

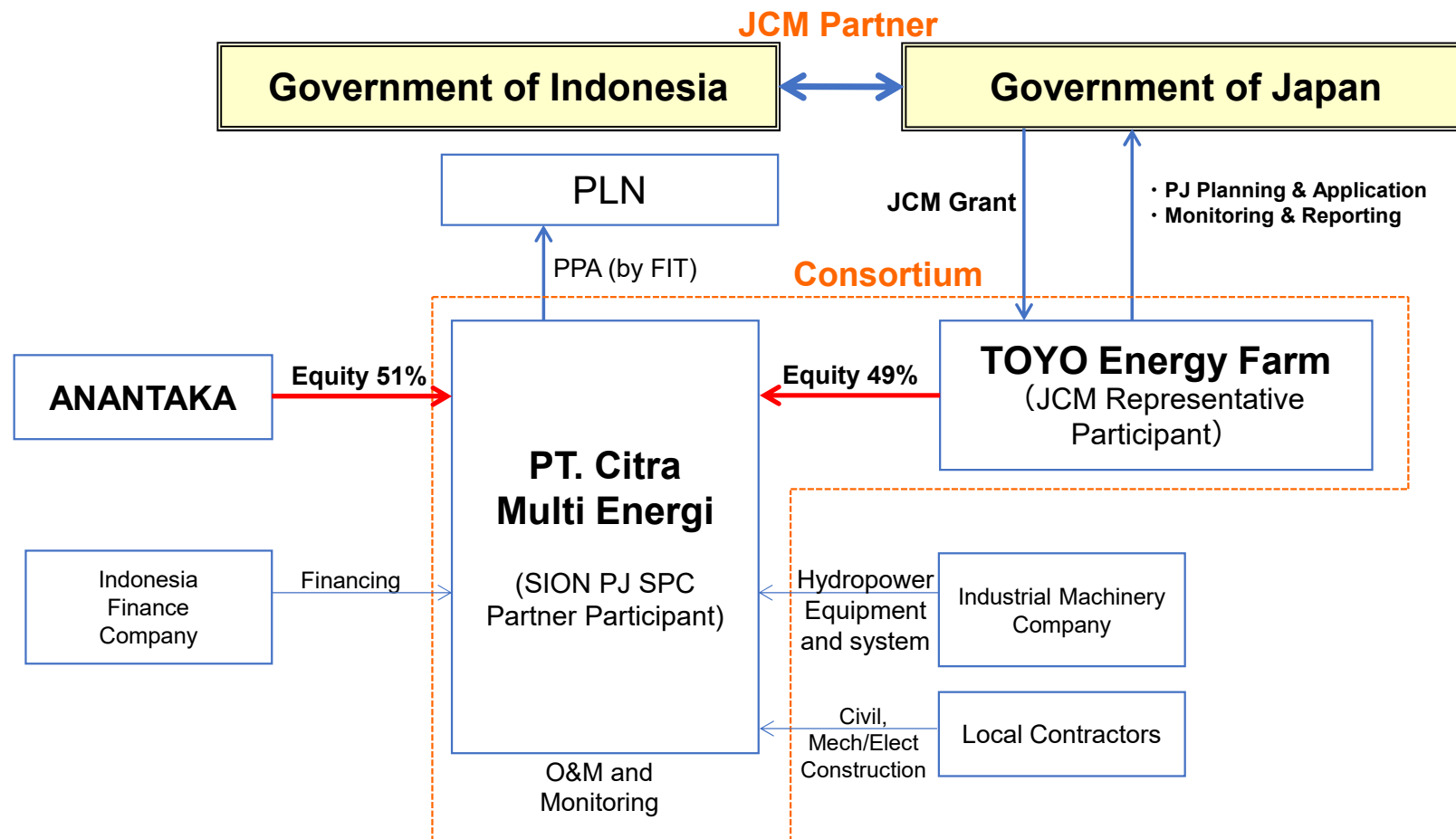


10MW Mini Hydro Power Plant SION Project in North Sumatra

Indonesia JCM Webinar, 2 September, 2021



SION Project Scheme



Toyo Group

Methane Fermentation Project



Mega-Solar Power Project



Small Hydropower Project



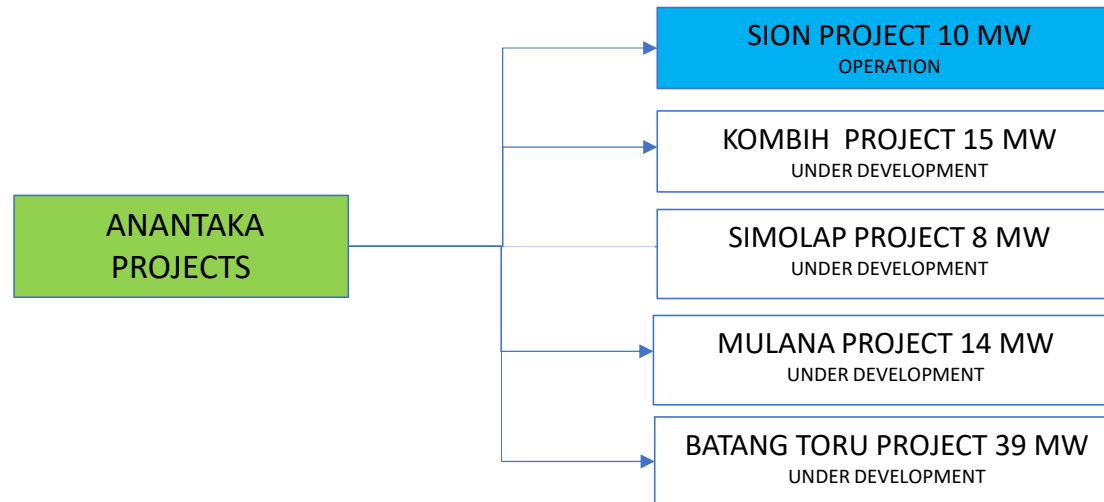
Wood Biomass Power Project



**Expanding
Renewable Energy Business
with Plant Engineering**

ANANTAKA Group

- PT ANANTAKA HIDRO INDONESIA (ANANTAKA), was incorporated in Oct 2014 with the objective of developing Green Energy in Indonesia.
- Targets to develop several projects in Indonesia with total capacity of 100 MW.
- ANANTAKA projects under development:



ANANTAKA project philosophy :

- Develop Green project that contribute multiple effects to the surrounding society
- Max energy production efficiency
- Min maintenance requirements
- Structurally able to withstand natural mishap
- Project is designed and constructed in compliance with international environmental standards

Hydropower Equipment

Horizontal Shaft Francis Turbine and Brushless Synchronous Generator

Specifications

ITEM	VALUE
Head (Ht)	72.60 m
Hydropower Generation (Pt)	6,050 kW * 2
Rotate Speed (N)	500min ⁻¹
Generator Power (Pg)	7,176kVA
Frequency (Hz)	50Hz
Power Factor (Pf)	0.85 / 1.0
Rated Voltage (Vg)	6.3kV



Operation – Routine Machine Inspection



Benefit in Operation

- SION have been increased supply electricity to sub grid of North Sumatera.
- Generated power SION 10 Mw, could be utilized to electrify +/- 27.000 houses
- Employment of local people during operation stage almost 26 persons.
