THE PRIME MINISTER OF VIETNAM

THE SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness

No.: 942/QD-TTg

Hanoi, August 05, 2022

DECISION

APPROVING ACTION PLAN FOR METHANE EMISSIONS REDUCTION BY 2030

THE PRIME MINISTER OF VIETNAM

Pursuant to the Law on Government Organization dated June 19, 2015; the Law on Amendments to the Law on Government Organization and the Law on Local Government Organization dated November 22, 2019;

Pursuant to the Government's Resolution No. 01/NQ-CP dated January 08, 2022 on main tasks and solutions for implementing the social - economic development plan and the State budget estimate in 2022;

At the request of the Minister of Natural Resources and Environment of Vietnam;

HEREBY DECIDES:

Article 1. The Action Plan for Methane Emissions Reduction by 2030 (hereinafter referred to as the "Plan") is hereby given approval. The Plan, inter alia, includes the following primary contents:

1. Objectives

a) General objectives:

Make national efforts to reduce overall methane emissions from cultivation, animal husbandry, solid waste management, wastewater treatment, oil and gas extraction, coal mining and fossil fuel consumption, by at least 30% below 2020 level by 2030.

b) Specific objectives:

- By 2025, overall methane emissions are expected to not exceed 96.4 million metric tons of CO₂ equivalent (CO₂e), or to reduce by 13.34% below 2020 level. In which, methane emissions, measured in CO₂e, are expected to not exceed 42.2 metric tons from cultivation, 16.8 metric tons from animal husbandry, 21.9 metric tons from solid waste management and wastewater treatment, 10.6 metric tons from oil and gas extraction, 3.5 metric tons from coal mining, and 1.3 metric tons from fossil fuel consumption.

- By 2030, overall methane emissions are expected to not exceed 77.9 million metric tons of CO₂e, or to reduce by at least 30% below 2020 level. In which, methane emissions, measured in CO₂e, are expected to not exceed 30.7 metric tons from cultivation, 15.2 metric tons from animal husbandry, 17.5 metric tons from solid waste management and wastewater treatment, 8.1 metric tons from oil and gas extraction, 2.0 metric tons from coal mining, and 0.8 metric tons from fossil fuel consumption.

2. Viewpoints

a) Methane emissions reduction aims to implement the Global Methane Pledge in conformity with Vietnam's socioeconomic conditions; is the basis for technological innovation and improvement of efficiency in production which will ensure sustainable livelihoods; management, extraction and sustainable use of natural resources and energy efficiency; environmental protection and promotion of circular economy.

b) Methane emissions reduction must be made on the basis of cost-benefit analysis according to a set forth roadmap that ensures legitimate rights and benefits of both institutional and individual entities and promotes innovations serving Vietnam's sustainable socioeconomic development.

c) Methane emissions reduction is not only the responsibility of emissions source owners but also that of regulatory authorities with the public participation and supervision as well as active and increased international cooperation.

3. Tasks and solutions

a) Formulate and revise mechanisms and policies

- Formulate and implement the detailed plan for methane emissions reduction from cultivation, animal husbandry, solid waste management and wastewater treatment, oil and gas extraction, and coal mining; include the methane emissions reduction task in climate change response strategy, master plan or plan, national green growth plan, sectoral and provincial master plans.

- Formulate and implement regulations on highest-level methane inventories according to guidelines given by the Intergovernmental Panel on Climate Change with respect to primary sources of methane emissions; formulate national standards, national technical regulations and technical guidelines on reduction of methane emissions from cultivation, animal husbandry, solid waste management and wastewater treatment, oil and gas extraction, coal mining, and fossil fuel consumption.

- Formulate and implement mechanisms, policies and financial instruments for encouraging application of clean technologies, methane capture and use technologies, and facilitating the participation by people, enterprise, communities, domestic and foreign organizations to reduce methane emissions in various sectors. - Formulate law regulations, mechanisms and policies for management of carbon credits, and exchange of greenhouse gas emission quotas for carbon credits obtained from methane emissions reduction, and encouraging methane emissions source owners to engage in domestic and international carbon markets.

