

GEODIPA GEOTHERMAL ROLES & SUGGESTIONS MOVING FORWARD

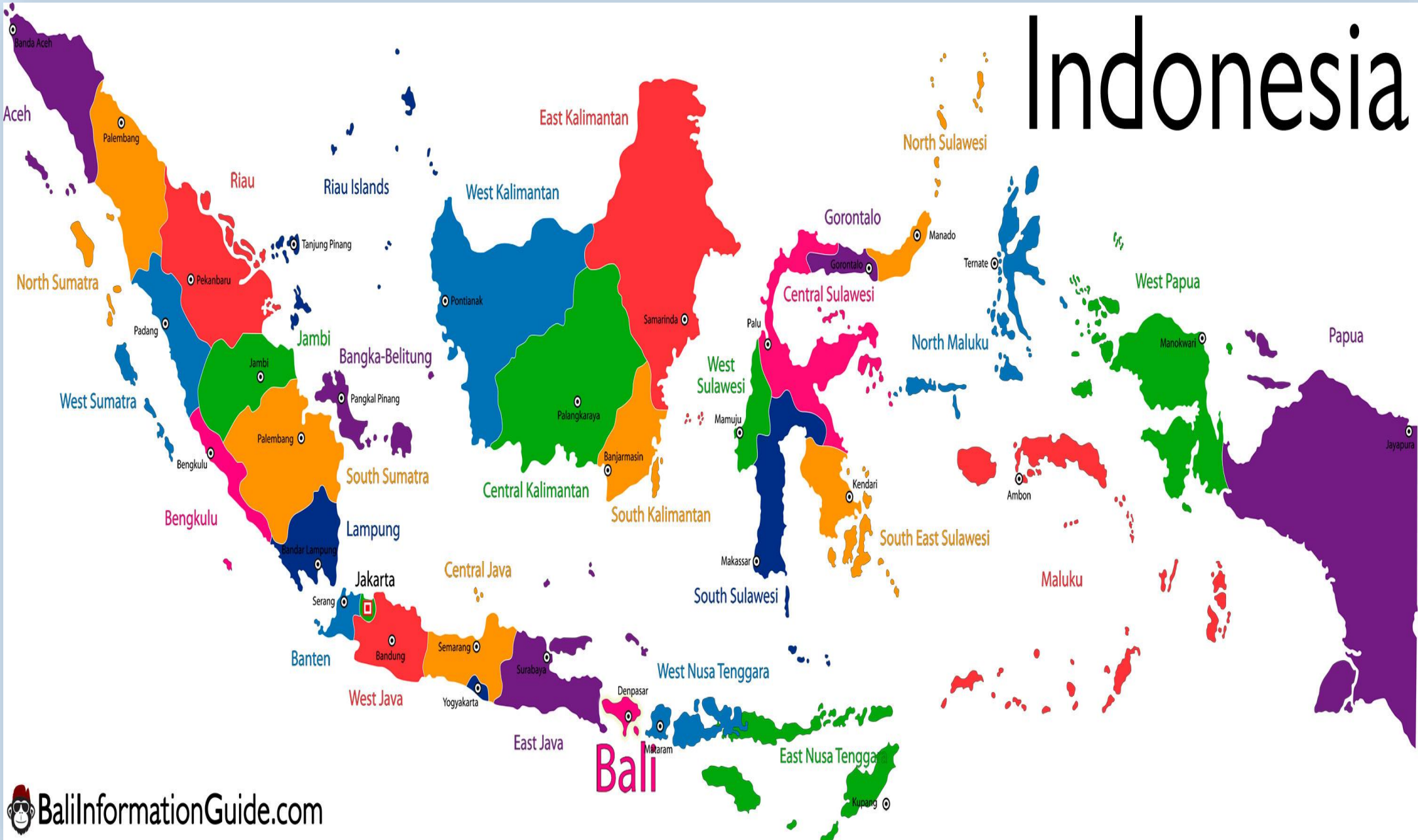
Riki Ibrahim
Santiago, Chile - 17 July 2019

