ASEAN Electric Vehicle Policies and Support: A Snapshot

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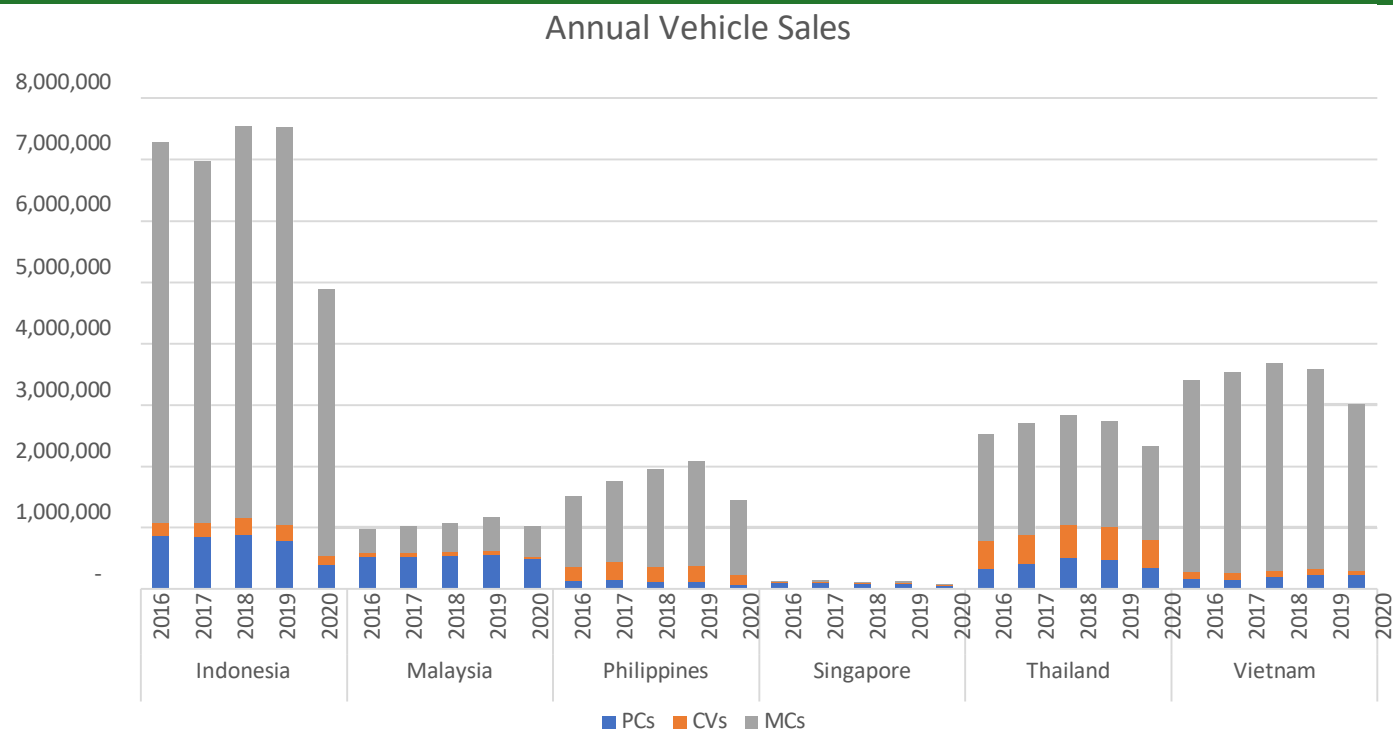
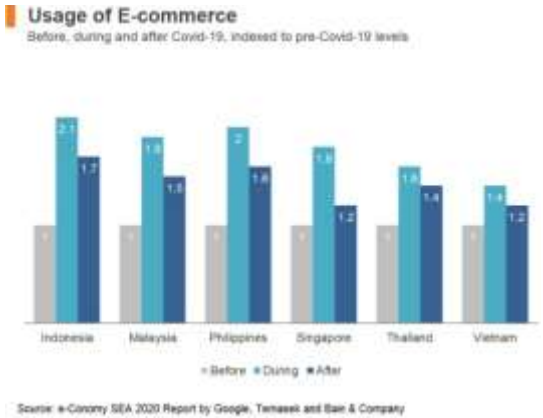
ASEAN Vehicle Facts and Trends





