

Financial supports for Government Geothermal Exploration

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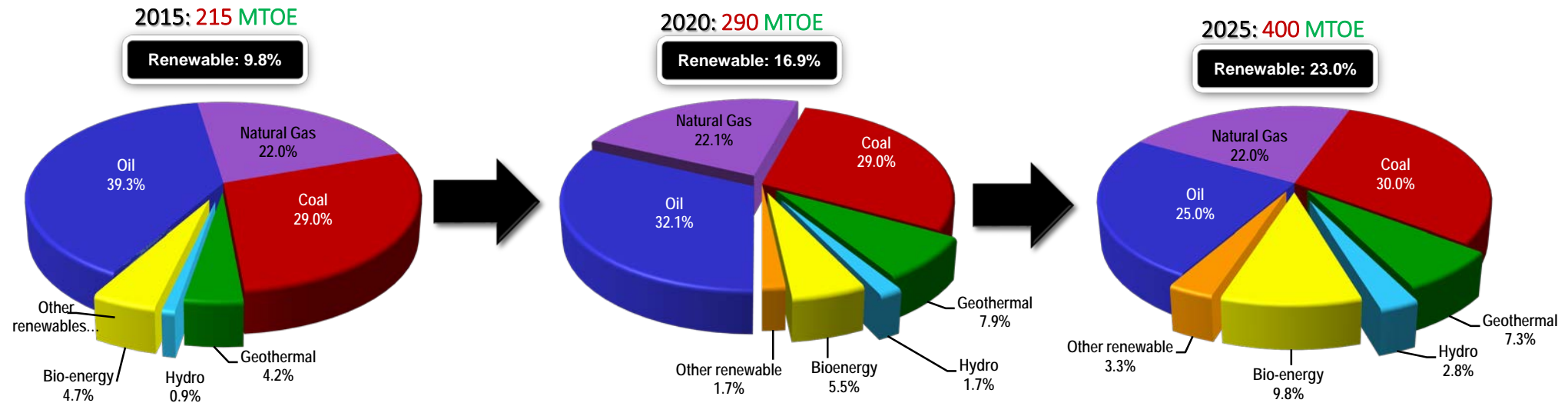
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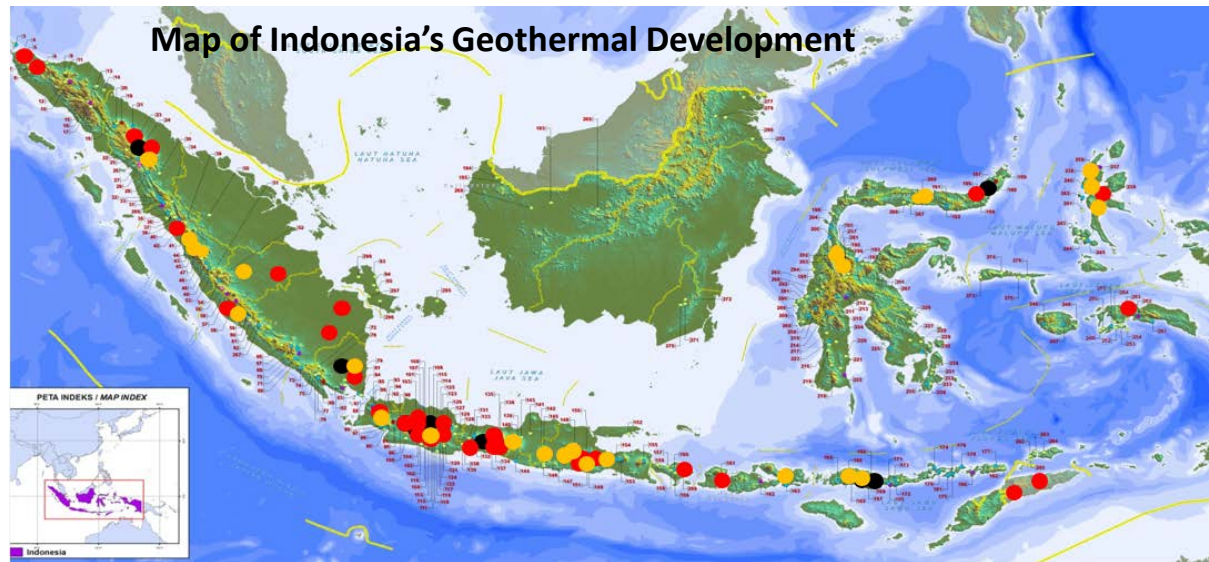
Renewable energy as the 'future' energy



