Vietnam Register

Trend and Development of Electrical Vehicles in Vietnam

Vitural meeting, Hanoi 07-12-2021

UN CLIMATE CHANGE CONFERENCE UK 2021

According to UNFCCC, COP26 aims to work towards the following goals:

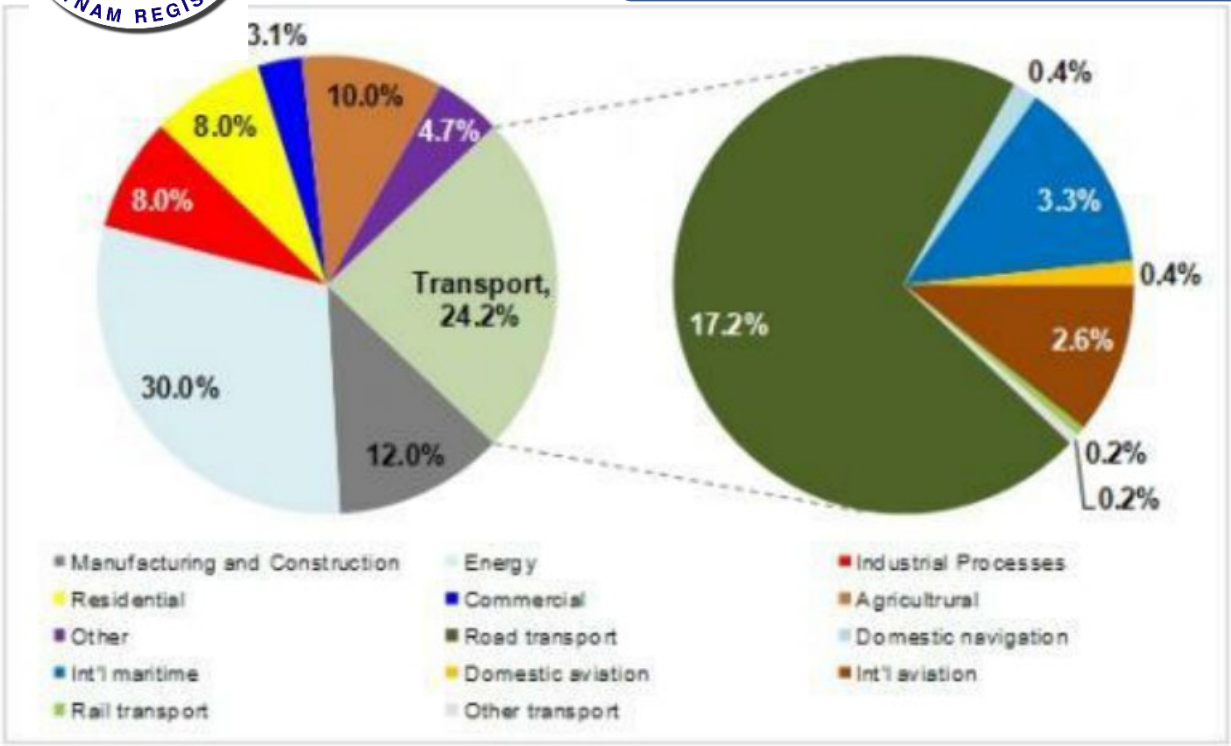
- **Ensure global net-zero by 2050 and keep the target of 1.5 degrees Celsius within reach**
- **Bring in adaptation measures to protect communities and natural habitats**
- **Mobilize climate finance to enable member states to achieve their climate goals**
- **Coordination to finalize Paris Rulebook**

VIETNAM'S CLIMATE ACTION COMMITMENT AT COP26

The country has been one of the hardest-hit countries by climate change and is working to build up its climate resilience planning and economic development in line with international standards:

- Vietnam will reach its net-zero carbon emission target by 2050
- Vietnam also strived to introduce stronger measures to reduce greenhouse gas emissions on its own abilities as well as international support in terms of finance and technology transfer. It also vowed to continue implementing goals as stated in the Paris Agreement.
- In line with COP26, Vietnam made a commitment to stop deforestation by 2030 and phase out coal-fueled power generation by 2040.
- Vietnam has targets to reduce greenhouse gas (GHG) emissions by 9 percent with domestic resources and 27 percent with international support by 2030 as per the Nationally Determined Contribution (NDC).

