Ministry of Foreign Affairs of Denmark (MFA)
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DANIDA

Country Programme Document
Danish Energy Partnership Programme III with Vietnam
2020 – 2025

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Abbreviations

BAU – Business as Usual
DKK – Danish Krone
DEA – Danish Energy Agency
DED – Development Engagement Document
DEPP – DEA Energy Partnership Programme (China, Mexico, South Africa, and Vietnam)
DOIT – Department of Industry and Trade
EESD – Energy Efficiency and Sustainable Development Department
EMP – Long-term Energy Master Plan
EOR19 – Vietnam Energy Outlook Report 2019
ERAV – Electricity Regulatory Authority of Vietnam
EREA – Electricity and Renewable Energy Authority
GDP – Gross domestic product
GHG – Greenhouse gas
GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit
GtG – Government to Government
GW – Giga Watt
LEEC – Vietnamese Law on Energy Efficiency and Conservation
LTA – Long-Term Advisor
MCEU – Ministry of Climate, Energy and Utilities of Denmark
MFA – Ministry of Foreign Affairs of Denmark
MOIT – Ministry of Industry and Trade
MTR – Mid-Term Review
NDC – Nationally Determined Contribution
NLDC – National Load Dispatch Centre
OECD-DAC – Organisation for Economic Co-operation and Development – Development Assistance Committee
PDP – Power Development Plan
RDE – Royal Danish Embassy
SDG – Sustainable Development Goal
SMART – Specific, Measurable, Achievable, Relevant and Time-bound.
TOE – Tons of Oil Equivalent
TSO – Transmission System Operator
USD – United States Dollars

1. Introduction

Vietnam has a population of approximately 96.2 million with a population density of 290 persons/km^2. Vietnam is the 45th largest economy in the world with an annual growth rate of 7% and a Gross Domestic Product (GDP) of USD (United States Dollars) 2,564 per capita. 2% of its population lives below poverty line (the USD 1.9 per person per day poverty line). According to World Resources Institute's CAIT Climate Data Explorer, Vietnam is the 33rd largest greenhouse gas emitter in the world.

The Vietnamese mainland has 3,260 km of coastline; the sea of the southern and south-central regions is considered one of the areas in Asia with the greatest potential for producing offshore wind energy.

Urban air pollution is critical in Vietnam and Hanoi is recently ranked as the most air polluted city in the world. Recognizing the global and local benefits of lowered carbon emissions and pollution abatement, Vietnam has put in place strategies and policies to advance green growth. The Government is aware of the need to lower the environmental footprint of the country's growth, to effectively mitigate and adapt to climate change, and that addressing these challenges also present opportunities to contribute to growth. As part of Vietnam's Nationally Determined Contribution (NDC) to the Paris Agreement in 2015, Vietnam committed unconditionally to an 8% reduction in greenhouse gas emissions by 2030 and a conditional reduction of 25%, depending on the level of international assistance.

Denmark is uniquely positioned to assist Vietnam to achieve these goals and even to increase the level of ambition. The Danish energy model is based on 40 years of transition and ambitious policy targets on renewable energy and energy efficiency and a proven, flexible energy system. Denmark has demonstrated that it is possible to combine economic growth with a parallel reduction of greenhouse gas (GHG) emissions and energy consumption. As a result, the Danish energy system has been adjudged the best in the world and the recent in-depth review of the Danish system by the IEA confirmed that Denmark has managed to green the energy system cost-effectively while keeping a safe and reliable energy supply.

Since 2012 the Danish Energy Agency (DEA) has been offering support covering a range of Denmark's experience from more than four decades of green energy transformation, and DEA now has a dedicated department for international activities from where it manages collaboration with 16 countries. The energy and climate cooperation with China, Vietnam, South Africa and Mexico was grouped into the Danish Energy Partnership Programme (DEPP I) in 2012. These are emerging economies and important players in the global energy landscape, representing almost one third of GHG emissions. Each of the countries had forecasted significant increases in energy consumption, and were facing key, strategic energy-related choices that would determine their energy future for decades to come. All countries have presented strategies and policies to reach ambitious climate and energy targets.

Prior to DEPP II, DEA shared Danish experiences with China, Vietnam, South Africa and Mexico as contributions to separate bilateral programmes. The government-to-government (GtG) modality was further introduced, consolidated and improved under DEPP II. The GtG modality has DEA as the primary driver for implementing a programme that is structured around sharing of long-established DEA expertise and knowledge and development of technical, legal and policy instruments in close collaboration with partners.

The refined GtG modality now features: a GtG Agreement outlining shared government goals for the cooperation; provision of technical advisory support offering counterparts wider access to Danish experience, expertise and technology solutions; continuous in-country presence through Long-Term Advisors (LTAs) with key-partner institutions; and, wider anchoring of programme objectives and results through high-level participation of both countries in programme steering and high-level policy dialogues facilitated by the Royal Danish Embassy (RDE).

The GtG modality has also proven successful in facilitating policy dialogue between Denmark and Vietnam at ministerial level, at National Assembly level, at Politburo level and in promoting climate diplomacy and operational ties between Vietnamese line ministries and Danish Ministry of Climate, Energy and Utilities and DEA in support of the efforts to achieve global climate change mitigation.

In Vietnam, Programme Management includes clear institutional structures based on a high-level steering committee hosted by vice-minister of Ministry of Industry and Trade (MOIT) and the Danish Ambassador to Vietnam.

2. Strategic considerations

In 2013, Vietnam and Denmark entered a long-term strategic partnership and cooperation agreement for the purpose of strengthening Vietnam's transition to a low-carbon economy.

Vietnam is among the transition and growth economies identified in the Danish Development Policy and Humanitarian Strategy, "The World in 2030" as being of paramount importance to achieving the Sustainable Development Goals (SDGs). In line with "The World 2030" the overall strategic objective of DEPP III will be achieved through GtG Cooperation in a partnership between equals, with peer-to-peer institutional exchange of experience at both policy and operational level. In Vietnam, the cooperation ranges from high-level policy dialogue promoting low-carbon economic development to technical support focusing on enabling frameworks and solutions for renewable energy and energy efficiency. This provide opportunities to showcase Danish experience from the energy sector and contributes to the Danish lead of the SDG 7 and to Danish Embassy in Hanoi as climate front post.

In accordance with the objective and principles of the Climate Envelope, priority in DEPP III will be given to interventions, where a transformational and sustainable shift from coal to renewable energy and increased energy efficiency can be achieved through enhanced policy frameworks and market structures in partner countries. Interventions will be delivered within four thematic areas where DEA has extensive competence and a comparative advantage over most other leading energy authorities. The four thematic areas adapted to a Vietnamese context are:

- Long-term energy modelling and planning
- Enhanced framework conditions for renewable energy, including offshore wind
- Integration of renewable energy and flexibility of the power sector
- Energy efficiency in the industrial sector

DEPP III will strengthen the partner countries in their global commitments on clean energy and climate through enhanced policy outreach and engagement with policy makers. Interventions with policy makers will be pursued as a complementary effort to the technical engagement with partners on renewable energy and energy efficiency. Interventions at both policy and technical level will promote a coherent and evidence-based framework for long-term decision making on low-carbon energy and climate.

Based on this the DEPP III's overall strategic objective is defined as:

> *The partnership countries achieve low carbon development, implement the Paris Agreement on Climate Change and continue upscaling and realising their NDC goals.*

Based on this the DEPP III's country objective for Vietnam is defined as:

> *Vietnam develops low carbon pathways related to energy in support of their NDC and Vietnam upscales NDC mitigation targets and related measures by 2025.*

DEPP III in Vietnam will continue with all three partnerships established under DEPP II. Vietnam is now ready for raising the level of ambitions on NDCs and DEPP III will support this effort, especially developing the Vietnamese Energy Outlook Report providing substantial input to the Vietnamese Power Development Plan (PDP) and the National Energy Master Plan (EMP). DEPP III in Vietnam will also put more emphasis on integration of renewable electricity especially from offshore wind and energy efficiency in the industrial sector at provincial level and develop an ambitious incentive scheme for energy efficiency.

Most of the DEPP III will be devoted to helping increase the amount of renewable energy used in electricity supplies and improve energy efficiency in the industrial sector. The significance of this is underlined by the United Nations Environment Programme GAP report from 2019 identifying "*Renewable energy electricity expansion*" as the sector with greatest GHG reduction potential and point at actions to plan for large shares of variable renewable energy; development of flexibility measures to take on larger shares of variable renewable energy in replacement

of coal, and; support for deployment of distributed energy; and an IEA report from 2019 highlights that *Energy efficiency calls for bold action by policy makers and investors.*

Box 1: Government to Government Cooperation as an effective tool of capacity development.

- The DEA is responsible for creating a well-informed and evidence-based environment for policy decision making for Denmark to meet the climate mitigation targets of the Danish Climate Act within the energy sector. The DEA is also responsible for formulation and implementation of energy related policies and regulation in Denmark.
- The DEA encompasses four decades of experience for promoting green growth by securing evidence-based decision making, formulation of policies and regulatory frameworks as well implementation of policies and regulation for the energy sector.
- DEPP III rests on the shoulders of a well-tested GtG modality for sharing valuable Danish competences on low carbon development and how to combine economic growth while reducing GHG emissions.
- DEA contains unique and hands-on experience for securing frontier levels of energy efficiency, long-term energy planning, favourable framework conditions for renewable energy, and integrating variable renewable energy and security of supply. To a large extent, these experiences are only available to DEPP III partner countries via the GtG modality as other development partners and consultancies do not hold such information.
- DEPP III provides access for partner countries to learn from Danish experiences through a peer-to-peer modality. The direct exchange between partner line ministries/agencies and DEA is to a large degree unrivalled and not provided by other development actors in the partner countries.
- The GtG modality and the DEA as representatives of the Danish central government provides high level of credibility and access to high-level decision makers in the partner countries. Recognised high level of credibility is also a driving force and clear commitment for DEA to deliver world-class expertise to partners under DEPP III.

DEPP III in Vietnam will be posting two LTAs at partner institutions under MOIT. LTAs have proven to be a critical element of the most successful interventions for capacity development under DEPP II. The LTAs deliver technical capacity to partner's organisations and contribute to fruitful and trust-based relationship between the partners and DEA. In addition to technical outputs and deliverables, the LTAs ensure that the programme support is well anchored and sustained within the partner institutions. Among other responsibilities, the LTAs will ensure that DEPP III activities match the needs and priorities of the partner institution. Based on these features, DEPP III will enhance and increase the capacity of the LTA function from one LTA under DEPP II to two LTAs under DEPP III.

A strategic dimension of the DEPP II and DEPP III is the support to off-shore wind energy. The Danish Energy Agency and the Electricity and Renewable Energy Authority of Vietnam (EREA) are currently preparing the input to a roadmap for offshore wind. The input to the roadmap consolidates the quantitative findings of the background analyses carried out - resource mapping and site selection, cost estimation and transmission grid analysis, among others - and supplements them with regulatory, consent and permitting, support scheme, supply chain and other critical elements to arrive at a set of recommendations aimed at kick-starting a successful offshore wind industry in Vietnam. Preliminary findings emphasise that Vietnam has a technical potential of 160 Giga Watt (GW) offshore wind capacity. There is currently intense activity in the Vietnamese wind market, which aims for up to 6 GW by 2030, which is the goal of the national government. Just recently the Danish developer Copenhagen Infrastructure Partners secured a deal to develop the 3.5 GW "La Gan" offshore wind project in Vietnam with local partners. The project is expected to cost up to Danish Kroner (DKK) 65 billion. DEPP III will continue to support Vietnamese authorities to develop their capacity to lead and manage offshore wind development and roll-out.

In addition to climate change mitigation, the DEPP III programme in Vietnam will include tangible contributions as well as co-benefits to sustainable development such as improved environmental conditions and health in large cities. The programme will also provide support for SDG 7 and SDG 13. Please see a description of sustainable development aspects and linkages to SDGs in section 4.4.

DEPP III will also support the Energy Sector Counsellor to inform and leverage the policy dialogue in Vietnam where RDE has been appointed as climate front line mission to promote the Danish Government's climate ambitions and solutions worldwide. To enhance the linkage between technical assistance and climate/economic diplomacy DEPP III is intended to serve as an operational mechanism to support this frontier position.

2.1 Strategic engagement and cooperation

Experience from the previous DEPP programmes has shown that although there are clear and demonstrable pathways to achieve cost-effective transition of the energy sector in parallel with enhanced economic growth, there are additional opportunities to make an incremental strategic push in direction of low carbon development in each DEPP III country by supporting DEPP III non-core partners. Therefore, to complement support to DEPP III partnerships, 6% of the DEPP III budget (DKK 15 million) is unallocated, reserved for Strategic Engagement and Cooperation (SEC) eligible for all four countries and aimed for activities with non-core partners.

The purpose of SEC is to support an enabling environment for informed decision making, policy dialogue, climate diplomacy and ultimately transformational change towards low carbon development of the energy sector by entering into new partnerships with civil society, the private sector actors, academia and multilateral organisations, and other complementary parties.

The approach is to strengthen participation in the discussion and information exchange around the low carbon energy development agenda in a variety of public forums through cooperation with technical and non-technical stakeholders, outside the core circle of existing partners. To support such activities, SEC funds are available at programme level to support SEC activities in the countries or regionally, in addition to the main DEPP III support through the established development engagements.

The SEC support contributes to achieving the strategic objective of DEPP III through the following overall outcome:

> *Low-carbon pathways, cost efficient NDC implementation and upscaling of NDC targets within the energy sector are enabled based on collaboration, exchange of information and awareness raising with non-core partners focusing on energy and climate change mitigation topics.*

The indicator for SEC is defined as number of strategic engagements with civil society, the private sector, academia and multilateral organisations conducted to support low carbon development, NDC implementation and upscaling of NDC targets in the country.

Based on the above outcome and indicator, SEC improves the enabling environment for technical and policy development on energy and climate change mitigation topics which will support accelerated implementation of current NDC targets and upscaling of future NDC targets. Due to the uniform focus on low carbon pathways, cost efficient NDC implementation and upscaling of NDC targets, the SEC outcome and activities with DEPP III non-core partners will contribute to the overall strategic objective and country objectives of DEPP III.

