

# Philippine EV Industry Updates

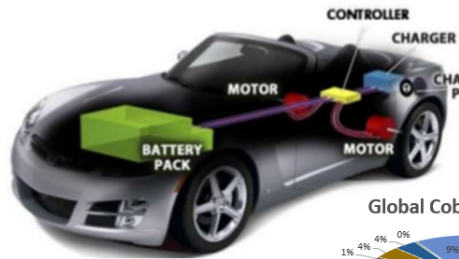


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**Professor, De La Salle University**

# Why eMobility?

## Industry Development

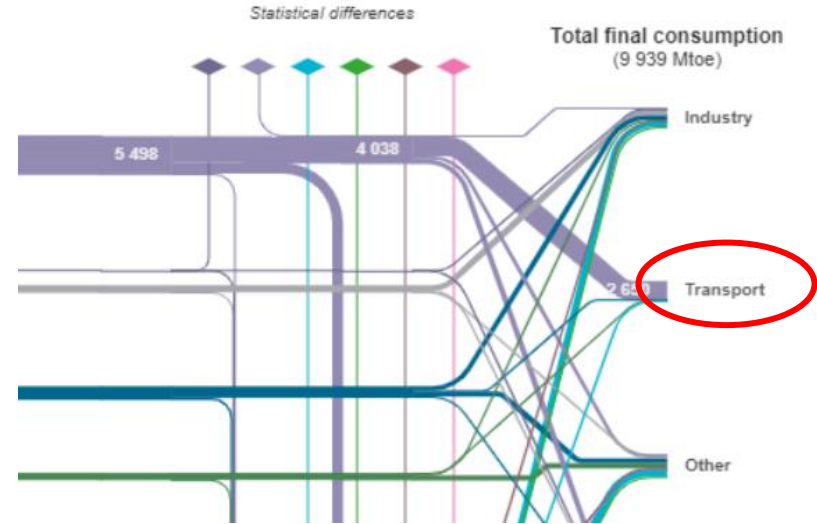
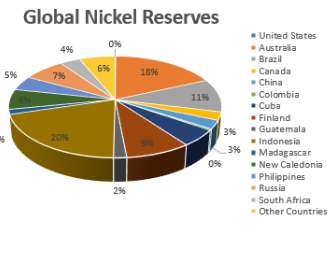
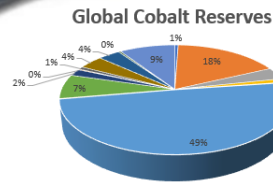
**Moving Parts**  
18+ vs 2000+



10 new car companies aiming for the big leagues

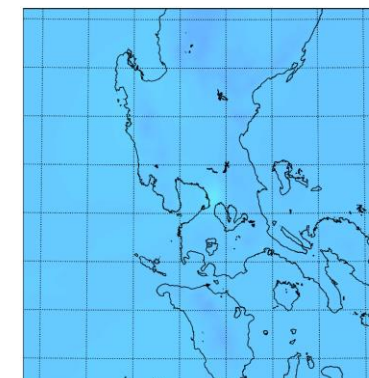
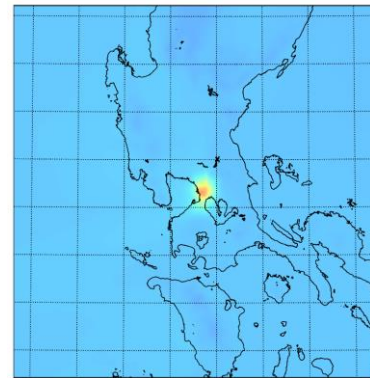
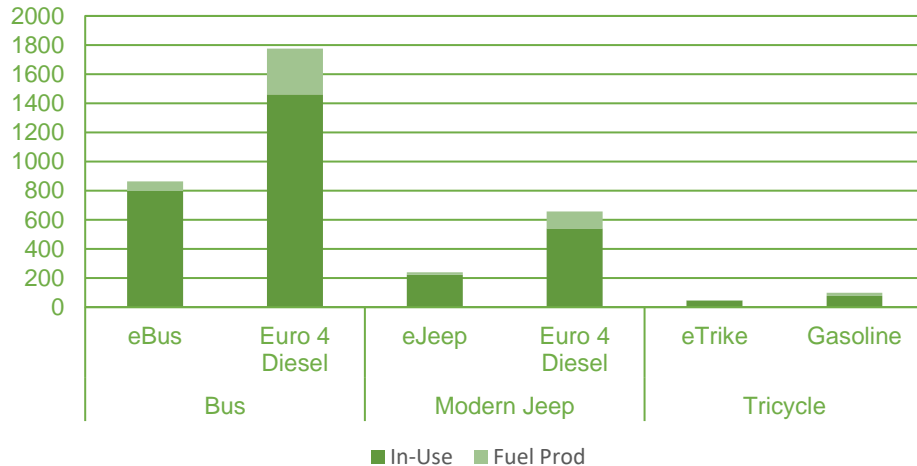
Rookie automakers offering electric roadsters, boxy commuter vehicles

