



PLN

# EV Industry Ecosystem

how to shift imported base energy  
consumption to domestic base

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[www.pln.co.id](http://www.pln.co.id)

## Strategic Issues on EV Ecosystem

1. Regulations - incentives
2. Upstream Industry - battery
3. EV Infrastructure - charging Station
4. EV Technology - eMobility

to accelerate EV adoption

# EV Driving Force on decarbonization process



**2060**

Net Zero Emission Target



**2040 (2W) – 2050 (4W)**

Year Target to achieve 100% of EV



**158 Mn tCO<sub>2</sub>e**

Carbon emission from transportation sector  
in 2019



**60,000**

EV charging stations target in 2030<sup>2</sup>

1.Greenhouse gas emission inventory 2020, Ministry of Environment and Forestry

2.Based on 1 charging station requirement for 10 EV 4-wheeler; EV 4-wheeler target is based on EV Roadmap set by Ministry of Industry under Ministerial Regulation 6/2022

# Balance of Oil as the background

## imported to domestic base energy consumption

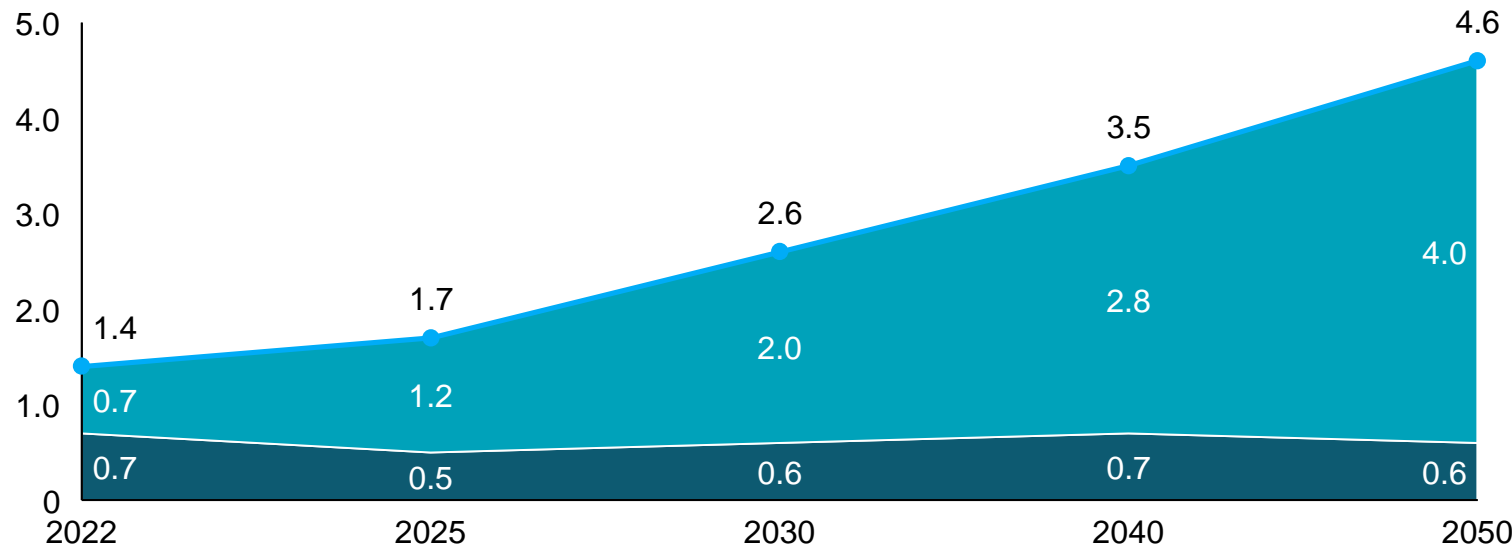
Estimated

Million barrels a day

■ Import

■ Domestic production

● Consumption



1. Imported oil will increase significantly almost 6 times in order to meet consumption of transportation sector (without EV adoption)
2. Acceleration of EV adoption will — change imported base energy consumption to domestic base (electricity produced locally)
3. It will improve current account deficit

