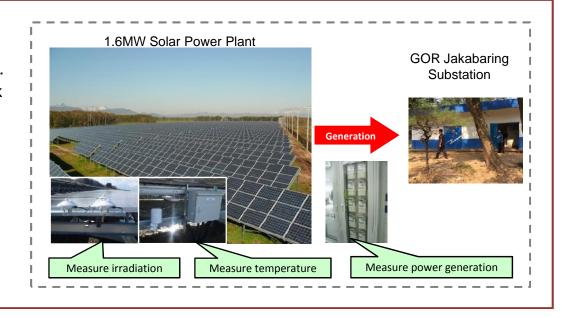
PP (Japan): Sharp Corporation, PP (Indonesia): Persahaan Daerah Pertambangan Dan Energi (PDPDE)

Outline PLTS Jakabaring

Proyek ini bertujuan utnuk pengurangan emisi zat karbondioksida dengan membangun PLTS 1,6 MW di Komplek Olahraga Jakabaring Sumatera Selatan. PLTS ini mampu mensuplai kebutuhan listrik untuk Komplek Olahraga dalam rangka penyelenggaraan "ASIAN GAMES 2018" di Palembang dan kelebihannya dapat dimanfaatkan suplai listrik dari energi terbarukan ke PLN.

PLTS ini menggunakan polycrystalline PV modules, 255W, module efficiency 15.5%. Sebanyak 6,400 (60 series) PV Module akan dipasang pada lahan seluas 2,5 Ha

Target Operasi PLTS ini pada bulan Oktober 2017



Pengurangan Emisi Gas Rumah Kaca Lokasi of JCM Model Project

1,277tCO₂/tahun

GHG emission reductions = [Amount of electricity generated by the PV system in a year] x [Emission factor of the grid being alternated by the PV system]

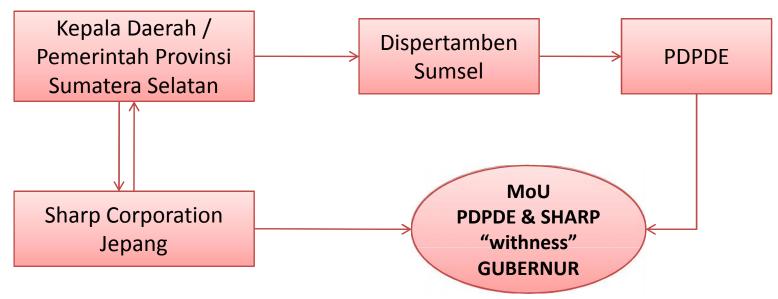
- Electricity generation by the project: 1,897MWh/year
- Emission factor: 0.687 tCO₂/MWh





The solar power plant is located approx. 8km south-east of Palembang city in South Sumatra

INISIASI AWAL PROYEK

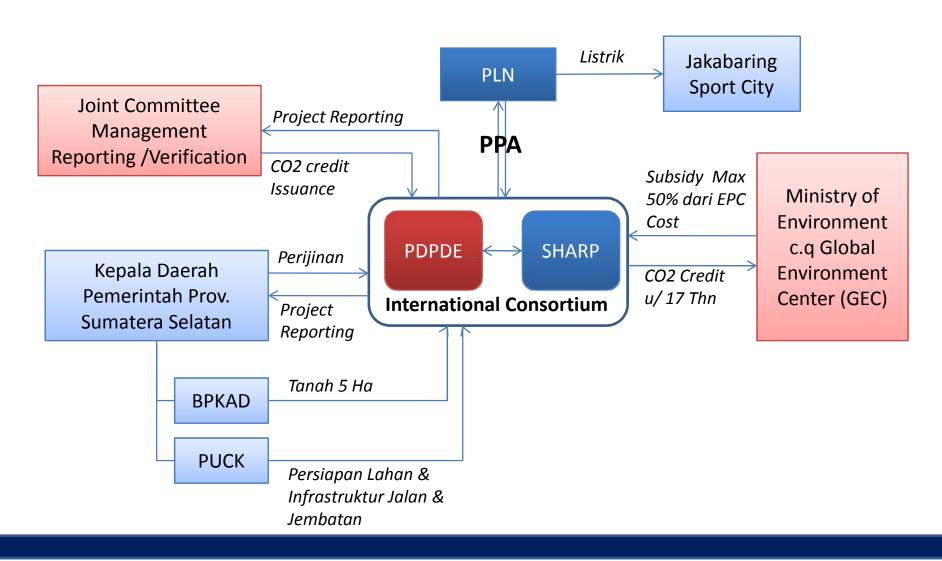


Alur Diagram:

Inisiasi "Kepala Daerah" menangkap peluang kerjasama dengan Jepang melalui "Sharp Corporation" dengan memanfaatkan Credit CO2 JCM (Joint Credit Mechanism) untuk pembangunan PLTS 1,6 MW Untuk kebutuhan kelistrikan Asian Games 2018

"Kepala Daerah" memerintahkan kepada PDPDE sebagai "Pelaksana Kerjasama" melalui Dinas Pertambangan dan Energi Sumatera Selatan

PIHAK-PIHAK TERKAIT PROYEK PLTS 1,6 MW JAKABARING



MEKANISME SUBSIDI

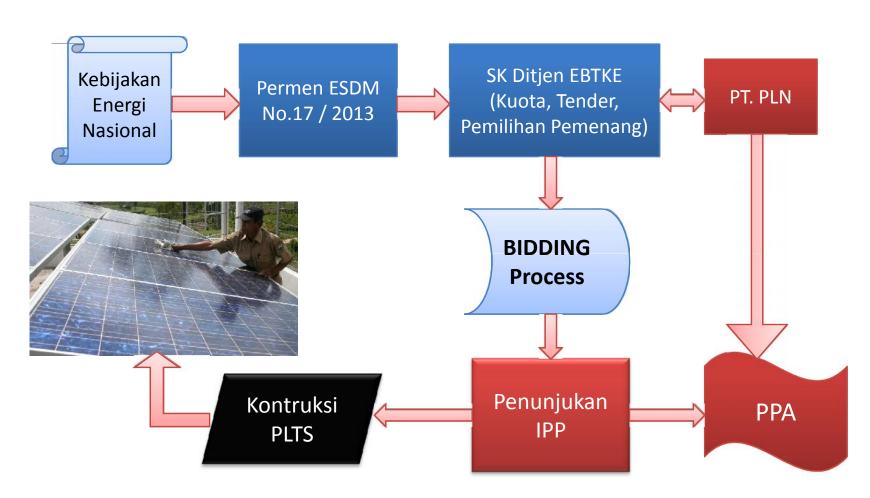
Proses Aplikasi JCM Subsidy



Proses Pembayaran JCM Subsidy



POWER PURCHASE AGREEMENT (PPA)



Standar prosedur berdasarkan Permen ESDM

PROJECT TIMELINE-UPDATE TERKINI

									Projec	**								COD		
					2015 (Fisc			scai year)							2018 (F	scal year)				
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Consortium Agreement	Review JPIN	Agreement	Agreement execution	RONCE - AMB		-			7	oject sta	H								501	bubamen
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- UKL UPL	On Progress	12000	Production/Francoion/Transportation to CIF indonesian Port	Step							_							_	_	-
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- Site Preparation	On Progress	nission Line	Installation	PDPCE (subscentract to Contractor)														_		
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TOTAL PROJECT COST

Project Cost (Tentative/Rough):

Equip. / Electric : US\$ 2,116,016.-Civil + Others : US\$ 953,951,-Total Project : US\$ 3,069,967.-

50% JCM subsidy: US\$ 1,058,008.-

PDPDE Investment: US\$ 2,011,959.-



Ket : Pembiayaan US\$ 2 juta dilakukan dengan Loan 70% dan Ekuiti 30%

Indikator Keekonomian PLTS:

PPA price (USD)	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.25
Project IRR (%)	9.7	10.6	11.4	12.3	13.1	13.9	14.7	15.5
Equity IRR (%)	10.2	11.2	12.3	13.3	14.4	15.4	16.5	17.5

TANTANGAN / KENDALA

- Regulasi terkait dengan Harga "Feed in Tariff" untuk PLTS pengganti Permen ESDM No.17 Tahun 2013 masih dalam proses penyusunan sesuai Surat Direktur EBTKE No.466/20/DEA.02/2016 tanggal 6 April 2016.
- Proses pembuatan PPA dengan PLN yang memerlukan waktu yang cukup lama

PENGUMUMAN JCM

Overview of Selected Projects

GEC had accepted project proposals for <u>the 2nd call</u> between 7 September 2015 and 18 December 2015, and has already announced selection of 4 proposals (Announced on <u>10/19</u>, <u>11/9</u>, <u>11/19</u> and <u>11/26</u>). In addition to these proposals, we received 21 submissions. After reviewing the proposals and conducting hearings, we selected 17 proposals listed below. GEC will further examine the project contents and provide a notice to the representative participants for the final decisions before the proposed projects are implemented.