- We can build it!!
- We have Nickel and Cobalt



## GHG Emissions

GHG Intensity (g/km)



## Air Pollution

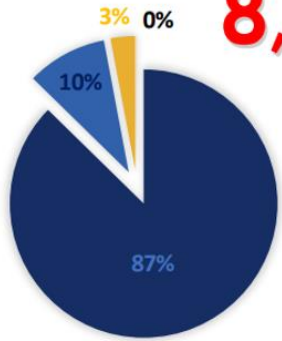
Scenario	Region							Total
	CAR	NCR	1	2	3	4A	5	
E-Jeepney	-3.48	8032.95	-31.69	-4.06	108.94	515.62	-24.51	<b>8593.79</b>

**Avoided Annual Health Impact**  
Million Php

# Philippine EV Situationer

**13,022,483** CONVENTIONAL VEHICLES

**8,593** ELECTRIC VEHICLES



- 7,503** motorcycles tricycles
- 254** cars/sedan
- 834** SUVs & UVs
- 2** trucks & trailer

Based on the LTO data FY 2021

Cumulative Numbers of Electric Vehicle Registration from 2014-2022:



Source: DOTr-LTO, Data as of October 2022

## Available Charging Points:

Total = 433

- 130** Type 2
- 3** Type 1
- 29** GB/T AC
- 4** GB/T DC
- 7** CHAdeMO
- 6** CCS Combo 2
- 2** Anderson Plug
- 2** AC Outlet
- 250** Battery Swapping Station

## Updated List of DOE Accredited EVCS Providers

As of 01 March 2024

**27** EVCS Providers - Operator

**15** EVCS Providers - Supplier

**17** EVCS Providers - Service



SCAN ME

# EV Related Manufacturing Industry

## Current

- 7** e-jeepney and e-trike manufacturers
- 2** Battery Pack Assemblers
- 5** Electronic Manufacturing System (EMS) companies

## Prospects :

- 1** e-Motorcycle Manufacturer
- 1** e-Van Manufacturer
- 1** EV Traction Motor Manufacturer

### Vehicle Manufacturing

- Electric Jeepneys
- Electric Tricycles
- Electric Motorcycles

### Electronic Components

- Battery Management System
- Vehicle Control Units
- Motor Controllers

### Software and IT Systems

- Fleet Management System
- Smart Vehicle Systems

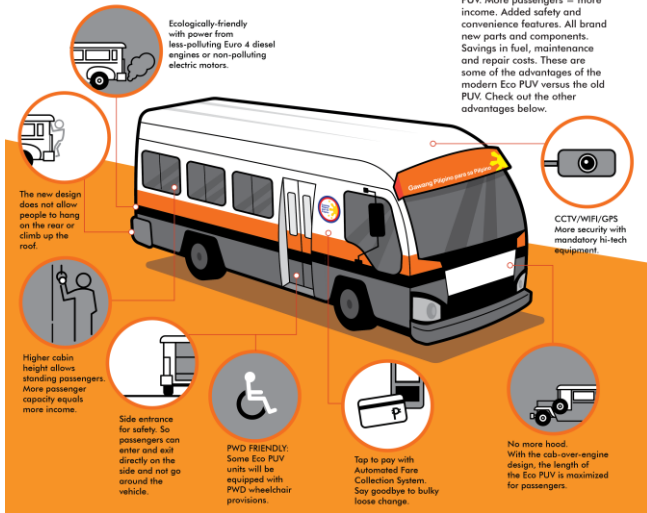
# Key Policies and Programs



## THE ECO PUV VS. OLD PUV

The modern Eco PUV – ecologically-friendly na, economically helpful pa!

Introducing the modern Eco PUV. Ecologically-friendly because it is less or non-polluting at all. Economically-helpful because it is locally manufactured and assembled. Built in compliance with the new BPS PNS 2126:2017 standards for the modern Eco PUV. More passengers = more income. Added safety and convenience features. All brand new parts and components. Savings in fuel, maintenance and repair costs. These are some of the advantages of the modern Eco PUV versus the old PUV. Check out the other advantages below.



