



OVERVIEW

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OVERVIEW CHALLENGES AND SOLUTIONS CONCLUSION

Overview of Vietnam, the automobile market

Vietnam's challenges, goal and potential solutions

A synopsis of Vietnam's report

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OVERVIEW

Overview of Vietnam, the automobile market and international cooperation activities



OVERVIEW OF VIETNAM POPULATION AND IT'S MARKET





Population: 99.979.940 (31/10/2023)

The population density of Vietnam is 320 people/km2. With a total land area of 310,060 square kilometers.

Source: https://danso.org/viet-nam

Number of vehicle (31/10/2023)

_Automobiles in circulation : 5.344.062;

Passenger Car: 3.735.248

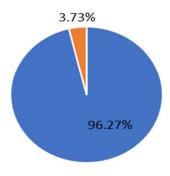
New assembled motorcycles: 2.369.441.

Total registered motorcycles: 68.349.566 (Up to 31/12/2021)

Source: http://www.vr.org.vn/thong-ke/Pages/tong-hop-so-lieu-phuong-tien-giao-

thong-trong-ca-nuoc.aspx and National Traffic Safety Committee Report

Ratio of number of passenger car to population



■ Not own a Passenger Car ■ Own a Passenger Car



GOAL FOR IMPLEMENTING COP26

Goal:

2030

Fulfilling the commitment level in the NDC:

By ourself: \$\ \mathbb{I}\$ 9% GG With support: \$\mathbb{I}\$ 27% GG

Improve energy use efficiency

Promote the conversion to use electricity and green energy

2050

Net greenhouse gas emissions will reach "zero" by 2050

Rational development of transport methods

All vehicles, equipment, and transportation infrastructure use electricity and green energy



GOAL FOR IMPLEMENTING COP26





OVERVIEW OF VIETNAM'S DOMESTIC ELECTRIC VEHICLE MARKET

| | YEAR | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 1-7/2023 |
|---------------|------------------|--------|--------|--------|--------|--------|---------|----------|
| IMPORT | Hybrid | 29 | 198 | 130 | 894 | 2782 | 3,227 | 2,467 |
| | BEV (Automobile) | 4 | 3 | 8 | 6 | 33 | 94 | 174 |
| | E-Moped | 0 | 0 | 40 | 502 | 4 | 0 | 0 |
| | E-Motorcycle | 1163 | 4285 | 984 | 192 | 178 | 148 | 148 |
| MANUFACTURING | Hybrid | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | BEV (Automobile) | 0 | 0 | 0 | 0 | 134 | 3,005 | 19,228 |
| | E-Moped | 56428 | 46869 | 53029 | 46985 | 27066 | 6,806 | 8,791 |
| | E-Motorcycle | 317354 | 210477 | 237442 | 228481 | 178051 | 330,728 | 321,086 |



OVERVIEW OF VIETNAM INFRASTRUCTURE



Vietnam is constructing 1,332 km of highways. It is expected that by the end of 2023, Vietnam will have 1,852 km of highways.



Vietnam currently has over 150,000 charging ports in operation.



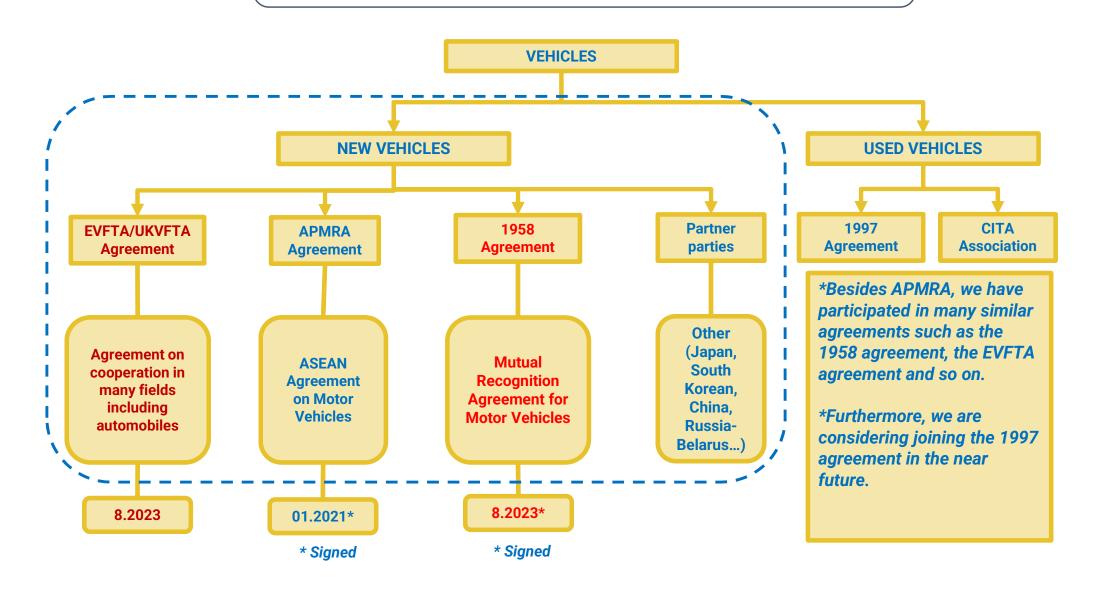
36 electric bus routes have been operated in Hanoi city, Ho Chi Minh City and Phu Quoc



