#EquitableEnergy
4 Year Achievements, up to 2018*

THE FIRST COMMERCIAL WIND POWER PLANT IN INDONESIA
Sidrap, South Sulawesi | Capacity 75 MW | 30 Turbines @2.5 MW

*2018 temporary realization
Making energy available equitably with affordable price, increasing the national revenue and stimulating the growth and investment
Energy and Mineral Resources (EMR) contributes half of the non-tax state revenue in the midst of global investment challenge
NON-TAX STATE REVENUE FROM EMR SECTOR EXCEED TARGET

119% of State Budget Target in 2017

Realization 2018: 53.4% of non-tax state revenue is attributable to EMR

Realization 181% of target

217.5 trillion Rp non-tax state revenue 2018 from EMR

The realization of non-tax state revenue from EMR sector is 79% compared to non-tax state revenue in State Budget target in 2018.
STIMULATING INVESTMENT IN EMR SECTOR AMID GLOBAL CHALLENGES

unit: Billion US$

- **2014**
  - Renewable Energy: 0.6
  - Mineral & Coal: 3.9
  - Electricity: 21.7
  - Oil & Gas: 8.2
  - Total: 34.4

- **2015**
  - Renewable Energy: 1.0
  - Mineral & Coal: 5.3
  - Electricity: 17.9
  - Oil & Gas: 8.1
  - Total: 32.3

- **2016**
  - Renewable Energy: 1.6
  - Mineral & Coal: 7.3
  - Electricity: 12.7
  - Oil & Gas: 8.1
  - Total: 29.7

- **2017**
  - Renewable Energy: 1.3
  - Mineral & Coal: 6.1
  - Electricity: 11.0
  - Oil & Gas: 9.1
  - Total: 27.5

- **2018 Realization**
  - Renewable Energy: 1.6
  - Mineral & Coal: 6.8
  - Electricity: 11.3
  - Oil & Gas: 12.5
  - Total: 32.2

Need to be closely monitored and evaluated so as to achieve optimal investment in this sector.
CHALLENGES IN GLOBAL COMMODITY PRICING

Mitigating with expeditious policy action

- **Indonesian Crude Prices (ICP) [US$/barrel]**
  Average price Jan-Dec 2018: 67.47 US$/barrel

- **Indonesian Coal Price Index [US$/ton]**
  Average price Jan-Dec 2018: 98.96 US$/ton

**Protecting the people’s purchasing power:**
Fuel and electricity prices do not increase high price of global energy.

**PSC Gross Split is more equitable:**
- protecting investors while oil price is low
- windfall for the government while oil price is high
- Cost recovery no longer becomes a burden in the state budget

The coal price for power plant for public interest was set at:
**US$ 70/ton**
(caloric value 6.322 GAR)

In case the coal price lower than aforementioned price, will refer to the Indonesian coal price index
To make the electricity price remain affordable to protect purchasing power and industry competitiveness.
PERMITTING THAT RESTRAINT THE INVESTMENT ARE CONTINUINGLY REPEALED

- **186 Regulations/Permitting Repealed**

OIL & GAS
- 18 regulations
- 23 permits

MINERAL & COAL
- 32 regulations
- 64 permits

ELECTRICITY
- 20 regulations
- 9 permits

RENEWABLE ENERGY
- 5 regulations
- 9 permits

TOTAL
- 56 regulations/permits

"As directed by Mr. President, we rescinded permitting and bureaucracy to create the investment friendly climate, supported the economic growth and employment."

Ignasius Jonan
Minister of Energy and Mineral Resources
For the first time,
54% OF EMR BUDGET FOR PUBLIC INFRASTRUCTUR

28% Organisational spending

6.57 trillion Rp

54% Public Infrastructure Spending
- City gas pipeline
- LPG converter kits for small-scale fisherman
- Solar-powered energy saving lamps
- Drilling wells for water-scarce areas

18% Non-physical public spending

<table>
<thead>
<tr>
<th>Public Infrastructure Spending</th>
<th>2017 Revised State Budget</th>
<th>2018 State Budget</th>
<th>2018 Realization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational spending</td>
<td>2.73 trillion Rp</td>
<td>3.57 trillion Rp</td>
<td>3.24 trillion Rp</td>
</tr>
<tr>
<td>Non-physical public spending</td>
<td>1.42</td>
<td>1.20</td>
<td>1.06</td>
</tr>
<tr>
<td>TOTAL</td>
<td>6.57</td>
<td>6.57</td>
<td>5.85*</td>
</tr>
</tbody>
</table>

