ESCAP
Economic and Social Commission for Asia and the Pacific

Regional Cooperation Mechanism on Low Carbon Transport:
Creation of Green Transport Corridors in Asia and the Pacific

Green Transport Strategies in Viet Nam

TDSI

VIỆN CHIẾN LƯỢC VÀ PHÁT TRIỂN GTVT
Transport Development and Strategy Institute






Roadmap to NetZero Transport in Viet Nam

Overall Objective: Developing a net zero green transport system in 2050



Specific Objectives

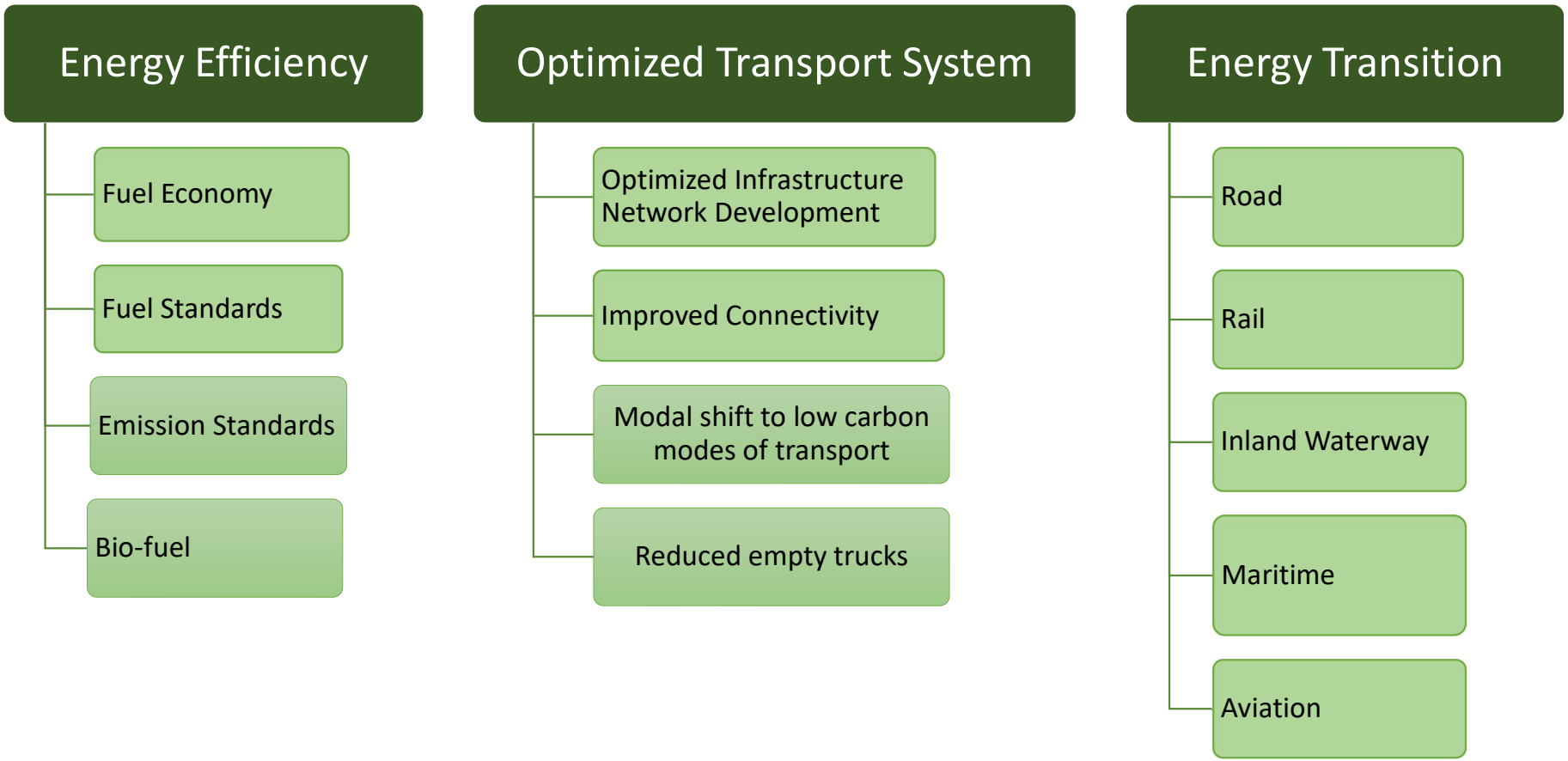
2030 — **Realizing NDC Commitments :**
- domestic resources: ⇩ 15.8% GHG
- international support: ⇩ 43.5% GHG