- Car Ownership Ratio in the ASEAN has wide disparity
- PCs are the most affected by the pandemic
- CVs and MCs sales are expected to rebound faster due to the increasing e-commerce
- MCs are expected to grow faster due to need for personal mobility even beyond the pandemic due to “virus phobia”

EV Statistics

Electric Vehicle Association of the Philippines

Country	EV Stock	Charging Infra
Thailand	As of 2021: Hybrid – 210,209 mostly cars BEV – 8,267 mostly MCs and Cars	AC Slow Chargers – 1,482 DC Fast Chargers - 771
Philippines	As of 2021: BEV – 13,934 mostly eTrikes, LEV and some eJeeps	Total– 278 Battery Swapping Stations - 21
Singapore	As of 2019: Hybrid – 46,648 mostly cars and few buses BEV – 1,410 mostly cars and few com veh and buses	AC Slow Chargers – 732 DC Fast Chargers - 134
Malaysia	As of 2019: BEV – 194 units	421 Chargers

EV Adoption Trends

Electric Vehicle Association of the Philippines

Thailand – Increasing BEV Share

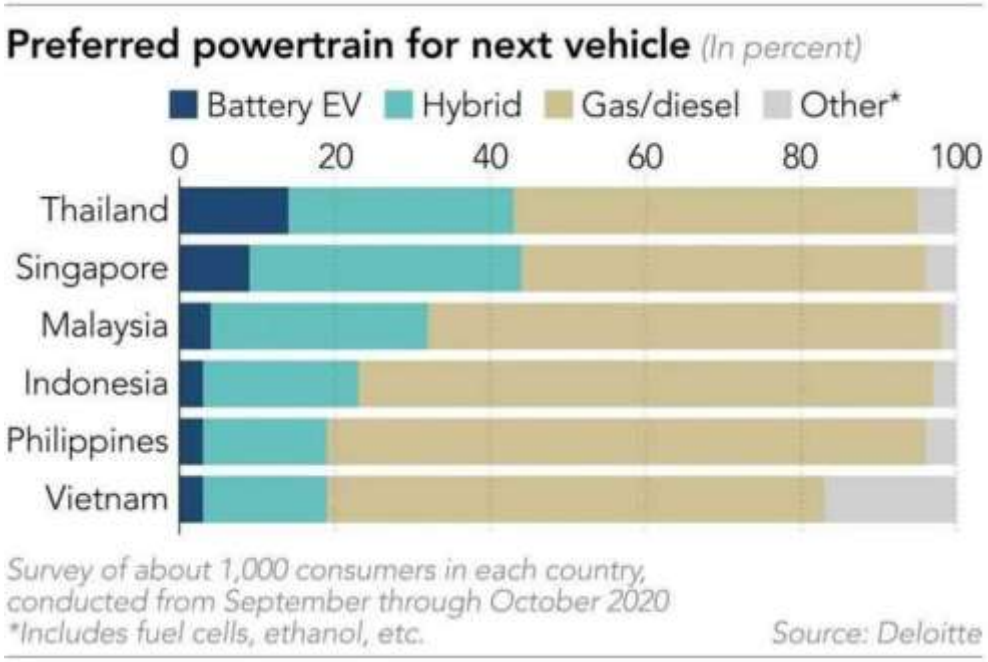
Philippines – Increasing eTrike, LEV and eJeeps

YEAR	E-MOTORCYCLE	E-TRIKE	CAR	SUV	UTILITY VEHICLE	TRUCK	BUS	TOTAL
2010	639	162	5	-	21	1	-	828
2011	309	82	2	-	33	-	-	426
2012	220	62	-	-	7	-	-	289
2013	421	85	3	-	9	2	-	520
2014	244	132	9	1	26	1	1	414
2015	380	162	7	-	28	1	2	580
2016	274	693	9	-	14	1	-	991
2017	498	1,404	66	12	89	1	-	2,070
2018	508	3,629	43	13	66	3	-	4,262
2019	767	372	116	12	302	1	-	1,570
2020	585	317	16	5	84	1	7	1,015
2021	675	120	35	-	136	-	-	969
	5,520	7,220	311	43	815	12	10	13,934

