



EVAT

Electric Vehicle Association of Thailand



EV Manufacturing in Thailand – Opportunities for the Future.

Krisda Utamote

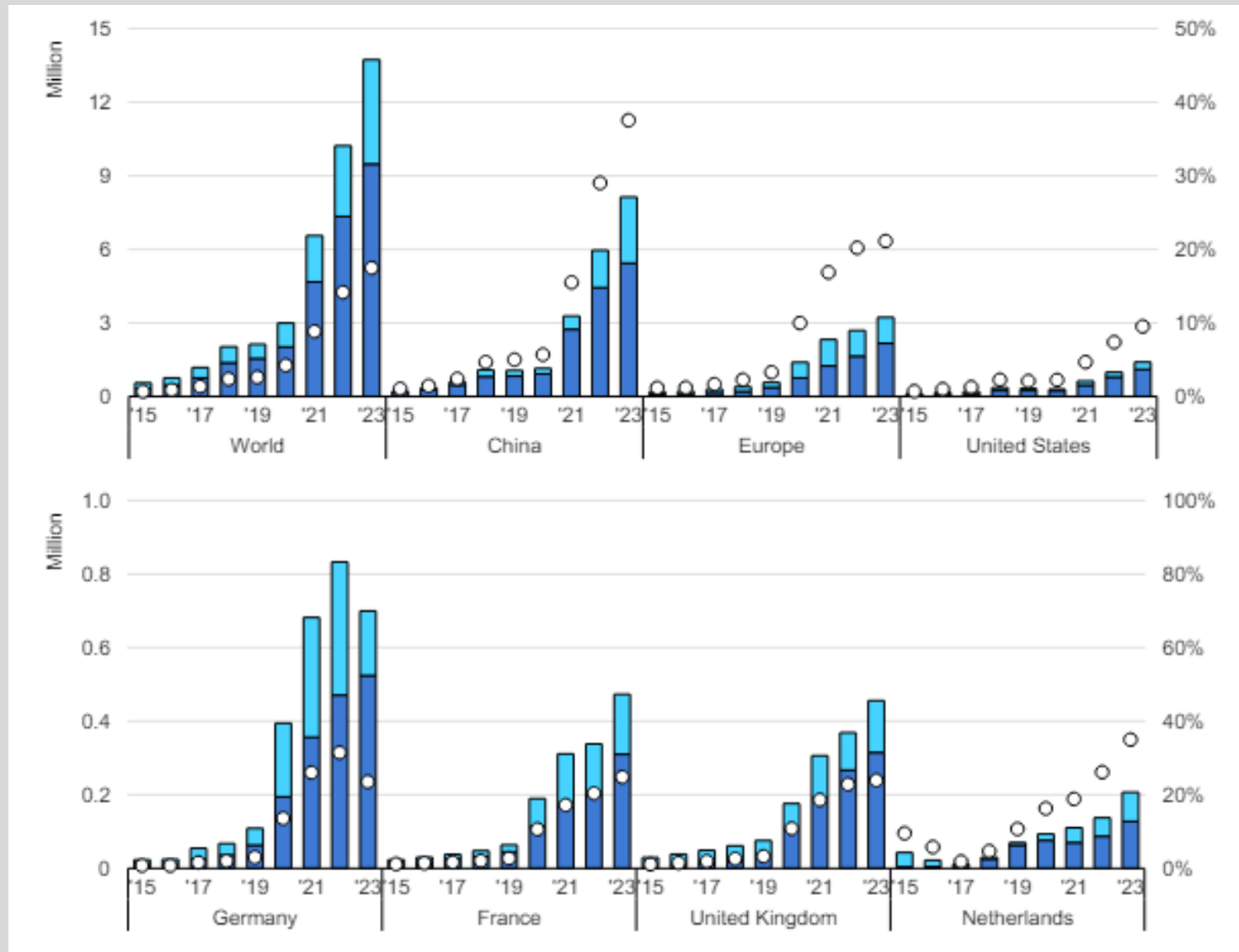
Honorary Advisor

Electric Vehicle Association of Thailand (EVAT)