- Formulate and revise mechanisms and policies for encouraging energy transition from fossil fuels to clean and renewable energy.

b) Implement measures for reducing methane emissions from cultivation and animal husbandry

- Make investment in small-scale and inter-field irrigation works or facilities that meet advanced, modern, synchronous and

- Develop the rotational rice – shrimp farming model and convert from flooded rice paddy to upland crops with higher economic efficiency in conformity with specific conditions of each province; adjust crop structure, farming seasons, processes and techniques in order to improve economic efficiency and reduce methane emissions.

- Terminate burning of agricultural waste and by-products by means of innovation and development in a large scale processes and technologies for collection, classification, treatment, recycling, circulating and repurposing of agricultural waste and by-products in order to enhance economic values, convert from carbon stored in plant biomass to sustainable carbon and clean energy, and increase soil-based carbon sequestration and thus reduce methane emissions.

- Change, improve and use appropriate preparations in food serving sizes in order to increase productivity and economic values in livestock breeding and reduce methane emissions; carry out crossbreeding and improve domestic livestock breeds using foreign high-yielding breeds in order to improve productivity and efficiency in animal husbandry; effectively develop biogas model and apply technologies to production of organic fertilizers using waste from animal husbandry; recover and use methane emissions generated from breeding waste treatment for livestock breeding and electricity generation.

c) Implement measures for reducing methane emissions from waste management and wastewater treatment

- Formulate, revise and synchronously apply processes, regulations, guidelines and models for collection, transport, classification, reuse, recycling and treatment of solid waste; include contents of regional and provincial waste management plans in national master plans for environmental protection, regional and provincial master plans.

- Build and upgrade infrastructure facilities, and make investment in equipment to meet solid waste classification, collection, storage, reuse, recycling, transport and treatment requirements in accordance with regulations of law and in conformity with specific

characteristics of residential areas, urban areas and rural areas as well as natural, socioeconomic conditions of each province.

- Select and widely apply advanced and modern waste treatment technologies; technologies for waste treatment associated with energy recovery, compost production, production of pellet fuels, landfill methane recovery, and waste-to-energy generation; technologies for recovery of methane emissions from industrial wastewater treatment; biotechnologies for removing methane from domestic wastewater treatment; effectively treat sewage sludge from concentrated wastewater treatment plants adopting anaerobic digestion method associated with methane recovery.

- Minimize discharge of waste into the environment in order to reduce methane emissions by means of development of biomass energy, waste-to-energy generation, organic fertilizer production and consumption of recycled and reusable products.

d) Implement measures for reducing methane emissions from oil and gas extraction and processing, coal mining and fossil fuel consumption

- Formulate and promulgate mechanisms and policies for encouraging activities to collect associated gas from oil extraction operations, especially small-scale and marginal oil fields.

- Invest in installation of incident detection equipment and implement measures for preventing and remedying leaks during petroleum exploration and extraction; installation of equipment to recover associated gas and methane from gas processing and petrochemical refining; upgrade and replace old and obsolete equipment used in oil and gas extraction, supply and processing for reducing methane emissions.

- Study and adopt drilling solutions for methane drainage and recovery before and during underground coal mining operations at new mine areas and expanded mine areas, and pilot such solutions at coal mining areas of Quang Ninh Province as the basis for assessment and application in a national scale.

- Invest in installation and operation of automatic systems for monitoring and management of energy consumption and energy-saving equipment in coal mining and processing technological lines.

- Use energy in a thrift and efficient manner, and promote the use of clean and renewable energy in order to reduce greenhouse gas emissions, including methane emissions, by means of optimizing energy consumption in industrial processes, service provision, transport and other activities that use energy; renovating, upgrading and replacing obsolete equipment, technologies and vehicles that use a lot of energy.

dd) Do scientific research and technological development

- Step up scientific research and technological development, as well as application of advanced technologies in order to improve productivity and efficiency in cultivation, animal husbandry, solid waste management, wastewater treatment, coal mining, oil and gas extraction, and fossil fuel consumption in industrial sectors, and thus reduce methane emissions.

- Organize scientific research activities, apply and receive transfer of technologies used for emissions inventory, monitoring, evaluation and forecasting; recovery and efficient use of methane emissions in each economic sector or area.

- Receive transfer of advanced technologies and high technologies to reduce methane emissions; focus on spreading of information on application of advanced technologies and high technologies from foreign-invested enterprises to domestic enterprises; promote innovation in reducing methane emissions.