Themes to be supported by SEC may fall within the following areas of engagement:

- Enhanced policy dialogue and climate diplomacy on energy and climate change mitigation
- Enhanced cooperation and coordination with multilateral organisations, particularly Danish funded multilateral initiatives engaged in low carbon development in the partner countries
- Interaction with civil society regarding climate change mitigation, Just Transition, gender equality, public outreach and advocacy for low carbon development
- Support framework conditions for private sector engagement in support of the Paris Agreement, and SDG 7 and 13
- Enhanced cooperation with financial organisations to promote an enabling environment for investments in renewable energy and other areas in support of low carbon development in the partner country
- Increased cooperation and coordination with academia
- Increased south-to-south cooperation between DEPP III partners and other relevant actors

Identification of relevant themes will be a joint process between the RDE in Vietnam, the LTAs and the DEA. Formulation of specific work streams will be done in a joint process with DEA and the identified partner and opportunities to involve DEPP III partners will be explored.

An example of a relevant and potential SEC activity in Vietnam could be a collaboration with NGOs to arrange joint events/conferences/workshops at provincial level to disseminate results from the EORs and discuss how the green transition in Vietnam can be supported and strengthened from a grass-root level engaging provinces more directly in renewable energy and energy efficiency projects. The organizations each have their own take and approach to energy and climate, but almost unanimously say that they sense that the Vietnamese government has become more responsive to the green agenda and that they have easier access to high-level decision-makers. At the same time, there has been a great deal of recognition of the work with Vietnam Energy Outlook Report 2019 (EOR19), and recognize that DEPP in Vietnam has succeeded in being in contact with many different actors and thus gaining a lot of attention and support from stakeholders.

3. Justification for programme design

3.1 National sector development priorities and challenges

Vietnam's NDCs includes a mitigation and an adaptation component. The mitigation component includes both unconditional and conditional contributions. The unconditional contributions are measures that will be implemented using domestic resources, while the conditional contributions are measures that could be implemented if new and additional international financial support, technology transfer and capacity building are received. Vietnam's NDC identifies the GHG reduction pathway in the 2021-2030 period. With domestic resources GHG emissions will be reduced by 8% by 2030 compared to the Business as Usual scenario (BAU). The above-mentioned contribution could be increased up to 25% with international support.

Vietnam's NDC has the Ministry of Natural Resources and Environment (MONRE) as focal point to the United Nations Framework Convention on Climate Change (UNFCCC) and has been developed with the participation and contributions from different line ministries, non-governmental organisations, research institutions, business sector representatives as well as international development partners.

Box 2: The BAU and contributions in the Vietnamese NDC

BAU:
Vietnam's BAU scenario for GHG emissions was developed based on the assumption of economic growth in the absence of climate change policies. The BAU starts from 2010 (the latest year of the national GHG inventory) and includes the energy, agriculture, waste and Land Use, Land-Use Change and Forestry (LULUCF) sectors.

- GHG emissions in 2010: 246.8 million tCO2e
- Projections for 2020 and 2030 (not included industrial processes):
  - 2020: 474.1 million tCO2e
  - 2030: 787.4 million tCO2e

Unconditional contribution:
With domestic resources, by 2030 Vietnam will reduce GHG emissions by 8% compared to BAU, in which:

- Emission intensity per unit of GDP will be reduced by 20% compared to the 2010 levels;
- Forest cover will increase to the level of 45%.

Conditional contribution:
The above-mentioned 8% contribution could be increased to 25% if international support is received through bilateral and multilateral cooperation, as well as through the implementation of new mechanisms under the Global Climate Agreement, in which emission intensity per unit of GDP will be reduced by 30% compared to 2010 levels.

Vietnam recently announced its new NDC 2020 with commitment to unilaterally cut emissions until 2030 to 9% below 2014 national business-as-usual level and to 27% upon international assistance. Though it sounds more progressive than the former one, the new commitment shows limited ambition.

The new commitment refers to the 2014 base year instead of year 2010 in its first NDC when Vietnam committed to reduce 8-25% emissions equivalent to 62.7 – 198.2 MtCO2e respectively.

There is a slight increase in the new commitment with the absolute target for emissions reduction is of 9-27% and the absolute CO_2 reduction volume ranges from 83.9 – 250.8 MtCO2e. These figures show that focus until 2030 will be on reducing country's GHG intensity.

The Government of Vietnam has several key policies for sustainable energy development with four main pillars: Energy efficiency, renewable energy, energy market and climate change.

The current main policies for shaping the future energy development in Vietnam comprise:

- Law on Energy Efficiency and Conservation: promoting energy efficiency and conservation activities through regulations, standards and incentives.
- Electricity Law and Amendment of Electricity Law: prescribing the electricity development planning and investment; electricity saving; electricity markets and others.
- Vietnam Green Growth Strategy: introducing GHG reduction targets aiming to reducing fossil fuel and promoting renewable energy.
- Law on Environment Protection: promoting clean and renewable energy; environmental protection fee; environmental protection fund; strategic environmental assessment.
- Renewable Energy Development Strategy: setting renewable energy (RE) targets in energy and power sectors; supporting schemes for renewable energy development (e.g. feed-in tariff, net-metering etc.).
- National Program on Energy Efficiency and Conservation for the period 2019-2030: setting targets for reducing the final energy consumption compared to a business-as-usual baseline.
- Intended Nationally Determined Contributions: submitted to the Secretariat of the UNFCCC.
- The revised National Power Development Plan in the period 2016-2020 with the orientation to 2030 (revised PDP7): reducing the amount of coal power plants compared to PDP7, enhancing security and implementing innovations for new power plants.

Energy use in Vietnam is accelerating and the energy intensity of the economy is among the highest in the world. Vietnam's GHG-emissions almost tripled and its carbon intensity increased by 48% in the period from 2000 to 2010, resulting in the second highest carbon intensity in the region after China. The current PDP 7 predicts that, if current trends and policies remain unchanged, the share of coal for power will rise from 17% in 2010 to 53% by 2030. Electricity demand in Vietnam is expected to grow by about 10 percent annually to 2030, from 39 GW to 120 GW. Vietnam has recently become a net importer of coal, oil reserves are being depleted and are expected to drop significantly in the next five years and natural gas production has peaked, such that Vietnam will need to start importing liquid natural gas (LNG) in 2023.

Vietnam's vision is to reduce reliance on fossil fuel and encouraging the exploitation and use of renewable and low GHG emission energy sources, with emphasis on solar and offshore wind. The wider climate change and green growth policies are reinforced by the National Climate Change Action Plan and the National Green Growth Action Plan. The Renewable Energy Development Strategy sets overall renewable energy targets of increase of total production and use of renewable energy sources from approximately 25 million tons of oil equivalent (TOE) in 2015 to 37 million TOE in 2020 and 62 million TOE in 2030.

The revised version of PDP 7 prioritises the development of renewable energy sources for electricity production; increasing the proportion of electricity generated from renewable energy sources up to around 7% in 2020 and above 10% in 2030. A PDP 8 is under development with even higher ambitions.

The Government of Vietnam is very aware of their problems of increasing import dependence on energy, rising coal consumption, rising CO_2 emissions, lack of electricity capacity, inability to integrate renewable energy, air pollution in major cities, and the potential benefits of energy efficiency.

Vietnam is interested in learning from the Danish experience and committed to change, as they have seen from DEPP I and DEPP II that the GtG cooperation with DEA leads to tangible results in terms of capacity and policy development.

Long term energy modelling and planning is an essential part of this assistance in identifying and prioritising the most cost-efficient pathways to achieving the NDC targets within the energy sector. One of the DEPP II key components, namely energy modelling, with the publication of the EOR19, developed scenarios showing how the Vietnamese energy sector can evolve in a greener and more cost-effective direction. There is a widespread recognition that EOR19 is a key instrument in the country's future energy planning and therefore provides input to both the Communist Party's resolution for energy policy development, the forthcoming Power Development Plan 8 in 2020 and the upcoming Energy Master Plan.

Box 3: Vietnamese Energy Outlook Report – elevated policy dialogue and extensive capacity development

The Vietnamese Energy Outlook Report (EOR), developed through the partnership between DEA and the Vietnamese MOIT under DEPP II, presents the future Vietnamese energy system towards 2050, through various scenarios that include highly ambitious and sustainable development pathways in comparison with business-as-usual, and display consequences for air pollution and reliance on coal and oil import. Scenarios demonstrate how Vietnam can raise their NDC ambitions, which has led to a series of recommendations that include possibilities of large-scale renewable energy integration and energy efficiency savings.

The EOR was, through the partnership, published first time in 2017 and second time in 2019 with substantial media coverage. The recommendations in 2019 were presented to and discussed with high ranking decision-policy makers in Vietnam, including with the Chairman of the Central Economic Commission and the Chairman of the Commission for Science, Technology and Environment of the National Assembly. Results and recommendations from the EOR19 have been used directly in preparing the Power Development Plan 8 for Vietnam – a legal binding document for Vietnam's power system 2021 – 2030 with a vision towards 2045. In February 2020, Vietnam's Politburo released Resolution 55, which outlines renewable energy targets and guidelines for the development of the energy sector. A comparison with the EOR19 shows that Resolution 55 "inherited" several important recommendations from the EOR19, which in turn underlines the impact DEPP has in Vietnam.

The DEA-MOIT partnership, with peer-to-peer twinning and collaboration has been essential for development of the EOR, where DEA has contributed with extensive capacity development through training, technical dialogue and stakeholder consultation workshop, which has developed MOITs buy-in and ownership of the process and final product.

Capacity development of the Vietnamese partners in the free source computer model – Balmorel model, developed with Danish researchers – has been essential in analysing the extensive data that has been collected. A number of technical background reports have been produced to ensure the most reliable inputs. These include Vietnam Technology Catalogue; Fuel Price Projections; TIMES Data Report; Balmorel Data Report, and; Grid Modelling Report. Data presented in the EOR is based on extensive data collection, consultations and involvement of Vietnamese stakeholders and experts.

Denmark is a front runner on climate mitigation with one of the world's most ambitious climate laws, and DEA possess specials skills that are unique in assisting the partner countries in enhancing framework conditions for renewable energy electricity expansions as the intervention area with the greatest GHG reduction potential. As a consequence of limited enabling framework conditions in Vietnam, the price of renewable energy is significantly higher than in the EU. Denmark's support to improving the framework conditions for offshore wind energy is a vital driver to unlock the commercial potential for renewable energy and will establish a level playing fields in bidding for renewable energy concessions, which will enable fair competition where also Danish developers and power producers can participate.

Larger flexibility in the power system, including better forecasting with higher and smarter integration of renewable energy is an important avenue to a low carbon pathway. Through Denmark's Systems Operator (Energinet, an independent entity under the Danish Ministry of Climate Energy and Utility (MCEU)) Vietnam will get unique access to experts that can assist the national Systems Operation in optimizing renewable energy integration.

Limited flexibility in thermal power production and limited capacity to do forecasting of electricity production from solar and wind is also a constraint in the integration of renewable energy. This leads to significant curtailment (loss) of renewable energy and results in unnecessary release of CO_2 and significant loss of income for both government and private sector.

Energy efficiency is considered "first fuel" – a source of energy in its own right and much cheaper than investments in more complex and costly energy sources. According to IEA the demand for energy efficiency is growing and faster action on efficiency is both essential and achievable. Denmark has vast experience in energy efficiency and Danish experience suggests that a holistic set of policies – from incentives to regulation – sets out a clear trajectory and gives strong signals to the market. Denmark also possesses significant technical solutions from many years working in energy efficiency.

But also, Denmark will benefit from the support on several fronts. DEA's participation in development of more advanced energy and climate policy frameworks in several countries bring back valuable knowledge and inspiration for energy and climate policy frameworks in Denmark. And, often policy choices reflect differences in local circumstances, and the right solutions are those that fit with local conditions. This increases DEAs experience that may be utilized in Danish policy development.

DEA's close relationship with energy institutions in Vietnam can be leveraged in Denmark's policy dialogue with partners. DEPP III will provide easier access to several important decision makers for the RDE in Hanoi, now being a climate front post.

3.2 OECD-DAC quality criteria

The Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) has laid out six[1] evaluation criteria (relevance, effectiveness, efficiency, impact, coherence and sustainability) which have come to serve as the core reference for evaluating international cooperation projects and programmes. The DEPP III objective in Vietnam is that the country develops a sustainable and low carbon energy mix in accordance with its NDC targets, which will enable it to upscale NDC targets by 2025. This will be achieved through three development engagements that have been designed in close collaboration with partners to meet DAC criteria, i.e. to ensure that: all interventions should be relevant to the context, achieve their objectives, deliver results in an efficient way, and have positive impacts that last.

Relevance, the extent to which the activity is suited to the priorities and policies of the target group, recipient and donor: Vietnam's National Climate Change Action Plan and the National Green Growth Action Plan present a vision of reduced reliance on fossil fuel and increased use of renewable and low GHG emission energy sources, with emphasis on solar and offshore wind. In this context, the Government of Vietnam is very aware of their problems of increasing import dependence on energy, rising coal consumption, rising CO_2 emissions, lack of electricity capacity, inability to integrate renewable energy, air pollution in major cities, and the potential benefits of energy efficiency. The DEPP III and its Development Engagements are aligned to these Vietnamese Government policy objectives including its commitment to meeting its NDC targets and its focus on providing clean, affordable energy to all of its citizens and its strategic shift to renewable energy. Development Engagement 1 will consolidate and extend the work undertaken by DEPP II, using the EOR to show how increasing shares of renewable energy are cost-effective alternatives to meeting the Vietnamese NDCs while ensuring national security of supply. Development Engagement 2 will promote greater flexibility in the power system, reducing losses of energy, increasing the security of the market and ultimately lower GHG emissions, reduce pollution and strengthen national energy security. Development Engagement 3 will consolidate the work of DEPP II by ensuring that the Energy Efficiency Law is effectively implemented. In this way, these Development Engagements target key Vietnamese Government priorities, assist policy formulation and extend the support from DEPP II into on the ground implementation. They also make detailed and validated information available to other national and

[1] In 2019 one major new criterion – coherence – was added to better capture linkages, systems thinking, partnership dynamics, and complexity.

international stakeholders, increasing transparency, accountability and coherence in the energy sector. Following on from the design criteria of DEPP III, these interventions are in areas where Denmark adds value in terms of national strengths and competence, in particular in relation to renewable energy and energy efficiency in energy planning, and the reform of policy frameworks. The inputs required from DEA are well aligned with its core competences and its overall objectives for DEPP III.

