

PT PJB Business Analysis and Expansion Strategy

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Muhammad Fakhryrozi

fahry.rozi@gmail.com

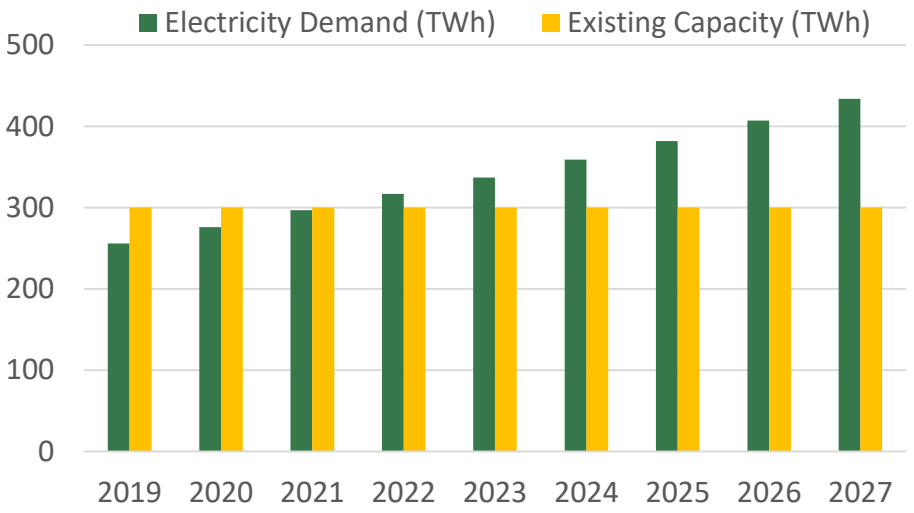


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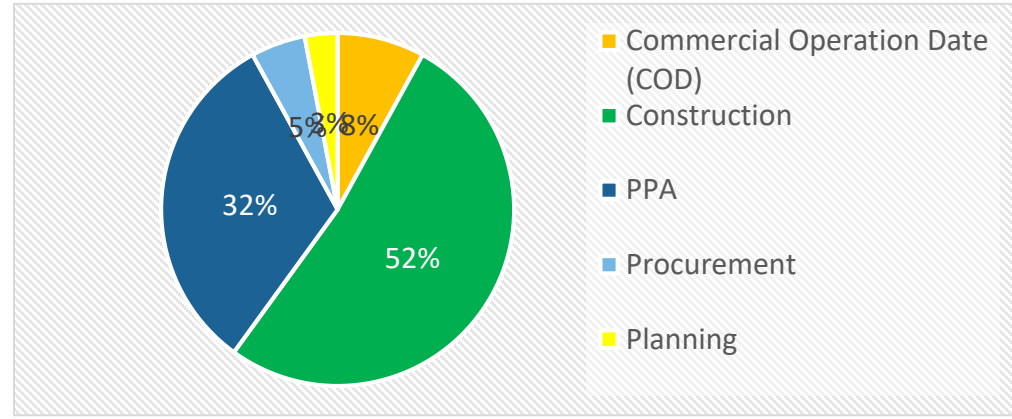


From now until 2027, Indonesia's growing economy will require additional electricity generation as much as 130 TWh. However, progress of ambitious power generation programs is still lagging.

Forecasted National Electricity Demand 2019-2027 and Existing Capacity(TWh)

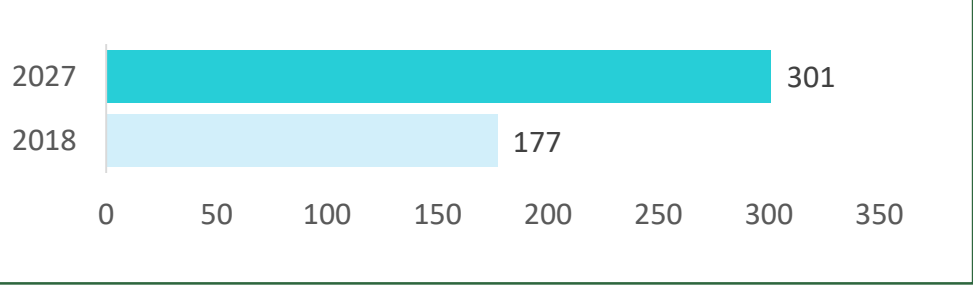


Status of 35,000 MW Power Generation Infrastructure (%)