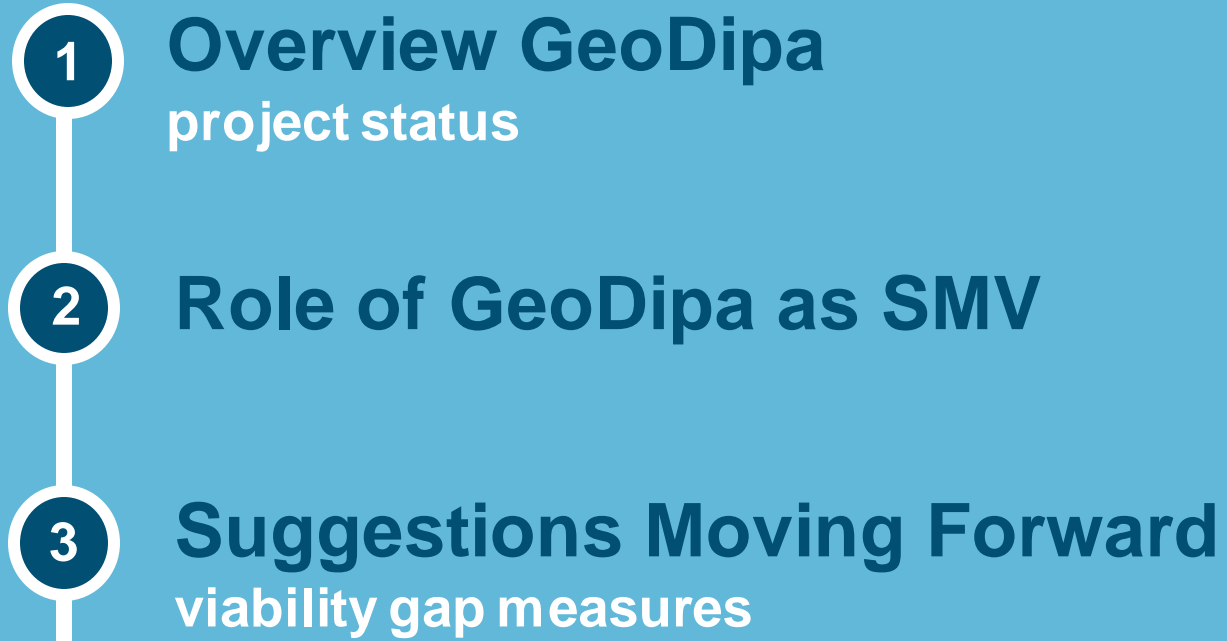


*Pulau Jawa



Indonesia



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- 1** **Overview GeoDipa**
project status
 - 2** **Role of GeoDipa as SMV**
 - 3** **Suggestions Moving Forward**
viability gap measures



1

Overview GeoDipa
project status

2

Role of GeoDipa as SMV

3

Suggestions Moving Forward
viability gap measures

2004
 Energy Sales Contract (ESC) Dieng and Patuha for 400 MW each.

2015
 Equity Participation into share of PT Geo Dipa Energi (Persero) Ex BPYBDS (Government Regulation 1/2015)
 Equity Participation into shares: Capital of Rp. 607 billion (Government Regulation 63/2015)

2002


- Initially established as joint venture PERTAMINA and PLN to develop Dieng dan Patuha field.
- Operating PLTP Dieng unit 1 (60 MW)

2011
 GeoDipa establishment as State Owned Enterprise (SOE) BUMN through PP No. 62/2011.

2017
 GeoDipa is assigned for development of WKP Arjuno Welirang (189 MW) and WKP Candi Umbul Telomoyo (90 MW), by ESDM Ministerial Decree 1749/2017



PEMERINTAH RI
 93,33%
Government of Indonesia

PT PLN (PERSERO)
 6,67%

2016



Green Field

13 12 11 10 9

Exploration
Planning & Preparation

Exploration
Drilling & FS

Exploitation
Drilling & Construction

1 2
Utilization
Operation & Maintenance

Brown Field

3 4

Optimization

5 6 7 8

Expansion
Drilling & Construction



PEMERINTAH RI
93,33%

Government of
Indonesia



2016



PT PLN (PERSERO)
6,67%

2019
110 MW

to add
490 MW

2030
600 MW

In Operation	1	Dieng-1 55 MW
In Operation	2	Patuha-1 55 MW
2021	3	Additional Dieng-1 Small Scale 10 MW
2021	4	Additional Dieng-1 Binary 10 MW
2023	5	Dieng-2 55 MW
2023	6	Patuha-2 55 MW
2025	7	Dieng-3 55 MW
2025	8	Patuha-3 55 MW
2025	9	Candradimuka 40 MW
2026	10	Arjuno Welirang-1 60 MW (Total 180 MW)
2026	11	Umbul Telomoyo-1 45 MW (Total 90 MW)
2029	12	Arjuno Welirang-2 60 MW (Total 180 MW)
2029	13	Umbul Telomoyo-2 45 MW (Total 90 MW)