Cat Linh - Ha Dong (HaNoi city) urban electric train has been operated since November 6, 2021



INTERNATIONAL COOPERATION ACTIVITIES



02

CHALLENGES, GOAL AND ACTION

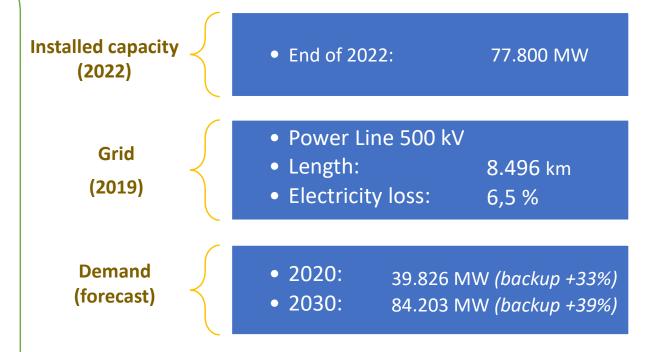
Vietnam's challenges, goal and potential solutions



PRESSURE ON THE POWER SYSTEM

National power grid

Assuming all Vietnamese cars today are electric cars, taking Vinfast's charging station as the standard. The medium charging station has a capacity of 30kW. If these electric vehicles are charged at the same time, the total required power capacity: ~160321 MW is much larger than the installed capacity. This number may be higher due to grid losses and the use of different charging stations.

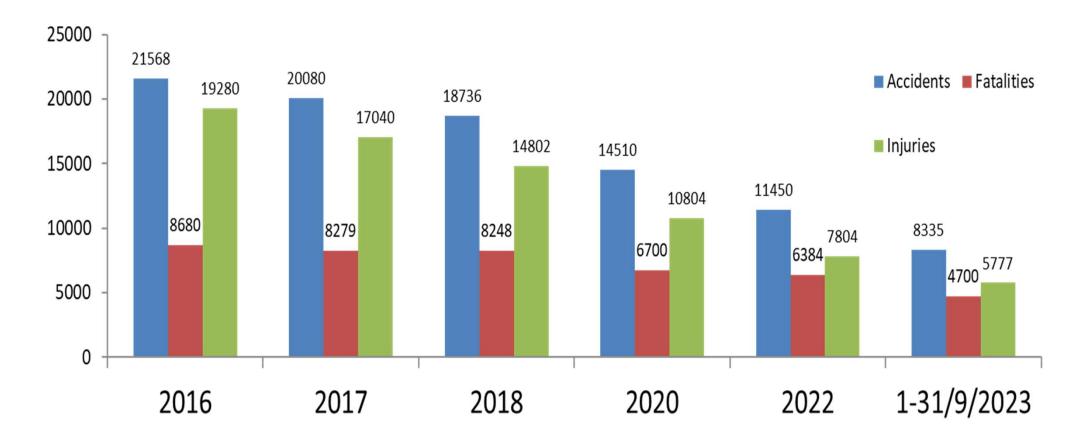


Source: GIZ, Study on Electric Transportation Development in Vietnam, TIA Research Report, August 2021
Infographics "Panorama of Vietnam's electricity industry in 2022" – Vietnamplus.vn



STATISTICS ON ROAD TRAFFIC ACCIDENTS

- In the first 9 months of 2023, there were over 8,335 traffic accidents nationwide, killing over 4,700 people and injuring 5,777 people. (Source: baochinhphu.vn)



Dedicated to Safety and Environment Protection



GOAL AND ACTION

The period 2021 – 2030: (419/QĐ-BGTVT 18/03/2021 and Decision 100/2019/ND-CP)



+ Annual reduction of 5 ÷ 10% of the fatalities and injuries due to road traffic accidents

Dedicated to Safety and Environment Protection Company Name



ACTION ON OUR LEGAL SYSTEM

| Ord | TASK | Work to do |
|-----|---------------------|---|
| 1 | LEGAL DOCUMENTS | We are gradually building a legal system to move towards passive safety; Currently, implementation regulations for EVFTA/UKVFTA have been completed and issued in Decree 60/2023/ND-CP |
| 2 | TECHNICAL DOCUMENTS | We are actively revising, supplementing, and developing a roadmap for national standards and technical regulations. Upgrade two National test facilities, VMTC and NETC |