* EMR budget realization 2018 is 89%
ENERGY SUBSIDY REFORM
SHIFTING TO MORE PRODUCTIVE SPENDING

Rp. 958 trillion
2012-2014

Energy subsidy in the last 4 years was cut for more productive spending

Rp. 477 trillion
2015-2018

Trillion Rupiah

Total

Electricity Subsidy

Fuel & LNG Subsidy
PROVIDING ENERGY OVER THE REMOTE AREAS

Make oil and gas industry efficient and competitive
SINGLE FUEL PRICE POLICY

WAS EXPENSIVE, NOW IS AFFORDABLY CHEAP

131 LOCATIONS

Single Fuel Price realization until 2018

Fuel Price, after:
- Rp 5,150 for DIESEL
- Rp 6,450 for GASOLINE

Previous price:
- Puncak Regency, Papua: Rp 100,000
- Nunukan, North Kalimantan: Rp 40,000
- Mount Arfak, West Papua: Rp 30,000

Road Map of Single Fuel Price

2017: 57 locations
- 54 Pertamina
- 3 Private

2018: 73 locations
- 67 Pertamina
- 6 Private

2019: 40 locations
- 39 Pertamina
- 1 Private
FUEL CONVERTER KIT TO LPG for small-scale fishermen

Reduce operating costs around Rp 50,000/day

2018 target:
25,000 unit
in 18 Provinces,
55 Regencies/Cities

2018 realization:
25,000 unit
in 53 Regencies/Cities

2017 Realization
17,081 UNIT
in 11 Province
28 Regencies/Cities

2016 Realization
5,473 UNIT
in 5 Province
10 Regencies/Cities
Development of CITY GAS PIPELINE

Unit: Household (Cumulative)

2014: 200,000
2015: 220,363
2016: 319,514
2017: 373,190
2018: 463,619

Cumulative
State Budget Cumulative: 89,440
Non State Budget Cumulative: 110,560
Yearly increase
State Budget: 7,641
State Budget: 99,151
State Budget: 49,934
State Budget: 89,906
Realization

BENEFIT OF THE GAS GRID FOR HOUSEHOLDS:

- Reduce the household costs about Rp. 90,000/family
- More practical, cleaner and safer compared with tube 3 kg LPG canister

Realization:
- 89,906 household city gas pipeline is developed using by 2018 State Budget
- 523 household city gas pipeline is developed by PGN
Meeting the oil and gas lifting 2018 realization for 1,917 mboepd or 96% from 2018 State Budget target of 2,000 mboepd

**Efforts to meet oil and gas lifting target:**

- Executing the core upstream work program whilst remain mindful with the working area economics;
- The application of the latest and appropriate technology;
- Capitalising new methods to discover oil & gas resources and reserves;
- Monitoring field project development on-stream & on-time;
- Carrying out the maintenance to increase the production facility capability;
- Developing the oil and gas working areas
MAHAKAM GAS BLOCK ENTRUSTED TO PERTAMINA

After more than 50 years managed by TOTAL E&P, by Jan 1st, 2018 the giant Indonesia’s gas block has been managed by PERTAMINA.

The operating costs must be most efficient and production level must be maintained or increased

MAHAKAM WORKING AREA

- Bekapai
- Peciko
- Tunu
- Handil
- Tambora
- Sisi Nubi

- Increases both of state and regional governments’s role
- Increases the state revenue
- The transition of the working area management has been initiated since 2015
PERTAMINA MANAGES THE BIGGEST INDONESIA’S OIL BLOCK

Rokan Block
Production 207,000 bopd, equal to 26% of national oil production

Pertamina’s oil production contribution is increases in 2021, Pertamina will contribute around 60% of national oil production

Production since: August 8, 1971

Contract expires: August 8, 2021

Signature Bonus:
Rp 11.3 trillion
USD 784 million

Firm Commitment First 5 years:
Rp 7.2 trillion
USD 500 million

Government Potential Revenue for next 20 years:
Rp 823.5 trillion
USD 57 billion

2017: 23%
2018: 36%
2019: 39%
2021: 60%
**Developing Oil and Gas Strategic Projects**