- **Improved energy efficiency**
- **Fasten electric or/and green energy transition**

2050 — **Net Zero Transport in 2050**

- **Optimized Transport Network**
- **Completed Switching Transport Fleets, Equipment and Infrastructure to Use Electric or/and Green Energy**

Ways to NetZero Transport in Viet Nam



Green Transport Strategies

Energy Efficiency

- **Fuel Economy**
  - Fuel Consumption Labeling: Since 2015, ICE Vehicles and EVs
  - Fuel Consumption Quota: Ongoing by MOT, scheduled from 2025
- **Fuel Standards**
  - Fuel Standards from 2023: Lead free gas, diesel, E5, E10, E100, B5, B100
- **Emission Standards**
  - Existing emission standards: New vehicles: Level 5 since 2022; Existing vehicles: Level 2; Imported used vehicles: Level 4
  - Revised emission standards: Ongoing by MOT, scheduled from 2025
- **Bio-fuel**
  - Revising Biofuel Roadmap: Ongoing by MOIT





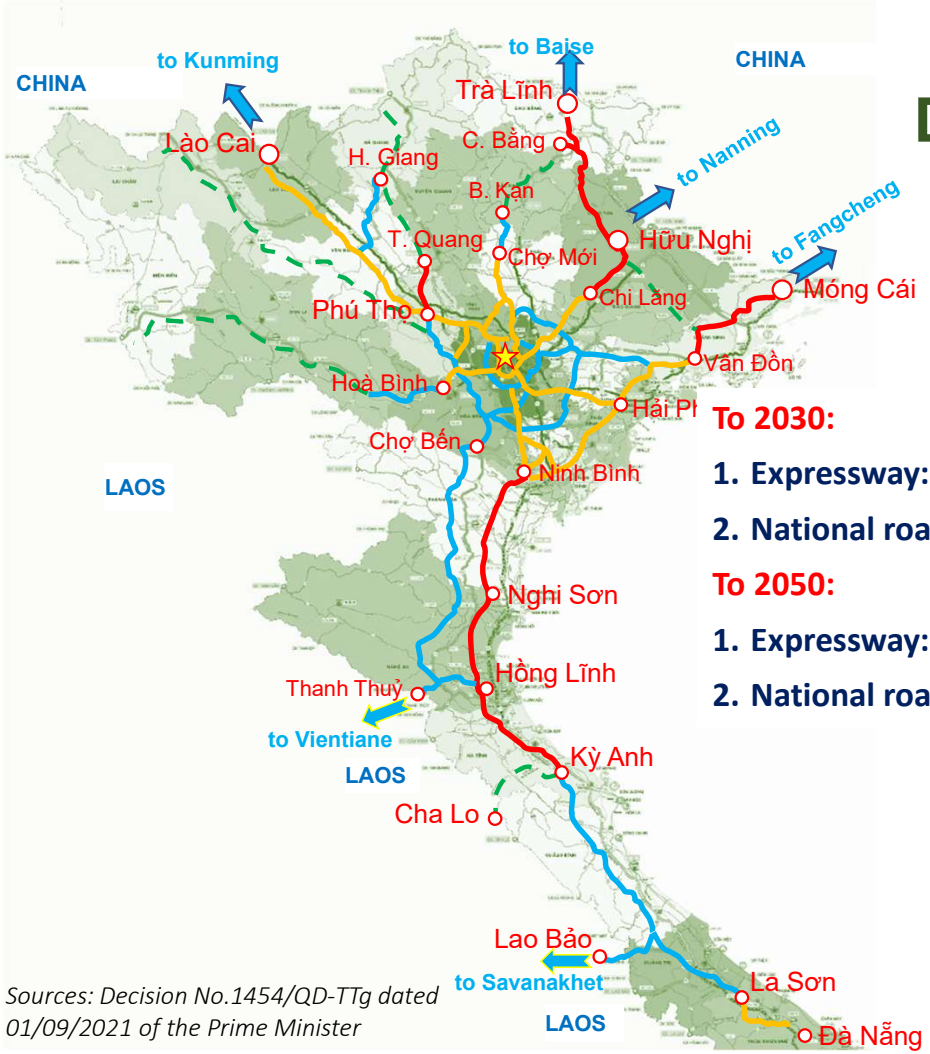
Green Transport Strategies

Optimized Transport System

- Optimized Infrastructure Network Development
- Improved Connectivity
- Modal shift to low carbon modes
- Reduced empty trucks



Road Network Development Planning



To 2030:

1. **Expressway: 26 routes/5,170 km**
2. **National road: 173 routes/29,854 km**

To 2050:

1. **Expressway: 9,014 km**
2. **National road: maintained**



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Sources: Decision No.1454/QD-TTg dated 01/09/2021 of the Prime Minister

Railway Network Development Planning

To2030: 16 lines/4,820km

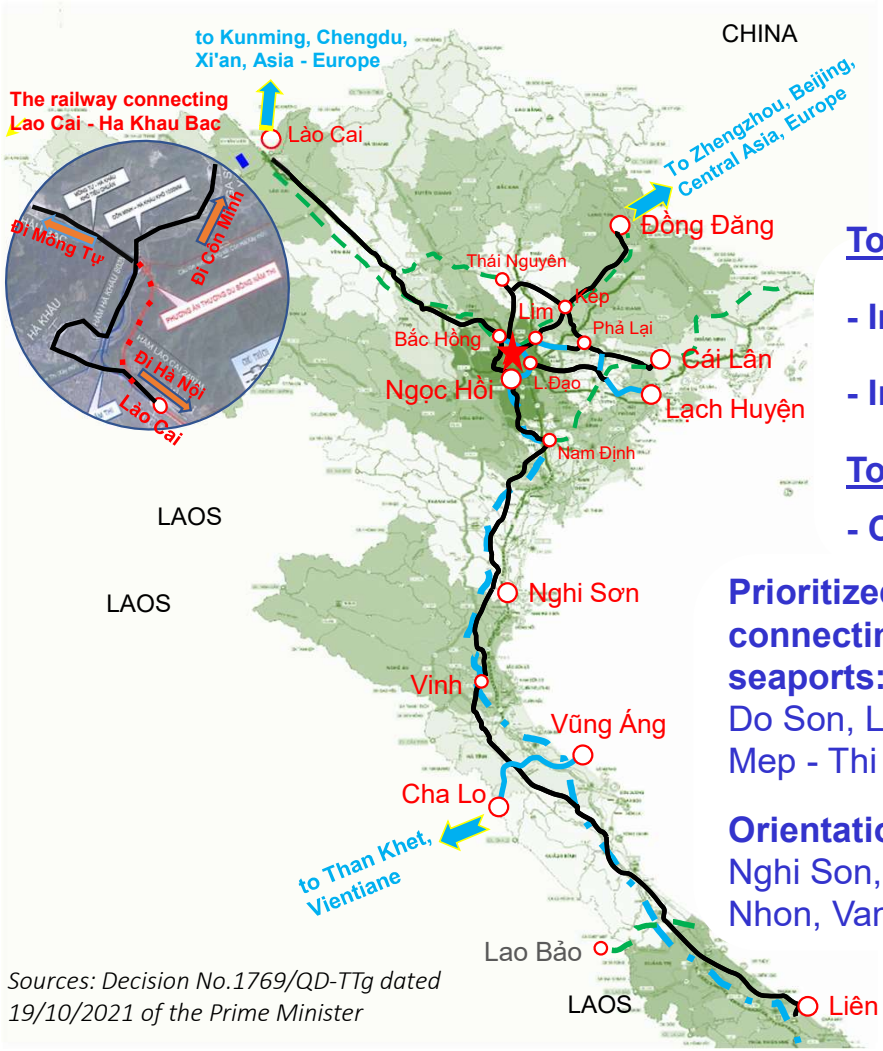
- **Improving existing network: 07 lines/2,440km**
- **Investing in new lines: 09 lines/2,362km**

To 2050: 25 lines/6,354km

- **Completion of the North-South HSR**

Prioritized development of lines connecting international gateway seaports: Hai Phong: Dinh Vu, Nam Do Son, Lach Huyen terminals; Cai Mep - Thi Vai