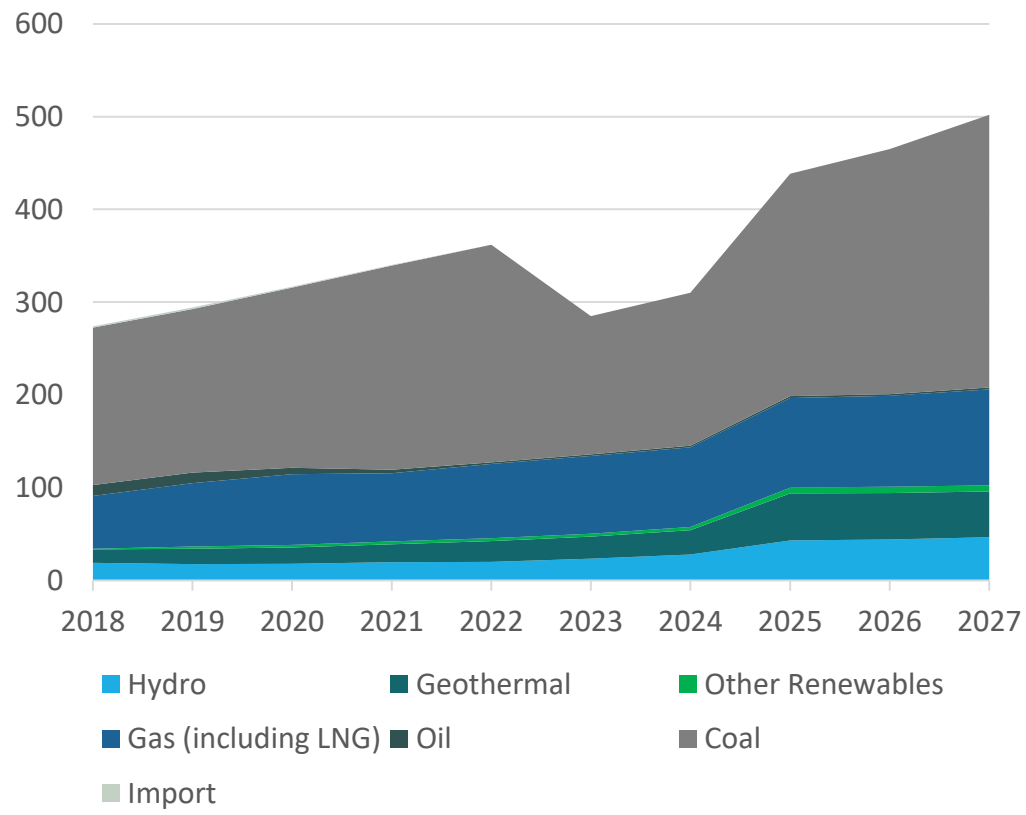
1. With the Indonesia's economy forecasted to grow at the level of 5-5.5% Until 2027, national electricity demand is predicted to also grow by 6.9 % per annum until 2027, resulting in the need to increase electricity capacity by around 35% from existing one.
2. To meet it's need, Java-Bali will require additional electricity as much as 301 TWh by 2027 (70% increase from 2017 figure)
3. Net capacity (based on 2017 data) in Java-Bali is 30% higher than Peak Load figure. However, this gap is considered as not enough and still below national average. Hence, more reserve is required to increase the gap above 30%.

