SOCIALIST REPUBLIC OF VIET NAM

RESOURCE MOBILISATION PLAN

IMPLEMENTING VIET NAM'S JUST ENERGY TRANSITION PARTNERSHIP (JETP)

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ASEAN	Association of South-East Asian Nations
AAC	(Global) Adaptation Action Coalition
ACT	Accelerating Coal Transition (investment program of CIF)
ADB	Asian Development Bank
APV	agriculture-Photovoltaic
BAU	Business-as-Usual
BESS	Battery Energy Storage System
BOT	Build Operate Transfer
CCS	Carbon Capture and Storage
CCUS	Carbon Capture, Use and Storage
CFPP	Coal-Fired Power Plant
CIF	Climate Investment Funds
CIPP	Comprehensive Investment and Policy Plan (Indonesia)
CMSCaE	Committee for Management of State Capital at Enterprises
COP	Conference of Parties
COP26	The 26th Conference of Parties under the UNFCCC
CP	Country Platform (Indonesia)
CPEIR	Climate Public Expenditure and Investment Review
CSP	Concentrated Solar Power
DFIs	Development Finance Institutions ("Specialised development banks or subsidiaries set up to support private sector development in developing countries. They are usually majority-owned by national governments and source their capital from national or international development funds or benefit from government guarantees"[1])
DPPA	Direct Power Purchase Agreement

1 https://www.oecd.org/development/development-finance-institutions-private-sector-development.htm

DPs	Development Partners
DSM	Demand-Side Management
EE	Energy Efficiency
EPC	Engineering, Procurement and Construction
ESCO	Energy Service Company
ETS	Emissions Trade System
EU	European Union
EV	Electrical Vehicle
FDI	Foreign Direct Investment
FiTs	Feed-in-Tariffs
G7	Grouping of industrialised countries (Canada, France, Germany, Italy, Japan, UK, USA, with the European Union)
GBP	British Pound sterling
GDP	Gross Domestic Product
GFANZ	Glasgow Financial Alliance for Net Zero (of large private sector financial institutions including Bank of America, Citi Bank, Deutsche Bank, HSBC, Macquarie Group, Mizuho, MUFG, Prudential PLC, Shinhan, SMBC, and Standard Chartered)
GHG	Greenhouse Gas
GMP	Global Methane Pledge
GSO	General Statistics Office
H_2	Hydrogen
ICE	Internal Combustion Engine
IFC	International Finance Corporation (member of WBG)
IFIs	International Financial Institutions (including multilateral, regional and bilateral development banks and DFIs; excluding private banks such as GFANZ members)[2]

2 https://en.wikipedia.org/wiki/International_financial_institutions#:~:text=An%20international%20financial%20institution%20(IFI,is%20subject%20to%20international%20law

ILO	International Labour Organization
IMO	International Maritime Organization
INDC	Intended Nationally Determined Contribution
IP	Investment Plan
IPCC	Intergovernmental Panel on Climate Change
IPG	International Partners Group
IPP	Independent Power Producer
IPRs	Intellectual Property Rights
IPT	Independent Power Transmission
IRENA	International Renewable Energy Agency
ISA	International Solar Alliance
JET	Just Energy Transition
JETP	Just Energy Transition Partnership
LNG	Liquefied Natural Gas
MARD	Ministry of Agriculture and Rural Development
MDBs	Multilateral Development Banks
MFIs	Multilateral Financial Institutions (e.g. World Bank, Asia Development Bank)
MOC	Ministry of Construction
MOF	Ministry of Finance
MOFA	Ministry of Foreign Affairs
MOIT	Ministry of Industry and Trade
MOJ	Ministry of Justice
MOLISA	Ministry of Labour, war Invalids and Social Affairs
MONRE	Ministry of Natural Resources and Environment
MOST	Ministry of Science and Technology

MOT	Ministry of Transport
MPI	Ministry of Planning and Investment
MPS	Ministry of Public Security
MSME	Micro, Small and Medium Enterprises
mTOE	million tonnes of oil equivalent
$MtCO_2eq$	Mega tonne carbon dioxide equivalent
NCCS	National Climate Change Strategy to 2050
NDC	Nationally Determined Contribution
NGGS	National Green Growth Strategy
NPT	National Power Transmission Corporation (under EVN)
ODA	Official Development Assistance
PA	Paris Agreement
PD	Political Declaration
PDP8	Power Development Plan 8 – "national Power Development Planning VIII for the period 2021-2030 with a vision to 2050"
PPA	Power Purchase Agreement
PPP	Public-Private Partnership
PSHP	Pumped Storage Hydropower
R&D	Research and Development
RE	Renewable Energy
RMP	Resource Mobilisation Plan
SBV	State Bank of Viet Nam
SCADA	Supervisory Control and Data Acquisition (used in grid management systems)
SDGs	Sustainable Development Goals
SOE	State-Owned Enterprise
Solar PV	Solar Photovoltaic

SPV	Special Purpose Vehicle (a company)
SSA	Secretariat Support Agency
TA	Technical Assistance
T&D	Transmission and Distribution
UK	United Kingdom of Great Britain and Northern Ireland
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
USD	United States Dollar
VCM	Voluntary Carbon Market
VND	Viet Nam Dong
VRE	Variable Renewable Energy
VNEEP 3	Viet Nam National Energy Efficiency Program 3 (period 2019-2030)
VWEM	Viet Nam Wholesale Electricity Market
WBG	World Bank Group
WG	Working Group

EXECUTIVE SUMMARY

I. INTRODUCTION

On 14 December 2022, Viet Nam, and the International Partners Group (IPG) including Canada, Denmark, the European Union, France, Germany, Italy, Japan, Norway, the United Kingdom, and the United States announced the Political Declaration (PD) establishing a Just Energy Transition Partnership in Viet Nam (JETP PD). The JETP aims "*to support Viet Nam's low-emission and climate resilient development, as well as to support Viet Nam to accelerate the just transition and decarbonisation of the electricity system, and develop new economic opportunities to support Viet Nam's transition towards net zero future*". To implement the JETP Declaration, based on Politburo's Resolution 55-NQ/TW on the Orientation of the Viet Nam's National Energy Development Strategy to 2030 and outlook to 2045, Global Coal to Clean Power Transition Statement supported by Viet Nam, the Prime Minister issued Decision No. 1009/QD-TTg on the approval of the "Scheme to implement the Political Declaration establishing a Just Energy Transition Partnership (JETP Scheme)" on 31 August 2023. The Resource Mobilisation Plan (RMP) is the first step in implementing JETP and should include "*a pipeline of opportunities consistent with the Government of Viet Nam's ambition*" and will "*represent a part of the much larger investment needs for Viet Nam*", some of which will be funded by the IPG members and the "Glasgow Financial Alliance for Net Zero" (GFANZ) group of large private international financiers. The JETP-RMP must "*identify new investment requirements and opportunities – for the development and implementation of wind, solar, transmission, energy efficiency, storage, electric vehicles, training, retraining and vocational support for employment - and measures to overcome barriers to investment*" and "*negotiate halting of investment in coal-fired power plants, where appropriate" and "negotiate the closure of old, inefficient unabated coal-fired power plants*".

According to the JETP between Viet Nam and its partners, it is necessary to develop a plan to mobilise resources to implement JETP. The Resource Mobilisation Plan is the first step in implementing the JETP, and is also a very important step to ensure a successful transition. It will continue to be reviewed and adjusted during the implementation process. Based on the Nationally Determined Contribution, Power Development Plan and National Energy Master Plan for the period 2021 - 2030, vision to 2050, the JETP scheme and proposals from domestic and international partners, the RMP sets out a list of specific projects to mobilize finance from IPG, GFANZ and other partners. The financial resources committed by partners are currently only a small part of Viet Nam's total need to implement a just energy transition. We will continue to mobilise from partners, utilise budget resources, and mobilise from private sector.

The RMP is intended to be a "living document" because potential JETP projects, actual investment projects and Technical Assistance projects, and priority policy actions will be reviewed and updated through further analysis by the Secretariat and Working Groups implementing JETP, aiming to maximise ambition towards the JETP targets. This RMP will continue to be updated.

II. VIET NAM'S PATHWAY TO NET-ZERO EMISSIONS

Viet Nam's commitments announced at COP26 include a net-zero emissions target by 2050. This and related COP26 commitments of Viet Nam have been articulated in several policies on climate change, green growth, and just energy transition.

The JETP targets are supportive of the pathway to achieve these commitments, as articulated in the Political Declaration. This includes:

"accelerate the decarbonisation of its electricity system from the current net-zero planning peak of 240 $MtCO_2eq$ by 2035 with international support (down from 280 $MtCO_2eq$ before COP26) towards reaching a peak of no more than 170 $MtCO_2eq$ emissions from electricity generation by 2030 enabled by meaningful and strong support from IPG partners in terms of finance as outlined under paragraph 18 and all technologies to scale up the deployment of renewable energy and the management of clean power systems.

reduce Viet Nam's project pipeline for coal-fired generation towards a peak of 30.2 GW, as well as providing a credible and ambitious emission reduction pathway to phasing out unabated coal-fired power generation

accelerate the deployment of renewable energy and to develop the technical expertise to support and manage a grid increasingly powered by variable renewable energy, with the aim of enabling Viet Nam to sustain a reliable grid and move beyond the current planned figure of 36% towards at least 47% of electricity generation coming from renewables including wind, solar and hydroelectricity power by 2030, enabled by international support.

Targets in the following policies are consistent with the JETP targets:

Resolution No. 55-NQ/TW of the Politburo on the orientation of Viet Nam's National Energy Development Strategy is an important basis for the negotiation, adoption and implementation of the JETP PD.

Prime Minister Decision 896/QD-TTg on "Approval of the National Climate Change Strategy for the period up to 2050" of 26 July 2022 (NCCS), provides the pathway towards net-zero emissions. Its overall objective is to "adapt effectively, reduce vulnerability, losses, and damage caused by climate change; *reduce greenhouse gas emissions with the goal of reaching net zero emissions by 2050, actively and responsibly contributing to the international community in protecting the earth's climate system; taking advantage of opportunities from climate change response to shift the growth model, improving the resilience and competitiveness of the economy.*" The NCCS allocates responsibilities for emissions reduction in all five main emissions categories. It sets targets for greenhouse gas (GHG) emissions reduction with international support, summarised as follows:

1. Reduce total national GHG emissions by 2030 by 43.5% compared to the BAU scenario.
2. Reduce energy sector emissions by 2030 by 32.6%, with emissions not exceeding 457 $MtCO_2eq$.
3. Reduce total national GHG emissions to net zero by 2050. The emissions peak is expected in 2035, after which it will fall rapidly.

4. By 2050, energy sector emissions will not exceed 101 $MtCO_2eq$; agricultural emissions will not exceed 56 $MtCO_2eq$; forestry and land use will have increased carbon sequestration by 185 $MtCO_2eq$; waste emissions will not exceed 8 $MtCO_2eq$; industrial processes will not exceed 20 $MtCO_2eq$.

Specifically for the energy sector, for the periods to 2030 and to 2050, it promotes, in summary:

5. Renewable energy (RE) development, while maintaining national energy security: small, medium, and large hydroelectricity plants where possible, onshore and offshore wind power, (rooftop) solar power, biomass, green hydrogen and ammonia, and tidal energy. By 2030 RE will be at least 33% and by 2050 at least 55% of total generated power.
6. No development of new coal-fired power plants after 2030, gradually reduce the scale of coal power capacity after 2035, convert to clean, zero-emission fuels, consider developing nuclear power.
7. Development of energy storage technologies, such as BESS and pumped-storage hydroelectricity, also heat storage.
8. Building a smart and efficient power transmission and distribution grid to ensure power stability and allow integration of a high proportion of RE.
9. Research and development of Carbon Capture and Storage (CCS) technology for power plants and industrial production facilities.
10. Enhance the implementation of solutions for economical and efficient use of energy in industry, agriculture, transportation, buildings, services, and trade and consumption, with efficient equipment such as lighting, electric motors, industrial boilers, heating and cooling/ cold chain systems, etc.

The GHG emissions reduction targets for 2030 are also given in the updated Nationally Determined Contribution (NDC) of 2022. This shows that Viet Nam will reduce emissions by 15.8% by 2030 compared to BAU (equivalent to 146.3 $MtCO_2eq$), with its own means, and with international support by an additional 27.7% (equivalent to 257.4 $MtCO_2eq$) or in total 43.5% reduction by 2030 compared to BAU. These commitments cover the energy, agriculture, LULUCF, waste, and industrial processes sectors. Within those, the energy sector would be responsible for 73.1% of total net-emissions in 2030 according to the BAU scenario, and in case of achieving the highest reduction target with international support, the share of energy emissions in total net emissions will be 86.1%. Thus GHG emissions in the energy sector reduce proportionally less than in the other four emission sectors in the NDC, but the planned emissions reductions in the energy sector are very significant. The NDC technical report provides details of which technologies will likely play important roles in reducing energy sector emissions.

Within the energy sector, electricity production and consumption are producing nearly half of the GHG emissions, because of the use of fossil fuels for power generation. Prime

Minister Decision 500/QD-TTg on "Approving the National Power Development Planning for the period of 2021 - 2030, with a vision to 2050" was issued on 15 May 2023, and is known as Power Development Plan 8 (PDP8). This provides specific targets for expected installed power production capacity by 2030, with a total of 150,489 MW or nearly double the installed capacity in 2022 (see Table 3). Of the installed power generation capacity by 2030 51.6% would be RE, including domestic hydropower.

PDP8 also gives RE generation and GHG emissions reduction targets for the electricity sector. RE production will be 30.9-39.2% by 2030, moving towards the target of 47% by 2030, provided that international JETP commitments are met. By 2050 the RE rate will be 67.5-71.5%. The GHG emissions trajectory in PDP8 is for emissions from power production to be 204-254 $MtCO_2eq$ in 2030 and around 27-31 $MtCO_2eq$ in 2050. The power sector aims to reach peak emissions of 170 $MtCO_2eq$ by 2030 if the commitments under JETP are fully implemented by international partners.

Specifically on coal-fired power plants (CFPPs), according to PDP8 there will be no further construction after 2030 whereas plants that have difficulty deploying may replace coal with LNG or renewable energy; plants that are operating 20 years will start to convert to biomass and ammonia provided the price is right; plants operating more than 40 years will be decommissioned if fuel conversion is not possible; and research is needed on fuel conversion options from coal and gas, to biomass, ammonia, hydrogen etc. JETP finance from the IPG will support clean electricity generation along with the necessary transmission and storage for decarbonising the power system. Support may also be directed towards early retirement and increased flexibility of CFPPs to reduce the overall output of the fleet consistent with the JETP targets.

III. RMP SCOPE AND ENERGY TRANSITION FINANCIAL NEEDS

Based on paragraphs 21 and 24 of the JETP PD, the scope of actions that must be addressed by the RMP through investments and technical assistance projects, includes the following categories:

1. Improving the regulatory framework for the energy transition;
2. The transition of coal power generation (reduce pipeline; transform CFPPs);
3. Developing the renewable energy industry (onshore and offshore wind and solar deployment, RE manufacture, multi-purpose land-use);
4. Power transmission and energy storage (to enable deployment of RE);
5. Energy efficiency (in different sectors);
6. Energy transition in the transport sector (especially EV adaption);

7. Innovation, development, and technology transfer (International Centre of Renewable Energy);

8. Ensuring a just transition (access to affordable energy for all; training, upskilling, and job creation).

The scope is very broad, but it is narrower than the entire energy transition required in Viet Nam, because for example methane emissions from fossil fuel exploration, electrification of manufacturing industry, or cooking fuel conversion are not included. On the other hand, the scope includes elements that are not included fully in the leading climate change, green growth, or energy policies, such as several just aspects. At the same time, those policies contain elements that are not immediately relevant to the just energy transition, such as climate change adaptation or inorganic waste management. The JETP scope excludes investment in consumption of fossil fuels, including e.g. thermal power plants conversion from coal to LNG. Thus the cost estimates of the implementation of the leading policies can only be used as a rough approximation of the costs of the energy transition, while cost estimates for the period to 2030 will be more accurate than long term estimates.

The JETP PD has a power sector focus, though it also aims for improvements in energy efficiency in several sectors, and e.g. electrification of transport. But considering only the power sector, the implementation of PDP8 will cost USD 134.7 billion in the period to 2030, of which USD 119.8 billion USD for power generation sources and USD 15.0 billion for the power transmission grid expansion and improvement. This excludes costs of just aspects and research with relevance to the power sector, whereas the PDP8 estimate includes investments in (new) fossil fuel power generation which falls outside the JETP scope. Nevertheless, a significant part of PDP8 projects will "match" JETP priorities, including renewable power production, energy storage, and transmission investments. Exactly which part of PDP8's USD 134.7 billion matches the JETP scope cannot be ascertained for lack of data, but it is clear that it will be several times the total of USD 15.5 billion committed by IPG and GFANZ for the initial period, whereas they aim to leverage and raise additional funding, with positive effect on the Vietnamese policy environment.

The updated NDC of 2022 estimates the cost of achieving the targeted reductions in the whole energy sector by 2030. This also excludes costs of just aspects and some of the 38 GHG emission reduction options in the energy sector as per the NDC are not within the scope of the JETP. The NDC (cost estimates) include technologies that are not priority in PDP8 nor the JETP Scheme, such as development of Concentrated Solar Power (CSP). On the other hand, the NDC has missed out some investments that are needed for GHG emissions reduction in the energy sector, such as power transmission investment. Nevertheless, the estimated costs can also be used as a proxy for the total costs of the energy transition until 2030. To achieve the unconditional contribution in the updated NDC of 2022 to reduce GHG emissions in 2030 by 15.8% by 2030, compared to the BAU, is USD 21.7 billion. This would be financed by the Government and the Vietnamese business sector. The total additional

financial need to reduce GHG emissions by up to 43.5% by 2030 compared to the BAU, including the unconditional and the international contribution, is estimated at USD 86.8 billion for the period to 2030. Of this, the energy sector alone requires USD 60.6 billion, which represents the implementation of Viet Nam's energy-related commitments made at COP26 considering the period to 2030. Of this, USD 46.1 billion would be additional ODA and FDI or almost three times the IPG and GFANZ members' initial commitment.

The initial financial commitments to support JETP implementation are only a limited part of the total needs for the period to 2030, and resources must be prioritized; and partners will continue to mobilize and use public resources and mobilize private sector resources.

IV. PRIORITISATION PROCESS AND PRIORITY INVESTMENTS

Based on the Nationally Determined Contribution, Power Development Plan and National Energy Master Plan for the period 2021 - 2030, vision to 2050, the JETP scheme and proposals from domestic and international partners; international experiences, consultation with line Ministries and relevant stakeholders, the lists of investment and technical assistance projects must all fall within the scope of the JETP, and that are likely to meet four general principles that are derived also from the JETP PD. The general principles are (1) Promoting the development of renewable energy or energy saving and energy efficiency, contributing to the achievement of greenhouse gas emission reduction objectives and ensuring national energy security; (2) Providing clear socio-economic benefits for communities, businesses and/or workers affected by the transition; (3) Be catalytic in nature, and encourage additional, future JETP investments; and (4) Have significant positive impact on the just energy transition.

These are projects for which capital has not been mobilized yet, that are not yet fully funded, that have not yet been approved or are in the proposal stage; programs and projects that have been basically approved and included in masterplans such as PDP8, with some projects in the feasibility study stage; programs and projects that are only at the concept note stage, aiming to access financial resources from IPG and GFANZ. The resulting project lists are given in Annex I and Annex II. They have been derived from different sources, and therefore projects have a different status in terms of for example government endorsement. Many projects are derived from the Annexes of PDP8 and other approved masterplans and policies, several projects are derived from the Concept Notes related the main categories within the scope of the JETP that were shared by IPG, others have been submitted by stakeholders such as banks, enterprises, state-owned enterprises and private sector or government agencies together with international organisations or development partners. The intention is that the list is open and will be expanded as stakeholders provide information, as long as the four general conditions are met.

The selection of specific investment projects within certain categories and subcategories will be carried out through negotiations between managing agencies, project owners, financiers, and other stakeholders on the basis of compliance with the legal provisions of Viet Nam and taking into account the criteria in Table 7. The negotiations about project priorities will particularly take into account the need to improve institutions and policies; development, technology transfer and innovation; and promoting a just transition. For power transmission and generation projects, the investment project selection criteria of PDP8 must also be taken into account.

However, initial priority categories have already been determined, as per interaction between IPG and the Government agencies during the formulation of the JETP Scheme and RMP. Priorities must all fulfil the general principles as mentioned above, and they must demonstrate maximum ambition in terms of GHG emissions reduction. The JETP PD sets ambitious targets for 2030, on installed coal-power capacity, RE generation capacity, and GHG emissions peaking in the power sector. PDP8 aligns with the JETP coal-fired generation target by 2030 and it will bring Viet Nam closer to the JETP target of at least 47% RE by 2030 and the power sector emissions peaking target, contingent on international support.

Priorities mentioned in the JETP Scheme as well as three additional priorities all include investment projects and technical assistance projects, with the latter contributing particularly to enabling policy measures. The 6 priorities have all been worked out in some level of detail in Concept Notes (CNs) that describe needs, investment proposals, proposed policy actions, and technical assistance projects. They are directly linked to some of the categories and sub-categories that express the scope of the JETP, as follows (see Table 8 and Table 10):

1. Power Transmission Grid Projects;

2. Projects On Battery Storage And Pumped Storage Hydropower Plants;

3. Projects On Offshore Wind Power Development;

4. Projects On Energy Efficiency (EE);

5. Projects On Solar PV;

6. Projects On Coal Power Flexibility and Coal Power Plant Transition.

These priorities should maximise progress towards the JETP targets. Power transmission and energy storage capacity are essential for increasing the deployment of RE. Offshore wind power development takes time and an immediate start is needed for meeting the 2030 targets. Energy efficiency is comparatively low in Viet Nam and the potential to improve it is high. Solar PV has a vast potential and “self-consumption” and in solar PV in combination with energy storage as well as other land uses may benefit many households and companies.

Reducing the utilisation rate of CFPPs will improve efficiencies, save costs, and reduce GHG emissions in the short term, whereas re-purposing or transitioning some of the older and least efficient CFPPs may deliver multiple benefits. Technical Assistance and investment projects according to these priorities should start in 2024, while some will be more likely be implemented from 2025 onwards.

V. FINANCING COMMITMENTS

Actual project priorities are also determined by financial allocations by IPG members, some of which have already been discussed with national partners and reached certain internal approvals. Details of each loan and technical assistance will be negotiated and decided for each specific project.

The IPG's USD 7.75 billion financial commitment will be a mixture of grants, loans, equity and guarantees on more attractive terms than Viet Nam could secure in the capital markets. International private financiers, i.e. GFANZ members agreed to work to mobilise at least USD 7.75 billion in private finance as well, which is subject to mobilisation of the catalytic public sector finance by the IPG members and improved regulatory frameworks. The GFANZ loans will be offered at market rates, and projects will be assessed individually. GFANZ will provide commercial loans which can be structured in different ways depending on the need of the projects.

The IPG communicated a breakdown of the USD7.75 billion by type of finance on 27 September 2023, and provided some updates on 21 October 2023. The financing instruments offered include the following:

1. Grants, in the form of Technical Assistance (TA) and capital grants.

2. Concessional finance at below-market rates.

3. Commercial Development Finance Institution (DFI) instruments (loans, guarantees and equity), based on risk-based pricing.

The IPG's updated financial offer is summarised in Table 12, showing a total offer of public finance of USD 8,077.2 million, of which USD 321.5 million in grants; USD 2,185 million in sovereign concessional loans; USD 527.7 million in non-sovereign concessional loans; USD 310 million in commercial DFI equity; USD 240 million in commercial DFI guarantees; USD 4,229 million in commercial DFI loans, and USD 264 million to be defined.

The IPG tentatively allocated USD 1.22 billion of loans and USD 259 million of grant capital to promising projects, for example, EVN Bac Ai pumped storage hydropower project, in Ninh Thuan province; AFD, EIB, JICA and KfW have earmarked a total of up to EUR 600 million of loans, subject to due diligence. Technical assistance will support early-stage

project development, offshore wind, carbon markets, integration of VRE into the grid and energy efficiency.

Other financial commitments can be more flexibly directed towards JETP priority areas. The proposed project prioritisation process should be applied to these commitments.

Actual financial allocations by IPG and GFANZ members to Technical Assistance and investment projects will be subject to negotiations between stakeholders, which could include government agencies, project developers, project holders and different financiers. Decisions on whether financing agreements actually fit the JETP scope and are agreed JETP priorities will be subject to exchanges between the Government-led JETP Secretariat, IPG and GFANZ members.

VI. PRIORITY POLICY ACTIONS

According to the JETP PD, policy actions must be agreed and implemented, aiming to improve the business environment and the likelihood of private sector investment. Policy actions are also required to expedite the use of both ODA loans and grants. The RMP gives an overview of policy actions that would enable the energy transition per the eight categories that make up the scope of the JETP. The lists of policy and regulatory measures must however be prioritized, and the highest priorities must be addressed as soon as possible.

Policy actions should promote the implementation progress of the JETP, and in particular the six priorities as articulated above (see also Table 8 and Table 10). It is proposed that priorities for 2024 will be agreed between government, IPG, GFANZ and other stakeholders through the RMP, and that review and analysis of policy actions will subsequently lead to annual agreements on additional policy actions. The proposed priority policy actions for 2024 include the following, among others (see Table 14):

General	- Improve Regulations on Disbursement of ODA capital to SOEs. - Further improve the regulatory framework on green capital markets. - Finalizing and issuing the DPPA. - Develop regulation on tenders for onshore and offshore wind power and solar PV plants combined with batteries and/or green H2 production. - Develop regulation on wind power and solar PV plant PPAs, making them bankable for international financiers (including international arbitration). - Develop a policy mechanism to ensure affordable electricity for low-income households and MSMEs to cope with increased energy prices. - Revise the current regulations on environmental and social impact assessment, to enhance this with just criteria, applied to JETP projects.
1. Power Transmission	- Develop the legal framework to facilitate private sector investment in the transmission and distribution grid capacity and management (further specifying of Law No. 03/2022/QH15).

2. Energy Storage	- Develop market regulations for energy storage systems (ESS, pumped hydro, etc.) to operate in the VWEM and for the provision of ancillary services (peak power demand, grid frequency control.).
3. Offshore Wind	- Development of the Marine Spatial Planning and offshore wind power policies, including a roadmap/action plan for offshore wind power development.
4. Energy Efficiency	- Formulate and promulgate regulations on the development and application of energy service companies (ESCOs), enabling assessment of energy efficiency potential and external investment in EE measures.
5. Solar PV	- Finalise regulations on (stimulating) behind the-meter, off-grid systems, which may be without limitation in installed capacity according to PDP8, including rooftop solar PV on commercial buildings and residential houses. - Develop regulations on multiple land-use of VRE with grid connection and participation in the VWEM (solar PV and wind power systems at different scales, combined with other land and seabed use).
6. Coal Power	- Develop CFPP retirement roadmap. - Develop a roadmap for increasing CFPP flexibility.

The JETP PD implies that there will be IPG funding for formulating some of the policy actions, i.e. Technical Assistance in the form of grant funding of ministries which should be relevant to priority investments. Such efforts are guided by the Secretariat and Working Groups.

VII. IMPLEMENTATION AND MONITORING OF THE RMP

In order to implement the JETP PD, the JETP Implementation Secretariat was established. This is headed by the Minister of MONRE, it has Vice Ministers of MONRE, MOIT, MPI and MOF as deputies, and the members are representatives at department level from 14 ministries and agencies. The Secretariat advises the Prime Minister as Head of the COP26 Steering Committee in directing the JETP. It manages the formulation and implementation of the RMP, it monitors implementation of the RMP including financial and technical support, resolves procedural issues, coordinates and has dialogues with IPG, GFANZ and other stakeholders, and it leads on communication and information dissemination.

The four Secretariat deputies (Vice Ministers) each lead a Working Group (WG), with the *General (Synthesis) WG* under MONRE focusing on monitoring, commissioning the biennial review, and reporting. The *Institutional, Policy, and Investment WG*, under MPI focuses on institutional improvement, reforming administrative procedures to facilitate business participation in the just energy transition, mobilizing and effectively using financial resources. The *Technology and Energy WG*, under MOIT, is responsible for reviewing and proposing the improvement of policies and regulations to promote the just energy transition; and coordinating technology transfer. The *Finance WG*, under MOF leads on negotiations to mobilize international financial support from the IPG, GFANZ, and other stakeholders

related to implementing the JETP PD. The WGs will agree their working programs, including timelines for work on prioritised policy actions.

Representatives of IPG and GFANZ can participate in the activities of WGs to support JETP implementation in accordance with the targets and tasks in the Scheme implementing JETP. The Secretariat will benefit through the Secretariat Support Agency (SSA), funded by IPG. The Secretariat and the SSA will set up a pool of technical experts and administrative support staff that will support the WGs and the development of transformative investment and Technical Assistance projects. Some of the experts and support staff will be funded through the SSA and others will be seconded from IPG and GFANZ members (i.e. in-kind contributions).

The WGs will guide development of projects that are prioritised in the RMP, support pre-feasibility and feasibility studies, support approval processes, assist in resource mobilisation, and monitor their implementation. The WGs will also advise on the formulation or amendment of policy regulations that would facilitate investments in the just energy transition projects. The WG members may include representatives of financiers, businesses representatives, local officials, and experts from sector ministries. The Technology and Energy WG may cooperate with the Viet Nam Energy Partnership Group (VEPG), which has several Technical Working Groups, as well as for example the energy working group under the Viet Nam Business Forum (VBF).

While completing the organization of the Secretariat and WGs, IPG has organized the formulation of the CNs. These were prepared in order to support the formulation of the RMP and could be developed further in collaboration with the WGs, if required. In future the IPG will work alongside the WGs on policy actions and investment project development.

Depending on the requirements and actual contents, IPG Representatives may be invited to attend periodic and ad hoc meetings of the Secretariat, in order to capture the progress of RMP implementation, help coordination, and ensure timely and effective support. Representatives of IPG and GFANZ will also participate in the activities of WGs, including attending the full meetings of a WG, and delegating experts to take part in technical groups and specific activities regarding for example policy actions.

Monitoring and evaluation will focus on mobilizing resources from different sources, progress and results of investment projects as well as policy actions. Within the framework of the Technology and Energy Working Group, technical analysis should begin in early 2024, to guide policy and investment actions towards JETP targets, and provides the basis for annual monitoring and evaluation. The biennial review will assess progress towards targets on GHG emissions reduction, RE deployment and coal power transition. GHG inventory data can be used for biennial review and technical analysis to update the Resource Mobilization Plan. This analysis of whether Viet Nam is on the agreed pathway (see paragraph 25 of the PD in section 2.3.3) and how that might be adjusted will consider the full scope of the JETP.

The results will be addressed in WGs. Model studies must involve Vietnamese institutes ensuring that accurate data are used.

Annual monitoring and evaluation and biennial review will include exchange and discussion forums between ministries and agencies, IPG, GFANZ and other stakeholders.

Responsibilities for JETP implementation, monitoring and evaluation have been clearly articulated for the leading stakeholders, including the Secretariat, the four WGs, IPG, and ministries and agencies such as Ministry of Natural Resources and Environments, Ministry of Planning Investment, Ministry of Industry and Trade, Ministry of Finance, Ministry of Foreign Affairs, Ministry of Labour - Invalids and Social Affairs, Ministry of Science and Technology, Ministry of Transport, Ministry of Construction, Ministry of Agriculture and Rural Development, State Bank of Viet Nam, Commission for the Management of State Capital at Enterprises, other ministries and agencies, and People's Committees of provinces and centrally managed cities.

CHAPTER 1

INTRODUCTION

As a developing country that is severely affected by climate change, and despite many resource constraints, Viet Nam is actively making efforts as member of the international community to realize the goal of net zero emissions and participating in the Global Declaration on Coal Power Transition to Clean Energy. On 14 December 2022 in Brussels, Kingdom of Belgium, Viet Nam and the International Partners Group (IPG) announced the Political Declaration (PD) establishing a Just Energy Transition Partnership in Viet Nam (JETP Declaration). The JETP aims "*to support Viet Nam's low-emission and climate resilient development, as well as to support Viet Nam to accelerate the just transition and decarbonisation of the electricity system, and develop new economic opportunities to support Viet Nam's transition towards net zero future*"[3].

The IPG concerning Viet Nam is made up of the European Union, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Japan, the Federal Republic of Germany, the French Republic, the Italian Republic, Canada, the Kingdom of Denmark and the Kingdom of Norway. Similar groupings in other countries stand ready to help developing economies decarbonize their energy systems, while ensuring reliable, resilient, affordable energy supply for the underserved population.

To implement the JETP Declaration, based on Politburo's Resolution 55-NQ/TW on the Orientation of the Viet Nam's National Energy Development Strategy to 2030 and outlook to 2045, Global Coal to Clean Power Transition Statement supported by Viet Nam, the Prime Minister approved Decision No. 1009/QD-TTg on the "Scheme to implement the Political Declaration establishing a Just Energy Transition Partnership" in Viet Nam on 31 August 2023. According to the JETP Declaration the IPG members committed to mobilizing USD 7.75 billion public sector finance in the initial period of three to five years, and work with Viet Nam to mobilize at least USD 7.75 billion from the "Glasgow Financial Alliance for Net Zero" (GFANZ) group of large private financial institutions[4]. The Resource Mobilisation Plan is the first step towards implementing the JETP Declaration and should include "*a pipeline of opportunities consistent with the Government of Viet Nam's ambition*" and will "*represent a part of the much larger investment needs for Viet Nam*", some of which will be funded by the IPG members and international private financiers. The JETP-RMP must "*identify new investment requirements and opportunities – for the development and implementation of wind, solar, transmission, energy efficiency, storage, electric vehicles, training, retraining and vocational support for employment - and measures to overcome barriers to investment" and "negotiate halting of investment in coal-fired power plants, where appropriate" and "negotiate the closure of old, inefficient unabated coal-fired power plants*".

The implementation of Viet Nam's JETP is in line Viet Nam's national energy development orientation, its updated Nationally Determined Contribution (NDC) of 2022 (with a focus on the period to 2030), the National Climate Change Strategy to 2050 (NCCS), and energy policies such as the National Energy Master Plan and Power Development Plan 8 as well as National Green Growth Strategy (2021-2030, with outlook to 2050) and sectoral policies and plans related to energy efficiency and transition.

3 From the Political Declaration on JETP in Viet Nam announced on 14 December 2022

4 Including Bank of America, Citi Bank, Deutsche Bank, HSBC, Macquarie Group, Mizuho, MUFG, Prudential PLC, Shinhan, SMBC, and Standard Chartered.

This Resource Mobilization Plan consists of eight chapters.

Chapter 1 provides this introduction, referring to the JETP Declaration and Viet Nam's policy documents such as Nationally Determined Contribution (NDC), National Climate Change Strategy for the period up to 2050, and a number of energy policies, as well as the Scheme on JETP implementation.

Chapter 2 gives a brief overview of the international climate policy context, towards net zero emissions by 2050, Viet Nam's commitments to reduce greenhouse gas emissions and respond to climate change and some details on the implementation of JETP in Viet Nam.

Chapter 3 Overview of investment needs for just energy transition in Viet Nam based on updated NDC and energy policy and the JETP Scheme. It also provides principles and orientations for selecting priority projects for JETP implementation.

Chapter 4 discusses finance mobilization, ways of accessing public and private international financial sources, the links to domestic commercial finance, and assessment of feasibility in the current investment context in Viet Nam.

Chapter 5 provides opportunities for achieving a just energy transition, as there are opportunities for jobs and investment in the renewable energy, energy efficiency and electric transportation value chains. It also discusses issues that need to be addressed in order to achieve social and economic justice for social groups; issues of inequality, poverty, access to energy sources for households and businesses.

In *Chapter 6* the investment priorities to be agreed between national stakeholders, the IPG and GFANZ members[5] are discussed, with different types of support corresponding to the list of potential programs and projects summarized in the Annex I and Annex II and the policy actions in Annex III.

Chapter 7 provides an overview of policy actions to overcome investment challenges and increase investment in the energy transition, and enable a just energy transition, especially private investment in green, energy-related measures.

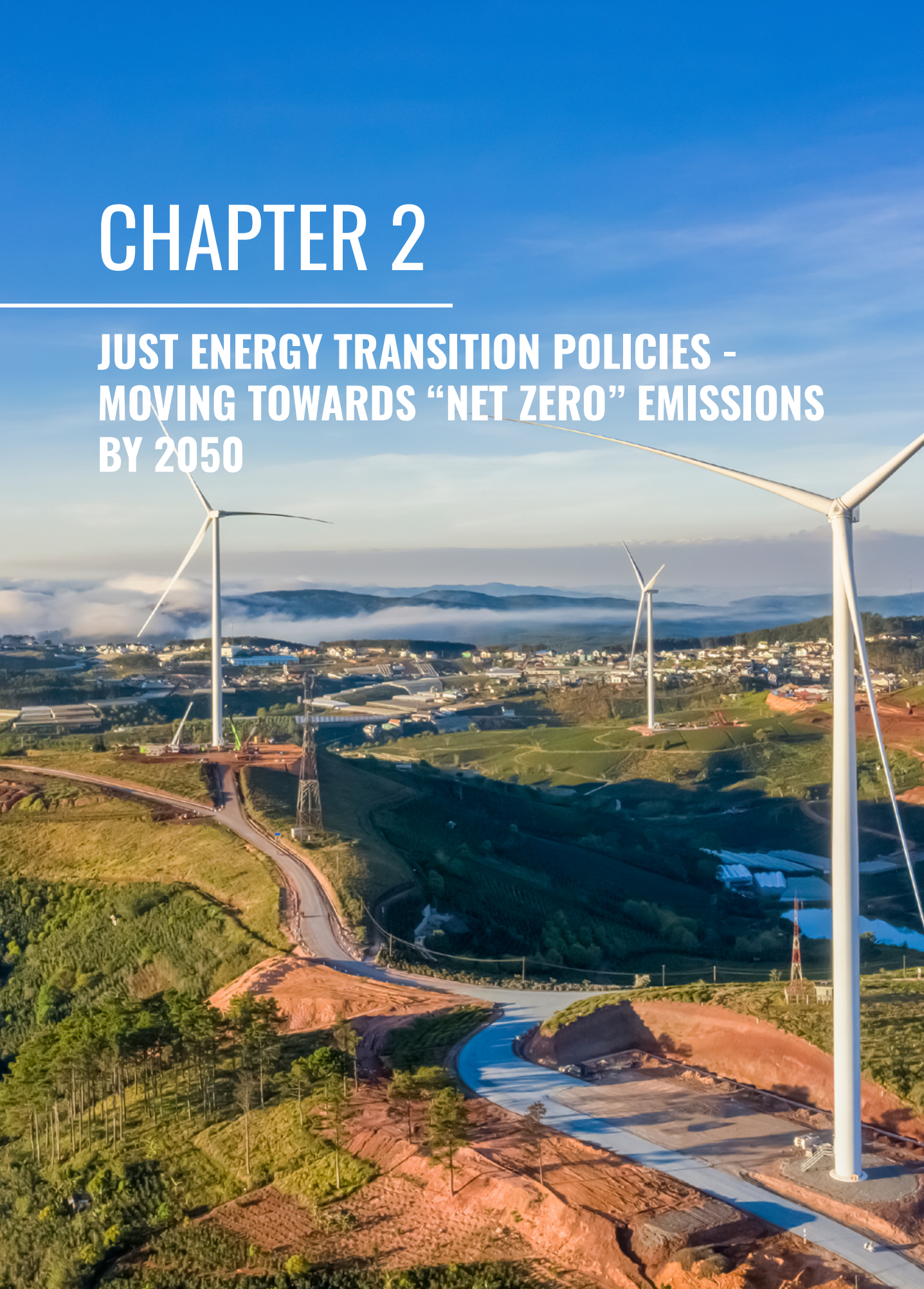
Chapter 8 provides agreements on JETP implementation and governance, including assessment of progress and monitoring activities, communication and international cooperation.

There are strong interlinkages between the issues raised in these chapters. Delivering a just energy transition will depend on the combination of the policy actions, development of projects, and mobilising public and private finance. While different chapters show that there are major challenges in the energy transition, they also demonstrate that there are major opportunities, for reducing greenhouse gas emissions and at the same time ensuring national energy security, increasing both business and employment opportunities, protecting the local environment and improving social equality.

5 Throughout the RMP text, "GFANZ members" should be understood as "members of the sector-specific alliances who participate in the GFANZ working group for the Viet Nam JETP".

CHAPTER 2

JUST ENERGY TRANSITION POLICIES - MOVING TOWARDS "NET ZERO" EMISSIONS BY 2050



2.1. INTERNATIONAL CONTEXT

The Paris Agreement (PA) under the United Nations Framework Convention on Climate Change (UNFCCC) aims to limit average global warming to well below 2 degrees Celsius (2°C) above pre-industrial levels, and to pursue efforts to limit global warming to 1.5°C. The PA was adopted in 2015 at the 21st Conference of the Parties of the UNFCCC (COP21). A key aspect of the PA is on a "ratcheting-up mechanism", which calls on countries to regularly revise and increase their greenhouse gas (GHG) emissions reduction targets in their Nationally Determined Contributions (NDCs). This mechanism helps to ensure that countries will meet the long-term goal of the PA.

The first part of the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) of August 2021, provided an urgent warning on the need to accelerate GHG emissions reduction. The report found that limiting warming to 1.5°C above pre-industrial levels would require far-reaching transitions in land, energy, industry, buildings, transport, and cities. It also found that the NDCs that had been submitted by Parties to the UNFCCC were insufficient to meet this target.

The 26th Conference of Parties to the UNFCCC (COP26), which was held in Glasgow in November 2021, focused on increasing the ambition of countries' NDCs and on finding new ways to reduce greenhouse gas emissions. The summit marked the deadline for countries to submit their updated NDCs. The main agreement reached at COP26 was the "Glasgow Climate Pact", to reinforce climate action to 2030 in NDCs. The COP26 decisions included strengthened efforts to build resilience to climate change, to curb greenhouse gas emissions and to provide the necessary finance for both. Parties agreed to work to reduce the gap between existing emission reduction plans and what is required to limit global average temperature increase to 1.5°C. Nations were called upon to phase down unabated coal power and inefficient subsidies for fossil fuels. Prior to COP27 in Sharm el-Sheikh, Egypt, in November 2022 several Parties to the UNFCCC updated their NDCs, increasing their emissions reduction targets.

In NDCs and in high level statements at COP26 and COP27 as well as through voluntary commitments of coalitions of countries, subregional governments, businesses, and other organisations, many have committed to achieving net-zero GHG emissions by mid-century, including the USA, China, and the EU. The USA committed to achieving net-zero emissions by 2050, through a combination of clean energy sources and carbon capture and storage technologies. China pledged to peak its carbon dioxide emissions before 2030 and to achieve carbon neutrality before 2060. All G7 members committed to achieving a fully or predominantly decarbonized power sector by 2035, and prioritizing concrete and timely steps towards the goal of accelerating the phase-out of domestic unabated coal power generation in a manner consistent with keeping a limit of 1.5°C temperature rise. The EU committed to phasing out coal from its power sector by 2030, whereas coal currently accounts for around 20% of the bloc's electricity generation. The EU also committed to

reduce by 2030 its net GHG emissions by 55% compared to 1990 levels. India announced plans to achieve a 33-35% reduction in its emissions intensity by 2030, compared to 2005 levels, and to achieving 40% of its installed power capacity from non-fossil fuel sources by 2030. Japan aims for 46% emissions reduction in 2030 compared to 2013, and net-zero emissions by 2050. Canada announced plans to phase out traditional coal power by 2030. The UK pledged to phase out coal power by 2024[6], as coal power accounted for less than 2% of the country's electricity generation in 2020. The Powering Past Coal Alliance, initiated by the UK and Canada in 2017, is made up of 167 countries, regions and cities, businesses and other organisations that are committed to phasing out unabated coal power and to transition to clean power[7]. Viet Nam made commitments at COP 26 on phasing out coal power in the 2040s with its participation in the Global Coal-to-Clean Power Transition Declaration.

Many countries agreed to reduce their emissions of methane at COP26, and this was reaffirmed at COP27. The Global Methane Pledge (GMP)[8], an initiative of the USA and EU, has since COP26 been endorsed by 150 countries, is supported by many international organisations, and was addressed at a ministerial level during COP27 in Egypt[9]. Reducing methane emissions requires actions in fossil fuel production and consumption, agriculture and livestock, and waste management in particular; global monitoring of methane emissions is improving through satellite data. Viet Nam also participated in of the GMP at COP26, has analysed its methane emissions, and is issuing an action plan to reduce methane emissions (Section 2.2).

In late 2021 and 2022 the volatility of international fossil fuel markets became very pronounced, including high prices of coal and liquefied natural gas (LNG) that affected power production and other costs around the world, including in Viet Nam. This is an additional and strong reason to accelerate the deployment of renewable energy and associated infrastructure such as energy storage capacities, whereas solar Photovoltaic (solar PV) and wind power costs have fallen dramatically in the past decades, and costs are still on a strongly downward trend. New renewables are now cheaper than new coal power in almost all markets, globally. Emerging markets that cannot overcome the barriers to coal and other fossil fuel phase-down will be vulnerable to international carbon border adjustment mechanisms that will affect their exports and export-oriented Foreign Direct Investment (FDI).

High volatility of international fossil fuel markets affects consumers directly, for example in the cost of cooking fuel (LNG), and indirectly as it forces up the prices of for example electricity and public transport. It has been demonstrated internationally that renewables

6 https://www.gov.uk/government/news/end-to-coal-power-brought-forward-to-october-2024
7 https://poweringpastcoal.org/members/
8 https://www.globalmethanepledge.org/#about
9 https://www.state.gov/global-methane-pledge-from-moment-to-momentum/

can lower consumer costs and stabilize costs, under different policy scenarios, which is pertinent as international fossil fuel markets are highly volatile. In addition, manufacture, deployment and operation of renewable energy will create more employment than similar scale and investments in fossil fuels-based power production. Furthermore, there are significant local environmental benefits from energy transitions, for example in terms of air quality in major cities.