Singapore – Higher end eCars , Commercial and eBuses

Fuel Type	Cars	Taxis	Motorbikes	Goods & Other vehicles	Buses	Fuel Type Total
Petrol	567,971	23	139,904	5,197	14	**713,109**
Diesel	18,050	7,839	-	134,299	19,096	**179,284**
Fuel-Electric Hybrid	37,807	8,282	-	8	50	**46,147**
Plug-In Hybrid	501	-	-	-	-	**501**
Full Electric	1,151	133	2	90	34	**1,410**
Others	231	-	-	3	-	**234**
Vehicle Type Total	625,711	16,277	139,906	139,597	19,194	940,685

Consumer Views



Increasing Issue : Misinformation to downplay EVs

KEY FACTORS THAT WILL FACILITATE eCAR Adoption

Industry Incentives

Item	Thailand	Philippines	Malaysia	Indonesia
Corporate Tax Incentives	Four-Wheelers Project value of at least THB5 million (US$163.7 million) • PHEVs: 3-year corporate tax holiday • BEVs: 8-year corporate tax holiday, extendable for R&D investment / expenditures Project value of less than THB5 million (US$163.7 million) • PHEV: 3-year corporate tax holiday • BEV: 3-year corporate tax holiday, though extendable if project starts by 2022, produces a minimum of 10,000 units within 3 years, produces additional parts, and will undertake R&D investments / expenditures Motorcycles, Three-Wheelers, Buses, and Trucks •3-year corporate income tax exemption EV Critical Parts • Businesses in key EV parts (high voltage harness, reduction gear, battery cooling system, and regenerative braking system): 8-year corporate income tax exemption • Businesses in battery module and battery cell production: 90% reduction in import duties for two years	• If EV become part of the Strategic Investment Priority Plan: – 4 to 7 years Income Tax Holiday – As low as 5% corporate tax – Enhanced deductions • Special Corporate Tax deductions provided by the Green Jobs Act	• 5 years income tax holiday on EV and charging equipment manufacturing • Investment tax allowance over 5 years	• 5 – 20 years income tax holiday + 2 years reduced tax depending on amount of investment • Income tax deduction: - Deduction from tax of 60% of fixed asset investments - Deduction from taxable income of 300% of R and D investments - Deduction from taxable income of 200% of vocational training investments

Industry Incentives

Item	Thailand	Philippines	Malaysia	Vietnam
Import Duty and other Tax Exemptions	• Duty exemption on raw materials for Exported products • Tariff-free importation of machineries • Free trade agreements	• If EV become part of the Strategic Investment Priority Plan: - Duty exemption on capital equipment, raw materials, spare parts and accessories - Vat zero exemption on importation and local purchases • Duty tax exemption on capital goods under the Green Jobs Act • Free trade agreements	• Import duty exemption on EV parts and components (unclear if also covers capital goods) • Free trade agreements	• Import duty exemption on imported capital goods for 2 years • Import duty exemption on imported goods and material for production for 2-4 years during initial production • For companies exporting 50% of output and located in bonded zones. Import duties on supply goods, capital goods and office equipment • Customs green lane • Lower production volume requirement to enjoy import duty exemption on parts and components compared to ICE production • Free trade agreements

Industry Incentives

Item	Thailand	Philippines	Malaysia	Vietnam
Subsidies, Grants and Co-Investments	• R&D grants • Human resource development grants • Investment support (e.g. THB180 million (US$5.78 million) for the establishment of a new EV battery pilot plant) • Around 11 to 22 USD/kWh subsidy for local production of battery depending on energy density for up to 4 years • Excise tax rate reduction for locally produced battery from 8% to 1%.	• R&D grants		
Others	• Permit to own land • Ease of entry of foreign visas and work permits			• Exemption from VAT for domestic goods in bonded zones