Forecasted Jawa-Bali Electricity Demand 2018-2027 (TWh)



Coal and natural gas will remain as dominant segment in Indonesia's electricity fuel mix due to sheer amount of reserves while hydro and geothermal continues to emerge as an alternative

Forecasted Indonesia Electricity Fuel Mix 2018-2027 (TWh)



- 1. Hydro.** It's contribution is predicted to increase to 9.3% by 2027 from 7.3% in 2017. Despite prospective water flow across country, limitation of foreign ownership and regulatory uncertainty hinder the development.
- 2. Solar PV.** Limited deployment (109MWp). Estimated potential to be around 208 GWp
- 3. Geothermal.** It is predicted to increase from 5% in 2017 to 9.8% in 2027. Currently dominated by SOE and there are small number of concessions under development with slow PPA approval
- 4. Natural Gas.** Despite medium cost, It will remain one of the most dominant power generation. Infrastructure development is required to boost it's growth
- 5. Oil.** It is planned to be reduced significantly by PLN as Indonesia has been becoming net-oil importer.
- 6. Coal.** Economics, highly available reserves and logistical consideration has maintained coal as the leader of power generation fuel in Indonesia

Source: MoEMR, PWC, PLN



Even though some strategic direction has been set up by Government (eg. Issuance of RUEN and RUKD), regulatory uncertainty is still considered as the biggest barrier to boost power industry especially for private renewable energy players.

Survey Targeted at Power Industry Practitioners (2018)

Top Major Barriers to investing in new large scale generation	% Respondents
Regulatory uncertainty (e.g. land acquisition, tariffs, procurement selection process, etc.)	94%
Lack of standard bankable PPAs with appropriate risk allocation (including currency)	71%
Lack of consistent policies and vision across Government institutions to promote investment	71%
Time delay in conclusion of PPAs and permits	65%
Lack of coordination between Government institutions	58%
Lack of transparency in procurement and bidding of new project	48%
Adequacy of renewable energy incentives based on Local BPP	45%
Unavailability of government guarantees	45%

Some Regulations that considered as burdensome

MoEMR* Regulation No. 10/2017 on Principles of Power Purchase Agreements

Risk sharing that is too burdensome for investors causes difficulty to get funding access especially for Small-Medium Enterprises (SMEs) who want to develop renewable facilities (CNN Indonesia, Feb 2019)

MoEMR* No 50/2017 on The Use of Renewable Energy

Due to this regulation, as much as 38 power generation companies not able to access funding. The problem is primarily lies on BOOT (Build, Own, Operate & Transfer) scheme which made financial institution lose their interest. (Kontan, Nov 2018).