- The government of Indonesia intends to reduce its dependence on fossil fuels considering that the reserves have been significantly depleted, energy subsidy potentially pressures the budget and the fact that Indonesia is rich with natural renewable energy resources.
- Therefore, the government commit to increase the contribution of renewable sources into its energy mix.
- It is targeted that in the year of 2025 the contribution of renewable energy sources can reach 23% of the total energy sources



Geothermal as potential renewable source



● In operation ● Preparation ● Tendering process Source: MEMR, 2015

| Geothermal among other renewable sources | | | | |
|--|-------------------|------------------------------|--------------------|--------------|
| NO | Renewable Energy | Resources | Installed Capacity | Ratio |
| 1 | Hydro | 75.000 MW | 7.572 MW | 10,1 % |
| 2 | Geothermal | 28.910 MW | 1.438,5 MW | 4.9 % |
| 3 | Biomass | 49.810 MW | 1.716,5 MW | 5,26 % |
| 4 | Solar | 4,80 kWh/m ² /day | 42,77 MW | - |
| 5 | Wind | 3 – 6 m/s | 1.87 MW | - |

- Indonesia has the world's largest geothermal resource with potential for 29GW of capacity. However, less than 5% of the potential has been utilized.
- Government has ambitious plan to develop electricity through 35,000 MW Project from 2015-2019 including several geothermal plant.
- PT. PLN blueprint of electricity generation that endorsed by government, in 2025 the generation capacity from geothermal will reach 7,000 MW. It mean that to reach thats target will need huge of investment.
- Increased private sector participation in geothermal, mobilized by public risk mitigation tools, could help Indonesia meeting its deployment target.



Government fund for Geothermal Exploration (MoF initiative)

- To increase the participation of private sector in the geothermal development, the government takes a number of efforts, including to ensure the availability of proven, reliable and sufficient geothermal data through exploration. Good and competitive bidding process requires internationally certified geothermal data.
- Ministry of Finance set up a Geothermal Support Fund in 2011 to provide funding for geothermal development especially for exploration. The fund could be used for exploration initiated by the (local) government or those initiated by private sector.
 - The fund was managed by the Government Investment Unit (GIU/PIP), a government agent specialized in government investment management.
 - The fund was allocated from the government budget since 2012 and accumulated to the amount of Rp 3,1 trillion (around USD 238 million) in 2015. Until currently, the fund has not yet been used.
- In 2015, the government transferred all the fund in the GIU/PIP to PT. SMI a state-owned company set up in 2006 for infrastructure financing.
- It is expected that the transfer of the fund to a company can make it more well-functioning, as:
 - The fund can be better leveraged by inviting other funding.
 - A private (non-government) company has potentially better incentive system and risk taking appetite.
- At the moment, MoF is developing a regulation to make GSF work under PT. SMI.



Financing Government Exploration: The Policy Evolution



Key issues of the regulation on GSF

- **Coverage**

- Geothermal Support Fund (GSF) can be used for exploitation and exploration activities

- **Scheme**

- GSF is provided for loans, equity participation and financing of government drilling

- **User/beneficiaries**

- Geothermal SOEs
- IPB and WKP holders (private sector)
- Ministry of Energy & Mineral Resources to finance the government drilling scheme