The 15th PTT Group Petrochemical Outlook Forum

Friday, 16 August 2024

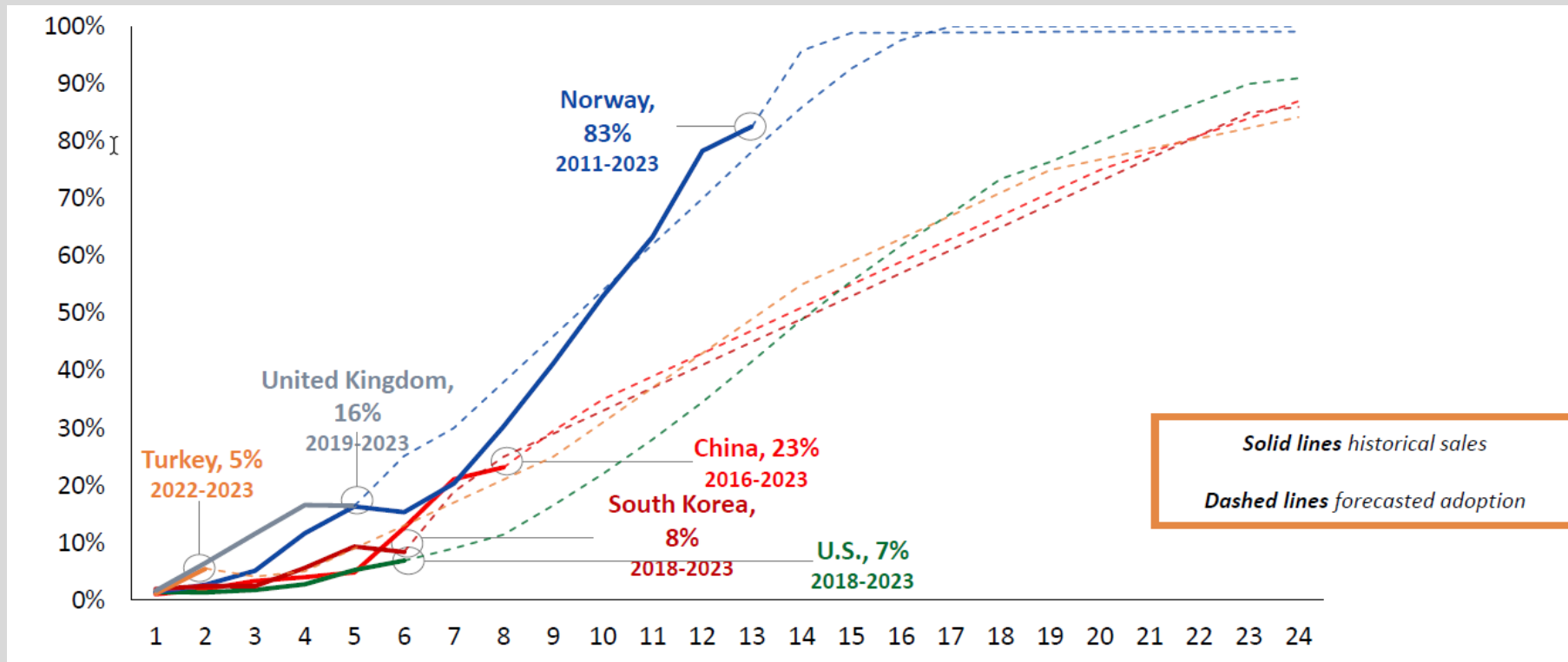
Electric car (PHEV + BEV) registrations and sales share in selected countries and regions, 2015-2023.



Source : IEA – Global EV Outlook 2024

- Electric car sales neared 14 million in 2023, 95% of which were in China, Europe and the United States.
- Electric car sales in 2023 were 3.5 million higher than in 2022, a 35% year-on-year increase.
- In 2023, nearly 60% of new electric car registrations were in China, around 25% in Europe, and around 10% in the United States.
- In China, the number of new electric car registrations reached 8.1 million in 2023, increasing by 35% YoY.
- In Europe, new electric car registrations reached nearly 3.2 million in 2023, increasing by almost 20% YoY.
- In the United States, new electric car registrations reached 1.4 million in 2023, increasing by more than 40% YoY.

Norway is the World Leader in EV Adoption. Driven by EV Subsidies and Tax Incentives.