MoEMR* No 12/2017 on The Use of Renewable Energy

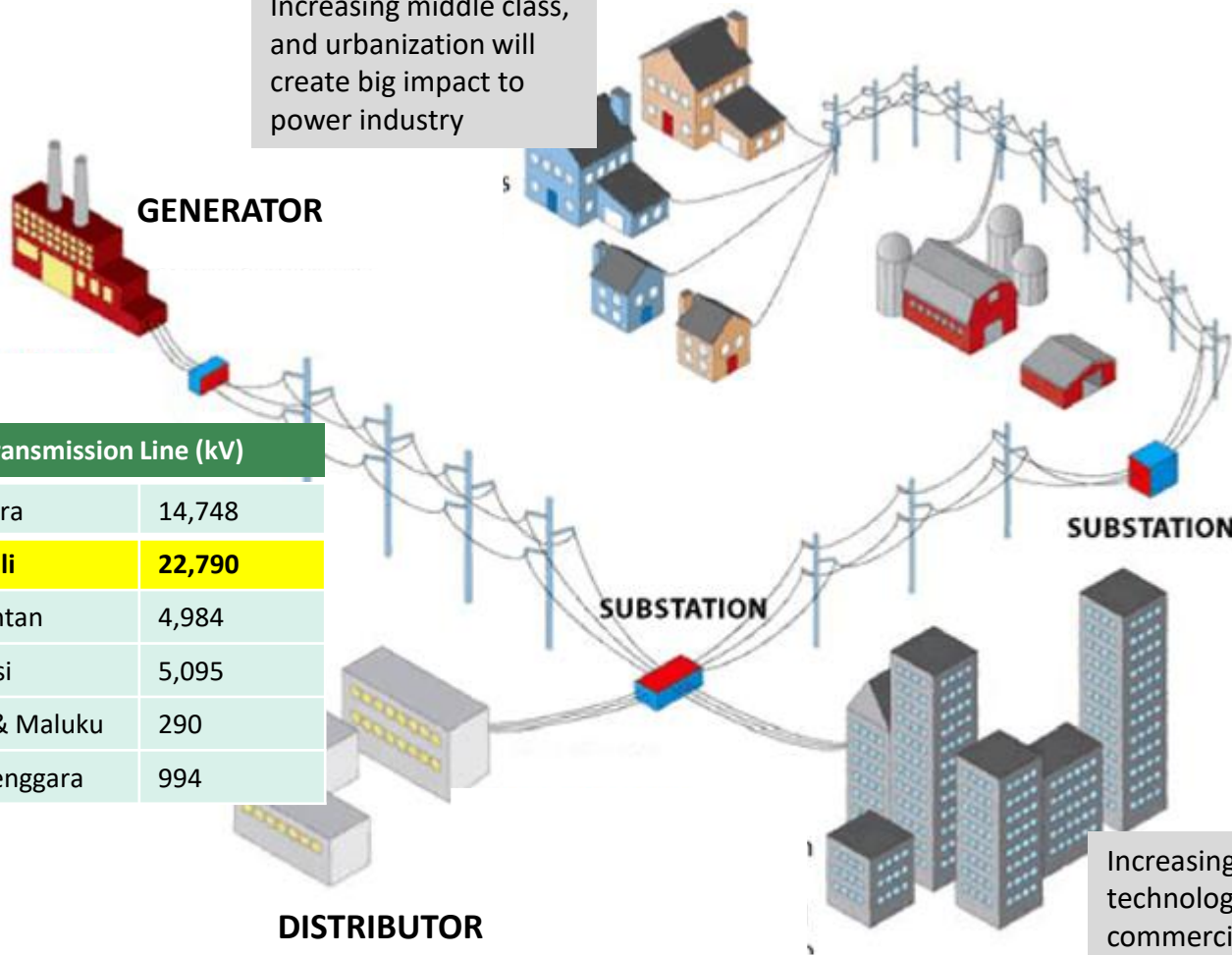
Price regulation especially for purchase from Solar PV Power Plant as stated in Article 5 is perceived to be troublesome (DuniaEnergi, 2018)

*MoEMR: Ministry of Energy and Mineral Resources



Electrification rate increased sharply in Indonesia catching up with growing economy which cause middle class increase and urbanization. However, some of rural areas still have no access to electricity.

Increasing middle class, and urbanization will create big impact to power industry



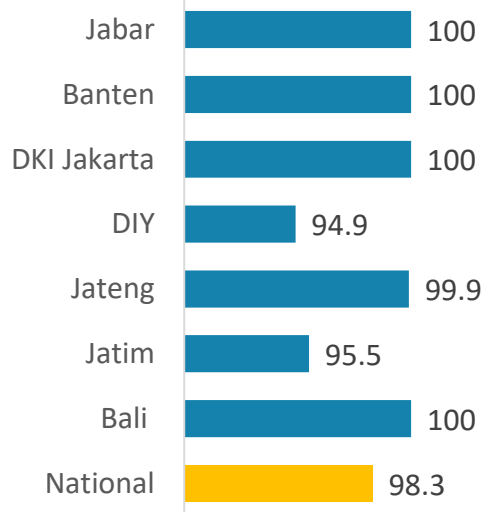
Transmission Line (kV)	
Sumatera	14,748
Java-Bali	22,790
Kalimantan	4,984
Sulawesi	5,095
Papua & Maluku	290
Nusa Tenggara	994

Transformer Capacity (MVA)	
Sumatera	9,839
Java-Bali	42,094
Kalimantan	3,112
Sulawesi	3,206
Papua & Maluku	816
Nusa Tenggara	1,033

Substation Transformer Capacity (MVA)	
Sumatera	18,678
Java-Bali	86,014
Kalimantan	4,263
Sulawesi	3,775
Papua & Maluku	276
Nusa Tenggara	785

Increasing new technology adoption in commercial sector will impact Power industry

Existing Electrification Ratio of Java-Bali vs National (2018) in %



Top Main Barriers to Electricity Access:

1. Affordable off-grid solutions
2. Cost-reflective and PLN subsidy arrangement
3. Difficult logistics
4. Business model/billing issues for off-grid solutions
5. Infrastructure funding

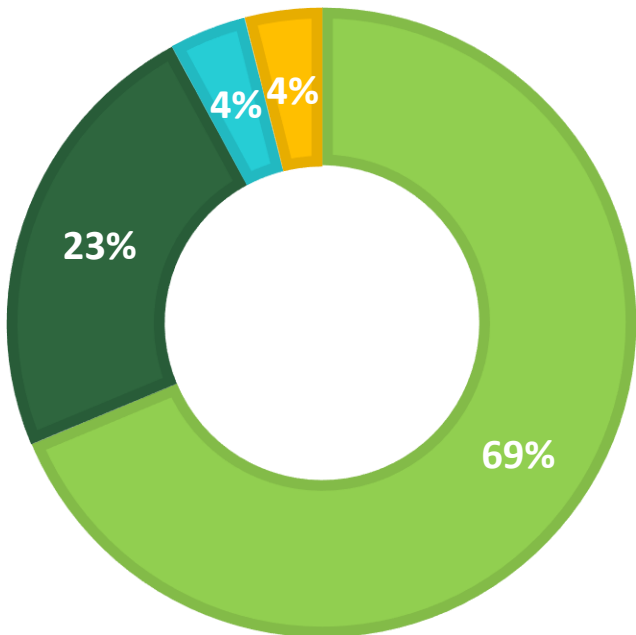


PLN and its subsidiaries still dominate power generation business while also control transmission and distribution assets in Indonesia which gives advantage to PT PJB.

1. Generation

Total Capacity Generated by Segment (%)

■ PLN Including Subsidiaries ■ IPP ■ PPU ■ IO Non-BBM



2. Transmission, Distribution & Retailing

PLN currently has monopoly over all of T&D assets ownership and operations in Indonesia. However, private players are permitted to legally operate the T&D assets

MoEMR Regulation No. 1/2015 on “power wheeling” aims to allow IPP and PPU to use PLN’s existing transmission and distribution networks

By jointly using the network, value of the network can be optimized and supply of additional generating capacity can be speed up

3. Electricity Support Business

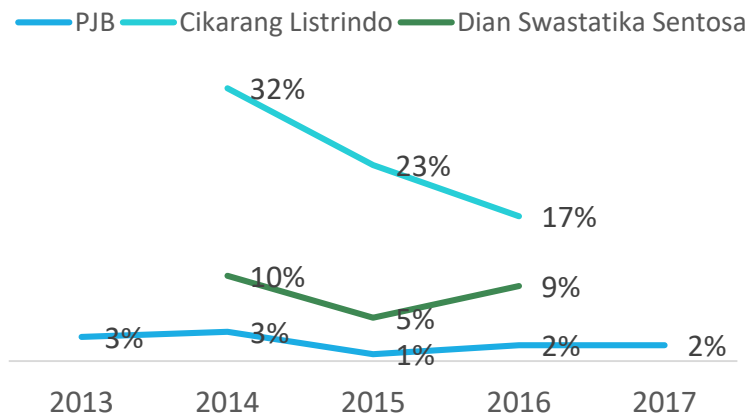
Based on GR No. 62.2012 Electricity-Supporting Services Business cover consulting, inspection & examination, maintenance, research and development, laboratory testing, etc. Entities which want to involve in this business must have IUJPTL (Ijin Usaha Jasa Penunjang Tenaga Listrik)