Coherence, the compatibility of the intervention with other interventions in a country, sector or institution: There is a need for coherence, so that the synergies (or trade-offs) between policy areas can be identified, particularly with regard to the climate emergency. The programme in Vietnam pays great attention to the need to achieve energy transition whilst maintaining economic growth and impacting other priorities such as public health benefits of reduced air pollution, energy security and employment opportunities. By producing Energy Outlook reports, Development Engagement 1 facilitates the informed involvement of stakeholders, the general public and policy makers in a wider policy dialogues on energy sector planning. Development Engagement 2 helps national and regional planners and private sector investors to coordinate and optimise their management of power supply and Development Engagement 3 assists industrial regulators and operators to implement energy efficiency regimes. Thus, DEPP III addresses interlinkages between national progress to lower-carbon power systems and activities carried out by the other government institutions in the sector (so-called "internal coherence") as well as complementarity, and co-ordination with other Development Partners such as Asian Development Bank, World Bank, United States Agency for International Development, Japan International Cooperation Agency, and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and avoiding duplication of effort ("external coherence"). Vietnam actively engages with other development partners on the topics of climate change mitigation, energy efficiency and clean energy development. DEPP III formulation included meetings with these agencies to identify areas of synergy and avoid risks of duplication. Donor coordination is primarily done though the Vietnam Energy Partnership Group secretariat in Vietnam, which was created as a knowledge sharing and coordination platform for all major donors and further donor coordination will be conducted via the two LTAs in the Vietnamese partner institutions and the Energy Sector Counsellor and the DEPP Programme Officer at the RDE in Hanoi.

Effectiveness, the extent to which an activity attains its objectives: Priority of the DEPP III is given to interventions where transformational change to renewable energy and energy planning can lead to cost-neutral or even financially advantageous changes to policies and market structures. Development Engagement1 will consolidate and extend the work undertaken by DEPP II and deepen Vietnamese planners' understanding of climate change drivers and concepts of externalities so that they can more effectively address climate change as part of the quantitative energy system modelling. This includes particularly changes to existing systems and structures where partners have already expressed the desire to implement reform, including in policy, plans and technological renewal.

Efficiency, the use of the least costly resources in order to achieve the desired results: The cooperation in Vietnam builds upon the relationships established in the DEPP programmes since 2012, ensuring that the approaches and methodologies are driven by partner demand, and have already been tested and deemed fit-for-purpose. This will ensure reduced establishment costs and economies of scale. The partnership approach where the technical advice on each assignment is directly paired with a peer partner in the institution of the Development Engagement have been expressed by partners to be the preferred option, because it, unlike other development partners support, generates flexibility, is tailor-made to the institutions specific needs and it provides direct input to the partner institutions mandates.

Impact, the effects on social, economic, environmental and other development indicators: Vietnam has been identified as a country with a very high potential for reduction of GHG emissions. If successfully implemented, DEPP III will lead to increasing shares of renewable energy, with more reliable and stable electricity supply from the grid. DEPP III has been developed specifically to consolidate and extend the work undertaken by DEPP II to strengthen energy efficiency regulation enforcement and compliance in industries at provincial level by helping to implement the Law on Energy Efficiency and Conservation. The impacts will make a contribution not only towards the global aim of limiting global temperature rise but would also help indirectly to generate more jobs and reduce poverty, reduce air pollution thereby contributing to public health, and improve governance with the opening up of policy formulation to public scrutiny through regional and national energy outlook reports.

4. Presentation of the programme

4.1 Justification of choice of partners and criteria used

DEPP III builds on the progress achieved and the lessons learned from DEPP II. It is therefore clearly advantageous to continue working with the same partners to benefit from previous knowledge of and working relationships with the partner and to consolidate the achievements. Key criteria for partner selection still apply, however. These include:

- Relevance of authority and mandate regarding energy and climate policy development
- Demand from relevant national sector leaders and from the agency itself for the competences and modality of cooperation offered by the Danish Energy Agency
- Mandates that directly address the key objectives of the DEPP III
- Capacity to engage in a cooperation programme at the ambition level agreed
- Ability to use the inputs to achieve the desired outcomes either directly or by influencing policy, planning or legislation
- Priority and need in relation to the DEPP objectives and the national context in which they operate
- Acceptable level of risk that the programme can be implemented and that the Theory of Change will be valid

DEA's primary collaborative authority in the DEPP II has been the Vietnamese MOIT. MOIT is the governmental agency responsible for state management of industry and trade including electricity, renewable energy, oil and gas and energy efficiency. The Development Engagements in Vietnam in DEPP II were with three organisations that operate under the umbrella of MOIT, namely, Electricity and Renewable Energy Authority (EREA), Electricity Regulatory Authority of Vietnam (ERAV) and the Energy Efficiency and Sustainable Development Department (EESD). One LTA has been operating out of MOIT for most of this period.

Partners' engagement and readiness to receive technical assistance is briefly explained below.

- EREA is responsible for overall planning of the Vietnamese energy system, including planning and approval renewable energy, including off-shore wind. Furthermore, EREA is responsible for developing the national PDP and EMP.
- ERAV is responsible for ensuring development of a competitive power market, renew and develop the power system regulations framework and responsible for developing and implementation of the road map for the power market reform in Vietnam. All areas are important to take into consideration, when applying the tools developed in the engagement to ensure that system operators are able to make their own forecasting of renewable energy (e.g. solar and wind) utilizing information in daily operation and updated grid codes.
- EESD is responsible for the delivery of the Vietnam National Energy Efficiency Program 3 (VNEEP3), including national energy efficiency targets. Furthermore, EESD has to ensure that regulation is in place and after demonstrating the effects of the engagement at provincial level VNEEP can be rolled out nation-wide without further support.

Cooperation between the Danish and Vietnamese partners has been good, and both sides have expressed great satisfaction with the results so far. All the selection criteria continue to be met and no other candidates have been identified that could match the criteria or the objectives of DEPP III as well as do the current partners. Therefore, DEPP III will continue with the same development partners.

4.2 Integration of results and lessons learned from previous cooperation

The GtG modality for the cooperation is valuable and highly appreciated by the partners. The high level of continuity from the previous phases of collaboration has considerable advantages, and long-term technical cooperation can create possibilities for further bilateral relations. The demand-responsive approach, whereby DEA adjusts to changing political situations and urgent needs, was confirmed by partners to be extremely important and increased the value of DEA's support. MFA sees DEPP III as a strategically important programme for Denmark and Vietnam, and as a platform to facilitate bilateral climate diplomacy.

It is too early to assess the outcome of DEPP II but there have been highly valuable outputs and indicators of long-term success including the following:

- An extremely valuable output was the EOR19. The report describes how Vietnam can meet the country's NDC in five detailed and data-rich scenarios. It further demonstrates that Vietnam can make its energy system cheaper and greener, saving up to 370 million tons of CO_2 annually by 2050. This corresponds to more than 10 times as much as Denmark's current annual emissions from the energy sector.
- The completion and publication of Vietnam's first technology catalogue. The Technology Catalogue contains high-quality data based on input from open consultations with energy sector stakeholders in Vietnam. Training seminars in modelling, data collection and validation, as well as the adaptation to the Vietnamese context, are used to prepare scenarios for long-term planning of the energy sector.
- The practical implementation of integrating renewable energy in the power grid with the advice from the Danish Transmission System Operator (TSO) Energinet. This direct twinning between ERAV/National Load Dispatch Centre (NLDC) and Energinet incl. expert-to-expert meetings in both at missions in Vietnam and at internships at Energinet in Denmark is a unique strength in the DEPP and will continue to provide value going forward.
- The Danish programme has also been instrumental to develop the capacity of the EESD on energy efficiency, to work with Department of Industry and Trade (DOITs) to strengthen and comply with regulation in two partner provinces in the north and south as well as all other provinces of Vietnam. The programme also works with large energy intensive industries to demonstrate the merits of conducting energy efficiency audits, establishing energy efficiency benchmarks and developing 1-year and 5-year Energy Efficiency Plans. Finally, the Danish support has assisted MOIT in implementing and enforcing the Law on Energy Efficiency and Conservation (LEEC) including development of administrative procedure and guidelines for DOITs and recommended specific changes in legal documents to improve the regulatory framework. DEPP III builds on the current phase with regard to development of incentives schemes for energy efficiency investments in large industries inspired by Danish regulatory experience.

The Mid-term review (MTR) of the DEPP II carried out in the spring of 2019 confirmed that DEPP II is a pertinent vehicle for facilitating long-lasting energy cooperation between Denmark and the partner countries. The MTR also found the programme highly relevant for partner countries' efforts to realise national policies and targets to reduce GHG emissions and to undertake a green energy transition. The MTR verified the technical focus areas as highly relevant to support further uptake of renewable energy in the countries.

The focus of DEA on its four thematic areas of cutting-edge expertise has been successful. MTR and national partners found the programme highly relevant in all countries. MTR also found that the inputs to national energy planning, improved framework conditions for renewable energy, integration of renewable energy and energy efficiency are highly relevant topics that facilitate a more efficient way of reaching the politically determined energy transition targets in the countries. It also acknowledged that DEPP II efforts to enhance the ability of a partner to carry out successfully a particular task or function were considered a success by partners.

The MTR also made recommendations for improving the DEPP II programme and enhancing future cooperation in Vietnam, including the following:

- Consider a more refined approach to the LTA function in partner institutions
- Review the appropriate balance between in-house staff from DEA/Energinet and consultants.
- Simplify the management set up.
- Adopt a more systematic and consistent approach to capacity development.

To the extent possible, the recommendations from the MTR are currently being implemented under DEPP II and will be carried over to DEPP III. The review of capacity development in DEPP II has informed the formulation of DEPP III, and has influenced every aspect of DEPP III including the Theory of Change, the selection of partners; the formulation of the Development Engagements, the use of advisors; the results framework, the targets and indicators; the implementation manual and the reporting.

4.2.1 Approach to capacity development

DEPP III will, in its capacity development approach, make use of the following:

Preserve and Reinforce the Successful Elements of Capacity Development: The focus on transfer of knowledge will continue in DEPP III under the GtG modality. The successful tools and techniques adopted in DEPP II will

be continued with an aim to strengthen the capacity of individuals and partner institutions to accommodate the partner's priorities for low carbon development. Tools and techniques include peer-to-peer exchange with partner institutions; twinning of national and Danish specialists; expert-to-expert on the job training; training courses; lectures from invited specialists; seminars that might include a wider range of stakeholders; joint provision of technical information, analytical studies, manuals and guidance; and, exposure of partners to new approaches through study tours and field visits. All tools and techniques will be contextualized to the partners needs and will cater for a wider institutionalization of the approach for capacity development.

More emphasis will be placed on techniques that may become more valuable in DEPP III. This includes exploring options for partner institutions to adopt and apply provided relevant tools or content as part of their internal procedures in order to promote self-driven capacity development within the institution. Also, tools and content for capacity development will to the extent possible be scalable and replicable whereby partner institutions can use it outside DEPP III.

Additionally, DEPP III will include more emphasis on policy dialogue aimed at reinforcing the enabling environment for transformation; awareness raising aimed at further policy outreach; knowledge management which ensures that learning, change and development are retained when staff move; research could be developed without much cost to the programme by networking with universities to contribute to dissemination of good practice and amplify the overall effectiveness of the programme; and, organisational strengthening where necessary to remove barriers to reform, and acceptable to the partner.

Formulation of capacity development activities: Capacity development activities will be formulated as part of the Terms of Reference (ToR) for each medium to long-term activity in direct collaboration with partners. ToRs will include particular attention to documenting the needs of the partner, clearly setting out the scope and objectives of the capacity development activities and reaffirming that indicators, set out in the Development Engagement Documents (DEDs) capture the capacity development aspect and are Specific, Measurable, Achievable, Relevant and Time-bound (SMART).

Sustainability of institutional capacity: Establishment of an enduring institutional capacity is designed into programme objectives and targets. The necessity of institutional development and the ways in which this can be assured will also be incorporated into implementation manuals, LTA ToRs, consultant ToRs, monitoring systems and dialogues during the Steering Committee meetings.

Reinforcement of reporting, monitoring, and evaluation: Capacity development interventions will be monitored against indicators as defined the DEDs. Applied indicators will ensure progress and internal quality control towards the objectives of these interventions. The MTR of DEPP III will assess the long-term sustainability of capacity within institutions and guide any required adjustments within the programme.

Applied ToRs for individual assignments under DEPP III will include SMART indicators addressing capacity development. The indicators and collected values will be applied to underpin the overall progress towards expected outputs and outcomes.

A narrative reporting on capacity development within each Development Engagement will be part of the reporting to the Advisory Group as part of standard reporting format. In addition, the DEPP III will explore options for reporting on capacity development as separate topic to the Steering Committees. The likely reactions of each national partner to receiving a separate section reporting on capacity development activities and impacts will be assessed by the Danish Embassy and DEA. The decision on whether to present this information to the Steering Committees will be determined on a case-by-case basis.

Use a greater range of technical assistance delivery mechanisms: The 5-year duration of DEPP III may give rise to opportunities to use techniques such as exposure events and the promotion of research to supplement core activities and to extend the influence and sustainability of the programme.

Use of external consultants for replicating tasks: DEPP III, with its greater emphasis on roll-out to the regions may need to make greater use of training courses. These may be delivered by the DEA staff, by external agencies, or a train-the-trainers approach may be adopted. External consultants will, in addition to specific technical inputs, be considered for replicating tasks that do not require DEA specialist expertise.

