

THE PRIME MINISTER

No. 876/QĐ-TTg

THE SOCIALIST REPUBLIC OF VIETNAM

Independence - Freedom - Happiness

Hanoi, July 22, 2022

## DECISION

### Approving the Action Program on Green Energy Transition, Reduction of Carbon and Methane Emissions in the Transport Sector

THE PRIME MINISTER

*Pursuant to the Law on Organization of the Government dated June 19, 2015; Law Amending and Supplementing a Number of Articles of Law on Government Organization and Law on Organization of Local Governments dated November 22, 2019;*

*At the proposal of the Minister of Transport.*

#### DECIDES:

**Article 1.** To approve the Action Program on Green Energy Transition, Reduction of Carbon and Methane Emissions in the Transport Sector (hereinafter referred to as the Green Energy Transition Action Program) with the following contents:

#### I. CONTENT OF THE PROGRAM

##### 1. Viewpoints

- Green energy transition is the most fundamental and important task in the process of achieving the green growth goal, as well as fulfilling Vietnam's commitments at the 26<sup>th</sup> Conference of the Parties to the United Nations Framework Convention on Climate Change (COP26); it is also an opportunity for the transport sector to develop in a synchronized manner towards modernization and sustainability, keeping pace with global trends and advanced development levels.

- Green energy transition in the transport sector is based on a strong technological transformation, relying on modern institutions and governance, advanced science and technology, and high-quality human resources.

- The implementation of green energy transition in the transport sector must establish a rational roadmap, suitable for resource mobilization capabilities, ensuring feasibility, effectiveness, and sustainability through specific programs and action plans.

- To mobilize all resources to implement the green energy transition in the transportation sector. Promptly supplementing and amending institutions and policies to create a favorable environment for the reception of investment flows and advanced technologies; create motivation to mobilize the participation of the whole society as well as attracting foreign investment into the process of implementing the green energy transition in the transport sector.

- To strengthen international cooperation to implement the goal of green energy transition in the transport sector based on a global approach with the coordination of all countries, taking maximum advantage of international support and assistance.

## 2. Objectives

- a) Overall objectives: Developing a green transport system towards the goal of net-zero greenhouse gas emissions by 2050.

- b) Specific objectives

- By 2030: To improve energy efficiency, accelerate the transition to electricity and green energy in transport sectors that are ready in terms of technology, institutions, and resources to fulfill the commitments in the Nationally Determined Contributions (NDC) and Vietnam's methane emission reduction target.

- By 2050: To develop transport modes rationally, strongly implement the transition of all means, equipment, and transport infrastructure to use electricity and green energy, aiming for net greenhouse gas emissions to reach "0" by 2050.

## 3. Roadmap for Green Energy Transition

- a) Road

- In the 2022-2030 period:

- + To promote the manufacturing, assembly, import, and transition to using electric road motor vehicles; expand the blending and use of 100% E5 gasoline for road motor vehicles.

- + To develop charging infrastructure to meet the needs of people and businesses.

- + To encourage new and existing bus stations and rest stops to transition to green standards.

- In the 2031-2050 period

- + By 2040: Gradually restrict and move towards stopping the manufacturing, assembly, and import of fossil fuel-powered cars, motorcycles, and mopeds for domestic use.

- + By 2050: 100% of road motor vehicles and construction machinery participating in traffic will transition to using electricity and green energy, all bus stations and rest stops will meet green standards; all fossil fuel-powered loading and unloading machinery and equipment will transition to using electricity and green energy.

- + To complete the nationwide charging infrastructure and green energy supply to meet the needs of people and businesses.

#### b) Railway

- In the 2022-2030 period:

- + To research and pilot the use of electric and green energy-powered railway vehicles on existing railway lines. To invest in the construction of new railway lines oriented towards electrification.

- + To develop a plan and invest in a roadmap to replace old railway vehicles that have reached the end of their lifespan with those capable of transitioning to green energy electricity.