Source: MoEMR, PLN

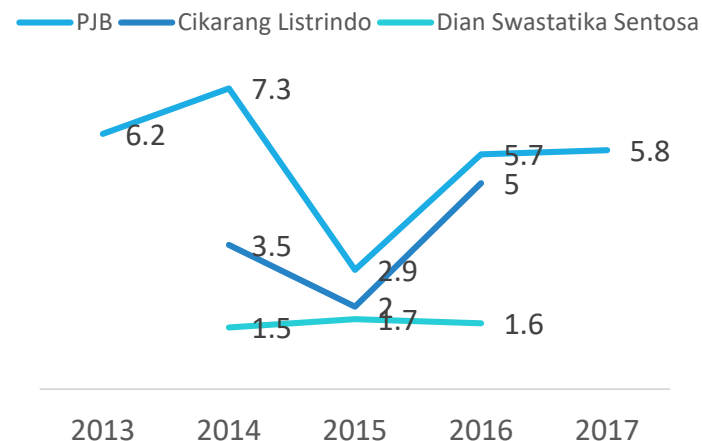


A quick assessment of PT PJB financial performance revealed that this company has relatively good liquidity and solvency, but relatively lower in terms of profitability

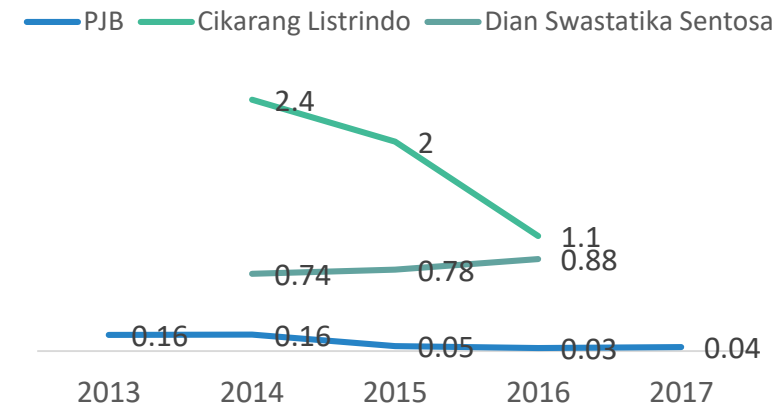
ROE Comparison PT PJB vs Peers



Quick Ratio Comparison PT PJB vs Peers



Debt to Equity Ratio Comparison PT PJB vs Peers



Key Findings:

1. Judging from ROE, PT PJB performs relatively poorer compare to its IPP peers, Cikarang Listrindo and DSS. This might indicate that the peer is able to manage operating cost better.
2. In terms of liquidity, PT PJB perform slightly better overall compare to its peer as its quick ratio overall are higher.
3. PT PJB is doing really well when it comes to managing debt as its debt to equity ratio is very low compare to peers



Some highlights on the financial statement shows that revenue from electricity sales tends to be stagnant recently while maintenance and depreciation cost increased

