



Direktorat Jenderal Ketenagalistrikan  
Kementerian Energi dan Sumber Daya Mineral  
Republik Indonesia

# **BAHAN DITJEN KETENAGALISTRIKAN**

## **Disampaikan pada Rapat Dengar Pendapat dengan Panja Listrik Komisi VII DPR-RI**

Jakarta, 2 Juli 2020

Gedung Nusantara I DPR RI

Pusat Studi Hukum

Energi dan Pertambangan

Centre For Energy and Mineral Law Studies



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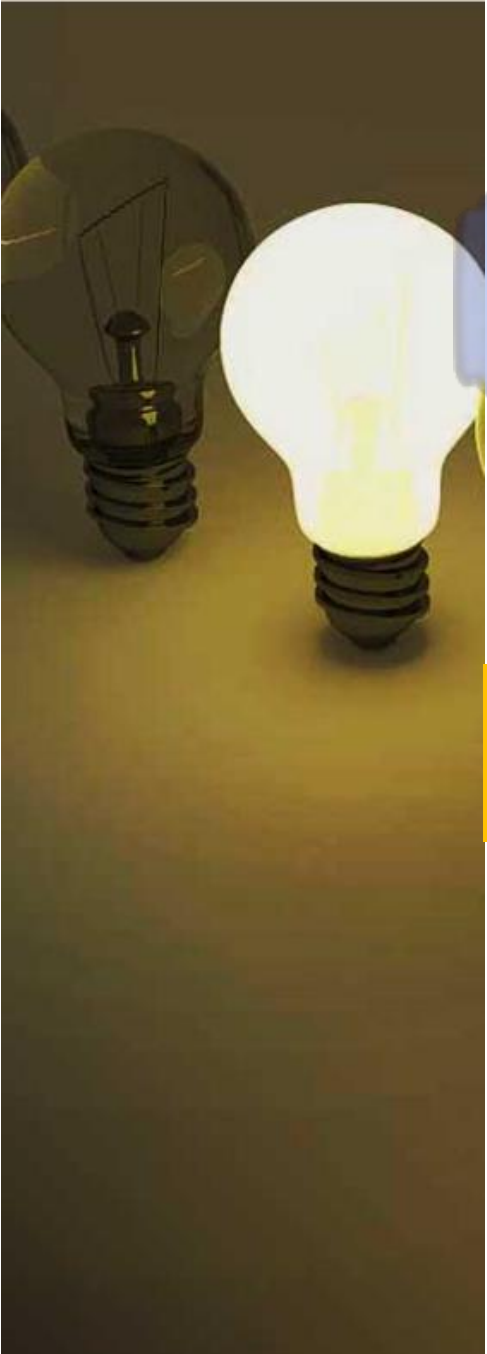
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# DAFTAR ISI

|          |                                                                 |           |
|----------|-----------------------------------------------------------------|-----------|
| <b>1</b> | <b>KONDISI NERACA KELISTRIKAN SAAT INI (SUPPLY AND DEMAND)</b>  | <b>3</b>  |
| <b>2</b> | <b>CAPAIAN INFRASTRUKTUR KETENAGALISTRIKAN 2020</b>             | <b>5</b>  |
| <b>3</b> | <b>STATUS PROGRES PROGRAM 35.000 MW</b>                         | <b>7</b>  |
| <b>4</b> | <b>PENCAPAIAN EBT PROGRAM 35.000 MW</b>                         | <b>9</b>  |
| <b>5</b> | <b>PENCAPAIAN BAURAN ENERGI DI PEMBANGKIT LISTRIK EKSISTING</b> | <b>11</b> |
| <b>6</b> | <b>PROYEK PEMBANGKIT LISTRIK TERKENDALA</b>                     | <b>15</b> |

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1

## **KONDISI NERACA KELISTRIKAN SAAT INI (SUPPLY AND DEMAND)**

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# KONDISI NERACA KELISTRIKAN SAAT INI (SUPPLY AND DEMAND)

(STATUS 28 JUNI 2020)

” Kondisi pasokan tenaga listrik pada Sistem Kelistrikan Jawa Bali, Sumatera, Kalimantan dan Indonesia Timur sampai dengan bulan Juni 2020 umumnya pada kondisi **cadangan terpenuhi**

| SISTEM   | SUMATERA<br>KALIMANTAN | JMB       | SMPNT    | TOTAL     |
|----------|------------------------|-----------|----------|-----------|
| DMN      | 11.998,43              | 37.209,41 | 4.065,28 | 53.273,11 |
| BP       | 8.069,26               | 24.528,32 | 2.278,0  | 34.875,55 |
| CAD (MW) | 3.929,17               | 12.681,09 | 1.787,31 | 18.397,56 |
| CAD (%)  | 48,69%                 | 51,70%    | 78,46%   | 52,75%    |

| SISTEM   | Nias |
|----------|------|
| DMN (MW) | 71,0 |
| BP (MW)  | 34,1 |
| CAD (MW) | 36,9 |
| CAD (%)  | 108% |

| SISTEM   | Batam |
|----------|-------|
| DMN (MW) | 551,9 |
| BP (MW)  | 367,4 |
| CAD (MW) | 184,5 |
| CAD (%)  | 50%   |

| SISTEM   | Bintan |
|----------|--------|
| DMN (MW) | 157,4  |
| BP (MW)  | 76,5   |
| CAD (MW) | 81,0   |
| CAD (%)  | 106%   |

| SISTEM   | Khatulistiwa |
|----------|--------------|
| DMN (MW) | 424,4        |
| BP (MW)  | 353,3        |
| CAD (MW) | 71,1         |
| CAD (%)  | 20%          |