### ADVANTAGES OF PUV MODERNIZATION

- More income for the drivers and operators.
- Savings in fuel, maintenance and repair costs.
- 100% brand new parts and components: better fuel economy, less downtime due to repairs.
- Covered by standard auto industry product warranty.
- Added safety and convenience due to compliance to BPS PNS 2126:2017 covering dimensional limits for the modern Eco PUV, emergency exit.
- Aircon units available.
- Economically-helpful: Locally manufactured and assembled.



## Market Transformation through Introduction of Energy Efficient Electric Vehicles Project (E-Trike Project)

April 15, 2022

# PH passes law to popularize Electric Vehicles



# Energy Efficiency and EVs

1

## R.A 11285 – Energy Efficiency and Conservation Act

- *MEP level for electrical equipment, machinery, and transport vehicles*

2

## DOE DC 2019-11-0014 – Implementing Rules and Regulations of the R.A. 11285

- *Energy labeling for transport vehicles*
  - *Fuel economy rating scale*
  - *Fuel economy label*

3

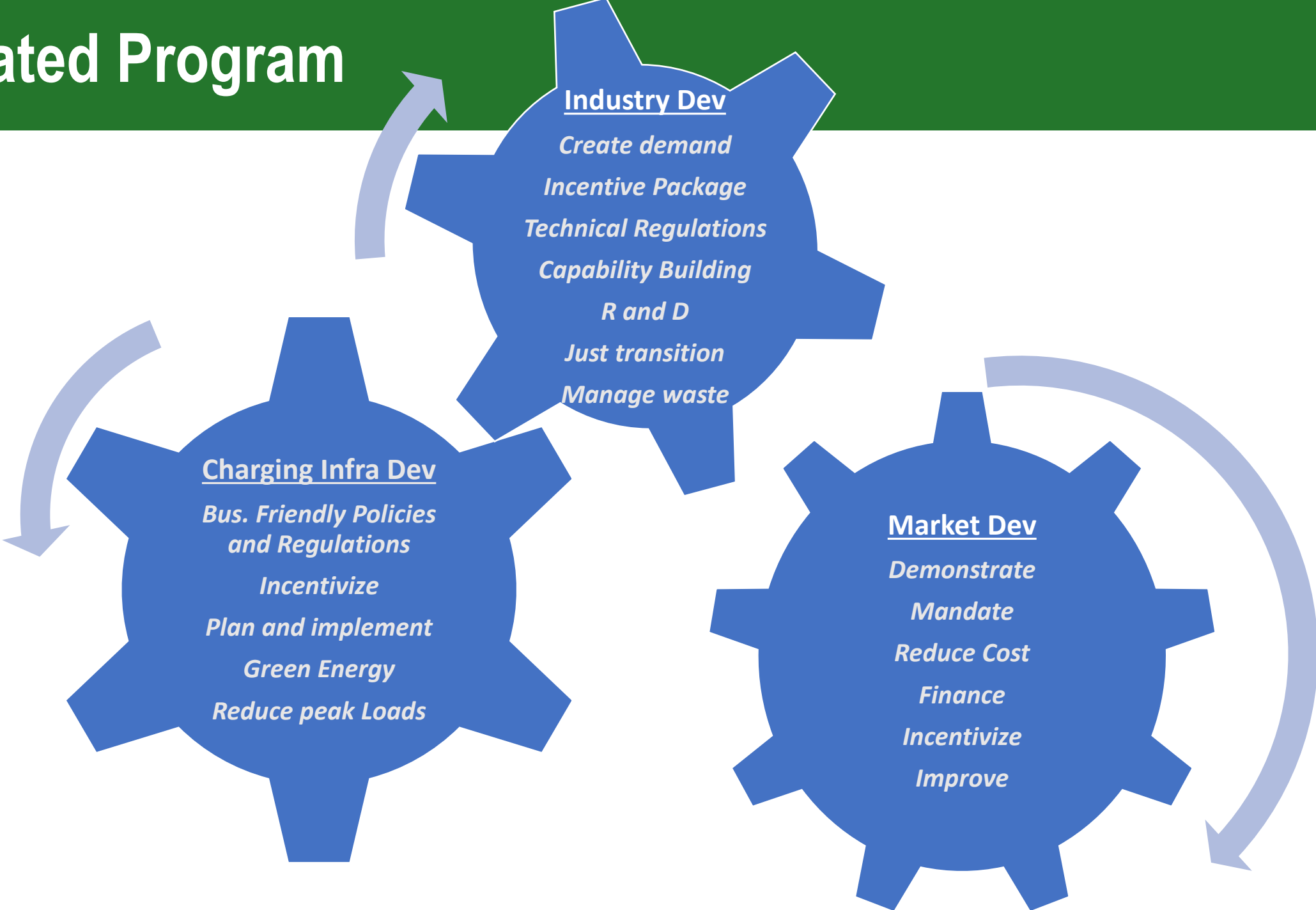
## DOE DC 2020-10-0023 – Prescribing Policy Framework for the Development of the Fuel Economy Rating, Fuel Economy Performance and Related Energy Efficiency and Conservation Policies for the Transport Sector and Other Support Infrastructures