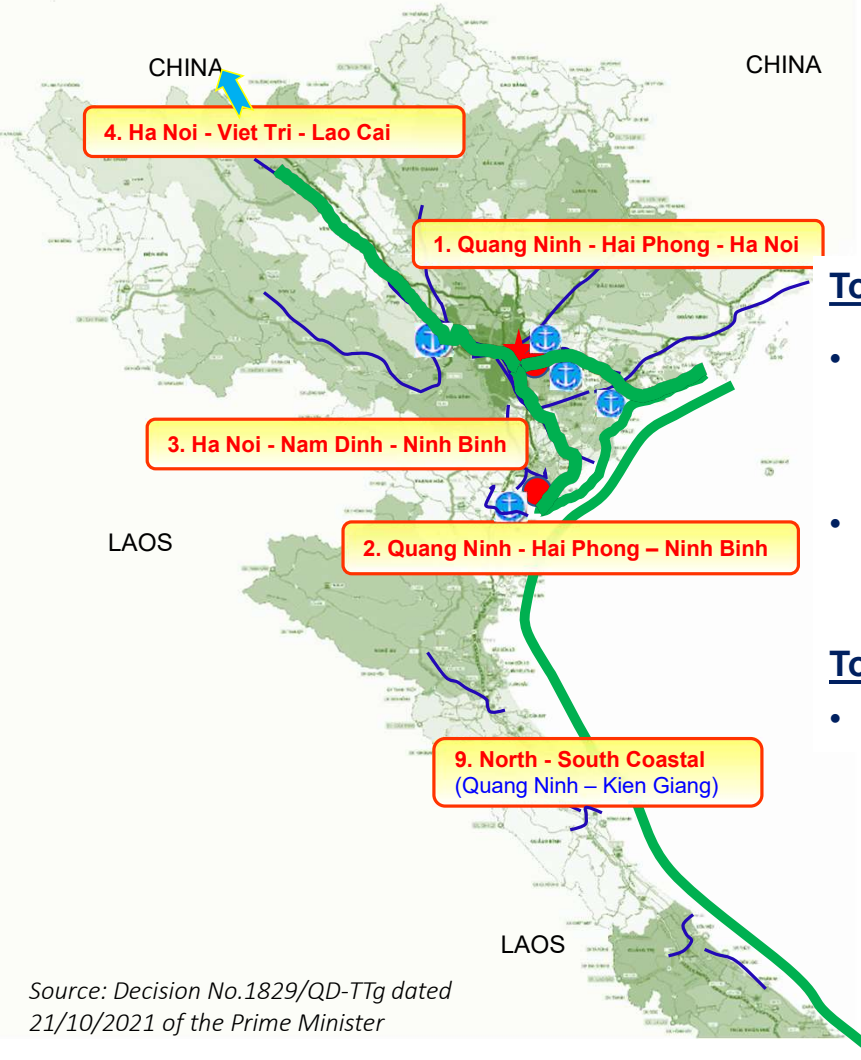
Orientation on connecting seaports: Nghi Son, Vung Ang, Lien Chieu, Quy Nhon, Van Phong, Hiep Phuoc, etc.





Sources: Decision No.1769/QD-TTg dated 19/10/2021 of the Prime Minister

Inland Waterway Network Development Planning



To 2030:

- **55** IWT routes, **60** cargo port clusters and **27** passenger port clusters
- Prioritized development of container routes and ports connecting seaports

To 2050:

- In-depth development



Source: Decision No.1829/QD-TTg dated 21/10/2021 of the Prime Minister

Seaport System Development Planning

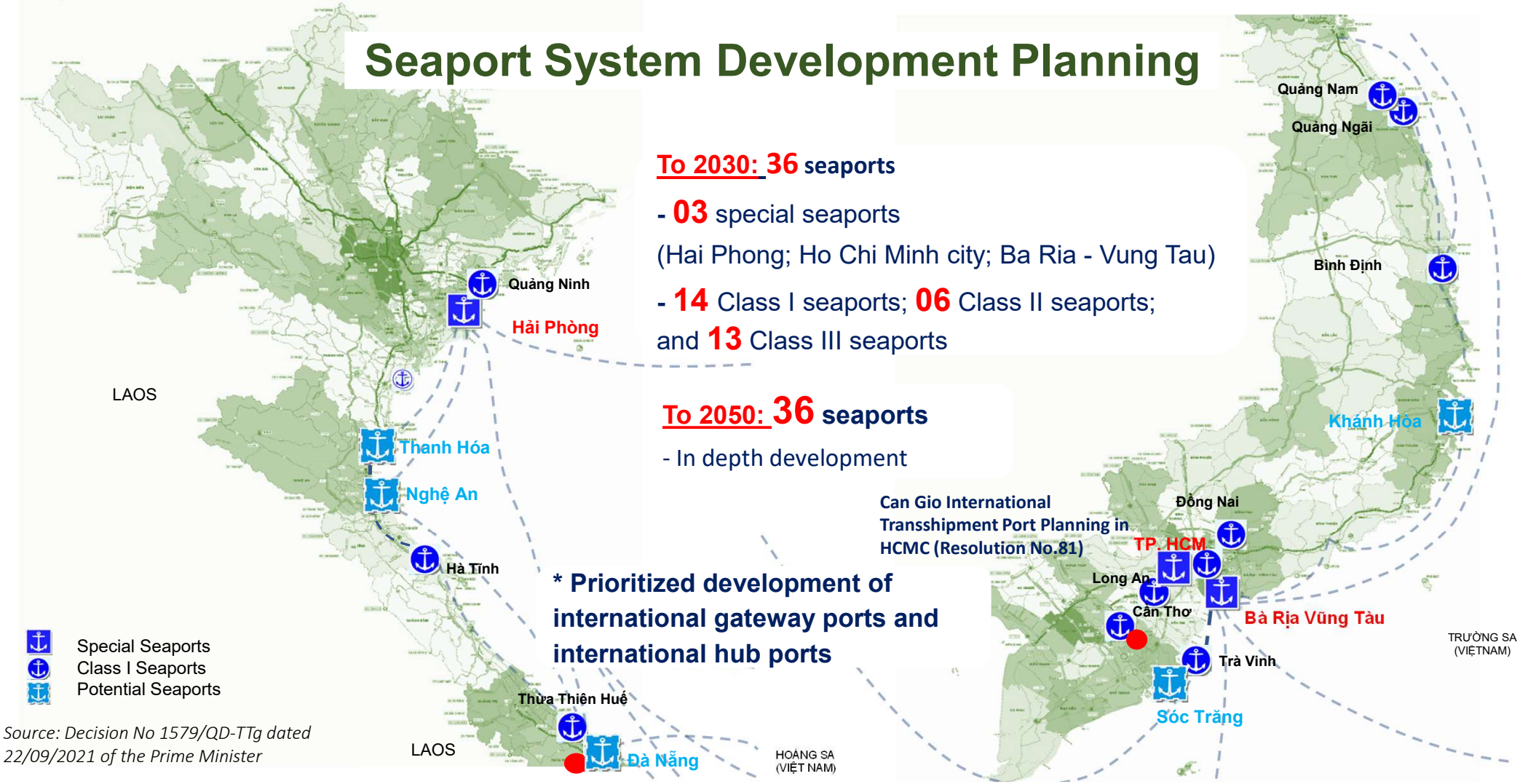
To 2030: 36 seaports

- **03** special seaports
(Hai Phong; Ho Chi Minh city; Ba Ria - Vung Tau)
- **14** Class I seaports; **06** Class II seaports;
and **13** Class III seaports

To 2050: 36 seaports

- In depth development

*** Prioritized development of international gateway ports and international hub ports**



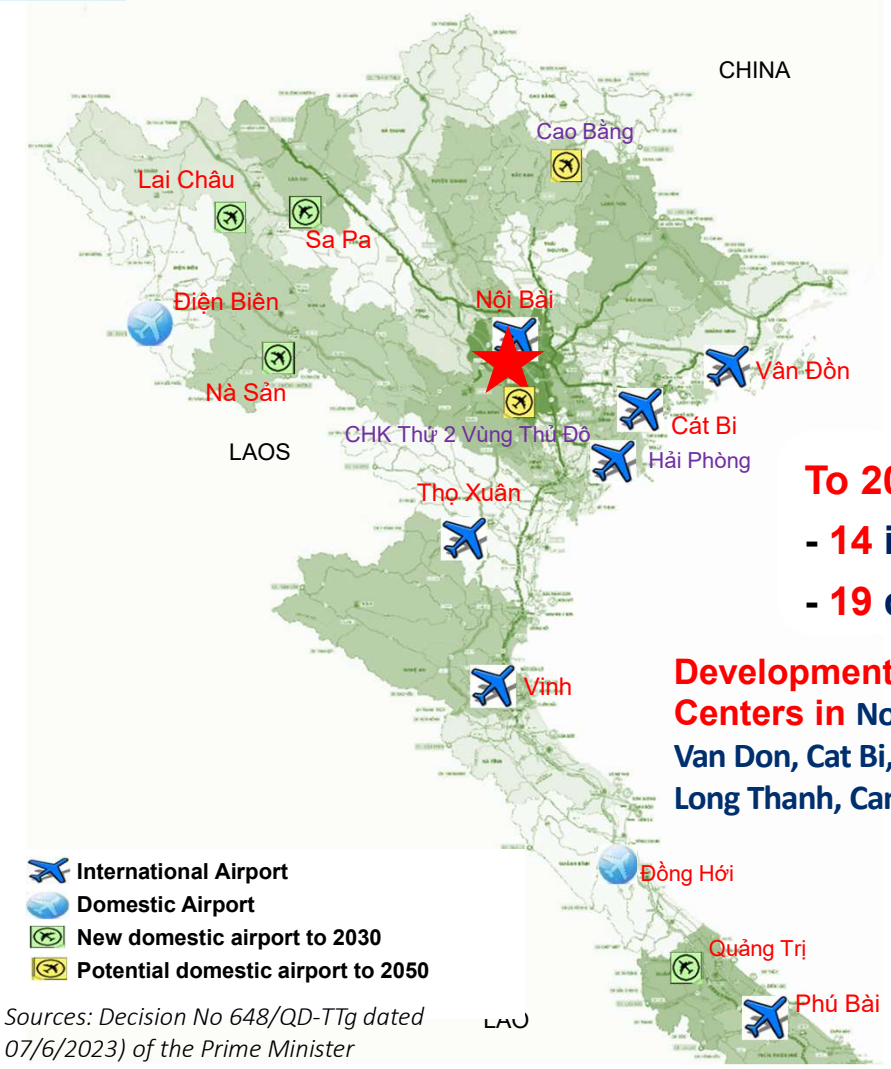
Source: Decision No 1579/QD-TTg dated 22/09/2021 of the Prime Minister