2.2. VIET NAM'S COP26 COMMITMENTS AND THE UPDATED NDC

2.2.1. Viet Nam's COP26 Commitments and Engagements

Viet Nam submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC Secretariat in 2015 and updated its NDC in 2020. The latter showed that, with domestic resources, Viet Nam will reduce total greenhouse gas emissions by 9% by 2030 compared to the Business-As-Usual (BAU) scenario (equivalent to 83.9 $MtCO_2eq$). This contribution would be increased to 27% with international support through bilateral and multilateral cooperation and the implementation of mechanisms under the Paris Agreement on climate change (equivalent to 250.8 $MtCO_2eq$ below BAU in 2030). By COP26 in 2021, 128 countries had updated their NDCs, which, if fully implemented, would cause the global mean temperature to increase by about 2.7°C by the end of the century compared to pre-industrial times. Subsequently, the United Nations Secretary-General and many others called on all parties to increase their efforts in reducing greenhouse gas emissions to be able to reach the Paris Agreement target of "*holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels*".

Viet Nam participated actively in Glasgow, including COP26, the 16th Conference of Parties to the Kyoto Protocol (CMP16), and the 3rd Conference of Parties to the Paris Agreement (CMA3). By the end of COP26, 148 countries, representing nearly 90% of global greenhouse gas emissions and over 90% of global Gross Domestic Product (GDP), had pledged to achieve "net zero" by mid-century. The Prime Minister announced that Viet Nam intends to achieve "net zero" emissions by 2050. He recognised that it is possible for Viet Nam to achieve this goal, for example because it has advantages in renewable energy potential, but that international finance and technology transfer is also required. All UNFCCC Parties supported the main outcome of COP26, i.e. the "Glasgow Climate Pact" that commits to phasing out coal-fired power and other fossil fuels.

In October 2021, just before COP26, the Minister of Industry and Trade signed a letter announcing Viet Nam's participation in the Global Coal to Clean Power Transition Declaration[10]. Its participants committed to scaling up clean electricity production, stop

10 https://webarchive.nationalarchives.gov.uk/ukgwa/20230313120149/https://ukcop26.org/global-coal-to-clean-power-transition-statement/

issuing new permits and construction of coal power projects, accelerate the transition from coal-fired power to low carbon energy, phase out coal power by the 2040s, and ensure that the transitions will benefit workers and communities. The Minister stressed that coal-fired power plants will be an important source of electricity for some time; that reduction of coal-fired power requires a roadmap and must be suitable to Viet Nam's economic conditions; that the transition must ensure national energy security; and that it requires resources.

At COP26 Viet Nam also joined the Global Methane Reduction Commitment, as one of 103 countries, pledging to reduce methane emissions from human activities by at least 30% by 2030. Viet Nam joined the Glasgow leaders' Declaration on Forests and Land Use, of currently 145 nations with over 90% of the world's forests. This aims to "halt and reverse forest loss and land degradation by 2030 while delivering sustainable development and promoting inclusive rural transformation"[11]. A plan to implement this commitment was developed by the Ministry of Agriculture and Rural Development (MARD) and approved by the Prime Minister[12]. Viet Nam also joined the Global Adaptation Action Coalition (AAC) and a Call to Action on Climate Change Adaptation and Resilience[13].

Immediately after COP26 Viet Nam set up a Committee for the Implementation of its COP26 Commitments, headed by the Prime Minister with 19 sector ministries and agencies represented at high level. Based on instructions agreed in this Committee, ministries and agencies developed strategies, schemes, programs/action plans to implement Viet Nam's commitments, including: (i) the National Climate Change Strategy (NCCS) for the period up to 2050; (ii) Scheme of tasks and solutions to implement the results of COP26; (iii) Action plan to reduce methane emissions by 2030; (iv) several sectoral action plans, notably by the Ministry of Planning and Investment (MPI) (Green Growth Action Plan), the Ministry of Industry and Trade (MOIT) (energy, industry action plans), the Ministry of Transport (MOT) (Action program on green energy conversion, carbon and methane emission reduction of the transportation sector; capacity building on MRV of GHG emissions; energy efficiency of motor vehicles; roadmap for the development of electric vehicles (EVs); implement regulations of the International Maritime Organization (IMO) in MOT), MOC (a roadmap for green urban infrastructure development), MOFA, MOST (research under the National Science and Technology Program; technical standards on renewable energy); (v) the Government issued Decree 06/2022/ND-CP on mitigating greenhouse gas emissions and protecting the ozone layer, which is the basis for MONRE and MOF to develop a domestic GHG Emissions Trade System (ETS) (i.e. "carbon market"), and transitioning of Clean Development Mechanism (CDM) project credits and taking part in the new the Sustainable Development Mechanism (SDM) under Article 6 of the Paris Agreement (COP27 in November 2022 made some progress on implementation of that); and (vi) Prime Minister Decision 01/2022/QD-TTg specifies a group of large and energy intensive enterprises that must assess their greenhouse gas emissions according to technical guidelines on greenhouse gas measurement, reporting and verification (MRV) that serves as a basis for mitigating GHG emissions.

[11] https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/

[12] Decision 993/QD-TTg of 24 August 2023

[13] https://www.wri.org/initiatives/adaptation-action-coalition#:~:text=The%20Adaptation%20Action%20Coalition%20(AAC,climate%20resilient%20world%20by%202030.

At COP27, Viet Nam made progress in dialogues with many stakeholders on matters related to energy transition. The Minister of Natural Resources and Environment chaired a high-level Roundtable meeting on mobilizing private finance to support Viet Nam in energy transition and climate change adaptation, which was organized by GFANZ. Viet Nam reached agreements on cooperation to implement COP26 commitments with South Korea and India as well as the International Finance Corporation (IFC) and some GFANZ members. It discussed the possibility of joining the International Renewable Energy Agency (IRENA) and the International Solar Alliance (ISA), and of establishing a Renewable Energy Centre.

2.2.2. Viet Nam's Updated NDC (2022)

Viet Nam submitted the second update of its NDC to the UNFCCC Secretariat on 8 November 2022. According to this update, it will reduce emissions by 15.8% by 2030 compared to BAU (equivalent to 146.3 $MtCO_2eq$), which was 9% in the NDC of 2020. With international support Viet Nam will reduce emissions by an additional 27.7% (equivalent to 257.4 $MtCO_2eq$) or in total 43.5% reduction by 2030 compared to BAU. These emissions reduction commitments are detailed for the energy, agriculture, LULUCF, waste, and industrial processes sectors, and with a focus on energy in Table 1.

Figure 1 shows that total emissions in 2020 and in 2030 under the conditional scenario are equivalent, at 525 to 530 $MtCO_2eq$. This would be about 5 tCO_2eq /capita/year by 2030, which would be less than per capita emissions of some developed and middle-income countries at that time. However, achieving this very ambitious reduction in emissions compared to the BAU scenario will require significant international support in all emissions categories (Figure 1).

Energy production and consumption is by far the biggest source of GHG emissions in most countries, including Viet Nam, because of the production and use of fossil fuels. According to Viet Nam's updated NDC (2022), the energy sector would be responsible for 73.1% of total net-emissions in 2030 according to the BAU scenario (see Table 1 and Figure 1). In the scenario with domestic support only, the total energy emissions will be less than in the BAU scenario, but the share of energy emissions in total emissions will increase to 78.5% in 2030. In the scenario that is conditional on international support, with total emissions reductions of 43.5% by 2030 compared to the BAU, the share of energy emissions in total net emissions will be 86.1%.

Figure 1 - Updated NDC (2022): BAU and GHG emission reduction targets

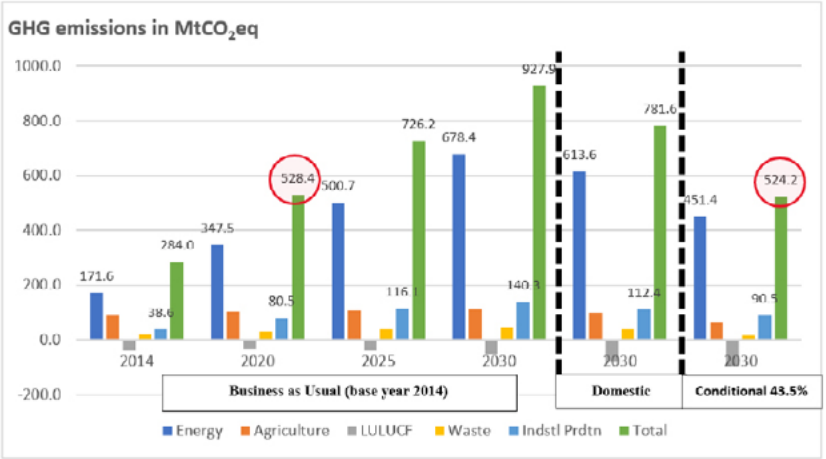


Table 1 - The share of energy emissions in total emissions - 2030 (NDC 2022)

2030	Total ($MtCO_2eq$)	Energy ($MtCO_2eq$)	BAU – NDC target (%)	Energy share in emissions (%)
BAU	927.9	678.4		73.1
Domestic: –15.8%	781.6	613.6	84.2	78.5
Conditional on International Support: –43.5%	524.2	451.4	56.5	86.1

The technical report for the NDC (2022) shows that projections in the power sector are a large component of the energy sector emissions, whereas energy sector emissions also originate in coal mining, exploration and refining of fossil fuels, and in energy consuming sectors such as transport, industrial production, construction and operation of buildings, and agriculture and aquaculture, which are covered by a range of other policies.

Emission reduction measures in the conditional contribution in the NDC that are specific to the energy sector include 38 GHG emission reduction measures. The GHG emission reduction potential, costs and financial needs of these measures are presented in Table 2 “Conditional Contribution: measures in the Energy Sector for the period 2021-2030”. According to model studies, the measures in Table 2 could reduce emissions by a total of 1,198 $MtCO_2eq$ in the period 2021-2030 and 226.98 $MtCO_2eq$ per year by 2030.

Table 2 - Conditional Contribution: Measures in the Energy Sector for the period 2021-2030[14]

Measures	Potential to reduce emissions (million tonne CO_2eq)			Emission reduction cost (a) (USD / tCO_2eq)	Additional financial need (b) (million USD)
	2021-2030	2025	2030		
E1. Using high-efficiency household air conditioners	13.08	0.81	3.38	-25.23	965.6
E2. Using a high-efficiency refrigerators	5.99	0.45	1.24	-50.56	317.7
E3. Use energy-saving lighting	14.08	1.15	2.86	-85.01	252.9
E4. Using solar water heater	2.83	0.15	0.77	-2.69	270.4
E5. Using biogas instead of coal for household cooking in rural areas	7.15	0.65	1.29	-5.64	68.4
E6. Using cleaner fuels for cooking in rural areas	30.66	2.79	5.56	23.41	38.1
E7. Optimization of clinker combustion cycle	2.05	0.18	0.38	-12.02	22.9
E8. Reduce clinker kiln heat loss	3.66	0.33	0.70	-14.49	4.2
E9. Waste heat recovery from cement production	12.03	1.05	2.23	0.36	194.4
E10. Use of vertical mill in cement production	6.89	0.54	1.38	2.68	734.1
E11. Applying improved technology in the production of baked bricks	7.46	0.65	1.50	-18.03	17.6
E12. Preheating of scrap steel before putting it into an electric arc furnace (EAF)	0.23	0.01	0.06	-60.39	8.7
E13. Heating in steel mill	1.38	0.08	0.34	-72.21	36.2
E14. Gas Heat Recovery from Oxygen Blower (BOF)	5.31	0.39	1.25	-34.16	120.7

14 This is Table 2.12 in: Ministry of Natural Resources and Environment. 2022.

Measures	Potential to reduce emissions (million tonne CO_2eq)			Emission reduction cost (a) (USD / tCO_2eq)	Additional financial need (b) (million USD)
	2021-2030	2025	2030		
E15. Spraying powdered anthracite coal into blast furnaces	4.57	0.22	1.41	-85.45	37.7
E16. Improve energy efficiency in sub-industries (except the sub-sectors brick, cement, and iron and steel production)	56.82	3.85	14.25	-71.69	1,153.8
E17. Fuel consumption limit for newly imported and manufactured motor vehicles	15.66	0.83	5.06	-167.79	0.3
E18. Transition passenger transport mode from using private vehicles to public transport	5.97	0.33	0.42	-168.75	243.1
E19. Transition transport mode from road to rail	4.40	0.36	0.92	-127.78	162.1
E20. Transition of transport mode from road to inland waterway and coastal road	11.80	1.13	1.58	-145.90	282.7
E21. Recommended to use CNG bus	0.05	0.004	0.01	153.52	12.0
E22. Increase truck load factor	7.24	0.79	1.14	-128.66	269.7
E23. Using biofuel	9.01	0.72	1.93	45.60	519.4
E24. Encourage the use of electric cars	15.30	0.91	4.31	120.36	4,951.2
E25. Using electric motorbike	15.32	1.41	2.82	-132.48	1,084.3
E26. Using electric bus	3.50	0.08	1.12	-13.99	628.7
E27. Use of high efficiency electrical equipment in commercial services, including cooling and refrigeration	17.63	1.27	4.02	-100.17	105.5
E28. Small hydropower development	150.00	17.12	21.20	-1.27	2,295.2

Measures	Potential to reduce emissions (million tonne CO_2eq)			Emission reduction cost (a) (USD / tCO_2eq)	Additional financial need (b) (million USD)
	2021-2030	2025	2030		
E29. Concentrated Solar Power (CSP)	91.93	11.82	11.42	14.00	3,120.2
E30. Development of rooftop solar power	65.92	8.30	8.02	39.40	3,712.5
E31. Onshore wind power development	227.97	27.74	29.36	19.77	9,142.3
E32. Offshore wind power development	30.12	--	9.96	109.79	3,813.3
E33. Biomass thermal power development	32.63	3.75	4.57	17.52	709.8
E34. Waste electricity development - incinerated	10.16	0.98	1.58	136.67	1,530.7
E35. Waste power development - landfill	0.99	0.10	0.16	48.34	64.0
E36. Development of biogas electricity	0.62	0.07	0.09	54.30	43.7
E37. Development of mixed gas turbine using LNG	228.56	9.91	66.00	90.71	20,733.1
E38. Development of supercritical thermoelectric technology	78.86	7.91	12.69	16.85	2,894.2
Total	**1,197.83**	**108.84**	**226.98**		**60,561.4**

Notes:

(a) Emission reduction cost: this is the additional cost (in 2020 value) to reduce emissions by 1 tonne CO_2eq compared to the case where no emission reduction measures are applied. If the economic benefit from the emission reduction measure is greater than the cost, the cost of emission reduction is negative. The above emission reduction costs are estimates, based on some assumptions that may not be exhaustive.

(b) Additional financial need: this is the additional investment cost (2020 value) to implement emission reduction measures, compared to BAU.

The energy measures listed in the NDC touch upon both energy production and consumption. How this relates to the main GHG emissions reduction and energy policies is stated in Section 2.4.

2.3. JUST ENERGY TRANSITION PARTNERSHIPS

2.3.1. The First Just Energy Transition Partnerships

The first Just Energy Transition Partnership (JETP) was announced at COP26 in 2021, where a political agreement was reached between South Africa and the UK, EU, Germany, France and the United States. Similar agreements were reached with Indonesia, Viet Nam and Senegal in November 2022, December 2022, and June 2023, respectively[15]. South Africa, Indonesia and Viet Nam all have large coal-based power sectors and were planning to enlarge those. The JETP political agreements commit the international public sector partners (forming an International Partners Group (IPG) that is somewhat different in each JETP) as well as international private sector financiers to support the energy transitions.

For the South Africa JETP, partner countries committed to mobilise an initial USD 8.5 billion between 2023 and 2027, in order to help South Africa achieve its most ambitious GHG emissions reduction scenario as per its NDC of 2021. The initiative was announced at COP26 in 2021.

South Africa has large coal reserves and its power sector as well as industry relies heavily on that. Coal provides 70 % of primary energy use, as it is used to produce other fuels. Phasing out coal for power and industrial use will disrupt coal mining which hundreds of thousands of people rely on for their livelihoods. At the same time, South Africa is facing major problems in electricity supply. The coal-fired power plants are running at low capacity because of a backlog in maintenance and repairs, resulting in blackouts that disrupt businesses and citizens.

South Africa formulated an Investment Plan and is developing its JETP Implementation Plan. The South Africa JETP includes investment in decommissioning of coal-thermal power plants; development of renewable energy generation capacity (solar PV, wind, battery storage); strengthening the transmission grid infrastructure to accommodate renewable energy; and modernising the electricity distribution system. There will be investment in human capabilities focused on a region where coal-power plants and coal mines are shutting down, whereas support will be provided to deployment of clean technologies, local infrastructure, livelihoods, enterprises, and job creation and training for workers. The EV sector will be supported (EV manufacturing base, EV-charging infrastructure, and conversion of public transport to EVs). And development of green Hydrogen (H_2) will be supported, to decarbonise emissions intensive industries and become an exporter of green H_2.

Indonesia reached a political agreement on JETP with an IPG in November 2022. It was agreed that IPG members, led by the USA and Japan, would mobilize USD 10 billion

[15] A summary of the agreements, plans and experiences of South Africa and Indonesia is provided in a separate Working Paper.

over three to five years, with private international financial institutions (GFANZ members) working to mobilise an additional USD 10 billion, to support Indonesia's trajectory to net zero emissions by 2050.

Indonesia has historically exported fossil fuels and is the world's largest coal exporter. It also has a history of direct subsidies on fossil fuel consumption, notably transport fuels which has proven politically extremely difficult to scale back, whereas cheap energy is a cause of waste and inefficiencies. Indonesia has expanded coal-power generation capacity very substantially in the past decades, to the point of having over-capacity.

Indonesia is developing its JETP Comprehensive Investment and Policy Plan (CIPP) to identify the investment requirements and opportunities, and policy reforms to address regulatory barriers. The JETP CIPP will include the expansion of renewable energies and the phase down of coal-fired power plants (including early retirement) and freezing the pipeline of new coal-fired power plants; deployment of energy efficiency and electrification; support to local industry in renewable energy and energy efficiency, pursuing local content in manufacturing; and concrete actions to ensure that the transition supports workers and communities who are affected by the transition away from coal.

Both South Africa and Indonesia, in cooperation with the multilateral development banks have proposed Investment Plans for financing by the Accelerating Coal Transition (ACT) investment program of the Climate Investment Funds (CIF). Both are seeking to use the IPG member investments to leverage foreign direct investment (FDI), as financial needs for the energy transitions are far larger than the funds agreed between IPG and these two countries.

2.3.2. Political Declaration on JETP in Viet Nam

Following many interactions such as those at COP26 and COP27 mentioned above, as well as specific negotiations, Viet Nam and the IPG made a Political Declaration (PD) on establishing the Viet Nam Just Energy Partnership (JETP) on 14 December 2022 in Brussels.

Needs and plans for this are discussed in Chapters 3 to 7. Projects are proposed in Annex I and Annex II, which are also rooted in recently approved energy master plans and schemes, and from domestic and international partners' proposals.

Box 1 - JETP Scheme Viewpoints and Objectives

"Viewpoints

1. Maximize mobilization and efficient use of resources to support the needs of Viet Nam's just energy transition in accordance with the national framework of public debt and external debt management, promote the implementation of the orientation of the National Energy Development Strategy and Nationally Determined Contribution (NDC) of Viet Nam.

2. Ensure an open, transparent, and just energy transition with broad consensus among stakeholders, including businesses, workers and populations affected by the energy transition; improve the efficiency and effectiveness of the just energy transition.

3. Private investment is important in a just energy transition; state resources and from the International Partnership Group (IPG) lead the process of technology transfer, capacity building governance, and alternative clean energy. Resources from the Glasgow Financial Alliance for Net-Zero (GFANZ) and other financial institutions invest directly in businesses, not through Government guarantees.

General objectives

Successfully implement the JETP Declaration in association with promoting the development of renewable energy, energy saving and energy efficiency, contributing to the goal of net zero emissions by 2050; develop the energy industry in harmony between sub-sectors with synchronous and intelligent infrastructure based on ensuring national energy security and development goals, ensuring equity in energy transition. Receive and effectively use the support of international partners in technology transfer, governance, human resource training, providing finance for the implementation of the JETP Declaration, contributing to the implementation of Viet Nam's National Energy Development Strategy orientation, implementing the Global Coal to Clean Power Declaration."

2.3.3. The JETP Scheme

The Political Declaration has been reflected in the "Scheme for the implementation of the Political Declaration establishing a Just Energy Transition Partnership"[16].

The Scheme includes all the main contents of the Political Declaration, as well as some initial priorities as shown in Table 5 (offshore wind power, power transmission, energy storage) and discussed in Chapters 3-7. In addition, the Scheme is providing the structure for implementation of JETP, and it is allocating responsibilities for implementation to Vietnamese entities (see Chapter 8).

16 Prime Minister Decision 1009 QD-TTg of 31 August 2023

2.4. VIET NAM'S EMISSIONS REDUCTION AND ENERGY POLICIES

2.4.1. Orientations to Reach Net-Zero GHG Emissions by 2050

To implement the COP26 Commitments, Viet Nam has already issued some relevant policies, such as the NCCS[17] and the National Green Growth Strategy (NGGS)[18], and it has updated the NDC (2022), which were among many other policies that were receiving direction of the National Committee for the Implementation of COP26 Commitments.

The NCCS provides an overall strategy and pathway towards net-zero emissions. Its overall objective includes to *"adapt effectively, reduce vulnerability, losses, and damage caused by climate change; reduce greenhouse gas emissions with the goal of reaching net zero emissions by 2050, actively and responsibly contributing to the international community in protecting the earth's climate system; taking advantage of opportunities from climate change response to shift the growth model, improving the resilience and competitiveness of the economy.*"

The NCCS, informed by many sector policies, allocates responsibilities for emissions reduction in all five main emissions categories (as in Figure 1). It sets targets for GHG emissions reduction with international supports, summarised as follows:

- Reduce total national GHG emissions by 2030 by 43.5% compared to the BAU scenario.
- Reduce energy sector emissions by 2030 by 32.6%, with emissions not exceeding 457 $MtCO_2eq$.
- Reduce total national GHG emissions to net zero by 2050. The emissions peak is expected in 2035, after which it will fall rapidly.
- By 2050, energy sector emissions will not exceed 101 $MtCO_2eq$; agricultural emissions will not exceed 56 $MtCO_2eq$; forestry and land use will have increased carbon sequestration by 185 $MtCO_2eq$; waste emissions will not exceed 8 $MtCO_2eq$; industrial processes will not exceed 20 $MtCO_2eq$.

Specifically for the energy sector, for the periods to 2030 and to 2050, it promotes, in summary:

- Renewable energy (RE) development, while maintaining national energy security: small, medium, and large hydroelectricity plants where possible, onshore and offshore wind power, (rooftop) solar power, biomass, (green) hydrogen and ammonia, and tidal energy. By 2030 RE will be at least 33% and by 2050 at least 55% of total generated power.

17 Prime Minister Decision 896/QD-TTg on "Approval of the National Climate Change Strategy for the period up to 2050" of 26 July 2022

18 Prime Minister Decision 1658/QD-TTg on "Approval of the National Green Growth Strategy for the period of 2021-2030, vision to 2050" of 1 October 2021

- No development of new coal-fired power plants after 2030, gradually reduce the scale of coal power capacity after 2035, convert to clean, zero-emission fuels, consider developing nuclear power.
- Energy storage technologies, such as BESS and pumped-storage hydroelectricity, also heat storage.
- Building a smart and efficient power transmission and distribution grid to ensure power stability and allow integration of a high proportion of RE.
- Research and development of Carbon Capture and Storage (CCS) technology for power plants and industrial production facilities.
- Enhance the implementation of solutions for economical and efficient use of energy in industry, agriculture, transportation, buildings, services, and trade and consumption, with efficient equipment such as lighting, electric motors, industrial boilers, heating and cooling/ cold chain systems, etc.

The NGGS and the NCCS both refer to broader, social economic needs that must be met as the economy will become greener and "low carbon". However, neither of these strategies provide detail on ways of dealing with negative effects of transitions that lead to reduced GHG emissions, nor detail on how these strategies support achieving wider social goals. However, some jobs will be lost, as, for example, coal power plants will transition and (later) coal mines may be closing, whereas energy prices may go up affecting low-income households and micro and small enterprises in particular. Such social groups and enterprises must be supported in coping with the disadvantages. In addition, workers, enterprises, and consumers must be able to benefit from the opportunities that will be created in the transition, with new business models, new jobs and reduced prices of certain goods and services. This will require programmes for retraining/ reskilling of workers, and, for example, policies that will enable (low-income) households and (small) farmers to apply rooftop solar PV and solar PV combined with crop cultivation, livestock and aquaculture, in order to improve access to energy as well as reduce energy costs[19]. This is addressed in the JETP PD and is addressed in particular in Chapter 5.

2.4.2. Energy Policies

Nearly half of Viet Nam's energy emissions (see Figure 1) originate in electricity production and consumption, and so the power sector is a priority for decarbonisation. A large part of the electricity sector GHG emissions are caused by coal consumption. Gas power generation is increasing significantly but emissions per unit electricity are considerably lower. Party Resolution 55-NQ/TW[20], the (draft) National Energy Development Strategy to 2030 with a vision to 2045, the National Energy Masterplan for the period 2021-2030 with vision to 2050[21], as well as the national Power Development Planning

19 Neefjes, Koos, et al. 2021. Prospects for a socially just energy transition in Viet Nam: 2021 and beyond. Hanoi: Friedrich-Ebert-Stiftung. http://library.fes.de/pdf-files/bueros/vietnam/18201-20210907.pdf

20 Resolution of the Politburo on Orientations of Viet Nam's National Energy Development Strategy to 2030 and outlook to 2045, signed by the Secretary General on 11 February 2020

21 Prime Minister Decision 893/QD-TTg of 26 July 2023 on "issuing the National Energy Masterplan for the period 2021-2030, with a vision to 2050"

VIII for the period 2021-2030 with a vision to 2050 (PDP8[22]) show the gradual reduction of dependency on coal-fired power and the need to deploy RE. Energy consumption is particularly affected by other sectoral masterplans. Following are some highlights from the policies.

The (draft) **National Energy Development Strategy** makes reference to Party Resolution 55-NQ/TW of the Politburo and to achieving "net-zero" by 2050. The draft has the following specific objectives, in summary:

- Satisfy domestic energy demand, with primary energy by 2030 175-195 million tonnes of oil equivalent (mTOE), and 320-350 mTOE by 2045.
- Total installed power production capacity by 2030 will be 125-130 GW and electricity output will be 550-600 billion kWh.
- Share of renewable energy in total primary energy 20-25% in 2030 and 60-65% in 2045.
- Total final energy consumption will be 105-115 mTOE by 2030, 160-190 mTOE in 2045.
- Building a smart, efficient power system capable of safely connecting to the regional power grid, especially members of the Association of South-East Asian Nations (ASEAN); ensure safe power supply, reliability of electricity supply.
- Oil refineries meet at least 70% of domestic demand; ensuring a strategic petroleum reserve of at least 90 days of net import.
- Capacity to import LNG will be 12-15 billion m3 in 2030 and 20 billion m^3 in 2045.
- The ratio of energy savings to total final energy consumption compared with the business-as-usual scenario will be 9% in 2030 and 20% in 2045.
- Reduce greenhouse gas emissions from energy activities compared to the BAU scenario with 25% by 2030, up to 70% by 2045.

The **National Energy Masterplan** development objectives are, in summary:

Ensure national energy security, meet the requirements of socio-economic development, industrialization and modernization, ensure national security, and protect living standards and the environment. Implement the energy transition, contributing to meeting the target of "net-zero" emissions by 2050.

The specific objectives are, in summary:

Meet the energy demand for the economy at 6.6%/year in the average scenario and 7.45%/year in the high scenario in the period 2021-2030, and 5.6%/year in the average scenario and 6.2%/year in the high scenario for 2031-2050:

- The total final energy demand is 107 mTOE by 2030 and 165-184 mTOE in 2050.
- Total primary energy supply is 155 mTOE by 2030 and 294-311 mTOE in 2050.

22 Prime Minister Decision 500/QD-TTg of 15 May 2023 on "Approving the National Power Development Planning for the period of 2021 - 2030, with a vision to 2050"

- The proportion of renewable energy in total primary energy 15-20% in 2030 and 80-85% in 2050.
- The energy saving rate is 8-10% in 2030 and 15-20% in 2050 compared to BAU.
- The energy sector GHG emissions are 399-449 $MtCO_2eq$ in 2030; and about 101 $MtCO_2eq$ in 2050. GHG emission reduction target: 17-26% in 2030, and 90% in 2050, compared to BAU. The GHG emissions peak is in 2030 if JETP financial commitments would be implemented fully and practically by international partners.
- Developing clean energy industry centres renewable energy equipment manufacturing, producing about 100-200 thousand tons green hydrogen per year by 2030, and exporting renewable energy in the region.

PDP8 includes similar targets but is specific on power production. The planned installed capacities of different power sources for 2030 are given in Table 3.

Specifically on coal power plants, PDP8 says, for example:

"*Only continue to implement projects already in the adjusted Power Master Plan VII and under construction until 2030. Orientation to convert fuel to biomass and ammonia with plants already in operation 20 years of service when the price is right. Stop operating plants with a lifespan of more than 40 years if fuel conversion is not possible.*"

[period to 2030] "With coal power sources that are having difficulty in deploying, the treatment process will be updated to replace it with LNG or renewable energy sources"

"*Research and apply technology to convert fuel from coal and gas power plants, to biomass fuels, ammonia, hydrogen...*"

JETP finance from the IPG will support clean electricity generation along with the necessary transmission and storage for decarbonising the power system. Support may also be directed towards early retirement and increased flexibility of CFPPs to reduce the overall output of the fleet consistent with the JETP targets.

Table 3 - Power generation installed capacity in 2030 according to PDP8

Power source	Installed capacity (MW) 2022*	Installed capacity (MW) 2030	Share (%) 2030
Wind power onshore	3,980	21,880	14.5
Wind power offshore		6,000	4.0
Solar PV plant	8,840	12,836**	8.5

Rooftop solar PV	7,755	***	
Biomass and waste to energy	382	2,270	1.5
Hydropower	22,022	29,346	19.5
Pumped-storage Hydropower		2,400	1.6
Battery Energy Storage Systems (BESS)		300	0.2
Combined heat and power (CHP)		2,700	1.8
Coal-fired thermal power	24,100	30,127	20.0
Gas thermal power domestic	7,185	14,930	9.9
Imported LNG		22,400	14.9
Flexible (fast ramp up; ancillary services)		300	0.2
Oil fired power	1,500		
Import	572	5,000	3.3
Total	**76,336**	**150,489**	**100**
Total RE including hydropower		**77,732**	**51.6**

* Most estimates for 2022 are not mentioned in PDP8

** 10,236 MW solar plant, self-consumption 2,600 MW

*** Unlimited self-consumption, off-grid

PDP8 also gives RE generation and GHG emissions reduction targets for the electricity sector. RE production will be 30.9-39.2% by 2030, moving towards the target of 47%, provided that international commitments are met. By 2050 the RE rate will be 67.5-71.5%. GHG emissions from electricity production will be 204-254 $MtCO_2eq$ in 2030 and around 27-31 $MtCO_2eq$ in 2050. The power sector aims to reach peak emissions of 170 $MtCO_2eq$ by 2030 if the commitments to support JETP are fully implemented by international partners. These targets are consistent with JETP targets in paragraph 24 of the JETP PD (see section 2.3.2).

The cost involved in transition of coal-fired thermal power plants is not included in the PDP8 cost estimates, but investment will be required for energy substitution and repurposing of some coal-fired thermal power plants, noting agreements on JETP in South Africa and Indonesia where this is a core aspect of JETP.

In addition to these three major energy policies, there are other important energy-related policies with relevance to the JETP. For example, master planning in the industry, transport, construction, and agricultural sectors includes proposals for investments and regulatory changes that affect energy efficiency and electrification. There is the Viet Nam National Energy Efficiency Program 3 (period 2019-2030) (VNEEP 3)[23] under the MOIT, responsible for improving energy saving and energy efficiencies in industry and consumption, including equipment that may be applied in buildings. In addition, preparatory work has taken place on regulations regarding "reverse auctions" of wind and solar power capacities, which would be limiting the cost price, and a draft decision on "Direct Power Purchase Agreements" (DPPAs) has been formulated, which will enable producers and consumers of renewable energy to link directly while using the EVN electricity transmission and distribution systems. Work has also been initiated on the formulation of solar PV rooftop regulation. Also relevant are ongoing efforts to improve policies to regulate and guide the development of green finance through national commercial banks, and regulations to help raise financial resources for the implementation of the NGGS (see Chapter 4.).

23 Prime Minister Decision 280/QD-TTg of 13/3/2019 on approval for National Programme on Energy Saving and Energy Efficiency in the period of 2019-2030.

CHAPTER 3

OVERALL INVESTMENT NEEDS OF THE JUST ENERGY TRANSITION IN VIET NAM

3.1. ENERGY SECTOR PRIORITIES IN JETP

The Political Declaration expresses the JETP scope in Paragraph 21 and Paragraph 24, in particular (see quotes in Section 2.3.3). These may be arranged into the categories listed in Table 4.

Table 4. JETP Scope based on paragraphs 21 and 24 of the Political Declaration

Categories	Elements from Paragraphs 21 and 24 in the Political Declaration
1. Improving the regulatory framework for the energy transition	Improve the regulatory framework to facilitate investment in renewable energy, power transmission and energy storage, and energy efficiency in Viet Nam
2. The transition of coal power generation	Reduce the pipeline of coal-thermal power generation projects, negotiate suspension of new investment in coal-thermal power plants that do not have emission reduction technology, and negotiate to transform or close old, inefficient coal-thermal plants
3. Developing the renewable energy industry	Accelerate the deployment of renewable energy, including multi-purpose land use for wind and solar power production and plan offshore wind power combined with marine aquaculture and fishing
4. Power transmission and energy storage	Sustain a reliable grid, to enable deployment and management of renewable energy
5. Energy efficiency	Improve energy efficiencies in different sectors
6. Energy transition in the transport sector	Stimulate adoption of electric vehicles
7. Innovation, development and technology transfer	Establish a centre of excellence for renewable energy and create opportunities for technological innovation and private investment
8. Ensuring a just transition	Ensure access to affordable energy for all and meet the needs of those most affected by the transition; design mechanisms to ensure affordable electricity for low-income groups; training, retraining and vocational support to women and men workers for employment

Note: These categories follow the categories in the Scheme as well, except "9. Communication" and "10. International Cooperation" which are addressed in Chapter 8 of this RMP.

Table 4 summarises the agreed priorities for the just energy transition in Viet Nam. This constitutes the overall scope, which excludes investment in consumption of fossil fuels,

including e.g. thermal power plants conversion from coal to LNG. There is a need for further detailing, interpretation and prioritisation, for understanding more concretely what JETP investments and policy actions would entail. In addition, concrete investments will be limited by the available resources, which prompts the need for a process of prioritisation.

Underlying the priorities in Table 4 is that energy demand for household consumption, industrial production, transport and some other sectors and activities has been increasing in the past decades and is still increasing at a high rate, i.e. a higher rate of growth of energy demand compared to for example South Africa and Indonesia. This means that Viet Nam is facing a particularly challenging situation in which fossil fuels must be replaced in order to reach net-zero, several sectors must shift towards the use of electricity, total energy supply must increase, and energy efficiency must improve.

The priorities in Table 4 relate to many policies of Viet Nam, including those discussed in Section 2.4, but do not fully overlap with any single policy, including the energy production and consumption priorities in the National Energy Masterplan, PDP8, or the updated NDC of 2022. Compared to the NDC's energy priorities as regards the internationally supported actions (Table 2), the JETP priorities do not include, for example, "Concentrated solar power development", "Small hydropower development", "Biomass thermal power development", "Development of mixed gas turbine using LNG", or "Development of supercritical thermoelectric technology". The priorities, their effects on GHG emissions reduction and investment needs are discussed further in Section 3.2.

3.2. ESTIMATED FINANCIAL INVESTMENT NEED FOR JET IN VIET NAM

The power generation emissions are a large component of energy sector emissions, though it is less than 50% of the total, as fossil fuel exploration and mining as well as fossil fuel consumption in industry and transport are making up much of the rest[24]. PDP8 sets out to reduce power sector emissions considerably, depending partially on international support (as in the NDC). The JETP PD has a power sector focus, but it also aims for improvements in energy efficiency in several sectors, and e.g. electrification of transport. In Table 5 the categories from Table 4 are specified further and general ideas for relevant programs and projects are given, which are derived from the JETP Scheme, the NDC and PDP8 in particular.

24 See e.g. Viet Nam's third Biennial Update Report to the UNFCCC with National GHG Inventory data for 2016, page 40 with Figure 2.3 https://unfccc.int/documents/273504

Table 5. Investment options for JETP (unprioritized)

Categories and sub-categories	Options for investment program / project types	Source
1. Improving the regulatory framework for the energy transition		
1.1 Develop policy for the energy transition	- Develop a long-term legal framework to achieve net zero emissions and ensure the transition from fossil energy to low-emission energy. - Incorporate equitable energy transition aspects in land use planning and socio-economic development plans at all levels.	- Scheme - Scheme
1.2 Link policy reform and priority investment programs	- Review, amend, supplement, repeal or promulgate new regulations, especially in relation to specific types of investments in the categories below, including regulations on renewable energy, power transmission, energy storage, energy efficiency, and electric transport.	- Scheme
2. The transition of coal power generation		
2.1 Scale down of coal power generation pipeline	- Agree the suspension of coal-fired power plants that are behind schedule, e.g. failing to raise capital. - Development of a roadmap for coal-fired power plant transition while ensuring national energy security, linking to the development of the Emissions Trade System (ETS).	- Scheme, PDP8 - Scheme
2.2 Transition of coal power generation units	- Transitioning, repurposing, redeveloping coal power plants, notably when at the end of their economic lifetime. - Co-firing of biomass in existing coal-fired power plants. - Development of mixed gas turbine using LNG that displaces coal. - Supercritical thermoelectric technology in coal-fired power plants.	- Scheme, PDP8 - PDP8 - Table 2 - Table 2
3. Developing the renewable energy industry		
3.1 Development of renewable energy manufacturing industry	- Development of domestic manufacturing industry on solar and wind power equipment focused on two regions with renewable energy industry ecosystems. - Support development of domestic manufacturing industry of Battery Energy Storage Systems (BESS). - Encourage FDI in Variable Renewable Energy (VRE) and BESS manufacturing capacity in Viet Nam.	- Scheme, PDP8 - Scheme - Scheme

Categories and sub-categories	Options for investment program / project types	Source
3.2 Wind power **(Offshore Wind is Scheme Priority)**	- Strengthen the regulatory framework for offshore and on-shore wind power plant development (auctions, multiple land-use ...). - Support to on-shore and offshore wind speed data collection, Land Use Planning, Marine Spatial Planning. - Offshore and onshore wind power plant deployment. - Deployment of small-scale wind power plants in dual land-use settings.	- Scheme, PDP8 - Scheme, PDP8 - Scheme, PDP8 - Scheme, Table 2
3.3 Solar PV	- Complete regulations on solar PV development (DPPA, auctions, rooftop, multiple land-use, floating ...). - Concentrated solar power (CSP) development. - Solar PV power plant deployment on land, water surfaces, with multiple land-use. - Agriculture-Solar PV (APV) (livestock, aquaculture ...) dual use systems. - Deployment of (unlimited) solar PV rooftop systems (grid connected and "behind the meter").	- Scheme Table 2 - Table 2 - Scheme - Table 2 - Table 2, PDP8
3.4 Other renewable energy production	- Expand small hydropower deployment. - Deployment of (domestic, agricultural) waste-to-energy in heat and electricity production. - Research & Development (R&D) on innovative electricity production, e.g. wave energy.	- Table 2, PDP8 - Table 2, PDP8 - Scheme
3.5 Production and use of green Hydrogen and derivatives	- Deployment of electrolysers associated with RE for production of green H_2 and derivatives, displacing non-green H_2 in petrochemical, fertilizer, cement or steel industry. - Assessing the feasibility of the use of green H_2 and derivatives in transport, such as H_2 fuel cells. - Assessing the feasibility of the use of green H_2 and derivatives in power production, such as mixed into LNG.	- Scheme - Scheme - PDP8

Categories and sub-categories	Options for investment program / project types	Source
4. Power transmission and energy storage		
4.1 Power transmission **(Scheme Priority)**	- Support the implementation of the smart grid development roadmap to enhance the ability to integrate renewable energy into the power system, reduce power losses, with deployment of high-quality transmission infrastructure (cables, sub-stations, disconnectors, ...) and Supervisory Control and Data Acquisition (SCADA) systems. - Improved, expanded power-distribution systems especially in remote rural areas. - Promote grid connections with countries in the region to enhance power exchange, and take advantage of countries' resource strengths.	- PDP8 - PDP8, Scheme - PDP8, Scheme
4.2 Energy storage **(Scheme Priority)**	- Deployment of Battery Energy Storage Systems (BESS) for ancillary services (stability, peaking) near load centres and including systems combined directly with wind and solar power plants. - Deployment of pumped hydro-power storage, including additional schemes linked with existing hydro-power plants. - Deployment of mechanical and / or battery storage for large electricity consumers. - Develop mechanisms for demand management, to encourage load reduction during peak hours, operate during low electricity price hours.	- PDP8 - PDP8 - Scheme - Scheme
5. Energy Efficiency		
5.1 Energy Saving and Efficiency Program	- Promote the implementation of solutions for economical and efficient use of energy in manufacturing industry, agriculture, transportation, services, trade and building operation. - Promote the development and application of the Energy Service Company (ESCO) business model.	- Scheme - Scheme
5.2 EE and electrification in industrial production	- Iron & steel production. - Paper production. - Textile and garments. - Agriculture and aquaculture processing.	- Table 2 - Table 2 - Table 2 - Table 2
5.3 EE and electrification in construction sector	- Cement production. - Brick manufacture. - Commercial, administrative, residential buildings and industrial production facilities. - Public lighting efficiency, towns & cities.	- Table 2 - Table 2 - Table 2 - Table 2

Categories and sub-categories	Options for investment program / project types	Source
5.4 EE and electrification in household consumption	- Strengthen the regulatory framework on EE. - Energy efficiency and electrification in household consumption and buildings; using highly efficient lighting equipment, solar water heaters, biogas, etc.	- Scheme - Table 2
6. Energy transition in the transport sector		
6.1 Green transport policy implementation	- Support to the implementation of the Action Plan on green energy transition, carbon and methane emission reduction in the transport sector.	- Scheme
6.2 Development and adoption of EVs	- Support to manufacture and purchase of EVs, e.g. through tax policies. - Enhancement of EV bus routes. - Development of EV charging infrastructure for a wide range of EVs.	- Scheme - Scheme - Scheme
7. Innovation, development and technology transfer		
7.1 Centre of excellence for renewable energy, energy storage and energy efficiency	- Programme to R&D technological innovations in solar and wind, wave energy, energy storage (chemical, thermal, mechanical methods). - R&D Programme on energy efficient technologies. - R&D Programme on production, transport, storage and use of green hydrogen and derivatives. - R&D Programme on Carbon Capture, Use and Storage (CCUS).	- Scheme - Scheme - Scheme - Scheme
8. Ensuring a just transition		
8.1 Strengthen capacities of workers and local people affected by the transition	- Assessment of the social-economic and just effects of energy transition investment programs on men and women workers, communities, and businesses. - Assessment of men and women workers' capacity/ skill development needs, especially in renewable energy value chains. - Vocational training of affected workers, to access new jobs. - Connect workers to green job information (Job Service Centres). - Implement social security and support mechanisms (severance allowance, early retirement, unemployment allowance, social assistance for informal workers, etc).	- Scheme - Scheme - Scheme - Scheme - Scheme

Categories and sub-categories	Options for investment program / project types	Source
8.2 Creation of jobs through industrial development and local and regional economic development	- Review roles of Vietnamese business in renewable energy value chains, assess potential to increase their roles, and support industrial development and job creation in the renewable energy value chains. - Development of regulations to ensure the multi-purpose use of land and marine spaces for solar and wind power combined with agriculture, aquaculture and fisheries on which households may depend. - Design and implement area development programs in regions negatively affected by the energy transition, including incentives for young people, women, ethnic groups, and micro, small and medium sized enterprises (MSMEs) to participate as entrepreneurs and workers in JETP initiatives. - Invest in grid connections and grid improvement in the remotest delta and mountainous rural areas to ensure that 100% of rural households have access to electricity by 2025, including through the “Small Scale Power Grid Development Fund” mechanism.	- Scheme - Scheme - Scheme - Scheme
	- Planning for local socio-economic development in the context of just energy transition (to promote green and sustainable jobs in a low-carbon local economy), and support career mobility, maintain and create new livelihoods suitable to actual conditions.	- Scheme

Categories and sub-categories	Options for investment program / project types	Source
8.3 Policy mechanisms for access to affordable energy for all	- Strive for 100% of rural households could use electricity by 2025 through the implementation of the "Small Scale Power Grid Development Fund" mechanism to assure access to renewable energy electricity for places where the grid cannot be accessed. - Design support mechanisms to ensure reasonable electricity prices for affected, vulnerable, and low-income groups, including electricity price supporting initiatives through various forms of retail application of domestic electricity at starting prices suitable to the affordability of low-income households. - Analysis of the governance of the energy transition, which is affecting social groups and businesses, and making recommendations on strengthened governance. - Macro-economic assessment of the effects of the energy transition on energy prices, access, and income distribution, make recommendations on social protection and energy pricing, and design mechanisms to protect low-income households, micro and small businesses from energy price increases that are caused by the energy transition, to ensure energy access for all. - Assessment of the effects of specific JETP investment programs, and assessment of suitability of existing social protection mechanisms for addressing employment and livelihood development, and design and implementation of social protection mechanisms for formal workers and informal workers affected by specific investment programs.	- Scheme - Scheme - Scheme - Scheme - Scheme

Notes: The main categories are as in Table 4, sub-categories are consistent with the Political Declaration.

- This table includes all key elements from the JETP Implementation Scheme, except "9. Communication" and "10. International Cooperation" (both are addressed in Chapter 8).