# CREVI EV Projections

	Vehicle	BEV	PHEV	HEV
Short Term (2023-2028)	Light Duty Vehicles	13,600 - 69,000	13,600 - 69,000	81,500-415,000
	Tricycles	37,500-419,000		
	Motorcycles	164,900-1,480,000		
	Buses	600-2,200		
Medium Term (2029- 2034)	Light Duty Vehicles	123,000-327,000	24,600-80,000	49000-234,000
	Tricycles	71,000-262,000		
	Motorcycles	311,800-947,000		
	Buses	1,200-1,500		
Long Term (2023-2028)	Light Duty Vehicles	219,400-641,000	36,600-107,000	36,600-107,000
	Tricycles	103,400-223,000		
	Motorcycles	454,400-922,000		
	Buses	1,800-1,600		

# Integrated Program





# Market Incentives

## EXCISE TAX EXEMPTION

- 100% for BEVs
- 90% for PHEVs and HEVs

## NUMBER CODING SCHEME EXEMPTION

- BEVs, PHEVs and HEVs covered

## IMPORTATION TARIFF EXEMPTION

- 100% for BEVs
- PHEVs, HEVs and eMotorcycle under deliberation

## EVAP Position: Include PHEVs but not HEVs

HEVs are competitive enough

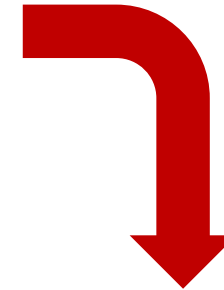
HEVs are not really EVs

PHEVs are preferred as create charging infrastructure demand

HEV gain will be PHEV and BEV loss



Based on the LTO data FY 2021



## 4 Wheels - Electric Vehicles Sales

2023	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Passenger Cars (Units)													
HEV	292	276	538	368	539	806	548	719	1,195	1,413	1,262	1,337	9,293
PHEV	2	12	5	4	18	10	11	6	11	7	10	10	106
BEV	1	9	19	27	33	32	65	48	59	56	67	46	462
FCEV	-	-	-	-	-	-	-	-	-	-	-	-	0
Sub total	295	297	562	399	590	848	624	773	1,265	1,476	1,339	1,393	9,861
Commercial Vehicles (Units)													
HEV	-	-	-	-	-	34	48	142	200	102	82	133	741
PHEV	-	-	-	-	-	-	-	-	-	-	-	-	0
BEV	-	-	-	-	-	-	-	-	-	-	-	-	0
FCEV	-	-	-	-	-	-	-	-	-	-	-	-	0
Sub total	-	-	-	-	-	34	48	142	200	102	82	133	741
<b>TOTAL</b>	295	297	562	399	590	882	672	915	1,465	1,578	1,421	1,526	10,602

Source: CAMPI-TMA

# Industry Incentives

## Electric Vehicles

- Parts and Components
- Assembly

## BESS

- Cell Production
- Cell Parts and Components
- Battery Pack Parts and Components
- Battery Pack Assembly
- Re-use and Recycling

## Charging System

- Manufacturing
- Installation
- Operation

	EXPORT AND CRITICAL DOMESTIC MARKET ACTIVITIES			DOMESTIC MARKET ACTIVITIES		
LOCATION	TIER I	TIER II	TIER III	TIER I	TIER II	TIER III
NCR	<b>14</b> (4 Years of ITH and 10 Years of ED/SCIT)	<b>15</b> (5 Years of ITH and 10 Years of ED/SCIT)	<b>16</b> (6 Years of ITH and 10 Years of ED/SCIT)	<b>9</b> (4 Years of ITH and 5 Years of ED/SCIT)	<b>10</b> (5 Years of ITH and 5 Years of ED/SCIT)	<b>11</b> (6 Years of ITH and 5 Years of ED/SCIT)
METROPOLITAN AREAS AND AREAS OUTSIDE OF AND CONTIGUOUS OR ADJACENT TO NCR	<b>15</b> (5 Years of ITH and 10 Years of ED/SCIT)	<b>16</b> (6 Years of ITH and 10 Years of ED/SCIT)	<b>17</b> (7 Years of ITH and 10 Years of ED/SCIT)	<b>10</b> (5 Years of ITH and 5 Years of ED/SCIT)	<b>11</b> (6 Years of ITH and 5 Years of ED/SCIT)	<b>12</b> (7 Years of ITH and 5 Years of ED/SCIT)
ALL OTHER AREAS	<b>16</b> (6 Years of ITH and 10 Years of ED/SCIT)	<b>17</b> (7 Years of ITH and 10 Years of ED/SCIT)	<b>17</b> (7 Years of ITH and 10 Years of ED/SCIT)	<b>11</b> (6 Years of ITH and 5 Years of ED/SCIT)	<b>12</b> (7 Years of ITH and 5 Years of ED/SCIT)	<b>12</b> (7 Years of ITH and 5 Years of ED/SCIT)