**Jangkrik**
- Indonesia oil and gas offshore project
- Operated May 2017 (earlier than target June 2017)
- Gas production 682 mmcf/d

**Jambaran Tiung Biru**
- Groundbreaking Sept 2017 after being indecisive for sometime
- Saving state revenue around US$ 0.5 billion (investment becomes US$ 1.5 billion)
- Gas sales 172 mmcf/d, distributed for power project and industries in East Java and Central Java
- Gas sales price: US$ 7.6/mmbtu (flat)
- Absorbed 6,000 workforce

**Maselea**
- Decision is to develop onshore after being indecisive for some time
- To stimulate the local economics (petrochemical projects)
- Saving state revenue
- Currently undertaking PreFEED to determine the capacity and location of LNG facility
42 Working Areas Use Gross Split Scheme

14 Blocks sold in 2017-2018 Oil & Gas Blocks tender with Gross Split scheme

Oil and Gas Blocks Tender with cost recovery between 2015-2016 were unsuccessful

Gross Split Blocks Status: Up to May 2019

16 From Blocks Tender
2017 & 2018 Indonesia’s Oil and Gas Bid Round

21 Termination
Terminated blocks in 2017 - 2023

5 Amendment
During 2018 & 2019

2013 2014 2015 2016 2017 2018
# 40 Working Areas Use Gross Split Scheme

**Status:** May 7, 2019

<table>
<thead>
<tr>
<th>No Working Area</th>
<th>Signature Bonus [USD]</th>
<th>Firm Commitment [USD]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Andaman I</td>
<td>750,000</td>
<td>2,150,000</td>
</tr>
<tr>
<td>2. Andaman II</td>
<td>1,000,000</td>
<td>7,550,000</td>
</tr>
<tr>
<td>3. Merak Lampung</td>
<td>500,000</td>
<td>1,325,000</td>
</tr>
<tr>
<td>4. Pekawai</td>
<td>500,000</td>
<td>10,450,000</td>
</tr>
<tr>
<td>5. West Yamdena</td>
<td>500,000</td>
<td>2,100,000</td>
</tr>
<tr>
<td>6. Citarum</td>
<td>750,000</td>
<td>3,750,000</td>
</tr>
<tr>
<td>7. East Jalal</td>
<td>1,500,000</td>
<td>35,350,000</td>
</tr>
<tr>
<td>8. East Seram</td>
<td>500,000</td>
<td>900,000</td>
</tr>
<tr>
<td>9. South East Jambi</td>
<td>500,000</td>
<td>4,650,000</td>
</tr>
<tr>
<td>10. South Jambi B</td>
<td>5,000,000</td>
<td>60,000,000</td>
</tr>
<tr>
<td>11. Banyumas</td>
<td>500,000</td>
<td>4,000,000</td>
</tr>
<tr>
<td>12. South Andaman</td>
<td>2,000,000</td>
<td>2,150,000</td>
</tr>
<tr>
<td>13. South Sakakemang</td>
<td>2,000,000</td>
<td>3,050,000</td>
</tr>
<tr>
<td>14. Maratua</td>
<td>2,000,000</td>
<td>5,750,000</td>
</tr>
<tr>
<td>15. Anambas</td>
<td>2,500,000</td>
<td>35,200,000</td>
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<tr>
<td>16. Selat Panjang</td>
<td>5,000,000</td>
<td>74,000,000</td>
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<tr>
<td>17. Offshore North West Java</td>
<td>5,000,000</td>
<td>82,300,000</td>
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<tr>
<td>18. North Sumatera Offshore</td>
<td>1,500,000</td>
<td>18,500,000</td>
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<tr>
<td>19. Ogan Komering</td>
<td>5,000,000</td>
<td>23,300,000</td>
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<tr>
<td>20. South East Sumatera</td>
<td>10,000,000</td>
<td>130,000,000</td>
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<tr>
<td>21. Tuban</td>
<td>5,000,000</td>
<td>42,250,000</td>
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<table>
<thead>
<tr>
<th>No Working Area</th>
<th>Signature Bonus [USD]</th>
<th>Firm Commitment [USD]</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Sanga-Sanga</td>
<td>10,000,000</td>
<td>237,000,000</td>
</tr>
<tr>
<td>23. East Kalimantan &amp; Attaka</td>
<td>1,000,000</td>
<td>79,300,000</td>
</tr>
<tr>
<td>24. Jambi Merang</td>
<td>17,298,000</td>
<td>239,300,000</td>
</tr>
<tr>
<td>25. Raja Pendopo</td>
<td>1,000,000</td>
<td>15,550,000</td>
</tr>
<tr>
<td>26. Bula</td>
<td>1,000,000</td>
<td>5,250,000</td>
</tr>
<tr>
<td>27. Seram Non Bula</td>
<td>1,000,000</td>
<td>48,892,000</td>
</tr>
<tr>
<td>28. Malacca Strait</td>
<td>2,500,000</td>
<td>45,754,000</td>
</tr>
<tr>
<td>29. Brantas</td>
<td>1,000,000</td>
<td>115,555,000</td>
</tr>
<tr>
<td>30. Salawati</td>
<td>1,000,000</td>
<td>36,250,000</td>
</tr>
<tr>
<td>31. Kepala Burung</td>
<td>1,000,000</td>
<td>61,222,000</td>
</tr>
<tr>
<td>32. Rokan</td>
<td>784,000,000</td>
<td>500,000,000</td>
</tr>
<tr>
<td>33. Tarakan</td>
<td>1,500,000</td>
<td>35,500,000</td>
</tr>
<tr>
<td>34. Coastal Plains &amp; Pekanbaru</td>
<td>10,000,000</td>
<td>130,415,000</td>
</tr>
<tr>
<td>35. Tungkal</td>
<td>2,450,000</td>
<td>13,237,000</td>
</tr>
<tr>
<td>36. Sengkang</td>
<td>12,000,000</td>
<td>88,000,000</td>
</tr>
<tr>
<td>37. Rimau</td>
<td>4,000,000</td>
<td>41,330,000</td>
</tr>
<tr>
<td>38. East Sepinggan</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>39. Duyung</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>40. Lampung III</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>41. GMB Muralim</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>42. Sebatik</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**TOTAL**