VIETNAM'S ACTION



- With over 30 millions motorcycles and 4 millions cars, trucks and another vehicles work in road traffic in Vietnam. They are one of the main sources of afmospheric pollution in urban areas and effect to the climate changing, additional amounts of greenhouse gases, heat world, crisis of energies and health of people

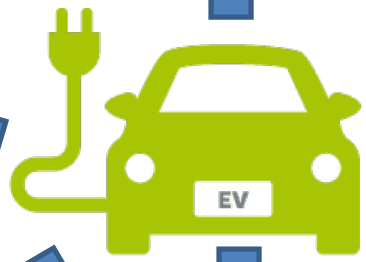
- Vietnam's goal on right track but implementation will be key

TREND OF ELECTRIC VEHICLES IN VIETNAM

Skytrain in Urban

Electric bycles

Electric special purpose vehicles



Electric Scooters and Bikes

Electric cars

Electric buses

DEVELOPMENT OF ELECTRIC VEHICLE

STATISTICS AMOUNTS OF ELECTRIC VEHICLES IN VIETNAM

B1. IMPORT

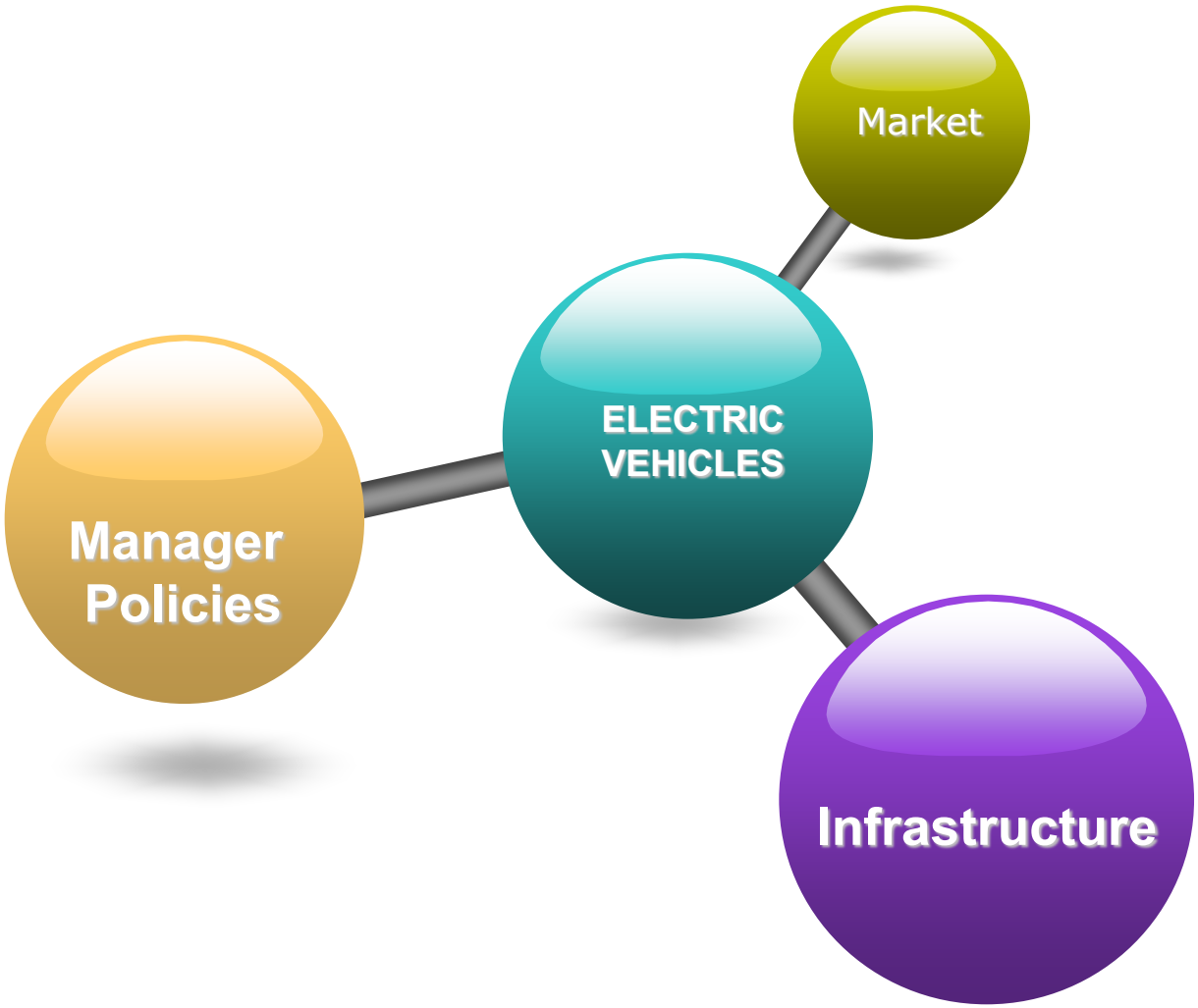
YEAR	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Hybrid Cars	289	347	177	32	164	131	84	29	198	130	360	**1.941**
Electric Cars	0	0	0	0	1	4	2	4	3	8	3	**25**
Electric Bikes					5.188	166	96	0	0	40	0	**5.490**
Electric Motors					96	392	0	0	0	0	0	**488**
SPEV	1.290	1.376	1.783	2.243	2.115	1.770	1.179	733	3.088	7.904	5.843	**29.324**