- The suggested project types labelled "Scheme" are consistent with it, and some give more details based on literature. It is also based on priorities in PDP8, for power related projects. And it refers to energy priorities in the NDC (Table 2), which include power production as well energy efficiency and transport priorities.

- Unlike PDP8, the Scheme and NDC include projects categories or types, not named, concrete projects.

- Financing of projects will be diverse: ODA grants, loans, guarantees; private sector debt / equity, PPPs, etc.

- JETP finance excludes investments that either increase or maintain the consumption of fossil fuels or that prolong the lifetime of fossil fuel generators, but may be used to support transitioning of the source of energy or early retirement of CFPPs, or to increase their flexibility to support the integration of variable renewable energy with the objective of reducing the overall output of these plants consistent with the JETP targets.

According to PDP8, achieving it will require USD 134.7 billion from domestic and international sources in the period to 2030, of which USD 119.8 billion USD for power generation sources and USD 15.0 billion for the power transmission grid expansion and improvement. This would come from domestic and international public and private sources. This excludes costs of just aspects and research with relevance to the power sector, whereas the PDP8 estimate includes investments in (new) fossil fuel power generation which is not consistent with the JETP scope. Nevertheless, a significant part of PDP8 projects will "match" JETP priorities, including renewable power production, energy storage, and many transmission investments, as indicated in Table 5. Exactly which part of PDP8's USD 134.7 billion matches the JETP scope (some of the categories in Table 4) cannot be as certained, but it is clear that it will be several times the total of USD 15.5 billion committed by IPG and GFANZ members[25], whereas they aim to leverage and raise additional funding, depending especially on the Vietnamese policy environment. Some of the projects listed in the PDP8 annexes fit in the categories 3 and 4 of Table 4 and Table 5. At the same time, the energy transition requires investments that are not estimated by PDP8, such as the just aspects.

A second source for estimating the overall financial need for energy transition in Viet Nam until 2030 is the updated NDC of 2022. Its emissions reduction actions are estimates of the domestic and international financial needs for Viet Nam to achieve the highest possible emissions reduction by 2030. Table 2 gives the emission reduction potential, costs and financial needs of the listed 38 GHG emission reduction measures. To achieve the unconditional contribution in the updated NDC of 2022 to reduce GHG emissions in 2030 by 15.8% by 2030, compared to the BAU, is USD 21.7 billion. This is the additional financial need for the period 2021-2030 to achieve the unconditional emission reduction target by 2030; it would be financed by the Government and the Vietnamese business sector. The total additional financial need to reduce GHG emissions by up to 43.5% by 2030 compared to the BAU, including the unconditional and the international contribution, is estimated at USD 86.8 billion for the period to 2030. Of this, the energy sector alone requires about USD 60.6 billion (Table 2), which represents the implementation of Viet Nam's energy-related commitments made at COP26 considering the period to 2030, with both domestic and international means. Of this, USD 46.1 billion would be additional ODA and FDI[26] or almost three times the IPG and GFANZ members' initial commitment of USD 15.5 billion.

The financial estimates of either PDP8 or the NDC do not include just aspects that must be addressed according to the JETP PD and Scheme.

These estimates of financial needs are broad and based on model studies with assumptions about e.g. the price of certain new technologies as well as energy demand projections which are a strong determinant of future emissions in the power sector and other sectors. Viet Nam's energy demand has been growing fast and is expected to grow

25 The USD 15.5 billion commitment of IPG, with GFANZ, is "over the next three to five years", i.e. up to 2028.

26 [MONRE. 2022. Technical Report: Viet Nam's Nationally Determined Contribution (updated in 2022)]

fast in the coming years, but policy success with improving efficiencies is possible and important as Viet Nam's economy is comparatively energy-inefficient, i.e. demand growth could slow down.

Thus the model projections are imprecise by their nature, especially for the period beyond 2030, though the order of magnitude of financial needs may be reasonable justified in the period to 2030. It is concluded that the JETP financial commitments are only a limited part of the needs for the period to 2030, and resources must be prioritised strategically, which is discussed in Section 3.3. Beyond the "three to five years" as committed in the JETP PD, the funds must be spent on cost-efficient decarbonisation measures and in ways that leverage further investment, public and private, domestically and internationally.

3.3. THE BASIS FOR PRIORITIZATION OF PROJECTS TO IMPLEMENT JETP

Based on the JETP Implementation Scheme, international experience, consultation and exchange with relevant ministries, sectors and agencies, the principles for determining JETP implementation projects are as follows.

3.3.1. General Principles

Investment and technical assistance projects under JETP must be consistent with the objectives and tasks of the approved JETP Implementation Scheme and meet the general principles given in Table 6. These are used to construct lists of investment and technical assistance projects that must all fall within the scope of the JETP, and that are likely to meet these general principles.

The resulting project lists are given in Annex I and Annex II. They have been derived from different sources and projects consequently have a different status in terms of for example government endorsement. Many projects are derived from the Annexes of PDP8 and other approved masterplans and policies, several projects are derived from the Concept Notes related the main categories within the scope of the JETP that were shared by IPG, others have been submitted by stakeholders such as banks and development organisations. The intention is that the list is open and will be expanded as stakeholders provide information, as long as the four general conditions are met.

These are projects for which capital has not been mobilized yet, that are not yet fully funded; that have not yet been approved or are in the proposal stage; programs and projects that have been basically approved and included in masterplans such as PDP8, with some projects in the feasibility study stage; and programs and projects that are proposed by international and domestic partners and are only at the concept note stage, aiming to access financial resources from IPG and GFANZ.

Table 6. General principles for projects to participate in JETP

Programs/project must ...:
1. Promoting the development of renewable energy or energy saving and energy efficiency, contributing to the achievement of greenhouse gas emission reduction objectives and ensuring national energy security.
2. Providing clear socio-economic benefits for communities, businesses and/or workers affected by the transition.
3. Be catalytic in nature, and encourage additional, future JETP investments.
4. Have significant positive impact on the just energy transition.

3.3.2. Investment and Technical Assistance Project Prioritization

The selection of specific investment projects within certain categories and subcategories will be carried out through negotiations between managing agencies, project owners, partners and other stakeholders on the basis of compliance with the legal provisions of Viet Nam and taking into account the criteria in Table 7.

The negotiations will happen at different levels, so for example between the Government and IPG there will be forums at which to determine whether projects are correctly placed under the JETP framework; and rough estimation of financing will take place primarily between project owners and financiers. The negotiations about project priorities will take into account the need to improve institutions and policies; development, technology transfer and innovation; and promoting a just transition.

Table 7. Specific project selection criteria per (sub-)category

Categories	Project selection criteria
For investment projects	
a) Projects on the acceleration of transition from coal power to clean energy	- Cost effectiveness, financial returns - Bankability - High capacity (clean) power generation - High-capacity ancillary services - Impact on power transmission grid congestion - Amount of abated GHG emissions/reduction of coal use - Environmental impacts - Strengthen gender equality in work, jobs and career change - High socio-economic efficiency - Encourage efficient land-use - Apply advanced, modern technology - Replicability of experiences, learning lessons

Categories	Project selection criteria
b) Projects on the development of the industrial and service ecosystem for renewable energy	- Cost effectiveness, financial returns - Bankability - Strengthen gender equality in work, jobs and career change - High socio-economic efficiency - Impact on local businesses - Apply advanced, modern technology - Contribute to the development of the overall ecosystem of renewable energy industry and services - Encourage increased private sector investment - Replicability of experiences, learning lessons
Development of the RE manufacturing industry	- Domestic content rate of equipment - FDI companies express interest - Growth of domestic manufacturing industry
Renewable energy production (wind, solar, other)	- High power generation output - High-capacity ancillary services - Impact on power transmission grid congestion - Multiple land-use, inter-tidal zone or sea-use enabled - Impact on access to affordable energy for all
Production and use of green Hydrogen and derivatives	- High capacity green H_2 generation - Effectiveness in producing derivatives (synthetic fuels) - Cost and effectiveness of storage and transport - Impact on petrochemical and other industry - Impact on means of transport (including H_2 fuel cells)
c) Projects on power transmission and energy storage	- Cost effectiveness, financial returns - Bankability - Encourage increased private sector investment - High-capacity ancillary services - Enable an increase in VRE in the power mix - Impact on power transmission grid congestion - Environmental impacts - Encourage efficient land-use - Strengthen gender equality in work, jobs and career change - Replicability of experience, learning lessons

Categories	Project selection criteria
d) Projects on energy saving and energy efficiency	- Cost effectiveness, financial returns - Bankability - Encourage increased private sector investment - Impact on GHG emissions - Environmental impacts - Strengthen gender equality in work, jobs and career change - Impact on access to affordable energy for all - Replicability of experience, learning lessons
dd) Projects on green energy transition and greenhouse gas emissions reduction in the transport sector	- Cost effectiveness, financial returns - Bankability - Encourage increased private sector investment - Impact on the rate of EV adoption - Impact on GHG emissions - Environmental impacts - Strengthen gender equality in work, jobs and career change - Replicability of experience, learning lessons
For Technical Assistance support projects	
a) Projects on supporting the completion of institutions and policies to promote the energy transition	- Expedite the process of ODA approval and disbursement - Expedite deployment of critical JET investments - Encourage increased private sector investment - Promote GHG emissions mitigation - Ensure national energy security - Strengthen gender equality in work, jobs and career change - Improve access to affordable energy for all - Encourage efficient land use - Encourage energy saving and energy efficiency - Encourage innovation, development and transfer of technologies related to energy transition - Contribute to the development of the overall ecosystem of renewable energy industry and services

Categories	Project selection criteria
b) Projects on innovation, development and technology transfer	- Partnership with domestic and foreign private sector, R&D centres - Financial feasibility for upscaling of experiments, tests, innovations - Technical feasibility for upscaling of experiments, tests, innovations - Apply advanced and modern technology - Test new technologies for energy transition and new energy production - Contribute to the development of the overall ecosystem of renewable energy industry and services - Promote domestic enterprises to engage in a just energy transition - Strengthen gender equality in work, jobs and career change
c) Ensuring a just energy transition	- Cost effectiveness - Impacts on regional and/or industrial development - Impact on social-economic equality - Strengthen gender equality in work, jobs and career change - Improve access to affordable energy for all

For power transmission and generation projects, besides the criteria in Table 7, it is necessary to meet the investment project selection criteria of PDP8 given in Box 2. Monitoring and evaluation of project results should be based on the principles and criteria as well.

Box 2. Investment project selection criteria from PDP8 (power generation and transmission)

The following are criteria from PDP8 (Section V.) that were used to decide on the lists of important power generation and transmission projects, given in Appendix I and Appendix II of PDP8 (including projects that are expected to be implemented in the period to 2030). The PDP8 criteria include the following, among others:

1. Playing an important role in balancing electricity supply and demand.
2. Ensuring national energy security.
3. Increasing power sources for areas at risk of power shortages.
4. Ensuring balance between the baseload source, renewable energy and energy storage.
5. Reducing greenhouse gas emissions and other environmental benefits.
6. Encouraging self-production and self-consumption projects (solar PV).
7. Ensuring effective land use.
8. Contributing to the development of the overall ecosystem of renewable energy industry and services.
9. Applying advanced technology.
10. High socio-economic efficiency.

The long lists of projects must be constructed through consideration of the JETP scope as in Table 4 and Table 5, and general principles to ensure that all those in the long lists are in compliance with JETP, as proposed in Table 6. The resulting lists of projects are provided in Annex I and Annex II, subdivided in the categories and sub-categories that are also used in Table 4 and Table 5.

Annex I includes specific investment projects in named locations, where possible with known project holders, capacities, etc. The listing is in nature somewhat similar to projects in the annexes of PDP8 on renewable power generation, transmission and energy storage, but inclusion does not imply that the JETP long list projects are endorsed by the Government. The long list includes investment projects (public sector, private sector or both), whereas the technical assistance projects are given in Annex II.

3.4. JETP PRIORITIES IN PHASES

There is a need for phasing of technical assistance and investment JETP projects and therefore the (related) policy actions (in Chapter 7). Projects that are already included in government approved investment plans can be expedited before 2025. Projects that are at an early stage of development, for which no financing has agreed yet, that are not included in official investment plans and/or that have no investment licence yet, are more likely to be implemented in the period 2026-2030[27]. And some investment projects included in Annex I might be more likely to be implemented in the period after 2030. Technical Assistance projects that are generally expected to benefit from grant funding by IPG members are expected to start as soon as possible.

JETP investment projects in the different (sub-)categories selected from Annex I will have to be prioritised by the Government, IPG and GFANZ at a general level such as in this RMP and in annual reviews, and by the stakeholders in individual projects, as explained in Section 3.3. The same applies to JETP programs/projects for technical assistance and capacity building including support to formulation of regulatory measures to enable investments.

In keeping with the general principles in Table 6, there is a strong need to maximise GHG emissions reduction and optimising the pathway to net-zero in 2050. To support this, the JETP PD sets ambitious targets for 2030, on installed coal-power capacity, RE generation capacity, and GHG emissions peaking in the power sector (targets are quoted in Section 2.3.2). PDP8 significantly reduces the coal-power share in the electricity mix in favour of a much higher share of RE, compared to the previous PDP. Thus PDP8 aligns with the JETP coal-fired generation target by 2030 and it will bring Viet Nam closer to the JETP target of at least 47% RE by 2030 and the power sector emissions peaking target, contingent on international technical and financial support.

27 The JETP (Political Declaration) is essentially for the period 2024-2028, whereas the Scheme sets objectives for the period to 2030 as well as for the period after 2030

To ensure that investments and policy measures in the power sector and other sectors fully align with the NCCS, NDC, PDP8 and JETP decarbonisation targets for 2030 as well as the net-zero 2050 goal, three priorities were set in the Scheme's Annex II[28], with technical assistance and investment projects that would all be initiated in 2024. These priorities are summarised in Table 8, indicating groups of projects. Concrete projects that are consistent with these priorities are given in Annex I and Annex II, which include PDP8 projects on power transmission, RE generation and energy storage, as the Scheme priorities fall in the power sector.

Table 8. JETP Scheme Investment Priorities

Power Transmission Grid Projects
Support for power grid development
Mobilizing private investment in the power grid's development, including: (1) Determining the scope, priorities, and investment model of the private sector in the power grid; (2) Supporting a legal framework to facilitate private sector investment; (3) Supporting the development of cross-border transmission and offshore transmission.
Investment in the transmission grid
(1) Supporting EVN (NPT) to invest in infrastructure (upgrade and expand 500kV and 220kV transmission, monitoring control and data acquisition (SCADA) systems, and energy management systems (EMS); (2) Supporting EVN (National Power Transmission Corporation - NPT) to invest in 110kV and 22kV distribution to integrate solar power, wind power, and rooftop solar power systems; (3) Developing transmission lines and substations for offshore wind power.

28 Prime Minister Decision 1009 QD-TTg of 31 August 2023 on the "Scheme for the implementation of the Political Declaration establishing a Just Energy Transition Partnership"

Projects On Battery Storage And Pumped Storage Hydropower Plants

Support for the Energy Storage System (ESS)

To support the upgrading of ESS to meet the objectives of Power Development Plan VIII, including: (1) Capacity building for staff and technicians on connection requirements; (2) Develop a policy framework for the ESS, including electricity market regulations for the provision of ancillary services; (3) Need assessment for Battery Energy Storage System (BESS) and other storage; feasibility study support.

Investment in energy storage

(1) Investing in a pilot project of BESS 50MW/50MWh of EVN to investigate ancillary services and announce pricing mechanism design and technical standards; (2) Piloting a 7MW/7MWh BESS project integrated into a 50 MW solar farm and a 105MW/105MWh BESS project integrated into a 400 MW solar farm; (3) Completing the 1,200 MW Bac Ai pumped storage hydropower plant, including the upper reservoir and the 18.8km 500 KV transmission line.

Projects On Offshore Wind Power Development

Supporting offshore wind power development

Supporting the development of offshore wind power through: (1) Capacity building and technical assistance to the MOIT, MONRE, and other organizations, supporting the development of marine spatial planning policies and offshore wind power; (2) Financing to reduce the cost of the first offshore wind projects, e.g., wind speed measurement and geophysical survey, supporting 2 GW installed capacity; (3) Funding for the continuous collection of wind speed and environmental data in areas of engineering potential, data storage, modelling, and data communication, to enable planning, investing, and operating wind power plants and power grids; (4) Survey of offshore wind power planning.

Offshore wind power investment

Invest in installed capacity up to 6 GW connected to the grid by 2030.

The Scheme's three priorities have been articulated in further detail in Concept Notes (CNs) on those topics. All Concept Notes that have been made available by IPG are listed in Table 9, per the categories that define the scope of the JETP. The CNs contain not only suggestions for projects but include analysis of challenges and proposals for policy measures, as can also be noted in Table 8. The CNs are summarised in Annex IV and their content has been reflected in particular in Chapter 7.

Table 9. Overview of Concept Notes in relation to JETP categories

Categories	Concept Notes on Technical Assistance and Investment Projects
1. Improving the regulatory framework for the energy transition	<included in all Concept Notes> - Financial reforms
2. The transition of coal power generation	- Flexibility of coal power plants - Coal power plant phase-out
3. Developing the renewable energy industry	- Offshore wind power - Solar PV, including off-grid and rooftop - Green Hydrogen
4. Power transmission and energy storage	- Grid development - Storage (BESS & pumped hydro)
5. Energy efficiency	- Energy Efficiency (Demand side management)
6. Energy transition in the transport sector	- E-mobility
7. Innovation, development and technology transfer	- Suggestions on a Centre of Excellence on Offshore wind power
8. Ensuring a just transition	- Just Transition

Some additional priorities are proposed based on CNs too, i.e. additional to those in the JETP Scheme (Table 8), in order to maximise GHG emission reduction and bring Viet Nam towards the JETP 2030 targets. The additional priorities suggested are coal power flexibility and coal power plant transition, energy efficiency, and solar PV. Some details are given in Table 10, as some projects could start from 2024 onwards. Further analysis of the targets is required.

Table 10. Additional Investment Priorities

Projects On Energy Efficiency (EE)

Regulatory changes and investments aiming to reduce power demand by 10% by 2030 compared to current power demand growth projections.

Supporting Energy Efficiency and Reduced Power Demand

Supporting demand-side reduction regulatory reforms in association with the VNEEP3 Program: (1) Strengthen EE competencies in industry and energy management practices in public facilities; (2) Enforcing the existing EE regulatory framework; (3) Reinforcing the EE regulatory framework, including building standards; (4) Phasing out indirect subsidies on electricity/energy prices; (5) Support amendment of the EE law Electricity Law, (6) Strengthen/ support development of ESCOs; (7) Support regulations on "energy performance contracting" (EPC) for EE measures in public infrastructure and buildings.

Energy efficiency investment projects

Smart and Energy Efficiency City Project (SEECP) with investment cost of xxx million to retrofit, upgrade, and expand the streetlighting system with 2.6 million lighting points and total electricity saving of xx million kWh.

Projects On Solar PV

Realise an additional 25-30 GW of solar PV by 2030.

Supporting solar PV development

Supporting development of rooftop, multiple land-use, off-grid as well as manageable on-grid solar PV: (1) Finalizing and implementing the DPPA rules to enable commercial and industrial customers to procure solar power directly from off-site locations; (2) Introduce tenders for solar PV plants combined with batteries to allow a controlled expansion of the solar market; (3) Introducing surplus tariffs for rooftop and multiple land-use solar PV systems; (4) Technical cooperation for the development of a strategy for the public procurement of solar PV on public buildings; (5) Support the development of the solar PV manufacturing industry.

Solar PV investment projects

(1) Invest in distributed generation management systems, congestion management (transmission & distribution grid levels); (2) Invest in improved forecasting (both net load forecasting and solar output forecasting); (3) Add 16GW solar PV projects (additional to PDP8, partially combined with energy storage systems).

Projects On Coal Power Flexibility and Coal Power Plant Transition

Improve flexibility of coal power plants targeting a capacity factor of 50%-60%, and transitioning some coal power plants to alternative energy sources and uses by 2030.

Supporting coal power plant flexibility and transitioning

Technical assistance and supporting technical capacities: (1) Analysis of national power supply security to 2030; (2) Support pilot-testing of flexible management of coal-power plants; (3) Analysing and restructuring of PPAs to incentivize flexibility; (4) Restructuring debt with blended finance to reduce transition costs and compensate for forgone revenues; (5) Support carbon market development (6) pFS and FS of coal-power plants that can transition to alternative energy sources and uses.

Coal power transition investment projects

(1) Transition the Cao Ngan coal-thermal power plant; (2) Transition the Pha Lai 1 coal-thermal power plant ; (3) Transition the Ninh Binh coal-thermal power plant

CHAPTER 4

FINANCE MOBILISATION

4.1. GENERAL CONTEXT

The RMP addresses the full investment needs and provides an overview of the IPG's USD 7.75 billion financial commitments (Chapter 6). The IPG commitment will be a mixture of grants, loans, equity and guarantees on more attractive terms than capital markets. The RMP also provides an indication on how IPG contributions could catalyse further investments from international and domestic investors, depending for example on certain policy actions. International private financiers, i.e. GFANZ members agreed to work to mobilise at least USD 7.75 billion in private finance, which is subject to mobilisation of the catalytic public sector finance by the IPG members and improved regulatory frameworks. This public and private international finance will have different priorities as well as challenges in successful delivery of the energy transition.

In summary, the IPG grant, loan, equity and guarantee conditions are according to the JETP PD as follows:

- The value of funding commitments is USD 7.75 billion; the mobilization deadline is 2024-2028; the loan purpose is to fund eligible JETP projects; and the interest / loan terms are "on more attractive terms than Viet Nam could secure in the capital markets".

- For capital mobilized from GFANZ members, loans will be offered at market rates, but specific conditions will be reviewed according to the lenders' practices on a project basis.

Viet Nam has moved to the group of middle-income countries, graduating from IDA of the World Bank from 1 July 2017 and graduating from ADF of the Asian Development Bank (ADB) from 1 September 2018. It also means moving towards commercial loans completely based on market conditions. As a result, Viet Nam has seen an increase in interest rates for sovereign borrowing (international portion) because ODA loan sources, while still well below the cost of foreign currency-based market lending, are less concessional than IDA or ADF sources. At the same time, there will be increased pressure on the mobilisation of loans from domestic lenders.

It is thus essential to use public international finance to unlock resources from the domestic and international private sector to implement energy transition commitments.

The categories and sub-categories of potential project types provided in Table 5 represent the scope of JETP (the PD and the Scheme) and related potential projects are given in "long lists" in Annex I and Annex II, including matters that may be addressed with other finance, and/or in later stages. The RMP priorities are about the period 2024-2028 and are discussed in Chapter 3 and Chapter 6, based partially on Concept Notes developed by IPG (summarised in Annex IV). As shown in Chapter 3, the financial needs of Viet Nam's just energy transition are much greater than the pledges in the JETP PD, including the measures proposed in the energy sector part of the "conditional target" in the NDC that Viet Nam expects to reach with international support, as well as the energy transition aspects of PDP8. As such the financing under JETP should be seen as a first tranche of financing

to accelerate Viet Nam's path towards achieving the conditional targets and attract further finance in the future. In particular, the focus of the public finance commitments in the JETP should be on catalysing and leveraging private finance, which is more abundant, and may be used to close the financing gap.

4.2. INTERNATIONAL PUBLIC AND PRIVATE FINANCING

4.2.1. Public International Financial Institutions

Public International Financial Institutions (IFIs) include development banks associated with IPG members, including the G7 countries, the European Union, Denmark and Norway. IPG's public funding package will be disbursed through various mechanisms over a period of 3-5 years, notably through IFIs. These include grant aid, concessional loans (sovereign and non-sovereign), and commercial instruments (loans, equity, and guarantees) (see Chapter 6).

The applicable domestic financial regulation governing concessional loans to the Government of Viet Nam is Government Decree 114/2021/ND-CP "on the management and use of Official Development Assistance (ODA) and preferential loans from foreign donors"[29]. This decree includes a "domestic financial mechanism" applicable to programs and projects using "ODA capital" (i.e. grant funding) and concessional sovereign loans (from the State budget), distinguishing three methods:

a) Full allocation;

b) Partial re-lending with a specific re-lending rate;

c) Full re-lending.

The re-lending mechanism follows the method of bearing credit risk or not bearing credit risk.

Over the past three decades, debt management, especially foreign debt management, in Viet Nam can boast certain achievements. The growth rate of public sector foreign debt is strictly controlled, contributing to building policy space, restraining direct debt obligations and state budget provisions. By 31 December 2022, outstanding public debt was about 38% of GDP (Government debt, Government-guaranteed debt and local government debt), central Government debt was 34.7% of GDP, and national foreign debt was 36.8% of GDP. This was lower than the ceilings specified in National Assembly Resolution No. 23/2021/QH15 of 28 July 2021 on "The National Financial Plan and Borrowing and Repayment of Public Debt for the period 2021-2026"[30].

29 Government Decree 114/2021/ND-CP of 16 December 2021. This has been amended in Government Decree 20/2023/NĐ-CP of 4 May 2023 on "Amending and supplementing a number of articles of Decree No. 114/2021/ND-CP dated December 16, 2021, on management and use of Official Development Assistance (ODA) capital and concessional loans from foreign donors".

30 The ceilings set in the Resolution for public debt, Government debt and foreign debt are, respectively, 60% of GDP, 50% of GDP and 50% of GDP; and the warning thresholds 55% of GDP, 45% of GDP and 45% of GDP.

There is also a split between grants and concessional loans that needs to be agreed to reflect the financial need to implement JETP. IPG as well as GFANZ funding will align with the JETP priority categories as outlined in Table 4 to realize the JETP PD, as also provided in the Scheme.

As regards public finance, IPG and the Government must ensure that financing is partly provided in the form of concessional loans which should be used to crowd in private finance and reduce risk premiums on projects that for example utilize emerging technologies or have specific project risks, this will ensure that the cost of the energy transition is reduced. In addition, grants should be used for financing technical assistance, especially the formulation of policy actions. Other considerations which are important to the Government of Viet Nam are limiting the use of government guarantees as well as considering providing debt in local currency.

4.2.2. Private International Financiers

The JETP PD states that the GFANZ members will work to mobilize at least USD 7.75 billion in private finance. GFANZ can mobilise much more than the USD 7.75 billion which is mentioned in the JETP PD, but finance is subject to a number of conditions being met.

First, international private sector finance is partly subject to the catalytic use of public finance, which in practice means that where private sector financiers cannot finance energy transition assets alone, public finance should be deployed with the purpose of ensuring that as much private finance is mobilized as possible. Section 4.2.3 considers how public sector finance can be used most catalytically, depending on projects' commercial viability. This also means that the public finance should not be used in places where private finance could be used. Second, the mobilisation of private finance is also subject to an enabling policy environment, which takes into account a financeable project pipeline and regulatory changes where needed. Third, international private sector finance will only be mobilized if the JETP is successful in bringing forward commercially bankable projects for financing, as presented in Chapters 3 and 6.

As regards international private finance it is not possible to provide a table with concrete allocations to projects. This is because the international private financial institutions cannot reserve part of their balance sheet for specific sectors, types of investments or counterparties. The GFANZ members will assess projects individually based on project characteristics. They will provide commercial loans which can be structured in different ways depending on the need of the projects. Commercial loans can also be combined with public loans (blended finance).

Finance for energy transition projects is internationally structured as non-recourse financing, which, in the absence of risk mitigation measures, entitles a lender to repayment only from the profits of the project the loan is funding and not from other assets of the borrower[31]. This means that the loan is provided to a project financing structure, and the bankability of the individual project and ability to repay the loan determines the risk of the project and thus the interest from the commercial financial institutions, and other conditions attached to the financing. It is important to note that not all GFANZ members offer the financing in the form of loans, as some can mobilize equity investment. As with the commercial loans, this equity will not be pre-assigned in value or for specific projects but will depend on the types of projects included in JETP and negotiations with sponsors.

International private financiers can also work together with domestic financial institutions. Such structures could include syndication of loans, which would work towards freeing up domestic finance for new projects, while the international financial institutions take on loan liabilities towards the domestic banks. The terms of this will be subject to commercial negotiations as well as a due diligence process of the loans for syndication and the domestic commercial bank. In other countries the domestic banks would be able to reduce the debt burden via standard capital markets, however because these are not mature in Viet Nam, the international banks could play this role. However, in the longer run it is important to develop the capital markets to ensure a healthy and diverse financial sector in Viet Nam.

Much of Viet Nam's recent investment in wind power and solar PV (i.e. VRE) has been financed by domestic private financial institutions. In the future energy transition both domestic and international private finance must be mobilized in order to ensure that the financing needs are met. Domestic financial institutions currently have some limitations which make it difficult to scale the historic financing of energy transition investments to future needs.

4.2.3. Using public sector finance catalytically

A core feature of the USD 7.75 billion IPG public finance offer is that it must be catalytic in nature, driving the mobilisation of the much larger volume of finance for the just energy transition, in particular from the private sector. Private finance should be the main source of finance for solar PV plants and rooftop solar, and for BESS it could also play a role. For green hydrogen concessional finance is likely the main source of finance because the technology is not commercially viable. The financing from different sources depends in particular on the commercial viability of the investment, as follows:

31 "Non-recourse finance is a type of commercial lending that entitles the lender to repayment only from the profits of the project the loan is funding and not from any other assets of the borrower".

- International largely autonomous private finance: Well defined returns, proven technologies, supportive enabling environment minimal requirement for public sector finance for co-investment/de-risking.

- Targeted IFI intervention, catalysing private finance: evidence base for commercial returns is less well-developed, exchange rate risk, policy risk, technology risk.

- Long-term MDB sovereign finance: long durations and positive externalities.

- Concessional finance: lack of well-defined returns, incentives misaligned leading to mispriced positive externalities.

- Standalone debt-free funding (ODA grants): limited monetised returns but high developmental impact, positive externalities.

Targeted IFI interventions should be used as a bridging tool to support sectors where autonomous private finance is not currently achievable, but where targeted public sector interventions clearly mobilise private investments. Solar PV, onshore and offshore wind, and battery storage are all sectors where, by applying the recommendations outlined in Chapter 7, there is a route to commercial viability in Viet Nam. Examples of such interventions are:

- Supporting expedited policy and regulatory reform (policy support may also be delivered via ODA grants).

- Demonstrating initial deployment of the technologies in Viet Nam, including adapting to the local regulatory context.

- Supporting with local currency financing, e.g. through direct VND lending, domestic commercial bank lending, and broader support of local capital markets.

- Delivering positive results for local communities.

With these interventions, public sector finance can be used to close the financing gap for different sectors, without crowding out private investment, or dis-incentivising reforms to the enabling policy environment. Any public sector finance supporting these sectors should have a clearly defined exit strategy. Examples of public sector support include the following:

- Increasing the capacity of local domestic banks to support renewable energy projects through balance sheet support, for example by re-financing assets, extension of partial guarantees, assistance with due diligence, or capital investment.

- In cases where a globally proven technology is being deployed in an uncertain regulatory environment, the new projects can spur on new regulations. For example, battery energy storage, and pumped hydro storage are new in Viet Nam, and public sector development support could catalyse the introduction of regulation governing such assets, including the ancillary services they provide.

Long-term MDB sovereign finance will operate where there is a need for financing with a longer duration than can be offered by commercial financiers (domestic and international), where there are stable but low returns, and often high capital expenditure costs. Public utilities such as power grids, sewage, toll-roads and water systems are often initially financed in developing countries in this way but can also be financed privately once revenue models are established and implemented. There is ongoing effort globally to re-finance these assets with capital from institutional investors once they are operational (and therefore considerably de-risked) to free up MDB finance to re-invest elsewhere. Viet Nam has not accepted new sovereign lending from MDBs or provided government guarantees to SOEs to finance the energy transition since it graduated from IDA and ADF (in 2017 and 2018 respectively). However, sovereign lending from MDBs and government guarantees to SOEs are financing approaches that may be needed to invest in e.g. transmission infrastructure.

Concessional finance will support projects where returns for the sector are no well-defined or where incentives are misaligned, resulting in mispricing of externalities.

Strong collaboration between private finance institutions, DFIs, MDBs, philanthropies and the Government of Viet Nam can ensure that the JETP leverages creative and tailored financing structures to help align incentives that might otherwise constrain investment in certain areas. Any utilisation of concessional finance should complement private finance, possibly in a blended finance structure. Structuring concessionality as technical assistance or through concessional loans is often more effective than one off capital grants, as it increases the reach of funding, and provides a route to re-cycle capital. Examples of these types of interventions include:

- Structuring financing to create incentives to effectively develop a pathway to phase-out unabated coal-fired power generation in Viet Nam. In the short term this could include support with coal PPA negotiations to improve the flexibility of CFPPs, and interaction with ODA grants to support vocational re-training of workers affected. In power markets with strong market signals, increasing CFPP flexibility can be achievable without concessional finance.

- Early-stage investment to support project pipeline development, such as feasibility studies to assess project risks in remote and challenging geographies; or deploying early-stage risk capital to projects.

- EVN has in the past accessed concessional finance to develop transmission and distribution lines to manage the increased volume of VRE in the grid. Once Law No. 03/2022/QH15 is fully implemented, it is anticipated that there will be an increase in private investment into the grid.

A government guarantee is usually required by international financiers in order to secure the most concessional rates for state-owned enterprises. Since the introduction of Decree 114/2021/ND-CP in 2021, the flow of concessional finance to Viet Nam's energy SOEs has reduced.

Standalone debt-free funding (grant ODA) is required where there are positive externalities and there is no option to monetise revenue.

Support for vocational re-training in the energy sector is an example where grants and technical assistance will be important, but over time efforts to invest in communities and develop local supply chains should be included in project investment from the private sector.

Grants can be structured in a variety of ways to support project development, but debt-free funding in this instance does not refer to grants that are in practice rolled into loans costs, nor does it refer to technical assistance to support policy development.

Linked to several of the above financing structures, is blended finance.

Blended finance is a combination of public and private finance. Blended finance is an important tool for securing financing for projects that are not yet commercially viable without the support of public finance. Blended finance occurs when public and private finances are used together to bridge the financing gap of a project. How blended finance is structured is highly dependent on the risks identified in the individual projects.

Following are two generalised examples of blended finance:

- In projects where the construction risk is very high, technical assistance could be provided to a project in order to reduce the construction risk, such as installing renewable energy in a remote location with difficult geographical conditions. In this case, developers and financiers would increase their risk premiums in order to ensure that the cost of unexpected challenges are covered. But public money could fund a feasibility study which would provide developers and financiers with more certainty and reduce their risk premiums. The project would then go ahead with commercial finance, though the financing would still be considered blended because public money was used in the project preparation phase.

- When utilizing a new technology, commercial banks may deem the project riskier and increase the loan interest rates, making the new technology non- competitive. In this case concessional finance from Development Financial Institutions (DFIs) with low interest rates or grants could be blended with private finance to achieve an overall lower cost of financing and enable the project to go forward.

Using blended finance should be a temporary solution, and it should help mature markets to ultimately be able to rely on private finance alone. Blended finance can be used as a tool to close the financing gap of projects, for example during implementation periods of new or updated regulation. It should not be seen as a substitute for developing and implementing an appropriate enabling environment for the private sector. It must help to develop a sustainable and self-sufficient financial sector in which commercial banks can finance just energy transition projects without public sector support.

4.2.4.International Private Finance Structures

Different JETP priorities will require different financing approaches and structures as regards international private finance. Following are examples of finance structures that could apply to different project/program categories.

a) Coal-fired power plant phase-out

International private financiers are committed to achieving net zero emissions and are exploring credible Coal-Fired Power Plant (CFPP) phase-out transactions, including in the Asia Pacific region, where many underlying coal assets are relatively young and benefit from a long term PPA. To finance coal-power transition projects can be challenging but several organisations are currently working on frameworks and guidance for managed phase out (MPO) of CFPPs including in partnership with the GFANZ APAC network[32], whereas there are still very few transactions that can serve as examples. Nevertheless, early phaseout likely involves asset write down, which may require public finance but can benefit from carbon credits, and securing an alternative revenue stream through for example VRE or BESS investment that will benefit from existing transmission infrastructure.

CFPP phase-out at large scale in Viet Nam is not feasible in the near-term, but some older CFPPs may be able to transition to alternative energy sources and uses, for which transactions could be piloted. It is possible that the forthcoming Viet Nam Emissions Trade System (ETS) or (international) Voluntary Carbon Markets (VCMs) could provide part of the revenue for this, contingent on developing appropriate frameworks and methodologies. It is also possible to increase the flexibility of CFPPs so that they continue to contribute to power supply security but at higher efficiencies and lower annual average capacity factors, as renewable power generation capacity is added (see Table 10). This must be done with consideration of the existing legal agreements for the coal-power plants concerned, such as their PPA, and the risk of the project.

32 See for example: https://assets.bbhub.io/company/sites/63/2023/05/gfanz_consultation_managed-phaseout-of-coal-in-Asia-Pacific.pdf

Financing structure may be used for the phase-out of a state-owned coal-fired power plant. The selected coal-fired power plant will be sold to special purposed vehicle (SPV) company. This company is funded through blended financing including: concessional loans, non-concessional loans and third-party equity. SPV company's activities include CFPP operation, combined with the development of renewable energy projects. The process of gradually shrinking coal power and expanding renewable energy is likely to bring many benefits to investors and lenders. Specifically, financial investment for the transition process, creating increased cash flow to shorten the closing time of the thermal power plant, while increasing the profits of equity capital.

The ADB-initiated energy transition mechanism (ETM) was launched at COP26 and is already being piloted in Indonesia and the Philippines for both public and private owned coal plants. This is an example of a financing program focused on accelerating the coal to clean transition. The ETM provides technical assistance, and utilises concessional and commercial capital from various public and private sources to incentivize the early retirement or repurposing of CFPPs and other carbon-intensive power generation while also unleashing new investments in clean energy, grid modernization, and energy storage.

b) Grid

Under updates to the Law on Electricity in March 2022, private investment in the construction and operation of power grid infrastructure is now allowed. There is no detailed regulatory framework to support private participation in grid build-out yet, but this is expected to be developed. Most private investments in the grid are likely to be 110 or 220 KV lines and substations to enable VRE to be fed into the grid, but there may also be appetite to finance 500 KV voltage lines that form the backbone of the grid. The Ministry of Industry and Trade (MoIT) will review different models and proposals by private financiers.

Pending regulatory improvements to enable private participation in development and operation of the grid, private participants must take into account the different risks that come with different participation models. For example, in an Independent Power Transmission (IPT) model, many of the financial risks will mimic the risks of the Independent Power Producers (IPP) model, and the details of the revenue agreement will be central to the bankability of the project. In "concession" models, the regulatory framework and oversight are better served.

The grid has been funded so far by public investments, but there are two approaches to financing new Transmission and Distribution (T&D) assets with private finance.

The first approach is to provide a standard corporate loan on a concessional and non-concessional basis with 100 percent equity ownership held by the state-owned utility (in Viet Nam: EVN's NPT corporation). The allocation of debt financing between concessional and non-concessional will be determined by conducting a pro-forma financial impact analysis on the borrower's credit metrics and negotiations between lenders.

The second approach is a Public-Private Partnership (PPP) through the creation of a SPV, ring-fencing cash flows generated by a Transmission Service Agreement (TSA) servicing a mixture of concessional and non-concessional debt, and third-party equity investors to complete the capital structure. The concessional portion would be used to finance the upfront development expenses and the non-concessional funding for construction. The state-owned utility will own a controlling equity interest because T&D is a strategic asset. It is noted that this approach is currently subject to regulatory constraints in Viet Nam.

c) Renewables

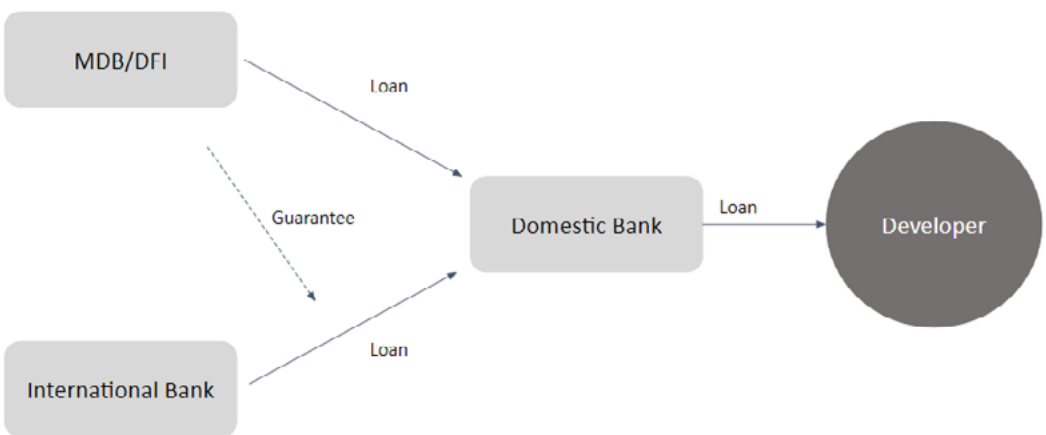
Viet Nam's renewables (onshore and near-shore wind power and solar PV, also some hydropower plants) have shown to be commercially financeable by local financial institutions. The project type will largely dictate if the most relevant finance is from domestic or international financiers. The finance structures deployed by international financiers will be typical for financing renewable energy projects in other countries.

If concessional finance is required, the best use of public finance under a blended structure should be determined. The blended structure must be project-specific to best address the risk that makes the project commercially unviable. For example, renewables in remote geographic locations may not be bankable due to difficult terrain, and Technical Assistance (TA) could help absorb some of the project development costs.

d) Financial intermediary loan

An example of how public and private finance can effectively and catalytically be used together is in a financial intermediary loan. In this type of structure, a Development Finance Institution (DFI) and international commercial banks can provide financing which enables a domestic bank to extend loans that support energy transition in Viet Nam.

Figure 2. Financial Intermediary Lending



The DFI would provide a partial guarantee to the international commercial banks, which enables them to deploy capital to a market they might otherwise not be comfortable with. The domestic bank takes on project specific risk and can utilize its broad knowledge and existing client relationships to ensure that the facility is deployed to developers in the Vietnamese market.

This structure has been utilised in Viet Nam before, and can enable the domestic bank to finance projects including but not limited to renewable energy such as solar, wind and hydro as well as projects relating to energy efficiency and other emission reduction projects. It is an example of how public money can be utilized to crowd in private finance and utilize the strengths of both the international and domestic financial sector to support the energy transition.

Figure 2 shows a generalized picture of a financial intermediary lending approach where an MDB/DFI collaborate with an international private financier to provide a loan to a domestic bank, who can then lend to developers. In this generalized example the MDB/DFI also issues a guarantee to cover interest and loan repayments in case of default to the private international bank.

4.2.5. International Financing of JETP Projects and Programs

a) Deploying public international finance

The main regulation which pertains to the disbursement of international public financing to finance public sector projects is Government Decree 114/2021/ND-CP. This governs access to ODA, including concessional sovereign-backed loans for the SOEs. The regulatory framework allows SOEs access to concessional sovereign-backed loans through the Government's system or financial institutions assigned by the government. However, the procedures for ODA financing under Decree 114 are time consuming and complex. It assigns the Ministry of Planning and Investment (MPI) and the Ministry of Finance (MOF) to process ODA projects. Delays occur because of the separation of authorizations for negotiations and signature, both of which require the Prime Minister's authorization. Adjustment of financing agreements also requires two rounds of reviews and endorsements.

The Commission for the Management of State Capital at Enterprises (CMSCaE) has a role in the approval of loans to SOEs, although CMSCaE is not assigned as the line agency to all SOE subsidiaries, which can prevent ODA loans being disbursed (see also Section 4.4.3). In addition, the on-lending terms provided by the MOF and the on-lending procedure significantly reduces the attractiveness of the loan, with concessional terms not being passed through in full. In addition, the on-lending will count towards the sector limits imposed on the domestic commercial banks, which reduces their ability to finance other investments in the same sector.

Financing of state-owned energy infrastructure via MDBs usually requires a sovereign debt guarantee, which the Government of Viet Nam has been reluctant to provide because of policy constraints on public debt. Non-sovereign lending to the SOEs has been done extensively by local banks, and international banks and DFIs have also lent to EVN using non-sovereign loans. Non-sovereign lending at international commercial rates, however, will be comparatively unattractive to EVN. The pricing is unattractive because EVN is not commercially strong, but with a stronger EVN and improved regulatory environment it would be easier for EVN to borrow from non-sovereign lenders.

DFIs and the private-sector arms of MDBs provide public international finance to private projects, and the financial challenges that these institutions face are similar to those faced by the private sector (see 4.2.5 b). Public finance can also be used to alleviate these challenges, for example through using partial credit guarantees for non-sovereign lending, or municipal bonds.

b) Deploying private international finance

Some aspects of the Vietnamese financial sector affect the deployment of international private finance.

One such area is exchange rate risks. Until recently the Feed-in-Tariff (FiT) rate for onshore wind and solar was fixed in USD but denominated and paid in VND. It is understood from PDP8 that in future PPAs tariffs may only be denominated in VND. This means that projects receiving international finance will be more exposed to exchange rate fluctuations. Exposure to currency fluctuations would normally be hedged, at a cost, with currency swaps. However, in Viet Nam the market for currency swaps is relatively thin and might not have the tenors needed for perfect hedges. This means that hedging strategies must be formulated to reduce the exposure. For example, the market depth may not be there to enable swaps for the full amount of currency when entering into a deal, which means the swaps must be spread out over time. As the exposure is still there until the full hedge has been executed, there will need to be a risk premium added to cover the risk of currency fluctuations from the deal is done to the hedge is in place. Additionally, there is no guaranteed currency convertibility. At the present time, the convertibility issue is seen as less of a risk since the Vietnamese currency reserve has been improving in the last year.

Private finance also face the same credit exposure towards, similar to the SOEs.

There are many difficulties in deploying international finance to energy projects are not in the financial sector. For example, the PPA that has been used in the recent VRE deployment in Viet Nam does not follow international standards and thus is not considered bankable by international private financiers. International private financiers would primarily provide non-recourse financing, so the PPA is very important. Issues regarding (international) arbitration, curtailment, termination, change in law and transmission/connection risk all contribute to the PPA being considered not bankable. There are examples of bankable PPAs

some coal and gas IPPs in Viet Nam, and Viet Nam has dealt with some bankability issues while importing power from other countries.