- 902,748,000
- 2,241,280,000

**Notes:**
- **Tender blocks**
- **Termination block**
- **Amendment blocks**
GROSS SPLIT ACHIEVEMENT

Signature Bonus
Rp 13.5 trillion
(US$ 902.7 million)

As non-tax state revenue

Exploration Budget
Rp 33.6 trillion
(US$ 2.24 billion)

Increasing oil discovery

"The exploration budget is only Rp 50 up to Rp 70 billion per year from State Budget (APBN)"

Kurs: US$ 1 = Rp 15,000

42 Oil & Gas Blocks
GOVERNMENT INCOME VS COST RECOVERY

Contractor inefficiency can disrupt the State Revenue

Billion US$

2010 11.7 26.5
2011 15.2 15.5
2012 15.9 35.4
2013 15.9 31.2
2014 16.2 26.6
2015 13.7 12.0
2016 11.5 9.9
2017 11.3 13.1
2018 11.7 17.5

Government efforts to promote operating costs efficiency in 2017 starts to become apparent

Cost recovery  State revenue

Up to November (unaudited)
1. **TAX INCENTIVES PSC COST RECOVERY**

**Gov. Reg. No. 27/2017**
Amending the Government Regulation No 79/2010

**Upstream incentives:**
- Investment credit, Domestic Market Obligation (DMO) holiday, accelerated depreciation
- Cost sharing income tax (PPh) and value-added tax (PPn)

**During exploration and exploitation periods:**
- Custom-free for imported
- Incentives income tax/sales tax on luxury goods, value-added tax, and land & building tax

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**Tax incentives of Gross Split scheme is more attracted than Cost Recovery**

2. **TAX INCENTIVES PSC GROSS SPLIT**

**Gov. Reg. No. 53/2017**

- No tax from exploration until first production
- Loss carry until 10 years
- Accelerated depreciation

- Indirect tax during the production is calculated under field economics that will be compensated through the split adjustment
Oil and gas income reaches **228 trillion Rp** or **182% of State Budget target 2018** for **125 trillion Rp**.
SUBSECTOR
ELECTRICITY, NEW RENEWABLE ENERGY AND ENERGY CONSERVATION

PROVIDING ELECTRICITY ALL OVER INDONESIA

Developing local renewable energy and maintain so that the electricity price is competitive and affordable for public
INCREASING CAPACITY OF NATIONAL POWER PLANT