Partner Country	Representative Participant	Project Title	Expected GHG Emission Reductions(tCO2/year)
Indonesia	Sharp Corporation	1.6MW Solar PV Power Plant Project in Jakabaring Sport City	1,277
Indonesia	Sumitomo Rubber Industries, Ltd.	Introduction of High Efficiency Once-through Boiler in Golf Ball Factory	329
Cambodia	Asia Gateway Corporation	Introduction of Ultra-lightweight Solar Panels for Power Generation at International School	149
Kenya	PACIFIC CONSULTANTS CO.,LTD.	6MW Small Hydropower Generation Project in Rupingazi	16,528
Kenya	PACIFIC CONSULTANTS CO.,LTD.	Introduction of Solar PV System at Salt Factory	873
Saudi Arabia	KANEMATSU CORPORATON	Introduction of High Efficiency Electrolyzer in Chlorine Production Plant	1,276
Thailand	Sony Semiconductor Corporation	Installation of High Efficiency Air Conditioning System and Chillers in Semiconductor Factory	2,588

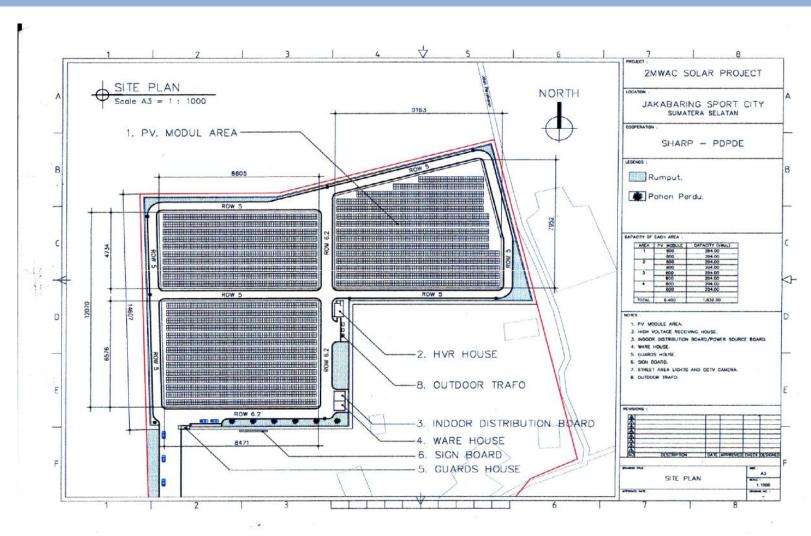
Pengumuman JCM atas penerimaan Proyek PLTS Jakabaring sebagai salah satu Proyek JCM yang disubsidi oleh Kementerian BLH Jepang

FOTO-FOTO KEGIATAN DAN LAMPIRAN

LOKASI PLTS JAKABARING



SITE PLAN PLTS 1,6 MW JAKABARING



GUBERNUR MENINJAU PEMBANGUNAN JEMBATAN SEMENTARA





PENINJAUAN LAHAN SHARP-JEPANG



TES SONDIR LAHAN PLTS





PENGUKURAN UNTUK PENIMBUNAN LAHAN





GARDU INDUK JAKABARING MILIK PLN



DAFTAR ISTILAH

- PLTS : Pembangkit Listrik Tenaga Surya
- JCM : Joint Credit Mechanism
- MW : Mega Watts
- CO2 : Carbondioxide
- MoU: Memorandum of Understanding
- Dispertamben : Dinas Pertambangan dan Energi
- PDPDE : Perusahaan Daerah Pertambangan dan Energi
- BPKAD : Badan Pengelola Keuangan dan Aset Daerah
- PUCK : Pekerjaan Umum Cipta Karya
- GEC : Global Environment Council
- EPC : Engineering, Procurement & Construction
- u/ : untuk
- PPA: Power Purchase Agreement (Perjanjian Jual Beli Listrik)
- MOE : Ministry of Environment
- COD : Commercial Operation date
- SK : Surat Keputusan
- Ditjen : Direktorat Jenderal
- EBTKE : Energi baru Terbarukan dan Konversi Energi
- IPP : Independent Power Producer
- FIT: Feed in Tariff
- UKL UPL: Upaya Pengelolaan Lingkungan dan Upaya Pemantauan Lingkungan

PDPDE Group & Holdings

THANK YOU