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NATIONAL
INTEREST

Role as
SMV



Government Side



Contribution as SMV 
if, role as SOE 

SOE & SMV Side



Fiscal Security

Energy Security

 NATIONAL
INTEREST

 Role as
SMV

 Role as
SOE

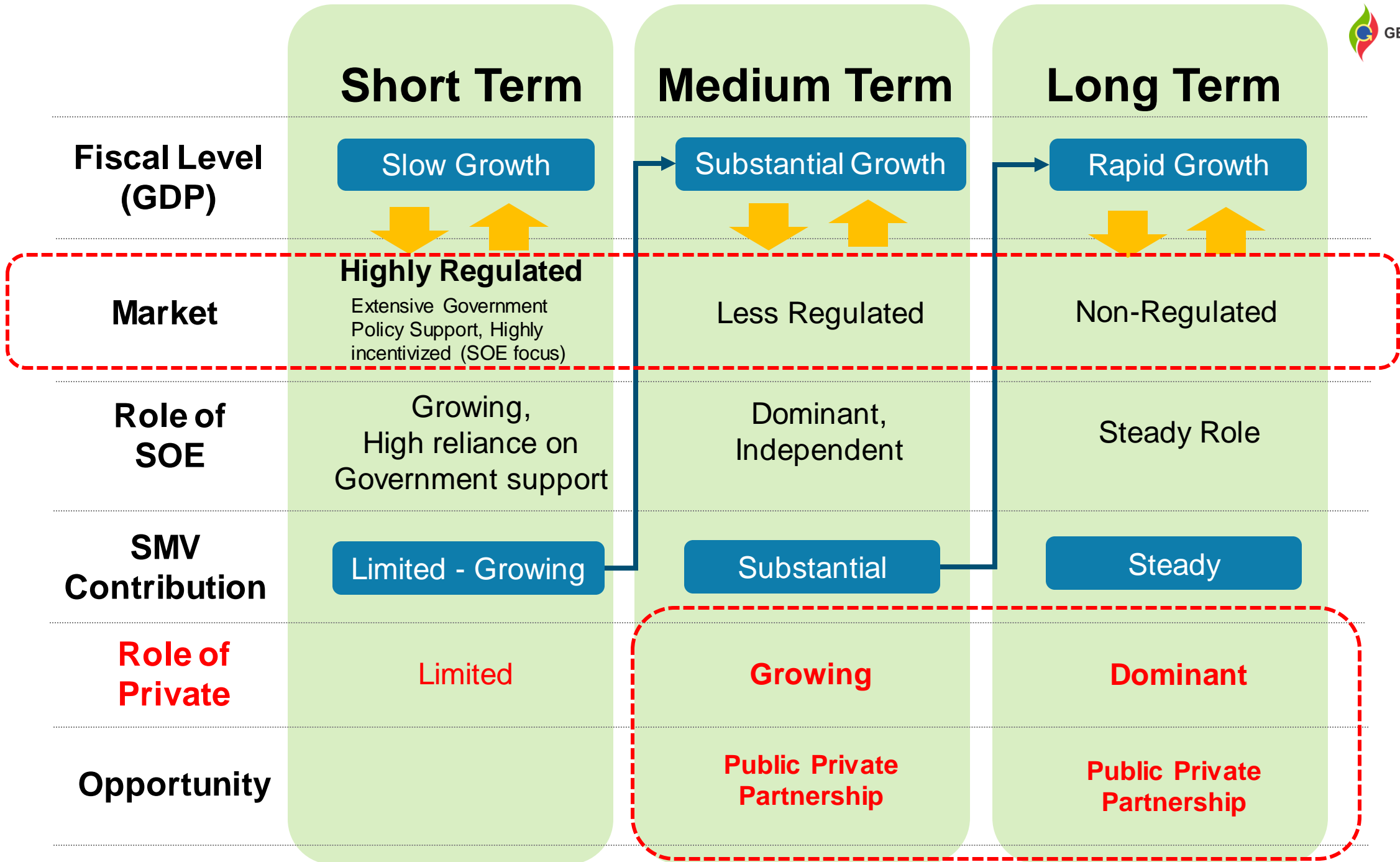
 Improve GDP by
Increase Export
and Investment

 Energy security
through RE mix &
carbon emission

$$\text{GDP} = \sum \text{Bruto Added Value}$$

In the perspective of Finance Ministry (MoF), GeoDipa, along with all other SOE under MoF, is positioned as a **Special Mission Vehicle** (SMV), a fiscal tool to achieve the country maximum fiscal performance. In accordance, GeoDipa has a direct impact towards the C (Consumption) component of the financial parameters. Meanwhile, as SOE, GeoDipa has a main task to increase renewable energy portion in the energy mix through geothermal power development.