● **POWER PLANT INSTALLED CAPACITY (GW)**

Consist of PLN, Independent Power Producer (IPP), Private Power Utility (PPU) and operation permit non-fuel

<table>
<thead>
<tr>
<th>Year</th>
<th>Realization</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>53</td>
</tr>
<tr>
<td>2015</td>
<td>55</td>
</tr>
<tr>
<td>2016</td>
<td>60</td>
</tr>
<tr>
<td>2017</td>
<td>61</td>
</tr>
<tr>
<td>2018</td>
<td>62.6</td>
</tr>
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</table>

● **35,000 MW PROGRAM**

Status: Up to Dec 2018

- 8% 2,899 MW (Planning)
- 3% 954 MW (Procurement)
- 5% 1,683 MW (Contract not yet constructed)
- 32% 11,467 MW (Under construction)
- 52% 18,207 MW (Operated)

Total: 35.2 GW
ELECTRIFICATION RATIO EXCEEDS TARGET

Reaching the nationwide electrification ratio to 98.3%, with composition:
- PLN 95.45%
- Non-PLN 2.48%
- Solar-powered energy saving lamps (LTSHE) 0.37%

Status: December 2018

NATIONAL 98.3%
PRIMARY ENERGY MIX OPTIMIZATION FOR POWER PLANT

Fuel oil for power plant share decrease to 5% as of December 2018

electricity production cost become more efficient

FUEL OIL POWER PLANT SHARE [%]

<table>
<thead>
<tr>
<th>Year</th>
<th>Fuel Oil Power Plant Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>11.81</td>
</tr>
<tr>
<td>2015</td>
<td>8.58</td>
</tr>
<tr>
<td>2016</td>
<td>6.96</td>
</tr>
<tr>
<td>2017</td>
<td>6.0</td>
</tr>
<tr>
<td>2018</td>
<td>5.0</td>
</tr>
</tbody>
</table>
ELECTRICITY LOSSES DECREASES

Distribution of the electricity is getting better, electricity cost of production become more efficient

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss</td>
<td>10.7%</td>
<td>10.3%</td>
<td>9.7%</td>
<td>9.6%</td>
</tr>
</tbody>
</table>

Note: electricity losses without calculating minimum energy

- Increasing supervision to prevent electricity theft
- Modernizing and monitoring the distribution system
National electricity consumption increases, towards consumption trend of developed country.

- Electricity consumption continues to increase along with electrification accessibility and economic growth.
- To encourage the development of electric vehicle and utilization of electric stove.
74 NEW CONTRACTS FOR RENEWABLE ENERGY SIGNED IN 2017-2018

- **Hydro** (5) 1,104 MW (70.1%)
- **Biogas** (6) 10.8 MW (0.7%)
- **Biomass** (6) 42.4 MW (2.7%)
- **Solar** (6) 45 MW (2.9%)
- **Geothermal** (1) 86 MW (5.5%)
- **Minihydro** (50) 287.8 MW (18.3%)

**Realization 2017-2018**
- Commercial Operation Date: 5
- Construction: 30
- Preparing Financial Close: 39

  - **2014**: 23 Contracts, 1,251 MW
  - **2015**: 14 Contracts, 1,829 MW
  - **2016**: 14 Contracts, 116 MW
  - **2017-2018**: 74 Contracts, 1,576 MW
Sidrap Wind Power Plant
The First Commercial Wind Power Plant in Indonesia

SPECIFICATION

- 30 Wind turbine
- 57 Meter width
- 80 Meter high of tower
- 2.5 Capacity of each turbine

75 Mega Watt

LOCATION
South Sulawesi
Build in Aug 2015

INVESTMENT
USD 150 million

MANPOWER
4,480 worker

ELECTRIFY
150,000 household

Jenepongo Wind Power Plant 72 MW will be operated in early 2019
RENEWABLE ENERGY POWER PLANT INCREASES

- **Installed Capacities Geothermal (MW)**
  - 1,403.5 MW in 2014
  - 1,438.5 MW in 2015
  - 1,643.5 MW in 2016
  - 1,808.5 MW in 2017
  - 1,948.5 MW in 2018
  - **140 MW** geothermal additional capacities installed from Karaha #1 (30 MW) and Sarulla #3 (110 MW)