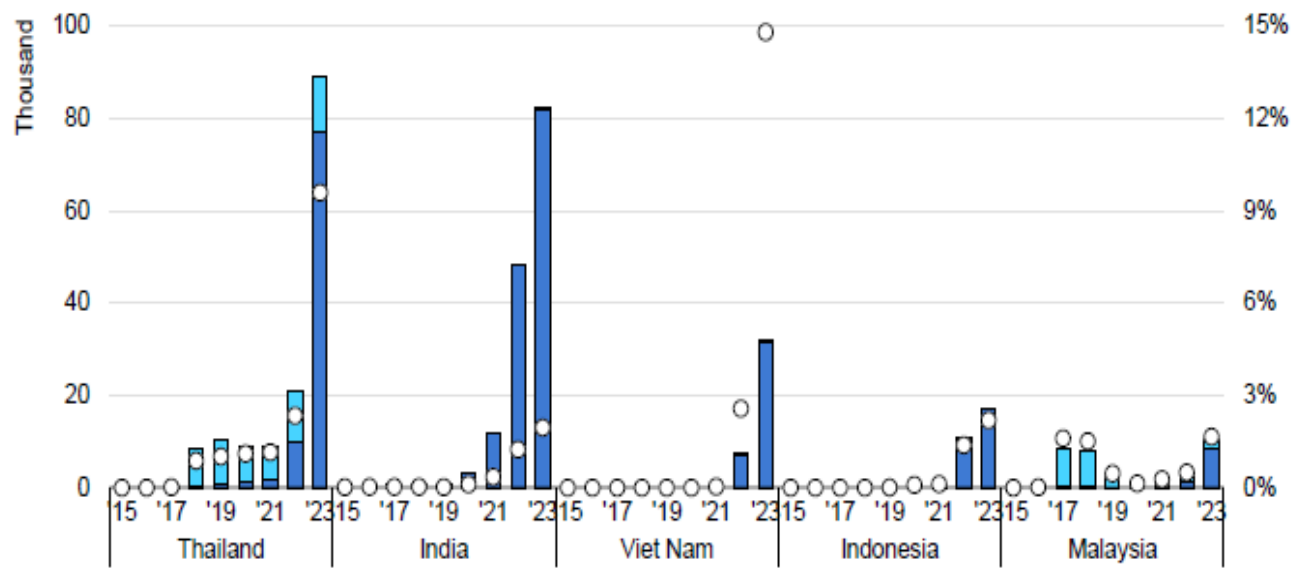
Sources: Rystad Energy research and analysis

The Norwegian EV Incentives

- No purchase/import tax on EVs (1990-2022). From 2023 some purchase tax based on the cars' weight on all new EVs.
- Exemption from 25% VAT on purchase (2001-2022). From 2023, Norway will implement a 25% VAT on the purchase price from 500 000 Norwegian Kroner and over.
- No annual road tax (1996-2021). Reduced tax from 2021. Full tax from 2022.
- No charges on toll roads (1997- 2017).
- No charges on ferries (2009- 2017).
- Free municipal parking (1999- 2017).
- Access to bus lanes (2005-). New rules allow local authorities to limit the access to only include EVs that carry one or more passengers (2016-).
- The Norwegian Parliament decided on a national goal that all new cars sold by 2025 should be zero-emission (electric or hydrogen) (2017).

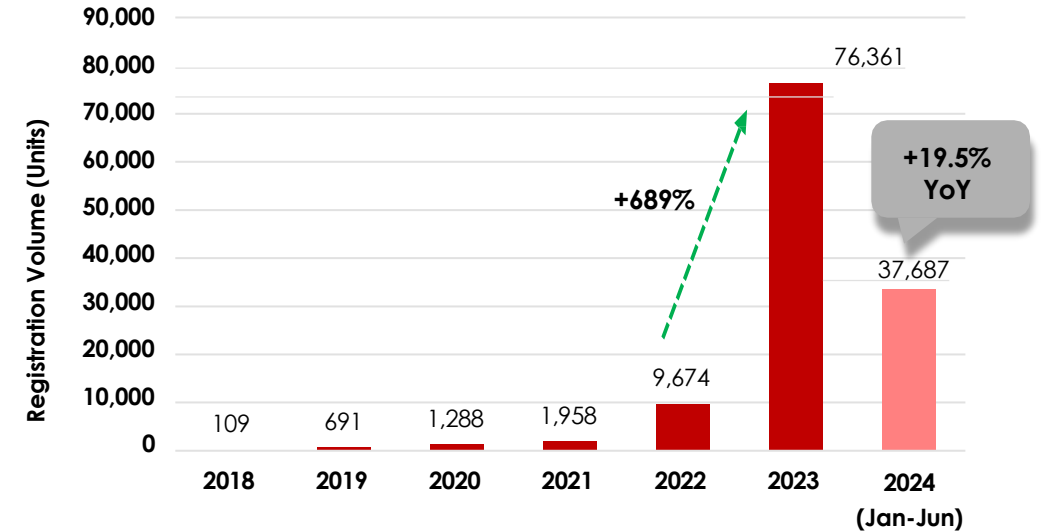
Electric car (PHEV + BEV) registrations and sales share in ASEAN and in India are also increasing.