| SISTEM   | Tanjung Selor |
|----------|---------------|
| DMN (MW) | 27,3          |
| BP (MW)  | 14,9          |
| CAD (MW) | 12,4          |
| CAD (%)  | 83%           |

| SISTEM   | Sulutgo |
|----------|---------|
| DMN (MW) | 598,1   |
| BP (MW)  | 380,2   |
| CAD (MW) | 217,8   |
| CAD (%)  | 57%     |

| SISTEM   | Ternate |
|----------|---------|
| DMN (MW) | 53,4    |
| BP (MW)  | 34,9    |
| CAD (MW) | 18,5    |
| CAD (%)  | 53%     |

| SISTEM   | Sorong |
|----------|--------|
| DMN (MW) | 103,4  |
| BP (MW)  | 41,9   |
| CAD (MW) | 61,5   |
| CAD (%)  | 147%   |

| SISTEM   | Manokwari |
|----------|-----------|
| DMN (MW) | 48,0      |
| BP (MW)  | 26,9      |
| CAD (MW) | 21,1      |
| CAD (%)  | 78%       |

| SISTEM   | Sumatera |
|----------|----------|
| DMN (MW) | 8.744,4  |
| BP (MW)  | 5.824,3  |
| CAD (MW) | 2.920,1  |
| CAD (%)  | 50%      |

| SISTEM   | Bangka |
|----------|--------|
| DMN (MW) | 203,0  |
| BP (MW)  | 152,1  |
| CAD (MW) | 50,9   |
| CAD (%)  | 33%    |

| SISTEM   | Belitung |
|----------|----------|
| DMN (MW) | 81,7     |
| BP (MW)  | 41,1     |
| CAD (MW) | 40,6     |
| CAD (%)  | 99%      |

| SISTEM   | Kalimantan |
|----------|------------|
| DMN (MW) | 1.737,4    |
| BP (MW)  | 1.205,7    |
| CAD (MW) | 531,7      |
| CAD (%)  | 44%        |

| SISTEM   | Sulbagsel |
|----------|-----------|
| DMN (MW) | 2.269,6   |
| BP (MW)  | 1.230,1   |
| CAD (MW) | 1.039,5   |
| CAD (%)  | 85%       |

| SISTEM   | Ambon |
|----------|-------|
| DMN (MW) | 99,3  |
| BP (MW)  | 52,3  |
| CAD (MW) | 47,0  |
| CAD (%)  | 90%   |

| SISTEM   | Jayapura |
|----------|----------|
| DMN (MW) | 189,6    |
| BP (MW)  | 76,1     |
| CAD (MW) | 113,5    |
| CAD (%)  | 149%     |

| SISTEM   | Jawa Bali |
|----------|-----------|
| DMN (MW) | 37.209,4  |
| BP (MW)  | 24.528,3  |
| CAD (MW) | 12.681,1  |
| CAD (%)  | 52%       |

| SISTEM   | Lombok |
|----------|--------|
| DMN (MW) | 397,0  |
| BP (MW)  | 239,2  |
| CAD (MW) | 157,8  |
| CAD (%)  | 66%    |

| SISTEM   | Sumbawa Bima |
|----------|--------------|
| DMN (MW) | 175,1        |
| BP (MW)  | 104,9        |
| CAD (MW) | 70,2         |
| CAD (%)  | 67%          |

| SISTEM   | Timor |
|----------|-------|
| DMN (MW) | 131,8 |
| BP (MW)  | 91,4  |
| CAD (MW) | 40,4  |
| CAD (%)  | 44%   |

DMN Daya Mampu Netto  
BP Beban Puncak  
CAD Cadangan

Keterangan :  
) satuan dalam MW

**Normal** Sistem dikatakan normal jika cadangan daya lebih dari 30%  
**Siaga** Sistem dikatakan siaga jika cadangan daya kurang dari 30%  
**Defisit** Sistem dikatakan defisit jika pada saat beban puncak tertinggi, daya mampu kurang dari beban puncak

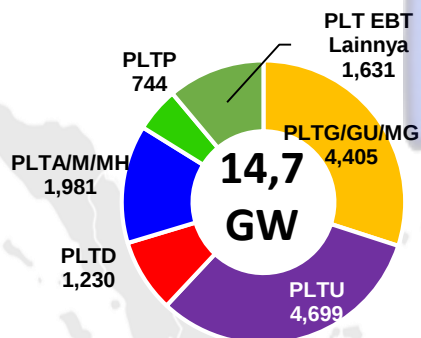


## CAPAIAN INFRASTRUKTUR KETENAGALISTRIKAN 2020

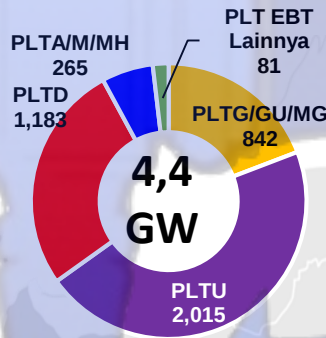
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# KAPASITAS TERPASANG NASIONAL (STATUS MEI 2020)