Other considerations in the wider energy sector that affect financing mostly relate to the ability of establishing a bankable pipeline of projects. For example, for battery energy storage systems (BESS) the revenue model is currently not established and for offshore wind there is no clear pathway for permitting.

4.2.6. Complete Policies to Encourage International Financing of JET Projects and Programs

Public international financing will not be able to be disbursed in a timely manner unless processes for approvals for ODA grant funding (for example for TA), and concessional loans are clarified and that timelines are shortened.

4.3. DOMESTIC FINANCIAL INSTITUTIONS

4.3.1. Private Domestic Financial Institutions

Viet Nam has numerous domestic financial institutions that are already investing in matters relevant to the energy transition, and this could increase further. These institutions include the following banks, among others[33]:

– Joint Stock commercial banks, such as the Viet Nam Prosperity Bank (VPBank), Bank of Industry and Trade (VietinBank), Bank for Investment and Development of Viet Nam (BIDV), Bank for Foreign Trade of Viet Nam (VietcomBank, VCB), Military Bank (MB), Viet Nam Technological and Commercial Bank (Techcombank, TCB), Saigon-Hanoi Bank (SHB), Asia Commercial Bank (ACB), Viet Nam International Bank (VIB), Ho Chi Minh City Development Bank (HDBank), and many others with smaller charter capital.

– 100% State-owned commercial banks, such as the Viet Nam Bank for Agriculture and Rural Development (Agribank), Global Petro Bank (GP Bank) and OceanBank.

– 100% state-owned “policy” banks: the Viet Nam Development Bank (VDB) and the Viet Nam Bank for Social Policy (VBSP).

– Some wholly foreign-owned banks operating in the Vietnamese financial markets, such as Standard Chartered Bank (Viet Nam) Ltd. (SCB), Hongkong-Shanghai Bank Viet Nam Ltd. (HSBC) and Woori Bank Viet Nam Ltd., as well as representative offices of other foreign banks.

33 https://www.sbv.gov.vn/webcenter/portal/en/home/fm/socins?_afrLoop=12946639050848034#%40%3F_afrLoop%3D12946639050848034%26centerWidth%3D80%2525%26leftWidth%3D20%2525%26right Chiều rộng%3D0%2525%26showFooter%3Dfalse%26showHeader%3Dfalse%26_adf.ctrl-state%3D6s0l1ya1h_293

Green public and private finance is necessary and will help to transform the economy towards more sustainability while taking advantage of international resources that support green transformation.

4.3.2. National Green Public and Private Investment Regulations

Green public and private finance is necessary and will help transform the economy towards more sustainability, while leveraging international resources to support the green transition. This is being encouraged by the Government through a set of planning and financing policies:

- The Government has issued the NGGS and the NCCS (Chapter 2), aiming to reduce GHG emissions, greening economic sectors and promoting sustainable consumption. The NCCS also aims to create favourable conditions to attract green capital and green financial tools.

- The State Bank of Viet Nam (SBV) has issued Decision 1552/QD-NHNN on 6 August 2015 on the "Banking Sector Action Plan to implement the National Green Growth Strategy to 2020".

- The SBV issued Directive 03/CT-NHNN in 2015, on "Expanding green credit and managing environmental and social risks in credit activities", and Circular 9050/NHNN-TD on "Reporting Credit for the green sector and assessment of environmental and social risks in credit granting activities" in 2017.

- The SBV issued Decision 1604/QD-NHNN in 2018, on "Green banking growth project in Viet Nam, action orientation towards green banking and results achieved by 2025".

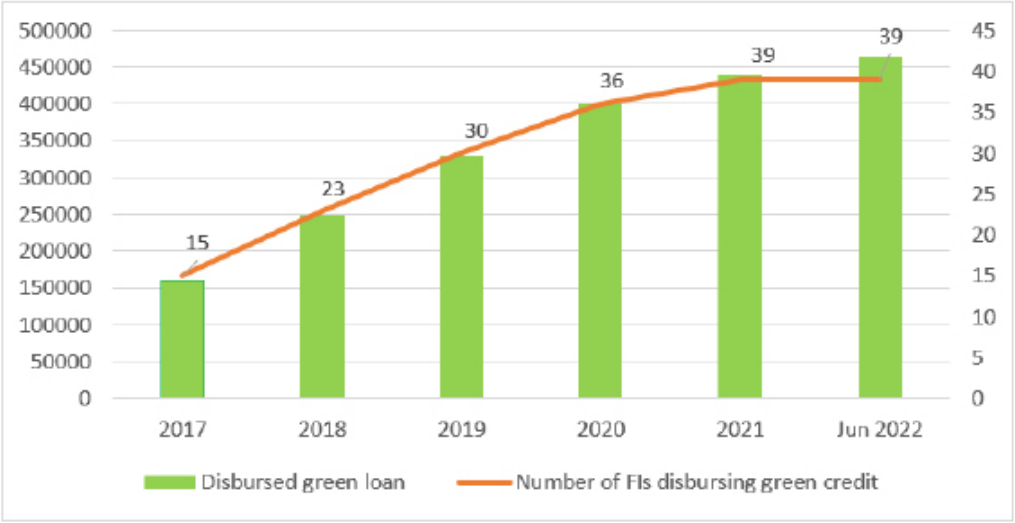
- In 2018, with the support of IFC and the Swiss Economic Development Cooperation Organization (SECO), the State Securities Commission coordinated with the Climate Bond Initiative (CBI) to issue "Guidelines for issuing Green Bonds, Social Bonds and Sustainable Bonds", on how to apply green bond, social bond and sustainable bond standards to help mobilize resources from domestic and international capital markets for sustainable, environmentally friendly projects.

4.3.3. Domestic Public and Private Green Finance

By December 31, 2022, there were 39 credit institutions with outstanding green credit loans reaching VND 500,524 billion (accounting for 4.2% of the total outstanding loans of the entire economy), an increase of 13% compared to the end of 2021. This is focusing on green agriculture (31% of total green credit), and renewable and clean energy (46.7%). Outstanding loans assessed for social and environmental risks reached 2,359 trillion VND, accounting for 19.8% of the economy's outstanding loans, up 27.7% compared to the end of 2021, and more than 1.2 million loans. (Figure 3)

By 30 June 2023, there were 43 credit institutions with outstanding green credit loans reaching 528,281 billion VND (also about 4.2% of the total outstanding loans of the entire economy), an increase of 5.55% compared to the end of 2022. This was also mainly focusing on green agriculture (31% of total green credit), renewable and clean energy (45% of total green credit). Outstanding loans assessed for social and environmental risks of 34 credit institutions generating reported data reached more than 2,485 trillion VND, or 19.9% of outstanding loans of the economy, an increase of 5.37% compared to the end of 2022, and more than 1.2 million loans.

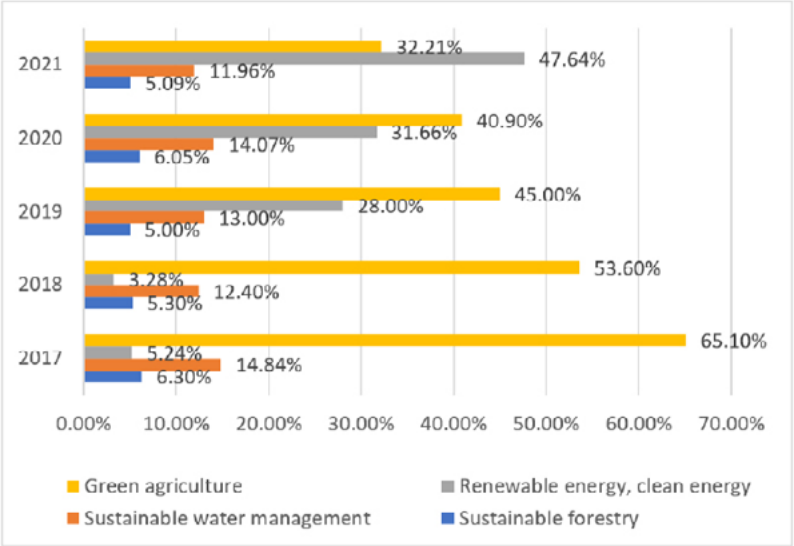
Figure 3. Status of Green Credit in Viet Nam



(Source: SBV, September 2022)

Loans for renewable and clean energy and green agriculture account for more than 70% of the total volume of green outstanding loans over the past five years (see Figure 4 on green credit by sector). Viet Nam's renewable energy policies led to a strong increase in the outstanding credit for this sector. However, the renewable energy FiTs that promoted the development of solar PV and wind power projects in the 2019-2021 period were discontinued, so financing and construction of such power plants has reduced, especially from 2022 onwards.

Figure 4. Status of Green Credit by sector in Viet Nam



(Source: SBV, September 2022)

The awareness, understanding and engagement of commercial banks in green growth have increased and improved. As stated by the Banking Strategy Institute under the State Bank of Viet Nam, one-third of commercial banks have developed their internal Environmental and Social (E&S) risk management framework and strategy. By the end of 2021, most commercial banks had included E&S risk assessment in their credit-granting assessment and approval process, following the State Bank Directive 03/CT-NHNN in 2015 on "promoting green credit growth and environmental and social risk management in credit granting", and Circular No. 17/2022/TT-NHNN of 23 December 2022 "guiding the implementation of environmental risk management in operations credit granting by credit institutions and foreign bank branches". And some banks have developed a specific department or unit for E&S risk management and green finance. Some commercial banks have offered incentives and rolled-out preferential credit programs in recent years, for environment related projects. For example, BIDV has launched dedicated credit programs for clean energy and green agriculture projects with an interest rate of 8.7% for the first three years. SHB has offered loans for renewable and clean energy projects, with interest rates that were 1%-1.5% below the normal interest rates.

Green energy (clean energy, renewable energy) is a key sector in the Viet Nam green taxonomy, besides green transportation, green buildings, green agriculture, green manufacture, green waste, green ICT and "green transition". Those activities are listed in a draft Prime Minister Decision on "Environmental Criteria and Certification of projects granted green credit and issuance of green bonds". This must guide green investing by commercial banks and financing initiatives in Viet Nam. The first local currency, internationally verified green bond was issued in Viet Nam in July 2022. Currently, green credit is dominant, as green bond development is still slow.

4.3.4. Domestic (Green) Financing

a) Linkage between domestic and international capital markets

Domestic financial resources mobilized recently for private investment in green development were mainly through bond issuance by enterprises listed on domestic stock exchanges. To date, no Vietnamese companies have participated in the International Capital Markets Association (ICMA), although Viet Nam held the role of chairman of the ASEAN Capital Market Forum 2022, which is a major partner of ICMA. The decoupling of the international capital market from the domestic capital market has reduced the access of projects in Viet Nam to potential investors, making it hard to find investors willing to buy Vietnamese bonds, which is one reason for the low number of green bond issuers.

b) Criteria for evaluating green projects

Within the framework of cooperation to promote green growth with the International Finance Corporation (IFC), MONRE issued a Reference Document in 2019 "Environmental Assessment Criteria for Green Projects, Projects at Risk of Environmental Pollution". The document provides a table with qualitative criteria for evaluating green projects and proposes a green project portfolio with 14 sectors, and 65 groups of project types. However, with the nature of references and qualitative criteria, this list is in fact not used by credit institutions, bond issuers, sector ministries, or investors in the process of implementing green finance activities.

Therefore, it is necessary to clearly define green investment criteria and classify green projects. SBV Circular 17/2022/TT-NHNN has helped guide the implementation of environmental risk management in credit granting activities of credit institutions, requiring credit institutions to seriously consider environmental risks in credit granting activities, increasing the responsibility of lending institutions. This can be the basis for continuing to develop green finance regulations in Viet Nam.

c) Development and finalisation of regulations

According to the 2022 report of the Green Banking Project in Viet Nam, one of the main difficulties to the development of green credit and green banking in terms of legal framework is the lack of regulations on green sectors and lack of standards for specific green industries and areas, including renewable energy and clean energy. Commercial banks are also facing limitations to the share of their portfolios is allowed in a specific sector, as well counterparty and growth limits that affect capability to for example lend to (large scale) VRE projects.

The Prime Minister's Decision 1362/QD-TTg of 11 October 2019 on the "plan for sustainable development of private sector enterprises to 2025, vision 2030" and Prime Minister Decision 167/2022/QD-TTg of 8 February 2022 on the "Program to support private sector enterprises to do sustainable business in the period of 2022-2025" are aiming to reduce administrative procedures, providing criteria for sustainable development of green

investment enterprises, etc. However, these regulations only provide general orientation and encouragement for credit institutions and are not mandatory. For granting green credit, specific projects depend on the decisions of credit institutions; there is a lack of specific and complete regulations; and the capacities of credit institutions to appraise "green elements" is limited. Thus, there is a risk of granting green credit for projects that are not truly green, or even potentially harmful to the environment.

In addition, the types of green projects are not connected to the economic sectors classified under Prime Minister Decision 27/2018/QD-TTg, leading to difficulties for credit institutions in statistics and data management. This lack of consistency on the classification of green projects also leads to difficulties in compiling statistics on monitoring and reporting on investment in green projects, and to drawing lessons for investment management policies. The lack of clear environmental criteria and green project classification guidelines, makes it hard to link green credit and green bond activities to (achievement of) the Sustainable Development Goals (SDGs).

d) Green public investment

Ministries, provinces, municipal authorities, hospitals, schools, universities, etc., have limited investment capital for their operations. They cannot easily borrow or invest in energy efficiency of public buildings, even though loans would be earned back in a short period of time. They lack technical staff in their operations management, who could develop plans. Building certification on energy efficiency / environmental standards could be promoted, also for public buildings

dd) Green investment accessed by SMEs

The overall perception of many (SME) entrepreneurs is that energy efficiency and for example rooftop solar PV require high investment and give low returns. The payback periods are perceived as too long, as they typically expect 12-18 months payback time on investments. This is compounded by comparatively low energy cost in Viet Nam, seen as a primary reason for SMEs to continue to use inefficient technologies.

The domestic commercial banks face a challenge of loan terms. The loans normally have a short tenor (6 months, up to 2 years) whereas many green projects require a longer implementation period, such as rooftop solar PV. Longer tenor will increase liquidity risks for domestic commercial banks, weakening their desire to finance green projects. For some (green) loans the administrative procedures are complicated. Domestic financial institutions need clearer information about the requirements for incorporating environmental and social risk assessments into their credit policies and practices.

Lack of government support: there are some support mechanisms such as the Viet Nam Environmental Protection Fund (VEPF) that assist (green) enterprise investments, but such support mechanisms are accessed only by a small number of SMEs. There is also an absence of guidance on green investing. Enterprises need clearer guidance and information on how to access support mechanisms and green finance.

Many SMEs lack familiarity with best available technologies (BAT) that have been demonstrated to provide benefits, such as efficient cooling/ freezing systems that are available in the Vietnamese market. Lists of technologies have been developed (independently) and must be constantly updated and shared widely with businesses.

There is a weak Energy Service Company (ESCO) market in the absence of comprehensive ESCO regulation. Therefore, technical support to companies for certification and verification of green projects, energy efficiency audits and external or (co-)investment in energy efficiency measures is weak.

e) Green bond market

The issuance of green bonds enables projects to access long-term local currency financing for infrastructure and other projects from institutional investors. Green bonds can be used for private sector projects and municipal green bonds can be used to raise money for public sector projects. Scaling up of green bonds has been slow in Viet Nam, in part due to limited financial depth and implementation of regulation. The absence of a risk mitigation measure to support the green bond market is a challenge to scaling of the green bond market. The introduction of a local Credit Enhancement Facility could support the market, as it would provide a credit guarantee to bond investors to ensure interest and principal payments were made, thereby improving the risk profile of the bonds.

The amended Insurance Law became effective on 1 January 2023. It introduced a restriction preventing insurance companies to invest in bonds whose use of proceeds relate to the refinancing of debt. In the context of energy markets, this means that higher risk new projects that still face development and construction risk can be financed through green bonds, but operational renewable energy projects that have a track record and lower credit risk cannot.

f) Other policies to green investment

Other current green investment policies lack consistency, predictability, transparency and consistency of policies and regulations on specific issues. For example, solar or wind power project development were supported by FiTs but when they were phased out, they were not replaced, resulting in “boom and bust” which causes inefficiencies in businesses and also a high cost of credit because risks are high.

Some policies are being developed, but the process is slow. For example, new policies such as “reverse auctions” for power generation capacity and DPPAs are still not regulated. The domestic GHG emissions trading system (ETS) will take several years but carbon pricing will be a big incentive for large private and state-owned enterprises to reduce emissions, in particular steel and cement enterprises with very high energy consumption. Viet Nam’s carbon tax and duties on fossil fuels are low and failing to be a serious incentive to switch to other fuels.

There is limited support to development of new markets such as EVs. There are some incentives such as tax reduction and registration fee exemption for electric cars, but these

measures are still limited. There is no clear policy framework, public financing or other support to develop EV charging infrastructure.

There is interest from private investors to invest in energy storage such as BESS, but the regulatory frameworks is still lacking. There is no clear strategy on private sector investment in those assets and no regulatory framework for integrating BESS and other forms of energy storage into VRE plants. The Viet Nam Wholesale Electricity Market (VWEM) has not yet regulated remunerative ancillary services such as grid stabilization that can be supported by BESS and other energy storage devices.

Domestic banks currently lend on a corporate basis, it would be beneficial if they moved towards non-recourse project finance, with longer tenors – the introduction of a bankable PPA will support this transition.

4.4. GREEN AND TRANSITION FINANCING POLICY ACTIONS

4.4.1. Complete the legal framework on green investment

Although opportunities for green finance in the Vietnamese banking sector look promising, the development has not reached its full potential. For green banking, there is a need for appropriate policies and regulations to encourage investments in green projects and green financial products and services. There are several financial as well as non-financial policy improvements that could unlock green credit sources, including green bonds for investment projects, from domestic and international financial institutions.

Notably, the legal framework on green investment must be completed and issued as soon as possible. It is necessary to attach green and environmentally friendly investment requirements to all projects that wish to receive investment incentives. Issuing of the legal framework on DPPA is an example that can be completed soon. This will attract green capital into production of renewable energy. There are specific renewable energy and energy efficiency related policy actions possible (see also Chapter 7).

4.4.2. Improve the Green Capital Market

Policy actions must continue to build a healthy capital market in general and the corporate bond market in particular, to ensure a good foundation and market infrastructure to attract domestic and foreign green capital. There is a need to continue to improve the green corporate bond market infrastructure in particular.

The current situation of green finance in Viet Nam shows that the liquidity of green finance in Viet Nam is still low. On the demand side, due to limited awareness of green finance and insufficient incentives, many investors are not interested in it. The lack of organized and professional investors in the green financial market including green credit, green bonds and green stocks leads to a lack of activity in the market, which is not attractive to international investors. Meanwhile, the supply of the green finance market is limited due to a lack of green projects and a limited number of issuing organizations.

Some solutions to increase market health that could be explored are:

- Accelerate the completion of legal documents, promote and support the development of the markets for green bonds, green stocks, green credit and green financial products, and issue policies such as tax incentives or fees to attract investment in the green economy.

- Urgently promulgate criteria and standards for green securities and green credit that would uniformly apply throughout the market. It can promote and support the activities of green credit rating and valuation organizations. Green rating indices need to be public and transparent.

- Strengthen supervision based on assessment, identification of risks, and increased inspection, i.e. not just administrative activities.

- Consider setting up a commercial Credit Enhancement Vehicle in Viet Nam, which could be led by international development partners.

- Issue regulation to clarify the amendment to the Insurance Law dated 1 January 2023 which prevents insurance companies from investing in re-financing projects for operational renewable energy projects.

4.4.3. Improve Regulations on Disbursement of ODA capital to SOEs

Within the JETP framework, IPG would like Viet Nam to consider reviewing and finalising regulations to facilitate SOEs' access to IPG's existing concessional loan to mobilise capital and guarantee loans for investment in key power supply and transmission grid projects according to PDP 8. IPG highlights some difficulties affecting ODA disbursement, including:

- Determining the executing agency for subsidiary companies whose charter capital is 100% owned by state-owned enterprises according to the provisions ofDecree No. 114/2021/ND-CP affecting the progress of some investment projects.

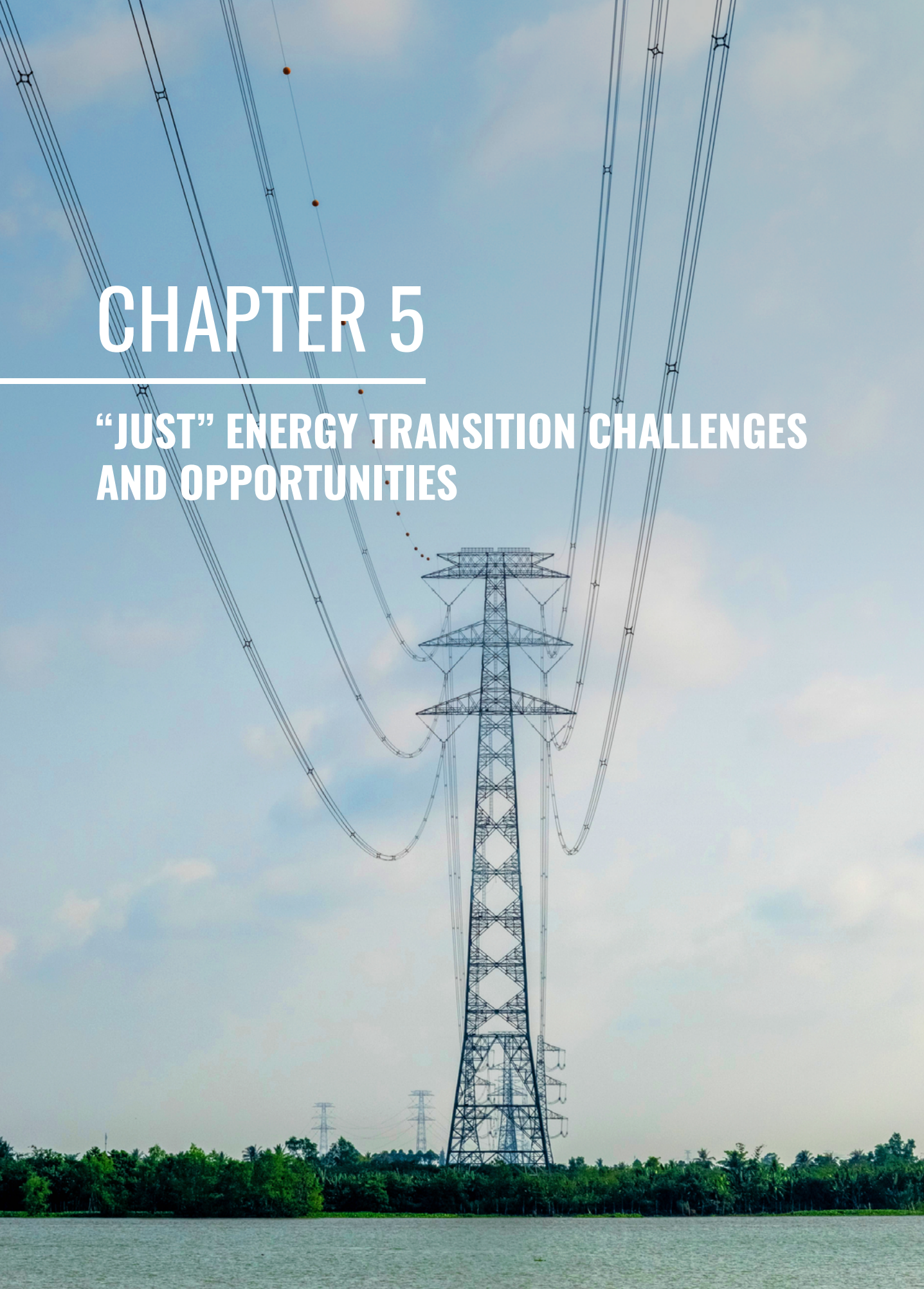
- Regulations on sovereign loans on-lending through domestic commercial banks leading to an increase in investment costs for state-owned enterprises . Compliance with regulations on credit limits and government guarantee conditions limit the ability to access to IPG's concessional loans.

To overcome the above problems, IPG would like to propose:

- Review and amend regulations to determine the appropriate executing agency for subsidiary companies in the energy sector whose charter capital is 100% owned by state-owned enterprises and create favourable conditions for accessing ODA by minimising any additional borrowing costs and unnecessary credit constraints.

- Research and implement pilot mechanisms for a number of important and urgent projects within the framework of JETP implementation.

Viet Nam acknowledges IPG's above mentioned proposals and will continue to study to improve mechanisms and policies in the coming time to facilitate enterprises in accessing and mobilizing ODA, and in particular IPG's concessional loans, within the scope of national debt limits, public debt ceilings, ensuring fairness, transparency, fiscal security, strengthening the principle of self-sufficiency associated with self-accountability of enterprises; promptly remove financial and credit difficulties and complications for | state-owned enterprises; consider applying pilot mechanisms for a number of important and urgent projects to implement JETP.



CHAPTER 5

"JUST" ENERGY TRANSITION CHALLENGES AND OPPORTUNITIES

5.1 . JUST ENERGY TRANSITION FRAMEWORK FOR JETP

The energy transition must deliver a large part of Viet Nam's GHG emissions reduction whilst maintaining and improving national energy security, and it must also be socially and economically just. There are risks that some social groups and businesses will experience negative consequences during the transition, and while there are also opportunities in the transition these will not materialise automatically. International experience shows for example that closing of coal mines or coal-fired power plants (CFPPs) will cause unemployment and requires considerable government support to e.g. skills training and social security.

Several international organisations and countries have defined "just transition" in different ways. The Paris Agreement on climate change, adopted by the Parties to the UNFCCC in 2015, states "Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs". The International Labour Organisation (ILO) and others stress "creating sustainable employment opportunities and leaving no one behind", "maximizing economic and social opportunities", minimizing challenges and ensuring effective social dialogue. Some stress the importance of gender equality, of inclusiveness (youth, ethnic minorities) and of the protection of vulnerable groups in the energy transition.

The Viet Nam JETP PD recognises this (see quotes in Section 2.3.2). It refers to the "ILO Declaration on Fundamental Principles and Rights at Work" of 1998, and it stresses that "*all of society can benefit from a green transition to increase access to affordable energy and engage with relevant organisations and stakeholders to help meet the needs of those most affected by the green transition, such as workers and communities in sectors and areas affected by the transition*". The JETP PD and Scheme articulate that businesses, workers and low-income groups can be affected by the transition and need protection as well as support in taking opportunities that arise from the transition. They stress the importance of energy security and access to energy, sustainable and inclusive economic development, and social security and protection of workers and population groups affected by the energy transition.

This is consistent with various Sustainable Development Goals, as well as many of Viet Nam's social-economic policies. The latter includes Politburo Resolution 55-NQ/TW of 11 February 2020 the "on the orientation of Viet Nam's National Energy Development Strategy to 2030, with a vision to 2045", which says "Prioritizing rapid and sustainable energy development, going one step ahead, associated with protecting the ecological environment, ensuring national defense and security, and implementing social progress and justice is an especially important central task throughout the process of industrialization and modernization of the country".

A framework for analysing and monitoring the just aspects of the energy transition in Viet Nam may contain the elements such as those in Box 3. These elements and some concrete actions are also depicted in Figure 5.

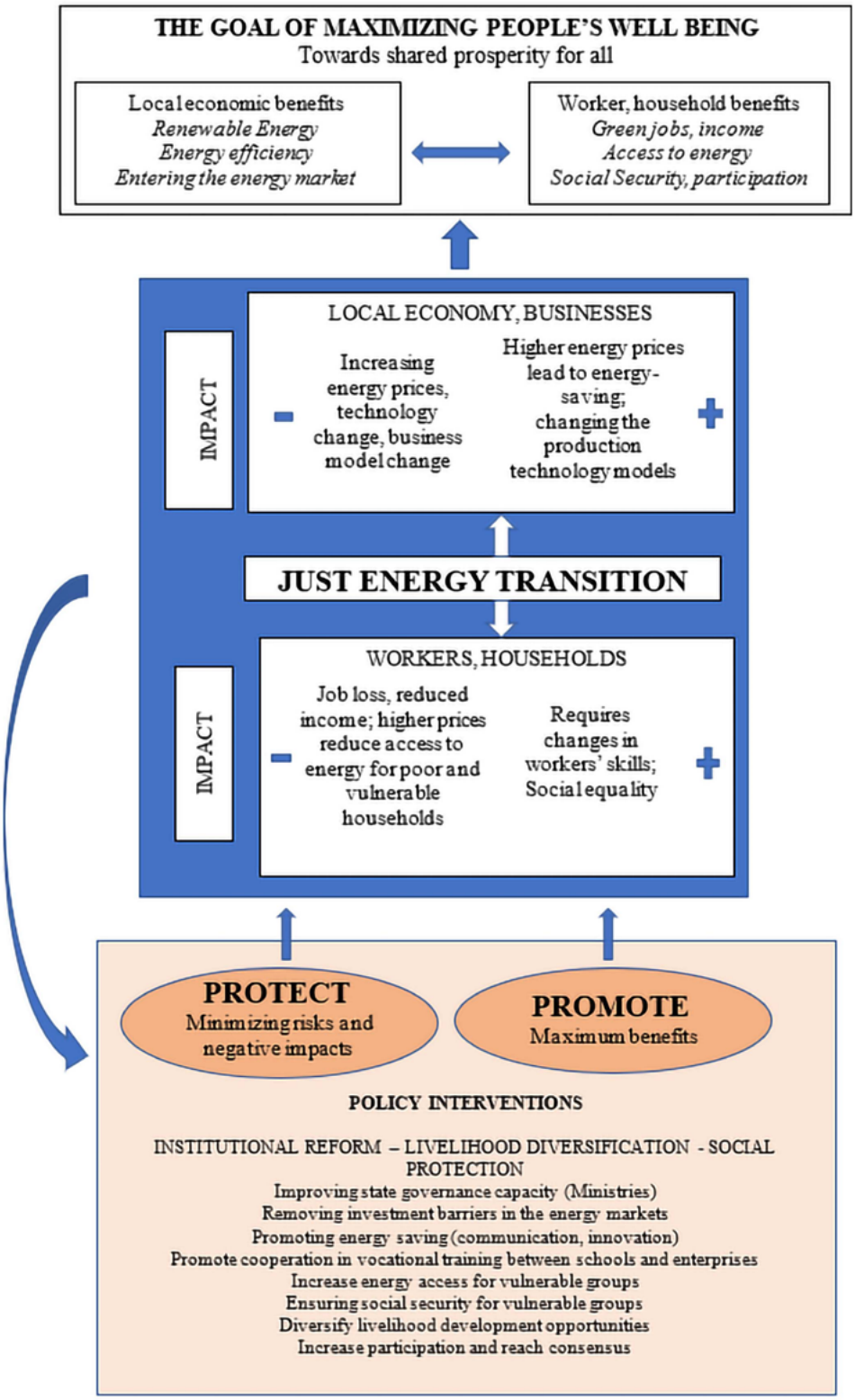
Box 3. Elements of a framework for analysing and monitoring the just aspects of the energy transition in Viet Nam

The overall goal is to maximise people's wellbeing. More specifically, to ensure that workers, households and businesses affected by the energy transition (a) have access to energy and energy security, (b) can benefit from sustainable and inclusive economic development and seize business and employment opportunities generated by the transition, (c) are protected from negative effects of the transition, and (d) participate in the energy transition process.

This goal requires

- Development of a policy environment that minimize risks for all stakeholders in accessing affordable energy, which helps generating business activity and employment opportunities from e.g. VRE or EE investments.
- The removal of barriers that make it difficult for workers, households and businesses to capture employment and investment opportunities from the energy transition.
- Develop risk mitigation measures to protect workers, low-income households and small businesses from negative effects of the transition such as increased energy costs and loss of employment.
- Public sector resource allocation to implement social security and other support mechanisms to promote a successful energy transition for all stakeholders.
- Inclusive processes, in which stakeholders aim to reach consensus, participate in the formulation of energy transition programs and projects, and the monitoring and assessment of impact on workers, households and businesses.

Figure 5. Just Energy Transition Framework



In any investment project it will be expected that the leading stakeholders implement Environmental and Social Impact Assessment according to the legal requirements of Viet Nam as well as the standards and guidelines of financiers. This commonly includes environmental and social focus topics and criteria that will be applied to project development, irrespective of whether the project is part of JETP. However, as the JETP PD and Scheme set out some just expectations, it is proposed that investments projects also consider the suggested "just" criteria in Table 11. These should also be used in the JETP monitoring process, including biennial review (see Chapter 8).

Table 11. "Just" criteria for use in project development and monitoring

<table>
<tr><td colspan="3">General assessment criteria

(1) energy access and energy (current policies and procedures, consultation processes, anti-corruption practices, impact management...)</td></tr>
<tr><td>Environmental assessment criteria

(2) efficient use of resources (pollution, waste, food security, biodiversity...)

(3) biodiversity (natural ecosystems, forests, vegetation...)</td><td>Social assessment criteria

(4) labour (effects on employment, working conditions, safety, security, training...)

(5) community (health, safety and security, pandemic, traffic...)

(6) resettlement (land recovery, schools...)

(7) indigenous people (customs, access to infrastructure of indigenous people...)

(8) cultural heritage (architectural works, monuments...)</td><td>Possible "just" assessment criteria

(9) livelihood/income diversification (training opportunities, vocational training, job creation support);
(10) market connectivity/linkage

(11) resilience to shocks (insurance, social protection)

(12) participation of vulnerable groups (assessed by gender, age, dependency status, informal employment status)

(13) impacts along the value chain (pervasive, indirect impacts, outside the project scope).</td></tr>
</table>

The following sections will dive deeper into employment risks and opportunities, access to energy and energy security, the risks of increased costs of energy, associated with increased inequality and poverty, local development opportunities, and stakeholder consultation and consensus building.

5.2. EMPLOYMENT RISKS AND OPPORTUNITIESEMPLOYMENT RISKS

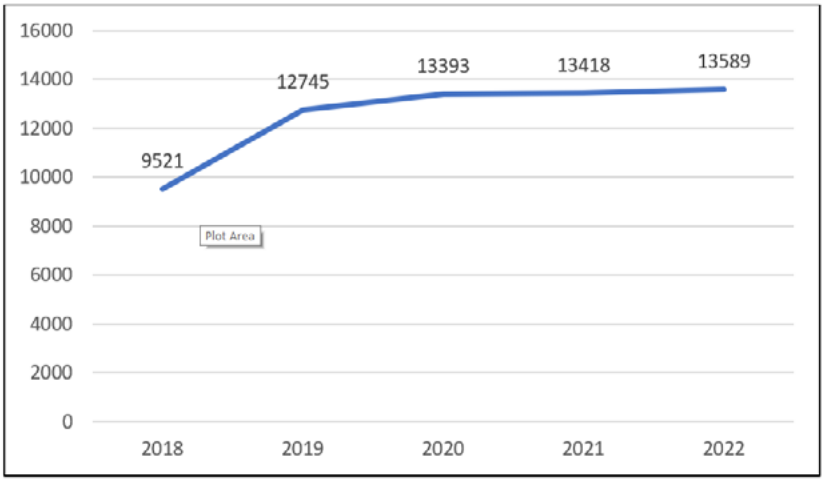
5.2.1. Employment Risks

There are risks regarding loss of employment, for example as fossil fuel-based power generation will scale down and be substituted and transport will be electrified. This means that some business activities will reduce and there will be job losses as a result of investments in the energy transition. Jobs will be lost in scaling down coal-thermal power plants and coal mining, fossil fuel distribution, and in manufacture and maintenance of internal combustion engines of motorbikes, cars, trucks, busses and ships. Some workers in formal and informal employment in such energy-related value chains will require skill training, job creation, unemployment benefit and social assistance to cope with negative impacts on employment. There may be gender-based and other inequalities in both job losses and in employment opportunities.

Coal mining and CFPPs are expected to be strongly affected by the transition. Based on PDP8 it can be expected that most effects will be felt in the period after 2035, and in some localities changes could occur sooner.

Viet Nam currently has 39 CFPPs in operation, of which 28 are state-owned (belonging to EVN, PVN and TKV/Vinacomin) and 11 privately owned. According to the data of General Statistics Office (GSO) there are about 13.5 thousand workers in the coal power industry (Figure 6). Large CFPPs employ between 800 and 1200 workers, and small and medium-sized CFPPs about 50 to 400 workers/plant. The total number of direct and indirect jobs in the CFPP value chain of the entire industry is about 35,500 people.

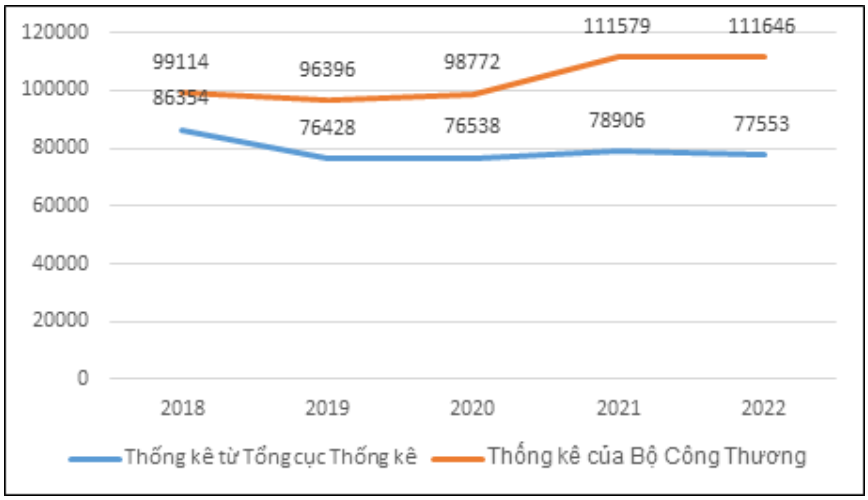
Figure 6. Coal power industry workers (people)



(Source: Compiled from the Labour and Employment Survey of GSO)

Two large coal mining companies, TKV and TCTDB, account for 95% of the total coal output of the national coal mining industry. The number of workers in the coal mining industry is according to MOIT about 111,000 but the GSOs Enterprise Survey shows a total figure of about 77,000 workers in 2022 (see Figure 7). The direct labour in coal mining and processing accounts for over 70% of the total, the auxiliary and service workers make up about 20%, and indirect workers make up less than 10%.

Figure 7. Workers in the coal mining industry



(Source: compiled from GSO and MOIT data)

One of the priority solutions is to complete the collection of statistical data and monitor the impact of the energy transition on employment in Viet Nam.

Viet Nam is forecasted to import 50-83 million tons of coal/year in the period 2025-2035, with the amount gradually decreasing to about 32-35 million tons in 2045. This implies that the reduction in coal use due to the shutdown of coal power plants may have little impact on Viet Nam's coal mining industry, as the domestic production is maintained.

5.2.2. Employment Opportunities

Because the sources of energy production and the energy distribution channels will change, and industrial production and transport means will be electrified, there will be opportunities for the creation of high quality jobs in value chains of renewable energy, electric transport, and energy efficiency.

Many international data show that replacing for example CFPPs with a larger installed capacity of VRE, but the same power production output will significantly increase jobs in manufacture of equipment, construction and operation and maintenance of the plants. Looking at some of the employment data projections in the context of PDP8 and JETP targets, the reduced coal power capacity from 37 GW to 30.2 GW by 2030 reduces employment in that sector by 3,900 workers. At the same time, if the proportion of wind power and solar

PV increases from 36% to 47% of total electricity output by 2030, this would create nearly 155,000 jobs (1/3 in wind power, 2/3 in solar PV), according to one study[34]. Another study estimated that replacing coal-fired plants with solar or wind could more than double the number of jobs per MW of installed capacity, creating up to 1.94 million job-years over the period 2015-2030[35]. By 2030 around 80 % of the jobs created in the power sector are in construction and installation, with the rest in Operation and Maintenance (O&M) of the systems, which for VRE are highly skilled jobs. According to PDP8, about 25% of workers have intermediate, college and university degrees for both power plant construction and installation, and plant O&M; the 75% majority are unskilled or have only primary school education. However, according to GSO's Enterprise and Employment Survey the proportion of workers in CFPPs with only elementary qualifications and unskilled is only 19% (2022), and in the coal mining industry these groups account for 43%. The latter data may not have managed to include all temporary workers. The older CFPPs such as Ninh Binh and Pha Lai 1, have a large proportion of older workers in the group 40 to 60 years of age and the proportion of women is about 20-30% of the total workforce, working mainly in administration[36]. Job opportunities are considered low for female, unqualified and elderly workers.

5.2.3. Skills Training and Local Economic Development

JETP aims to support development of renewable energy value chains and there will be new business opportunities, which require different skill sets of the workers. Many workers affected negatively by the transition could be retrained. Those affected by transition investments as well as other workers need capacity building so that they can benefit from the new opportunities. Training and education are offering the possibility to increase the share of women workers and managers at different levels of the energy sector.

The labour and employment data regarding CFPPs and also coal mining do suggest that many of the current workers who would face job losses due to the transition will be difficult to train for the high skill requirements in the VRE value chains, especially older low-skilled workers. The VRE value chains require significantly more workers for the same installed generation capacity whilst the same power output from VRE requires higher installed capacities, so the total employment requirements will increase, especially skilled jobs. The employment transition process must therefore take place quickly, with significant training efforts at vocational and college levels, in order for men and women workers to be able benefit from the new employment opportunities. In addition, location of workers and businesses, and worker-mobility need to be considered, because many of the new opportunities in VRE value chains will arise in different locations than those where the

[34] UNOPS and ETP (2023), Policy Brief - Preparing for the Implementation of the Just Energy Transition Partnership in Vietnam: Justice and Equity Aspects

[35] COBENEFITS, 2020. Making the Paris Agreement a success for the planet and the people of Viet Nam. Unlocking the co-benefits of decarbonising Viet Nam's power sector.

[36] UNOPS and ETP (2023), Policy Brief - Preparing for the Implementation of the Just Energy Transition Partnership in Vietnam: Justice and Equity Aspects

transition will have negative effects. Therefore, targeted investments in MSMEs and workers to engage in new value chains must consider the question of location and mobility.

Regional disparities also need to be addressed. Localities experiencing strongly negative effects may require area development support, which should be considered in for example plans for scaling-down, repurposing and substituting CFPPs. Some coal mining communities will be affected, whereas new business opportunities and jobs may be created in different localities from those that suffer losses. This problem is particularly stark in South Africa and the JETP in Viet Nam may also want to address this through area development programs, which may go beyond the topic of energy. New business activity can be generated through good local development plans and regional development projects in the areas of decommissioned mines or thermal power plants. There are already successes with area development in which employment was generated in new industries. For example Quang Ninh province, with most coal mining in Viet Nam, has strongly developed tourism and trade, with many workers shifting to those activities.

However, there are, generally, low capacities in small and medium enterprises (SMEs) on green measures such as energy efficiency equipment, their access to finance limited, and the knowledge of banking staff of such technical options and their advantages is also limited. These capacities must increase for SMEs to access investment capital, participate in VRE value chains and invest in energy efficiency. But new opportunities can materialise through targeted investments, aiming to support local SMEs that lose service contracts in fossil fuel-based activities, and employ workers who lose their jobs in the transition, perhaps in different industries. Targeted investments that support businesses and workers should prioritise SMEs, women and ethnic minority business owners and workers, and members of low-income households. Such needs are not expected to be big in the early years of the transition, i.e. in the period to 2030, but they should be expected later, as per Viet Nam's commitments to scaling down coal in the 2040s and reaching net-zero by 2050. The local effects will depend on technology choices in the period 2031-2050 as regards the operation of thermal power plants, with for example "carbon capture use and storage" one route to continued coal mining and coal use in power generation (see also PDP8).

The JETP PD affirmed that education, vocational training and reskilling programs are important, to support job creation in regions affected by the transition process and focused on renewable energy value chains. It is proposed that dedicated projects are developed for this, especially in collaboration with vocation training institutions, and that some of the large-scale energy transition investments include training components as well. This should target both retraining of employees at risk of losing their jobs and training of others in order to ensure sufficient numbers of skilled workers in the value chains of VRE as well as energy storage systems, energy efficiency and electric transport. Training strategies and plans should cover both formal and informal men and women workers affected in the energy transition process – the latter may benefit from local skills training to ensure the availability of qualified workers in communities to seize employment opportunities, e.g., to help install,

operate and repair rooftop solar PV and other small-scale energy systems. Vocational training will have to include a range of topics related to solar PV and wind power in particular, for the manufacture of equipment, construction and installation of systems, and operation and maintenance. The training strategies and plans must consider training needs assessment (involving businesses and local communities), developing new departments and expertise in vocational training institutions, various forms of financial support to students / trainees, career counselling services (workers at risk of losing their jobs, young men and women), and improving and communication labour market information. Large enterprises should be encouraged to take part in recruiting students/ trainees, providing training, and supporting students / trainees financially.

5.2.4. Social assistance to affected workers

Loss of employment will not concern large numbers of workers in the first period of the energy transition. However those workers losing their jobs as a result of the energy transition and who are already near retirement age and who will face difficulty in reskilling and finding other employment must be given early retirement benefits, for example in the case of the transition or closure of a CFPP. More generally, workers who lose their jobs, including temporary and informal workers should be provided access to unemployment benefits and social assistance as their income is affected whilst they may not have been retrained yet, and not found alternative employment yet.

5.3. ACCESS TO ENERGY AND ENERGY SECURITY

5.3.1. Rural electrification

Rural electrification of Viet Nam has been a major success, with 99% of rural communities and households connected to the national grid. This is an important achievement of the "Target Program on Power Supply in Rural, Mountainous and Island Areas for the period 2016 – 2020"[37], whereas Phase 2 (2021 - 2025) aims at bringing electricity to 871,263 households in 2,197 communes (153,911 households do not yet have access to electricity, while 717,352 households have intermittent access). In rural areas many already have accessed renewable energy such as biogas digesters (cooking gas), solar water heating, and in the remotest rural areas there are now affordable opportunities for off-grid rooftop solar PV home systems or mini-grid systems that include solar PV. This is expected to have positive impacts on for example educational achievements of children and livelihood activities.