- SION are making improvement value of natural resources in North Sumatera.
- During operation SION maintain the social community and nature such fixing the access road, facility supply of fresh water to the village, replanting tree along the maintenance road.
- SION contribute tax income for local government, such as water retribution and land & building tax.

Estimated GHG Emission Reductions

- **Planned Power Generation Yearly** **68.78 GWh**
- **Estimated GHG Emission Reductions Yearly** **32,807 tCO₂e**
- **Operation Period** **2020~2040**
- **Total Estimated GHG Emission Reductions until 2030** **339,485 tCO₂e**

Challenges in SION and next Projects

1. Stable operation at SION Project

- 20 year long operation with professional operators, advanced technology at control, monitoring and analysis and robust maintenance

2. Conformity with Stakeholders

- Maintain relationship with the stakeholders : local people, local government, PLN and others IPP

3. Advance to Next Projects

- Increase of sustainable clean energy by introduction of micro hydro power projects

Contribution to Community

Helping Communities
Clean Up
Their Landslides
Access Road



Promotion of Employment 1



Cleaning Trash rack



Turbine Inspection



Operation Turbine



Sediment Check

All Operator is Local people near Power house
Total 16 People
8 People for Operator Power House
8 People for Operator weir

Promotion of Employment 2



Outsource manpower for maintenance activity use local people near power house

TERIMA KASIH !

Thank you for your kind attention.