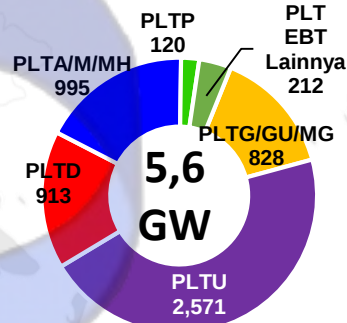
## SUMATERA



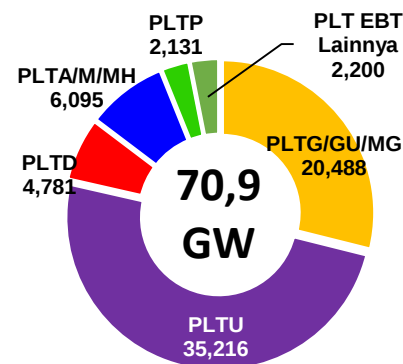
## KALIMANTAN



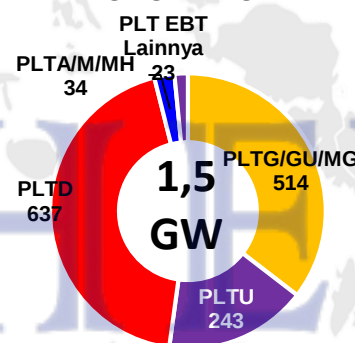
## SULAWESI



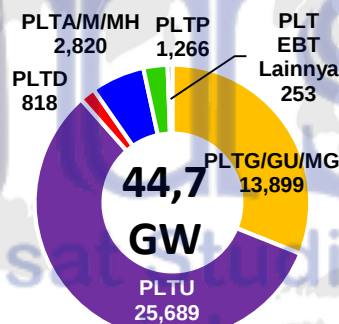
## INDONESIA



## MALUKU PAPUA



## JAWA-BALI-NUSRA

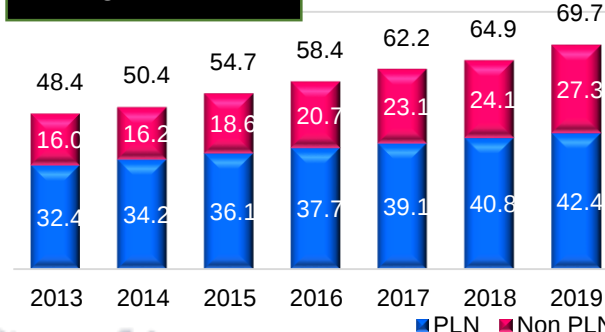


## KAPASITAS PEMBANGKIT EBT

| JENIS PEMBANGKIT | ONGRID       | OFFGRID      |
|------------------|--------------|--------------|
| PLTP             | 2.131        | -            |
| PLTA             | 4.701        | 938          |
| PLTB             | 154          | 0,5          |
| PLTBg            | 44           | 68           |
| PLTBm            | 146          | 1.617        |
| PLTBn            | 5            | -            |
| PLTM             | 350          | -            |
| PLTMH            | 99           | 7            |
| PLTS             | 79           | 49           |
| PLTS Atap        | 5            | 15           |
| PLTS Hybrid      | -            | 4            |
| PLTSa            | 16           | -            |
| <b>TOTAL</b>     | <b>7.728</b> | <b>2.698</b> |

” Total kapasitas pembangkit EBT telah mencapai **10.426 MW** atau **14,70%** dari total kapasitas terpasang pembangkit nasional.

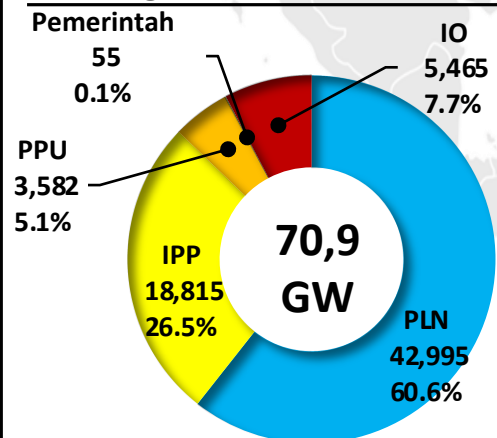
## CAPAAN



” Dari total kapasitas terpasang **69,7 GW**, program **35.000 MW** yang beroperasi **6.916 MW**.

\*) Berdasarkan Data Hasil Verifikasi koordinasi dengan Ditjen EBTKE, PUSDATIN KESDM dan PT PLN (Persero).

## BERDASARKAN KEPEMILIKAN



IPP : Independent Power Producer  
PPU : Private Power Utility  
IO : Izin Operasi



# 3

## STATUS PROGRES PROGRAM 35.000 MW

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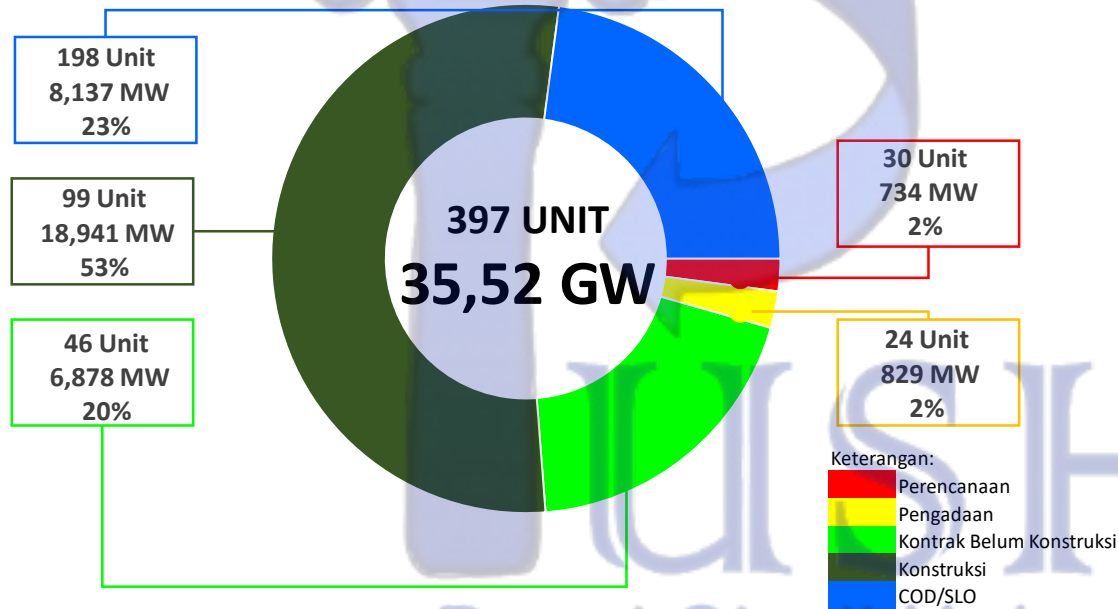