5.3.2. Risks of Increased Inequality and Poverty

The energy transition may force energy prices to go up in the first years as large scale upfront investments are needed in renewable power generation capacity, grid infrastructure and energy storage capacity. In addition, while fossil fuels still dominate the energy mix

[37] Prime Minister Decision 1740/QD-TTg of 13 December 2018

and as EVN is currently struggling financially because of high international costs of fossil fuels combined with hydropower plant water shortages, there are also other reasons why power tariff increases may be unavoidable. Electricity tariffs may also be affected by the forthcoming national ETS that will likely include fossil fuel power generation plants. The ETS is expected to be operationalised from 2028 onwards and will also affect some high-energy consuming industry and the prices of goods such as cement and steel. Carbon tax increases on fossil fuel use in households (cooking), transport and industry will increase energy costs for households and businesses and will thus encourage energy efficiencies and electrification. This will affect some households and businesses more than others. In the longer term a renewable energy dominated electricity mix will likely be cheaper compared to the BAU scenario of continued expansion in fossil fuel-based power generation and transport fuels, because technology costs of for example solar PV, wind power and BESS are globally on strongly downward trends, but this will take some time.

Increased energy prices will affect low-income households and small businesses in particular. Electricity retail tariffs are somewhat progressive in Viet Nam, meaning that the first blocks of kWh per month in household consumption are cheaper, so that low-income households can access modest amounts at low costs. Small rural enterprises benefit from relatively low tariffs as well. Considering the average monthly income of poor households is 2 million VND or less in urban areas and 1.5 million VND or less in rural areas, electricity bills can be a big burden, accounting for 31% and 41% of their income, respectively[38].

5.3.3. Enabling Local Livelihoods in the Energy Transition

The JETP PD mentions multi-purpose land use, i.e. combining renewable energy production and other land use. This can include for example agriculture and aquaculture, so producing power whilst also supporting local livelihoods. There is increasing evidence that dual land-use of agriculture, livestock, aquaculture or biodiversity conservation combined with solar PV can benefit agricultural production. Solar PV can also float on reservoirs or be installed above canals, as is being applied already in some cases. Until now solar and wind power plants have not pursued multi-purpose land use, except for rooftop solar PV systems on industrial buildings, and instead the purchase of land for renewable energy plants has caused reduction of farming and livelihood opportunities in several communities. Onshore and near-shore wind power plants are excluding farmers, herders, and fishers from their sites whereas relatively simple physical measures and behavioural agreements could enable livelihood activities.

If multi-purpose land use would be included in forthcoming regulations on land use, wind power and solar PV, there is a high likelihood of co-benefits from renewable energy generation in support of rural development. In small scale systems rural residents would increase their access to energy, potentially raise some income from selling electricity, as

[38] MOLISA (2023). Decision 71/QD-LDTBXH 2023 on results of reviewing poor and near-poor households in 2022 according to multidimensional poverty standards for the period of 2022 2025.

well as agricultural productivity. According to the JETP Scheme MARD MONRE and MOIT have some responsibilities to develop proposals on multi-purpose land use.

Implementing the transformation of the growth model to become "green", has been cited as an initial success of some localities, such as Quang Ninh province. The Mong Cai border gate economic zone, Van Don economic zone, and Quang Yen coastal economic zone are dynamic breakthroughs, forming green, modern, smart urban areas. More and more high-tech industrial projects, processing and manufacturing industries, clean industries, service infrastructure, seaports, logistics, etc. are being built. This benefits from large investors, and is based on comparative advantages, local governance and strategies attract investment, the development of local infrastructure as well as strengthening inter-regional links. The mining area has given way also to bridges and a major highway. There is positive impact on employment of the transition process, but the energy transition may become more challenging, requiring even more deliberate efforts to transform the local economy.

5.3.4. Social assistance for vulnerable groups

There is a need for a mechanism to ensure access to affordable and reliable electricity for all, as relative energy price increases may be expected already in the period to 2030. The JETP PD mentions the need for such mechanisms for low-income households, which can be done in several ways:

- Direct social assistance, as direct payments to support households classified as poor as well as some other groups of households are already being made. The system can increase existing payments in order to protects those groups from general energy price increases, including petrol for transport and cooking fuels. How the current system could be reformed to ensure high efficiency and minimal burden on the administration of the social security system as well as the recipients must be worked out. It is also necessary to determine how revenue will be generated in order to afford these increased social assistance payments, such as through a special fee or tax on fossil fuel consumption.

- A modification of the already progressive electricity tariff, meaning that the first blocks of monthly power consumption become relatively cheaper and higher blocks of power consumption relatively more expensive. For example, the first 100 kWh/month for each consumer would get cheaper, noting that most poor or low-income households do not consume much more than that. The low-income households would thus be cross-subsidised by consumers of larger amounts of electricity per month[39].

- Special schemes, targeting certain social groups. For example, retired people, students and/or people who are officially classified as poor could be given special cards that give them free or low-cost travel on public transport in cities. The normal ticket prices would

[39] UNDP-Viet Nam. 2017. http://www.vn.undp.org/content/vietnam/en/home/library/poverty/Ensuring-social-equity-in-viet-nam-power-sector-reforms.html

have to increase somewhat, so that this would lead to a cross subsidy from higher income travellers to those groups.

5.4. CONSULTATIONS AND A BROAD SOCIAL CONSENSUS

There are currently no existing mechanisms through which the representatives of youth, women, the elderly, migrants, formal and informal sector workers, and ethnic minority groups, and social political and professional organizations (such as the Youth League, Trade Union, Farmers Union or the Women's Union) can participate actively in dialogues on aspects of the energy transition if they have access to statistical data and evidence. However, major energy sector investments do until now not pay much attention to social-economic development of the localities affected, which is not demanded by investment planning and licensing regulations. As mentioned in Section 5.1, it is important that all investment plans under JETP must mainstream just aspects in the project development stage, for example concerning training of personnel and mitigation of negative effects on communities.

The JETP PD also talks of the need for regular consultation with different stakeholders, including NGOs, so as to ensure a broad social consensus on critical policy measures and large-scale energy transition investments. The potential effects of the energy transition on youth, women, the elderly, migrants, formal and informal sector workers and ethnic minorities and other social groups must be assessed and discussed with representatives of such groups. This could include dialogue about different social support measures and training in light of the effects of the energy transition measures. Stakeholders can also be engaged in dialogues about regulations on multi-purpose land use with potential benefits for rural households in particular. Social consensus can be achieved if government agencies set up and support consultation mechanisms in which such matters can be addressed. To forge social consensus, government agencies should set up and support consultation mechanisms in which relevant issues can be addressed.

5.5. POLICY ACTIONS FOR THE JUST ENERGY TRANSITION

For the mitigation, enhancement, and compensation for negative impacts caused by the energy transition, it is recommended to design and implement the "Governance of environmental, social and just impact assessment process" at the project sub-national and national levels. At the project level there is a need to design and implement the process for the JETP projects. At the national and sub-national level policy mechanisms must be designed and implemented to address the impacts caused by the energy transition on the wider population.

5.5.1. The "Environmental, Social, and Just Impact Assessment Process" Applied to JETP projects

Currently, the environmental impact assessment process has been institutionally mandated by the Law on Environmental Protection. For environmental impact assessment, indicators of environmental and social impacts have been regulated by Government Decree

08/2022/ND - CP of 10 January 2022, MONRE Circular No. 02/2022/TT–BTNMT of 10 January 2022, and MONRE Circular No. 27/2015/TT-BTNMT, which are guiding the process and indicators of environmental and social impact assessment. In addition, there are also Guidelines for conducting environmental and social impact assessment of investment projects, built with the support of international partners, to help investors meet their needs and the requirements of the Government and financial institutions in accessing loans. However, some issues are not commonly being reported, such as (1) gender gaps; (2) natural disaster risk management and resilience risks; (3) indicators may be limited to the scope of a specific project, without considering potential impacts at a broader level; (4) there is no legal framework to support risk assessment affecting indigenous people.

It is proposed to revise the current regulations, specifically the Circular on environmental and social impact assessment[40], to enhance this with just criteria, applied to JETP projects:

– Sustainable local economic development, reflected in livelihood diversification[41] (ability to diversify livelihoods, access to training opportunities, vocational training, job creation support services, market information services labour)

– Resilience to shocks (access to social insurance, protection);

– Participation of the most affected labour and population groups in the process (disaggregated by gender, qualification, age, and dependency);

Add a step to the assessment process[42]: develop a "Just Plan Report", with details on reporting about just issues and recommendations beyond the scope of project to inform ministry and local leaders on indirect impacts.[43]

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[40] Circular No. 27/2015/TT-BTNMT guides the process and indicators of environmental and social impact assessment.

[41] This is one criterion chosen by Indonesia to add to the "Environmental - Social - Just Impact Assessment Process" of in JETP Indonesia.

[42] Currently includes 04 main steps (1) Impact analysis and assessment: Identify impacts; Determine the impact scale; Propose and analyse measures to avoid or minimize impacts; Propose impact compensation measures; (2) Develop a Management Plan: specify the plan and criteria for evaluating mitigation measures, compensation measures, and biological enrichment measures; (3) Developing a monitoring program: monitoring methods and monitoring mechanisms; (4) Consult the community and relevant parties, specifically about (i) relevant groups needing consultation; (ii) content and form of consultation; (iii) timing and duration of consultation; (iv) consultation responsibility of the project owner; (v) the responsibility of agencies and organizations directly related to the investment project to respond to the project owner's request for consultation.

[43] The report would include criteria on (1) ensuring access to energy and energy security; (2) promoting sustainable and inclusive economic development of the energy transition (ability to seize opportunities for diverse livelihoods, access to the labour market, vocational skills training policies for affected workers); (3) ensure social security of affected labour and population groups by the energy transition process.

5.5.2. Develop a Mechanism for Data Collection and Dialogue to Address Impacts Caused by the Energy Transition Process Beyond the Project Level

The proposed policy actions are:

– The GSO (under MPI) will develop statistical indicators, conduct data collection, and work with MOLISA to and develop a national report to assess the impact of just energy transition on employment and welfare of workers and households at the national level.

– Organize the "National Forum for Just Energy Transition" for policy discussion on emerging issues at the national level and to make policy adjustments. The forum will (1) connect information from localities and from the from the central government, (2) promote participation of different stakeholders in discussing policy mechanisms that address impacts of the energy transition, and (3) to create a consensus on the Just Energy Transition.

– Develop policy that enables a social dialogue mechanism on JET (see also Chapter 7).

5.5.3. Develop a Mechanism to ensure Affordable Electricity for low-income Households and MSMEs

Viet Nam is seeking technical assistance to for implementation of a key element in the JETP Declaration, which is the development of policy and mechanisms to ensure affordable electricity for low-income households and MSMEs to cope with increased energy prices, especially in the first years of the energy transition. This is discussed also in one of the Concept Notes as summarised in Annex IV (see also Chapter 7).

CHAPTER 6

JETP FINANCING PLANS

6.1. INTRODUCTION

Table 5 gives the project types and based on PDP8 and other master plans, action plans, CNs and other sources two long lists of projects were constructed (Annex I and Annex II) upon applying the general principles (Table 6). The projects in these "long lists" are still to be prioritised and selected for JETP financing or not. Chapter 3 also describes three priorities of groups of projects based on the Scheme (also Table 5), and three additional priorities in order to maximise GHG emissions mitigation impacts of the JETP. Various financial challenges and opportunities as well as just aspects were identified that must be considered in selecting and implementing JETP support projects (technical assistance, capacity building etc.) as well as public and private sector investment programs (Chapter 4 and Chapter 5).

The USD 15.5 billion committed by IPG with GFANZ as per the JETP PD will be a significant but nevertheless minor share of the total requirements which have been estimated by analysing the financial projections in the NDC and PDP8. Therefore, Viet Nam expects to maximise leveraging of additional investments which is reflected in the minimum conditions that proposed projects under the JETP must demonstrate. This applies in particular to the use of some of the public finance to encourage private investment.

6.2. IPG'S PUBLIC FINANCE OFFER

The IPG communicated an indicative breakdown of the USD 7.75 billion by type of finance on 24 March 2023 which was updated on 2 August 2023 and in yet more detail on 27 September 2023, with some updates on 21 October 2023. The following subsections give the indicative breakdown of the IPG financial commitments by type of financial instrument and source. The expectation is that public finance will be used in a catalytic way to mobilise additional private finance towards the just energy transition.

6.2.1. Funding Instruments from International Public Sources

There are a number of financing instruments offered by development partners to support the Viet Nam JETP, these include, but are not limited to:

1. Grants, which can be in the form of Technical Assistance (TA) and capital grants.

2. Concessional finance, offered at below-market rates.

3. Commercial Development Finance Institution (DFI) instruments (loans, guarantees and equity), based on risk-based pricing.

On 14 December 2022, the IPG, co-led by the United Kingdom and the European Union, and also consisting of the Governments of Canada, Denmark, France, Germany, Italy, Japan, Norway, and the United States, committed an initial USD 7.75 billion of international public finance over a three-to-five year period to support the Government of Viet Nam in implementation of the JETP.

The public funding is committed in different types of modalities as follows:

a) Grants, in the form of technical assistance grants and capital grants

Grants are defined as gifted funds that do not require repayment. Most identified grants are already earmarked for specific purposes, as elaborated in the country commitment section, and thus may not be available as a blending instrument within investment projects. A total of USD 321.6 million of grants has been offered, of which USD 239.6 million is earmarked for specific projects or sectors and USD 82.0 million can be more flexibly assigned, depending on demand.

TA grant is a type of support that either comes along with a concessional loan to facilitate the preparation, financing, and execution of development projects and programs, or is funding to support policy formulation, peer-to-peer knowledge sharing, capacity building and research studies / development recommendations. Each institution administering its pledged TA funds would need to follow their internal procedures including fully defined and agreed scope of work and cost. They would also need to obtain relevant government approvals to proceed with TA implementation.

b) Concessional Loans

Concessional loans are defined as loans made on more attractive terms than Viet Nam could secure in the capital markets. Features of the loan terms that may be more attractive are offers of below-market interest rates, longer-than-market loan tenors and longer-than-market grace periods. The majority of concessional loans in the JETP package are offered to state-owned enterprises, both with and without a government guarantee. Concessional loans are sometimes provided in conjunction with TA to support with early-project development and/or development of policy to support the project.

A portion of the current JETP package is available to provide concessional co-financing for private sector projects to mobilise private capital flows through blended finance. The concessional element of blended finance usually comes from public or philanthropic sources with commercial finance and/or non-concessional finance from Multilateral Development Banks' (MDB) and DFIs' private sector lending arms, or private financial institutions. Blended finance is a potentially valuable mechanism/ tool to mix the two financing sources available to lower cost of capital or cost of risks pertaining to a specific project.

A total of USD 2.75 billion of concessional loans have been identified for the Viet Nam JETP and will be disbursed through various intermediaries, including: Asian Development Bank (ADB), the European Investment Bank (EIB), the French Development Bank (AFD), and the German Development Bank (KfW). Loans coming out of each of these MBDs and DFIs will follow their internal terms and conditions, and will usually require close coordination and approval with the Government of Viet Nam, in particular with MOIT, MOF, MPI and CMSC. USD 2.18 billion of financial offers that will need sovereign guarantees or will be sovereign loans.

c) Commercial DFI instruments

Some of the public funds offered for the Viet Nam JETP come from DFIs with market-based terms, however, due to the development orientation of MDBs and DFIs, even if commercially priced, such transactions include investment decisions that take into account development objectives. As such, these public sources are distinguishable from private commercial lending in terms of their inclusion of development objectives as an investment criterion, but bankability and commercial viability remain critical pillars in MDB investment decisions. In the Viet Nam JETP case, DFIs and MDBs operating in this space include but are not limited to the Asian Development Bank (ADB), the Italian Cassa Depositi e Prestiti (CDP), the Proparco (a subsidiary of AFD Group), the Dutch Entrepreneurial Development Bank (FMO), the German Investment Cooperation (DEG), the Japan Bank for International Cooperation (JBIC), the Japan International Cooperation Agency (JICA), the Norwegian Investment Fund (Norfund), the Private Infrastructure Development Group (PIDG) and the US International Development Finance Corporation (DFC).

DFI's and MDB's ability to provide investments ultimately remains a function of the legal and regulatory environment, as well as the volume of private sector-led projects that meets their financing, environmental, and social standards, and that seek financing from them. Many of the institutions can deploy their capital through a number of financial instruments, these include, but are not limited to:

4. **Loans** can be structured in a variety of ways, such as a direct loan to a private entity or to domestic commercial banks. DFI loans can also be extended to private entities developing renewable energy project, which may require sovereign obligations to guarantee the performance of EVN.

5. **Equity financing** is the process of investing capital through the subscription of shares in a business or asset that represents ownership.

6. **Guarantees,** which can take many forms, depending on the specific project.

The allocation split between DFI loans, equity and guarantees in this document is only indicative of what might be deployed, given the exact split will be a function of specific project requirements.

The detailed financial offer of IPG is summarised in Table 12.

Table 12 – Indicative Breakdown of IPG Public Finance by Sources and Financial Instrument

USD million[44]	Total[45] ($mn)	Grants/ TA	Concessional loans		Commercial DFI instruments[46]			
			Sover-eign	Non-Sov-ereign	Equity	Guarantee	Loan	Split to be defined[47]
Canada	59.4	4.4	50.9	4.0				
Denmark	10.0	10.0						
EU	920.3	185.3	735.0					
France	525.0	1.31		523.7				
Germany	671.7	62.7	399.0				210.0	
Italy	528.0						264.0	264.0
Japan	342.4	2.4					340.0	
Norway	251.1	1.1			250.0			
UK	304.3	4.3			50.0	200.0[48]	50.0	
US	1050.0	50.0			10.0	40.0	950.0	
ADB	2100.0		1000.0				1100.0	
FMO	315						315	
Other	1000.0						1000.0	
Sub-Total Public Finance	8077.2[49]	321.51	2184.9	527.7	310.0	240.0	4229.0	264.0

[44] All finance has been shown in USD millions. The EU, French, German, Italian and FMO offers are made in Euros, with an exchange rate of 1.05; The Canadian offer is made in Canadian Dollars.

[45] There are instances where multi-donor and co-financed public finance is included in IPG country offers; there is no double-counting of commitments.

[46] The exact split between commercial DFI financial instruments (loans/equity/guarantees) is purely indicative; many DFIs can deploy support through a number of financial instruments and the actual split will be demand and opportunity driven.

[47] Please refer to Italy's contribution in 6.2.2 (e) for further details on this contribution.

[48] Guarantees to support counterparty credit risk, in order to support local currency financing of private projectS.

[49] The International Partners Group has tentatively increased the international public finance commitments to the JETP, from USD 7.75 billion to USD 8.08 billion.

6.2.2. Funding by IPG member

a) Canada

Canada's offer is a total of CAD 80.15 million (~USD 59.37 million).

Programme / Funding Entity	Mechanism	Programme Name / Description	JETP category	USD
World Bank	Grant/TA	World Bank Energy Sector Management Assistance Program (ESMAP)	All	1.48
World Bank	Grant/TA	World Bank Partnerships for Market Implementation (PMI)	1, 2, 5	0.74
UNOPS	Grant/TA	Southeast Asia Energy Transition Partnership (SEA ETP)	All	1.48
OECD	Grant/TA	Clean Energy Finance and Investment Mobilization (CEFIM)	1, 5	0.74
Sub-total Grant/TA				**4.44**
IBRD Trust Fund WB	Sovereign concessional loan	Energy Transition Program	3	50.93
MDB co-financing (concessional loans for blended finance)	Non-sovereign concessional loan	Blended Finance for Private Sector	3	4.0
Sub-total concessional loans				**54.93**
Total				**59.37**

The CAD 74.15 million (~USD54.93 million) concessional loans provide concessional blended finance for MDBs with and without a government guarantee.

The World Bank sovereign loan is delivered through the Energy Transition Program, one of four programs under the Canada-World Bank Clean Energy and Forests Climate Facility (CCEFCF). This program aims to slow the expansion of coal in the electricity sector by developing low-carbon alternatives (including solar, wind, and geothermal) and improving energy efficiency and grid upgrades in targeted countries. Although funding was fully disbursed by Canada in 2021, this project is still operational and managed by IBRD (World Bank). Viet Nam is among the 6 eligible countries under this fund and can receive up to CAD 68.75 million (~USD 47.65 million). USD 40.0 million is earmarked for the Renewable Energy Accelerating Change (REACH) Project, which has been listed as a priority JETP project.

The MDB co-financing reflects a concessional loan that Canada has committed to MDBs that can used as blended finance to catalyse private sector financing for gender-sensitive mitigation and adaptation projects. The loan was disbursed by Canada in 2021 but the funds are still operational, and Viet Nam can access up to USD 4.0 million.

The committed CAD 6.00 million (~USD 4.44 million) grants also include Canada's contribution to ESMAP, PMI, SEA ETP and CEFIM, where Canada plans to use its position on the governance advisory boards of these programs to advocate for these funds to support the JETP. Yet, since these are pooled funds, Canada cannot predetermine the amount that will be in fact allocated to JETP projects.

b) Denmark

Denmark's offer is a total of USD 10 million in grant funding.

Programme/Funding Entity	Mechanism	Programme Name /Description	JETP category	USD (Million)
Funded by Ministry of Foreign Affairs of Denmark, implemented by Danish Energy Agency	Grant/TA	Danish Energy Partnership Programme (DEPPIII)	1, 2, 4, 5, 6 and indirectly 3, 7, 8	10
Sub-total Grant/TA				**10**
Total				**10**

c) European Union

The EU's offer is a total of EUR 876.5 million (~USD920.3 million).

Programme/ Funding Entity	Mechanism	Programme Name/ Description	JETP category	USD (Million)
EU Delegation	Grant/TA	Multiannual Indicative Programme 2021-27	3, 4	36.2
EU Delegation	Grant/TA	Sustainable Energy Transition Program (SETP)	1, 3, 5	149.1
Sub-total Grant/TA				**185.3**
EIB	Sovereign and non-sovereign concessional loan	Project dependent	3, 4, 5, 6	735
Sub-total concessional loans				**735**
Total				**920.3**

EUR 700 million (~USD 735 million) of concessional loans are offered through EIB, which includes sovereign and non-sovereign loans, although EIB typically asks for a government guarantee.

EUR 500 million is not currently earmarked for specific project. Up to EUR 200 million is earmarked for the Bac Ai hydropower storage project, which is listed as a priority JETP project. This is a greenfield energy storage project with a capacity of 1,200 MW located in Ninh Thuận Province. The requirement for electricity storage and fast reserve capacity, as envisaged to be provided by this project, will reinforce the integration of renewable energy, i.e. energy sources available on an intermittent (non-dispatchable) basis, such as wind and photovoltaics in the grid. The total loan amount for Bac Ai is expected to be EUR 600 million, including contributions from the EIB AFD, KfW and JICA.

The EUR142 million (~USD 149.1 million) grant through the Sustainable Energy Transition Programme (SETP) covers renewable energy, energy efficiency and Viet Nam's energy information system. EUR 121 million is a direct grant, through budget support, and EUR 21 million is TA.

The EUR 34.5 million (~USD 36.2 million) grant/TA will in part contribute towards the "EVN – Team Europe Energy Transition Facility", which supports EVN and its energy transition. This facility will support with early-stage project development of JETP relevant investments and will accompany their implementation through dedicated Technical Assistance.

d) France

France's offer is a total of EUR 500 million (~USD 525.0 million).

Programme / Funding Entity	Mechanism	Programme Name / Description	JETP category	USD (Million)
AFD	Grant/TA	TA between RTE (French transmission utility) and NPT	7	0.7
AFD	Grant/TA	Research program to inform public policies on net-zero strategies and adaptation to climate change; ("GEMMES" model and just transition)	8	0.6
Sub-total grants				**1.3**
AFD	Non-sovereign concessional loan	Project dependent	3, 4	523.7
Sub-total concessional loans				**523.7**
Total				**525.0**

The EUR 498.8 million concessional loans can be deployed through sovereign loans, non-sovereign loans to state-owned enterprises and non-sovereign loans to state owned commercial banks, via AFD. Key potential areas of partnership are: grid transmission, storage, hydro extension and energy efficiency including public lighting, but AFD will support other projects of its public partners that are consistent with the JETP. AFD Group will also mobilise its subsidiary Proparco to support private sector projects in line with the energy transition on a commercial basis. A total of EUR 220 million (~USD 231 million) is earmarked for the EVN Bac Ai hydro pump storage project and NPT Binh Duong and Dong Nai substations, which are listed as a priority JETP project.

TA is mobilised by AFD alongside the non-sovereign concessional loans, to support with project-development, for peer-to-peer cooperation between French utilities and EVN and to provide research on public policy on net-zero strategies, however these have not been included in France's current JETP contribution. AFD may approve other grants in the future in the framework of the JETP.

dd) Germany

Germany's offer is a total of EUR 639.7 million (~USD 671.7 million).

Programme / Funding Entity	Mechanism	Programme Name / Description	JETP category	USD (Million)
BMZ	Grant/TA	Promoting the Transition of the Energy Sector in Viet Nam (TEV)	1	7.35
BMZ	Grant/TA	Agri-photovoltaics for rural areas in Vietnam (APV)	3	3.15
BMZ	Grant/TA	Support Vietnam enhancing capacities for the development of a green hydrogen economy (H_2Growth)	3	5.25
BMZ	Grant/TA	Creation of social and economic conditions for a just energy transition in Vietnam	8	5.25
BMZ	Grant/TA	Programme Technical and vocational education and training (TVET) III	8	14.7
BMWK	Grant/TA	Clean, Affordable and Secure Energy for Southeast Asia (CASE)	1	2.1
BMWK	Grant/TA	SHIFT - Shifting Investment Flows Towards Green Transformation - scoping mission	1	15.75

Programme / Funding Entity	Mechanism	Programme Name / Description	JETP category	USD (Million)
BMWK	Grant/TA	The Asia Low Carbon Buildings Transition (ALCBT)	5	3.675
BMWK	Grant/TA	Support to Vietnam for the Implementation of the Paris Agreement II	1	4.2
BMWK	Grant/TA	Innovation Regions for a Just Energy Transition	8	1.26
Sub-total Grant/TA				**62.7**
KfW	Sovereign concessional loan	Project specific	3, 4	399
Sub-total concessional loans				**399**
DEG	Commercial DFI loan	Project specific – private sector	3, 4	210
Sub-total commercial DFI instruments				**210**
Total				**671.7**

The EUR 380 million (~USD 399 million) concessional sovereign loans are deployed through KfW as subsidized development loans and promotional loans. The loans are earmarked for three projects: the EVN Bac Ai hydro pump storage project, EVN Tri-An hydro generation project and 'Green Grids' transmission project, which are listed as a priority JETP project.

The EUR 200 million (~USD 210 million) commercial DFI loans are deployed through DEG. DEG's ability to provide investments ultimately remains a function of the volume of private sector-led projects that meet DEG's financing, environmental, and social standards, and that seek financing from DEG.

The EUR 59.7 million (~USD 62.7 million) grants are BMZ and BMWK technical assistance programmes.

e) Italy

Italy's offer is a total of up to EUR 500 million (~USD 528 million).

Programme/ Funding Entity	Mechanism	Programme Name/ Description	JETP category	USD (Million)
Italian Climate Fund	To be defined	Project specific	To be defined	264
CDP	Commercial DFI loan	Project specific – private sector	3, 4, 5, 6	264[50]
Total				**528**

EUR 250 million (~USD 264 million) should be offered over five years through the Italian Climate Fund – ICF (Italy's Governmental Fund, managed by CDP) and can be deployed through sovereign and non-sovereign loans, guarantees to financial institutions, indirect equity (funds); and grants dedicated to technical assistance, subject to specific limits applicable to each financial instrument. The details, including confirmation of the funding entity and indication of mechanism and eligible sectors will be defined over the next few months. Each transaction will be subject to approval by the competent bodies.

Up to a further EUR 250 million (~USD 264 million) could be offered over five years through Cassa Depositi e Prestiti (CDP). Like other DFIs, CDP's ability to provide investments ultimately remains a function of the volume of private sector-led projects that meet CDP's financing, environmental, and social standards, and that seek financing from CDP. The instrument that can be offered by CDP is represented by commercial DFI loans, which could be deployed in parallel with financing provided through the ICF. Each transaction will be subject to approval by the competent bodies, e.g. CDP Board of Directors.

f) Japan

Japan's offer is a total of USD 342.4 million.

Programme/ Funding Entity	Mechanism	Programme Name/ Description	JETP category	USD (Million)
JICA	Grant/TA	Capacity Improvement on Power System Operation	4	2.36
Sub-total Grant/TA				**2.36**
JICA	Commercial DFI loan	Onshore wind power project - Viet Nam, Ninh Thuan Province	3	25
JBIC	Commercial DFI loan	Commercial Green Two-Step Loan – renewable energy projects	3	165

[50] Subject to availability of suitable private sector-led projects and to approval by the competent bodies, as outlined below

Programme/ Funding Entity	Mechanism	Programme Name/ Description	JETP category	USD (Million)
JICA	Commercial DFI loan	Bac Ai hydro powered storage project	(3) – Developing the RE industry	150 (Subject to due diligence)
Sub-total commercial DFI instruments				**340**
Total				**342.4**

USD 340 million commercial DFI loans have been committed by Japan. USD 190 million of the loans are already agreed and will mobilise a total of USD 452 million: USD 152 million onshore wind power project (USD 25 million from JICA) and a USD 300 million commercial loan (USD 165 million from JBIC).

Bac Ai hydro powered storage project, which is listed as a priority JETP project, is being developed and the amount is subject to further due diligence.

The YEN 330.4 million (~USD 2.36 million) grant provides technical assistance to the power system operation when introducing large amounts of variable renewable energy, and from commencement will last three years.

g) Norway

Norway's offer is a total of NOK 2,511.1 million (~USD 251.1 million).

Programme/ Funding Entity	Mechanism	Programme Name/ Description	JETP category	USD (Million)
Norway	Grant/TA	UNDP Offshore Wind TA	3	1.1
Sub-total Grant/TA				**1.1**
Norfund	Commercial DFI Equity	Project specific – private sector		250
Sub-total commercial DFI instruments				**250**
Total				**251.1**

NOK 2,500 million (~USD250 million) is offered through Norfund's Climate Investment Fund which can be deployed through commercial DFI equity, loans or guarantees, however Norfund prioritises equity investment with minority shareholding (<25%).

Norfund's ability to provide investments ultimately remains a function of the volume of private sector-led projects that meet Norfund's financing, environmental, and social standards, and that seek financing from Norfund.

h) United Kingdom

The United Kingdom's offer is a total of USD 304.34 million.

Programme/ Funding Entity	Mechanism	Programme Name/ Description	JETP category	USD (Million)
Department for Energy Security and Net-Zero (DESNZ)	Grant/TA	Climate Finance Accelerator	3,4,5,6	0.77
Department for Energy Security and Net-Zero (DESNZ)	Grant/TA	VN Offshore Wind Centre of Excellence	3	0.34
Foreign, Commonwealth & Development Office (FCDO)	Grant/TA	UK PACT (Partnering for Accelerated Climate Transitions)	All	3.2
Sub-total Grant/TA				**4.34**
Private Infrastructure Development Group (PIDG)	Equity, loans, guarantees	Project specific – private sector	3, 4	300
Sub-total commercial DFI instruments				**300**
Total				**304.34**

An estimated USD 300 million of investment is foreseen from Private Infrastructure Development Group (PIDG), which deploys and mobilise infrastructure investment, with core funding from UK and other countries. The Private Infrastructure Development Group work with public and private partners to bridge financing gaps, directing capital and expertise into projects that promote climate resilience and sustainable growth. Working throughout the project lifecycle, PIDG reduce financial risk, transform markets and build local capacity, creating a deep and lasting impact. PIDG undertake their own pipeline origination and due diligence and the terms of the project finance depend on the individual project. PIDG intends to deploy up to USD 300 million over a five year period, which is dependent on availability of private sector-led projects that meet financing, environmental, and social standards. If pipeline is not available then deployment could be over an extended period.

The GBP 3.36 million (~USD 4.34 million) of grants are for technical assistance. GBP 0.9 million of this funding is earmarked for use in 2023 and 2024 to support early-stage project pipeline development in Viet Nam, scoping of an offshore-wind centre of excellence and capital markets in Viet Nam. GBP 2.5 million is offered through UK PACT, which provides demand-driven support, through skill-shares between UK experts and their country counterparts, long-term secondments into key institutions, and broad support for projects to promote emissions reductions and low carbon solutions. This amount is indicative given UK PACT budgets have not been finalised beyond 2023/24, but funding can be assigned in response to Government of Viet Nam demand.

i) United States

The United States's offer is a total of up to USD 1.05 billion, subject to availability of funds and is conditional on identifying investments that meet DFC's commercial and development eligibility requirements.

Programme/ Funding Entity	Mechanism	Programme Name/ Description	JETP category	USD (Million)
U.S. Technical Assistance Entity (e.g.. USAID, Department of State, Department of Energy, etc)	Grant/TA	TA	All	50
Sub-total Grant/TA				**50**
DFC	Commercial DFI guarantee	Project specific – private sector	3, 4, 5, 6	40
DFC	Commercial DFI loan			950
DFC	Commercial DFI equity			10
Sub-total commercial DFI instruments				**1000**
Total				**1050**

Up to USD 1 billion in financing can be unlocked through DFC, which could be in a form of direct loan to eligible private sector-led opportunities. In addition to debt, DFC can also provide guarantees and/or political risk insurance per transaction, as well as equity investments—up to 30% of a direct equity or fund transaction—in companies and funds can also be exercised. DFC's ability to provide investments ultimately remains a function of the volume of private sector-led projects that meet DFC's financing, environmental, and social standards, and that seek financing from DFC; project developers can only proceed where

host governments have provided the regulatory, bankability and enabling environment that supports private sector investment in climate mitigation, adaptation, and other clean energy transition projects.

The United States can offer USD 50 million in flexible grants via technical assistance that can be used in accordance with JETP ambitions. This is JETP money that can be delivered through existing programs such as USAID's Viet Nam Low Emission Energy Program (V-LEEP II), Viet Nam Urban Energy Security Program (VUES), and INVEST Program. Additional JETP funds in the form of technical assistance can come through implementation of lab-to-lab cooperation with the Department of Energy's Net Zero World Initiative, as highlighted in the Comprehensive Strategic Partnership. The United States is also providing USD 3 million in grant funding for the purchase of cutting-edge battery energy storage technology and equipment to be deployed at a 7 MW/7 MWh BESS pilot project integrated into a 50 MW solar farm, as referenced in Table 8.

j) Other financial institutions

Outside of the International Partners Group, a number of financial institutions have pledged a total of USD 3.42 billion of public finance.

Programme/ Funding Entity	Mechanism	Programme Name/ Description	JETP category	USD (Million)
ADB	Concessional sovereign loans	Project specific	All	1000
Sub-total concessional loans				**1000**
ADB	Commercial DFI loan	Project specific – private sector	All	1100
FMO	Commercial DFI loan	Project specific – private sector	3, 4, 5	315
Other	Commercial DFI loan	Project specific – private sector	All	1000
Sub-total commercial DFI instruments				**2,415**
Total				**3,415**

FMO could invest in a broad range of investments, including, but not limited to: wind, solar, hydrogen, storage, transmission and distributions, e-mobility and green hydrogen. FMO has the ability to provide debt in local currency.

In all instances, these financial institutions' ability to provide investments ultimately remains a function of the volume of private sector-led projects that meet financing, environmental, and social standards, and that seek financing.

6.3. AGREEING THE FINANCING PRIORITIES

IPG related public finance institutions have indicated which JETP categories their public finance commitments can be used to support. JETP finance will support the agreed overall priorities, including transitioning of the source of energy or early retirement of CFPPs, or increased flexibility of CFPPs to reduce the overall output of the fleet consistent with the JETP targets.

The public financial institutions involved with IPG have determined which public financial commitments will be used for which JETP items. IPG resources supporting prioritized items will initially be identified for several activities, including energy sources transition, early decommissioning coal fired power plants, or increasing the flexibility of coal fired power plants to reduce total capacity, consistent with JETP targets. The Government emphasized that the allocation of foreign capital in JETP will be carried out in accordance with the provisions of the State Budget Law and the Law on Public Debt Management. Loans are only used for investment projects and grants are used for technical assistance, capacity building and technology transfer projects. In addition, the current USD 320 million funding commitment, which is part of IPG's initial commitment, is not enough for JETP to succeed.

Other financial commitments are not allocated to specific uses and so can be more flexibly directed towards JETP priority areas. IPG Governments, DFIs and MDBs are restricted by their own internal governance and the JETP categories assigned to these commitments demonstrate the areas where those institutions can provide finance. The project prioritisation process as given in Section 3.3 should be applied to these commitments, considering the different project options or proposals in Annex I and Annex II.

Prioritisation must also be informed by analysis of challenges to certain investments and the need for policy action that would enable investments. Discussion of the financial challenges and opportunities as well as just aspects in Chapter 4 and Chapter 5 should inform this, as Chapter 7 provides an overview as well as a prioritisation of policy actions. Some of the analysis of challenges, opportunities and (policy) solutions is provided in more depth in the CNs, which are summarised in Annex II. The four JETP Working Groups (WGs) will address this, in particular the policy solutions that are needed for deployment of technology, financing and agreeing investment (the WGs under MOIT, MOF and MPI respectively). In addition, financiers, investors/project holders such as SOEs and private enterprises and sometimes other stakeholders will have to enter into project level negotiations in order to be able to agree certain financing under the facilities listed in the public finance offer of IPG in Section 6.2. How to access private sector finance, from GFANZ and also Vietnamese commercial banks is outlined in Chapter 4.

Most projects listed in Annex I and Annex II, if prioritised will be at an early stage of project development. This means that stakeholders would still need to do pre-feasibility and /or feasibility studies, designs, Environmental Impact Assessments (EIAs), they don't have permit from different authorities yet, still need to make financing agreements, and are still to agree e.g. power purchase agreements (PPAs) in the case of RE projects.

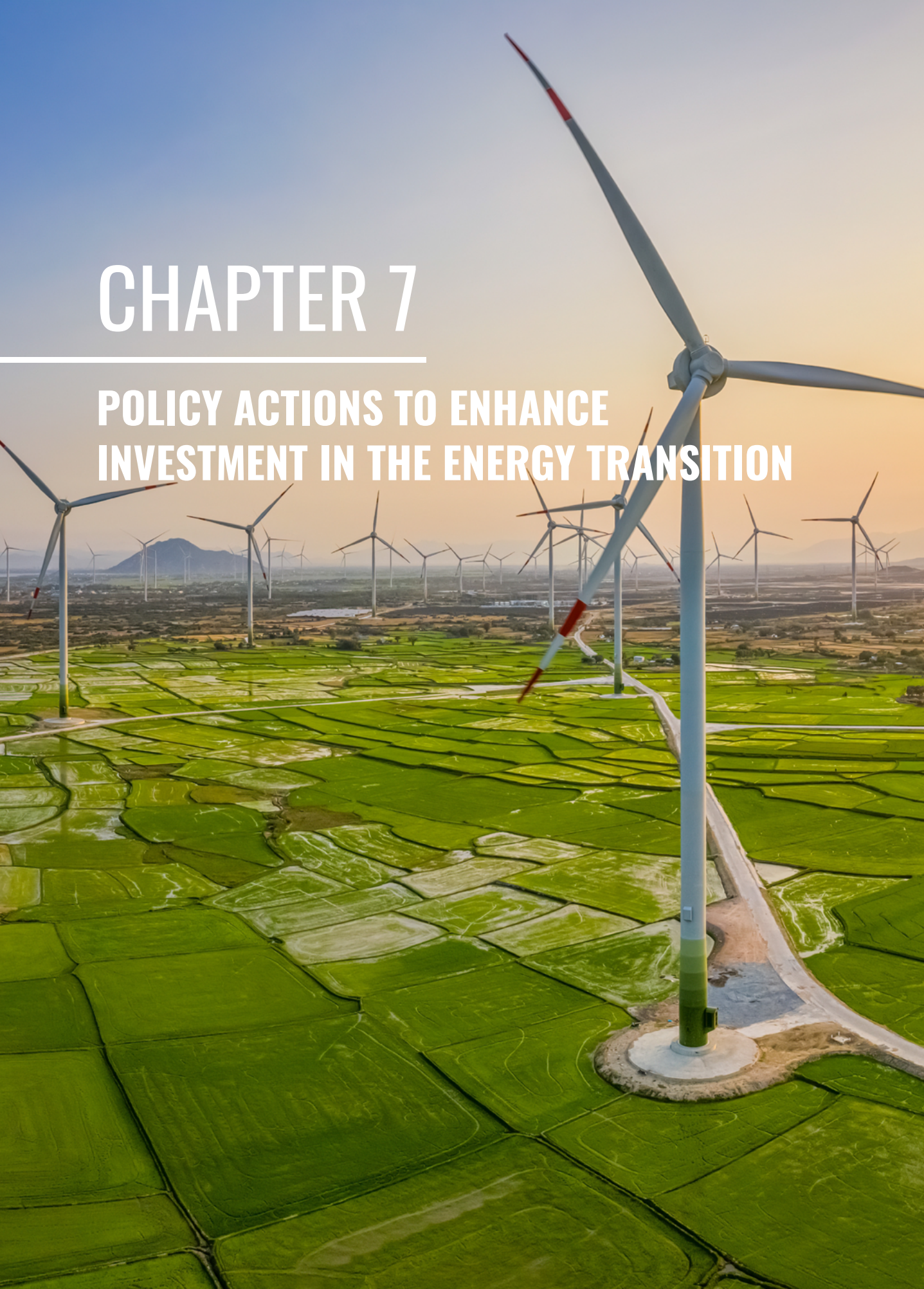
The priorities identified in Section 3.4 and 6.2 should be summarised as in Table 13. As stakeholders will come to more concrete agreements on priorities and actual financing this table will be filled in, and in time it will be expanded further.

Table 13 – Framework for overview of JETP financial commitments

Categories	Projects (project holder-investor) *	USD	Financiers	Type of finance	Contribution GHG target **
1. Improving the regulatory framework for the energy transition					
	1) <Project 1> <nn>	xx	Yy, zz	<grant>	++
	2) <Project 2> <nn>	xx	Yy, zz		+
2. The transition of coal power generation					
	3) <Project 3> <nn>	xx	Yy, zz	<guarantee>	+++
	4) <Project 4> <nn>	xx	Yy, zz	<loan>	
3. Developing the renewable energy industry					
	5) <Project 5> <nn>	xx	Yy, zz	<equity>	
	6) <Project 6> <nn>	xx	Yy, zz		
	7) <Project 7> <nn>	xx	Yy, zz		
4. Power transmission and energy storage					
	8) <Project 8> <nn>	xx	Yy, zz		
5. Energy efficiency					
	9) <Project 9> <nn>	xx	Yy, zz		
	10) <Project 10> <nn>	xx	Yy, zz		
6. Energy transition in the transport sector					
	11) <Project 11> <nn>	xx	Yy, zz		
7. Innovation, development and technology transfer					
	12) <Project 12> <nn>	xx	Yy, zz		
8. Ensuring a just transition					
	13) <Project 13> <nn>	xx	Yy, zz		
	14) <Project 14> <nn>	xx	Yy, zz		
	Total	Σ			

* Some projects are from Appendices of PDP8. Details are in Annex II with the Concept Notes / proposals. List of concept note is in Annex IV.

** See paragraph 24.b in the JETP PD. See also the "minimum conditions" and project prioritisation per category in Chapter 3, Annex I and Annex II. In this table comparative contribution (+, ++, or +++) would be based on estimated GHG emissions reduction over a project lifetime compared to BAU.



CHAPTER 7

POLICY ACTIONS TO ENHANCE INVESTMENT IN THE ENERGY TRANSITION

7.1. INTRODUCTION

Chapter 7 discusses policy and regulatory actions which should improve the business environment, according to the JETP PD. Policy actions should ensure financing, permitting, standards and other aspects that expedite investment in for example offshore wind, solar PV, the transmission grid, energy storage, energy efficiency and electrification of transport and industry. It is imperative these policy actions fit within Viet Nam's socio-economic and energy context, while leveraging international best practices. Policy actions should be enabling improvements and progress per the scope of the JETP as reflected in Table 4. The policy actions link to the prioritised programs and projects provided in Chapter 3 and Chapter 6.

The overview of policy actions in Section 7.2 follows the categories of project types in Table 5, keeping this within the scope of the JETP PD. Table 5 already give some hints at potential policy actions. Table 8 and Table 10 give priorities according to the JETP Implementation Scheme, and additional priorities that maximise GHG emissions reduction. The lists of policy and regulatory measures in each sub-section of Section 7.2 are however many and they must be prioritized and timed. Section 7.3 gives the most urgent and highest priorities that must be addressed in 2024.

The analysis that led to the lists of policy actions is partly reflected in Chapters 4 and 5, which include analysis on finance and just aspects complications and limitations respectively. In addition, the Concept Notes (CNs), that were developed on the initiative of IPG members and their networks, include numerous policy, policy actions, technical assistance and investment projects and financial sources (see Annex IV). Other information, reports and papers from different sources have also informed this Chapter.

The JETP PD implies that there will be IPG funding for formulating some of the policy actions, i.e. Technical Assistance (TA) which is likely in the form of grant funding of certain ministries. This is also included in several of the mentioned CNs, in the form of TA projects related directly to the investment program concerned. Such efforts must be guided by the Secretariat and Working Groups (see Chapter 8) and coordinated with TA provided by non-IPG Development Partners.

Some of the policy actions that are discussed in Section 7.2 are broader than a single category of prioritised program / project types. Such issues are included in the general policy actions in sub-Section 7.2.1. Section 7.2 focuses on conclusions regarding the need for additional or reformed regulations and gives only a brief analysis on each category because analysis is discussed in other Chapters as well as the Concept Notes. The policy actions touch upon technical, financial, permitting, market, just, and other aspects.