- + To encourage the transition of loading and unloading equipment at stations to electric and green energy-powered equipment.

- In the 2031-2050 period:

- + By 2040, gradually stop the manufacturing, assembly, and import of fossil fuel-powered railway vehicles and equipment. Gradually invest in new equipment and transition fossil fuel-powered railway vehicles to electricity and green energy.

- + By 2050: To transition 100% of railway locomotives and carriages to use electricity and green energy; transition 100% of fossil fuel-powered equipment at stations to electricity and green energy.

- + To renovate and upgrade the infrastructure of existing railway lines to fully meet the transition to electric and green energy-powered vehicles. Continue to invest in building new railway lines oriented towards electrification, using green energy.

#### c) Inland Waterways

- In the 2022-2030 period:

- + To encourage investment in new construction, import, and transition of inland waterway vehicles from using fossil fuels to using electricity and green energy.

- + To research and develop criteria for green ports and green transport routes as a basis for formulating mechanisms and policies to encourage new investment in green inland waterway ports. To pilot implementation at some

inland waterway ports; research and develop some waterway transport routes into green transport routes.

- In the 2031-2050 period

- + To continue to encourage investment in new construction, import, and transition of inland waterway vehicles from fossil fuels to electricity and green energy. To encourage new investment in inland waterway ports towards green development.

- + From 2040: 100% of newly built inland waterway vehicles will use electricity and green energy. 100% of newly built inland waterway ports will apply green port criteria; encourage existing inland waterway ports and terminals transition to applying green port criteria.

- + By 2050: 100% of fossil fuel-powered vehicles will transition to using electricity and green energy. 100% of equipment at inland waterway ports and terminals will transition to using electricity and green energy.

d) Maritime

- In the 2022-2030 period:

- + To encourage Vietnamese ships operating domestically to fully comply with MARPOL Annex VI regulations on energy efficiency and the International Maritime Organization (IMO) Strategy on Reduction of Greenhouse Gas Emissions from ships from 2025.

- + To encourage the transition of vehicles and equipment to using electricity and green energy, or equivalent measures at newly invested ports, additional investment ports, and existing ports.

- In the 2031-2050 period:

- + Vietnamese ships operating domestically to fully comply with MARPOL Annex VI regulations on energy efficiency and the IMO Strategy on Reduction of Greenhouse Gas Emissions from ships.

- + Newly built, converted, and imported ships after 2035 use electricity and green energy; from 2050, 100% of ships operating on domestic routes will transition to using electricity and green energy.

- + From 2031: To invest in vehicles and equipment using electricity and green energy, or equivalent measures at newly invested ports and additional investment ports.

- + From 2040: To implement the transition of vehicles and equipment at existing ports, and maritime signaling equipment to using electricity and green energy, or equivalent measures.

- + From 2050: All vehicles and equipment at ports, maritime signaling equipment will use electricity and green energy, or equivalent measures.

#### dd) Aviation

##### - In the 2022-2030 period:

+ To simultaneously implement all potential measures of the aviation sector to reduce CO<sub>2</sub> emissions. From 2027, research the use of alternative fuels to supplement a portion of aviation fuel.

+ By 2030, complete the database system on energy use and fuel consumption of aviation enterprises.

##### - In the 2031-2050 period:

+ From 2035: To use at least 10% sustainable fuel for some short flights; 100% of newly invested passenger vehicles and other vehicles in airports will use electricity and green energy.

+ From 2040: All vehicles operating in the airport area will use electricity and green energy (except for specific vehicles not yet use electricity energy).

+ From 2050: To transition to 100% green energy and sustainable aviation fuel for aircraft to minimize greenhouse gas emissions. Depending on technological conditions, the remaining emissions will be offset by carbon offsets to achieve net-zero emissions.

#### e) Urban Transport

##### - In the 2022-2030 period:

+ From 2025: 100% of newly replaced or invested buses will use electricity and green energy.