# KEMAJUAN PROGRAM 35.000 MW BERDASARKAN PENGEMBANG (STATUS: MEI 2020)

## NASIONAL

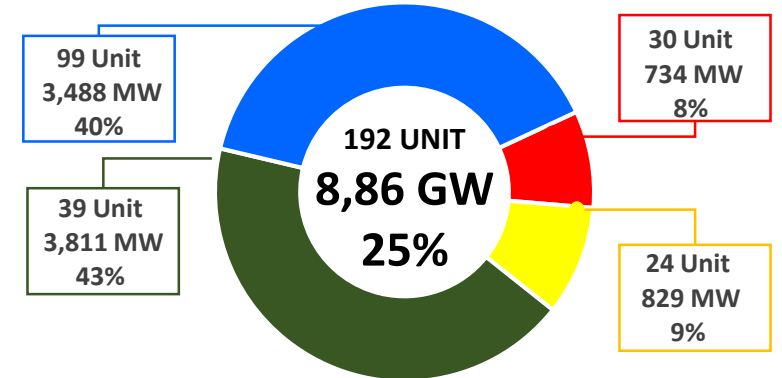
**SUDAH KONTRAK/PPA**  
344 UNIT  
33.956 MW  
96%

**BELUM KONTRAK/PPA**  
54 UNIT  
1.563 MW  
4%



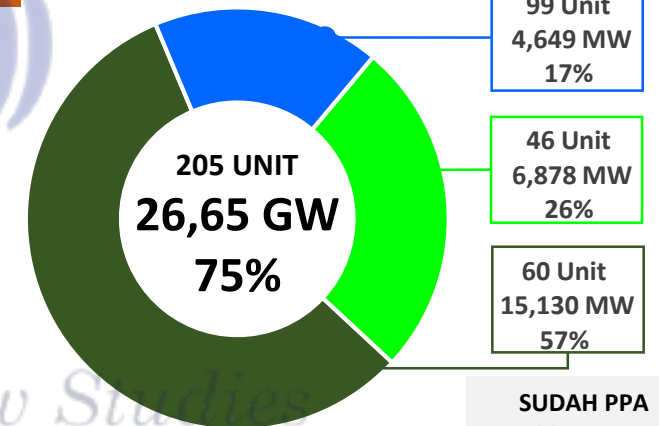
**SUDAH KONTRAK**  
138 UNIT  
7.299 MW  
82%

**BELUM KONTRAK**  
54 UNIT  
1.563 MW  
18%



**PLN**

**IPP**



**SUDAH PPA**  
205 UNIT  
26.655 MW  
100%

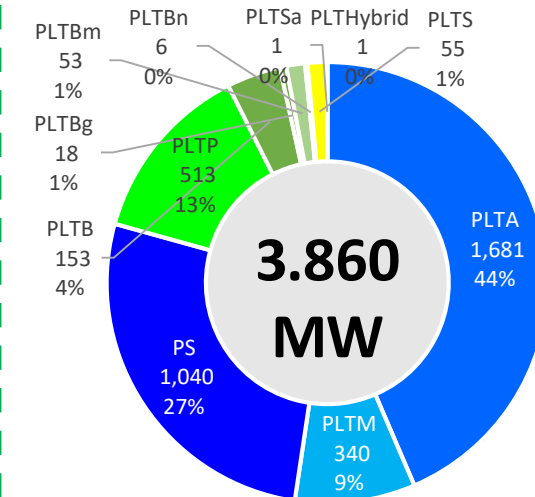
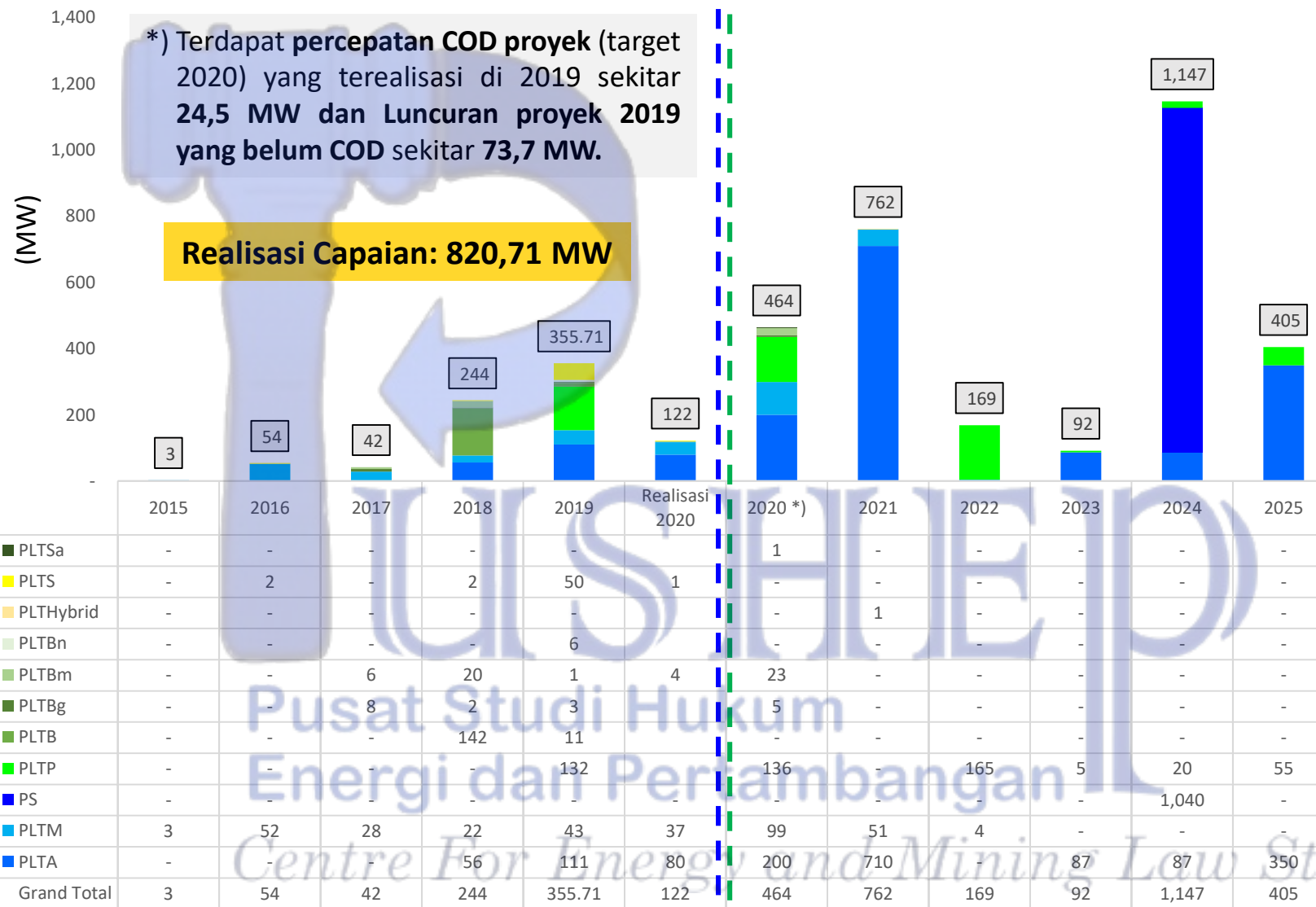
1. Penyelesaian pembangkit mencapai **8.137 MW** dibandingkan status akhir tahun 2019 yaitu sekitar **6.916 MW**, naik sekitar **1.221 MW**. Capaian tersebut didominasi penyelesaian **PLTGU Muara Karang GT (341,3 MW)**, **PLTU Kaltim Unit 2 (100 MW)**, **PLTU Kaltim 4 (2x100 MW)** dan **PLTU Bengkulu (100 MW)**.
2. Proyek pembangkit yang telah kontrak/PPA namun belum konstruksi, saat ini dalam **proses pemenuhan persyaratan pendanaan**.