Dedicated to Safety and Environment Protection



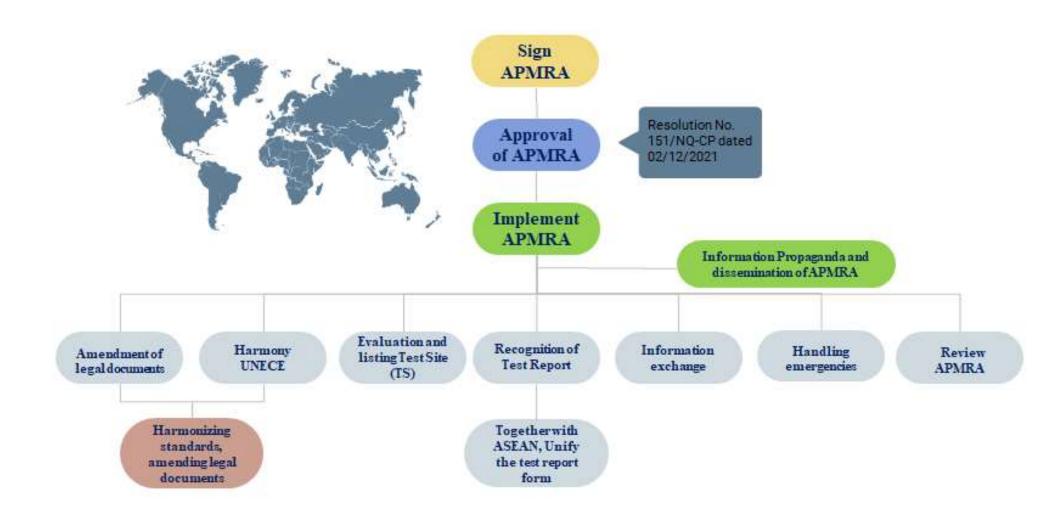
AMENDING TECHNICAL REGULATIONS

The Technical Regulations relating to technical safety and environmental protection for motor vehicles that have been amended between 2022 and 2023 following the orientation of 1958 Agreement are listed below.

| No | Title | TCVN & QCVN | | |
|----|---|----------------------|--|--|
| 1 | Safety and environmental protection for automobiles | QCVN 09:2015/BGTVT | | |
| 2 | Safety for trailer and semi-trailer | QCVN 11:2015/BGTVT | | |
| 3 | Safety Glazing Material | QCVN 32 : 2017/BGTVT | | |
| 4 | Rear View Mirror | QCVN 33 : 2019/BGTVT | | |
| 5 | Road Vehicle Headlamps | QCVN 35 : 2017/BGTVT | | |
| 6 | Frames of motorcycles and mopeds | QCVN 30 : 2010/BGTVT | | |
| 7 | Vehicle Inspection Station | QCVN 103:2019/BGTVT | | |
| 8 | Exhaust emission for light duty vehicle | QCVN 109:2015/BGTVT | | |



VIETNAM'S PLAN TO IMPLEMENT APMRA





HARMONIZING LEGAL DOCUMENTS

 Below is list of Vietnamese equivalent standards and regulations with 19 UNECE harmonized in phase 1 of APMRA Agreement

| Phase | No | Title | UNR No. | TCVN & QCVN | |
|---------|----|---|---------|--|--|
| | 1 | Braking System | R13 | TCVN 6919:2001 | |
| | 2 | Braking System (Passenger Car) | R13H | TCVN 7228:2002 | |
| | 3 | Anchorage of seat belt | R14 | TCVN 12576:2019 | |
| | 4 | Seat Belt | R16 | TCVN 7001:2002 | |
| | 5 | Seat | R17 | TCVN 12577:2019 | |
| | 6 | Head Restraint | R25 | TCVN 12578:2019 | |
| | 7 | Audible Warning Device | R28 | TCVN 6923 :2001 | |
| | 8 | Pneumatic tyre (passenger vehicle) | R30 | QCVN 34:2017/BGTVT | |
| | 9 | Speedometer | R39 | TCVN 6956:2001 | |
| | 10 | Exhaust emission for motorcycle | R40 | QCVN 04:2009/BGTVT; QCVN 77:2014/BGTVT; | |
| Phase I | 11 | Noise for motorcycle | R41 | TCVN 7881:2008; TCVN 7882:2008 | |
| | 12 | Safety Glazing Material | R43 | QCVN 32:2017/BGTVT | |
| | 13 | Rear View Mirror | R46 | QCVN 33:2019/BGTVT | |
| | 14 | Exhaust emission for heavy duty vehicle | R49 | QCVN 86:2015/BGTVT QCVN 109:2021/BGTVT | |
| | 15 | Noise Emission | R51 | TCVN 7880:2016 | |
| | 16 | Pneumatic tyre (commercial vehicle) | R54 | QCVN 34:2017/BGTVT | |
| | 17 | Pneumatic tire (motorcycle) | R75 | QCVN 36:2010/BGTVT | |
| | 18 | Steering System | R79 | TCVN 6786:2001 | |
| | 19 | Exhaust emission for light duty vehicle | R83 | QCVN 109:2021/BGTVT | |