Dissemination, awareness raising, and lesson learning: There will be more dissemination and awareness raising in DEPP III to spread good practice, by facilitating awareness raising events and by providing access to information for development of academic papers, research, etc. When an opportunity occurs, south-south exchanges between the partner countries will be facilitated. The custom of developing "good practice" or "impact papers" will be continued with dissemination through the DEA strategic communications focal point.

4.3 Theory of Change and key assumptions

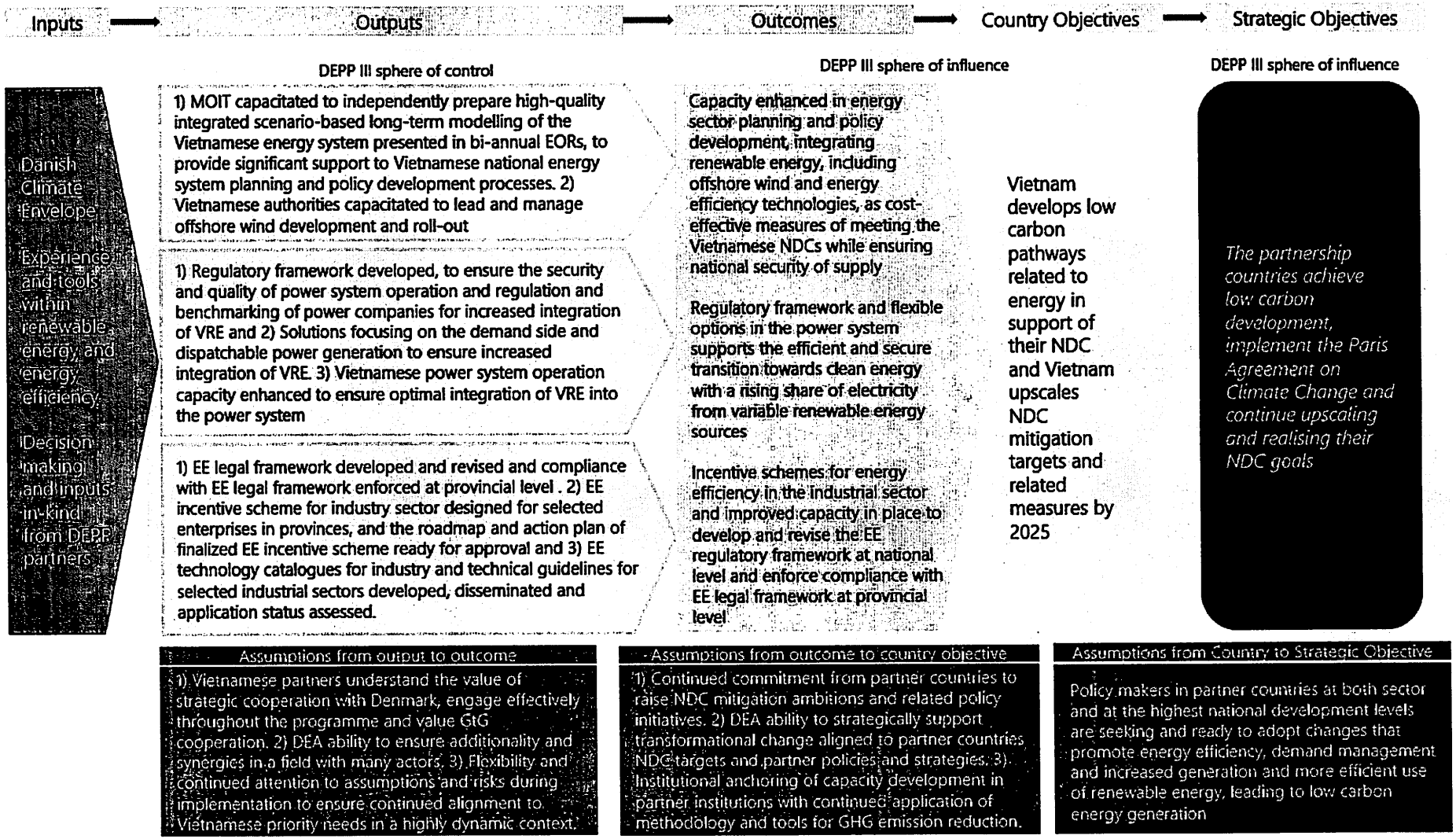


Figure 1 Results and ToC framework

The Theory of Change and results framework rests on the assumption that policy makers in partner institutions at sector and at national and provincial development levels are seeking and ready to adopt changes that promote renewable energy and energy efficiency, leading to a low carbon energy pathway.

Risks to the effective realisation of this ToC are that: poor political commitment and leadership to retain a low carbon development pathway through renewable energy and energy efficiency; limited political and managerial mandate or abilities to implement policies, strategies and plans supporting green initiatives; lack of knowledge on financial competitiveness of renewable energy and energy efficiency and how Just Transition, incl. job creation, can be achieved.

4.4 Summary of development engagements and sustainable development

4.4.1 Capacity development for long-range energy sector planning

This Development Engagement describes cooperation in capacity development for long-range energy sector planning between EREA and DEA. It will consolidate and extend the work undertaken by DEPP II which supported EREA in scenario development and development of the biennial Energy Outlook Report (EOR), published for the first time in 2017 with the latest version issued in 2019. The new Development Engagement will use the biennial publication of the EOR to present energy system scenarios that show how with increasing shares of renewable energy, including offshore wind and energy efficient technologies are cost-effective alternatives to meeting the Vietnamese NDCs while ensuring national security of supply. This will be a key part of involving stakeholders, the general public and policy makers in a wider policy dialogues on energy sector planning. At the same time EREA will deepen its understanding of climate change drivers and concepts of externalities to be able to incorporate and address climate change as part of the quantitative energy system modelling. In parallel, the Development Engagement will assist authorities to lead and manage offshore wind energy development by helping prepare a regulatory framework, technical standards and design an auctioning scheme for the roll-out of offshore wind electricity.

One of the most important tools to address the challenges and influence policy action is the development of Energy Outlook Reports (EOR) for Vietnam. The EORs are based on well-documented and detailed modelling of the energy system. The latest EOR19 provides a scenario-based foundation for policy action by shedding light on the development of the energy system towards 2050. Thereby, the EOR19 intends to guide policy makers and inspire deliberation on green transition, while delivering concrete input to the forthcoming PDP8 and the Energy Master Plan. EOR19 also included perspectives regarding poverty reduction, socio-economic development including health benefits, and job creation.

EORs will continue to be developed in DEPPIII with the purpose to guide decision makers and energy planners to achieve a sustainable green transmission of the energy system and to foster a wide consensus and understanding of Vietnam's energy challenges and opportunities in the long term. The EORs will focus more on pollution costs of fossil fuels requiring a thorough study and methodology to estimate health costs (increased health expense, reduced quality of life, reduced life expectancy and more) related to fossil fuels. These costs will be incorporated in the optimization procedure of the energy models.

EORs to be developed in DEPPIII will also focus more on financing the green transition and highlight what financial requirements (investments, market barriers, financing sources and more) would be needed to support and realize the scenarios from the energy modelling. The aim of the work is also to advise on the rate of investments for different technologies used in the modelling (e.g. is it expected that the cost of financing of fossil fuels will increase over time due to lack of willing investors and risk of stranded assets resulting in increased risk premium) and if possible also identify the most mature projects and bring these forward to investment funds like IFU/Danida Business Finance or alike. Enhancing the financing framework is expected to lead to increased job creation in the renewable energy and energy efficiency sector in Vietnam.

EORs can be used directly or indirectly to support policy makers in achieving "SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all" and "SDG 13 - Take urgent action to combat climate change and its impacts" incl. achieving specific targets and indicators (e.g. assist partner countries in energy planning, integration of renewable energy and framework conditions for promoting cost efficient renewable energy which will promote a more efficient energy system and supporting Vietnamese partners in formulating strategies, plans or initiatives for low greenhouse gas emissions development).

Furthermore, EORs will enable EREA to lead the effort to evaluate, revise and influence national policies towards decarbonization of power production and adopting more ambitious NDC targets without compromising security of energy supply.

Air pollution in the larger cities of Vietnam today poses significant health risks. Data from the WHO state that more than 60,000 deaths in Vietnam are linked to air pollution (WHO, 2018). In 2016, the mean values of fine particle concentration PM2.5, which is considered one of the most dangerous forms of pollution, were almost five times higher in Hanoi than the values recommended by WHO. The close link between energy consumption and air pollution makes this an area of high relevance for energy system planning. Key findings from EOR19 shows that emissions from coal in the power sector impose a large health cost on society. In 2030 all scenarios result in a health cost of pollution in the range of 7-9 billion USD. Hence, EOR19 recommends to tighten air pollution control measures in power generation and industry and include health costs of pollution in energy system modelling and planning, including PDP8. Health costs already today impose a large cost on society, and pollution from power plants is rising. Health externalities are often not considered in economical evaluations of energy planning.

4.4.2 Capacity development for renewable energy integration into the power system

This Development Engagement describes cooperation in capacity development for renewable Energy Integration into the power system between ERAV and DEA. It will consolidate and extend the work undertaken by DEPP II through which the Danish TSO Energinet supported ERAV and system operators in modelling and understanding the practical implementation of integrating renewable energy in the power grid.

In DEPP III, through Energinet, Vietnam will get unique access to experts that can assist ERAV and system operators in optimizing renewable energy integration. The assistance will include: promotion of greater flexibility in the power system, removing constraints on the integration of renewable energy and thus reducing the losses caused by "curtailment" (where energy from variable sources, such as wind and solar, cannot be used in the grid and is therefore wasted) which results in unnecessary release of CO_2 and significant loss of income for both government and private sector; development of a regulatory framework that will ensure the security and quality of power system operation and permit increased integration of variable renewable energy into the network, including technical requirements for connection to, and use of, the grid (so-called "Grid Codes"); assistance in and updating solutions for flexibility in power generation and demand-response to optimise variable renewable energy integration; and, assistance to ERAV and NLDC in the design and application of forecasting and monitoring tools for optimal variable renewable energy integration.

The result will be that the share of variable renewable energy in the Vietnamese energy mix will be significantly increased. Losses of energy will be reduced and the security and predictability of the market and the access to the grid will encourage the private sector to invest more in renewable energy. The overall outcome will be a faster transition towards a low carbon energy system, lower GHG emissions, reduce pollution and greater national energy security.

A more flexible energy system with low curtailment rates will ultimately contribute to lower energy intensity of the economy (less energy is used per unit of GDP) and increase the share of renewable energy in the final energy consumption supporting SDG 7 but also raise awareness the socio economic negative impact caused by "losses of energy" and the climate benefits that could be achieved by designing and operating a low carbon grid. This can be done through training and development of the human and institutional capacity of the authorities in Vietnam responsible for operating the grid and by ensuring a market-based energy system giving priority to renewable energy in the national grid ultimately supporting SDG 13.

Furthermore, a more flexible energy system with higher shares of renewable energy will enable ERAV to provide the necessary basis for making it possible for Vietnam to adopt more ambitious NDC targets without compromising security of energy supply.

It's important to stress the close link between Development Engagement 1 and Development Engagement 2. Hence, a more flexible grid and the capacity to integrate RE is a prerequisite for reaching the renewable energy targets set out in the EOR. Furthermore, the socio-economic benefits (e.g. reduced air pollution, health benefits, job creation) of Development Engagement 2-activities will be included in the energy models.

4.4.3 Low carbon development in the industrial sector

This Development Engagement describes cooperation in low carbon development in the industrial sector between EESD and DEA. It will consolidate and extend the work undertaken by DEPP II which helped to revise the LEEC to strengthen energy efficiency regulation enforcement and compliance in industries at provincial level and pilot implementation in two partner provinces. The proposed Development Engagement will extend implementation with the energy efficiency regulatory framework at national and provincial level. It will introduce incentive schemes to encourage compliance with the law and develop procedures, guidelines, tools and templates that guide industry on monitoring and reporting their energy use. Finally, it will help produce technical catalogues and guidelines for selected industrial sectors that will identify modern available technologies for energy efficiency.

This three-pronged approach: regulation, incentivising compliance and providing technical support to comply, is expected to ensure that the EE law is effectively implemented in all provinces by 2025 and that the target of the law, and the Development Engagement target of 80% of enterprises in target provinces complying with energy benchmarking regulations by 2025, are met.

Energy efficiency is key to the transformation of energy systems and it is estimated that energy efficiency will play a critical role in limiting the growth of world energy demand to one third by 20402. Energy efficiency can for example help to reduce energy expenditure and bring down the per-unit cost of lighting, heating, refrigeration and other services. It can also help reduce pollution and greenhouse gas emissions.

A more efficient energy system will ultimately contribute to lower energy intensity of the economy (less energy is used per unit of GDP) supporting SDG 7 but also raise awareness towards energy efficiency through training and development of the human and institutional capacity to implement Vietnams ambitious energy efficiency-legislation at federal and provincial level supporting SDG 13.

Furthermore, an energy efficient and low carbon industrial sector will enable EESD to provide the necessary basis for making it possible for Vietnam to adopt more ambitious NDC targets without compromising security of energy supply.

Enhanced energy efficiency offers a unique opportunity to reconcile economic competitiveness with sustainable development, and simultaneously reduces the cost of energy and increases productivity. Improvements in residential and public sectors, for example, have delivered a wide range of social, environmental and economic benefits, including energy security, job creation, poverty alleviation, improved health, and reduced greenhouse gas emission.

It's important to stress the close link between Development Engagement 1 and Development Engagement 3. Hence, a more energy efficient industrial sector in Vietnam is a prerequisite for reaching the energy efficiency targets set out in the EOR. Furthermore, the socio-economic benefits (e.g. reduced air pollution, health benefits, job creation) of Development Engagement 3-activities will be included in the energy models.