## PENCAPAIAN EBT PROGRAM 35.000 MW

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# PENGEMBANGAN PEMBANGKIT EBT DALAM PROGRAM 35.000 MW



**REALISASI**

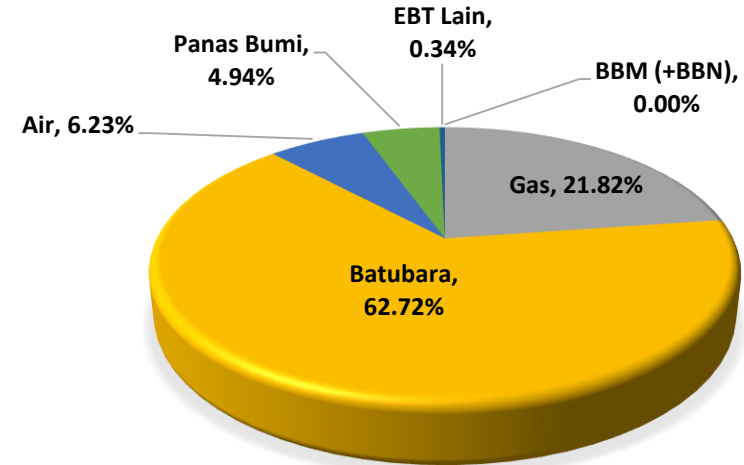
**RENCANA**



## **PENCAPAIAN BAURAN ENERGI DI PEMBANGKIT LISTRIK EKSISTING**

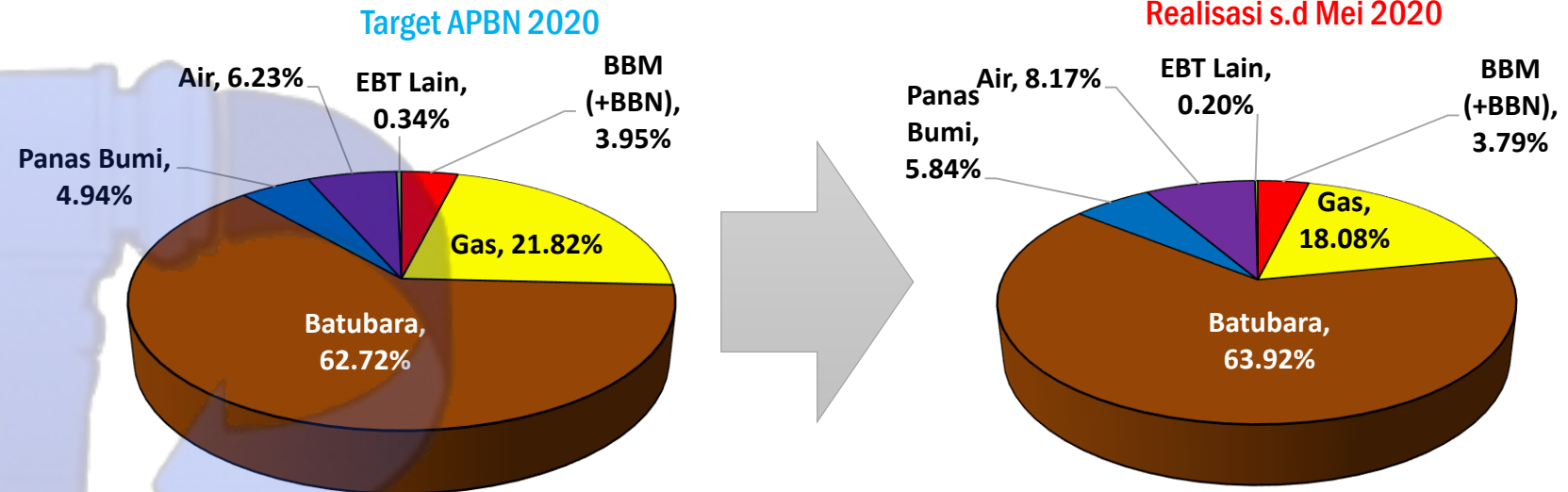
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# TARGET BAURAN ENERGI DALAM UU APBN 2020