- Study on formulating national methane emissions factors which shall be used for inventory of greenhouse gas emissions from cultivation, animal husbandry, solid waste management and wastewater treatment, coal mining, oil and gas extraction and processing.

- Study on application of digital transformation to monitoring and supervision of emissions, recovery and use of methane emissions from cultivation, animal husbandry, solid waste management and wastewater treatment, coal mining, oil and gas extraction and processing, and fossil fuel consumption.

e) Promote information dissemination, education and increase of capacity and awareness

- Formulate and implement plans for dissemination of information and increase of awareness of enterprises and communities about responsibilities and benefits of methane emissions reduction; promote changes in consumer behavior and green production; burden enterprises and communities with responsibility for recyclable and reusable waste.

- Carry out labeling and origin tracing for agricultural products, organic fertilizers, and recycled or reused products which are produced adopting low-methane technologies in order to increase their values, competitiveness and market access.

- Provide training and activities to increase awareness of professional and managerial officials at all levels about methane emissions reduction; provide to farmers, through agricultural extension programs, training in efficiency and benefits of low-methane farming and breeding models, and methods for treatment of agricultural waste and by-products in order to reduce methane emissions.

- Establish a system for exchange and sharing of information and experience in developing, transferring and applying methane emissions reduction technologies between provinces and industries.

g) Intensify bilateral and multilateral cooperation and mobilization of resources

- Attract international resources and intensify cooperation in research and exchange of experience with foreign countries and international organizations in formulating and promulgating technical regulations and guidelines, and implementing methane emissions reduction.

- Implement programs and projects on international cooperation or cooperation between governments and enterprises, and among enterprises in investment in infrastructure facilities, financial support, technology transfer, and increase of capacity for reducing methane emissions from cultivation, animal husbandry, solid waste management and wastewater treatment, coal mining, oil and gas extraction, and fossil fuel consumption.

- Support existing international methane emissions reduction initiatives; mobilize other countries to join the Global Methane Pledge.

h) Perform supervision and assessment tasks

- Carry out annual assessment of methane emissions from cultivation, animal husbandry, solid waste management and wastewater treatment, coal mining, oil and gas extraction and processing, and fossil fuel consumption; consolidate and assess methane emissions reduction results nationwide.

- Revise and implement regulations on measurement, reporting, appraisal and inspection of implementation of methane emissions reduction tasks in a manner that ensures the transparency of the Plan implementation results and is conformable with Vietnam's specific conditions as well as the Global Methane Pledge.

- Mobilize the participation of communities in emissions supervision and performance of methane emissions reduction activities.

4. Priority programs and tasks

The list of priority programs and tasks for implementing the Plan is enclosed with this Decision.

5. Resources for implementation

a) Funding for implementing the Plan is derived from state budget in accordance with regulations of law in force, funds of enterprises and private sector entities, organizations and individuals, and other lawful funding sources as prescribed. Mobilization of cooperation and assistance from international organizations, partners, domestic and international funds and financial institutions, and private sector investments in methane emissions reduction activities are encouraged.

b) Funds derived from state budget for covering expenses incurred from the implementation of the Plan shall be managed and spent in accordance with regulations of the Law on state budget and relevant laws.

6. Implementation

a) The Ministry of Natural Resources and Environment of Vietnam shall:

- play the leading role and cooperate with relevant ministries, regulatory authorities and provincial People's Committees in organizing the implementation of this Plan; monitoring and assessing the annual implementation status, promptly reporting and providing advice for the Prime Minister of Vietnam on solutions for dealing with difficulties encountered by central and provincial governments during the implementation of this Plan in order to achieve the objectives set out herein and implement the Global Methane Pledge.

- play the leading role in formulating and implementing the plan for reduction of methane emissions from solid waste management and wastewater treatment by 2030.

- cooperate with the Ministry of Planning and Investment of Vietnam, the Ministry of Finance of Vietnam and relevant ministries and regulatory authorities in formulating mechanisms and policies for supporting and attracting investments; encouraging participation by enterprises and communities in methane emissions reduction activities.

- direct and instruct provincial People's Committees to combine or integrate methane emissions reduction tasks in their plans or master plans.

b) The Ministry of Agriculture and Rural Development of Vietnam shall:

- play the leading role in formulating and implementing the plan for reduction of methane emissions from cultivation and animal husbandry by 2030.