7.2. OVERVIEW OF POLICY ACTIONS

7.2.1. General Policy Actions on the Regulatory Framework for the Energy Transition

Based on policy actions to implement the JETP PD (Annex I of the JETP Implementation Scheme), based on the analysis in Chapter 4 and linked to the technical priorities in Chapter 6, the key actions for the regulatory framework for the energy transition tentatively include the following:

- Amendment of the Law on Electricity, including support to the development of the RE industry, deployment of RE, improve electricity transmission and storage, produce and use green H_2, and to enable improved operation of the VWEM.

- Develop a long-term legal framework to achieve net zero emissions and ensure the transition from fossil energy to low-emission energy, based on the NCCS.

- Improve regulations on disbursement of ODA capital to SOEs (see Chapter 4)

- Further improve the green capital markets (see Chapter 4); complete the legal framework on green credit, mechanisms and policies and sanctions to facilitate credit growth for projects on the list of green classification, climate change responses and energy transition.

- Assess the current state of law and improve legislation to support affected communities in a just energy transition, in line with the ILO Declaration on Fundamental Principles and Rights at Work; support equitable energy transition, particularly across economic sectors, for communities affected by potential negative impacts of the energy transition.

- Synthesize and propose criteria, priority areas, mechanisms and policies to encourage investment in the energy sector for a just energy transition.

- Improve investment institutions and policies to enhance the effective mobilization of domestic and foreign resources to implement just energy transition activities.

- Develop a regulatory framework for a domestic ETS.

7.2.2. Policy Actions on the Transition of Coal Power Plants

The JETP PD agreed to reduce Viet Nam's project pipeline for coal-fired generation and the phasing out of unabated coal-fired power generation (see Section 2.3.2) and PDP8 also makes some points on the scale down of coal power plants (Section 2.5). Several ongoing studies on scenarios concerning some of the coal-power plants show that there will be considerable costs involved in any such transition, although long-term benefits are expected from maximising RE. At the same time, some benefits from the international voluntary

carbon markets are possible if a plant that is transformed before the end of its economic lifetime, whereas the forthcoming Vietnamese ETS will improve the competitiveness of RE vis-à-vis fossil fuel-based power generation. Furthermore, the ETS will incentivise coal power plants to increase efficiencies and take measures such as co-firing with biomass or capturing CO_2 emissions through Carbon Capture, Use and Storage (CCUS) technologies. The following policy actions must be considered:

- Develop a roadmap (to 2030 and to 2050) for transitioning the coal thermal power generation plants, in sync with the roadmap of ETS development, to reduce GHG emissions, including potentially transitioning from coal to biomass, green ammonia or other clean energy sources, and decommissioning plants at the end of their economic lifetime that cannot be converted to clean energy sources. This roadmap should include plans to addressing social elements of the transitions.

- Develop plant-by-plant retirement plans starting with the highest priority / eligible plants, providing detailed implementation plans, including matters related to unemployment and retraining.

- Build broad-based support from the local communities as well as the enterprises owning the CFPPs concerned.

- Develop plans for coal-fired power plants that are under construction for completion before 2030 but that are facing difficulties, and that may be converted to other clean energy sources.

7.2.3. Policy Actions on Coal Power Plant Flexibility

Viet Nam's current energy infrastructure comprises a capacity of 26.7 GW from CFPPs, 7.3 GW gas-fired power plants, and a hydropower capacity of 17.7 GW. Despite the accelerated deployment of VRE in the electricity mix, coal power constitutes 38% of the total generation. This presents challenges related to system integration, particularly when accommodating new VRE. Studies and tests conducted in India have demonstrated that CFPPs could reduce minimum load from 70-80% to as low as 40% with a different operation strategy and without any investments. Lowering the minimum load and increasing the ramp rates (the speed at which the power plant can regulate its production) can thus make room for the renewables, leading to reduced consumption of coal and CO_2-emissions.

Accordingly, the following policy actions must be considered:

- Probabilistic security of supply analysis for the power sector towards 2030

- Restructure CFPPs with fixed PPAs to incentivize flexibility, debt restructuring and raising public finance to compensate losses.

- Allow pilot tests for improved operational efficiency and flexibility of 4-5 coal power plants using different types of coal and technology

- Perform refurbishments to improve the operational efficiency of the plants.

- Optimization of mill operation and combustion process, and of control loops for sustained operations at minimum loads.

- Facilitate the import of bituminous coal with high volatile content and low carbon content.

- Use carbon markets to provide an additional source of revenue.

7.2.4. Policy Actions for Developing the Renewable Energy Industry

a) Wind power related policy actions

Based on the analysis of difficulties, and to promote wind power development, the following policy actions should be considered:

- Complete the formulation of the Marine Spatial Planning, in relation to offshore wind development.

- Formulate a roadmap with required policy adjustments for offshore wind power development reaching 6GW installed capacity by 2030 (the target of PDP8), including measures to enable efficient, transparent and fair investor selection processes.

- Develop regulation on wind power PPAs, making them bankable for international financiers (including international arbitration).

- Develop long-term legal framework for a commercial market, including investor tender process / auctions on onshore and offshore wind parks, potentially including pre-auction public investments in surveys (windspeed, geophysical, biological and other data) that would be made available to all prospective investors in order to de-risk investments and lower the bid prices. Publicly invested survey data would be made available to all prospective investors.

- Capacity building for marine monitoring including seabed and windspeed data collection in areas with technical OSW potential, data storage, modelling, and communication.

- Develop policy regulation on small scale wind power, including dual land-use (e.g. wind exposed ports), tidal zone use, with grid connection and participation in the VWEM.

- Develop regulations on multi-purpose land and seabed use to combine livestock, crop, and fisheries/ aquaculture with onshore and offshore wind power development.

b) Solar PV related policy actions

Based on analysis of difficulties to expanding solar PV generation, the following policy actions should be considered:

- Develop regulations on (stimulating) behind the-meter, off-grid systems, which may be without limitation in installed capacity according to PDP8.

- Develop regulations on solar PV plant tender processes/auctions, including how to cover costs of pre-auction public investment in surveys/project preparation, including ground-mounted, floating solar PV, solar PV and energy storage projects.

- Develop regulations on inclusion of energy storage in grid connected solar PV projects and how storage can operate in the VWEM.

- Develop regulations (such as "surplus power tariffs") to allow grid-connected rooftop solar PV for participation in the VWEM and/or DPPA, targeting regions where transmission/distribution grid capacity is already sufficient.

- Develop technical standards and connection requirements, including requirements for metering, for solar PV with on-site consumption and solar PV combined with batteries.

- Develop regulations on multi-purpose land use/agriculture-solar PV (APV) systems that combine livestock, crops, aquaculture, irrigation reservoirs, canals and forestry with solar PV, without grid connection and with grid connection and "net-metering" or participation in the VWEM and/or DPPA.

- Develop regulations to improve the bankability of PPAs for solar PV, including provisions on international arbitration.

c) Policy actions on green hydrogen and derivatives

MOIT is developing plans for the production, transport, and use of green Hydrogen (H_2) and derivatives. This and further regulation will be needed to develop this new sector, particularly serving industrial production (petrochemical, fertilizer, and steel, ...) industry and transport (large scale shipping, H_2 fuel cells for e.g. trucks). Further research will be needed on the use of green H_2 and ammonia (NH_3) in power production (mixed in with LNG, coal). The following policy actions should be considered:

- Develop a national roadmap on green H_2 and derivatives, including market development.

- Develop plans and specific regulations on production and use of green H_2, green NH_3, and other synthetic fuels derived from green H_2.

- Develop regulations on H_2 certification standards (what is green H_2, and other colours).

- Develop regulations on safety in storage, transport and use of green H_2, NH_3 and other gasses.

d) Policy actions for the development of the RE manufacturing industry

There are already some domestic and foreign invested manufacturers of solar PV equipment, wind towers and other relevant equipment in Viet Nam, and Viet Nam is an

exporter of some of those products. These industries could expand through targeted policy measures although the value chains first require some review and analysis to inform good policy formulation. There are also certain tax exemptions or lower rates of certain fees in RE markets that provide incentives, for example reduced importation taxes for certain equipment. These also need to be analysed for their effectiveness and e.g. their effects on the localisation rates of Vietnamese manufactured goods, in order to inform policy actions for the development of Viet Nam's renewable energy manufacturing and service industry. The following policy actions could be considered and implemented:

- Plan two regional renewable energy industrial and service hubs in potential areas in the North, South Central or Southern regions, i.e. focus areas for renewable energy production and transmission; equipment manufacturing (solar PV, wind power, energy storage and other related equipment); engineering, procurement and construction (EPC), transport and other services.

- Develop mechanisms to promote the production, repair and maintenance of renewable energy equipment in the country; improve the localization rate of equipment for the development and use of renewable energy.

7.2.5. Policy Actions on Power Transmission and Energy Storage

a) Policy actions on power transmission

Low transmission tariffs, the NPT's limited ability to seek financing from ODA loans and the domestic and international finance sector, as well as some procedural difficulties regarding e.g. land acquisition, are limiting the development of power transmission and distribution infrastructure.

Law No. 03/2022/QH15 amending and supplementing a number of articles of the Law on Public Investment, the Law on Investment by public-private partnership, the Law on Investment, the Law on Housing, the Law on Bidding, the Law on Electricity, the Law on Enterprises, the Law on Special Consumption Tax and the Law on Enforcement of Civil Judgments, stipulates: "attracting all economic sectors to participate in investment activities to build transmission grids on the basis of ensuring national defense and security and according to the power development masterplan, electricity generation, electricity distribution, electricity wholesale, electricity retail and specialized electricity consulting. Non-state economic sectors are allowed to operate the power transmission grid they invested in and built". However, this legal regulation is yet to be specified.

Furthermore, demand and supply management in Viet Nam is sub-optimal, for lack of "smart" technologies integrated in the grid-connected facilities and related standards and regulations, including operation of the electricity markets. Draft policy regulations have been developed to enable RE to be sold by certain producers directly to consumers (Direct Power Purchase Agreements, DPPAs), using the transmission grid for a fee, and

DPPA regulation should be issued urgently especially to enable FDI companies to use green power. Policy actions that need to be considered and implemented are as follows:

- Improve access to financing for NPT and reduce procedural difficulties for implementing power transmission projects of strategic national interest.

- Further specifying Law No. 03/2022/QH15. Detail the regulations to enable private sector investment in transmission grid capacity and grid management, also of distribution grids in e.g. industrial zones.

- Develop regulations to improve electricity demand and supply management, including implementation of technical connection codes (grid codes) for all new demand, generation and storage technologies, and using "smart grid" features (SCADA).

- Finalise and issue DPPA regulation, particularly to enable solar PV to be sold to industrial enterprises.

- Development of policies to strengthen interconnection of the grid with neighbouring countries and the development of interconnected power markets of ASEAN member states.

- Develop, implement and enforce connection grid codes for technical connection for all new demand, generation and storage technologies to support and manage a grid increasingly powered by variable renewable energy while ensuring cost-efficiency and security of supply.

b) Policy actions on energy storage

Globally, battery energy storage systems (BESS) are increasingly deployed for short-duration peak supply and grid frequency control. This is focused on Li-ion batteries whereas many alternatives that may be cheaper but have different discharge characteristics and e.g. weight-power ratios are being developed. BESS can be on-grid and controlled by the grid operator, and also be used in off-grid systems. But by far the largest energy storage technology currently in operation around the world is pumped hydropower storage (96% of all energy storage[51]) where water is pumped up when power supply is high and cheap, and water is released to run generators when power demand is high. Since 2020, there is one pumped storage project under construction by EVN, in Bac Ai in Ninh Thuan province, with planned installed generation capacity of 1.2 GW – this is expected to be completed in 2028. There are also developments with the application of other technologies, for example, Liquid Air Energy Storage (LAES) and mechanical energy storage options (flywheel) that can benefit large electricity consumers such as industrial estates (on-grid or off-grid).

[51] ETP Clean Energy Technology Guide https://www.iea.org/articles/etp-clean-energy-technology-guide

The increase in the share of variable renewable energy (VRE) in the power structure has highlighted weaknesses in the the operation of the power system, especially because of transmission capacity limitations in the south-central coast region. Curtailment can be prevented by combining the increased deployment of VRE with investment in transmission capacity as well as energy storage systems. Energy storage systems can supply power during peak-demand hours and provide ancillary services such as maintaining grid frequency. However, energy storage and how it might connect to the grid and the VWEM is not yet regulated in Viet Nam. There is no policy on electricity selling prices during peak and off-peak hours or access to the wholesale electricity market, and it is necessary to adjust and supplement policy to encourage BESS and other storage technologies. Some storage investments could displace fossil fuel power generation and therefore benefit from voluntary carbon markets or the domestic ETS, which could enhance private sector investment. Policy actions that could be considered and implemented are as follows:

- Further development of methods of system balancing through increased electricity market development (VWEM and ancillary services markets), particularly regulations to enable stored energy (e.g. BESS and pumped hydro-storage) to be sold to the grid, to participate in the VWEM and be rewarded for their flexibility and ancillary services (peak power demand, grid frequency control etc.).

- Develop regulations that enable the combination of solar PV and wind power plants and storage, jointly providing power and ancillary services to the grid and VWEM.

- Develop regulations to allow and encourage private investment in energy storage at large electricity-consuming establishments (including BESS and mechanical storage options), with off grid and on-grid connections, to increase on-site storage capacity and consumption and limit the need for increased power provision to these establishments.

- Develop grid codes and standards for BESS and other energy storage technologies.

7.2.6. Policy Actions on Energy Efficiency

a) Policy actions on industrial energy efficiency and electrification

Using on-site renewable energy to replace fossil fuel use is key for some industries. Some alternatives involving the use of biomass/biogas/waste instead of fossil fuels are also important. Energy efficiency and energy substitution must be tied to GHG reduction regulations under the 2022 Government Decree. Among the largest emission sources in Viet Nam – emissions are mainly due to energy consumption. This will link to the development of the national ETS whereas some on-site renewable energy investments can also link to voluntary carbon markets, which in turn can increase private sector investment. Regulations on energy efficiency, on-site renewable energy use, and industrial GHG emissions reduction must be well coordinated and together lead to incentives for businesses to improve energy efficiency and reduce emissions in ways that improve their profits.

The development of national technical standards for the Specific Energy Consumption (SEC) of some products (energy consumption per unit of production) was carried out. Under the "National Target Program On Energy Efficiency And Energy Saving"[52], energy efficiency standards are established, and certain industries must issue plans to improve their technology to achieve the standards. The manufacturers of specified industrial products are obliged to develop plans to improve energy efficiency by applying higher efficiency technologies. The energy efficiency regulations should increase competitiveness, making green investments that are in line with Viet Nam's green growth strategy.

Standards have been developed for cement; building materials; chemicals; fertilizers; beer and beverages; iron and steel; plastics; paper products; pulp and printing; fish and shrimps; textiles and leather; and sugar cane. More standards for an additional 10-15 products will be developed under the VNEEP3 in the period of 2019-2025. Policy actions to take include the following:

- Further improve standards, technical regulations on energy consumption norms in different sectors, strengthening the implementation of energy efficiency measures.

- Formulate and promulgate regulations on the development and application of energy service companies (ESCOs), enabling assessment of energy efficiency potential and external investment in EE measures.

- Amend the Law on Corporate Income Tax and decree on EVN's financial management, to allow Demand Response (DR) payments as eligible expenses for taxation, and support EVN to invest in DR projects and smart grid.

- Develop mechanisms and policies to strengthen the implementation of solutions for the efficient use of energy and promote the transition to clean energy and electrification in industry, agriculture (including agriculture and aquaculture processing), services, trade etc.

- Strengthen, coordinate with policy regulations by which industrial facilities carry out GHG inventories and formulate GHG emission reduction actions according to the net-zero emissions pathway.

b) Policy Actions on Energy Efficiency in the Construction Sector

- Develop, enhance policies and regulation on energy efficiency (EE) in the construction sector, to encourage EE investment in building construction and the operation of buildings, including the enforcement of EE standards.

[52] Prime Minister Decision 280/2019/QD-TTg on the Viet Nam National Energy Efficiency Program in the period 2019-2030 (VNEEP3)

- Require energy performance certificates (EPC) for all buildings, both residential and commercial, before they are leased or sold to enable renters or buyers to make better informed decisions.

- Develop regulation that supports the development of rooftop solar PV on commercial buildings and residential houses, "behind the meter" as well as grid-connected systems that optimize on-site power consumption.

- Develop net-zero emissions building standards.

7.2.7. Policy Actions on Energy Transition in the Transport Sector

Viet Nam does not yet have specific policies for the manufacturing industry of Electric Vehicles (EVs), which was not included in the "Car Industry Development Strategy" of 2014 (Decision 1168/QD-TTg). However, Viet Nam is implementing several incentives for the use and manufacture of EVs, including policies on taxes and fees proposed by the Ministry of Finance (MoF) in 2022, such as manufacturing content (parts of imported electric vehicles are subject to a tax rate of 0%). Hybrid electric-gasoline "plug in" cars are subject to a reduced consumption tax. The excise tax rate of battery-powered cars was reduced compared to Internal Combustion Engine (ICE) cars, and EVs receive incentives through reduced registration fees.

Regarding the planning of charging stations for EVs, the Ministry of Transport (MOT) and local authorities are coordinating for the development of EV charging infrastructure on national expressways, highways and urban areas. In addition, MOT will propose a strategy for the development of the automobile industry in line with the goal of green energy transformation in the transport sector. MOT is particularly interested in the uptake of EV bus routes. Policy actions to take are as follows:

- Enhance and consolidate regulation to encourage EV manufacture in Viet Nam, and assembly with high national content of different brands for the national market and for export.

- Enhance and consolidate regulation including incentive mechanisms to encourage EV demand in Viet Nam.

- Develop a national strategy or plan for the development of EV charging infrastructure, linked to power development planning (generation capacity and T&D grid) and urban development (construction) planning.

- Enhance and consolidate regulation to ensure development of a coordinated, accessible EV charging infrastructure (including connection standards, accessibility for cars of different brands), benefiting from optimal on-site power generation (solar PV).

- Ensure that planning and regulation of development of the EV charging network will enable the future national EV fleet to function as a virtual battery, to ensure the EV fleet can charge flexibly and support grid balancing, in association with the National Load Dispatch Centre (NLDC), local power distribution networks, public (street) lighting systems, and IT companies (hardware-software applications) for demand-supply management by EVs connected to the charging networks.

- Planning and regulation to encourage expansion of EV bus routes, including policy measures related to tax, passenger fees, and development of electric charging facilities.

7.2.8. Policy Actions for Innovation, Development and Technology Transfer

Viet Nam is particularly interested in establishing an "International Centre for Renewable Energy" (ref. the Scheme), to share expertise, support skills development, understand technology and facilitate cooperation with the private sector on technology development and transfer, and accelerate the development of renewable energy sources. However, in particular the cooperation between public and private Research and Development (R&D) organisations has achieved few successes in Viet Nam so far, partly because of limited public finance of R&D and complex bureaucracy, with domestic and international private enterprises concerned about acquiring and monetizing Intellectual Property Rights (IPRs) on new technologies. Policy actions that need to be considered and implemented include the following:

- Develop policy on cooperation in R&D between public and private sector entities, focused on R&D of technological innovations in solar and wind power, wave energy, energy storage (chemical, thermal, mechanical, thermal methods), energy efficiency, green hydrogen and derivatives, and CCUS, as well as IT applications in the power sector, electrification of industry, as appropriate.

- Establishment of a renewable energy research and development fund in Viet Nam. Including contributions from international organizations, domestic and foreign businesses.

7.2.9. Policy Actions to Encourage the "Just" Energy Transition

The JETP PD has identified risks to workers, low-income households and small enterprises of the energy transition. It also points out that there are opportunities in the transition, for new jobs, cheaper and cleaner energy, and both energy and income through multi-purpose use of land and sea for RE generation.

The JETP PD highlights the need to protect low-income households from energy price increases. Viet Nam must retain the benefits from the current progressive electricity

tariff scheme, and possibly make them more progressive in order to protect low-income households from electricity and other energy costs increases that may occur in the coming years.[53]

Viet Nam has achieved access to electricity by nearly 100% of communities and households. Improvements in the quality of supply are still possible though, and some remote lowland, upland and island households do not access this yet, and they can benefit from off-grid household systems or local mini-grids based in particular on solar PV, as sunshine is available everywhere. Furthermore, the JETP PD promotes the multi-purpose use of land for renewable energy generation and other land uses. Reformed and new policy is needed that enables dual land and seabed use of solar PV plants and wind power plants.

Policy actions that need to be considered and implemented are as follows:

- Develop policy and mechanisms to ensure affordable electricity for low-income households and MSMEs to cope with increased energy prices, especially in the first years of the energy transition.

- Develop mechanisms, policies and solutions for social security to implement a just transition for disadvantaged and vulnerable groups.

- Revise the current regulations on environmental and social impact assessment, to enhance this with just criteria, applied to JETP projects (Chapter 5).

- Develop a Mechanism for Data Collection and Dialogue to Address Impacts Caused by the Energy Transition Process Beyond the Project Level (Chapter 5).

- Develop policy that enables a social dialogue mechanism on JET.

- Design policy and programs on re-skilling/training of men and women workers who lose their jobs in the energy transition, and for workers who must be enabled to take the new opportunities offered by RE, green hydrogen, energy efficiency, and electric transport value chains, ensuring high-quality human resources in the fields of power generation, transmission, distribution, dispatch, smart grid and electricity markets.

- Develop policy and investment programs for improved rural power distribution grids and mini-grid, off-grid systems, reducing the occurrence of blackouts and increasing access to high quality energy services.

- Formulate multi-purpose land use plans and policy to enable dual use solar PV-agriculture, aquaculture systems, off grid (with energy storage) and grid-connected, in support of agriculture, aquaculture-based livelihoods.

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[53] UNDP-Viet Nam. 2017. Ensuring Social Equity in Viet Nam's Power Sector Reforms. Policy Discussion Paper. Ha Noi: UNDP Viet Nam. http://www.vn.undp.org/content/vietnam/en/home/library/poverty/Ensuring-social-equity-in-viet-nam-power-sector-reforms.html

- Incorporate equitable energy transition aspects in land use planning and socio-economic development plans at all levels.

7.3. PRIORITY POLICY ACTIONS

The policy actions in Section 7.2 cannot all be addressed at once and some are more important than others, in terms of for example enabling private sector investment, reducing GHG emissions, or ensuring that the investments lead to a just transition. Some of the minimum conditions and project /program prioritisation criteria in Chapter 3 could be applied to prioritising policy actions too, because many policy actions are directly linked to prioritised investments as in Table 8 and Table 10.

The top priorities in Table 14 focus on the first year (2024) and in particular the priorities listed in Table 8 and Table 10, whereas we organise this as per the categories in Table 4. A detailed timetable for delivering these policy actions will be prepared in Quarter 1 2024. Other policy actions (lower urgency, less effect on private sector investment, etc.) for subsequent years are given in Annex III. Annual policy matrixes should be developed from the suggestions in Annex III and agreed in annual review meetings between the Government and IPG, GFANZ and other stakeholders for 2025, 2026, 2027, 2028, and beyond.

Table 14 – Priority Policy Actions for 2024

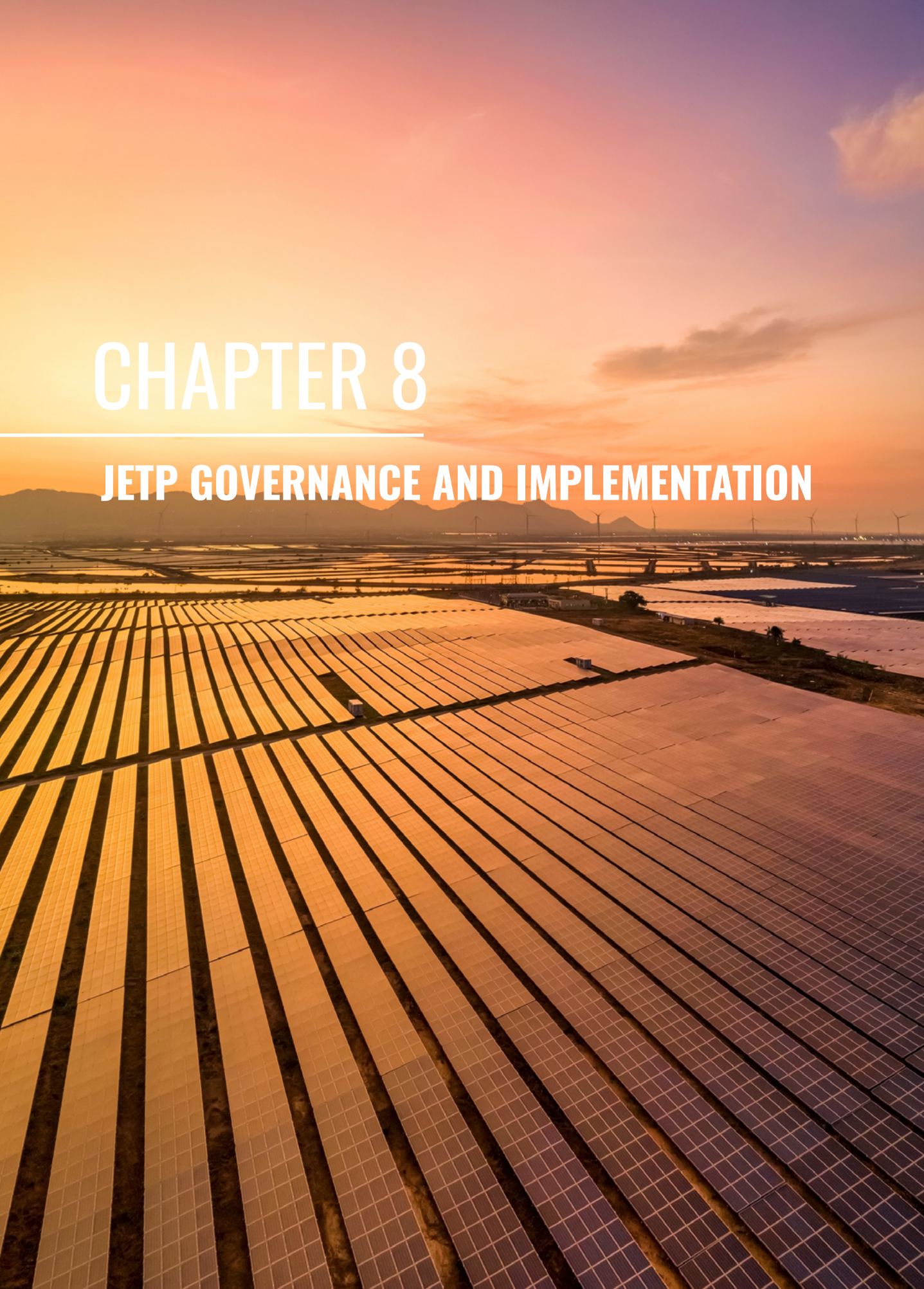
Categories	Priority Policy Actions for 2024
1. Improving the regulatory framework for the energy transition	1.1 Finalise regulations and policies to promote new energy and renewable energy development. - Review regulations on renewable energy for the amendment of the Law on Electricity. - Develop and finalise legal regulations to achieve net zero emissions and transition to clean energy. - Finalise policies on retail electricity price and financial support for beneficiaries for the just energy transition. 1.2 Review and propose amendment and supplement related regulation to promote private sector investment in power transmission infrastructure in the Law No. 03/2022/QH15 amending and supplementing a number of articles of related laws. **1.3 Finalise regulations on disbursement of ODA capital to SOEs.** **1.4 Improve the regulatory framework on green capital markets.**

Categories	Priority Policy Actions for 2024
2. The transition of coal power generation	**2.1 Develop CFPP retirement roadmap, with implementation plan and the regulatory framework for CFPP phase-out, in sync with the roadmap of ETS development, to reduce GHG emissions.** 2.2 Develop plant-by-plant retirement plans starting with the highest priority / eligible plants, providing detailed implementation plans. **2.3 Develop a roadmap for increasing CFPP efficiency and flexibility[54].**
3. Developing the renewable energy industry	**3.1 Development of the Marine Spatial Planning and offshore wind power policies, including a roadmap / action plan for offshore wind power development.** 3.2 Develop the hydrogen development strategy in Viet Nam **3.3 Finalizing and issuing the DPPA.** **3.4 Finalise regulations on (stimulating) behind the-meter, off-grid systems, which may be without limitation in installed capacity according to PDP8, including rooftop solar PV on commercial buildings and residential houses.** **3.5 Develop regulation on tenders for onshore and offshore wind power and solar PV plants, combined with batteries and/or green H2 production.** **3.6 Develop regulations on multiple land-use of VRE with grid connection and participation in the VWEM (solar PV and wind power systems at different scales, combined with other land and seabed use).** **3.7 Develop regulation on wind power and solar PV plant PPAs, making them bankable for international financiers (including international arbitration).**
4. Power transmission and energy storage	**4.1 Develop the legal framework to facilitate private sector investment in the transmission and distribution grid capacity and management** 4.2 Determine the scope, priorities, and investment model of the private sector in the power grid. **4.3 Develop market regulations for energy storage systems (ESS, pumped hydro, ...) to operate in the VWEM and for the provision of ancillary services (peak power demand, grid frequency control etc.).**

[54] Meaning: increase operating ramp rates and decrease average capacity factor of CFPPs. Increased flexibility (operational and regulatory changes) leads to higher CFPP efficiency. It means decreased coal use and higher thermal efficiency, as well as total system efficiency due to better VRE integration.

Categories	Priority Policy Actions for 2024
5. Energy efficiency	**5.1 Formulate and promulgate regulations on the development and application of energy service companies (ESCOs), enabling assessment of energy efficiency potential and external investment in EE measures.** 5.2 Further improve standards, technical regulations on energy consumption norms in different sectors, strengthening the implementation of energy efficiency measures.
6. Energy transition in the transport sector	6.1 Enhance and consolidate regulation to encourage EV manufacture and assembly with high national content, and to encourage EV demand in Viet Nam. 6.2 Develop a national plan for the development of EV charging infrastructure, linked to power development planning (generation capacity and T&D grid) and urban development (construction) planning. 6.3 Finalise regulations to ensure development of a coordinated, accessible EV charging infrastructure (including connection standards, accessibility for cars of different brands), benefiting from optimal on-site power generation (solar PV).
7. Innovation, development and technology transfer	7.1 Develop policy on cooperation in R&D between public and private sector entities, focused on R&D of technological innovations renewable energy, energy storage, energy efficiency, green H2 and derivatives, etc.
8. Ensuring a just transition	**8.1 Develop a policy mechanism to ensure affordable electricity for low-income households and MSMEs to cope with increased energy prices.** **8.2 Revise the current regulations on environmental and social impact assessment, to enhance this with just criteria, applied to JETP projects (Ch.5).** 8.3 Develop a Mechanism for Data Collection and Dialogue to Address Impacts Caused by the Energy Transition Process Beyond the Project Level (Ch.5)

Note: Policy actions in **bold** may be the highest priorities for 2024; they are linked to the 6 priorities for investment and TA in Table 8 and Table 10.



CHAPTER 8

JETP GOVERNANCE AND IMPLEMENTATION

8.1. THE SECRETARIAT TO IMPLEMENT THE JETP

8.1.1. The JETP Secretariat

In order to implement and administer the Political Declaration establishing JETP, the Government of Viet Nam has established a JETP Implementation Secretariat[55], in accordance with paragraph 23 of the JETP Declaration. The Secretariat is headed by the Minister of Natural Resources and Environment; the Vice Minister of Natural Resources and Environment is the Standing Deputy Head of the Secretariat; the Vice Minister of Industry and Trade, Vice Minister of Planning and Investment, and Vice Minister of Finance are Deputy Heads of the Secretariat. Members will be representatives at department level, from the Office of the Government (OOG), MONRE, MOIT, MPI, MOF, MOFA, Ministry of Justice (MOJ), MOT, MARD, MOLISA, MOST, Ministry of Public Security (MPS), the State Bank of Viet Nam, and a representative of the Committee for Management of State Capital at Enterprises (CMSCaE).

The Secretariat has the function of assisting the Prime Minister as Head of the COP26 Steering Committee in coordinating the work related to the JETP Political Declaration (PD), and coordinating with the International Partners Group (IPG) in implementing the JETP PD. The Secretariat's main task is to advise the Prime Minister in directing, administering and resolving works to implement the JETP PD, including:

- To develop and implement a JETP Resource Mobilization Plan (RMP) in accordance with the JETP PD for implementation over at least the next 5 years at least; the revised and supplemented RMP (if any) is based on Viet Nam's policy development and investment needs related to the objectives of just energy transition.

- To summarize information, reports and proposals and recommendations related to the implementation of JETP to the Prime Minister, including requesting relevant ministries, branches, localities, agencies and organizations to provide information and coordinate the implementation of tasks of the Secretariat; periodically review the implementation of the objectives outlined in the JETP PD, proposing adjustments to the objectives as necessary

- To urge and monitor financial and technical support from IPG, GFANZ, and other partners.

- To urge to resolve procedural issues for organizations and individuals proposing programs and projects to participate in the implementation of the RMP and supervise the implementation of selected programs and projects.

- To coordinate with representatives of the IPG in JETP implementation activities; organize forums for exchange and discussion between ministries and agencies with the IPG, GFANZ and other stakeholders in the process of JETP implementation.

[55] Prime Minister's Decision No. 845/QD-TTg dated July 14, 2023

- To carry out communication and dissemination activities on the implementation of the JETP PD

- To report periodically or on an ad hoc basis at the request of the Prime Minister as Head of the COP26 Steering Committee.

The Head and Standing Deputy Head of the Secretariat will use the seal of the Ministry of Natural Resources and Environment; other Deputy Heads will use the seal of their Ministries in settling Secretariat affairs within their responsibilities.

The Ministry of Natural Resources and Environment is the Standing Agency of the Secretariat, using its machinery to assist and ensure the necessary resources, personnel, working facilities, and working instruments.

8.1.2. Working Groups to support the implementation of JETP

Working Groups (WGs) will be established to support the implementation of the JETP PD. They have been established and coordinated by ministries, in particular:

- *The General (Synthesis) WG*, established by the Minister of MONRE and led by a Vice Minister of MONRE, is responsible for summarizing the activities and result reports of the WGs; leading the development of the biennial review on the implementation of targets included in the JETP Declaration to report to the National Steering Committee for implementing Viet Nam's Commitments at COP26 and IPG; organizing discussion and communication forums between Ministries, IPG, GFANZ, and stakeholders.

- *The Institutional, Policy, and Investment WG*, established by the Minister of MPI and led by a Vice Minister of MPI, is responsible for institutional improvement, addressing difficulties and obstacles, and reforming administrative procedures to facilitate international investors and enterprises to participate in the just energy transition, mainstreaming the just energy transition into the national long- and medium-term programs, strategies, masterplans and plans. Mobilize and effectively use resources from partners for Viet Nam's just energy transition.

- *The Technology and Energy WG*, established by the Minister of MOIT and led by a Vice Minister of MOIT, is responsible for reviewing and proposing the improvement of policies and regulations to promote the implementation of just energy transition; identifying needs; and promoting and coordinating technical and technology transfer activities in implementing the JETP PD under the guidance of Viet Nam and IPG

- *The Finance WG*, established by the Minister of MOF and led by a Vice Minister of MOF, is responsible for organizing forums to mobilize financial support from the IPG, GFANZ, and other stakeholders, including bilateral and multilateral financial institutions, the private sector, and other parties related to implementing the JETP PD.

The WGs will agree their working programs, including timelines for work on prioritised policy actions.

Relevant ministries and agencies will appoint officials with appropriate qualifications to join a WG at the request of the WG Leader.

The Secretariat can mobilize scientists and consultants to support and assist the WGs when necessary.

Representatives of IPG and GFANZ will participate in the activities of WGs, which can take different forms, including attending the full meetings of a WG, and delegating experts to take part in technical groups and specific activities regarding for example policy actions.

8.2. SUPPORT TO THE JETP SECRETARIAT AND WORKING GROUPS

The Secretariat will benefit from a Secretariat Support Agency (SSA), funded by IPG. This will cover critical expenditures of the Secretariat and the four Working Groups (WGs). The Secretariat and the SSA will set up and manage a pool of technical experts and administrative support staff that will support the WGs and the development of transformative investment and Technical Assistance projects. Some of these experts and support staff will be funded by IPG through the SSA and others will be seconded from IPG and GFANZ members and related organisations (i.e. in-kind contributions).

The pool of national and international experts will have skills and experience in engineering, technology and policies on wind power; solar PV; power transmission; energy efficiency; energy storage; decommissioning, transitioning and/or redeveloping of coal power plants; finance (management, mobilisation of public and private finance); just transition aspects including vocational training and regional development; and information and communication.

The WGs will guide development of projects that are prioritised in the RMP, support pre-feasibility and feasibility studies, support approval processes, assist in resource mobilisation, and monitor their implementation. The WGs will also advise on the formulation or amendment of policy regulations that would facilitate investments in the just energy transition projects.

The WG members will include representatives of (private and/or public sector) financiers and other project proponents such as businesses representatives and/or local officials, as well as (experts from) the sector ministries concerned. In particular the Technology and Energy WG will cooperate with the Viet Nam Energy partnership Group (VEPG), including their technical working groups on renewable energy, electricity transmission, and energy efficiency; and with other stakeholders such as the energy working group under the Viet Nam Business Forum (VBF).

While completing the organization of the Secretariat, the General WG will act as a focal point, connecting members of the Secretariat, ministries and sectors to complete and submit the RMP, for approval/approval in accordance with the plan and deadlines stated in paragraph 21 of the JETP PD. UNDP as SSA is providing a number of experts and professional and administrative support staff, while IPG has organized the formulation of Concept Notes (CNs) on the main categories that define the scope of the JETP, which are inputs into the RMP. These can be complemented and updated to cover more content in the public and private sectors in the development of priority project proposals along with the current project list. In addition, ad hoc teams are needed to develop the details of investment projects, including negotiations between project owners, project financiers and General Contractor (EPC) companies, the early stages of project development to actual implementation. During the development of proposed ideas, review, exchange and preliminary negotiation activities can be conducted and supported by financial and technical experts.

IPG and GFANZ members support the activities of the Secretariat and Working Groups as per requirements, either directly through experts and support staff, or through SSA activities. Depending on the requirements and actual contents, IPG Representatives may be invited to attend expert meetings of WGs or periodic and ad hoc meetings of the Secretariat, in order to capture the progress of RMP implementation, help coordination and ensure timely and effective support.

8.3. MONITORING AND EVALUATION

8.3.1. Annual Monitoring and Evaluation

Annual monitoring and evaluation will be carried out with the following contents:

- Progress in mobilizing resources from the state budget, IPG, GFANZ and other financial organizations and institutions;

- The degree of facilitation for private investment and mobilization of investment from grants, aid, and other lawful financial sources

- Progress and results of implementation of programs and projects;

- Progress in the development and implementation of policy actions.

8.3.2. Biennial review

There is a need for technical analysis to commence in early 2024 under the Technology and Energy WG, to guide investment and policy actions to work toward the objectives of the JETP and provide a basis for annual monitoring of progress and the biennial review. In addition to the implementation of annual monitoring and evaluation, the biennial review should be carried out with the following additional contents:

- Progress towards greenhouse gas emission targets;
- Progress in implementing renewable energy targets;
- Progress in implementing coal power development reduction targets.

As part of or input into the biennial review it is expected that GHG inventory data are used and technical analysis to update the Resource Mobilization Plan. Analysis of ongoing activities and their results according to the agreed roadmaps of the Working Groups will help evaluate the implementation of JETP. The analysis of whether Viet Nam is on the agreed pathway (see paragraph 25 of the PD in section 2.3.3) and how that might be adjusted will consider the full scope of the JETP. The results will be addressed in WGs. The technical analysis needs involve Vietnamese research institutes ensuring that accurate data are used.

8.3.3. Implementation of Monitoring and Evaluation

Monitoring and evaluation, in addition to the functions and tasks of relevant ministries and agencies, is also carried out through exchange and discussion forums between ministries and agencies with IPG, GFANZ and other parties that are important in the JETP implementation process.

The Secretariat and the SSA are expected to support the biennial (two yearly) review process as per paragraph 25 of the Political Declaration: "*assess adherence to the top-line targets and the IPG support included in the Political Declaration, including to adjust those targets when necessary, and to the respective policy reforms aimed at facilitating greater levels of investment; they will ensure that the RMP under development supports the delivery of the highest levels of ambition and consider whether, with more finance from international partners, additional to that described in paragraph 18 of the Political Declaration, Viet Nam could go further to align with a 1.5°C compatible trajectory*". This is expected to be executed by an external entity, contracted by the SSA, but this will rely strongly on information gathered by the Secretariat and cooperation with the Secretariat, the SSA, the WGs and the pool of experts.

8.4. RESPONSIBILITIES

8.4.1 . The Secretariat to implement the JETP

- Lead and coordinate with IPG and GFANZ in monitoring and evaluating the implementation of the RMP based on reports of Working Groups supporting the implementation of JETP;

- Advise the Prime Minister in directing, administering and setting tasks to implement the Resource Mobilization Plan;

- Propose amendments and supplement the RMP at least once every two years on the basis of Viet Nam's policy and investment needs related to the goals of the just energy transition;

- Synthesize information, reports, proposals and recommendations related to the implementation of the RMP; periodically review the implementation of the RMP;

- To urge and supervise financial and technical support from IPG, GFANZ, and other partners;

- To urge to resolve procedural issues for organizations and individuals proposing programs and projects to participate in the implementation of the RMP and supervise the implementation of selected programs and projects;

- To coordinate with IPG representatives in JETP implementation activities; organize forums for exchange and discussion between ministries and agencies with the IPG, GFANZ and other stakeholders in the process of JETP implementation;

- To carry out communication and information dissemination activities to ministries, agencies, localities, businesses and all of society, to mobilize for the implementation of the JETP PD, reduce GHG emissions and realize Viet Nam's commitment to achieve net zero emissions by 2050.

8.4.2. Working Groups to Support JETP Implementation

- Coordinate with relevant parties to select appropriate projects to implement the JETP Declaration; coordinate on the implementation of pre-feasibility and feasibility studies; support resource mobilization and monitoring after the project is approved;

- Coordinate with relevant ministries, agencies and related parties; periodically propose policy actions to be developed and perfected to promote a just energy transition; supervise and evaluate the results of formulation and implementation of policy actions after they are adopted.

- The Institutional, Policy, and Investment Working Group will supervise and evaluate institutional improvement, reform of administrative procedures, mainstreaming the just energy transition into the national long- and medium-term programs, strategies, masterplans and plans; mobilize and use resources from partners for Viet Nam's just energy transition.

- The Technology and Energy Working Group monitors and evaluates the finalization of policies and regulations to promote the just energy transition; promoting and coordinating technical and technology transfer activities in implementing the JETP.

- The Financial Working Group monitors and evaluates the organization of forums to mobilize financial support for the implementation of the JETP Declaration.

- The General Working Group monitors and synthesizes the results of the Working Groups; prepares annual assessment reports on the implementation of the Resource Mobilization Plan; synthesizes policy actions, programs and projects for the JETP

Implementation Secretariat together with IPG and relevant parties for their consideration of adjustments, supplementing of project lists and policy actions; conduct biennial reviews of the implementation of the objectives in the JETP PD.

8.4.3. International Partners Group (IPG)

- The IPG will participate in a number of activities of the JETP Secretariat during the implementation of JETP. The JETP is a country-led and country-owned structure, with the coordinating role of the Secretariat and the participation of the IPG to support the goals of transparency and accountability.

- Working closely with agencies of the Government of Viet Nam and GFANZ to mobilize an initial amount of at least USD 15.5 billion over the next three to five years using a combination of appropriate financial instruments, without diverting critical development assistance from existing sources of financial support to address Viet Nam's equitable energy transition needs while remaining within the country's public and external debt frameworks. Actively coordinate with Vietnamese Government agencies to mobilize USD 7.75 billion in public sector finance on more attractive terms than loans Viet Nam can mobilize in the current capital market; coordinate with GFANZ to mobilize and support the mobilization of at least $ 7.75 billion in private finance on more attractive terms than loans Viet Nam can mobilize in the current capital market. Promote equitable energy transition support for Viet Nam from IPG and other stakeholders, including bilateral and multilateral financial institutions, the private sector and others.

- The Head of the JETP Secretariat will work with IPG envoys every 6 months to discuss and resolve issues related to JETP implementation.

- To provide resources for the operation of the JETP Secretariat and Working Groups to support the implementation and the management of the long-term Just Energy Transition Partnership in Viet Nam and promote and coordinate technical activities in accordance with guidance of Viet Nam and IPG.

- Support Viet Nam in developing an ambitious and reliable long-term legal framework for the green transition of its economy, including the use of regulatory and pricing instruments; and making improvements to the regulatory framework to facilitate investment into renewable energy and energy efficiency and to strengthen the electricity grid in Viet Nam.

- Strong financial and technical support to accelerate the decarbonization of its electricity system from the current net-zero planning peak of 240 $MtCO_2eq$ by 2035 with international support (down from 280 $MtCO_2eq$ before COP26) towards reaching a peak of no more than 170 $MtCO_2eq$ emissions from electricity generation by 2030 and reduce Viet Nam's project pipeline for coal-fired generation towards a peak of 30.2 GW.

- Support the acceleration of the deployment of renewable energy and develop the expertise to support and manage the power grid in which the renewable energy component is increasing, with the goal of helping Viet Nam maintain a reliable grid and boost electricity output from renewable energy, and move beyond the current planned figure of 36% towards at least 47% of electricity generation coming from renewables.

- Support a just transition, in line with the ILO Declaration on Fundamental Principles and Rights at Work, to ensure all of society can benefit from a green transition to increase access to affordable energy, engaging organizations and stakeholders to help meet the needs of those most affected by the green transition, such as workers and communities in sectors and areas affected by the transition.

- Support the development and implementation of education, vocational training, and skills retraining programs to develop necessary skills and competencies and support job creation for workers in sectors and regions affected by the transition, as well as other forms of support to ensure better living conditions for workers after the transition.

- Support a stronger role of the private sector and support the creation of an enabling environment for businesses to actively participate in the transition, such as eliminating credit risks, facilitating equity and banking finance, license auctions, accelerating licensing and strengthening competition.

- Support the creation of opportunities for technological innovation and private investment to promote green and sustainable job creation in a prosperous low-emission economy; design support mechanisms that ensure affordable electricity for affected, vulnerable and low-income groups.