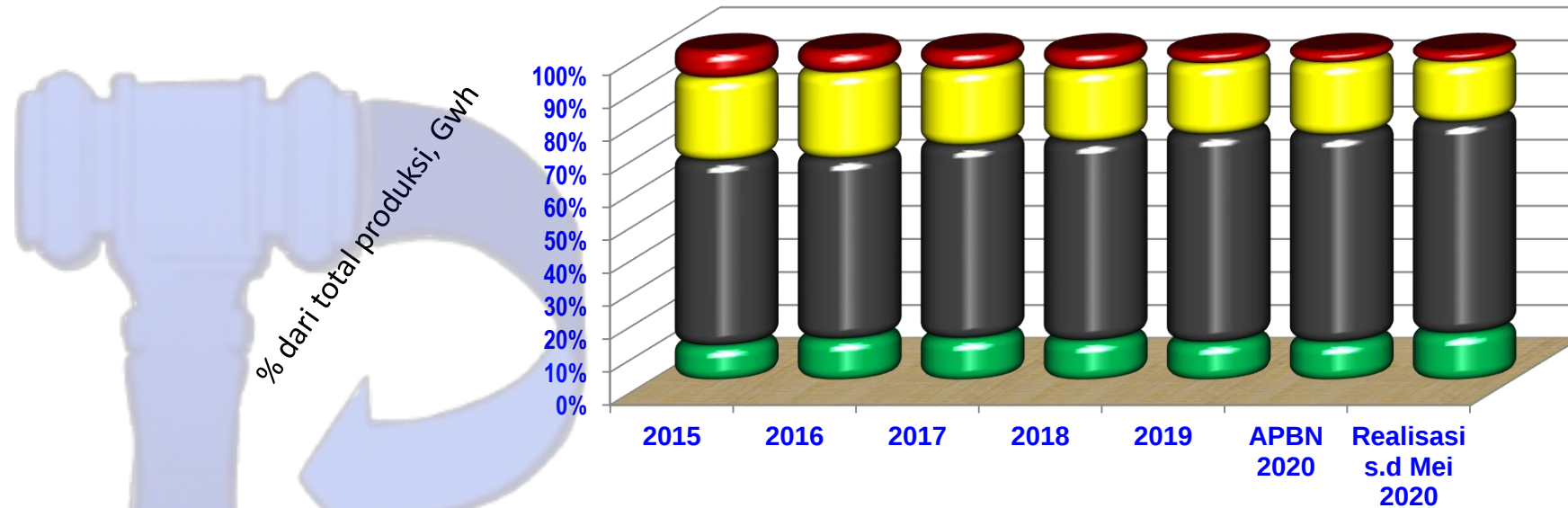
| Energi Primer |           | Satuan   | Volume  | Produksi (GWh) | (%) Terhadap Produksi | (%) Total |
|---------------|-----------|----------|---------|----------------|-----------------------|-----------|
| BBM           | PLN       | Juta kL  | 1,36    | 5.085          | 1,70%                 | 3,95%     |
|               | IPP       |          | -       | 1.232          | 0,41%                 |           |
| BBN           | PLN       | Juta KL  | 1,54    | 5.493          | 1,84%                 |           |
|               | IPP       |          | -       | 0              | 0,00%                 |           |
| Gas           | PLN       | BBTU     | 504.771 | 57.360         | 19,19%                | 21,82%    |
|               | IPP       |          | -       | 7.877          | 2,63%                 |           |
| Batubara      | PLN       | Juta Ton | 66,76   | 122.041        | 40,82%                | 62,72%    |
|               | IPP       |          | -       | 65.479         | 21,90%                |           |
| Air           | PLN       | GWh      | -       | 11.392         | 3,81%                 | 6,23%     |
|               | IPP       |          | -       | 7.235          | 2,42%                 |           |
| Panas Bumi    | PLN       | GWh      | -       | 4.099          | 1,37%                 | 4,94%     |
|               | IPP       |          | -       | 10.674         | 3,57%                 |           |
| EBT Lainnya   | PLN & IPP | GWh      | -       | 1.005          | 0,34%                 | 0,34%     |
| Total         |           |          |         | 298.972        | 100%                  | 100%      |