- perform activities to develop low-emissions, ecological, organic, circular and ecofriendly agricultural production; control quality and apply advanced technologies and biotechnologies to low-emissions production of biological preparations for use as animal feed ingredients; develop technologies for treatment of waste from animal husbandry associated with organic fertilizer production.

- Submit annual reports on performance of methane emissions reduction tasks in agricultural production; submit reports on assessment of methane emissions of the year preceding the reporting year to the Ministry of Natural Resources and Environment of Vietnam by November 15 of each year for consolidation.

c) The Ministry of Industry and Trade of Vietnam shall:

- play the leading role in formulating and implementing the plan for reduction of methane emissions from coal mining, oil and gas extraction and processing, and fossil fuel consumption by 2030.

- provide instructions and assistance for implementing measures for controlling methane emissions from coal mining, oil and gas extraction and processing, and fossil fuel consumption; applying methane recovery and use solutions in conformity with Vietnam's specific conditions in order to make the best use of materials and fuels, increase the safety and economic values of coal mining, oil and gas extraction and processing operations.

- submit annual reports on performance of methane emissions reduction tasks in coal mining, oil and gas extraction and processing, and fossil fuel consumption; submit reports on assessment of methane emissions of the year preceding the reporting year to the Ministry of Natural Resources and Environment of Vietnam by November 15 of each year for consolidation.

d) The Ministry of Science and Technology of Vietnam shall:

play the leading role in organizing efficient performance of national-level scientific research, technological development and application tasks according to orders placed by ministries, regulatory authorities and provincial governments with the aim of reducing methane emissions according to the approved roadmap.

dd) The Ministry of Finance of Vietnam shall:

- play the leading role in reviewing, formulating and instructing the implementation of incentive and support policies for methane emissions reduction.

- balance and allocate annual funding to ministries and central government authorities for performing tasks and programs of this Plan in accordance with regulations of the Law on state budget and relevant laws.

e) The Ministry of Planning and Investment shall:

- Develop the plan for balancing and allocation of funding derived from the centralgovernment budget for covering investment and development expenses for covering costs of investment in construction and upgrading of infrastructure facilities and equipment for methane emissions reduction, and submit it to the competent authority for approval in accordance with regulations of the Law on public investment and relevant laws.

- play the leading role and cooperate with relevant ministries, central-government authorities and provincial governments in determining off-budget funding for performing contents of this Plan. g) Ministries, regulatory authorities and provincial People's Committees shall, based on contents and specific tasks of this Plan, formulate and implement schemes, projects and/or tasks for implementing this Plan as prescribed; combine and integrate greenhouse gas and methane emissions reduction tasks in their development plans or master plans; intensify inspection of compliance with regulations of law on environmental protection and climate change response by production plants that generate methane; improve capacity for managing greenhouse gas emissions reduction; disseminate information on and implement the Plan; submit annual reports on the Plan implementation results to the Ministry of Natural Resources and Environment of Vietnam for consolidation.

h) Provincial People's Committees shall request People's Councils of the same level to allocate funds for implementing the Plan in accordance with regulations of the Law on state budget, the Law on public investment and relevant laws.

i) Petrovietnam and Vinacomin shall make investment in equipment and provide technical training for efficiently reducing methane emissions from their oil and gas extraction and processing, and coal mining operations.

k) Production plants shall comply with regulations on control of methane emissions from their production operations; proactively improve capacity, renovate and innovate production processes and equipment, and emissions treatment equipment for reducing methane emissions from their production operations;

1) Vietnamese Fatherland Front, socio-political organizations, socio-professional organizations, and enterprises shall, within the ambit of their assigned functions and tasks, proactively participate in methane emissions reduction activities, propose initiatives for promoting methane emissions reduction; actively cooperate with ministries, regulatory authorities and provincial governments in implementing, supervising and assessing the implementation of this Plan.

Article 2. This Decision comes into force from the date on which it is signed.

Article 3. Ministers, heads of ministerial agencies, heads of Governmental agencies, chairpersons of provincial People's Committees and heads of relevant agencies and units are responsible for the implementation of this Decision.

PP. PRIME MINISTER DEPUTY PRIME MINISTER

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