Purchase Incentives

Item	Thailand	Philippines	Malaysia	Vietnam	Indonesia	Singapore
Purchase Subsidies	Until 2025 • BEV Cars < 58,000 USD - Around 2,000 USD subsidy for < 30 kWh battery and 4,000 USD subsidy for >30 kWh battery • BEV Pick-up - Around 4,000 USD subsidy for >30 kWh battery • Two and three wheelers - Around 500 USD purchase subsidyto - Up to US$320 loan interest subsidy - Up to US$960 battery replacement subsidy - 85 to 100% purchase first adopters subsidies		▪ Companies entitled to approximately 67,000 USD subsidy on EV rental		• 450 USD purchase subsidy of locally made e-motorcycles	• Vehicles Emissions Scheme (VES)* with rebates of $10k or $20k is extended to commercial vehicles, previously only for private vehicles • Early EV Adoption Incentive with rebates of up to S$20k introduced
Tax Incentives	• BEV Cars > 58,000 USD - Up to 20% import duty tax reduction - 8% to 2% excise tax reduction • For PHEVs and HEVs: - < 200 g/km: 12.5% reduction - < 150 g/km: 10% reduction - < 100 g/km: 5% reduction	• 100% tariff exemption for BEVs • For BEVs, 100% excise tax exemption • For PHEVs and HEVs, 50% excise tax exemption	• CBU 100% import tax exemption until end of 2023 • Personal income tax rebates of up to 571 USD for cost relating to charging hardware ad services.	• 10% to 15% SCT compared to 10% to 150% SCT for ICE	• 10% VAT incentive for EV cars and buses with minimum 40% local content • 5% VAT incentive for EV cars and buses with minimum 20% but less than 40% local content	

Type Approval Regulations

Electric Vehicle Association of the Philippines

M and N Categories

Description	Malaysia	Indonesia	Thailand	Philippines	China
Electrification Safety REESS safety Electrification Safety (post-impact)	UNR 100	UNR 100	UNR 100		GB 18384-2020 GB 38032-2020
Electric Drive Train Safety	UNR 100	UNR 100	UNR 100		GB/T 18488.1-2015 GB/T 18488.2-2015
Vehicle Structure	UNR 94:Rev.3 UNR 95:Rev.2	UNR 94:Rev.3 UNR 95:Rev.2	UNR 94:Rev.3 (planned adoption) UNR 95:Rev.2 (planned adoption)		GB 11551-2014 (UN R94, NEQ[1]) GB 20071-2006 (UN R95, MOD[2])
EMC	UNR 10:Rev.2	UNR 10:Rev.2	UNR 10:Rev.2		GB 34660-2017
Efficiency	UNR 101:Rev.3	UNR 101:Rev.3 (planned adoption)	UNR 101:Rev.3		GB 22757.2-2017
Electric Drive Train Performance	UNR 68 UNR 85:Rev.0		UNR 68 UNR 85:Rev.0		GB/T 18488.2-2015

L Category

Description	Malaysia	Indonesia	Thailand	Philippines	China
Electrification Safety REESS safety Electrification Safety (post-impact)	MS 2514:2015 (L1-e-Bike) MS 2688: 2018 (25-50 km/h - L1,L2,L6) MS 2413:2015 (>50 km/h - L3,L4,L5 and L7) UN R136	SNI 8928:2020 (UNR 136)	UNR136		GB 17761-2018 (L1-e-Bike) GB 24155-2020 (for e-Motorcycles)
Electric Drive Safety	MS 2514:2015 (L1-e-Bike) MS 2688: 2018 (25-50 km/h - L1,L2,L6) MS 2413-2:2015 (>50 km/h - L3,L4,L5 and L7)	UN R136	UN R136		GB/T 18488.2-2015
EMC	MS 2514:2015 (L1-e-Bike) MS 2688: 2018 (25-50 km/h - L1,L2,L6) MS 2413-2:2015 (>50 km/h - L3,L4,L5 and L7)				GB 34660-2017
Electric Drive Train Performance			UNR 68 UNR 85:Rev.0		GB/T 18488.2-2015
Efficiency	MS 2514:2015 (L1-e-Bike) MS 2688: 2018 (25-50 km/h - L1,L2,L6) MS 2413-2:2015 (>50 km/h - L3,L4,L5 and L7)				GB 22757.2-2017

Policy Directions

- Mostly focused on manufacturing incentives
- Consumer side incentives are mostly limited to purchase tax exemption or reductions increasing realization for subsidies
- Increasing willingness to support public transport EV adoption
- Strong efforts towards adoption and implementation of EV homologation regulations

[Thank You]