- **Installed Capacities of Solar and Minihydro/Microhydro (MW)**
  - 123 MW in 2014
  - 160 MW in 2015
  - 247 MW in 2016
  - 296 MW in 2017
  - 332 MW in 2018
  - **75 MW** additional installed capacity Sidrap wind power plant

- **Installed Capacities of Bioenergy Generation (MW)**
  - 898.5 MW in 2014
  - 1,767.1 MW in 2015
  - 1,787.9 MW in 2016
  - 1,839.5 MW in 2017
  - 1,857.5 MW in 2018
  - Bioenergy power plant consist of biomass, biogas, municipal waste and biofuel. Mostly are off-grid power plant.
RENEWABLE ENERGY NON-TAX STATE REVENUE, EXCEED TARGET

2018 non-tax state revenue from Geothermal reaching **2.3 trillion Rp.**

or 326% of 2018 State Budget target of 700 billion Rp
BIOFUEL MANDATORY POLICY (B20)
To reduce diesel fuel import and save foreign exchange

Unit: Million Kilo Litre

2014: 3.32
2015: 1.62
2016: 3.65
2017: 3.41
2018: 5.70
Target: 6.01

The domestic utilization of biodiesel are 4.02 million kilo litre in 2018 and save USD 2.01 million or 28.42 trillion Rp of foreign exchange.
RENEWABLE ENERGY UTILIZATION
ENCOURAGE CO$_2$ EMISSIONS REDUCTION

As a national commitment in reducing emissions [according to Act No.16 concerning Ratification of Paris Agreement to the UNFCC and President Regulation No.61/2011 concerning National Action Plan on Green House Gas Reduction]

Unit: Million Ton CO$_2$

2014 | 2015 | 2016 | 2017 | Target | Realization
--- | --- | --- | --- | --- | ---
23.38 | 29.64 | 31.60 | 33.9 | 36.0 | 43.8

2018
SOLAR-POWERED ENERGY SAVING LAMP
Pre-electrification for 2,519 villages

2017 Realization
79,556 household in 5 province

2018 Target
175,782 household in 16 province

2018 Realization:
172,996 household in 16 province

Source of financing:
State Budget
2017-2019
> 350,000 household

State Budget Plan 2019
98,481 household
Mrs. YAKON TABONI
Resident of Munak Village, Bulakme District, Jayawijaya Regency, Papua Province

Feeling happy after receiving the solar power energy saving lamps from the government

- December 20, 2017 -
AOU VILLAGE
Pulau Tiga District,
Asmat Regency,
Papua Province

Nowadays, it is already 100% electrified with solar-powered energy saving lamp
ILPEN TABONI
Resident of Nunggu Rugu Village, Bulakme District, Jayawijaya Regency, Papua Province

Now, I can study at night

- December 20, 2017 -
BIMU VILLAGE RESIDENTS
Bulakme District, Jayawijaya Regency, Papua
Receive the solar-powered energy saving lamps from the government
SUBSECTOR
MINERAL AND COAL

IMPLEMENTING MANDATE OF THE MINERAL & COAL LAW

The clear and clean permits, finalizing the amendment of contracts and reach the principal negotiating agreement with Freeport
Based on Mining Business Permits data synchronization by the Regional Government and Directorate General of Mineral and Coal due to updating permits database of mineral and coal.
COAL DOMESTIC UTILIZATION INCREASES

COAL DOMESTIC USE
Unit: Million Ton

<table>
<thead>
<tr>
<th>Year</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>76</td>
</tr>
<tr>
<td>2015</td>
<td>86</td>
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<tr>
<td>2016</td>
<td>91</td>
</tr>
<tr>
<td>2017</td>
<td>97</td>
</tr>
<tr>
<td>2018</td>
<td>115</td>
</tr>
</tbody>
</table>

Ensuring the domestic supply of coal to fulfill power generation and industry needs

COAL PRODUCTION [million ton]
Coal production is prioritized to ensure the fulfillment of source requirements of domestic premier energy sources.