- Export enterprise: export at least 70% of its total production or output
- Domestic market enterprise (DME): any enterprise registered with IPA other than export enterprise
- ITH: income tax holiday
- SCIT: special corporate income tax rate for export enterprise, domestic market enterprise with a minimum investment capital of P500M, & DME under the SIPP engaged in critical activities, tax rate of 5% GIE
- ED: enhanced deductions

# Industry Incentives

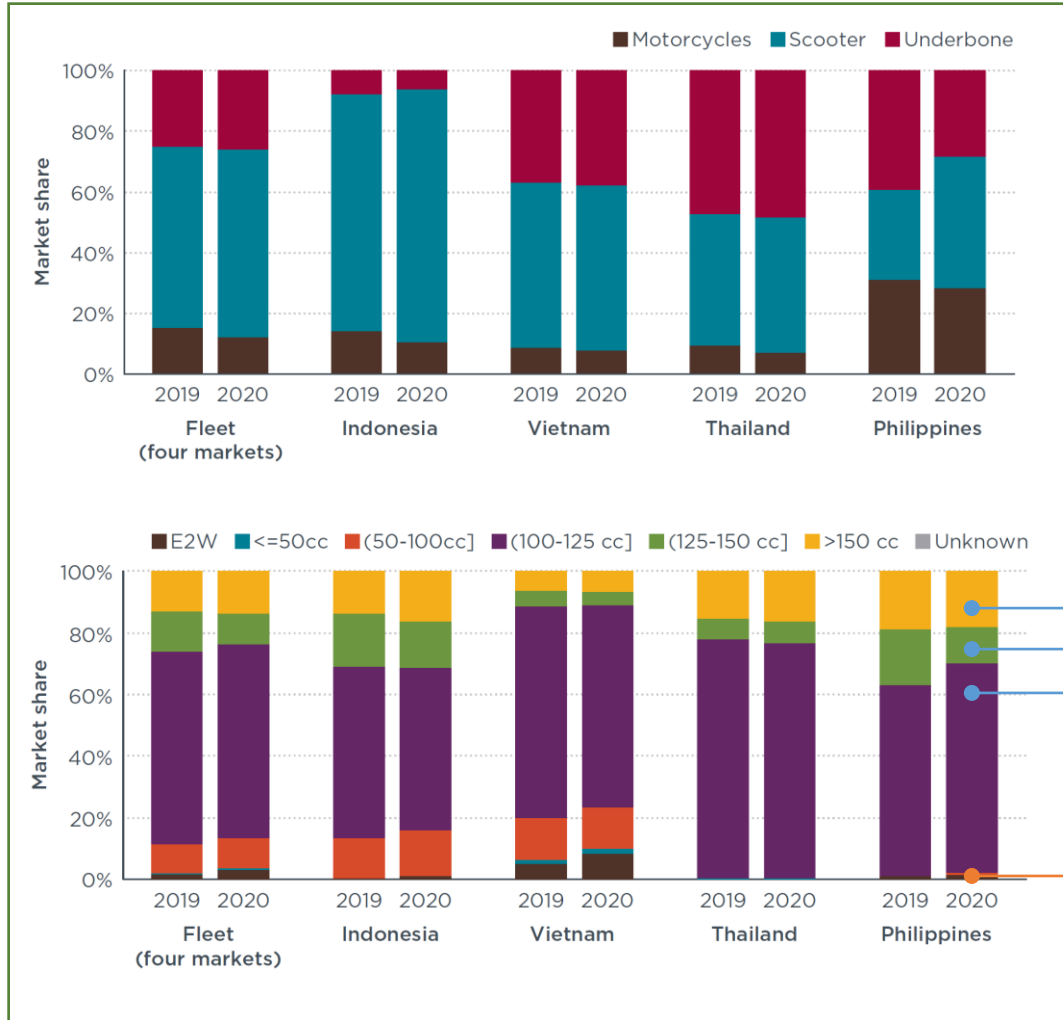
## ePUV Integrated Program

- Parts and Vehicle Manufacturing Incentives/Subsidies
- Phased Local Content Requirements
- Battery Leasing Incentives
- “Additional” Market Side Subsidies
- Green Vehicle Financing
- Captured Charging Systems Support
- Technical Specs Standardization and Regulations
- Battery Interoperability
- Mandated Adoption