- **Management**

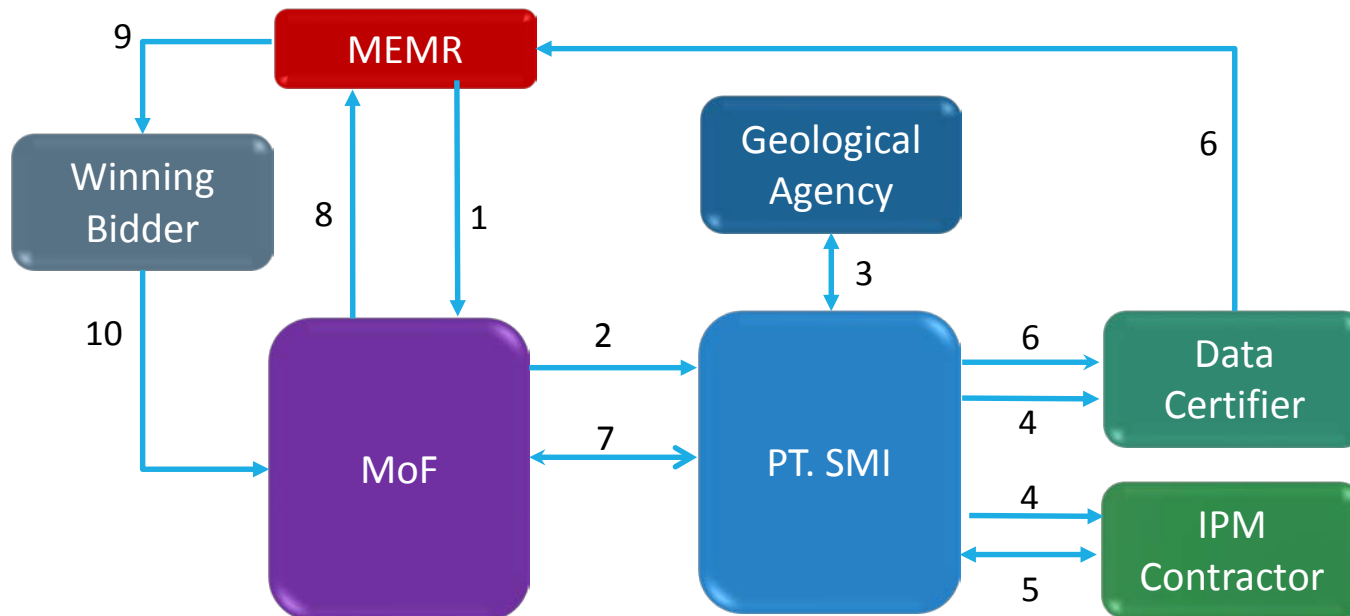
- PT. SMI is appointed as the GSF manager
- PT. SMI has the flexibility to determine the schemes as well as the terms and conditions of GSF loans and equity participation
- PT. SMI is encouraged to collaborate with other institutions, including international agencies.
- In using GDF, PT. SMI can set up SPVs, establish committees, e.t.c.

- **Government drilling scheme**

- GSF can be used by PT. SMI to finance exploration drilling proposed by MEMR.
- The costs should be recovered by the winning bidder.
- In the case of the data cannot be developed to find a winning bidder, MoF will recover the costs.



GSF: Government Exploration Scheme



1. Request from MEMR to MoF to finance geothermal data provision of certain location(s).
2. MoF assigns PT. SMI to finance location(s) identified by the MEMR.
3. PT. SMI establishes a technical cooperation agreement with the Geological Agency.
4. PT. SMI procures IPM contractor and independent data certifier.
5. The IPM contractor performs the drilling and submits the drilling results to PT. SMI. As a consequence, PT. SMI settles the payment to the IPM contractor.
6. The data certifier performs the certification and submits the certification to SMI.
7. PT. SMI submits the data to MoF and MoF pays the bill of all the expenses.
8. MoF delivers the data to MEMR.
9. MEMR conducts the bidding process.
10. The winning bidder makes a payment to MoF.



Current development

- MoF is in an intensive discussion with the World Bank to jointly use GSF together with Clean Technology Fund (CTF) and Global Environment Facility (GEF) to finance the government exploration scheme.
- The financing will include USD 49 million from CTF and the same amount from GSF, and also supported by USD 6,25 million from GEF-6.
- CTF and GEF will be co-managed between PT. SMI and The World Bank.



Thank you



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