B2. ASSEMBLY

YEAR	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Hybrid Cars	0	0	0	0	0	0	0	0	0	0	0	**0**
Electric Cars	0	0	0	0	0	0	0	0	0	0	0	**0**
Electric Bikes					93.028	79.331	83.143	56.428	46.869	53.029	26.350	**438.178**
Electric Motors					21.365	85.443	269.472	317.354	210.477	237.442	157.783	**1.299.336**
SPEV					0	0	0	0	0	0	0	**0**

DEVELOPMENT OF ELECTRIC VEHICLE

Elements are related to Development of Electric Vehicles



MANAGER POLICIES

- Building national policies develop to increases renewable energy sources in production
- Policies impact to ownership EVs, Taxes for Evs, operation cost EVs
- Policies manager (relate to investment to infrastructures, manufacturing EV and development net of EV)
- Buiding the technical regulation, national standard to safety and Environment Protection EV (expect to issue new regulations in near furture-2022)
- Orient the developing of Electric vehicles and build road-maps of developing Electric Vehicle
- Cooperation activities research with International Organizations, Testing Centers and International Relationship in Automotive Industry supports to Electric Vehicles
- Propagation and education to the advantage of Electric Vehicles

INFRASTRUCTURE

- Addition Policies impact to taxes building, invests to infrastructure system
- Support Policies to infrastructures for Electric Vehicles
- Buiding the technical regulation, national standard to stations of EV
- Unifying the chargers system, which is comfortable to Vietnam's condition

MARKET

➢ Despite the COVID-19 pandemic, Vietnam's economy still continues to maintain a safe economic growth rate, enough to keep the fourth position in terms of economic size in ASEAN, after Indonesia, Thailand and the Philippines. However, Vietnam GDP per capita of US$3,521. So that the Electric Vehicles (Bike, Scooter…). Electric cars (BEV) or Hyberid car (HEV; PHEV) minority amounts of Electric Vehicle and the price of Electric cars still high over income of Vietnam

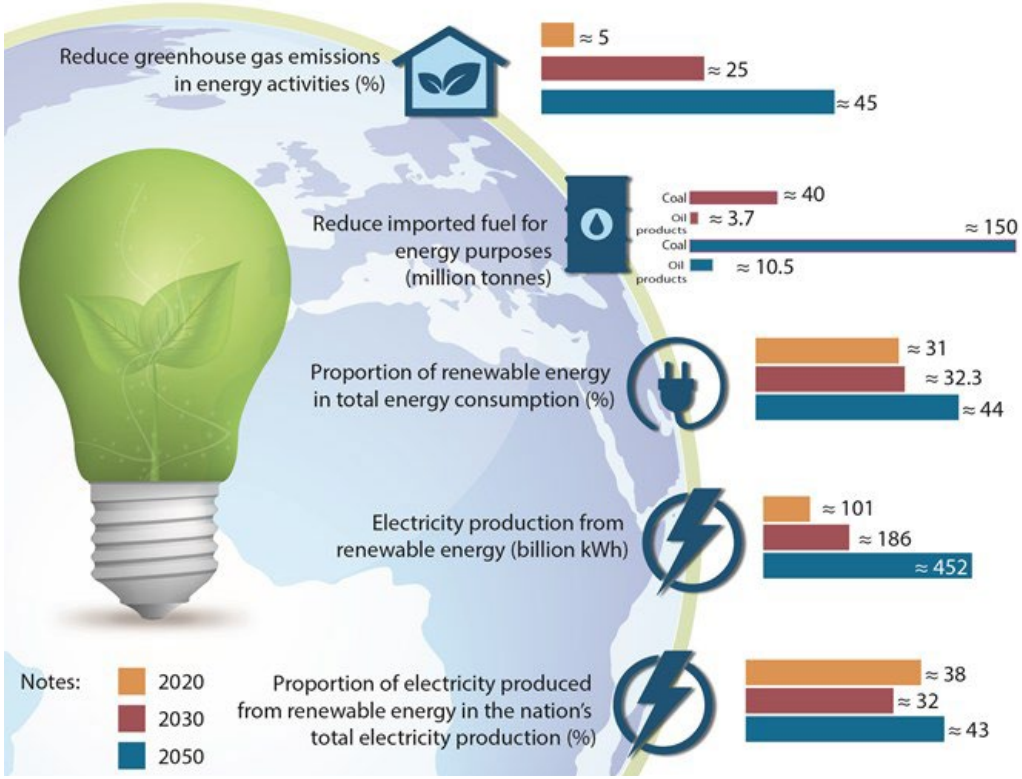
➢ The operation costs (including energy costs, invest cost) and taxes aren't incomlying with Vietnam's conditions