# Industry Incentives

## eMotorcycle Industry Program



- Bigger market potential
- Daily commute, logistics, motorcycle taxis
- Higher cost
- Very few electrified units in the market

- Parts and Vehicle Manufacturing Incentives/Subsidies
  - Phased Local Content Requirements
- Battery Leasing Incentives
  - Market Side Subsidies
- Green Vehicle Financing
- Public Charging System Supports
- Swap Battery Standards
- Vehicle Type Approval
- Adoption Mandates



L3e

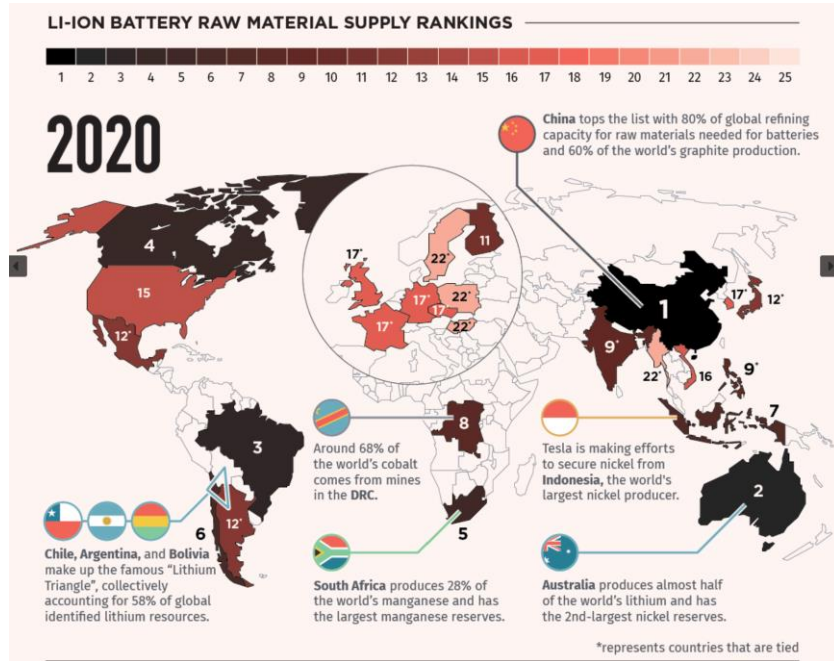


L1e



- Personal use within community
- Electrification is sustained

# Industry Incentives



## Battery Industry Strategy

Do we have a realistic chance in LFP Battery Cell Manufacturing  
Where should the country focus on?

What part of value chain should be targeted?

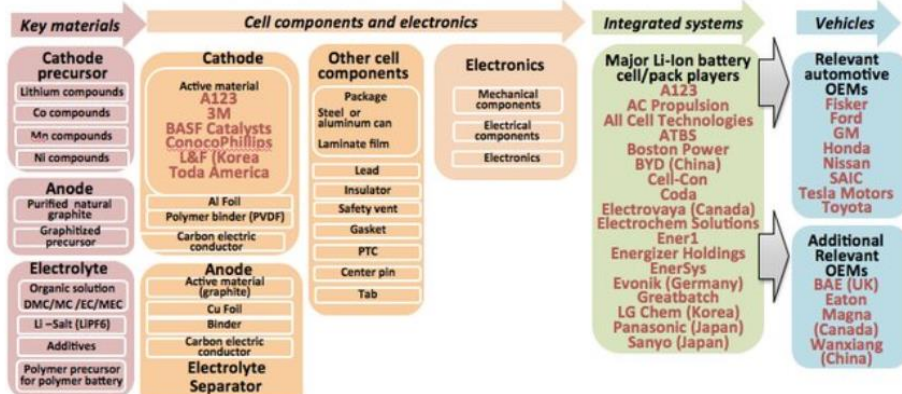
What advance chemistry should the scientific community focus on for gains in the long term regionally?

Should we go the route of Indonesia?