ASEAN + India



Source : IEA – Global EV Outlook 2024

Thailand



Source : Department of Land Transport, Thailand and EVAT

- In Thailand, electric car registrations more than 600% YoY to nearly 90,000 units, reaching a notable 10% sales share.
- In India, electric car registrations were up 70% YoY to 80,000 units, around 2% of all cars sold were electric.
- In Vietnam, electric car sales recorded unprecedented growth to over 30,000 units in 2023, reaching a 15% sales share.
- In Indonesia, electric vehicles surged by 65.1% YoY to 17,051 units due to sales expansion of the Hyundai Ioniq 5.
- In Malaysia, electric car registrations more than tripled to 10,000 units, supported by import duty exemptions.

Thailand Net zero Strategy

2018

Thailand's National Adaptation Plan (NAP)

VISION

Thailand is resilient with adaptive capacity to climate change impacts and moves towards sustainable development.



2021

NDC

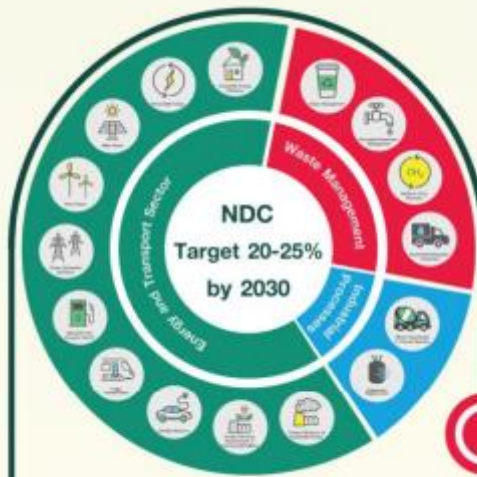
Nationally Determined Contribution
Implementing starts

Submission of LT-LEDs

Long-term Low Greenhouse Gas
Emission Development Strategy
Implementing towards
achieving net zero GHG emission and
Carbon Neutrality within this century

Improve Energy Efficiency and
Promote Energy System
Transformation through

- Decarbonisation
- Deregulation
- Digitalisation
- Electrification
- Decentralisation



Aims to reduce GHG
by 40% with
international support

2030

- Increases and Remain Primary Forest
- Regenerate Natural Forest Area
- Increase Economic Forest Area
- Increase and Remain Cropland
- Reduce Biomass Burning

Achievement of CO₂
removals of 120 MtCO_{2e}q

2037

2035

69% share of electric
vehicles of new vehicles in
the market

2050

CARBON
NEUTRALITY



2065

Achievement of
NET-ZERO GHG Emission

while looking forward to enhanced
international cooperation and
support on finance, technology,
and capacity-building to achieve
this ambition

Reduction of GHG emissions
in various sectors:

- Energy
- Industrial Processes and Product Use (IPPU)
- Agriculture
- Waste
- Land Use, Land Use Change, and Forestry

50% share of renewable
electricity generation of new
power generation capacity



Automotive Production Worldwide 2023.

Thailand's ranking is in the Top 10.