# Regulations – need to accelerate EV adoption

## Government incentives make EV more competitive than ICE



BEV



ICE

OTR Price	Rp. 697* Juta ( <b>higher</b> )	Rp. 393** Juta
Capacity	43,4 kWh	50 L
Energy consumption	6,84 km/kWh ( <b>domestic</b> )	10,47 km/liter ( <b>imported</b> )
Cost of energy	Rp 203/km ( <b>cheaper</b> ) (rata-rata 0,14 kWh/km x Tarif Listrik R)	Rp 860/km (Harga pertamax / rata-rata 10,47 km/liter)
Cost of energy monthly (avg)	Rp 295,98*** ribu/month ( <b>cheaper</b> ) (jarak tempuh 1.458 km/bulan x Rp. 203/km)	Rp 1.253,6**** ribu/month (jarak tempuh 1.458 km/bulan x Rp. 860/km)

\*) <https://www.oto.com/mobil-baru/hyundai/kona-electric>

\*\*) <https://www.oto.com/mobil-baru/hyundai/kona>

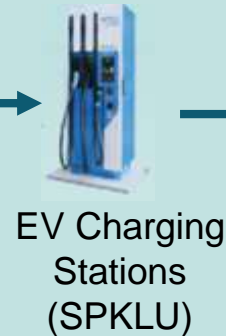
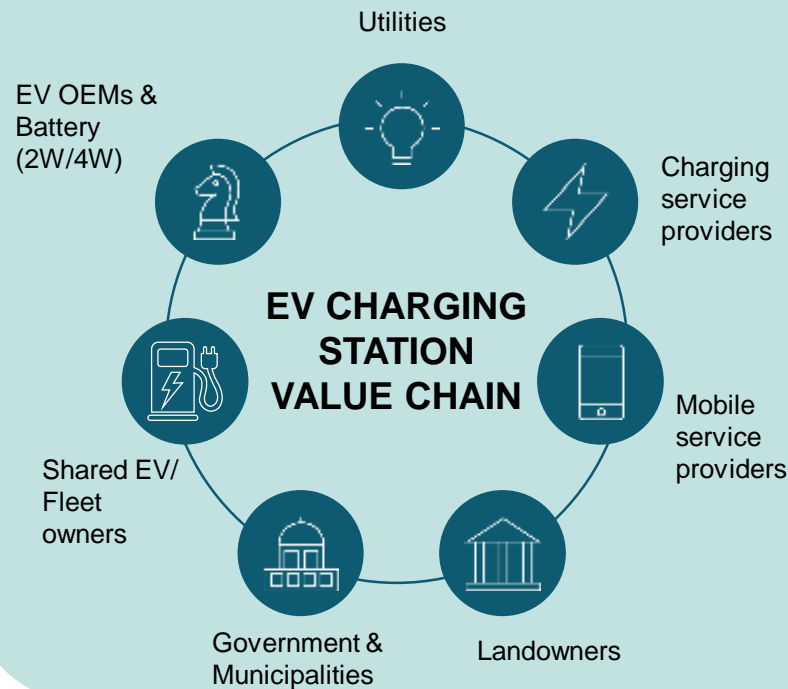
\*\*\*) Asumsi jarak tempuh 17.500 KM/Tahun atau 1.458 KM/bulan dengan 0,14 kWh/KM dan harga TTL Rp.1.444,70/kWh (Sumber : <https://www.mocil.id/blog/jarak-tempuh-ideal-pada-mobil>)

\*\*\*\*) Asumsi jarak tempuh 17.500 KM/Tahun atau 1.458 KM/bulan dengan 10,47 km/liter dan harga pertamax Rp.9.000 /liter