IMPROVE THE KNOWLEDGE AND DRIVING SENSE OF ROAD USERS





Tighten measures to control alcohol while driving.

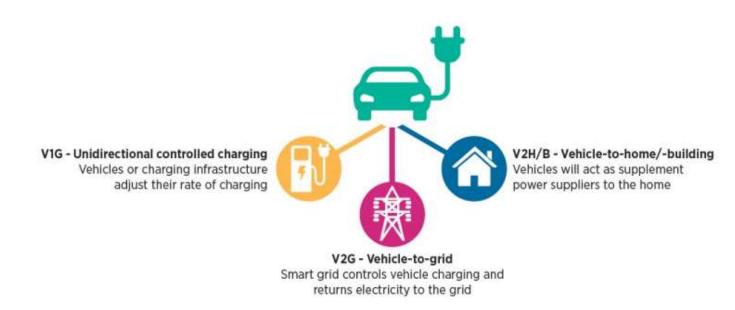
Apply modern technology in driver training as well as driver testing



RESEARCH AND APPLY NEW CHARGING TECHNICAL

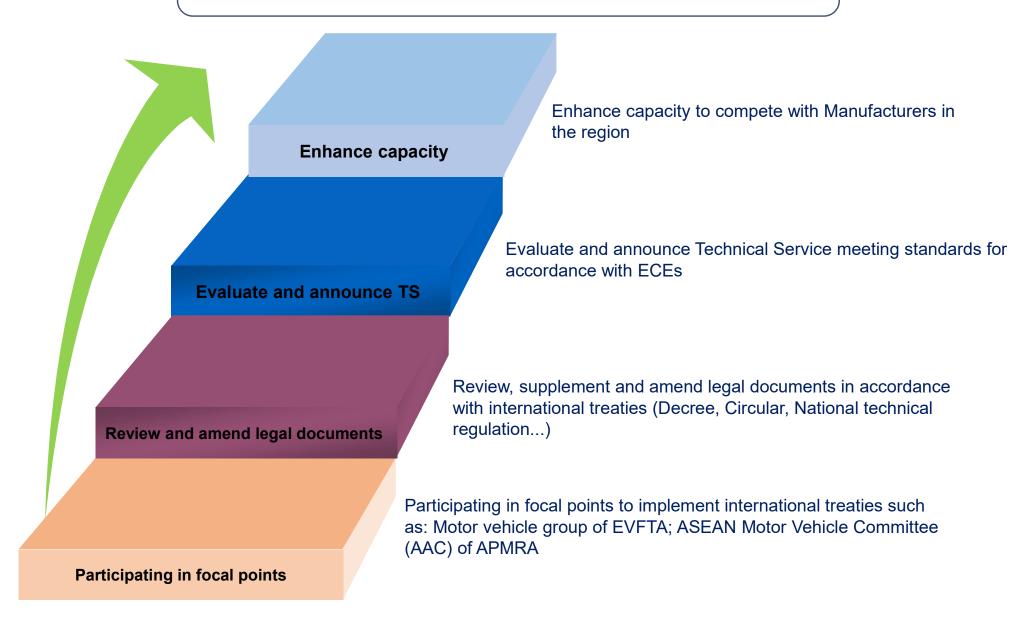


Smart Charging: Allows shifting charging time to low load times, with cheaper charging electricity prices. However, the charger itself must integrate transmission lines and algorithms to perform smart charging.





PLAN IN NEAR FUTURE



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CONCLUSION

A summary of Vietnam's report



CONCLUSION

- To implement the proposed plans, Vietnam will need more help from other country and other organization (JASIC) in the fields of harmonization, training as well as developing national standards, technical regulations;
- Vietnam is eager to learn from and share her experiences with ASEAN members;
- International cooperation in general, or joining agreements in particular, is one of our top priorities;
- Vietnam wishes to collaborate more closely in order to assist one another in overcoming difficulties and creating the most favorable conditions for cooperation activities in the field of automobiles;
- Vietnam has a potential car market, with a low car-to-population ratio. I believe that through determination and effort, as well as support and experience sharing from other countries. Vietnam will become one of the important automobile industries in Southeast Asia.



Thank you for listening!