+ The share of public passenger transport in Hanoi will reach 45-50 percent; Ho Chi Minh City will reach 25 percent; Da Nang will reach 25–35 percent; Can Tho will reach 20 percent; Hai Phong will reach 10-15 percent; grade-I urban areas will reach at least 5%.

##### - In the 2031-2050 period:

+ From 2030: The proportion of vehicles using electricity and green energy will reaches at least 50%; 100% of newly replaced or invested taxis will use electricity and green energy.

+ By 2050: 100% of buses and taxis will use electricity and green energy.

+ The share of public passenger transport in special urban areas and grade-I urban areas will reach at least 40% and 10%, respectively.

#### 4. Tasks and solutions

##### a) Developing and completing institutions, policies, and planning

- To research, amend, and supplement the legal framework, first of all, specialized laws, integrating contents, regulations, and international

commitments related to green energy transition and greenhouse gas emission reduction; supplement, amend, and complete regulations on traffic participation conditions, business conditions, service life, registration, and inspection to gradually reduce the number and eventually completely eliminate fossil fuel-powered vehicles and equipment.

- To research, develop, amend, and complete the system of standards, technical guidelines, and norms related to the manufacturing, new construction, conversion, modification, import, management, operation, and exploitation of high energy efficiency vehicles and equipment using electricity and green energy.

- To develop and promulgate mechanisms and policies to encourage, support, and facilitate businesses to enhance their financial and technical capacity to invest in infrastructure, vehicles, equipment, and develop human resources to meet the innovation towards the transition to electricity and green energy, reduce greenhouse gas emissions, and participate in carbon credit exchange and offsetting.

- To research, adjust, and supplement national sectoral strategies and plans, specialized technical plans for transport and other related plans to ensure that investment orientation, construction, upgrade, operation, and exploitation of transport infrastructure are consistent and synchronized with investment and exploitation of vehicles and equipment using electricity and green energy, reducing greenhouse gas emissions.

#### b) Transitioning to using electricity and green energy

- Road motor vehicles

- + To develop a program for the transition to electricity and green energy for road vehicles.

- + To develop policies to encourage and support people and businesses to transition road vehicles from fossil fuels to electricity and green energy.

- Railway vehicles: To implement a program to transition railway locomotives and carriages from fossil fuels to electricity and green energy

- Inland waterway vehicles

- + To develop a program for the transition to electricity and green energy for inland waterway vehicles.

- + To develop policies to encourage and support people and businesses to transition inland waterway vehicles from fossil fuels to electricity and green energy.

- Domestic maritime vessels



- + To develop a program for the transition to electricity, green energy, or equivalent measures for vessels.

- + To develop policies to encourage and support businesses to transition vessels from fossil fuels to electricity and green energy.

- Aircraft

- + To develop a program for the transition to green energy and sustainable fuels for aircraft.

- + To develop policies to encourage and support businesses to transition aircraft from fossil fuels to green energy and sustainable fuels.

- c) Developing green transport infrastructure

- Road

- + To prioritize the completion of 5,000 km of expressways; basically complete interregional expressways, connecting international seaports and airports; conveniently connect national highways to seaports, international airports, major inland waterway ports, and railway hubs.

- + Plan and build: a system of electric charging stations and green energy supply stations on key national highway networks, expanding to the nationwide road network; electric charging station infrastructure and green energy supply stations for road motor vehicles at seaports, inland waterway ports, airports, bus stations, and railway stations.

- + To develop regulations and criteria for green bus stations and rest stops; develop policies to encourage the transition of bus stations and rest stops to meet green criteria.

- + To develop and implement a program to transition all bus stations and rest stops to green criteria.