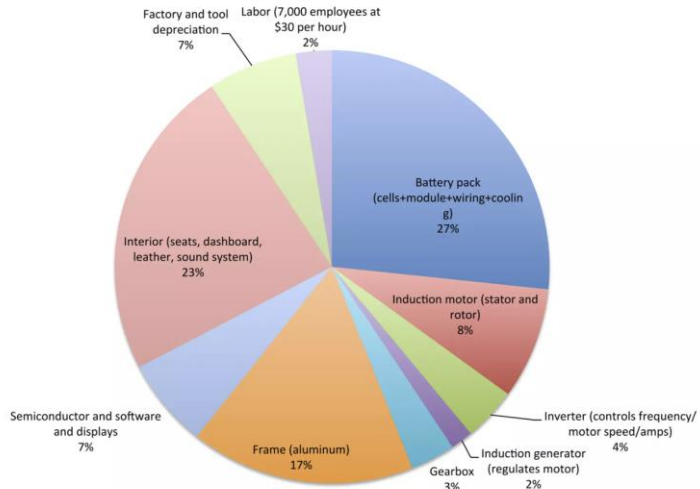
Can we really capitalize on our mineral reserves?

What incentive program is needed

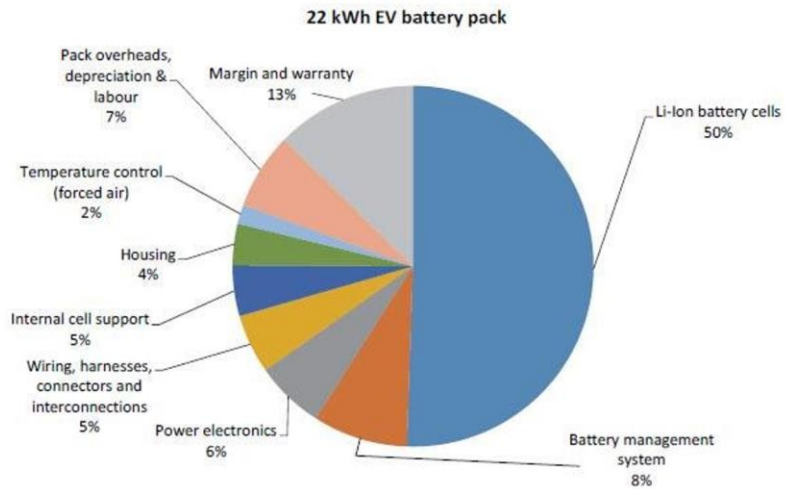
- Government Co-investment
- Mandated Adoption
- Local Content Mandates



# Industry Incentives

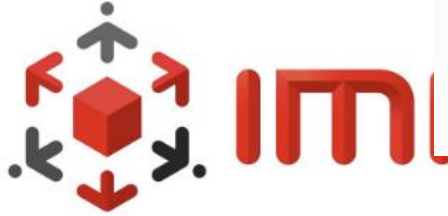


TESLA 3 Production Cost Breakdown



Li-ion Battery Pack Cost Breakdown

## EV Global Supply Chain Share



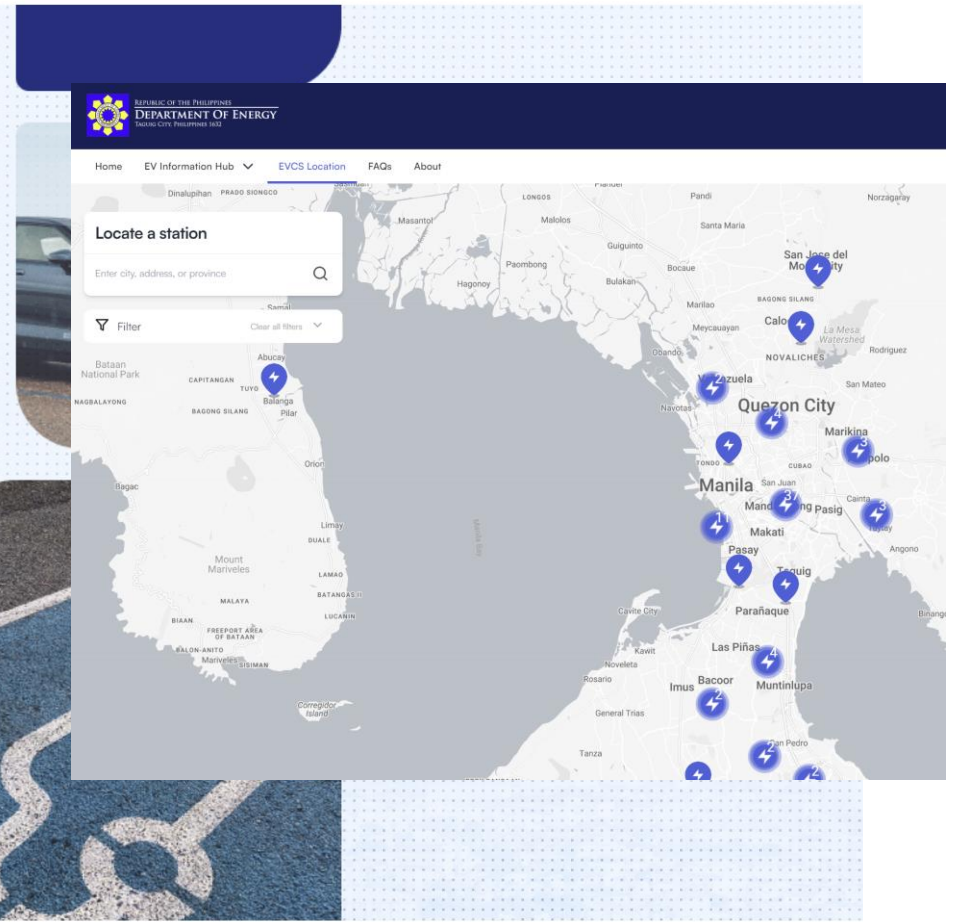
# Charging Infrastructure Policies and Development Programs