4.5 Results Framework, outcome indicators, monitoring and evaluation

Programme	Danish Energy Partnership Programme Phase III with Vietnam
Country Programme Objective	Vietnam develops low carbon pathways related to energy in support of their NDC and Vietnam upscales NDC mitigation targets and related measures by 2025.

Development Engagement 1	Capacity Development for long-range energy sector planning
Outcome	Capacity enhanced in energy sector planning and policy development, integrating renewable energy, including offshore wind and energy efficiency technologies, as cost-effective measures of meeting the Vietnamese NDCs while ensuring national security of supply
Outcome indicator	Sustainable pathways from developed scenarios with increasing shares of renewable energy, including offshore wind and energy efficient technologies presented in the EOR, are applied within national energy and power planning and policy development.

[2] IEA, 2015, World Energy Outlook.

Output 1	MOIT capacitated to independently prepare high-quality integrated scenario-based long-term modelling of the Vietnamese energy system presented in biennial EORs, to provide significant support to Vietnamese national energy system planning and policy development processes
Output 2	Vietnamese authorities capacitated to lead and manage offshore wind (OSW) development and roll-out

Development Engagement 2	Capacity Development for Renewable Energy Integration into the Power System
Outcome	Regulatory framework and flexible options in the power system supports the efficient and secure transition towards clean energy with a rising share of electricity from variable renewable energy sources
Outcome indicator	Transparent regulatory framework in line with international standards in place for efficient, secure and market-based integration of variable renewable energy generation in the power system
Output 1	Regulatory framework developed, to ensure the security and quality of power system operation and regulation and benchmarking of power companies[3] for increased integration of variable renewable energy
Output 2	Solutions focusing on the demand side and dispatchable power generation to ensure increased integration of variable renewable energy
Output 3	Vietnamese power system operation capacity enhanced to ensure optimal integration of variable renewable energy into the power system

Development Engagement 3	Low carbon development in the industrial sector
Outcome	Incentive schemes for energy efficiency in the industrial sector and improved capacity in place to develop and revise the energy efficiency regulatory framework at national level and enforce compliance with energy efficiency legal framework at provincial level
Outcome indicator	Energy efficiency regulatory framework under effective implementation at national and provincial level and incentive schemes in place for industries
Output 1	Energy efficiency legal framework developed and revised, and compliance with energy efficiency legal framework enforced at provincial level
Output 2	Energy efficiency incentive scheme for industry sector designed for selected enterprises in provinces, and the roadmap and action plan of finalized energy efficiency incentive scheme ready for approval
Output 3	Energy efficiency technology catalogues for industry and technical guidelines for selected industrial sectors developed, disseminated and application status assessed

Daily progress will be followed by the Development Engagement partners and DEA, who will report progress towards outputs and outcome of each engagement through annual progress reporting to the Steering Committee. All reporting should, to the extent possible and when relevant, be disaggregated by gender, area, sector, etc. and forwarded to the DEPP III Advisory Group in Copenhagen, which follow the overall DEPP III Implementation Manual.

Detailed indicators for each specific Development Engagement output will be revisited and potentially refined as part of the inception, where annual targets, in line with already defined targets will be adjusted with reference to the guidelines for monitoring of the Danish Climate Envelope. Monitoring towards these targets will be reported through the bi-annual progress reporting using a "traffic-light" system, where:

- "green" is on-track – implementation progresses as scheduled
- "yellow" is partly on-track, which needs an explanation by the partner and DEA including actions taken to get back on-track

[3] Power companies are stakeholders operating power system such as NLDC, PCs, NPT

- "red" is off-track, which needs a detailed explanation by the partner and DEA to the Steering Committee with recommendations of changes to the implementation to get the engagement back on-track. If "red" in two consecutive reporting periods, the Steering Committee may consider reallocation between outputs within or between the Development Engagements as deemed relevant

Monitoring of actual budget spent by international and national TA will be reported in the annual progress reports by DEA, which will include an updated work plan and a projection of TA input for the following 12 months. Similar reporting will be done for others costs related to missions, workshops and study-tours.

Ministry of Foreign Affairs of Denmark (MFA) shall have the right to carry out any technical mission that is considered necessary to monitor the implementation of the programme. This includes a mid-term review. After the termination of the programme support MFA reserves the right to carry out evaluation in accordance with this article.

4.6 Summary of risk analysis and risk response

Programmatic risks to DEPP III relate to the possibilities that, due to economic dislocations, internal financial disruption, or simply due to political realignment, government development priorities change, and therefore political commitment to low carbon development is reduced, or the ability of partners to devote resources to programme activities is impeded. In Vietnam, these eventualities are considered to be unlikely because major achievements arising from DEPP II have confirmed the value of the cooperation to high level policy makers. Nevertheless, the risks will be mitigated through continued dialogue with Government, and through targeted engagements that support a long-term sustainability and a low carbon pathway, whilst demonstrating immediate benefits in terms of security of energy supply. Risk is further mitigated through a flexible approach to provision of technical input, allowing support to be temporarily suspended or reallocated quickly and ensuring that any delays do not waste resources.

DEPP III will continue to work at provincial level with local partner provinces especially related to energy efficiency in the industrial sector. The programmatic risk is that provincial level authorities do not give the appropriate priority to enforce energy efficiency regulations on their local industries. At provincial level partners may not be as fully committed to low carbon energy as at the centre, and provincial authorities are very highly motivated to maintain growth. They may see energy efficiency as a threat to growth. In order to reduce impact of this risk the pilot provinces for the engagement will be selected based, in part, on their demand for support. Also, part of the capacity development is to develop awareness of the economic and environmental advantages of low carbon technology. The residual risk is considered minor.

The Institutional risks of DEPP III in Vietnam are that the reputations of DEA, MCEU, and the MFA are damaged because the programme fails to deliver its outcomes; or, that programme activities become associated with fraud, corruption or human rights violations. These are unlikely and programme design takes the mitigation of these risks into account. Screening for possible human rights issues or environmental issues will be carried out in advance. Potentially risky interventions will be identified and addressed at this stage. Since the budget is in control of the DEA, mainly allocated for TA provision from Denmark, the potential for misuse of funds or attribution of improperly safeguarded development to the programme will be insignificant and residual risk is minor.

The Covid-19 pandemic introduces a special layer of risks, of significant impact to the programme, and which are both programmatic and contextual. In terms of the programmatic aspect of the introduced risks, the pandemic has the chance to severely disrupt the possibilities of travel between Denmark and Vietnam. Additionally, lockdowns due to new waves of infection may affect the operational engagement of partner institutions due to situations like staff working from home. Similar situations are being addressed during DEPP II, which has provided valuable lessons and optimistic results regarding the ability to perform programme activities virtually. While not the preferred approach, an online virtual approach for partner interaction has proven a realistic and effective way to ensure the development of the cooperation in case further disruptions due to the pandemic come to happen.

The other dimension of the Covid-19 pandemic are contextual risks. Particularly, that the Covid-19 pandemic can cause severe economic disruption in partner countries. This economic disruption could last for several months or more, and can have a significant impact on the Government's and private sector's investments in renewable energy and energy efficiency due to changed priorities. The planned response to such a risk is to ensure close monitoring of the situation and its effects on partner countries, in conjunction with partner institutions. In this manner,

engagement with partners and other stakeholders can be carried out displaying the potential for a sustainable recovery, when low carbon development becomes an integral part of the economic recovery plans.

5. Overview of programme management setup

The management set-up will be kept as simple and lean as possible. It will consist of a strategic level and an operational level to ensure efficient accountability mechanism for progress and results as well as an effective mechanism for giving strategic directions to the programme. The implementation manual of DEPP II will be adjusted to the new phase and serve as a management guideline under DEPP III.

An Implementation Group for each Development Engagement will manage daily implementation of the annual work programmes and will consist of focal points from the partner institution, DEA, the relevant LTA and RDE. The Implementation Groups will guide daily implementation and meet on a needs basis, and will: i) develop annual work programmes and progress reports for the Development Engagements, matching priorities in the partners work programmes, ii) determine need for Technical Assistance (TA) inputs from DEA experts, LTAs, Senior Programme Officer and Energy Sector Counsellor, international and national consultants and develop TA procurement plans; iii) draft and approve TORs for TA and; iv) monitor and coordinate day-to-day progress of Development Engagement implementation and; v) approve deliverables of TA. The Implementation Groups report on Development Engagements to the Steering Committee.

A Steering Committee is established and anticipated to meet once to twice per year and is a forum for high level policy dialogue in addition to setting direction for programme implementation. The Steering Committee should be co-chaired by the Minister or Vice Minister of Industry and Trade and the Danish Ambassador to Vietnam and include a representative from Danish Energy Agency and heads/deputy heads of departments for the Development Engagement partner institutions. Its main task will be to approve annual work programmes, budgets and reports, and review annual progress. The Steering Committee should provide strategic guidance to the Partnership Programme, encourage cross-fertilisation and discuss and resolve issues related to programming progress and decide on any reallocation between the Development Engagements. Decisions are made by consensus.

A Secretariat to the Steering Committee headed by the EESD leader, the DEA country team leader and Senior Programme Officer at the RDE will be established to coordinate inputs from the Implementation Groups and ensure quality assurance of materials (e.g. work programmes and progress reports) submitted to the Steering Committee and facilitate decision making processes and resolving issues during programme implementation.

5.1 Principles for division of tasks between LTAs, the Senior Programme Officer and the Energy Sector Counsellor

In Vietnam a Senior Programme Officer for the DEPP-programme is already working at the RDE responsible for the day-to-day management and coordination of the programme activities as described above. The role and responsibilities of the Senior Programme Officer will remain the same as under DEPP II.

The RDE has been appointed as Climate Front Line Mission and has therefore been strengthened with a posted Energy Sector Counsellor. The Energy Sector Counsellor will be engaged in the Embassy's green diplomacy with a special focus on off shore wind and SEC-activities. She will collaborate closely with the LTAs, the Senior Programme Officer and DEA-staff thus serving as an important linkage between the Embassy's ongoing work on green diplomacy and DEPP III.

The division of tasks between LTAs, Senior Programme Officer and Energy Sector Counsellor are indicated below:

Long-Term Advisor[4]:

- Technical advice of MOIT in the areas of DEPP, including providing technical assistance and building capacity in MOIT and associated agencies (EREA and ERAV) on offshore wind power in general, but especially in relation to government planning and regulation

[4] The specific ToRs for the LTAs are described in Annex 6.

- Contribute to strengthening the MOIT and relevant authorities' capacity to develop legislation, including roadmaps and action plans that can promote the development of offshore wind in Vietnam in a cost-effective way
- Identify specific technical needs of the relevant Vietnamese partners and facilitate technical assistance from the Danish Energy Agency's experts in Denmark
- Promote close coordination and communication between partner organizations, including facilitating status meetings incl. reporting on progress and planning of activities
- Prepare and participate in program missions to Vietnam and study trips to Denmark.
- Communicate program activities and results, including stakeholders and presentations at events in the energy sector in Vietnam, Denmark and internationally
- Support the preparation of ToRs for technical assistance and other inputs, including selecting consultants and commenting on their deliveries
- Provide input for developing work programs and preparing status reports
- Plan and prepare program-related workshops and events
- Stay updated with regard to the development of the energy sector in Vietnam and establish a personal network with development partners, civil society organizations and the private sector
- Provide input into political dialogues relevant to the partners and the entire energy partnership program, including the preparation of political briefs and / or background notes as needed.
- Coordinate and synergize tasks between DEPP III activities and the embassy activities, together with the Energy Sector Counsellor

Senior Programme Officer (in general)/Energy Sector Counsellor (in particular in relation to off shore wind):

- Participate in the academic dialogue with the Danish Energy Agency, Long-Term Advisors and local partner authorities on the progress of the DEPP, including planning of missions
- Include sector-related issues following DEPP, including dialogue with multilateral organizations and other bilateral partners
- Support climate diplomacy, SDG-7 and policy dialogue. Contribute to translate technical cooperation into policy dialogue and increase NDC ambitions through climate diplomacy and other foreign policy initiatives
- Support the link between technical cooperation and export promotion / TC
- Support facilitation of seminars, roundtables and ministerial visits (high-level visits)
- Supportive (by DEPP) dialogue with secondary partners
- Support the program's SEC by actively exploring opportunities for engagement with Danish private sector actors, Vietnamese civil society, multilateral organizations (such as IRENA, OECD and IEA) and universities / research institutions as part of the program activities, as well as increasing program policy outreach, e.g. to the Vietnamese National Assembly

6. Programme outcome budget

Outcome based budget in DKK

Vietnam DEPP III	2020	2021	2022	2023	2024	2025	Total
Development Engagement 1: Capacity Development for long-range energy sector planning Capacity enhanced in energy sector planning and policy development, integrating renewable energy, including offshore wind and energy efficiency technologies, as cost-effective measures of meeting the Vietnamese NDCs while ensuring national security of supply	736,367	4,418,200	4,418,200	4,418,200	4,418,200	3,681,833	**22,091,000**
Development Engagement 2: Capacity Development for Renewable Energy Integration into the Power System Regulatory framework and flexible options in the power system supports the efficient and secure transition towards clean energy with a rising share from variable renewable energy sources	588,333	3,530,000	3,530,000	3,530,000	3,530,000	2,941,667	**17,650,000**
Development Engagement3: Low carbon development in the industrial sector Incentive schemes for energy efficiency in the industrial sector and improved capacity in place to develop and revise the energy efficiency regulatory framework at national level and enforce compliance with energy efficiency legal framework at provincial level	685,000	4,110,000	4,110,000	4,110,000	4,110,000	3,425,000	**20,550,000**
Total	**2,009,700**	**12,058,200**	**12,058,200**	**12,058,200**	**12,058,200**	**10,048,500**	**60,291,000**

An output-based budget is available in Annex 4.