- Railway

- + To build a North-South high-speed railway line; upgrade 7 existing railway lines; prioritize the construction of some railway lines connecting international seaport gateways, especially in Hai Phong and Ba Ria - Vung Tau; connect Ho Chi Minh City with Can Tho; continue investing in completing new railway lines at the Hanoi hub, Ho Chi Minh City hub, railways connecting seaports, industrial zones, economic zones, and connecting the Central Highlands provinces. Accelerate the investment and operation of urban railway lines according to approved master plans.

- + To renovate and upgrade the infrastructure of existing railway lines and stations to basically meet the transition of railway vehicles to electricity and green energy.

- + To pilot the construction of some new railway sections that meet the transition of railway vehicles to electricity and green energy, towards investing in the construction and development of all new railway lines oriented towards electrification to accommodate electricity and green energy for vehicles.

- + To develop regulations and criteria for green stations and implement a program to transition all railway stations to meet green criteria.

- Inland waterways

- + To renovate and upgrade main routes to meet 24/7 vessel operation; strive for a total length of approximately 5,000 km of synchronously exploited routes according to technical standards; develop a system of inland waterway ports and terminals, and gradually modernize major ports and specialized ports.

- + To develop and promulgate regulations and criteria for green inland waterway ports; implement and apply the green port model.

- + To plan and build infrastructure for electricity and green energy supply for vehicles and equipment at inland waterway ports.

- + To develop policies to encourage and support inland waterway port enterprises to transition to green energy.

- Maritime

- + To develop a synchronized, modern seaport system with high-quality services, prioritizing the development of Lach Huyen and Cai Mep international gateway ports; implement the green port development project.

- + To develop and promulgate regulations and criteria for green ports; implement and apply green port criteria at Vietnamese seaports.

- + To develop and promulgate mechanisms and policies to encourage and support investment in the development and transition of green ports.

- Aviation

- + To develop a system of airports that is rational, synchronous, and modern, prioritizing investment in some major airports such as Noi Bai, Tan Son Nhat, and Long Thanh; gradually upgrade and effectively exploit 22 existing airports, and invest in 06 new airports.

- + To plan and build infrastructure for electricity and green energy supply for aircraft, ground vehicles, and equipment at airports.

- + To develop regulations and criteria for green airports; develop and implement a program to transition airports to green airports.

- Urban transport

- + To plan and build infrastructure for electricity and green energy supply for vehicles in urban areas.



- + To accelerate the investment and operation of urban railway lines according to approved master plans; expand and develop infrastructure for public transport.

- + To develop non-motorized transport infrastructure and parking facilities that are reasonably connected to other public transport modes.

d) Enhancing energy efficiency and reducing greenhouse gas emissions

- To apply fuel consumption limits for road motor vehicles according to a roadmap, aiming to minimize fuel consumption and greenhouse gas emissions; establish regulations on energy efficiency for railway locomotives, carriages, inland waterway vehicles, ships, and aircraft operating on domestic routes.

- To organize transportation scientifically based on the rational development of transport modes; promote the shift of freight transport from road to rail, waterway, and coastal transport; strengthen the connection of transport modes combined with high-quality logistics services, reducing the empty running rate of vehicles, reducing cargo congestion in transport operations and the logistics supply chain; organize the management, operation, and effective exploitation of vehicles, equipment, and transport infrastructure.

- To gradually increase the market share of public passenger transport in urban areas; promote the transition from using personal vehicles to using public transport.

dd) Strengthening international cooperation, science and technology, human resource development, and communication

- International cooperation

- + To strengthen cooperation with international governments, organizations, and businesses to proactively participate in developing common international regulations and standards, receiving advanced technology transfer, and learning from experience in develop mechanisms, policies, applying scientific and technical advancements, technology, and training human resources related to green energy transition and greenhouse gas emission reduction in transport; research and apply carbon offset mechanisms.

- + To mobilize diverse financial support sources from global environmental funds, ODA and preferential foreign loans, foreign non-governmental aid, international commercial banks, and foreign direct investment, etc. in accordance with the law, ensuring the safety of public and foreign debt of the country.