- Support the negotiation of a moratorium on investment in coal-fired power plants that do not yet have emissions-reducing technologies to achieve the targets in the JETP Declaration.

- Support negotiations on the closure of old, inefficient coal-fired power plants to facilitate access to clean energy.

- Support the development of the renewable energy sector including but not limited to the development of renewable energy hubs, the production of battery storage and renewable energy equipment, green hydrogen production, offshore wind energy development planning combined with marine aquaculture and logistics in fisheries.

- Support the establishment of a centre for renewable energy in Viet Nam to share expertise, support skills development, understand technology and regulation, and facilitate voluntary cooperation between Viet Nam and the private sector on technology transfer to accelerate and scale up renewable energy deployment and manage clean electricity systems in Viet Nam and the region.

- Support and provide input to key activities of the biennial review process to assess alignment with the targets in the JETP Declaration and IPG's support, including changes to targets where necessary, and corresponding policies to facilitate the realization of ambitions at the highest level towards net-zero emissions by 2050.

8.4.4 . Ministry of Natural Resources and Environment

- Direct the General Working Group to perform assigned tasks.

- Monitor, assess, evaluate, and summarize the process of implementing the Scheme, the RMP, and the objectives stated in the JETP PD; and provide periodic and ad hoc reports on the implementation of the JETP PD to the Prime Minister and the National Steering Committee for Implementing Viet Nam's Commitments at the 26th Conference of the Parties to the United Nations Framework Convention on Climate Change.

- Lead and coordinate with relevant ministries and agencies in, formulating mechanisms and policies on carbon credit markets and offsetting and greenhouse gas emission reduction/storage results in order to attract foreign investment in accordance with greenhouse gas emission reduction targets according to the Nationally Determined Contribution (NDC); developing databases and strengthening climate service capacity for optimal development and operation of renewable energy systems and plants.

- Lead and coordinate with ministries, agencies, and provinces in synthesizing land use targets for the development of power projects and environmental protection activities, responding to climate change and ecological and landscape conservation, and submitting them for appraisal and approval according to regulations.

- Complete the National Marine Spatial Planning and the Master Plan on Sustainable Exploitation and use of coastal resources for the development of wind, solar, and other energy resources from the sea; Water Resources Planning for hydropower development and water surface use for solar energy development; Land and Marine Use Planning to meet multi-purpose requirements for renewable energy production, agriculture, and aquaculture.

8.4.5 . Ministry of Planning and Investment

- Direct the Institutional and Policy Working Group to perform assigned tasks.

- Lead, and coordinate with the Ministry of Finance and relevant ministries in identifying the need for aid and private investment for a just energy transition; mobilize and allocate domestic investment capital, official development assistance (ODA), concessional loans and non-refundable aid not covered by official development assistance for the implementation of the Resource Mobilization Plan.

8.4.6. Ministry of Industry and Trade

- Direct the Technology and Energy Working Group to perform assigned tasks.

- Lead in proposing mechanisms, policies and regulations for implementation of the energy transition for inclusion in the draft amended Electricity Law, the Law on Renewable Energy and relevant legal documents; submit to the Government for promulgation policies on Direct Power Purchase Agreements (DPPA); formulate offshore wind power development plans and proposals; coordinate with the Ministry of Natural Resources and Environment in formulating and implementing the Resource Mobilization Plan.

- Lead in proposing priority projects to implement the just energy transition with resources from IPG, GFANZ, and other financial institutions in line with the objectives of the JETP Declaration and the national energy development roadmap.

- Lead in coordinating activities and initiatives on energy transition, ensuring consistency, and mobilizing resources for the implementation of a just energy transition in Viet Nam.

- Coordinate with IPG and relevant ministries and agencies to propose the establishment of the International Centre of Renewable Energy located in Viet Nam.

8.4.7. Ministry of Finance

- Direct the Finance Working Group to perform the assigned tasks

- Lead and coordinate with relevant agencies in negotiating and receiving ODA loans, concessional loans, and non-refundable ODA to support energy transition needs in accordance with specialized regulations on management and use of ODA and concessional loans of IPG and international donors; coordinate with the Ministry of Natural Resources and Environment in developing and implementing the Resource Mobilization Plan.

- Lead and coordinate with related ministries and agencies in developing financial mechanisms and policies to encourage the private sector to actively participate in the energy transition process.

8.4.8. Ministry of Foreign Affairs

- Attract international resources through high-level foreign affairs activities, working programs with foreign partners, Vietnamese representative offices abroad.

- Learn experiences and models of implementing a just transition in other countries, including initiatives to use green energy sources, converting energy from coal to clean energy and renewable energy, decarbonizing the grid for sustainable socio-economic development.

- Coordinate with ministries and sectors to actively participate and contribute to bilateral and multilateral cooperation frameworks in order to integrate the contents on just

transformation in the process of bilateral and multilateral cooperation and negotiations; actively mobilize IPG to support Viet Nam in finance and technology as committed and provide additional support for a just energy transition.

8.4.9. Ministry of Labour, War Invalids and Social Affairs

- Lead and coordinate with concerned ministries, sectors and agencies in formulating mechanisms, policies and solutions to promote a just transition for disadvantaged and vulnerable groups; adaptation to climate change and equitable energy transition; support for vocational training, retraining, job creation and other forms of support for affected workers in the energy transition; coordinate with the Ministry of Natural Resources and Environment in formulating and implementing the resource mobilization plan.

- Participate in WGs, ensuring a just transition in line with the Declaration of the International Labour Organization (ILO) on fundamental principles and rights at the workplace, to ensure that the whole society can benefit from the green transition in order to increase access to affordable energy and involve related organizations and stakeholders to help meet the needs of those most impacted by the transition.

8.4.10. Ministry of Science and Technology

- Lead and coordinate with the Ministry of Industry and Trade in researching, developing and applying new energy sources (green hydrogen, green ammonia); and a pilot study on carbon capture, use and storage (CCUS).

- Lead in coordinating with relevant ministries and agencies in researching, testing, improving and innovating clean technologies in universities, research institutes and large private enterprises to gradually own and transform technologies; research and develop new and modern technologies to shift towards to a low-carbon economy, reducing energy consumption and reducing greenhouse gas emissions.

8.4.11. Ministry of Transport

- Lead and coordinate with relevant ministries and agencies in developing and improving institutions and policies to enhance energy efficiency, electrification of transport and green energy use for green vehicles, equipment and transport infrastructure; develop standards and regulations for EV charging stations; and coordinate with related ministries in implementing the resource mobilization plan.

8.4.12. Ministry of Construction

- Lead and coordinate with relevant ministries and agencies in formulating and improving institutions, policies and urban development plans, green construction works, public infrastructure for electric and environmental-friendly means of transport; producing and using low-carbon building materials; using new and clean energy; reducing energy consumption in the construction industry; gradually reducing and replacing the use of coal

in the production of building materials; and planning, designing, and managing carbon-neutral urban development.

8.4.13. Ministry of Agriculture and Rural Development

- Lead and coordinate with relevant ministries and agencies in directing and providing guidance to local authorities to organize the implementation of multi-purpose land use, combining renewable energy production with agriculture and aquaculture, to improve energy access and creating jobs for rural workers.

- Coordinate with the Ministry of Natural Resources and Environment in formulating and implementing the Resource Mobilization Plan; coordinate with the Ministry of Industry and Trade in developing offshore wind power projects combined with marine aquaculture and fisheries.

8.4.14. State Bank of Viet Nam

- Lead, and coordinate with relevant agencies in signing and receiving non-refundable ODA capital sources not attached to loans of international financial, monetary and banking institutions, to support energy transition needs in accordance with specialized regulations on management and use of ODA and concessional loans of international donors; coordinate with the Ministry of Natural Resources and Environment in formulating and implementing the Resource Mobilization Plan.

8.4.15. Ministries, ministerial-level agencies and agencies attached to the Government

- Perform all functions, tasks and powers to implement on schedule the programs and projects in the Scheme on Implementation of JETP; ensuring better living conditions for workers under management; coordinate with the Ministry of Natural Resources and Environment in formulating and implementing the resource mobilization plan.

8.4.16. Committee for Management of State Capital at Enterprises

- Lead corporations: Electricity Viet Nam (EVN), Viet Nam Oil and Gas Group (PVN), Viet Nam Coal - Mineral Industry (Vinacomin, TKV) and Petrolimex Viet Nam (PLX) to coordinate closely with relevant agencies and IPG to provide information, develop plans and roadmaps for the energy transition of enterprise members.

8.4.17. People's Committees of provinces and centrally-run cities

- Organize the selection of investors in power projects, allocate land for the development of power projects in accordance with the law; assume the prime responsibility for, and closely coordinate with investors in site clearance, compensation, migration and resettlement for power source and grid development projects according to regulations.

- Coordinate with relevant ministries and agencies in the implementation of the Resource Mobilization Plan.

ANNEX I. LIST OF INVESTMENT PROJECTS FOR JETP IMPLEMENTATION

Annex I.1: List of Investment Projects for JETP Implementation Identified in Masterplans and Programs

No.	Name of Project	Location	Capacity	Expected commissioning year	Note
I. The transition of coal power generation					
1	Long Tao Hydropower plan	Dien Bien	44 MW	2021-2030	Decision No. 500/QD-TTg PDP8
2	Yen Son Hydropower plan	Tuyen Quang	90 MW	2021-2030	Decision No. 500/QD-TTg PDP8
3	Song Lo 6 Hydropower plan	Tuyen Quang	60 MW	2021-2030	Decision No. 500/QD-TTg PDP8
4	Song Lo 7 Hydropower plan	Tuyen Quang	36 MW	2021-2030	Decision No. 500/QD-TTg PDP8
5	Pac Ma Hydropower plan	Lai Chau	160 MW	2021-2030	Decision No. 500/QD-TTg PDP8
6	Nam Cum 1,4,5 Hydropower plan	Lai Chau	95.8 MW	2021-2030	Decision No. 500/QD-TTg PDP8
7	Nam Cum 2,3,6 Hydropower plan	Lai Chau	79.5 MW	2021-2030	Decision No. 500/QD-TTg PDP8
8	Hoi Xuan Hydropower plan	Thanh Hoa	102 MW	2021-2030	Decision No. 500/QD-TTg PDP8
9	Song Hieu (Ban Mong) Hydropower plan	Nghe An	45 MW	2021-2030	Decision No. 500/QD-TTg PDP8
10	Phu Tan 2 Hydropower plan	Dong Nai	93 MW	2021-2030	Decision No. 500/QD-TTg PDP8
11	Duc Thanh Hydropower plan	Binh Phuoc	40 MW	2021-2030	Decision No. 500/QD-TTg PDP8
12	La Ngau Hydropower plan	Binh Thuan	46 MW	2021-2030	Decision No. 500/QD-TTg PDP8
13	Thanh Son Hydropower plan	Dong Nai	40 MW	2021-2030	Decision No. 500/QD-TTg PDP8
14	Cam Thuy 2 Hydropower plan	Thanh Hoa	38 MW	2021-2030	Decision No. 500/QD-TTg PDP8
15	My Ly Hydropower plan	Nghe An	120 MW	2021-2030	Decision No. 500/QD-TTg PDP8
16	Nam Mo 1 Hydropower plan	Nghe An	51 MW	2021-2030	Decision No. 500/QD-TTg PDP8
17	Đak Mi 2 Hydropower plan	Kon Tum	147 MW	2021-2030	Decision No. 500/QD-TTg PDP8

No.	Name of Project	Location	Capacity	Expected commissioning year	Note
18	Song Tranh 4 Hydropower plan	Quang Nam	48 MW	2021-2030	Decision No. 500/QD-TTg PDP8
19	Đak Mi 1 Hydropower plan	Kon Tum	84 MW	2021-2030	Decision No. 500/QD-TTg PDP8
20	Thuong Kon Tum Hydropower plan	Kon Tum	220 MW	2021-2030	Decision No. 500/QD-TTg PDP8
21	Thien Tan 1.4 Solar Farm	Ninh Thuan	79 MW	2030	Decision No. 500/QD-TTg PDP8
22	KN Tri An Floating Solar Farm	Dong Nai	928 MW	2030	Decision No. 500/QD-TTg PDP8
23	Buon Tua Srah Floating Solar Farm		312 MW	2030	Decision No. 500/QD-TTg PDP8
24	Mi Floating Solar Farm		80 MW	2030	Decision No. 500/QD-TTg PDP8
25	Ialy Gia Lai Floating Solar Farm	Gia Lai	400 MW	2030	Decision No. 500/QD-TTg PDP8
26	Vuc Mau Floating Solar Farm	Nghe An	160 MW	2030	Decision No. 500/QD-TTg PDP8
27	Khe Go Reservoir Floating Solar Farm	Nghe An	200 MW	2030	Decision No. 500/QD-TTg PDP8
28	Bio-fuel Manufacture in Northern region		100,000-200,000 ton per year	2021-2030	Decision No. 893/QD-TTg National energy master plan
29	Bio-fuel Manufacture in Central region		100,000-200,000 ton per year	2021-2030	Decision No. 893/QD-TTg National energy master plan
30	Bio-fuel Manufacture in Southern region		100,000-200,000 ton per year	2021-2030	Decision No. 893/QD-TTg National energy master plan
31	Bio-fuel Manufacture in Northern region		2,000,000-6,000,000 ton per year	2031-2050	Decision No. 893/QD-TTg National energy master plan
32	Bio-fuel Manufacture in Central region		1,000,000-4,000,000 ton per year	2031-2050	Decision No. 893/QD-TTg National energy master plan
33	Bio-fuel Manufacture in Southern region		2,000,000-8,000,000 ton per year	2031-2050	Decision No. 893/QD-TTg National energy master plan

No.	Name of Project	Location	Capacity	Expected commissioning year	Note
II. Power transmission and energy storage					
34	Projects belong to Transmission line development program under National Power Development Plan in 2021 - 2030	National	- New development: 49.350 MVA, Renovation: 38.168 MVA transmission station 500 kV; - New development: 12.300 km, Revolution: 1.324 km transmission line 500 kV; - New development: 78.525 MVA, Renovation: 34.997 MVA transmission station 220 kV; - New development 16.285 km, Renovation: 6.484 km transmission line 220 kV.	2030	Decision No. 500/QDD-TTg PDP8
III. Energy transition in the transport sector					
35	Develop infrastructure for electric vehicles, including: electric charging system, power supply, depot for vehicles.	National	-	2022 - 2030	Decision No. 876/QD-TTg in 2022
36	Convert and replace 244 locomotives and 80 generator cars to use electricity and green energy	National	-	2031 - 2050	Decision No. 876/QD-TTg in 2022

No.	Name of Project	Location	Capacity	Expected commissioning year	Note
IV. Innovation, development, and technology transfer					
37	Pilot project for the application of the coal gasification technology, carbon recovery and carbon capture under the Red River basin coal seams (ouside of the dike)	Thai Binh – Nam Dinh	5 MW	2024 – 2030	Resolution No. 10 NQ/TW; Decision No. 888/QD-TTg dated 25/7/2022

Annex I.2: List of Investment Projects for JETP Implementation as proposed by partners, not yet identified in masterplans and programs

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
I. The transition of coal power generation					
1	Pilot testing for 3-4 suitable coal-fired power plants (CFPPs) with different characteristics to operate more flexibility and integrate higher shares of renewable energy production.	TBD		2023-2025	IPG Danish Embassy - Technical CN on Coal Power Plant Flexibility
2	Transition of the Cao Ngan Coal-Thermal Power Plant to 100% biomass and establishing a biomass supply chain	Thai Nguyen	115 MW	2028-2045	UNDP-Institute of Energy - CN on Transition of the Cao Ngan Coal-Thermal Power Plant
3	Transition of the Na Duong Coal-Thermal Power Plant to 100% biomass and establishing a biomass supply chain	Lang Son	110 MW	2028 - 2045	Vietnam National Coal - Mineral Industries Holding Corporation Limited - Proposal
4	Transition of the Cam Pha Coal-Thermal Power Plant to 100% biomass and establishing a biomass supply chain	Quang Ninh	670 MW	2028 - 2045	Vietnam National Coal - Mineral Industries Holding Corporation Limited - Proposal
5	Transition of the Dong Trieu Coal-Thermal Power Plant to 100% biomass and establishing a biomass supply chain	Quang Ninh	440 MW	2028 - 2045	Vietnam National Coal - Mineral Industries Holding Corporation Limited - Proposal
6	Transition of the Son Dong Coal-Thermal Power Plant to 100% biomass and establishing a biomass supply chain	Bac Giang	220 MW	2028 - 2045	Vietnam National Coal - Mineral Industries Holding Corporation Limited - Proposal

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
7	Transition of the Nong Son Coal-Thermal Power Plant to 100% biomass and establishing a biomass supply chain	Quang Nam	30 MW	2028 - 2045	Vietnam National Coal - Mineral Industries Holding Corporation Limited - Proposal
8	Transitioning of the Pha Lai 1 Coal-Thermal Power Plant to 100% green hydrogen for 2 x 100 MW units if technology is economically feasible and readily available	Pha Lai Ward, Chi Linh Town, Hai Duong Province	440 MW	2023-2045	UNDP-Institute of Energy CN on Transitioning of the Pha Lai Coal-Thermal Power Plant
9	Transitioning of the Pha Lai 2 Coal-Thermal Power Plant to 100% green ammonia through gradually shifting co-firing to increasing GNH3 uptake	Pha Lai Ward, Chi Linh Town, Hai Duong Province	600 MW	2023-2045	UNDP-Institute of Energy CN on Transitioning of the Pha Lai Coal-Thermal Power Plant
10	Transitioning of the Van Phong Coal-Thermal Power Plant to partly biomass and building in Carbon Capture, Use, and Storage (CCUS)	Phan Phong, Nha Trang, Khanh Hoa	1,000 MW	2024-2045	UNDP-Institute of Energy CN on Transitioning of the Van Phong Coal-Thermal Power Plant
11	Duyen Hai 1 Coal-Thermal Power Plant (ST Unit 1)	Tra Vinh	600 MW		Standard Chartered Bank (Viet Nam)
12	Duyen Hai 1 Coal-Thermal Power Plant (ST Unit 2)	Tra Vinh	600 MW		Standard Chartered Bank (Viet Nam)
13	Hai Phong 2 Coal-Thermal Power Plant (ST Unit 2.1)	Hai Phong	300 MW		Standard Chartered Bank (Viet Nam)
14	Hai Phong 2 Coal-Thermal Power Plant (ST Unit 2.2)	Hai Phong	300 MW		Standard Chartered Bank (Viet Nam)

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
15	Mong Duong 1 Coal-Thermal Power Plant (ST Unit 1)	Quang Ninh	540 MW		Standard Chartered Bank (Viet Nam)
16	Mong Duong 1 Coal-Thermal Power Plant (ST Unit 2)	Quang Ninh	540 MW		Standard Chartered Bank (Viet Nam)
17	Mong Duong 2 Coal-Thermal Power Plant (ST Unit 1)	Quang Ninh	621 MW		Standard Chartered Bank (Viet Nam)
18	Mong Duong 2 Coal-Thermal Power Plant (ST Unit 2)	Quang Ninh	621 MW		Standard Chartered Bank (Viet Nam)
19	Nghi Son 1 Coal-Thermal Power Plant (ST Unit 1)	Thanh Hoa	300 MW		Standard Chartered Bank (Viet Nam)
20	Nghi Son 1 Coal-Thermal Power Plant (ST Unit 2)	Thanh Hoa	300 MW		Standard Chartered Bank (Viet Nam)
21	Quang Ninh Coal-Thermal Power Plant (ST Unit 2.1)	Quang Ninh	300 MW		Standard Chartered Bank (Viet Nam)
22	Quang Ninh Coal-Thermal Power Plant (ST Unit 2.2)	Quang Ninh	300		Standard Chartered Bank (Viet Nam)
23	Thai Binh 1 Coal-Thermal Power Plant (ST Unit 1)	Thai Binh	300 MW		Standard Chartered Bank (Viet Nam)
24	Thai Binh 1 Coal-Thermal Power Plant (ST Unit 2)	Thai Binh	300 MW		Standard Chartered Bank (Viet Nam)
25	Thang Long Coal-Thermal Power Plant (ST Unit 1)	Quang Ninh	300 MW		Standard Chartered Bank (Viet Nam)

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
26	Thang Long Coal-Thermal Power Plant (ST Unit 2)	Quang Ninh	300 MW		Standard Chartered Bank (Viet Nam)
27	Vinh Tan 1 Coal-Thermal Power Plant (ST Unit 1)	Binh Thuan	620 MW		Standard Chartered Bank (Viet Nam)
28	Vinh Tan 1 Coal-Thermal Power Plant (ST Unit 2)	Binh Thuan	620 MW		Standard Chartered Bank (Viet Nam)
29	Vinh Tan 2 Coal-Thermal Power Plant (ST Unit 1)	Binh Thuan	622 MW		Standard Chartered Bank (Viet Nam)
30	Vinh Tan 2 Coal-Thermal Power Plant (ST Unit 2)	Binh Thuan	622 MW		Standard Chartered Bank (Viet Nam)
31	Vinh Tan 4 Coal-Thermal Power Plant (ST Unit 1)	Binh Thuan	600 MW		Standard Chartered Bank (Viet Nam)
32	Vinh Tan 4 Coal-Thermal Power Plant (ST Unit 2)	Binh Thuan	600 MW		Standard Chartered Bank (Viet Nam)
33	Vung Ang 1 Coal-Thermal Power Plant (ST Unit 1)	Ha Tinh	600 MW		Standard Chartered Bank (Viet Nam)
34	Vung Ang 1 Coal-Thermal Power Plant (ST Unit 2)	Ha Tinh	600 MW		Standard Chartered Bank (Viet Nam)
II. Renewable energy industry development					
35	Dai Ninh Floating Solar Farm		49,9 +130 MW	2030	PDP8-Technical Report
36	Thac Mo 1 Floating Solar Farm		200 MW	2030	PDP8-Technical Report

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
37	Thac Mo 2 Floating Solar Farm		150 MW	2030	PDP8-Technical Report
38	Solar Farm on the Srepok 3 hydropower reservoir		50 MW	2030	PDP8-Technical Report
39	Ham Thuan Floating Solar Farm		325 MW	2030	PDP8-Technical Report
40	Phu My 1, 2, 3 Solar Farm Project	Binh Dinh	160 MW	2030	VietinBank
41	Thanh Long Phu Yen Solar Farm Project	Phu Yen	50 MW	2030	VietinBank
42	Europlast Phu Yen Solar Farm Project	Phu Yen	50 MW	2030	VietinBank
43	BWID DPPA Solar Farm Project in industrial park in Binh Duong, Dong Nai	Binh Duong, Dong Nai	36 MW	2030	VietinBank
44	DPPA Rooftop Solar plant in VSIP industrial park	Hai Phong, Nghe An, Binh Duong	22 MW	2030	VietinBank
45	TTC Hue Duc 2 Solar Farm	Southern Region	49 MW	2030	Standard Chartered (Viet Nam)
46	LEGO Corporation Solar Farm next to Viet Nam LEGO Manufacture, capacity testing for BESS application	Binh Duong	50 MW	2024-2030	LEGO
47	Investment project on rooftop solar panel installation in more than 2.700 Petrolimex gasoil stations, 43 company offices and more that 30 petroleum warehouses	Provinces and Cities	20 MW	2025 - 2030	Vietnam National Petroleum Group – Petrolimex (PLX)
48	Dau Tieng 5 Solar Power Plant	Tay Ninh	450 MW	2024	BIDV
49	Rooftop Solar plant	Ha Noi		2024-2026	BIDV

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
50	Rooftop solar power system belongs to Saigon Steel Pipe Factory project	Ba Ria-Vung Tau	3 MW	2024-2026	BIDV
51	Rooftop Solar plant in VSIP industrial park	VSIP industrial park		2023-2030	BIDV
52	V.P.L Ben Tre Solar Farm		42 MW	2030	PDP8-Technical Report
53	Thuan Nhien Phong wind power Famr		32 MW	2030	PDP8-Technical Report
54	Tan Phu Dong Windpower Farm		150 MW	2030	PDP8-Technical Report
55	Yang Trung Windpower Farm		145 MW	2030	PDP8-Technical Report
56	Xanh Song Cau Windpower Farm – Phase 1		50 MW	2030	PDP8-Technical Report
57	Vien An Windpower Farm (remain part without COD)		25.2 MW	2030	PDP8-Technical Report
58	TNC Quang Tri 1 Windpower Farm		50 MW	2030	PDP8-Technical Report
59	TNC Quang Tri 2 Windpower Farm		50 MW	2030	PDP8-Technical Report
60	Thien Phu 2 Windpower Farm		30 MW	2030	PDP8-Technical Report
61	Thien Phu Windpower Farm		30 MW	2030	PDP8-Technical Report
62	Thach Phu Windpower Farm		120 MW	2030	PDP8-Technical Report
63	Thanh Phong Windpower Farm – Phase 1		29.7 MW	2030	PDP8-Technical Report
64	Tan Tan Nhat – Dak Glei Windpower Farm		50 MW	2030	PDP8-Technical Report
65	Tan Hop Windpower Farm		38 MW	2030	PDP8-Technical Report

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
66	Tan An 1 Windpower Farm – Phase 2021-2025		45 MW	2030	PDP8-Technical Report
67	Sunpro Windpower Farm		29.4 MW	2030	PDP8-Technical Report
68	Song An Windpower Farm		46.2 MW	2030	PDP8-Technical Report
69	No. 7 Windpower Farm – Phase 2		88.2 MW	2030	PDP8-Technical Report
70	No. 5 Windpower Farm - Thach Hai 4		30 MW	2030	PDP8-Technical Report
71	No. 5 Windpower Farm - Thach Hai 3		30 MW	2030	PDP8-Technical Report
72	No. 5 Windpower Farm - Thach Hai 2		28 MW	2030	PDP8-Technical Report
73	Soc Trang (V2-1) No. 3 Windpower Farm		29.4 MW	2030	PDP8-Technical Report
74	Ben Tre No. 20 Windpower Farm		50 MW	2030	PDP8-Technical Report
75	Soc Trang No. 2 Windpower Farm		30 MW	2030	PDP8-Technical Report
76	Ben Tre No. 19 Windpower Farm		50 MW	2030	PDP8-Technical Report
77	Soc Trang No. 18 Windpower Farm		22 MW	2030	PDP8-Technical Report
78	Phuoc The Windpower Farm		26 MW	2030	PDP8-Technical Report
79	Phong Dien 1 – Binh Thuan Windpower Farm – Phase 2		30 MW	2030	PDP8-Technical Report
80	Windpower Farm for the mountainous development		50 MW	2030	PDP8-Technical Report
81	Nhon Hoi Windpower Farm – Phase 2		30 MW	2030	PDP8-Technical Report, Vietinbank
82	Nexif Energy Ben Tre Windpower Farm – Phase 2, 3		50 MW	2030	PDP8-Technical Report, BIDV

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
83	Nexif Energy Ben Tre Windpower Farm		30 MW	2030	PDP8-Technical Report, BIDV
84	Nam Binh 1 Windpower Farm		30 MW	2030	PDP8-Technical Report
85	Lig Huong Hoa 2 Windpower Farm		48 MW	2030	PDP8-Technical Report
86	Lig Huong Hoa 1 Windpower Farm		48 MW	2030	PDP8-Technical Report
87	Lac Hoa Windpower Farm		30 MW	2030	PDP8-Technical Report
88	Krong Buk 2 Windpower Farm		50 MW	2030	PDP8-Technical Report
89	Krong Buk 1 Windpower Farm		50 MW	2030	PDP8-Technical Report
90	Ia Pech 2 Windpower Farm		50 MW	2030	PDP8-Technical Report
91	Huong Linh 4 Windpower Farm		30 MW	2030	PDP8-Technical Report
92	Huong Linh 3 Windpower Farm		30 MW	2030	PDP8-Technical Report
93	Hoa Thang 2.2 Windpower Farm		19.8 MW	2030	PDP8-Technical Report
94	Hoa Thang 2.1 Windpower Farm		100 MW	2030	PDP8-Technical Report
95	Hoa Dong Windpower Farm		30 MW	2030	PDP8-Technical Report
96	HBRE Ha Tinh Windpower Farm		120 MW	2030	PDP8-Technical Report, Vietinbank
97	Hai Anh Windpower Farm		40 MW	2030	PDP8-Technical Report, Vietinbank
98	Duyen Hai (V1-4) Windpower Farm		48 MW	2030	PDP8-Technical Report
99	Dak N'Drung 3 Windpower Farm		100 MW	2030	PDP8-Technical Report
100	Dak N'Drung 2 Windpower Farm		100 MW	2030	PDP8-Technical Report

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
101	Dak N'Drung 1 Windpower Farm		100 MW	2030	PDP8-Technical Report
102	Cu Ne 2 Windpower Farm		50 MW	2030	PDP8-Technical Report
103	Cu Ne 1 Windpower Farm		50 MW	2030	PDP8-Technical Report
104	Cong Ly Soc Trang Windpower Farm – Phase 1		30 MW	2030	PDP8-Technical Report
105	Tay Nguyen Processing Windpower Farm		50 MW	2030	PDP8-Technical Report
106	Cau Dat Windpower Farm		68 MW	2030	PDP8-Technical Report
107	Ca Mau 1D Windpower Farm		86 MW	2030	PDP8-Technical Report
108	Ca Mau 1C Windpower Farm		88 MW	2030	PDP8-Technical Report
109	Ca Mau 1B Windpower Farm		88 MW	2030	PDP8-Technical Report
110	Ca Mau 1A Windpower Farm		88 MW	2030	PDP8-Technical Report
111	Bac Lieu Windpower Farm – Phase 3		140.6 MW	2030	PDP8-Technical Report
112	Asia Dak Song 1 Windpower Farm		50 MW	2030	PDP8-Technical Report
113	Yale 1 Windpower Farm	Gia Lai	47,2 MW has COD; 52,8 MW has not COD	2030	PDP8-Technical Report, Vietinbank
114	IA Pet - Dak Doa 2 Windpower Farm	Gia Lai	100 MW	2030	PDP8-Technical Report
115	IA Pet - Dak Doa 1 Windpower Farm	Gia Lai	100 MW	2030	PDP8-Technical Report
116	Tra Vinh 1, 2 Windpower Farm Project	Tra Vinh	200 MW	2030	Standard Chartered (Viet Nam)

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
117	Ca Mau 1,2,3 Windpower Farm Project	Ca Mau	300 MW	2030	Standard Chartered (Viet Nam)
118	Cho Long Windpower Farm Project	Gia Lai	105.5 MW	2030	PDP8-Technical Report
119	Lac Hoa Windpower Farm Project – Phase 1	Soc Trang	5 MW	2030	PDP8-Technical Report
120	Ie Pech Windpower Farm Project	Gia Lai	33.5 MW	2030	PDP8-Technical Report
121	Khai Long - Ca Mau Windpower Farm Project - Phase 1	Ca Mau	100 MW	2030	PDP8-Technical Report
122	Binh Dinh Offshore windpower Farm Project	Binh Dinh	3200 MW	2025-2027	BIDV
123	Tan An 1 Windpower Farm Project	Ca Mau	30 MW	2023-2025	BIDV
124	Lien Lap Windpower Farm Project	Quang Tri	48 MW	2030	VietinBank
125	Phong Huy Windpower Farm Project	Quang Tri	48 MW	2030	VietinBank
126	Phong Nguyen Windpower Farm Project	Quang Tri	48 MW	2030	VietinBank
127	Dak Nong Offshore windpower Farm Project	Dak Nong	660 MW	2026-2027	Total Energies Renewables Corporation và Viet Phuong Corporation
128	Binh Đai Offshore windpower Farm Project	Ben Tre	30 MW	-	BIDV
129	Binh Đai 2 Offshore windpower Farm Project	Ben Tre	30 MW	-	BIDV
130	Binh Đai 3 Offshore windpower Farm Project	Ben Tre	30 MW	-	BIDV
131	Offshore windpower Farm and Green hydrogen Manufacture	Vung Tau/ Phu My	130 MW	2024-2030	GIZ
132	Quang Ninh Offshore windpower Farm Project	Quang Ninh	3.000 MW	2029-2035	SOVICO - BP

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
133	Hai Phong Windpower offshore Farm Project	Hai Phong	3.000 MW	2029-2035	SOVICO - BP
134	Ben Tre 500MW Offshore windpower Farm Project	Ben Tre	500MW	2023-2025	Mainstream AIT Corporation
135	Binh Thuan Offshore windpower Farm Project, connect at Vinh Tan	Binh Thuan	3.000 MW	2030-2035	BP
136	Nhà máy điện gió ngoài khơi Thăng Long Offshore windpower Farm Project includes transmission line from Ham Thuan Nam (Binh Thuan) to Long Thanh (Dong Nai), heading to Binh Duong	Binh Thuan	3.400 MW	2029	Enterprize Energy Pte. Corporation Ltd
137	Thang Long Wind 2 Offshore windpower Farm	Binh Thuan	2.000 MW	2029	Enterprize Energy Pte. Corporation Ltd
138	DEEP C Industrial Park combines Solar, windpower energy and storage	Hai Phong, Quang Ninh	100 MW	2023-2030	DEEP C.
139	Pilot Green Ammonia and Hydrogen Initiative to Enable Production (GAHIEP) at a Fertilizer Producer and Enhance Resilience of Smallholder Agriculture in Cà Mau Province, Viet Nam - Promoting the development and application of green hydrogen and ammonia as well as regulatory/policy development of GH2	Ca Mau	~1,095 tGH2 per year	2024-2025	UNDP
140	Green hydrogen production pilot project in Viet Nam, infrastructure investment engineering (tanks, warehouses, transportation fleets, gas pipelines, distribution stations, hydrogen filling, etc.);	National	-	2030	Vietnam National Petroleum Group – Petrolimex (PLX)

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
141	Pilot construction of centres/facilities for the production of specialized equipment for hydrogen transportation, storage and distribution;	National	-	2030	Vietnam National Petroleum Group – Petrolimex (PLX)
142	Building a pilot hydrogen distribution station integrating into Petrolimex petroleum stations to supply hydrogen buses in the immediate future;	National	-	2030	Vietnam National Petroleum Group – Petrolimex (PLX)
143	Tra Vinh Green hydrogen Project	Tra Vinh	-	2024 - 2027	Standard Chartered (Viet Nam)
144	Development of hybrid power plant of renewable energy combined with hydrogen and battery storage.	3 potential sites identified: Phu Quy Island, Phu Quoc Island, At a site recommended by PTSC	-	2023-2028	HDF Energy Company
145	PVN Fertilizer Plant Solar + Electrolyzer	Vung Tau/ Phu My	400 MW PV and 100 MW Electrolyzer	2024-2030	GIZ
146	PVN Fertilizer Plant Solar + Electrolyzer	Ca Mau/ Can Tho	400 MW PV and 100 MW Electrolyzer	2024-2030	GIZ
147	Xuan Thien Nghia Hung Green Steel Factory Project	Nam Dinh	2,000,000 TPA	-	Xuan Thien Group

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
148	Xuan Thien Nam Green Steel Factory No. 1 Project	Nam Dinh	7,500,000 TPA	-	Xuan Thien Group
149	Renewable energy for glass manufacturer Solar + Electro-lyzer	Vung Tau/Phy My	8 MW PV / 2 MW electro-lyzer	2024-2030	GIZ
150	Renewable energy for various companies such as NSG (float glass) and Nippon Sanso (industrial gas)	Vung Tau/Phy My	80 MW PV/20 MW electro-lyzer	2024-2030	GIZ
151	Renewable energy for various companies such as semiconductor manufacturing and Air Liquide (industrial gas).	Ho Chi Minh City/ Binh Duong	80 MW PV/20 MW electro-lyzer	2024-2030	GIZ
152	Waste to Energy Power Plant	Ho Chi Minh City	3.000 ton per day	-	Standard Chartered (Viet Nam)
153	Baigoc Ammonia Complex	Phu Yen	270.000 ton per year	-	Standard Chartered (Viet Nam)
154	LNG O Mon II Project	Can Tho	1.050	2026-2027	VietinBank
155	Establish and operate Credit Enhancement Facility (CEF)	National	-	2024-2025	UK
156	Project to utilize residual heat to generate electricity - Lam Thach Cement Plant	Quang Ninh	-	2023 - 2025	BIDV
157	Investment project for solar panel manufacturing factory	Thai Binh	-	2023 - 2025	BIDV

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
158	EaTih Hydropower Project		8,6 MW	2024	BIDV
III. Power transmission and energy storage					
159	South-East Asia Link Project to reduce transmission loss and increase transmission capacity in North – South	Ha Tinh, Tra Vinh	-	2030	Electricité de France (EDF)
160	Northern battery energy storage system development – Phase 1	Northern Viet Nam	50MW/ 50MWh	2023 ~ 2025	ADB
161	Northern battery energy storage system development – Phase 2	Northern Viet Nam	100MW/ 200MWh	2026 ~ 2030	ADB
162	Southern battery energy storage system development	Southern Viet Nam	150MW/ 300MWh	2031 - 2050	ADB
163	Development of Dong Phu Yen pumped storage hydropower plant	Son La	1.200	2031 - 2050	ADB
164	Development of Tay Phu Yen pumped storage hydropower plant	Son La	1.000	2031 - 2050	ADB
165	Development of Moc Chau pumped storage hydropower plant	Son La	900	2031 - 2050	ADB
166	Development of Chau Thon pumped storage hydropower plant	Thanh Hoa	1.000	2031 - 2050	ADB
167	Development of Don Duong pumped storage hydropower plant	Lam Đong	1.200	2031 - 2050	ADB
168	Development of Ninh Son pumped storage hydropower plant	Ninh Thuan	1.200	2031 - 2050	ADB

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
169	Development of Ham Thuan Bac pumped storage hydropower plant	Binh Thuan	1.200	2031 - 2050	ADB
170	Development of Phuoc Hoa pumped storage hydropower plant	Ninh Thuan	3.600	2031 - 2050	ADB
171	Phong Phu pumped storage hydropower plant project	Binh Thuan	150 MW	2025-2028	Ecotech Vietnam Technology Investment and Trading Joint Stock Company
IV. Energy Efficiency					
172	Smart and Energy Efficiency city Project (SEECP)	National	-	2023-2025	ADB Proposal
173	Energy efficiency and electrification in administrative, commercial, and residential buildings	National, and in Ha Noi, Ho Chi Minh, and Da Nang cities	-	2024-2027	MOC-MOIT-UNDP and City people's Committees
174	Scaling up co-processing in cement sector in Vietnam	National	-	2024-2030	Norway Embassy Proposal
175	Installing 110/22 kV power lines and stations, using part of the EVN grid to operate Dung Quat oil refinery	Quang Ngai	-	2024-2026	Viet Nam Oil and Gas Group -(PVN)
176	Additional power capacity for Block 09-1 with wind turbines, serving the needs of oil and gas exploitation	Vung Tau	-	2024-2026	Viet Nam Oil and Gas Group -(PVN)

No	Name of plant/construction	Location	Capacity	Expected commissioning year	Information/ Source/ Concept Note
V. Energy transition in the transport sector					
177	Investment project in electric charging station system providing charging services for electric cars of different brands – Phase 1	National	500 Grade 3 charging stations	2025-2030	Vietnam National Petroleum Group – Petrolimex (PLX)
178	Investment project in electric charging station system providing charging services for electric cars of different brands – Phase 2	National	500 Grade 3 charging stations	2030	Vietnam National Petroleum Group – Petrolimex (PLX)
179	Several heavy-duty trucks and corresponding hydrogen refueling stations to connect in order to demonstrate heavy-duty road transport	Ca Mau/ Can Tho	-	2024-2030	GIZ Proposal
VI. Innovation, development and technology transfer					
180	Build laboratories for new products such as hydrogen, biofuel, synthetic fuel, etc.	National	-	-	Vietnam National Petroleum Group – Petrolimex (PLX)
181	Support the development of a database that is integrated and synchronized with the national database system on greenhouse gas emission reduction	National	-	2022-2030	Decision 896/QD-TTg: National Climate Change Strategy

ANNEX II. LIST OF PROJECTS AND TASK GROUPS - TECHNICAL ASSISTANCE FOR JETP IMPLEMENTATION

No.	Project name, task group	Period	Source	Note
1. Complete institutions and policies to promote the energy transition				
1	Technical support for the Secretariat to implement the JETP Declaration, the Secretariat's standing agency and working groups supporting JETP implementation	2023-2030	Grant ODA, and support from GFANZ and other stakeholders	JETP Political Declaration
2	Support the review of relevant legal documents and propose to competent authorities to amend, supplement, abolish or promulgate new regulations, ensuring compliance with the process of implementing the JETP Declaration	2023-2030	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
3	Support research and propose a roadmap to build and complete a long-term legal framework in accordance with the roadmap to achieve net zero emissions and meet the requirements of low-emission development, transition from exploitation and use of fossil fuel to renewable energy or low-emission energy	2024-2025	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
4	Support the development and completion of regulations to create conditions for businesses implementing energy transition projects to directly access financial resources from international support sources without government guarantees.	2024-2025	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration

No.	Project name, task group	Period	Source	Note
1. Complete institutions and policies to promote the energy transition				
5	Conduct impact assessment for JETP implementation on Viet Nam's public finance.	2022-2025	Grant ODA, and support from GFANZ and other stakeholders	MOF proposal
6	Complete the measurement, reporting, verification (MRV) system and conduct greenhouse gas inventories at facility, sector and area levels.	2022-2030	State Budget, grant ODA business capital and other support sources	Decree 06/2022/ND-CP, National Climate Change Strategy, Green Growth Action Plan
7	Support proposals to develop reasonable price and fee mechanisms for shared energy infrastructure (power transmission lines, gas pipelines, liquefied natural gas warehouses...).	2022-2025	State Budget, grant ODA	Decison 882/QD-TTg: National Green Growth Strategy
8	Support reviewing, proposing the development and completion of incentive policies and support for disadvantaged groups and groups negatively affected by employment during the energy transition process.	2022-2025	State Budget, grant ODA	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
9	Support the construction, establishment and operation of a domestic carbon credit exchange and connect with the world carbon market	2022-2030	State Budget, grant ODA	Decision 882/QD-TTg: National Green Growth Strategy 2021-2030
10	Support the proposal and implementation of measures to promote economic restructuring towards long-term carbon neutrality beyond fossil fuel-based growth	2024-2030	German Government	GIZ- Concept Note Decision 896/QD-TTg: National Climate Change Strategy to 2050

No.	Project name, task group	Period	Source	Note
11	Support the development and implementation of the Green Hydrogen Development in Viet Nam	2024-2030	Grant ODA	IPG proposal
2. Accelerate the transition of coal power to clean energy				
12	Negotiate the suspension of investment in coal-fired power plants that are behind schedule and facing difficulties in changing shareholders and arranging capital; negotiate the closure of inefficient and old coal-fired power plants	2023-2030	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
13	Develop a roadmap to reduce greenhouse gas emissions from coal-fired power plants in sync with the carbon market development roadmap in Vietnam, connecting with the global carbon market.	2023-2030	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
14	Select coal power plants to pilot energy conversion to learn from experiences and propose a roadmap to apply to other coal power plants through the JETP Flexible Platform	2026-2028	IPG, and other Development Partners	IPG proposal

No.	Project name, task group	Period	Source	Note
3. Develop the industrial and service ecosystem on renewable energy				
15	Research and develop proposed mechanisms to support domestic enterprises in developing, manufacturing, and maintaining renewable energy equipment	2023-2030	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
16	Research and develop two inter-regional renewable energy industrial and service centres, including electricity production, transmission and consumptionrenewable energy equipment manufacturing industry, construction, installation, related services, building renewable energy industrial ecosystems in areas with great potential such as the North, South Central, and South.	2024-2025	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
17	Support the development and implementation of the project to establish the National Renewable Energy Center the development of renewable energy industry.	2024-2030	Grant ODA, state budget, corporate capital and other sources	
18	Research and establish the Vietnam Energy Data Center.	2025-2030	State Budget, and other support sources	Decision 280/QD-TTg: National Energy Efficiency Programme
19	Develop and implement regulations on renewable energy ratio for electric distribution organizations, combined with building renewable energy credit markets	2023-2025	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QĐ-TTg: Scheme to Implement the JETP Declaration

No.	Project name, task group	Period	Source	Note
20	Develop a map of potential off-shore wind in Vietnam	2024-2027	Grant ODA, and support from GFANZ and other stakeholders	Petrovietnam
21	Develop and implement the Offshore Wind Power Development Support Program	2024-2030	Federal Republic of Germany	IPG proposal
22	Supporting the development of offshore wind power capacities and provide technical assistance to MOIT, MONRE, on marine spatial planning and offshore wind power policies	2024 - 2028	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
23	Technical support for wind speed measurement, geophysical survey for pilot installation of 2 GW of offshore wind power; propose measures to complete processes and regulations related to offshore wind power monitoring	2024 - 2028	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
24	Support to Offshore windpower development and National marine spatial masterplan - Phase 1	2023-2029	Grant ODA, and support from GFANZ and other stakeholders	UNDP - Norway
25	Support to Offshore windpower development and National marine spatial masterplan - Phase 2	2024-2029	Grant ODA, and support from GFANZ and other stakeholders	UNDP - Norway

No.	Project name, task group	Period	Source	Note
4. Energy saving and energy efficiency				
26	Support the development and application of the energy saving service company (ESCO) business model	2023 - 2025	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
27	Technical support to determine energy consumption and GHG emissions targets, propose measures to save and improve energy efficiency for different types of housing, construction projects, and construction material production facilities	2022-2025	Grant ODA, state budget and other sources	Decision 385/QD-BXD: Construction Sector Action Plan on Responding to Climate Change
28	Strengthen the capacity of businesses and other stakeholders to prepare and participate in domestic and international carbon markets	2023 - 2030	State budget, grant ODA, corporate capital and other sources	Decree 06/2022/ND-CP: Decision 896/QD-TTg: National Climate Change Strategy Decison 882/QD-TTg: National Green Growth Strategy
5. Upgrade power transmission and distribution systems				
29	Support the development of the smart grid to enhance the ability to integrate renewable energy into the power system and reduce power losses on the grid	2024 – 2025	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration

No.	Project name, task group	Period	Source	Note
30	Research, propose a mechanism to encourage load reduction during peak hours of the power system or change management methods to operate during periods of low electricity prices	2024 - 2026	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
31	Research and propose the scope, priorities and models of private sector investment in the power grid	2024 - 2026	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
32	Support to review and propose improvements to the legal framework to facilitate private sector investment	2024 - 2026	Grant ODA, and support from GFANZ and other stakeholders	Decison 882/QD-TTg: National Green Growth Strategy
33	Support the development of a policy framework and improve the capacity of officials and technicians to develop energy storage systems	2024 - 2026	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
34	Assess the need for Battery Energy Storage Systems (BESS) and other storage units; support Feasibility Studies	2024 - 2026	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration

No.	Project name, task group	Period	Source	Note
6. Green energy transition and greenhouse gas emission reduction in transport sector				
35	Support the development and implementation of regulations and preferential policies for the development of shared charging systems providing green energy for transport vehicles	2025-2030	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
36	Support the proposal of measures to restructure the transport market, promote individuals and transport enterprises to convert to electric and high-volume transport vehicles; enhance the connection of transport modes, reduce costs, improve the quality of transport services	2022-2030	State budget, grant ODA	Decision 896/QD-TTg: National Climate Change Strategy Decison 882/QD-TTg: National Green Growth Strategy
37	Promote bus and taxi transportation business to convert to electric vehicles	2022 - 2030	State budget, grant ODA	Decision No. 876/QD-TTg in 2022
7. Innovation, development, and technology transfer				
38	Support the establishment of a Centre of Excellence (CoE) for offshore wind power	2023-2024	UK Government	IPG proposal
39	Research and propose national criteria, standards, and technical regulations for identifying clean technologies and green transformation projects; supplement national standards and regulations in the field of recycling and waste utilization from energy production	2024-2026	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
40	Research and develop applications of new energy sources (green hydrogen, green ammonia); pilot study for carbon capture, use and storage (CCUS); co-firing with ammonia for boilers (coal-fired power), methane recovery in coal mining and oil and gas exploitation, storage, processing, and transportation of coal, petroleum, and other fuel, include on-shore, off-shore, and continental shelf of Vietnam.	2024-2028	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration; Petrovietnam

No.	Project name, task group	Period	Source	Note
41	Pilot project on green hydrogen production	2024-2028	Grant ODA, and support from GFANZ and other stakeholders	Petrovietnam
42	Pilot project on integrating green hydrogen into Ca Mau Fertilizer Plant	2024-2028	Grant ODA, and support from GFANZ and other stakeholders	Petrovietnam
43	Support research on international experience to propose roadmaps, solutions for transfer and application of green hydrogen technology, green ammonia, carbon capture, use and storage.	2024-2028	Grant ODA, state budget and other sources	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration; Petrovietnam
44	Develop and update a list of GHG emission reduction technologies to propose solutions and cooperation mechanisms for transfer and application to promote energy transition in Viet Nam.	2022-2025	State budget, grant ODA	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
45	Research on technology and solutions to adjust the combustion mode in boilers of the thermal power plant when the actual load and fuel supply vary unpredictably from the original design, in order to increase operational and energy efficiency and reduce greenhouse gas emissions.	2024-2025	Grant ODA, state budget and other sources	Decision 500/QD-TTg PDP8

No.	Project name, task group	Period	Source	Note
46	Research on technology and solutions to co-burn biomass pellets with coal in thermal power plants to contribute to proactive fuel sources and reduce emissions	2024-2025	Grant ODA, state budget and other sources	Decision 500/QD-TTg PDP8
47	Research of using heat from exhaust fumes of thermal power plants to co-generate and supply refrigeration to reduce self-consumption and promote energy efficiency.	2024-2026	Grant ODA, state budget and other sources	Decision 1009/QĐ-TTg: Scheme to Implement the JETP Declaration
48	Investigate and evaluate overall geothermal potential for green energy production.	2024-2030	State budget, grant ODA and other sources	Decision 680/QD-TTg: Master plan for geological baseline survey on minerals for the period 2021-2030, with a vision to 2050
8. Ensure just elements in energy transition				
49	Assess and forecast human resource needs and the ability to supply human resources to meet the energy transition needs of different sectors; support the development of a national labour market information system for green industries, connecting supply and demand in the green labour market.	2022-2030	State budget, grant ODA and other sources	Decision 896/QD-TTg: National Climate Change Strategy Decison 882/QD-TTg: National Green Growth Strategy
50	Research and propose a support mechanisms to ensure reasonable electricity prices for affected, vulnerable, and low-income groups.	2024-2026	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
51	Support the development and application of guidance on impact assessment, readiness to participate in a just energy transition and capacity building needs of target groups	2024-2027	State budget, grant ODA	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration

No.	Project name, task group	Period	Source	Note
52	Review and analyze the statistics of workers who have lost their jobs due to the energy transition; develop and implement training and retraining programs for employees; promote social dialogue that ensures a just energy transition	2024-2028	Grant ODA, IPG, GFANZ	IPG proposal; Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
53	Support research and propose measures towards equitable and sustainable energy transition of Quang Ninh and Thai Nguyen coal power plants	2024-2029	UNDP, IPG	IPG: Concept Note 6
54	Support the implementation of economic, social and environmental impact assessments in the process of just energy transition for relevant stakeholders	2024-2026	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
55	Establish vocational training and career centers to ensure the objectives of a just energy transition	2024-2028	Grant ODA	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
9. Communication and awareness raising				
56	Improve the capacity of organizations and enterprises in proposing and implementing projects using resources from financial institutions, funds and international private investors	2024-2030	State Budget, grant ODA	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
57	Develop and propose advocacy programs to raise awareness of implementing a just energy transition	2024-2030	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
58	Capacity building for the National Innovation Center on green hydrogen and related vocational training	2024-2030	Grant ODA, and support from GFANZ and other stakeholders	

No.	Project name, task group	Period	Source	Note
10. Promotion of international cooperation on the just energy transition				
59	Support the development and implementation of traceability and carbon monitoring in the production, preservation, processing and transportation of pangasius, shrimp and dragon fruit, contributing to promoting the application of renewable energy and improving energy efficiency	2024-2029	State budget, grant ODA	IPG proposal
60	Establishment of the International Center for Renewable Energy located in Viet Nam	2024 - 2025	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration
61	Research and propose solutions and roadmaps to promote cooperation in connecting power grids with countries in the region to enhance system connectivity, power exchange, and take advantage of countries' resource strengths	2024 - 2025	Grant ODA, and support from GFANZ and other stakeholders	Decision 1009/QD-TTg: Scheme to Implement the JETP Declaration

ANNEX III. LIST OF POLICY ACTIONS IN 2024 – 2028

Categories	Priority Policy Actions 2024	Potential policy actions 2025	Other potential policy actions in 2025-2028
1. Improving the regulatory framework for the energy transition	1.1 Finalise regulations and policies to promote new energy and renewable energy development. - Review regulations on renewable energy for the amendment of the Law on Electricity. - Develop and finalise legal regulations to achieve net zero emissions and transition to clean energy. - Finalise policies on retail electricity price and financial support for beneficiaries for the just energy transition.	1.1 Amend the Law on Electricity, including adjusting, supplementing provisions to support to the development of the RE industry, deployment of RE, electricity transmission and storage, production and use of green H_2, and to enable improved operation of the VWEM.	1.1 Continuosly develop legal regulations to achieve net zero emissions and ensure the transition from fossil energy to low-emission energy.
	1.2 Review and propose amendment and supplement related regulation to promote private sector investment in power transmission infrastructure in the Law No. 03/2022/QH15 amending and supplementing a number of articles of related laws.	1.2 Amendment and supplement for the Law No. 03/2022/QH15 amending and supplementing a number of articles of the related laws to promote private sector investment in power transmission infrastructure	1.2 Assess the current state of law and improve legal environment to support affected communities in a just energy transition, in line with the ILO Declaration on Fundamental Principles and Rights at Work; support just energy transition for communities affected by potential negative impacts of the energy transition, particularly the relationship between economic sectors.
	1.3 Finalise regulations on disbursement of ODA capital to SOEs	1.3 Further review and finalise regulations on disbursement of ODA capital to SOEs	1.3 Develop and propose criteria, prioritized sectors, mechanisms and policies to encourage investment in the energy sector for a just energy transition.

Categories	Priority Policy Actions 2024	Potential policy actions 2025	Other potential policy actions in 2025-2028
	1.4 Improve the regulatory framework on green capital markets.	1.4 Further improve the regulatory framework on green capital markets	1.4 Continuously finalise investment institutions and policies to enhance the effective mobilization of domestic and foreign resources to implement just energy transition activities.
2. The transition of coal power generation	2.1 Develop CFPP retirement roadmap, with implementation plan and the regulatory framework for CFPP phase-out, in sync with the roadmap of ETS development, to reduce GHG emissions.	2.1 Mobilize and promote the support from the community and enterprises owning the CFPPs concerned.	2.1 Develop plans for coal-fired power plants that are under construction for completion before 2030 but that are facing difficulties, and that may be transited to other energy sources
	2.2 Develop plant-by-plant retirement plans starting with the highest priority/ eligible plants, providing detailed implementation plans.	2.2 Continuosly develop plant-by-plant retirement plans starting with the highest priority / eligible plants, providing detailed implementation plans.	2.2 Continuosly develop plant-by-plant retirement plans starting with the highest priority / eligible plants, providing detailed implementation plans.
	2.3 Develop a plan/roadmap for increasing operating efficiency and decreasing average capacity factor of CFPPs	2.3 Complete a plan/roadmap for for increasing operating efficiency and decreasing average capacity factor of CFPPs and start pilots (including refurbishments to improve the operational efficiency of the plants, optimization of mill operation and combustion process, and of control loops for sustained operations at minimum loads).	2.3 Restructure CFPPs with fixed PPAs to for increasing operating efficiency and decreasing average capacity factor of CFPPs, debt restructuring and raising public finance to compensate losses and operate carbon markets for additional source of revenue.

Categories	Priority Policy Actions 2024	Potential policy actions 2025	Other potential policy actions in 2025-2028
3. Developing the renewable energy industry	3.1 Development of the Marine Spatial Planning and offshore wind power development policies, including a roadmap / action plan for offshore wind power development.	3.1 Finalise the Marine Spatial Planning and offshore wind power development regulations to stimulate offshore wind power development.	
	3.2 Develop hydrogen development strategy in Viet Nam	3.2. Finalise legal regulations to promote green hydrogen development in Viet Nam, including produce, use and export green hydrogen; regulations on safety in storage, transport and use of green hydrogen, ammonia and other synthetic fuels.	3.2. Develop regulations and plan to produce and use green hydrogen, green ammonia and other synthetic fuels delivered from green hydrogen. Develop regulations on hydrogen certification standards.
	3.3. Finalizing and issuing the DPPA.		
	3.4 Finalise regulations on (stimulating) behind the-meter, off-grid systems, which may be without limitation in installed capacity according to PDP8, including rooftop solar PV on commercial buildings and residential houses.	3.4 Continuously finalise regulations on (stimulating) behind the-meter, off-grid systems, which may be without limitation in installed capacity according to PDP8, including rooftop solar PV on commercial buildings and residential houses.	
	3.5 Develop regulation on combined tenders for utility-scale onshore and offshore wind power and solar PV plants combined with batteries and/or green hydrogen production.	3.5 Finalise long-term regulation on combined tenders for utility-scale onshore and offshore wind power and solar PV plants combined with batteries and/or green hydrogen production.	

Categories	Priority Policy Actions 2024	Potential policy actions 2025	Other potential policy actions in 2025-2028
	3.6 Develop regulations on multiple land-use of VRE with grid connection and participation in the VWEM (solar PV and wind power systems at different scales, combined with other land and seabed use).	3.6 Finalise regulations on multiple land-use of VRE with wind and/or solar PV with grid connection and participation in the VWEM (e.g. wind exposed ports, tidal zone use, livestock, crop, and aquaculture).	3.6 Planning of two regional renewable energy industrial and service hubs in potential areas in the Northern, South Central or Southern regions, focus areas for renewable energy production and transmission; equipment manufacturing (solar PV, wind power, energy storage and other related equipment); engineering, procurement and construction (EPC), transport and other services.
	3.7 Develop regulation on PPA for wind power and solar power plants, making them bankable for international financiers (including international arbitration).		3.7 Develop mechanisms to promote the domestic production, repair and maintenance of renewable energy equipment; improve the localization rate of equipment for the development and use of renewable energy.
4. Power transmission and energy storage	4.1 Develop the legal framework to facilitate private sector investment in the transmission and distribution grid capacity and management.	4.1 Continuously finalise the legal framework to facilitate private sector investment in the transmission and distribution grid capacity and management.	4.1 Development of policies to strengthen interconnection of the grid with neighbouring countries and the development of interconnected power markets of ASEAN member states.
	4.2 Determine the scope, priorities, and investment model of the private sector in the power grid.	4.2 Develop regulations to improve electricity demand and supply management, including the application of grid connection code for all the new storage and production technologies, using “smart grid” features (SCADA).	4.2 Develop regulations to encourage private investment in energy storage at large electricity-consuming establishments (including BESS and mechanical storage options), with off grid and on-grid connections, to increase on-site storage capacity and consumption and limit the increased demand for electricity supply to these facilities.
	4.3 Develop market regulations for energy storage systems (ESS, pumped hydro, ...) to operate in the VWEM and for the provision of ancillary services (peak power demand, grid frequency control etc.)	4.3 Develop standards for BESS and other anergy storage technologies.	

Categories	Priority Policy Actions 2024	Potential policy actions 2025	Other potential policy actions in 2025-2028
5. Energy efficiency	5.1 Formulate and promulgate regulations on the development and application of energy service companies (ESCOs), enabling assessment of energy efficiency potential and external investment in EE measures.	5.1 Finalise regulations to promote facilities carry out GHG inventories and formulate GHG emission mitigation actions according to the net-zero emissions pathway, linked to development of the Vietnamese ETS.	5.1 Amend the Law on Corporate Income Tax and decree on EVN's financial management, to allow Demand Response (DR) payments as eligible expenses for taxation, and support EVN to invest in DR projects and smart grid.
	5.2 Further improve standards, technical regulations on energy consumption norms in different sectors, strengthening the implementation of energy efficiency measures.	5.2 Develop mechanisms and policies to strengthen the implementation of solutions for the efficient use of energy and promote the transition to clean energy and electrification in industry, agriculture (including agriculture and aquaculture processing), services, trade etc.	5.2 Require energy performance certificates (EPC) for all buildings, both residential and commercial, before they are leased or sold to enable renters or buyers to make better informed decisions.
		5.3 Develop, enhance policies and regulation on EE in the construction sector, to encourage EE investment in building construction and operation, including the enforcement of EE standards.	5.3 Develop net-zero emissions building standards.

Categories	Priority Policy Actions 2024	Potential policy actions 2025	Other potential policy actions in 2025-2028
6. Energy transition in the transport sector	6.1 Finalise regulations to encourage EV manufacture and assembly with high national content, and to encourage EV demand in Viet Nam.	6.1 Planning and developing regulation to encourage expansion of EV bus routes, including policy measures related to tax, passenger fees, and development of electric charging facilities.	6.1 Develop regulations of development of the EV charging facilities network so that electric vehicles operate widely nationwide, in association with local power distribution networks, public (street) lighting systems, and IT companies (hardware-software applications) for demand-supply management by EVs connected to the charging networks.
	6.2 Develop a national plan for the development of EV charging infrastructure, linked to power development planning (generation capacity and T&D grid) and urban development (construction) planning.		
	6.3 Finalise regulations to ensure development of a coordinated, accessible EV charging infrastructure (including connection standards, accessibility for cars of different brands), benefiting from optimal on-site power generation from renewable energy sources.	6.3 Continuously finalise policies and regulations for EV charging infrastructure, ensuring the flexibility and integrations	
7. Innovation, development and technology transfer	7.1 Develop policy on cooperation in R&D between public and private sector entities, focused on R&D of technological innovations renewable energy, energy storage, energy efficiency, green hydrogen and derivatives, etc.	7.1 Establishment of a renewable energy research and development fund in Viet Nam. Including contributions from international organizations, domestic and foreign businesses.	

Categories	Priority Policy Actions 2024	Potential policy actions 2025	Other potential policy actions in 2025-2028
8. Ensuring a just transition	8.1 Develop a policy mechanism to ensure affordable electricity for low-income households and MSMEs to cope with increased energy prices.	8.1 Finalise the policy mechanism to ensure affordable electricity for low-income households and MSMEs to cope with increased energy prices	8.1 Develop regulations and programs on re-skilling/training of men and women workers who lose their jobs in the energy transition, and facilitate for workers to take advantage of new opportunities offered by RE, green hydrogen, energy efficiency, and electric transport value chains, ensuring high-quality human resources in the fields of power generation, transmission, distribution, dispatch, smart grid and electricity markets.
	8.2 Revise the current regulations on environmental and social impact assessment, to enhance this with just criteria, applied to JETP projects.	8.2 Finalise the regulations on environmental and social impact assessment, to enhance this with just criteria, applied to JETP projects.	8.2 Develop policy and investment programs for improved rural power distribution grids and mini-grid, off-grid systems, reducing the occurrence of blackouts and increasing access to high quality energy services.
	8.3 Develop a Mechanism for data collection and dialogue to address impacts caused by the energy transition process beyond the project level.	8.3 Finalise the Mechanism for data collection and dialogue to address impacts caused by the energy transition process beyond the project level.	8.3 Develop policies and social dialogue mechanisms on just energy transition.
			8.4 Integrate just energy transition aspects in land use planning and socio-economic development plans at all levels.

ANNEX IV: LIST OF CONCEPT NOTES PROPOSED BY IPG FOR IMPLEMENTATION OF JETP IN THE PERIOD 2024 - 2028

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
1	**Power Transmission and Distribution Grid Development**	Low transmission tariffs; Limited financing mobilization; Difficult land acquisition; Unexpected demand for transmission expansion due to renewable energy development; Lack of clear private investment regulations; Absence of regional power market; Lack of specific guiding regulations on the bidding or competitive and transparent scheme for investor selection of power transmission projects; Lack of specific regulations on the authority in charge of the bids and coordination between different stakeholders in case the transmission grids/project locations cross more than one province; Lack of key principles/ guidelines and/or reasonable model of the revenue contract.	Improved access to finance for the NPT, broadening options for NPT to assess and select financing offers/ proposals from international banks and institutions; Clarifying approval mandate (MOF, CMSC, EVN, and NPT) and procedures depending on the project investment size; Allow NPT to access concessional sovereign loans for nationally important, technologically complex, and strategically critical projects; Development of regulations for sovereign loans and non-sovereign loans for NPT; Development of legal framework, policies, and regulations for private investment; Regulation for regional power trading with other countries in ASEAN and GMS;	TA to develop the regulatory framework for private sector investment; and support the development of cross border transmission and offshore transmission; Pilot implementation allows private investors to participate in competitive bidding for transmission projects.	Invest in new transmission projects with modern technologies (e.g., HVDC) and inter-connection transmission projects with other countries; Pilot regional power trade project; Selection of investment projects listed in PDP8.	Grant funding by IPG members and other development partners for TA; NPT equity, non-sovereign loans and/ or sovereign loans from ADB and others, domestic loans; Climate finance, green bonds, and carbon trading; Private investment

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
			Develop a flexible and short-term regional power trading platform; Training of officials on technology, policy, and regulatory requirements on wheeling charges to Viet Nam transmission sector; In the form of grid management, optimize utilization of existing capacities; Access global climate funds and financing mechanisms for energy transition projects, including grant sources; Address emissions reductions in transmission e.g., reconductoring, controlling power flow etc. and continued investment in RE production.			

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
2	**Storage (BESS & Pumped Hydro)**	Lack of regulations on use and payments for ancillary services (cannot compete in VWEM or as a regulated asset); Financial constraints (PSHP larger and costlier); Transmission and Distribution Grid Codes have vague and missing specifications for BESS integration; Priority dispatch for RE generation provides little incentive for developers to install BESS 'behind the meter'; Electricity market rules and licensing arrangements do not include provisions for storage assets, rendering their legal position in the market unclear; Planning decisions struggle with the ability for BESS to provide multiple services; BESS is untested as a regulated asset, including of vague and missing specifications in the Transmission and Distribution Grid Codes.	Streamline approval processes, standards for BESS and other storage; Financial incentives for development of BESS technologies; Public awareness; Strengthen capacity on state management on BESS and other storage.	Capacity building/ awareness of officials and technicians on e.g. interconnection requirements; Develop regulatory framework for ESS, including power market regulations on providing ancillary services; Support feasibility studies for BESS and other ESS, exploring BES needs in the Viet Nam power system; Implement pilot projects to demonstrate feasibility; Demonstrate the capacity value of	Pilot BESS project(s) 50MW (expedited), to demonstrate the feasibility, for VRE smoothing, grid balancing, time shifting, grid frequency regulation, supply during outages and demand side reduction (DSR);	Grant funding by IPG members and other development partners for TA; BESS: EVN equity, JETP grants, non-sovereign loans and/ or sovereign loans from ADB and others; Bac Ai: US$1bn AFD, EIB, KfW, and JICA; Private equity and loans from market and regulated contract revenues;

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
				BESS as per various grid services throughout the year; Evaluate locations and upgrades to existing infrastructure for BESS; Data gathering/ analysis to inform future deployments; Support policy and legal framework development for BESS.	Scaling up BESS (300 MW by 2030 – as PDP8); Bac Ai PSHP (1200 MW; in PDP8) including upper reservoir and 18.8km 500 KV transmission line; Phuoc Hoa PSHP (1200 MW) is also in PDP8 by 2030.	de-risked by IPG.

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
3	**Solar PV**	Absence of clear vision / strategy for the solar sector has led to a policy vacuum, with current reliance on pure self-consumption; New grid-connected solar PV projects are prohibited (moratorium); Policy vacuum has used PV market under the radar (undeclared / unregistered); Targets for solar PV until 2030 are extremely modest, with ambition reserved for 2030-2050; Under "zero export" policy, RTS owners unable to realize full potential of their installations, less likely to invest.	Under PDP8, 20.2 GW of solar PV in 2030; Achievement of JETP target requires additional 30 GW new solar PV deployment, approx. 14 GW could be supplied by RTS and additional 16 by solar; To achieve that, the following policy measures are proposed: Introduce tenders for utility scale solar PV, including floating PV and solar + storage projects; Reactivate the rooftop solar (RTS) by introducing a surplus power tariff; Finalize and implement the Direct Power Purchase Agreement (DPPA) rules; Support the continued expansion, strengthening, and modernization of the power grid; Procurement framework to focus on pilot projects across 3 main market segments: floating solar PV, solar and storage projects, auctions for ground-mounted installations in "non-hot-spot" regions; Support the auction design for pilot projects to produce a draft procurement mechanism;	Establish a loan facility to support the roll-out of RTS installations in public buildings nationwide; Support and provide technical cooperation for the development of a strategy for the public procurement of solar PV on public buildings; Integrate Solar power into grid; Adoption of better monitoring systems for solar power; Analyses on hosting capacity; Improve distributed generation management systems,	Loan facility to support RTS installations in public buildings; International finance for DPPA projects; International capital for pilot auctions; $10-20 mn to support enhancements to power system flexibility and VRE integration;	$4.7 mn for technical assistance (including from Germany up to EUR 1 million).

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
			Support the continued expansion, strengthening, and modernization of the power grid; Enhancing forecasting and dispatch protocols.	congestion management (transmission & distribution grid levels); Improving forecasting (both net load forecasting and solar output forecasting); Support the development of manufacturing of solar PV.	Hard currency financing for the dynamic growth phase; Low-interest loans; Private investment.	

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
4	**Offshore Wind Power**	Policies on awarding survey and investment rights are unclear; Limited national experience and capacities; Domestic commercial finance limited; Capacity of private investors is uneven and low; Insufficient data availability, particularly offshore windspeed measurements and data on seabed morphology and geological conditions; High technical complexity in the design, construction, operation, and management of OSW power plants; Lack of appropriate policies, regulations, and procedures to enable OSW investment projects.	Develop a roadmap for OSW; Improve and develop policies, regulations, and processes, to reach PDP8 target in two stages; Bidding scheme for investor selection; Training relevant government officials and stakeholders from the private sector to support long-term OSW development; Study on OSW supply chain.	Capacity building and technical assistance; Support to policy formulation onmarine spatial planning and offshore wind survey and investment licensing and monitoring; Capacity building for marine monitoring incl. seabed and windspeed data collection in areas with technical OSW potential, data storage, modelling,	Up to 6 GW capacity (PDP8), grid-connected by 2030, with PVN, EVN and foreign enterprises; Data measurement for facilitating investments in OSW development and marine spatial planning in Viet Nam.	Grant funding by IPG members and other development partners for TA; Financed by GFANZ members, de-risked with IPG financing; w/Vietnamese commercial banks.

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
				and communication; Financing, surveys for de-risking OSW; Develop the legal framework for a commercial market without public finance, with a full-fledged investor tender process.		

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
5	**Green Hydrogen**	High investment costs, absence of subsidies to achieve costs similar to grey H_2; Unclear regulatory environment, incl. design standards, certification scheme; Low capacities / lack of green H_2 utilization skills of workers; Lack of land use awards for electrolysers, water supply, dedicated solar PV for GH2 (co-siting); Unclear social acceptance; Supply chain shortages; Logistical issues; Health and safety issues; Design and engineering of plants; Missing certification scheme and metering; Water supply; Variable RE supply; Transport and storage capacities.	Enabling policy framework – establishment of boundary conditions and concrete pathways for a thriving green hydrogen economy; Economic development – assurance of long-term carbon-neutral economic growth beyond the current fossil-fuel-based economy expansion; Development of strategic framework for policies and regulations e.g., national hydrogen strategy, certification, regulatory development etc; Technical capacity development for research and educational institutions and industries; Green hydrogen market development.	Support formulation of enabling policy framework; Support economic development beyond the fossil fuel-based economy; Capacity development for qualified and sufficient human resources for a sustainable green hydrogen economy; Communication with the population; Monitoring and evaluation of green H_2 project development and implementation; Test green hydrogen application in commercial transport.	2028 onward: FA, likely in the form of concessional private and public loans, to support pilot projects; 2030 onward: FA to further develop the domestic use of GH2 (GH2 centres)	German grant for TA EUR5m

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
6	**Coal Power Plant Flexibility**	Legal issues (e.g., OEM guarantee, service contracts), insurance limitations; Lack of incentives within power market (e.g., BOT plants not subject to price signals from spot market, limited incentives for CFPPs to offer ancillary services, no requirements for flexible operation in grid connection codes); PPA - volume commitment, fixed price, prohibited to generate more than design capacity; Low volatile content in domestic anthracite coal makes it difficult to ignite and sustain combustion; Some refurbishments may be needed to improve the operational efficiency of the plants; Existing control system and operational manuals may be unable to handle more flexible operational patterns; Need to restructure contracts that underpin CFPPs with fixed PPAs; Carbon markets are not yet operating.	Optimization of control loops for sustained operations at minimum loads; Optimization of mill operation and combustion process; Implementation of precautionary measures; Imported bituminous coal with high volatile content and low carbon content; Some refurbishments may be needed to improve the operational efficiency of the plants; Existing control system and operational manuals may be unable to handle more flexible operational patterns; Recalibration of control system and operational manuals through OEMs and specialists; Debt restructuring to lower the cost of capital; Restructure CFPPs with fixed PPAs to incentivize flexibility.	Support development of voluntary / compliance-based carbon markets; System flexibility analysis of options at provincial level; Probabilistic analysis of national security of supply towards 2030; Support pilot-testing of CFPPs and estimate cost of testing procedure; Analysis of legal contract changes and changes to PPA; Support implementation of flexibility incentives; Facilitate access to financial institutions (blended finance).	JETP flexibility support platform to learn / share experience; Pilot testing on CFPPs with different characteristics, followed by scale-up; (Updated) system flexibility analysis to define system value and planning.	Blended finance to under JETP to lower cost of capital; Enable debt restructuring for CFPP PPAs to incentivize flexibility; Voluntary / compliance-based carbon markets; Concessional financing from IPG which does not restrict transitional aligned coal transactions; Funding provided by govt must be eligible for transactions to increase flexibility.

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
7	**Coal Power Plant Phase-out**	Geographical differences between Northern and Southern provinces (less solar / wind potential in the north); Hydropower can increase, but less room available relative to other RE; Coal-power increase lock-in of share until 2030; Use of coal supply for national energy security, securing supply until 2045 is part of domestic mandate; Transition for workers and their families; job loss, retraining, "no one left behind" principle; Coal worker recruitment will become increasingly difficult, particularly after 2045; Reimbursement mechanism currently unavailable to (privately-owned) CFPPs that do not invest in secured supply; Lack of incentives available to enterprises to transition from coal to clean power; Solar PV / wind power purchase agreements face bankability problems; land availability for solar and wind, upfront investment and grid connection as well; Viet Nam SoEs cautious on VRE investment; Incomplete regulations for coal to	Comprehensive review of current operational CFPPs, setting out criteria and ranking phase-out priorities; Develop plant-by-plant retirement strategy, providing detailed implementation; Complete regulatory framework for coal phase-out; Detailed and clear regulations for renewable energy; Decree on OSW to specify rules for site preparation, leasing, and permitting; Coordination and cooperation among government agencies; Building broad-based support from the community and enterprises; Implementation of voluntary / compliance- based carbon markets to provide additional source of revenue through OEMs and specialists; Agreement on early retirement.	Engagement of VEPG and JETP platforms for learning and best practice exchanges; The Technology and Energy Working Group (WG) supported by the JETP Secretariat.	Program on Transition of Coal Power Plants; Transition of the Cao Ngan coal-thermal power plant; See solar, wind, grid transmission, coal power flexibility CNs.	Sovereign debt guarantees for flagship renewable energy projects; Green bonds (e.g., World Bank, IFC, ADB etc.); Grant funding, guarantees, loans by IPG members and other development partners for TA; Access to voluntary, international or domestic compliance carbon markets; Soft loans, grants

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
		clean power transition; Compensation to privately-owned enterprises with long-term PPAs with EVN; Detailed plans for co-firing / coal and alternative energy are unavailable; Lack of incentives available to enterprises to transition from coal to clean power; Complex regulations on financial disbursements for official ODA projects; Insufficient regulatory infrastructure for public procurement and electricity pricing Concern for electricity price increase among public (below global average); Cost of green ammonia is prohibitively high today; Lack of studies on coal-biomass and green NH_3 cofiring in Viet Nam using CFB technology; Ability to borrow is limited if sourcing requires a government guarantee; Increased demand for biomass will affect raw material prices, expected to be higher than price of coal; Insufficient regulatory infrastructure for public procurement and electricity pricing.				for training programmes and job creation; $16-44.9 mn of investment for Cao Ngan coal-thermal power plant transition.

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
8	**E-mobility**	Investment costs for EVs, e-buses; Access to finance; Complex challenges around land clearing, power supply for charging infrastructure; Lack of dedicated subsidy for e-bus operation; Charging infrastructure: insufficient, inconvenient, lack of unified standard; Lack of clear legal basis for planning of charging infrastructure; Lack of standards and regulations applicable to manufacturing and assembly enterprises; Low demand for EVs, high cost of Evs; Procedures for planning and approving charging infrastructure not yet regulated; Battery limitations (short lifespan, long charging time, short distance travelled); Coordination of different competent ministries; Lack of human capital / resources.	Support comprehensive scheme for development of EV manufacturing; Supportive programs / schemes on e-bus deployment and public charging infrastructure - focus on e-bus / e-cars; Amend, add regulations on technologies, distribution orientations, etc. for charging stations; Develop road infrastructure plan for charging network as soon as possible; Develop separate grid plan for EV charging vehicles as soon as possible.	Support comprehensive scheme for development of EV manufacturing; Support programs / schemes on e-bus deployment and public charging infrastructure - focus on e-buses/e-cars.	Under Decision no. 876, 2025, 2030, and 2050 targets on EV deployment, manufacturing, and electric charging infrastructure; Determination of stakeholders, roles, and constraints within e-mobility ecosystem in Viet Nam;	Grant funding by IPG members and other development partners for TA, based on NDC-2022, international support could be 70%; Private investment.

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
					E-mobility programs / projects (undetermined) on EV manufacturing development, e-bus deployment, and public charging infrastructure.	
9	**Energy Efficiency (Demand Side Manage-ment)**	Absence of legal framework for energy service companies (ESCO); Absence of public procurement for EE investments using the public budget; Low and controlled power retail tariffs but high growth in energy demand; Low capacities of public and private sector users; Weak demand-side management (DSM); Low capacity in the commercial banks; Absence of policies, technical standards, and guidelines and sharing successful models for scaling up co-processing.	Exploit the significant demand response (DR) potential in industry, irrigation, air conditioning etc; Amend the Law on Corporate Income Tax and decree on EVN's financial management, to allow DR payments as eligible expenses for taxation, and support EVN to invest in DR projects and smart grid; Develop policies, technical standards, and guidelines on for scaling up and disseminating successful co-processing models for scaling up.	Support to amend the EE law, Electricity Law, and other regulations to provide a legal basis for ESCO, and develop the ESCO market, including a public ESCO; Support regulations on "energy performance contracting" (EPC) in the public sector agencies for EE	Smart and Energy Efficiency City Project (SEECP) with investment cost to retrofit, upgrade, and expand the streetlighting system with 2.6 million lighting points.	Public financing with sovereign loans and grants for initial cities (ADB, climate funds and grants); In 2026-2030 for the remaining cities and provinces by private financing.

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
				measures in public infrastructure and assets; Capacity-building to increase awareness of regulatory changes among stakeholders (government, private sector, financial institutions).		

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
10	**Just Transition**	Responsibilities for social aspects is not with ministries leading energy production and efficient use; Capacities for new skill development not in place; Social protection and assistance systems are fragmented; Multi-purpose land use for RE and other use is not regulated; Mechanisms for social dialogue on JET not in place.	Enhancing national capacities to train, re-skill workers to take part in JET opportunities; Creation of a mechanism to support low-income groups in coping with energy cost increases; Creation of a social dialogue mechanism on JET; Evaluate the existing energy infrastructure, including sources and structure of energy production, transmission and distribution networks, and the overall reliability and capacity of the energy system and identify strengths and areas in need of improvement.	The Just Program will be made up of different projects, likely per Ministry or agency; This will include design of a "Mechanism" to support low-income households and micro / small enterprises in the context of high energy costs;	Following the design of a mechanism to protect / support low-income households a revenue stream must be secured, and certain public / private investments	Grant funding by IPG members and other development partners for TA.

No.	CN title	Barriers to investment	Policy actions	Technical Assistance	Investment projects	Finance sources
				Towards a sustainable, just and inclusive energy transition in Viet Nam: Energy transition impact, readiness and capacity building project involves an assessment of the country's readiness, impact of energy transition process on vulnerable groups, and the development of a monitoring and evaluation framework to measure projects	in the mechanism will be required.	

ANNEX V. POLITICAL DECLARATION ON ESTABLISHING THE JUST ENERGY TRANSITION PARTNERSHIP

1. The Governments of the Socialist Republic of Viet Nam, together with the International Partners Group, consisting of the European Union, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Japan, the Federal Republic of Germany, the Republic of France, the Italian Republic, Canada, the Kingdom of Denmark and the Kingdom of Norway;

2. Recognising the need to accelerate action towards the objectives and long-term goals of the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, including through the implementation of the Glasgow Climate Pact, to minimise the worst adverse impacts of climate change for countries, people and the environment;

3. Noting that limiting global warming to 1.5°C to mitigate the worst adverse impacts of climate change requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level and to net zero around mid-century as well as deep reductions in other greenhouse gas emissions, emphasising climate change adaptation and achieving net zero emissions as an opportunity for sustainable development;

4. Recognising that for Viet Nam, as an independent, sovereign and fast developing lower middle income country heavily affected by the impacts of climate change, it will be key to embrace the opportunities brought about by the fast decreasing cost of renewable energies as an opportunity for sustainable development and to tackle related challenges such as poverty, inequality and unemployment, which are exacerbated by the impact of the COVID-19 pandemic and climate change, and that vulnerable groups and some important economic sectors may be impacted by the energy transition, including thermal electricity generation, coal mining, heavy industry and transport;

5. Recognising the need for new, predictable, long-term and sustainable support from partner countries, multilateral organisations and investors in finance, technology and capacity building for Viet Nam to exploit fully the opportunities of the transition in accordance with the national framework of public debt and external debt management to contribute significantly to the implementation of the NDC of Viet Nam, its commitment to reach to net zero greenhouse gas emissions by 2050 and its development orientation to become a high-income developed country by 2045;

6. Noting that at COP26, Viet Nam committed to achieve net zero emissions by 2050 with its own domestic resources, along with the cooperation and support of the international community, including developed countries, both in terms of finance and technology transfer, including implementation of mechanisms under the Paris Agreement; Viet Nam also joined the Global Methane Pledge supporting a goal of reducing methane emissions by 30% in 2030 compared to 2020 levels; Viet Nam also supported the Global Coal to Clean Power

Transition Statement, and committed to ceasing issuance of new permits and construction of new unabated coal-fired power generation projects;

7. Welcoming Viet Nam's swift and significant actions to implement its commitments made at COP26, including its legislation to reduce greenhouse gas emission and adapt to climate change, promulgation ahead of COP27 of the National Climate Change Strategy to 2050, the Methane Reduction Plan, and its second updated Nationally Determined Contribution - and expecting further updates in line with the Glasgow Climate Pact;

8. Welcoming Viet Nam's strong, quantifiable targets to peak emissions by 2035 and its intention to bring that date forward to 2030, enabled by meaningful and strong international support in terms of technology and finance and then rapidly reduce emissions to meet Viet Nam's net zero emissions target by 2050; emphasising the need of adopting low-carbon energy systems to reach this goal through promoting renewable energy development, improving energy efficiency and the importance of the transition away from unabated coal fired power, while ensuring national energy sovereignty, security and affordability;

9. Recognising the significant growth in energy demand in Viet Nam in the coming years to facilitate long-term economic development, acknowledging that the green transition will require significant investments for electricity generation and expansion and modernisation of transmission and distribution grids as well as improved energy storage solutions;

10. Acknowledging that Viet Nam may seek to make use of CCUS in hard to abate sectors to achieve these targets;

11. Recognising the opportunities presented by an ambitious energy transition to attract significant new foreign direct investment in support of Viet Nam's vision to become a major low carbon manufacturing hub;

12. Emphasising the economic and social opportunities of Viet Nam's low carbon transition, including the creation of quality jobs, local value chains, and attracting large-scale domestic and international private investments; acknowledging the importance to guide investors to adapt early, redirecting finance and avoiding stranded assets;

13. Noting Viet Nam's intent to negotiate the decommissioning of coal-fired power stations; increase investment in renewable energy and storage; and improve the power generation technology and expansion and modernisation of the transmission and distribution grids, while ensuring a level playing field between market participants, using latest technology to increase energy efficiency;

14. Emphasising that for this transition to be just, equitable and inclusive for consumers, workers and affected communities efforts will be needed to ensure that all are adequately protected from the direct risks and can benefit from opportunities brought by this transition, so that no one is left behind: noting that the transition should be accompanied by programmes

of training and retraining, upskilling, job creation and other forms of support for workers in the affected sectors and areas, so that they can benefit from the industrial innovation and the creation of quality green jobs; and that access to electricity must remain affordable and reliable for all, in particular for affected, vulnerable and low income groups;

15. Noting further that for the transition to be just and equitable, regular consultation is required, including with media, NGOs and other stakeholders so as to ensure a broad social consensus; and

16. Underlining that this partnership will support Viet Nam in terms of finance, technology, capacity building, including inter alia the improvement of its policy and regulations in line with its net zero and just energy transition road map to significantly scale up private investment into renewable energy.

Resolve:

17. To establish the Just Energy Transition Partnership as a long-term, ambitious partnership to support Viet Nam's low-emission and climate resilient development, as well as to support Viet Nam to accelerate the just transition and decarbonisation of the electricity system, and develop new economic opportunities to support Viet Nam's transition towards net zero future.

18. To mobilise an initial amount of at least $15.5bn over the next three to five years through a combination of appropriate financial instruments, which should not divert critical development assistance away from existing development funding to support the needs of Viet Nam's just energy transition in accordance with the national framework of public debt and external debt management. Working closely with the Viet Nam Government, IPG members will mobilise $7.75bn of public sector finance which should be on more attractive terms than Viet Nam could secure in the capital markets. Working closely with the Vietnamese Government and the IPG, the GFANZ Working Group members will work to mobilise and facilitate at least $7.75bn in private finance, subject to mobilisation of the catalytic public sector finance by the IPG members.

19. That the mobilisation of this finance will be enabled by the adoption of the Viet Nam JETP Resource Mobilisation Plan (JETP - RMP) and subject to and in line with all relevant budgetary procedures and consensus on the use of funds and terms on which finance may be provided and a pipeline of opportunities consistent with the Government of Viet Nam's ambition. This mobilised finance will represent a part of the much larger investment needs for Viet Nam as will be outlined in the Viet Nam JETP Resource Mobilisation Plan.

20. To mobilise support for Viet Nam under the JETP through which Viet Nam will continue its work to improve regulatory frameworks to expand both public and private investment into Viet Nam. This work should focus on renewable energy and the just energy transition,

including measures to improve energy efficiency and strengthen the electricity grid in Viet Nam, contributing to the achievement of the targets stated in the National Strategy on Climate Change to 2050 and Viet Nam's NDC.

21. To develop and publish as soon as possible a JETP-RMP by November 2023 to identify the new investment requirements and opportunities – for the development and implementation of wind, solar, transmission, energy efficiency, storage, electric vehicles, training, retraining and vocational support for employment among others - and measures to facilitate the deployment of support and overcome barriers to investment, to deliver Viet Nam's just energy transition.

22. That this plan will be fully led by the Government of Viet Nam and presented for endorsement by the International Partner Group, with administrative and technical support provided by the Secretariat as defined in paragraph 23 below, with additional assistance from the IPG where necessary and if required.

23. To establish by April 2023 a secretariat with external financial and administrative support under the direction of both Viet Nam and the IPG to provide support for the management of the long-term partnership to support Viet Nam's just energy transition and to facilitate and coordinate technical work according to the instructions of Viet Nam and the IPG; in addition to the support provided in the drafting of the JETP-RMP outlined above, the Secretariat will help facilitate support for Viet Nam's just energy transition efforts from the IPG and key stakeholders, including multilateral and bilateral development financial institutions, private sector and others;

24. That the JETP RMP will support Viet Nam to:

a) develop an ambitious and reliable long-term legal framework for the green transition of its economy, including through the use of pricing and regulatory instruments; which will include but is not limited to: making improvements to the regulatory framework to facilitate investment into renewable energy and energy efficiency and to strengthen the electricity grid in Viet Nam;

b) accelerate the decarbonisation of its electricity system from the current net-zero planning peak of 240 MtCO2e by 2035 with international support (down from 280 MtCO2e before COP26) towards reaching a peak of no more than 170 MtCO2e emissions from electricity generation by 2030 enabled by meaningful and strong support from IPG partners in terms of finance as outlined under paragraph 18 and all technologies to scale up the deployment of renewable energy and the management of clean power systems.

c) Work with Viet Nam and investors to reduce Viet Nam's project pipeline for coal-fired generation, currently standing at a planned capacity peak of 37GW, towards a peak of 30.2 GW, as well as providing a credible and ambitious emission reduction pathway to phasing out unabated coal-fired power generation after those dates.

d) accelerate the deployment of renewable energy and to develop the technical expertise to support and manage a grid increasingly powered by variable renewable energy, with the aim of enabling Viet Nam to sustain a reliable grid and move beyond the current planned figure of 36% towards at least 47% of electricity generation coming from renewables including wind, solar and hydroelectricity power by 2030, enabled by international support.

e) lead a just transition, in line with, inter alia, the ILO Declaration on Fundamental Principles and Rights at Work, to ensure all of society can benefit from a green transition to increase access to affordable energy and engage with relevant organisations and stakeholders to help meet the needs of those most affected by the green transition, such as workers and communities in sectors and areas affected by the transition;

f) develop and implement educational, vocational training and re-skilling programmes to develop necessary skills and competencies and support job creation for labour in sectors and regions affected by the transition, as well as other forms of support to ensure better living conditions for workers after the transition;

g) define the role of the private sector and create an enabling environment for businesses to proactively participate in the transformation process, such as de-risking credit, facilitating equity and bank finance, auctioning of permits, speeding up licensing, enhancing competition;

h) create opportunities for technological innovation and private investment to drive the creation of green and decent jobs as part of a prosperous low emission economy; and to design mechanisms to assist ensuring affordable electricity for affected, vulnerable and low-income groups;

i) negotiate - with the support of partners - the halting of investment in coal-fired power plants to deliver these goals, where appropriate;

j) negotiate the closure of old, inefficient unabated coal-fired power plants to facilitate access to clean energy;

k) develop the renewable energy industry including but not limited to developing renewable energy hubs, storage battery and renewable energy equipment manufacturing, and green hydrogen production, developing planning of offshore wind platforms combining with marine aquaculture and fishing logistics;

l) work towards the establishment of a centre of excellence for renewable energy in Viet Nam to share expertise, support the development of skills, technological and regulatory understanding and facilitate voluntary cooperation between Viet Nam and the private sector on technology transfer in order to accelerate and scale up the deployment of renewable energy and management of clean power systems in Viet Nam and the region;

m) realise multi-purpose land use for renewable energy production, agriculture, aquaculture to improve production and processing of agricultural products through improved accessibility to energy and create jobs for rural workers.

25. That a biennial review process will be developed to assess adherence to the top-line targets and the IPG support included in the Political Declaration, including to adjust those targets when necessary, and to the respective policy reforms aimed at facilitating greater levels of investment; they will ensure that the RMP under development supports the delivery of the highest levels of ambition and consider whether, with more finance from international partners, additional to that described in paragraph 18, Viet Nam could go further to align with a 1.5°C compatible trajectory.

26. This Political Declaration constitutes political commitments of the Government of Viet Nam and the members of the International Partners Group to be implemented in conformity with applicable regulations and laws. It is not a binding international agreement and does not give rise to rights and obligations under international law./.