Airport Network Development Planning

To 2030: 30 airports
- **14 international airports**
- **16 domestic airports**

To 2050: 33 airports
- **14 international airports**
- **19 domestic airports**

Development of Air Logistics Centers in Noi Bai, Tan Son Nhat, Van Don, Cat Bi, Da Nang, Chu Lai, Long Thanh, Can Tho Airports





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Sources: Decision No 648/QD-TTg dated 07/6/2023) of the Prime Minister

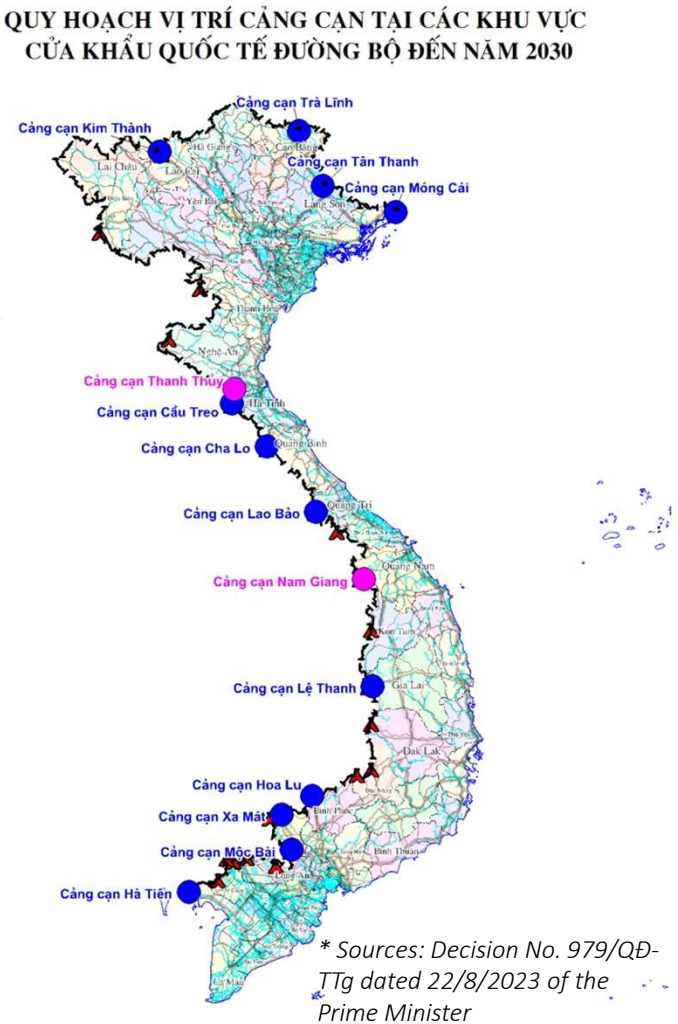
Dry Port Development Planning

- **Dry ports far from seaports**: 76 ports/clusters.
- **Dry ports near seaports**: 6 ports/ clusters, including Dinh Vu Cluster, Tuy Phuoc Cluster (Binh Dinh), dry ports in Ho Chi Minh City, Dong Nai, Binh Duong.
- **Dry ports at international land border gates**: 12 ports

- **Dry ports connecting inland waterway: 42 dry ports** (North: 18, South: 24)
- **Dry ports connecting railway: 3 dry ports** Hoa Lu (Binh Phuoc); Dong Pho Moi (Lao Cai), Sen Ho (Bac Giang)
- **Dry port connecting highway: 49** ports/clusters