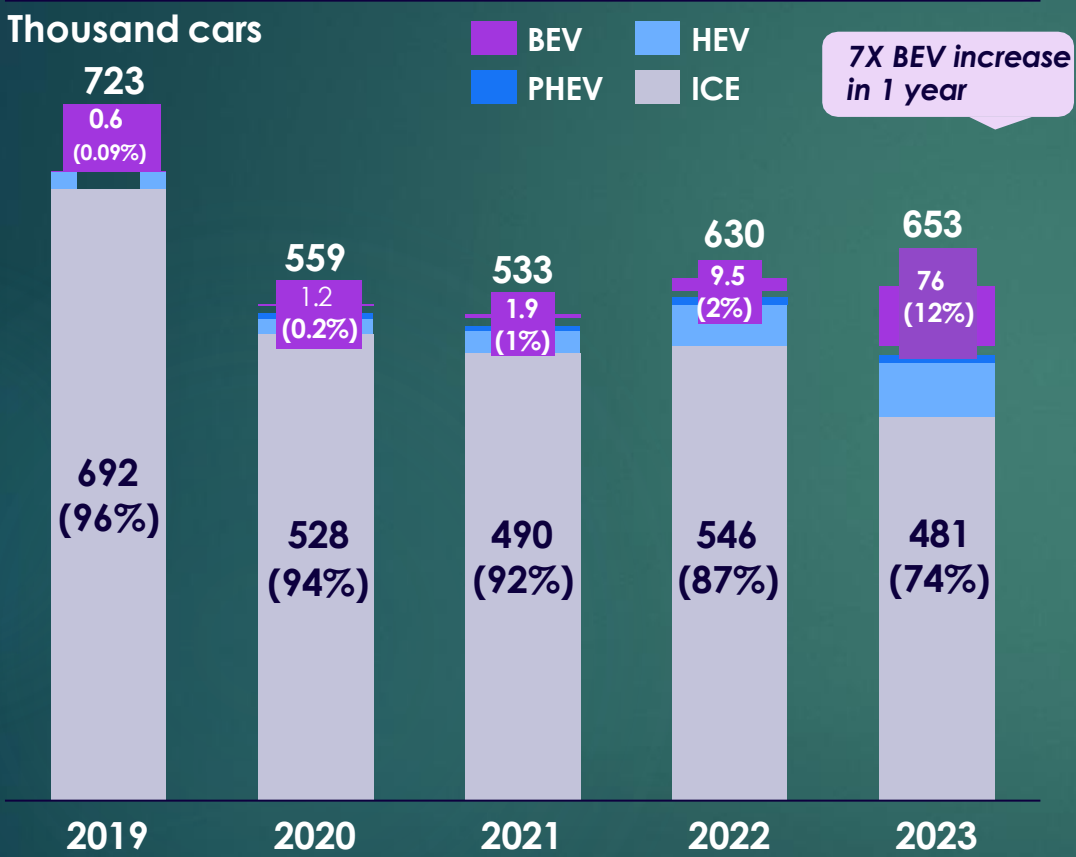
Thailand's Production 2023 : 1,841,663 units

Passenger Car : 648,803 units (35%) / Commercial Vehicles : 1,192,860 units (65%)

Export : 1,156,035 units (63%) / Domestic Sales : 685,628 units (37%)

BEV Share in Passenger Car Segment and Top 5 BEV Models in Thailand.

 No. of new passenger car registrations 2019 – 2023 by Powertrain



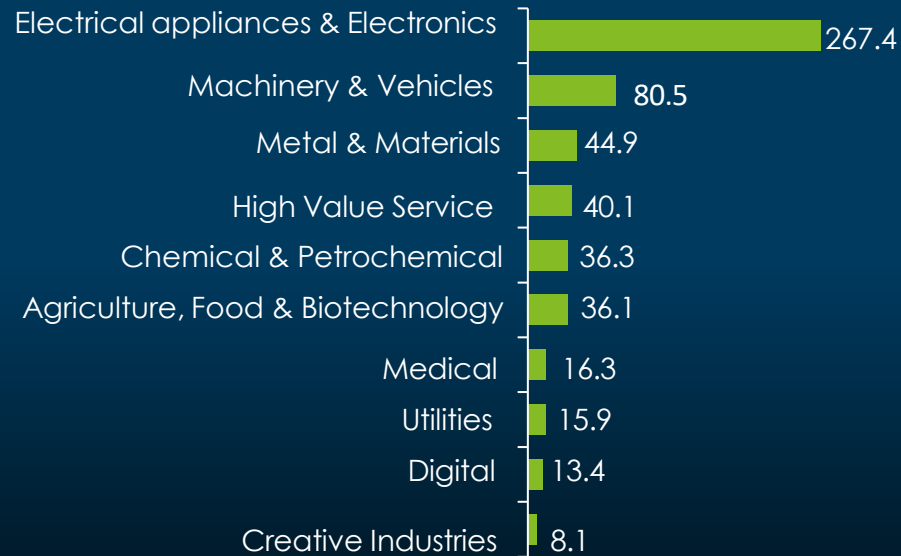
 Top 5 BEV registration by models in 2023