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>458</td>
</tr>
<tr>
<td>2015</td>
<td>461</td>
</tr>
<tr>
<td>2016</td>
<td>456</td>
</tr>
<tr>
<td>2017</td>
<td>461</td>
</tr>
<tr>
<td>2018</td>
<td>528</td>
</tr>
</tbody>
</table>

Unit: Million Ton
DEVELOPMENT OF THE EXPLOITATION AND SMELTER FACILITIES

Increasing compliance with commitment for the smelter development through the export permit evaluation
The activities of the site formerly for mining, depositing the reclamation guaranty bond are an integrated process under mining activities that need to be carried out.
NON-TAX STATE REVENUE OF MINERAL AND COAL EXCEED TARGET

MINERAL & COAL REVENUE in 2018, reached:
50 trillion Rp
156% State Revenue target 2018 of 32.1 trillion Rp

Mineral and Coal State Revenue Share in 2018
- Royalty [59.5%]: Rp 29.8 trillion
- Coal product sales [38.6%]: Rp 19.3 trillion
- Fixed fee [1.1%]: Rp 0.5 trillion
- Service & Information [0.8%]: Rp 0.4 trillion

Non-Tax State Revenue Mineral and Coal period 2014-2018
- Target: Rp 35.4 trillion in 2014, increasing to Rp 40.6 trillion in 2017, and reaching Rp 50.0 trillion in 2018
- Realization: Starting at Rp 29.6 trillion in 2015 and increasing to Rp 40.6 trillion in 2017, then decreasing to Rp 32.1 trillion in 2018
FREEPORT NEGOTIATION COMPLETED

Aug 27, 2017
Reach an agreements in principal

1. Freeport to complete smelter no later than 5 years
2. Government income increases and KK converted to IUPK
3. Freeport 51% share divestment is for national ownership
4. Extension of the operation permit 2x10 year if requirements fullfilled

Jul 12, 2018
HoA on 51% divestment of Freeport shareholding

Sept 27, 2018
The SPA signing between INALUM, Freeport McMoran and Rio Tinto

Dec 21, 2018
Special mining permit (IUPK) & 51% divestment

Positif Impacts:
- PTFI continuing operation (Papua economic activity)
- Government income increases
- Creation of multiplier effect (smelter + local content)
- Technology transfer in mining cost complex exploitation (700 km tunnel)
- 51% share divestment is more efficient
MITIGATING THE GEOLOGY DISASTER AND DRILLING WELLS IN WATER-SCARCE AREAS
Realization in 2017
237 groundwater wells in 27 province

Target 2018
550 groundwater wells in 27 province (179 Regency)

Realization 2018:
508 groundwater wells
& 55 groundwater wells in disaster refugee location

Realization up to 2018, 2,290 groundwater wells have been constructed for services to 6.6 million people.
RECAPITULATION OF GEOLOGY DISASTER
period on Jan - Dec 2018

1,598 disasters > 4.0 SR

13 Damaged earthquake:
- Lebak, Banten [2]
- Pidie, Aceh
- Bovendigoel, Papua
- Banjarnegara, Central Java
- Sumenep, East Java [2]
- Sarmi, Papua
- Garut, West Java
- Solok, North Sumatera
- Lombok, NTB [3]
- Donggala, Central Sulawesi
- Sumba, NTB
- Mamasa, West Sulawesi

2 Tsunami:
1. Donggala-Palu, Central Sulawesi
2. Sunda Channel, Banten dan Lampung

Emergency Responsiveness of EMR Geological Agency

Examination of the earthquake impact, measurement and analysis of microtremor data, coordination and recommendation filing to the local government and socialisation towards public directly or through public media.

Download application for geological information disaster
http://magma.esdm.go.id
53,819
Total volcanic eruptions is on Jan to Dec 2018 from 10 most active volcano in Indonesia

- Sinabung, North Sumatera
- Agung, Bali
- Dukono, North Maluku
- Ibu, North Maluku
- Merapi, Central Java
- Krakatau, Lampung
- Soputan, North Sulawesi
- Gamalama, North Maluku
- Karangetang, North Sulawesi
- Kerinci, Jambi
RECAPITULATION OF GEOLOGY DISASTER
period on Jan-Dec 2018

Landslide in Indonesia reported by Geology Agency:

1,772 landslide/erosion location
280 Regencies/Cities
2 severe damage location

1. Salem-Brebes, Central Java
2. Toba Samosir, North Sumatera

Emergency Responsiveness of EMR Geological Agency

Early warning system, emergency response, investigation, inspecting relocation land, recommendation, and socialization.
THANK YOU

Hopefully to become our common inspiration

Continue to improve the work performance, and do more for people
“No one counting, how much profit I will gain later from this republic, if I fight and sacrifice to defend it”

- Ir. Soekarno

Independence Day Speech in 1956