Developing dry ports along Transport and economic corridors

1. Ha Noi- Hai Phong Corridor
2. Lang Son - Ha Noi - Hai Phong Corridor
3. Cao Bang - Ha Noi - Hai Phong Corridor
4. Lao Cai - Ha Noi - Hai Phong Corridor
5. Dien Bien - Ha Noi - Hai Phong Corridor
6. Northern Coastal Corridor (NH1 & NH10
7. NH8 Corridor
8. NH12A Corridor
9. NH9 Corridor
10. Da Nang, Hue, Quang Nam Eco Zone
11. NH19 Corridor
12. NH 29 Corridor
13. HCM Economic Zone (in belt 4)
14. Dac Nong - Binh Phuoc - HCMC Cor.
15. Tay Ninh - HCMC Corridor
16. Ca Mau - Can Tho - HCMC Corridor
17. HCMC - Vung Tau Corridor
18. Southern Coastal Corridor (NH1)
19. NH20 Corridor



** Sources: Decision No. 979/QĐ-TTg dated 22/8/2023 of the Prime Minister*

Green Transport Strategies

Energy Transition

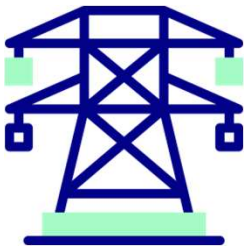
- Road
- Rail
- Inland Waterway
- Maritime
- Aviation





















Roadmap: Road Vehicle Fleets

2022

Vehicles

Expand E5 mixture and usage
Promote manufacturing, assembling and importing electric vehicles

Charging Infrastructure

Provide charging infrastructure over the country to accommodate the need of people and businesses

2030

Vehicles

100% sale and usage of E5
Step by step limit manufacturing, assembling and importing fossil vehicles

Charging Infrastructure

Provide charging infrastructure over the country to accommodate the need of people and businesses

2040

Vehicles

Stop manufacturing, assembling and importing fossil vehicles

Charging Infrastructure

Gradually complete developing charging infrastructure network over the country to accommodate the need of people and businesses

2050

Vehicles, Equipment

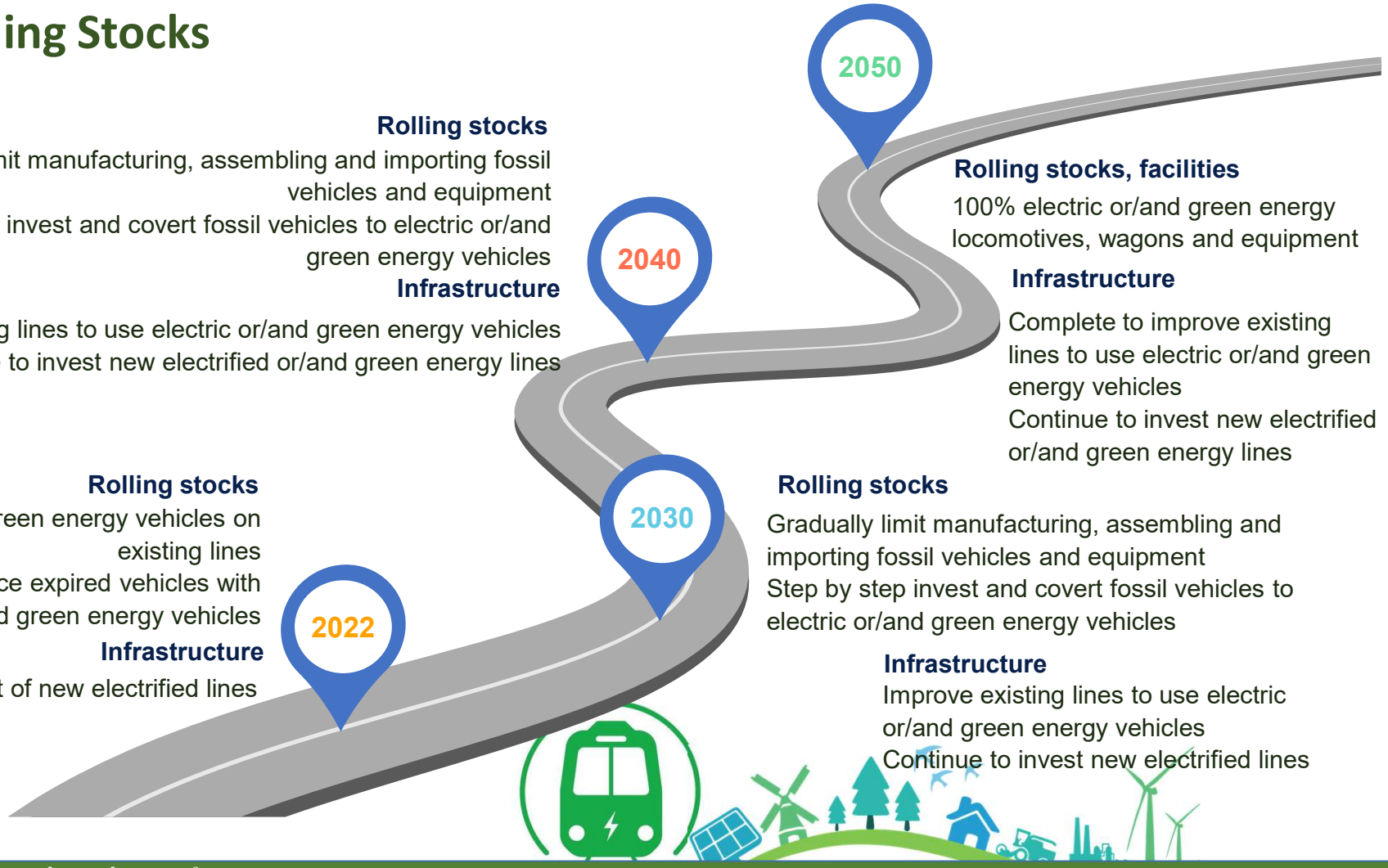
100% electric or/and green energy vehicles and equipment