Current Operation & Financial Challenges

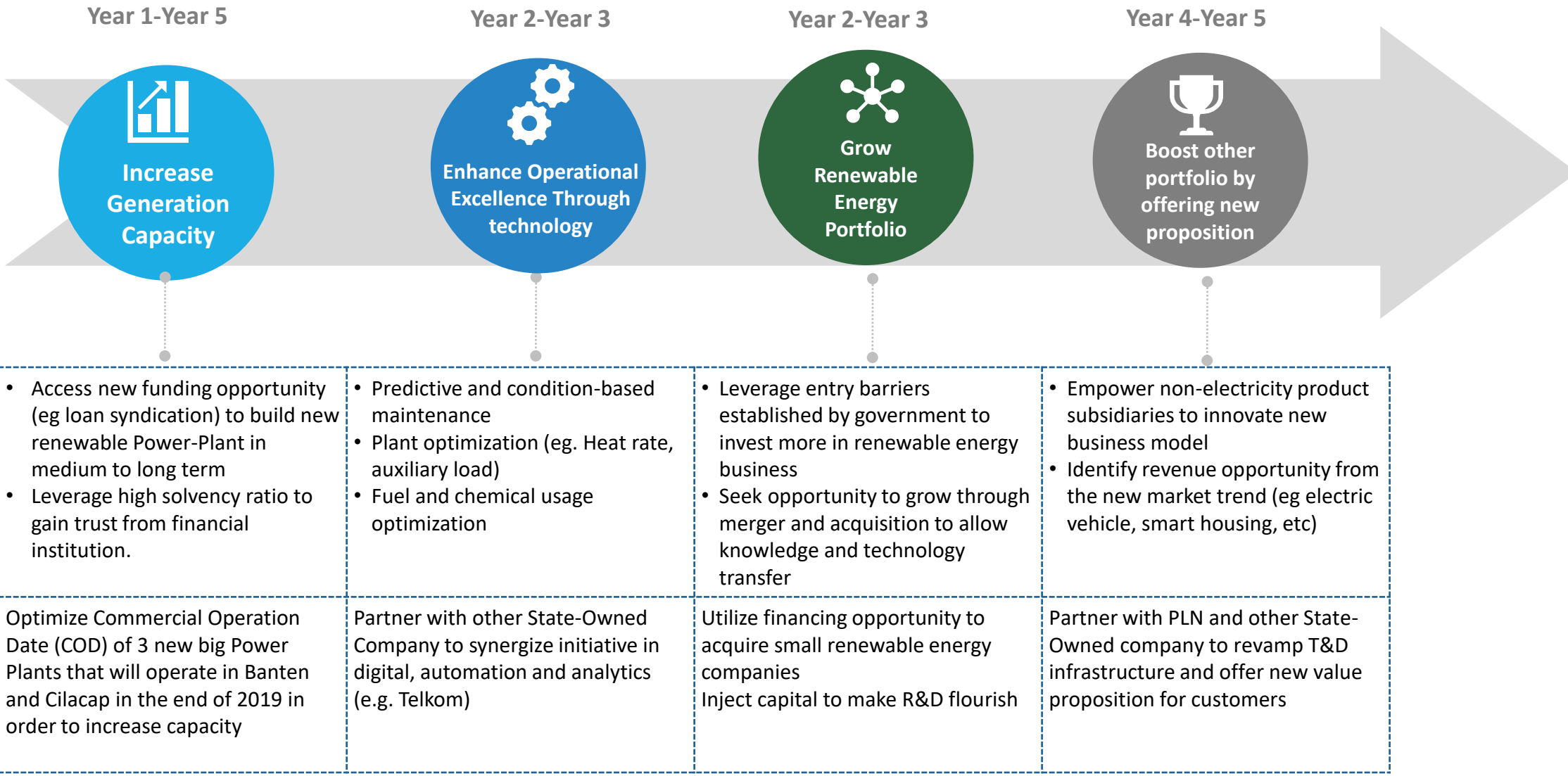
- Revenue from electricity sales tends to be fluctuated between IDR 25 Trillion and 28 Trillion across 2014 to 2017 indicating stagnant electricity generation capacity.
- Revenue from other business increased by almost double from 2015 (IDR 2.2 Trillion) to 2016 (IDR 4.1 Trillion) and continue to increase in 2017 (IDR 5 Trillion)
- Maintenance cost increased from IDR 2.7 Trillion in 2015 to IDR 4.1 Trillion in 2016 and decreased slightly to IDR 3.8 Trillion in 2017. In addition, depreciation cost spiked almost double from 2015 (IDR 1.8 Trillion) to 2016 (IDR 3.7 Trillion) and keep increasing in 2017 (IDR 4.3 Trillion)

Brief Analysis

- This trend might be linked to the fact that during 2013-2015 there was no new power plant was established. In 2016, PLTS SCPP and PLTD DEPP were established but the production are very low (contribution is less than 0.4% for both)
- PJB's other portfolios which are EPC, Operation & Maintenance, Sparepart Services, Financing solution seems can help to mitigate the risk of electricity sales stagnation.
- This fact indicates that PT PJB might be required to revisit its operational excellence especially in the area of maintenance and asset management.