Annex 1: Context Analysis
Annex 2: Partner Assessment
Annex 3: Results framework at output level
Annex 4: Budget details at output level
Annex 5: Risk Management Matrix
Annex 6: Draft Terms of Reference for LTAs
Annex 7: Development Engagement Document - Capacity Development for long-range energy sector planning
Annex 8: Development Engagement Document - Capacity Development for Renewable Energy Integration into the Power System
Annex 9: Development Engagement Document - Low carbon development in the industrial sector

Annexes for Vietnam Country Programme Document
Annex 1: Context analysis

1. Overall development challenges, opportunities and risks

General development challenges

Vietnam's development over the past 30 years has been remarkable. Economic and political reforms under Đổi Mới, launched in 1986, have spurred rapid economic growth, transforming what was then one of the world's poorest nations into a lower middle-income country. Between 2002 and 2018, more than 45 million people were lifted out of poverty and poverty rates declined sharply from over 70% to below 6% (US$3.2/day PPP), and GDP per capita increased by 2.5 times, standing over US$2,500 in 2018.

In the medium-term, Vietnam's economic outlook is positive, despite signs of cyclical moderation in growth. After peaking at 7.1% in 2018, real GDP growth in 2019 decreased slightly, led by weaker external demand and continued tightening of credit and fiscal policies. Real GDP growth is projected to remain robust at around 6.5% in 2020 and 2021.

Vietnam is experiencing rapid demographic and social change. Its population reached 97 million in 2018 (up from about 60 million in 1986) and is expected to expand to 120 million before moderating around 2050. Today, 70% of the population is under 35 years of age, with a life expectancy of 76 years, the highest among countries in the region at similar income levels. Nevertheless, the population is rapidly aging.

Vietnam ranks 48 out of 157 countries on the human capital index (HCI), second in ASEAN behind Singapore. Vietnam's HCI is highest among middle-income countries, but there are still gaps in income and living conditions in geographical locations and ethnic minority groups.

Development in key economic indicators

Over the last thirty years, the provision of basic services has significantly improved. Access of households to modern infrastructure services has increased dramatically. As of 2016, 99% of the population used electricity as their main source of lighting, up from 14 % in 1993. Access to clean water in rural areas has also improved, up from 17% in 1993 to 70% in 2016, while that figure for urban areas is above 95%.

Vietnam performs well on general education. Coverage and learning outcomes are high and equitably achieved in primary schools where the performance of Vietnamese students exceeds that of many OECD countries. Health outcomes have improved in tandem with rising living standards. Between 1990 and 2015, the maternal mortality ratio fell from 139 to 54 deaths per 100,000 live births, and infant mortality dropped from 44 deaths per 1,000 live births to 16.7. Vietnam's universal health coverage index is at 73 - higher than regional and global averages - with 87% of the population covered.

Development in energy demand

Electricity demand in Vietnam is expected to grow by about 10 % annually to 2030, resulting in a growth in power plant capacity from 39 GW to 120 GW. New generation capacity will come from a variety of sources, and the government has developed a plan to increase renewable energy generation, including wind and solar. However, under a BAU scenario, 66 GW of new generation capacity may come from coal by 2030. Additionally, energy intensity in Vietnam is among the highest in the world, and efforts are envisaged to improve energy efficiency, including through enforcing current regulations. Recognizing the global and local benefits of lowered carbon emissions and pollution abatement, Vietnam has put in place strategies and policies to advance green growth. Its Nationally Determined Contributions (NDCs) include specific targets for GHG reductions. The energy sector is the primary GHG emitter in Vietnam. Against the backdrop of industrialization, increasing urbanization, and rising living standards, demand for electricity is estimated to increase by 10 % a year. To meet this growing demand and to curb further increases in GHG emissions from the energy sector, the government is committed to investing in renewable energy sources and promoting energy efficiency.

Status and progress in relation to Sustainable Development Goals (SDGs):
Seventeen global SDGs have been nationalized into 115 Vietnam SDG (VSDG) targets in the "National Action Plan for Implementation of the 2030 Agenda for Sustainable Development", based on Vietnam's development context and priorities, and building on the successful implementation of the Millennium Development Goals (MDGs). To date, Vietnam is proud to have achieved a number of SDG-related results, including: (1) A substantial reduction in the national multi-dimensional poverty rate from 9.9 % in 2015 to less than 7 % in 2017; (2) A decrease in the under-5 mortality rate from 22.1 in 2015 to 21.6 in 2017 per 1000 live births; Health insurance coverage reaching 86.4 % in 2017; (3) A primary net enrolment rate of 99.0 % and a primary completion rate of 99.7 % for the school year 2016-2017; (4) Gradually making gender equality a cross-cutting issue in all political, economic, cultural, and social spheres with remarkable results such as: women's representation in the National Assembly in the 2016-2021 term reaching 26.7 %; and, the year 2017 recorded 12 out of 30 government ministries and agencies with female leaders holding minister and deputy-minister positions ; (5) The proportion of households having access to safe water reaching 93.4 % in 2016; (6) Access to electricity by more than 99 % of Vietnamese households in 2016; (7) Internet use reaching 54.2 % or 50 million people in 2016; (8) Annual GDP growth rates at 6.7, 6.2, and 6.8 % for 2015, 2016, and 2017 respectively; (9) Improvements in the protection and management of the environment and natural resources and an increase in forest cover to 41.5 % in 2017; (10) A reduction in inequality and an improvement in the promotion of access to justice and information; (11) Vietnam's deeper and more comprehensive international integration and enhanced international position; and (12) Important steps taken to support the youth in realizing their full potential as key partners in achieving the SDGs. Moreover, sustainable development principles have been thoroughly mainstreamed into the 2011- 2020 Social and Economic Development Strategy (SEDS) and the 2016-2020 Social and Economic Development Plan (SEDP). In the coming years, the SDGs will be fully and further integrated into Vietnam's 2021-2030 SEDS and 2021-2025 SEDP.

Political economy context
For decades Vietnam has been one of the fastest growing economies in the region and in the world. Since 1990 the average annual growth in GDP has been more than 6%, with economic growth expected to continue in the future. Economic development has been the key to improvements in the quality of life, and has resulted in a dramatic drop in poverty rate. While economic growth is high priority for the Vietnamese government, governmental strategies emphasize that the fast development needs to uphold sustainability at the same time.

With its rapid economic growth, Vietnam is becoming an important actor in the global agenda – both from an economic and an environmental perspective. The rapid economic growth results in quick growth of energy demand and greenhouse gas emissions. Achieving the reduction of greenhouse gas emissions as agreed under the Paris Agreement (UNFCCC, 2016) depends heavily on the development path of Vietnam and other emerging economies. At the same time, the global energy market has witnessed a remarkable decline in the cost of renewable energy technologies, as well as of battery storage. This gives Vietnam the opportunity to embark on a sustainable development pathway, considering the large opportunities for more efficient use of energy and the domestic resource potential for both solar PV and onshore and offshore wind.

The development of the energy sector plays a key role in supporting the country's economic development. Economic growth requires secure and affordable supply of energy to all of the society and economic sectors. At the same time, to ensure a sustainable growth, the energy sector must be able to attract the capital required to expand the infrastructure and secure the efficient distribution and consumption of energy sources in the long term.

To embrace these opportunities for the development of its energy system, Vietnam is facing new challenges: how to ensure an efficient use of domestic energy resources; how to overcome the barriers for energy efficiency; how to utilize the economic potential for renewable energy while securing a stable power supply, and how to successfully contribute to mitigating climate change and air pollution. These challenges must be addressed by policy actions backed by solid energy system planning grounded on holistic analyses of long-term energy scenarios.

Private investments opportunities, gaps and obstacles in the power sector

In Vietnam, solar PV has the greatest potential, although limited by the demand for land use (the average land use rate is about 1.1-1.2 ha/MW depending on efficiency[1]). The solar potential used in the models in EOR19 is up to 380 GW (economic potential[2] in (Institute of Energy, 2018)), but the distribution is not uniform across regions but concentrated in the South, South Central, and Highlands regions. Due to the solar promotion mechanism ending in June 2019, solar power projects are currently booming in Vietnam. By August 2019, the total size of registered investment projects reached about 32 GW of which 10.3 GW is approved for additional planning up until 2025; however, not all may be realized. With the large expansion being approved, the transmission grid development has difficulties in meeting the operational schedule of all projects since procedures for construction investment and capital arrangement are causing delay in transmission projects.

The total potential of onshore wind power used in the models in EOR19 is around 217 GW (considering wind speed over 4.5 m/s, height of 80 m, technical potential in (Institute of Energy, 2018)), mainly concentrated in the South, Highlands, and South Central regions. With Vietnam's new support mechanism, many investors have submitted wind power projects with the total capacity reaching 10 GW of which about 5 GW is approved for additional planning, mostly in the South and South-Central regions. As mentioned for solar PV, the transmission grid may not be developed in time to connect all wind projects in the period up to end of 2021, when the support mechanism ends. Although wind power has a large potential and only takes a limited amount of land (limit of direct land-use is 0.35 ha/MW[3]), only the best wind locations can compete with the rapidly decreasing costs for solar power.

With over 3.000 km of coastline and some of the best offshore wind conditions in South East Asia, Vietnam is at the forefront of most coveted prospective offshore wind markets. The Danish Energy Agency and the Electricity and Renewable Energy Authority of Vietnam (EREA) are currently preparing the input to a roadmap for offshore wind. The input to the roadmap consolidates the quantitative findings of the background analyses carried out - resource mapping and site selection, LCOE estimation and transmission grid analysis, among others - and supplements them with regulatory, consent and permitting, support scheme, supply chain and other critical elements to arrive at a set of recommendations aimed at kick-starting a successful offshore wind industry in Vietnam. The final version of the road map is to be launched at a workshop in Hanoi on 9 September 2020. Preliminary findings emphasize that Vietnam has a technical potential of 160 GW. In comparison, there was approximately 29 GW offshore wind installed globally by the end of 2019. Denmark currently has 1.7 GW. Even after excluding sites that may ultimately prove not to be viable due to conflicts with other seabed uses or due to financial reasons, the potential for offshore wind along coastline remains very significant.

Vietnam is the only country in the region that has implemented nearshore wind with 99 MW already installed, and the abundant wind resources and large pipeline potential have attracted strong interest from the offshore wind industry.

DEPPIII in Vietnam will continue to focus on assisting EREA to develop the regulatory framework of offshore wind in Vietnam incl. development of an Action Plan.

A number of challenges are being raised when developing large amounts of wind and solar power sources, including the ability to integrate and balance wind and solar power into the energy system, the ability to reinforce and expand the transmission grid and land use requirements, especially for large solar parks. These challenges will be addressed in DEPPIII focusing on assisting the Vietnamese authorities responsible for regulating the electricity sector and access to the grid by developing the necessary regulatory framework to ensure a cost-efficient integration of renewable energy.

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[1] Decision 11/2017/QD-TTg, dated 11/4/2017.

[2] For the least-cost modelling, the technical potential is the preferred input from which the model determines economic feasibility. For solar PV, the lack of input data means that using the technical potential would result in an overestimation of competitive potential for PV. To avoid this, the economic potential has been chosen as input for solar PV.

[3] Circular No.02/2019/TT-BCT, "Regulation on implementation and sample power purchase agreement for wind projects", dated 15 January 2019.

Following major risks perceived by investors for solar and wind power projects in Vietnam have been identified:

- Regulatory risks

Vietnam's regulatory framework for renewable energy is in development and subject to constant change, which stymies investors from committing to long-term power projects in the Vietnamese market. Renewable energy policies are at the turning point where bidding mechanism will soon replace the FIT for solar and wind. However, timeline has not yet been announced.

- Offtake risks

In Vietnam, the electricity retail tariff is low which is not considered attractive for investors. The government committed to the introduction of a market-based approach to price-setting, retail rates have been adjusted in line with inflation but are still priced below the cost of supply. That have weakened the credit profile of the Vietnam Electricity Group who is the single buyer in the market.

- Grid availability and stability

The national power transmission system has been experiencing overload which put investors under a high riskof curtailment. In Vietnam, a surge in solar projects far exceeding available grid capacities has caused curtailment of up to 60% in some provinces.

- Land acquisition

Land acquisition is a challenge in Vietnam. Aside from finding large parcels of land in areas with viable resources and access to grid interconnection, IPPs may also have to compete with agriculture and industrial businesses. Project developers, especially foreign players, mitigate land acquisition risk through establishing local partnerships. Lenders secure their risk positions by imposing conditions requiring the completion of land acquisition before disbursement of the loan. In markets deemed riskier, such as Vietnam, lenders also seek limited recourse until commissioning to limit their downside.

- Execution risk

Execution risk arises from complex, time consuming permitting processes that involve numerous authorities. Governments can implement measures to streamline processes e.g. introduce "one-stop" online portal document submissions and prescribe strict time frames for agencies to act on applications etc.

DEPPIII will address some of the major risks perceived and describes above in relation to especially development of the offshore wind sector in Vietnam.

Key documentation and sources used for the analysis

- World Bank Vietnam Overview October 2019
- Vietnam's voluntary national review on the implementation of the sustainable development goals June 2018
- Vietnam Energy Outlook 2019
- Bloomberg (Financing Solar and Wind Projects in South East Asia, April, 2020)

Are additional studies / analytic work needed? How and when will it be done?

No additional studies required

2. Fragility, conflict, migration and resilience

Vietnam is not classified as a fragile or conflict state. There is generally peace and stability within the country, although there are ongoing localized political and social disputes. No conflict issues are present or likely to arise in the region or sector in which the cooperation is based.

Are additional studies / analytic work needed? How and when will it be done?

No additional studies or analytical work required

3. Assessment of human rights situation (HRBA) and gender[4]

Human Rights

The Constitution of Vietnam strongly commits to equality for ethnic minorities. Article 5 proclaims all ethnicities to be equal, prohibits discrimination by ethnicity, asserts the right of ethnic minorities to use their own languages, and commits the state to implementing a policy of comprehensive development for ethnic minorities. Other parts of the Constitution specifically prioritize ethnic minorities in policies for health care and education. Members of Vietnam's 52 ethnic minorities have made substantial gains in welfare over time but slower progress has been seen in minority groups. Using the GSO[5]– WB poverty line, in 2014 the poverty rate had fallen to 6.3 % among the Kinh and Hoa while standing at 57.8 % among ethnic minorities. Poverty rates for minority groups range from 38 % among the San Diu to 93 % among the Hmong. Recognizing this, the Government of Vietnam has implemented multiple programs aimed at reducing poverty among lagging communities by more than 1.5 percentage points per year.