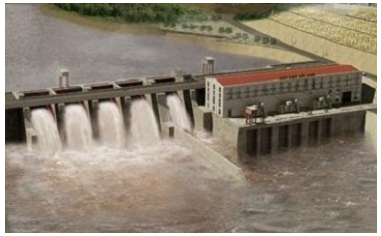
➢ Limitted of The technical Electric Vehicle such as:

- Life of Battery
- Time of recharge (8-10h)
- Safety
- Compatible of Charger Ports (US, EU, JAPAN, CHINA) and Charger System
- Limit of Infrastructure: Distribution of Stations, Swap Batteries of Stations (Charging points for E-Bikes, E-cars in Many buildings in the big cities)

ACTIONS TO DEVELOP ELECTRIC VEHICLES

Adopting ECE regulations Resolution 55 –NQ/TW of the Politburo on the national energy development strategy to 2030, with a vision to 2050





ACTIONS TO DEVELOP ELECTRIC VEHICLES

QCVN on Electric road vehicles

- 07 QCVNs (Regulations) For E-bikes; E-Motors
- Harmonize ISO standards
- Refer ECE documents

TCVN on Electric road vehicles

- 30 TCVNs (National Standards)
- Harmonize ISO standards
- Refer ECE documents

ACTIONS TO DEVELOP ELECTRIC VEHICLES

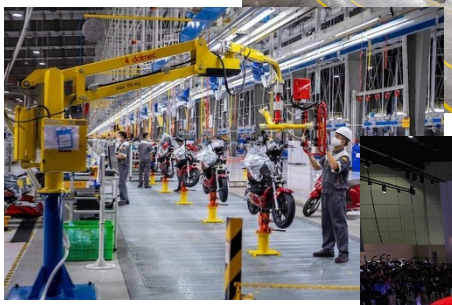
Electric Vehicles on cities in Vietnam

ACTIONS TO DEVELOP ELECTRIC VEHICLES

Charging stations: 800

Distribute 60/63 provinces

VINFAST
Vietnamese Automotive Manufacturer



Dedicated to Safety and Environment Protection

CONCLUSION DEVELOPMENT ELECTRICAL VEHICLES IN VIETNAM

- The Government needs to have a comprehensive programme, including a system of solutions to encourage and support users as well as manufacturers. Specifically, for manufacturers, those are policies to encourage research, development, commercialisation, and supply chain construction (from research and development of battery technology, fuel cells, operating systems to a complete car). For users, there are specific support policies to help them easily own, use and gradually create a habit of driving an electric car. All countries developing electric vehicles must have a very specific and strong market-making strategy and policy.

- The Government needs to set a clearly goal, roadmap by 2025 or 2030, 2050, how many per cent of cars in the market are electric cars; how emissions reductions and environmental goals should be achieved; determine which agencies and individuals are responsible for promulgating, guiding, implementing and monitoring the implementation of market-making policies, etc.

- Upgrade the infrastructure for Electric Vehicle

- Encouraging people to switch to low-emission vehicles such as electric cars, electric motorcycles, electric buses and trains is one of the effective solutions to reduce environmental risks, stop use of gasoline cars in the next decade and replace them with electric cars.

- Development of regulations and national standards on battery, charging systems, vehicle connectors, parts for EV, safety of vehicle…
• Testing capacity
• Certification activities

THANKS FOR YOUR ATTENTION