Model		Production source
BYD Atto 3	19,214	CBU*
Neta V	12,777	CBU*
BYD Dolphin	9,410	CBU*
GWM Ora Good Cat	6,712	CBU*
Tesla Model Y	5,881	CBU

Source: EV Association Thailand, Department of Land Transport
Note: *BYD, Neta and GWM planned to build the production plant in Thailand

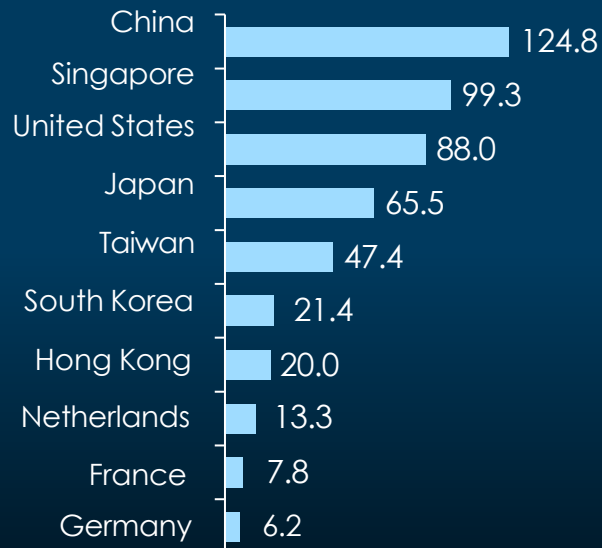
2023 Foreign Direct Investment in Thailand surged, with the boost of large projects. Machinery & Vehicles related investment reached 80.5 billion THB.

2023 BOI FDI Approved applications by Sector
Unit: Billion THB



2023 Total: 559 Billion THB (78% YoY)

Top 10 2023 BOI FDI Approved applications by area
Unit: Billion THB



Top 10 Total: 494 Billion THB



Thailand Automotive Investment Outlook.

7 EV Brands Plan to Start EV Production in 2024.

Brand	Model	Investment (Million Baht)	Expected to Start Production Line	Capacity (Unit/Year)
GWM	ORA GOOD CAT	22,000	Jan 2024	100,000
MG	MG4	10,000	Since Q3 2023	100,000
NETA	VII	3,500	Q1/2024	20,000
BYD	DOLPHIN	20,000	Within 2024	150,000
GAC	AION Y	6,000	Within 2024-2025	20,000
CHANGAN	DEEPAL S07	8,800	Within 2024-2025	100,000
Wuling	Wuling / AIR VOLT	200	Within 2024	6,000
Total		70,500		496,000


















*As of Jan 2024



Data source: www.prachachat.net/mChangAntoring/news-1475695

Growth Potential for EV component supplier in the region.