- Science and technology

- + To research, develop, apply, and transfer technology for vehicles and equipment using electricity and green energy, green infrastructure, greenhouse gas emission reduction, and green energy supply; especially focus on supporting

technologies and industries for the development of vehicles and equipment using electricity and green energy.

- + To research and apply digital technology, digital transformation, artificial intelligence, and intelligent transport in the management and operation of transport sectors.

- Human resource development

- + To train, retrain, and upskill the existing workforce in the transportation sector to be ready to receive technology transfer, manage, exploit, and operate new vehicles and infrastructure that do not emit greenhouse gases.

- + To develop training programs and open new majors at universities, colleges, and vocational schools on vehicle technology, energy, and green infrastructure.

- To develop a communication plan and organize communication to people and businesses about the roadmap, policies, and benefits of transitioning vehicles and equipment to electricity and green energy.

## 5. Resources for implementation

To mobilize all domestic and international, public and private resources to implement tasks and solutions to reduce greenhouse gas emissions and transition to green energy in the transport sector to implement:

- Tasks of developing legal documents, institutions, and policies, etc., the implementation cost is mainly allocated from the state budget and other legal mobilization sources.

- Programs, tasks, and projects on green technology transfer and greenhouse gas emission reduction, maximizing the mobilization of international support and climate finance funds.

- Projects for developing green transport infrastructure mobilize resources from the state budget, international support, private investment, and public-private partnerships, etc.

- New investments and investments for transitioning vehicles and transport equipment to use electricity and green energy mobilize international support, climate finance funds, socialization, businesses, and people.

6. The list of tasks of the Green Energy Transition Action Program is attached in the Appendix

## Article 2. Organization of implementation

1. The Ministry of Transport: shall preside over the development and completion of institutions and policies related to improving energy efficiency, transitioning to using electricity and green energy for vehicles, equipment, and green transport infrastructure; invest in developing transport infrastructure

systems according to planning; develop human resources ready to receive technology transfer, manage, exploit, and operate new technologies for vehicles, equipment, and green infrastructure; mobilize domestic and international resources, developing and implementing communication plans and other tasks to implement the Green Energy Transition Action Program; organize the evaluation of implementation results in the transportation sector and reporting to the Prime Minister.

2. The Ministry of Planning and Investment: shall preside over the development of mechanisms and policies to encourage investment and support related to green energy transition and greenhouse gas emission reduction for road, railway, inland waterway, maritime, and aviation transport; complete investment policies and attract investment to develop electric charging systems and green energy supply infrastructure for vehicles using electricity and green energy.

3. The Ministry of Industry and Trade: shall preside over the development of the industry for manufacturing vehicles and equipment using electricity and green energy; produce and supply electricity and green energy to replace fossil fuels to meet domestic demand; expand the blending and supply of biofuels; develop electric charging systems and green energy for vehicles.

4. The Ministry of Finance: shall preside over the development, review, and completion of preferential policies to support the manufacturing, assembly, and import of vehicles and equipment using electricity and green energy; preferential policies to support transport businesses to invest in and transition their fleets to electricity and green energy, and green transport infrastructure.

5. The Ministry of Construction: shall preside over the completion of policies prioritizing the development of urban transport infrastructure for vehicles using electricity and green energy and non-motorized transport; review and promulgate regulations and standards for urban road design with dedicated lanes for bicycles and electric bicycles.

6. People's Committees of provinces, and centrally run cities: shall preside over the development of public transport systems using electricity and green energy, and the development of non-motorized transport at the local level.

**Article 3.** This Decision takes effect from the date of signing.

**Article 4.** Ministers, heads of ministerial-level agencies, heads of government-attached agencies, chairpersons of provincial-level People's Committees, and related agencies and organizations shall implement this Decree./.

**FOR THE PRIME MINISTER**

**THE DEPUTY PRIME MINISTER**

**Le Van Thanh**

*\* All Appendices are not translated herein.*

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