# PLN EV Ecosystem – already on the market

Over supply of electricity



**EV always on**  
Charge.in as EV Operating System available on PLN Mobile in order to navigate public charging stations information



EV 4W



## Home Charging Services

1. 30% discount night charging (22.00-05.00) at home
2. Power capacity upgrade only Rp 150.000



EV 2W

# PLN products and services to accelerate EV adoption in ecosystem



## Charge.IN

The first and largest platform in Indonesia for EV charging at home and at public charging stations

- Integrated with **98 charging stations** (May 2022)
- Find nearest charging stations & check nozzle availability
- Track energy consumed and historical transactions
- Integrated with **5 EV Charger brands**
- Using the **OCPP protocol** as the global standard



## EV Incentives

- 30% discount for home charging at night (23.00-05.00)
- Power meter upgrade discount
  - ✓ **IDR 150K** (1 phase), from normal cost of IDR 10.7M
  - ✓ **IDR 450K** (3 phases), from normal cost of IDR 10.9M
- New power meter special price
  - ✓ **IDR 850K** (7,700 VA), from normal cost of IDR 8.5M
  - ✓ **IDR 3.5M** (13,200 VA), from normal cost of IDR 14.6M
- Other incentives



## Home Charging Services

Partnership with EV OEMs for bundled home charging service with every new EV purchase:

- Installation of home charging equipment
- Integration of home charging equipment to charging station management system (CSMS) servers,
- Installation of new or upgrade of power meter
- Overnight charging rate 30% discount



## EV Marketplace

PLN Mobile's feature to schedule test drive, purchase EVs and other supporting devices from EV OEM vendors



## EVCS Franchise Model

Partnership with enterprises in launching and operating EV charging business, available in two schemes:

- Sharing economy model (revenue sharing)
- Franchising model



## Swapping Battery Franchise Model

PLN provides the battery swapping station and the batteries, while the business partner provides investment and operates the business

## PLN Mobile App



Available for +5K Transaction



## Electric Vehicle Features in PLN Mobile

In January 29<sup>th</sup> 2021, PLN launched CHARGE.IN application as an integrated one-stop platform for EV charging ecosystem in Indonesia

### SPKLU

#### Remote start-stop charging



Ease of starting and stopping electric vehicle charging at charging stations



#### Cashless payment

Multiple payment platform options: LinkAja, OVO, GoPay

#### Nozzle status



Display the availability and type of charger nozzle in the charging stations



#### Energy consumption

Track total energy usage

#### Charging station location mapping



Ease of finding the nearest charging station



#### Activity & history

Display history of transactions in charging stations

### Home Charging



#### Remote start-stop Charging

Ease of starting and stopping charging at home charging equipment



#### Energy Consumption

Track total energy usage



#### Scheduled charging

Plug and schedule the charging at preferred time



# PLN EVCS – 129 units for public services



**EV Charger**

**129 points** (cumulative)  
**32 points** (+2022)



**Location**

**98 points** (cumulative)  
**25 points** (+2022)

**May 2022**

No	Region	Numbers of EVCS
1	Aceh	1
2	North Sumatra	3
3	West Sumatra	1
4	Bangka Belitung	1
5	South Sumatra, Jambi, Bengkulu	3
6	Riau & Kepri	1
7	Lampung	4
8	West Kalimantan	1
9	South & Central Kalimantan	1
10	North & East Kalimantan	4
11	Bali	27
12	East Java	10
13	Central Java & DIY	12
14	West Java	6
15	Jakarta	28
16	Banten	8
17	South Sulawesi, West & Southeast	6
18	North Sulawesi & Gorontalo	5
19	East Nusa Tenggara	1
20	West Nusa Tenggara	4
21	Maluku	1
22	Papua	1
<b>Total</b>		<b>129</b>

## LEGEND



: SPKLU PLN



: SPKLU Partnership Revenue Sharing Model

# Thank you