Gender

Vietnam has closed gender gaps along a wide range of social and economic measures. In 2015, female-headed households were less likely to be poor than male-headed households, and primary and junior secondary school net enrolment rates were about equal for boys and girls. There are more female than male students attending school at upper secondary and tertiary levels. Women's economic empowerment has steadily improved over the past decade. Women's labour force participation rate is within 10 % of men's—a smaller gap than in most other comparable countries. There has been an upward trend in the share of women in wage work, mainly driven by increased employment opportunities for women in foreign-owned, export-oriented factories. **Nevertheless, some gender gaps persist, including: (i) an imbalance in the sex ratio at birth; (ii) low proportion of women in leadership positions in the public and private sectors in comparison with the increased women in the workforce generally; and (iii) pay gaps still exist between men and women doing the same job.**

Are additional studies / analytic work needed? How and when will it be done?

No additional studies or analytical work required.

[4] The purpose of the analysis is to facilitate and strengthen the application of the Human Rights Based Approach, and integrate gender in Danish development cooperation. The analysis should identify the main human rights issues in respect of social and economic rights, cultural rights, and civil and political rights. Gender is an integral part of all three categories.

[5] General Statistics Office of Vietnam

4. Inclusive sustainable growth, climate change and environment

Vietnam's economic growth has been accompanied by increase in exploitation of natural resources incl. utilization of land, water resources, forests and capture of fish and mineral resources. Expansion of agriculture has resulted in conversion of forests and erosion problems, and the use of fertilizer, pesticide, water for crops, and antibiotics in aquaculture harms the environment.

In Vietnam rapid growth and industrialization have not been friendly to the environment and natural assets. Final energy consumption tripled over the past decade, growing faster than output. Energy intensity of GDP has been steadily increasing. Compounding the problem is the reality that much of Vietnam's population and economy is highly vulnerable to climate impacts.

Urbanization and strong economic and population growth are causing rapidly increasing waste management and pollution challenges. Waste generation in Vietnam is expected to double in less than 15 years. Linked to this is the issue of marine plastics. Ninety percent of global marine plastic pollution is estimated to come from just 10 in-land rivers, and the Mekong river is one of them. Vietnam is among the ten countries worldwide that are most affected by air pollution.

The Government is aware of the need to lower the environmental footprint of the country's growth, to effectively mitigate and adapt to climate change, and that addressing these challenges present opportunities to contribute to growth. Key strategies and plans to stimulate green growth and sustainable use of its natural assets are in place. The Government is also implementing measures to mitigate and adapt to climate change and address extreme weather events and natural disasters by operationalizing its NDC.

Key documentation and sources used for the analysis

- World Bank, Country Partnership Framework for the Socialist Republic of Vietnam, FY18–FY22, 2017.

Are additional studies / analytic work needed? How and when will it be done?

No additional studies or analytical work required.

5. Capacity of public sector, public financial management and corruption

Governance continues to pose to a risk to continued economic growth and development and to the authorities' ability to pursue reforms. The Anti-Corruption Law, adopted in 2005, criminalises several types of corruption, establishes asset disclosure requirements for governmental officials, and whistle-blower protection. A number of institutions which aim to fight corruption are now in place, including the Office of the Central Steering Committee for Anti-Corruption.

Are additional studies / analytic work needed? How and when will it be done?

No additional studies or analytical work required.

6. Matching with Danish strengths and interests, engaging Danish actors, seeking synergy

Identify:

- Where we have the most at stake – interests and values,
- Where we can (have) influence through strategic use of positions of strength, expertise and experience, and
- Where we see that Denmark can play a role through active partnerships for a common aim/agenda or see the need for Denmark to take lead in pushing an agenda forward.

The impact of DEPP III will be created by building capacity to development of strategies and policies for reaching their NDC to the Paris Agreement. Low-carbon pathways, cost efficient NDC implementation and upscaling of NDC targets within the energy sector are enabled based on collaboration, exchange of information and awareness raising with non-core partners focusing on energy and climate change mitigation topics. It is expected that Denmark by demonstrating the opportunities from investing in sustainable low

	carbon solutions will be able to inform and influence decision making in partner countries. The partnership programme will through GtG cooperation and peer-to-peer exchanges have potentially strong strategic influence on Vietnam's green transition.
- Brief mapping of areas where there is potential for increased commercial engagement, trade relations and investment as well as involvement of Danish local and central authorities, civil society organisations and academia.	Improved knowledge in Vietnam of the expertise, technologies and manufacturing capabilities of Danish companies will promote technical and commercial partnerships that benefit both Vietnamese and Danish private sector companies. There is currently intense activity in the Vietnamese wind market, which from more or less nothing aims for up to 6 GW by 2030, which is the goal of the national government. Just recently the Danish developer Copenhagen Infrastructure Partners secured a deal to develop the 3.5 GW La Gan offshore wind project in Vietnam with local partners. The project is expected to cost up to DKK 65 billion. DEPP III will continue to support Vietnamese authorities to develop their capacity to lead and manage offshore wind development and roll-out.
- Assessment of the donor landscape and coordination, and opportunities for Denmark to deliver results through partners including through multilaterals and EU;	EU, UNDP, UNIDO and World Bank are active in the energy sector in Vietnam. The Government of Vietnam through MOIT manages donor coordination very carefully and there is no potential overlap. Where the content of cooperation warrants, there is information sharing between Development Partners.
Are additional studies / analytic work needed? How and when will it be done? No additional studies or analytical work required.	

7. Stakeholder analysis

Stakeholders expected to become partners in the programme are all part of the Ministry of Industry and Trade viz. the Electricity and Renewable Authority (EREA); the Electricity Regulatory Authority (ERAV) and; the Energy Efficiency and Sustainable Development Department (EESD). They are presented in Annex 2b.

Key Stakeholders (beyond partners)

The Economic Commission of the Central Committee of the Communist Party of Vietnam

The Party Central Committee's Economic Commission (CEC) is the advisory body which assist the Central Executive Committee, directly and regularly the Politburo and the Secretariat Committee in devising and improving economic institutions; planning, guidelines and major policies on important socio-economic measures.

The Committee on Science, Technology and Environment of the National Assembly

The Committees of the National Assembly are elected by the National Assembly. The Committees of the National Assembly study and examine bills, legislative initiatives, drafts of Ordinances and other drafts of legal documents and reports assigned by the National Assembly or the Standing Committee of the National Assembly. They provide their opinions to the National Assembly and the Standing Committee of the National

Assembly on the legislative program. They supervise and conduct investigations within their competency and exercise other powers as stipulated by laws. They also make recommendations on issues relevant to their fields of activity.

Institute of Energy is a science and technology research organization established by the MOIT. It supports the EREA on technical matters. From 1995, Institute of Energy became a member unit of Electricity of Vietnam Group (EVN), but since 2010 Institute of Energy has been shifted to direct management of MOIT. Institute of Energy is a leading national research institution in the field of energy and power, and the principal consultant in formulation of Vietnam energy & power development strategies, policies and master plans. The Institute has 210 employees in 11 departments and 4 centres and one key laboratory for high voltage techniques.

In addition, the following are stakeholders to the programme:

- **NGOs in Vietnam (VIET, GreenID, CARE, GGGI and WWF and others)**
- **International partners (CIFF, IFE / ECF, Tara / TPI)**
- **International organizations (World Bank, IEA, IRENA)**
- **Donors in VEPG in Vietnam (GIZ, USAID, ADB etc.)**
- **EU Delegation in Hanoi**
- **EU DEVCO in Brussels**
- **The general public**
- **Media in Vietnam**
- **Power consumers**
- **Industry – including State owned enterprises**
- **Renewable Energy power producers**
- **Provincial energy authorities and departments**
- **Service providers and manufacturers in the sector**
- **Investors and project developers**

Are additional studies / analytic work needed? How and when will it be done?

No additional studies or analytical work required.

Annex 2: Partners assessment

Summary of stakeholder analysis
The Ministry of Industry and Trade (MOIT) is the nodal ministry of the government of Vietnam on state management of industry and trade including electricity, new energy, renewable energy, oil and gas. MOIT has, among other things, the overall responsibility to ensure secure power supply to Vietnam. For this programme the most relevant key nodal agencies under MOIT include Electricity and Renewable Energy Authority (EREA); Electricity Regulatory Authority of Vietnam (ERAV) and; Energy Efficiency and Sustainable Development Department (EESD).

Criteria for selecting programme partners
DEPP III builds on the progress achieved and the lessons learned from DEPP II. It is therefore clearly advantageous to continue working with the same partners to benefit from previous knowledge of and working relationships with the partner and to consolidate the achievements. Key criteria for partner selection still apply, however. These include:

- Relevance of authority and mandate regarding energy and climate policy development
- Demand from relevant national sector leaders and from the agency itself for the competences and modality of cooperation offered by the Danish Energy Agency
- Mandates that directly address the key objectives of the DEPP III
- Capacity to engage in a cooperation programme at the ambition level agreed
- Ability to use the inputs to achieve the desired outcomes either directly or by influencing policy, planning or legislation
- Priority and need in relation to the DEPP objectives and the national context in which they operate
- Acceptable level of risk that the programme can be implemented and that the Theory of Change will be valid

Brief presentation of partners
The overall anchor of the support to Vietnam is the Ministry of Industry and Trade (MOIT). The specific support will be provided to:

EREA: EREA is responsible for overall planning of the Vietnamese energy system, including planning and approval renewable energy, including off-shore wind

ERAV: ERAV is the authority regulating the electricity activities and development of the power market, including framework conditions for renewable energy in the power grid.

EESD: EESD is responsible for managing and implementing at the national level the law of energy efficiency and conservation, which is the main legal basis for regulating the EE in industries in Vietnam.

Summary of key partner features

Partner name	Core business	Importance	Influence	Contribution	Capacity	Exit strategy
EREA	Competent authority on energy infrastructure. Deliver on the obligations on energy planning and energy data.	High through EOR and off-shore wind development support	High – through the partnership programme	Ensure that attention of the support is approved at the highest level in the ministry through GtG collaboration and	**Strength:** They influence energy planning, including power system planning **Weakness:** Understaffed, with limited experiences on	Capacity is developed for EREA to develop EOR without external support after 5 years

				contribution to all coordination of activities, including sufficient in-kind staffing	emerging technologies within renewable energy **Opportunities:** Leading the way to Vietnams green transition on renewable energy **Threats:** Fail to deliver on planning obligations	An MTR of DEPP III will be conducted by the MFA. Prior to the MTR, the DEA will prepare an exit strategy for each country which will be assessed by the MTR
ERAV	Ensure development of competitive power market Renew/develop power system regulations framework Responsible for developing and implementation of the road map for power market reform	Medium to high on grid codes	High – defining all activities	Involvement of stakeholder and in-kind contribution through GtG collaboration and contribution to all coordination of activities and ensure that all support is relevant and demand driven	**Strength:** Highly competent staff and are dynamic and deliver high response and valuable input **Weakness:** Understaffed and limited coordination between development partner support. **Opportunity:** Deliver on the power market reform Developing state of the art grid with a high share of renewable energy **Threat:** Power market is complex and failure to deliver power market reform	Tools delivered by DEA to ensure they are able to make their own grid planning Perform forecasting and utilizing information in daily operation adopting the developed grid codes An MTR of DEPP III will be conducted by the MFA. Prior to the MTR, the DEA will prepare an exit strategy for each country which will be assessed by the MTR
EESD	Delivers the Vietnam Energy Efficiency Program 3 /VNEEP, including national EE targets	High – support compliance with legislation at provincial level	High – coordinating the entire DEPP III. Influences what will happen at provincial level	In-kind staff contribution and provide strategic direction of the support through GtG collaboration and contribution	**Strength:** Direct access to minister level; Coordinate development partner support **Weakness:** Limited resources	Regulation is in place and after demonstrating the effects at provincial level VNEEP can be rolled out nation-wide without further support.

				to all coordination of activities. Provide the approval process of all developed regulations	and technical capacity. **Opportunity:** Develop a high level of energy efficient industries and improve industries competitiveness. Significantly reduce energy intensity **Threat:** Miss to implement the regulations and miss the opportunities to deliver on targets – including enforcement of regulation in partner provinces	A MTR of DEPP III will be conducted by the MFA. Prior to the MTR, the DEA will prepare an exit strategy for each country which will be assessed by the MTR

Annex 3: Results Framework

EREA

Development Engagement 1		**Capacity Development for long-range energy sector planning**
Outcome		Capacity enhanced in energy sector planning and policy development, integrating renewable energy, including offshore wind and energy efficiency technologies, as cost-effective measures of meeting the Vietnamese NDCs while ensuring national security of supply
Outcome indicator		Sustainable pathways from developed scenarios with increasing shares of renewable energy, including offshore wind and energy efficient technologies presented in the EOR, are applied within national energy and power planning and policy development.
Baseline	Year 2020	1. EOR issued biennially with projections for different development paths of energy sector development 2. EREAs capacity on offshore wind is limited
Target	Year 2025	1. The biennial EOR is used as the main vehicle to evaluate, revise and raise ambitions of future energy and climate scenarios and selected sustainable pathway thereof meeting the NDC commitments is applied in national energy sector planning and policy development 2. EREA leads implementation of necessary preconditions for offshore wind sector development
Output 1		MOIT capacitated to independently prepare high-quality integrated scenario-based long-term modelling of the Vietnamese energy system presented in bi-annual EORs, to provide significant support to Vietnamese national energy system planning and policy development processes
Output indicator		EOR preparation, independently led by EREA and based on high quality data, develops NDC scenarios that are incorporated into the power planning and policy development
Baseline	2020	Vietnam EOR is prepared in cooperation between EREA and DEA with significant external support and is used as input to national energy plans, including PDP 8 and EMP development processes.
Target	2023	Vietnam EOR is developed and published, headed by EREA with support from DEA, and used for national energy plans, including stock-taking of the progress of PDP 8 and EMP and progress toward meeting the targets of the NDCs.
Target	2025	EREA leads, independently, the development of further improved Vietnam EOR and uses it to support national energy plans, including the revision of PDP 8 with pathways to meet the NDC targets.
Output 2		Vietnamese authorities capacitated to lead and manage offshore wind (OSW) development and roll-out
Output indicator		Implementation of OSW follows well informed developed regulatory framework, technical standards for OSW and successful design of OSW auctioning scheme
Baseline	2020	Roadmap for OSW completed
Target	2023	Pilot regulatory mechanism for OSW transparent and competitive auctioning prepared, ready for submission for approval