# PARAMETER BAURAN ENERGI PEMBANGKIT LISTRIK 2020



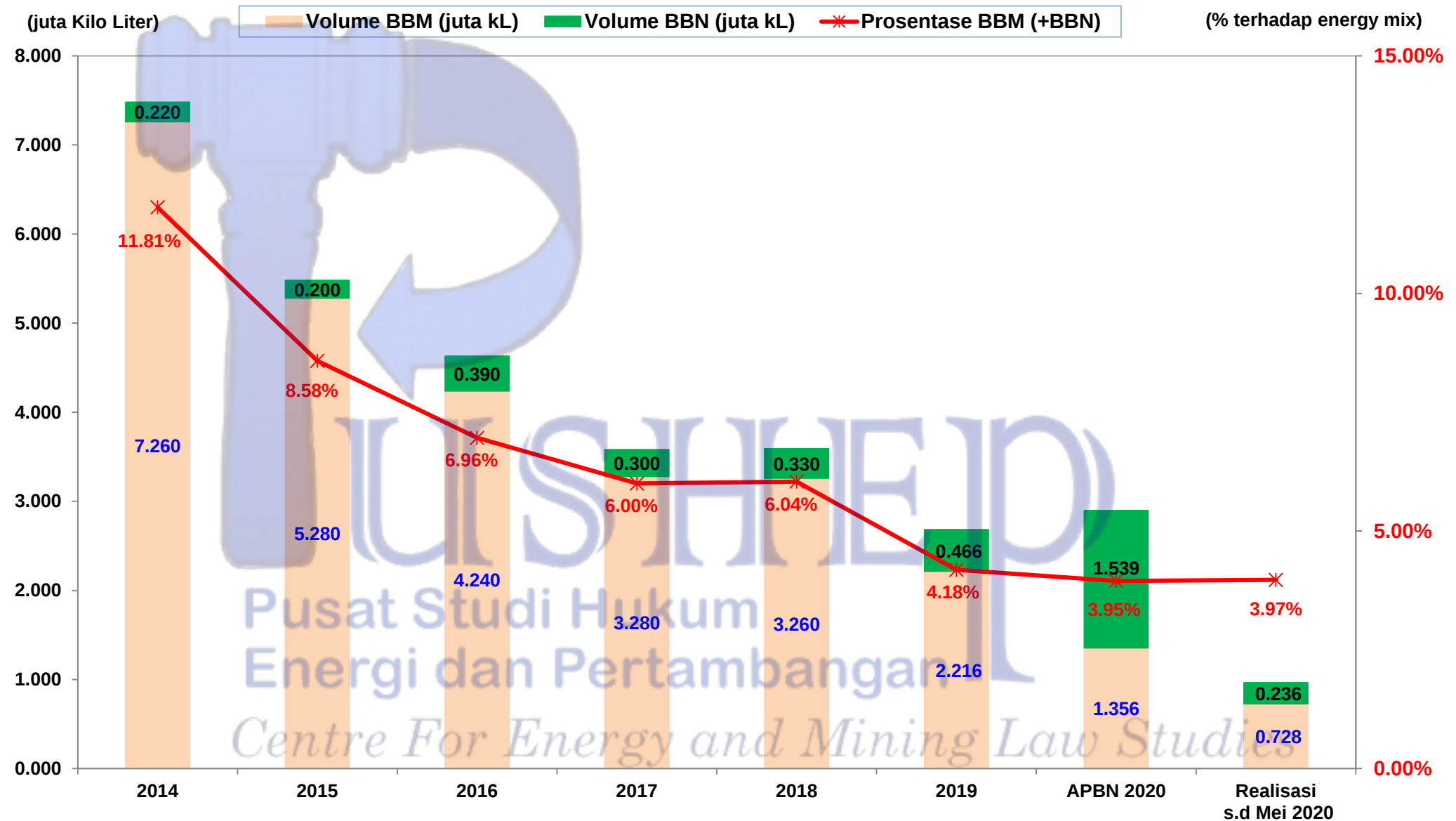
| Energi Primer     | Target APBN 2020 |                |             | Realisasi s.d Mei 2020 |                   |             |
|-------------------|------------------|----------------|-------------|------------------------|-------------------|-------------|
|                   | Volume PLN       | Produksi (GWh) | % Produksi  | Volume PLN             | Produksi (GWh)    | % Produksi  |
| BBM (Jt kL)       | 1,36             | 6.317          | 3,95%       | 0,728                  | 3.393,21          | 3,79%       |
| BBN (Jt kL)       | 1,54             | 5.493          |             | 0,236                  | 817,76            |             |
| Gas (BBTU)        | 501.477          | 65.237         | 21,82%      | 150.195                | 20.111,54         | 18,08%      |
| Batubara (Jt Ton) | 66,76            | 187.520        | 62,72%      | 25,789                 | 71.102,54         | 63,92%      |
| Air               |                  | 18,627         | 6,23%       |                        | 9.085,89          | 5,84%       |
| Panas Bumi        |                  | 14.774         | 4,94%       |                        | 6.494,00          | 8,17%       |
| EBT Lainnya       |                  | 1.005          | 0,34%       |                        | 225,70            | 0,20%       |
| <b>TOTAL</b>      |                  | <b>298.972</b> | <b>100%</b> |                        | <b>111.230,64</b> | <b>100%</b> |

# PERKEMBANGAN DAN TARGET ENERGY MIX TAHUN 2015 - 2020



|                                            | 2015   | 2016   | 2017   | 2018   | 2019   | APBN 2020 | s.d Mei 2020 |
|--------------------------------------------|--------|--------|--------|--------|--------|-----------|--------------|
| ● BBM (+ BBN)                              | 8,58%  | 6,96%  | 6,00%  | 6,04%  | 4,18%  | 3,95%     | 3,79%        |
| ● Gas                                      | 24,89% | 25,88% | 22,92% | 21,70% | 21,40% | 21,82%    | 18,08%       |
| ● Batubara                                 | 56,06% | 54,70% | 58,41% | 60,28% | 62,98% | 62,72%    | 63,92%       |
| ● EBT Lain                                 | 10,47% | 12,46% | 12,67% | 11,98% | 11,44% | 11,51%    | 14,21%       |
| ● EBT :                                    |        |        |        |        |        |           |              |
| ● BBN                                      | 0,28%  | 0,49%  | 0,40%  | 0,41%  | 0,57%  | 1,84%     | 0,74%        |
| Hydro                                      | 5,93%  | 7,88%  | 7,39%  | 6,37%  | 6,01%  | 6,23%     | 8,17%        |
| Panas Bumi                                 | 4,34%  | 4,33%  | 5,03%  | 5,30%  | 5,11%  | 4,94%     | 5,84%        |
| EBT Lainnya (Surya, Angin, Biomassa, sdll) | 0,20%  | 0,25%  | 0,25%  | 0,31%  | 0,33%  | 0,34%     | 0,20%        |
| Total EBT                                  | 10,75% | 12,95% | 13,07% | 12,39% | 12,01% | 13,35%    | 14,95%       |