Four key strategies are proposed for the next five years to overcome existing challenges as well as to build future growth path for PT PJB



Source: Deloitte

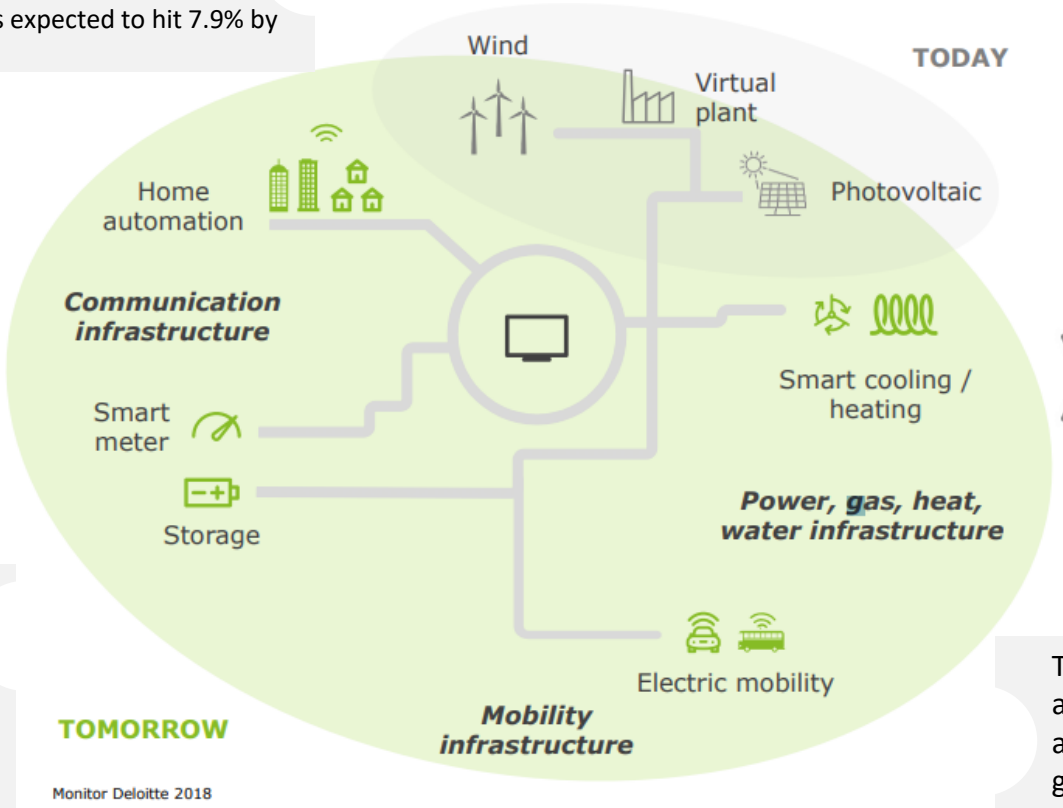


Being a digital leader among electricity companies will allow PT PJB to not only improve its profitability, but also boosting societal value. PT BJB can start to revamp its T&D infrastructure and match them with digital value proposition expected by customers.

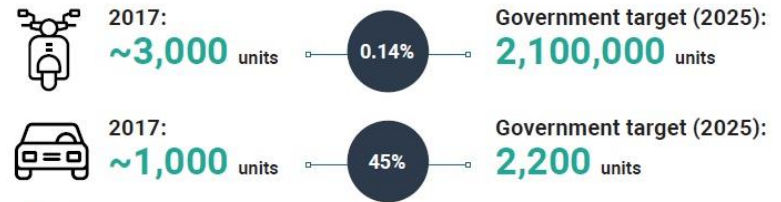
1. Revenue in the Indonesian Smart Home market accounted for to US\$303m in 2019.
2. With CAGR (2019-2023) of 47.1%, market volume will account for US\$1,415m by 2023.
3. Household penetration is 1.6% in 2019 and is expected to hit 7.9% by 2023.



Telkomsel collaborates with PLN Distribution for Jakarta (Disjaya) to implement Narrow Band-Internet of Things (NB IoT) on the smart meter on electricity network. This technology allows PLN officer to monitor customer electricity meter in real-time and wireless



“Indonesia’s energy producer, PT Pertamina is willing to be the biggest lithium battery producer in the country, said one official on Thursday (11/29). For that planned, the company is now preparing a storage system.”



The Indonesian government put high hopes on e-motorcycles adoption, while the development of e-cars is directed at certain areas, such as tourist areas, industries, and offices. The government also aimed the electric vehicles to be used as public transportation and operational vehicles.

Source: Deloitte, Solidiance, Detik,



THANK YOU