Charging Infrastructure

Complete developing charging infrastructure network over the country to accommodate the need of people and businesses



Roadmap: Rolling Stocks



2022

Rolling stocks

Pilot test of electric or/and green energy vehicles on existing lines

Develop a roadmap to replace expired vehicles with electric or/and green energy vehicles

Infrastructure

Preparing the investment of new electrified lines

2030

Rolling stocks

Gradually limit manufacturing, assembling and importing fossil vehicles and equipment

Step by step invest and covert fossil vehicles to electric or/and green energy vehicles

Infrastructure

Improve existing lines to use electric or/and green energy vehicles

Continue to invest new electrified or/and green energy lines

2040

Rolling stocks

Gradually limit manufacturing, assembling and importing fossil vehicles and equipment

Step by step invest and covert fossil vehicles to electric or/and green energy vehicles

Infrastructure

Improve existing lines to use electric or/and green energy vehicles

Continue to invest new electrified lines

2050

Rolling stocks, facilities

100% electric or/and green energy locomotives, wagons and equipment

Infrastructure

Complete to improve existing lines to use electric or/and green energy vehicles

Continue to invest new electrified or/and green energy lines

Roadmap: Inland Waterway Fleets

2022

Vessels

Promote manufacturing, assembling and importing electric or/and green energy vessels

Ports and transport routes

Develop criteria for green ports and green routes as a basis for formulating mechanisms and policies to promote investing new green ports

Pilot test in some ports

Convert some routes to green routes

2030

Vessels

Continue to promote manufacturing, assembling and importing electric or/and green energy vessels

Ports

Promote investing new green ports

2040

Vessels

100% sale of new electric or/and green energy vessels

Ports and landing stages

100% of new ports applying green port criteria

Promote existing ports and landing stages applying green port criteria

2050

Vessels, Equipment

100% electric or/and green energy vehicles and equipment



Roadmap: Sea going Vessel Fleets

2022

Vessels and equipment

Promote Viet Nam's merchant fleet operating domestically to fully complying with MARPOL Convention (Annex VI) and IMO GHG Strategy

Promote electric or/and green energy vehicles and equipment or equivalent measures at new and existing ports

2030

Vessels and equipment

Viet Nam's merchant fleet operating domestically fully complies with MARPOL Convention (Annex VI) and IMO GHG Strategy

Invest electric or/and green energy vehicles and equipment or equivalent measures at new ports

2035

Vessels

New, converted and imported vessels use electric and green energy

2040

Vessels and equipment

Vehicles, equipment at existing ports and navigation aids use electric or/and green energy or equivalent measures

2050

Vessels and equipment

100% vessels operating domestically use electric and green energy

100% vehicles, equipment at existing ports and navigation aids use electric or/and green energy or equivalent measures



Roadmap: Aircraft Fleets

2022

Aircraft

Implement all potential measures to reduce CO2 emissions

2027

Fuels

Research the use of alternative fuels to supplement a part of aviation fuels

2030

Fuels

Complete the database system of energy use and fuel consumption of aviation enterprises

2035

Fuels

Use at least 10% of SAF for some short-distance flights

Vehicles, facilities at airports

100% new electric or/and green energy vehicles at airports

2040

Vehicles, facilities at airports

100% electric or/and green energy vehicles at airports

2050

Fuels

100% green energy and SAF aircraft to minimize GHG emissions

Depending on available technology and innovation, net zero achieved by carbon offset



Thank you very much!

Nguyen T P Hien, Vice President
ntphien.tdsi@mt.gov.vn

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