# REALISASI PEMAKAIAN BBM (+BBN) UNTUK PEMBANGKITAN LISTRIK 2014 - 2020



# 6

## PROYEK PEMBANGKIT LISTRIK TERKENDALA

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# PROGRES PENYELESAIAN PROYEK PEMBANGKIT TERKENDALA

| SUMATERA                 |        |          | KALIMANTAN                  |          |          | SULAWESI                  |        |          | MALUKU, PAPUA    |        |          |
|--------------------------|--------|----------|-----------------------------|----------|----------|---------------------------|--------|----------|------------------|--------|----------|
| Proyek                   | Jumlah | Kap (MW) | Proyek                      | Jumlah   | Kap (MW) | Proyek                    | Jumlah | Kap (MW) | Proyek           | Jumlah | Kap (MW) |
| Sudah Operasi            | 1      | 14       | Sudah Operasi               | 1 unit * | 14       | Sudah Operasi             | 3      | 66       | On Progres       | 4      | 66,6     |
| 1. PLTU Tembilahan       |        | 2x7      | 1. PLTU Tj Redep (Berau)    |          | 2x7      | 1. PLTU Kendari Extension |        | 1x10     | 1. PLTM Kalibumi |        | 2x1,3    |
| Terminasi                | 4      | 51       | On Progres                  | 6        | 239      | 2. PLTU Ampana            |        | 2x3      | 2. PLTU Sofifi   |        | 2x3      |
| 1. PLTU Kuala Tungkal    |        | 2x7      | 1. PLTU Malinau             |          | 2x3      | 3. PLTU Gorontalo         |        | 2x25     | 3. PLTU Timika   |        | 4x7      |
| 2. PLTU Bengkalis        |        | 2x10     | 2. PLTU 1 Kalbar Parit Baru |          | 2x50     | On Progres                | 3      | 11,2     | 4. PLTU Ambon    |        | 2x15     |
| 3. PLTU Ipuh Seblat      |        | 2x3      | 3. PLTU 2 Kalbar Bengkayang |          | 2x27,5   | 1. PLTM Lapai 2           |        | 2x2      | Terminasi        | 1      | 30       |
| 4. PLTU Tembilahan (IPP) |        | 2x5,5    | 4. PLTU Tj Selor            |          | 2x7      | 2. PLTU Talaud            |        | 2x3      | 1. PLTU Jayapura |        | 2x15     |
| Total                    | 5      | 65       | 5. PLTU Sampit              |          | 2x25     | 3. PLTM Buleleng          |        | 2x0,6    | Total            | 5      | 96,6     |
|                          |        |          | 6. PLTU Kotabaru            |          | 2x7      | Terminasi                 | 3      | 32       |                  |        |          |
|                          |        |          | Terminasi                   | 3        | 34       | 1. PLTU Bau-Bau           |        | 2x10     |                  |        |          |
|                          |        |          | 1. PLTU Buntok              |          | 2x7      | 2. PLTU Raha              |        | 2x3      |                  |        |          |
|                          |        |          | 2. PLTU Kuala Pambuang      |          | 2x3      | 3. PLTU Wangi-Wangi       |        | 2x3      |                  |        |          |
|                          |        |          | 3. PLTU Tarakan             |          | 2x7      | Total                     | 9      | 109      |                  |        |          |
|                          |        |          | Total                       | 10       | 287      | NUSA TENGGARA             |        |          |                  |        |          |
|                          |        |          |                             |          |          | Proyek                    | Jumlah | Kap (MW) |                  |        |          |
|                          |        |          |                             |          |          | Sudah Operasi             | 1      | 14       |                  |        |          |
|                          |        |          |                             |          |          | 1. PLTU Sumbawa Barat     |        | 2x7      |                  |        |          |
|                          |        |          |                             |          |          | On Progres                | 4      | 56       |                  |        |          |
|                          |        |          |                             |          |          | 1. PLTU Alor              |        | 2x3      |                  |        |          |
|                          |        |          |                             |          |          | 2. PLTU Rote              |        | 2x3      |                  |        |          |
|                          |        |          |                             |          |          | 3. PLTU 1 NTB Bima        |        | 2x10     |                  |        |          |
|                          |        |          |                             |          |          | 4. PLTU Atambua           |        | 4x6      |                  |        |          |
|                          |        |          |                             |          |          | Total                     | 5      | 126      |                  |        |          |
| TOTAL INDONESIA          |        |          |                             |          |          |                           |        |          |                  |        |          |
| Proyek                   | Jumlah | Kap (MW) |                             |          |          |                           |        |          |                  |        |          |
| Sudah Operasi            | 6      | 108      |                             |          |          |                           |        |          |                  |        |          |
| On Progres               | 17     | 372,8    |                             |          |          |                           |        |          |                  |        |          |
| Terminasi                | 11     | 147      |                             |          |          |                           |        |          |                  |        |          |
| Total                    | 34     | 627,8    |                             |          |          |                           |        |          |                  |        |          |



# TERIMA KASIH

Pusat Studi Hukum  
Energi dan Pertambangan  
*Centre For Energy and Mining Law Studies*