EV component suppliers as of 2023

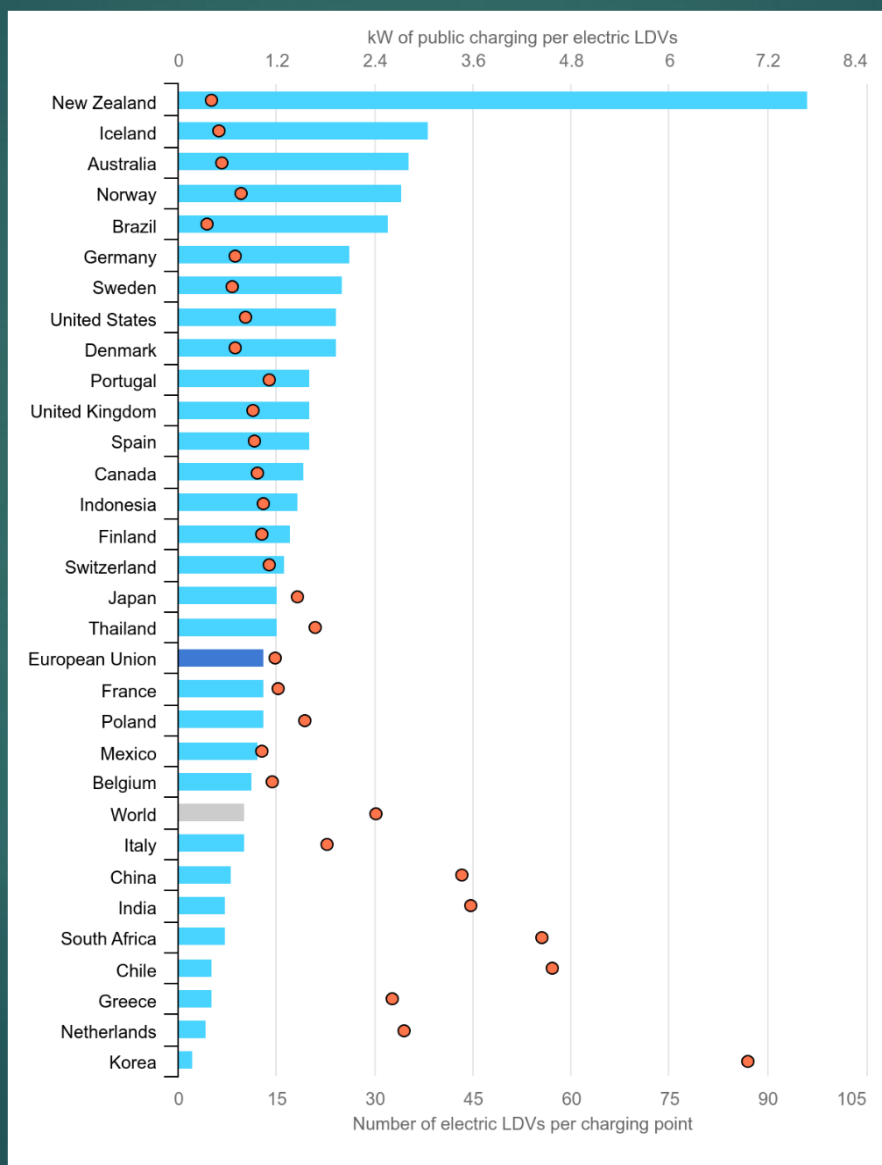
Country	Battery	Battery components								Drivetrain systems				
	LiB 	Cathode 	Anode 	Separator 	Electrolyt 	BMS 	Inverter 	Converter 	ECU 	Drivetrain 	Motor 	Magnetics 	Steel sheets 	Motor core 
 Thailand	4	0	0	1	0	1	1	1	0	1	4	1	3	1
 Indonesia	1	0	0	0	0	0	0	0	0	0	0	0	0	1
 Vietnam	3	1	0	1	0	0	0	0	0	0	0	0	0	0
 Malaysia	1	0	0	0	1	0	0	0	0	0	0	0	0	1

Source: Marklines, Arthur D. Little analysis

Thailand needs to strategically prepare for EV supplier development and transformation in order to attract EV manufacturing and build sustainable parts supplier network for the next generation of automotive production.

Charging Stations Ratio in Thailand vs. Global Overall

EV (BEV + PHEV) Ratio to AC & DC Public Chargers at 17:1
And BEV ratio to DC public Chargers at 22:1 in Thailand.



- According to International Energy Agency (IEA), the global average in 2022 was about 10 EVs per charger.
- Countries such as China and the Netherlands have maintained fewer than 10 EVs per charger throughout past years.
- Another important aspect in addition to the number of public chargers is the total public charging power capacity per EV, given that fast chargers can serve more EVs than slow chargers.
- Globally, the average public charging power capacity is around 2.4 kW per EV.
- In the European Union, the ratio is lower, with an average around 1.2 kW per EV.

The Upcoming Support for EV Trucks and Buses.



In February 2024, the National Electric Vehicle Policy Committee, or the EV Board, has approved measures to encourage companies to transition their commercial fleets of large trucks and buses to battery electric vehicles (BEVs).

Under these measures, companies buying EVs manufactured domestically will be able to deduct expenses of 2 times the actual price of the vehicles. For the purchases of imported vehicles, the deduction will be equal to 1.5 times the actual price of the vehicles. The granting of the special tax deduction will be effective until 31 December 2025.

Thank you.



Electric Vehicle Association of Thailand (EVAT)

KX building
110/1 Krung Thonburi Road, Banglamphulang, Khlongsan,
Bangkok 10600
THAILAND

Email : contact@evat.or.th (General contact)
member@evat.or.th (Membership)

<https://evat.or.th>