	Private	SOE state owned enterprise	SMV special mission vehicle SMV = SOE (ministry of finance) + special mission
Key Privileges		Direct Assignment <hr/> Priority in Government Facilities	Direct Access to SOE Synergy <hr/> Direct Access to Government Guarantees
Expected Key Specific Attributes		Debottlenecking of Non-Technical Issues	Significantly Lower Expected Return of Investment <hr/> Debottlenecking of Non-Technical Issues



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Challenges in Geothermal Development in Indonesia

Impact

Appealers

Extreme
Production Issues

Limited Proven
Resource

Disablers

Overlap With
Conservation Forces

Commercial Clarity
Prior Exploration

Deviators

Extreme Site
Conditions

Delayers

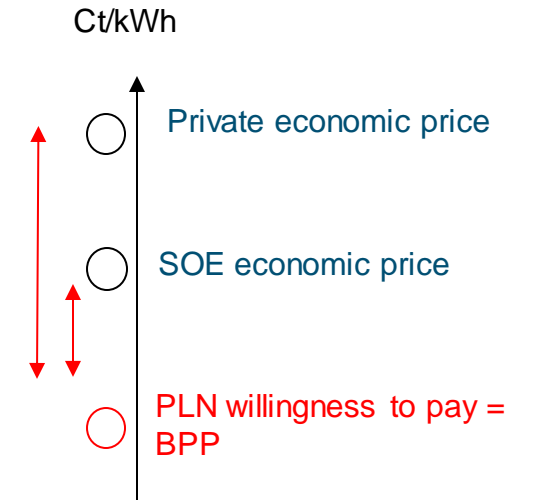
Overlap With
Protected Forest

Social
Resistance

Time

Exploration Drilling Preparation
Exploration
Exploitation Drilling and Plant Construction
Pre-PISP regime
Internal Funding
Internal Funding
Bank Funding
PISP regime
Internal Funding
PISP Funding
Bank Funding
Suggestion (1)
 (if soft loan **still** possible when PPP is implemented)

Internal Funding
PISP Funding
Bank Funding
Viability Gap Fund (VGF)*
Suggestion (2)
 (if soft loan **no longer** possible when PPP is implemented)

Internal Funding
PISP Funding
PISP
Viability Gap Fund (VGF)*
Geothermal Project Position


- Currently for pure infrastructure projects (President regulation 38/2015)
- Not for Geothermal
- CAPEX support from state fund

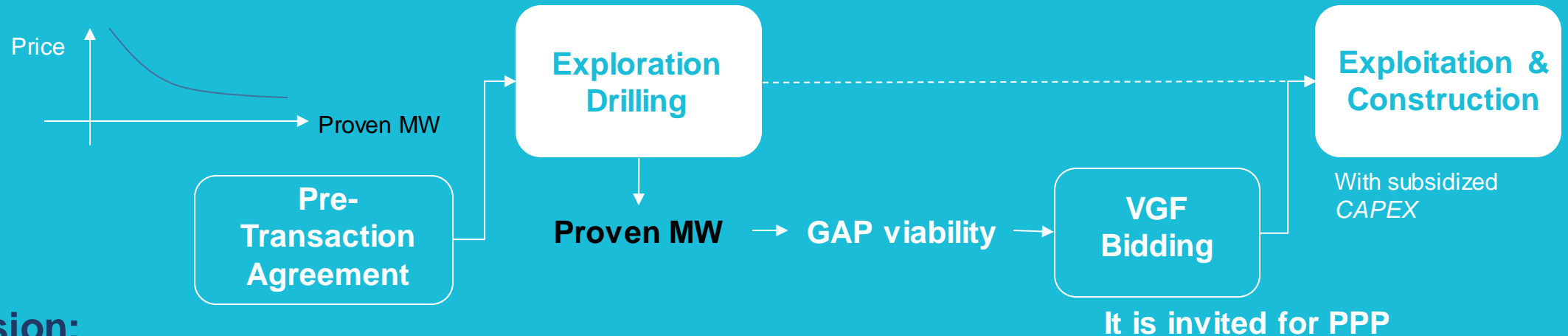
suggestion:

- VGF may only be provided if developer meet a pre-determined agreed performance. Loan and Soft interest is introduced in this scheme

Current VGF Scheme as Proposal

- CAPEX support (PPP project; PLTU Batang, highways) through Perpres No 38 Tahun 2015
- **Other potential forms for similar VGF scheme? (loan interest, etc)**

Overview Scheme for Geothermal (JICA suggestion)



Discussion:

- Require compliance confirmation possibility of PPP application for the Geothermal
- Tax Payer Money → **Opportunity for IBRD/GCF/CTF utilization**
- VGF is designed for Geothermal Vs. VGF is pure infrastructure projects (President regulation 38/2015)
 G to G privileges (slightly low interest etc. than market) is accessed as PPP is involved
- Delta of cost shall be part of VGF purpose
- Down Stream incentive is promoted to invite manufactures in Indonesia (improve local content).