## Philippine EV Industry Portal

Find EV Charging Stations, Access the Comprehensive EV Industry Roadmap, View Recognized EVs & Accredited Charging Station Providers, and Secure Your Charging Station Registration & Provider Certification

[Learn more about CREVI](#)

[Locate EV Charging Stations >](#)



# Charging Infrastructure Policies and Development Programs

**ADVISORY**

## ACCREDITED EVCS PROVIDERS


who sells, constructs, installs, maintains, owns, or operates electric vehicle charging stations (EVCS) or any of its components for a fee.

**ACCESS THE EVINDUSTRY.PH**

This online platform was developed for the online accreditation of EVCS Providers and registration of EVCS.

Advisory on the application of EVCS Providers




Specific Product Coverage	Philippine National Standard/s (PNS)	Enabling Law	Product Image
AC and DC electric vehicle charging equipment and station with rated supply and output voltage up to 1000 V ac and 1500 V dc, respectively	<p><b>PNS IEC 61851-1:2019 (IEC published 2017)</b></p> <p>- Electric vehicle supply equipment for charging electric road vehicles including plug-in hybrid road vehicles (PHEV)</p> <p><b>PNS IEC 61851-23:2018 (IEC Published 2014)</b></p> <p>- DC electric vehicle charging station</p>	<p><b>DAO 22-10, Series of 2022</b></p> <p>The New Technical Regulation Concerning The Mandatory Product Certification of Electric Vehicle Charging Equipment and Station</p>	

ISSUE NO.: DOE-EVCS UNBUNDLING-03012024-04

**ADVISORY**

## Average National Electric Vehicle Charging Stations (EVCS) Charging Fees

(For the Month of March 2024)



NOTE: These charging fees do not indicate the ceiling charging prices.

What do we pay per kWh:





# Intervention Scorecard

	Vehicle Type	Financial Feasibility					Mandated Adoption	Pilot	Technology Improvement	Public Charging Infra	
		Low Equity	Low Interest	Battery Leasing	Additional Upfront	Operational Subsidy					Tariff exempt
Public Transport	e-Jeepneys	10	10	10	3	3	4	10	2	7	2
	e-Buses	8	8	10	5	3	10	10	10	3	2
	e-Taxi	10	5	5	3	3	10	10	10	0	10
	e-Tricycle	10	10	10	10	3	0	10	2	7	4
	e-Motorcycle Taxi	10	10	10	3	3	7	10	10	3	10
Corp	e-Cars	8	10	5	3	3	10	10	10	0	10
	e-Commercial Vehicle	8	8	5	3	3	10	10	10	3	10
Log	e-Commercial Vehicle	8	7	5	3	3	10	10	10	3	10
	e-Motorcycle	10	10	10	3	3	7	10	10	3	10
Hse	e-Car	10	10	5	10	3	10	10	10	0	10
	e-Motorcycle	10	10	5	10	3	10	10	10	0	10

# Summary

- *Climate Mitigation, Air Pollution Control, Energy Security and Industry Development are the main drivers*
- *Overarching Laws and Policies are in place, development of implementing mechanisms and programs are on-going*
- *Household EV incentives limited to vehicle tax exemptions and non-fiscal incentives*
- *Integrated Manufacturing – Market Incentive programs currently being crafted for ePUVs, eMotorcycles and BESS*
- *Seeking to strengthen role in global parts and components supply chain*
- *Different Markets, Different Challenges, Different Strategies*



**[Thank You]**