Target	2025		Well-informed offshore wind regulatory framework, technical standards and support scheme prepared

ERAV

Development Engagement 2			**Capacity Development for Renewable Energy Integration into the Power System**
Outcome			Regulatory framework and flexible options in the power system supports the efficient and secure transition towards clean energy with a rising share of electricity from variable renewable energy (VRE) sources
Outcome indicator			Transparent regulatory framework in line with international standards in place for efficient, secure and market-based integration of variable renewable energy (VRE) generation in the power system
Baseline	Year 2020		Incomplete framework for integration of renewable energy in place.
Target	Year 2025		1. Ancillary services deployment and evaluation of electricity market stakeholders for VRE integration is governed by enhanced regulatory framework. 2. Increased VRE integration, system flexibility that rely on VRE forecasting, and enhanced system stability
Output 1			Regulatory framework developed, to ensure the security and quality of power system operation and regulation and benchmarking of power companies[6] for increased integration of VRE
Output indicator			Updated grid codes and regulations of electricity sector stakeholders such as power distribution companies, transmission companies and the system and market operator
Baseline	2020		Grid codes partially updated, without considering new technologies (e.g. offshore wind storage etc.)
Target	2023		Draft regulatory framework ready, which consider new technologies and cover electricity sector stakeholders such as power distribution companies, transmission companies and other power service companies
Target	2025		Enforcement and implementation of relevant regulation, including grid codes, for increased VRE integration into the grid
Output 2			Solutions focusing on the demand side and dispatchable power generation to ensure increased integration of VRE
Output indicator			Mechanisms to ensure optimal integration of VRE through flexibility of dispatchable power plants and demand flexibility
Baseline	2020		Limited incentives for demand flexibility and not applied
Target	2023		Solutions for flexibility in power generation and demand-response to allow for optimal integration of VRE
Target	2025		Optimization of VRE integration regulated through enforcement of updated mechanisms.

[6] Power companies are stakeholders operating power system such as NLDC, PCs, NPT.

Output 3		Vietnamese power system operation capacity enhanced to ensure optimal integration of VRE into the power system
Output indicator		Capacity to optimize integration of VRE into the grid
Baseline	2020	Currently capacity for VRE integration applied in system operation is limited
Target	2023	Application of tools, e.g. forecasting and monitoring tools, for optimal VRE integration designed, ready for testing in system operation
Target	2025	Developed tools for VRE integration are applied in system operation

EESD

Development Engagement 3		**Low carbon development in the industrial sector**
Outcome		Incentive schemes for energy efficiency in the industrial sector and improved capacity in place to develop and revise the EE regulatory framework at national level and enforce compliance with EE legal framework at provincial level
Outcome indicator		EE regulatory framework under effective implementation at national and provincial level and incentive schemes in place for industries
Baseline	Year 2020	1. Compliance with EE legal framework for industrial sector is limited at provincial level 2. EE incentive schemes for industry are absent
Target	Year 2025	1. Compliance with EE legal framework for industrial sector improved at provincial level 2. EE incentive scheme ready for approval by the competent authorities
Output 1		EE legal framework developed and revised, and compliance with EE legal framework enforced at provincial level.
Output indicator		1. Developed or revised energy consumption benchmarking regulations in industrial sector 2. % of enterprises complying with energy consumption benchmarking regulations
Baseline	2020	1. A number of energy consumption benchmarking regulations issued from 2014 to 2016 need continued updating 2. Compliance is poor at provincial level
Annual target	2023	1. At least one energy consumption benchmarking regulation developed or revised 2. Compliance is 50% of enterprises in target provinces
Annual target	2025	1. At least one additional energy consumption benchmarking regulation developed or revised 2. Compliance is 80% of enterprises in target provinces and minimum 50% on average from selected other provinces
Output 2		EE incentive scheme for industry sector designed for selected enterprises in provinces, and the roadmap and action plan of finalized EE incentive scheme ready for approval
Output indicator		1. EE incentive scheme for industry sector designed and tested 2. Final EE incentive scheme, roadmap and action plan ready for approval by the competent authorities
Baseline	2020	1. No EE incentive schemes available 2. No incentive schemes tested at provincial level

Annual target	2023		1. EE incentive scheme designed 2. EE incentive scheme tested in at least two selected provinces and in at least four specific enterprises
Annual target	2025		1. EE incentive scheme design finalized 2. Roadmap and action plan for nation-wide roll-out of incentive scheme ready for approval by competent authorities
Output 3			EE technology catalogues for industry and technical guidelines for selected industrial sectors developed, disseminated and application status assessed
Output indicator			1. EE technology catalogue for industry and technical guidelines for selected industrial sectors developed and disseminated. 2. Assessment of application status of technologies in the developed EE technology catalogue in selected industrial sectors
Baseline	2020		No EE technology catalogue and technical guidelines issued
Annual target	2023		1. One EE technology catalogue developed for industry and two technical guidelines for selected industrial sectors developed and disseminated 2. Assessment of application status of technologies in the developed EE technology catalogue in two selected industrial sectors
Annual target	2025		1. Two additional technical guidelines for selected industrial sectors developed and disseminated 2. Assessment of application status of technologies in the developed EE technology catalogue in two additional selected industrial sectors

Annex 4: Budget details

Vietnam DEPP III							
Development Engagement 1: Capacity Development for long-range energy sector planning	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**
Output 1: Energy system planning incl. modelling and EORs	412,101	2,472,603	2,472,603	2,472,603	2,472,603	2,060,503	**12,363,015**
Output 2: Offshore wind	207,600	1,245,597	1,245,597	1,245,597	1,245,597	1,037,998	**6,227,985**
LTA	116,667	700,000	700,000	700,000	700,000	583,333	**3,500,000**
	736,367	**4,418,200**	**4,418,200**	**4,418,200**	**4,418,200**	**3,681,833**	**22,091,000**
Development Engagement 2: Capacity Development for Renewable Energy Integration into the Power System							
Output 1: Updated grid codes and regulation	157,222	943,333	943,333	943,333	943,333	786,111	**4,716,667**
Output 2: Market mechanisms	157,222	943,333	943,333	943,333	943,333	786,111	**4,716,667**
Output 3: Capacity to optimize integration of VRE into the grid	157,222	943,333	943,333	943,333	943,333	786,111	**4,716,667**
LTA	116,667	700,000	700,000	700,000	700,000	583,333	**3,500,000**
	588,333	**3,530,000**	**3,530,000**	**3,530,000**	**3,530,000**	**2,941,667**	**17,650,000**
Development Engagement 3: Low carbon development in the industrial sector							
Output 1: Energy efficiency legal framework	100,872	605,233	605,233	605,233	605,233	504,361	**3,026,167**
Output 2: Energy efficiency incentive scheme for industry	249,922	1,499,533	1,499,533	1,499,533	1,499,533	1,249,611	**7,497,667**
Output 3: Energy efficiency technology catalogues and technical guidelines	100,872	605,233	605,233	605,233	605,233	504,361	**3,026,167**
LTA	233,333	1,400,000	1,400,000	1,400,000	1,400,000	1,166,667	**7,000,000**
	685,000	**4,110,000**	**4,110,000**	**4,110,000**	**4,110,000**	**3,425,000**	**20,550,000**
Total	**2,009,700**	**12,058,200**	**12,058,200**	**12,058,200**	**12,058,200**	**10,048,500**	**60,291,000**

Annex 5: Risk Management Matrix

Contextual risks

Risk Factor	Likelihood	Impact	Risk response	Residual Risk	Background to assessment
Government will introduce policies that change development priorities, moving away from green growth and allowing energy intensity to continue its upward trajectory	Unlikely	Significant	Many of the programme activities will remain relevant under any feasible development scenario. It may become necessary to adjust the activities and rebalance distribution of funds between development engagements under some scenarios	Medium	In Vietnam rapid growth and industrialization have significantly degraded the environment. Air pollution in cities is a major public health problem, much of it caused by energy production. Final energy consumption tripled over the past decade, and energy intensity of GDP has been steadily increasing. Compounding the problem is the reality that much of Vietnam's population and economy is highly vulnerable to climate impacts. The Government is aware of the issues and that addressing these challenges removes threats to economic wellbeing as well as presenting opportunities to contribute to growth. It has shown strong approval of the outcome of DEPP II and every indication that continued cooperation will be highly valued. The policy direction is firmly entrenched and well understood by major stakeholders and civil society. The government is stable and unlikely to be replaced during the next few years. In this context, sudden changes of policy direction are unlikely.
External economic dislocations or internal financial disruption (inflation, foreign debt, currency crisis etc.).	Unlikely	Insignificant	The main response would be to monitor the situation closely and if necessary, to suspend or temporarily postpone some activities until the situation had resolved itself.	Minor	Planning and budgeting would be made difficult but with the power sector being important to continued development the likelihood that crises would be allowed to disrupt the sector significantly is seen as being relatively small.

The corona pandemic may cause severe economic disruption	Likely	Significant	The main response would be to monitor the situation closely and to engage with partner and other stakeholders to display potential for sustainable recovery as part of low carbon development. Assistance towards sustainable recovery will include a keen focus on job creation and security of supply of electricity.	Major	Economic disruption, if severe, could last for months or longer will have a significant impact on government's and the private sector's investment in renewable energy and energy efficiency. Sustainable recovery from the Covid-19 may include national stimuli packages where investments can be directed towards renewable energy.
Low global prices of oil	Medium	Insignificant	The programme will closely monitor volatility of oil prices and provide targeted assessments of the financial and technical potential of renewable energy compared to oil in sectors where this is relevant.	Minor	Low oil prices will not have a direct influence in Vietnam as the country is a net-importer of oil.

Programmatic risks

Risk Factor	Likelihood	Impact	Risk response	Residual Risk	Background to assessment
Poor political commitment, and therefore lack of action, to retain low carbon development	Unlikely	Significant	Continue support and dialogue with Government, and through targeted engagements that support a long-term sustainability and a low carbon path, whilst demonstrating immediate benefits in terms of improved security of energy supply.	Minor	DEPP II has yielded results that the Government of Vietnam has approved at the highest levels. Productive policy dialogue between Danish and Vietnamese policy makers is ongoing and the Vietnamese authorities have allowed publication of the Energy Outlook report which allows institutional stakeholders to examine and critique energy policy. All of these show a deep commitment to low carbon growth which extends to the highest levels of government.
Lack of capacity and failure to commit sufficient resources to the	Likely	Insignificant	Programme design has been adjusted to make expert visits to an individual institution shorter but, to preserve efficiency, carefully planned so that an	Minor	Although the government has expressed commitment and demonstrated this through DEPP II, sometimes immediate priorities may divert resources away from programme activities. The Vietnamese partners are aware of this and

cooperation from key partners.			expert can visit several partners where feasible.		during formulation requested that expert visits be shorter and tightly focused. This has been done
Overlap of activities with other Development Partners in the sector and overloading of partners capacity	Unlikely	Insignificant	There is DP coordination at embassy level and coordination of international cooperation by partners at sector level.	Minor	Many development partners (DPs) are seeking to cooperate in the energy sector in Vietnam. Generally, there are more needs in the sector than can be provided by the DPs combined, but support needs to be coordinated and distributed strategically to get the most value. In Vietnam there has been ongoing detailed dialogue with the DPs as well as the programme partners, to avoid duplication or overloading.
Provincial level authorities do not give the appropriate priority to enforce energy efficiency regulations on their local industries	Likely	Significant	At provincial level partners may not be as fully committed to low carbon energy as at the centre, and provincial authorities are very highly motivated to maintain growth. They may see energy efficiency as a threat to growth. The pilot provinces for the engagement will be selected based, in part, on their demand for support. Also, part of the capacity development is to develop awareness of the economic and environmental advantages of low carbon technology.	Minor	Some provincial authorities are reluctant to enforce legislation because they are concerned that industry productivity will be affected with consequent effects on the local economy. Provinces that take part in the programme will have expressed belief in the economic advantages of the programme and programme activities will demonstrate the truth of this proposition throughout the implementation period.
The case studies are not seen as directly relevant in other Provinces and are not widely replicated.	Likely	Significant	The risk is mitigated by developing implementation plans and guidelines rather than addressing specific problem areas. These will be applicable at least to some extent in most of Vietnam	Minor	The target provinces will be selected based upon their ability to provide a representative range of issues and problems that are relevant in many provinces in Vietnam.
Support to the regulatory framework and	Unlikely	Insignificant	Delay in power market implementation related to other aspects is only a minor risk as the	Minor	The ownership structure in the power market and the degree of competition does affect the overall need for accurate forecast and auxiliary services.

flexible options in the power system is ineffective because proper implementation of the competitive power market is delayed			capacity needs will be the same in a vertically-integrated power sector as in a power sector where ownership is unbundled and power companies compete on a power market.		Moreover, other development partners have supported and have indicated willingness to further support other capacity development areas necessary to power market development
The ambitious targets for increasing the share of power provided by renewable energy are not met.	Unlikely	Significant	Implementation is designed to target the "low-hanging fruit" that is the areas that are most readily addressed to provide the largest benefit in terms of power supply and financial benefits. The clear advantages to increasing renewable power share should then encourage greater cooperation from a wider range of providers.	Moderate	The support is valuable because it helps overcome the difficulties in integrating intermittent power production that can occur when Vietnam realizes the plans to construct new offshore wind and solar capacity. If the share of renewable energy remains at or around the current level the outputs of the engagement will be less relevant.
The Covid-19 pandemic results in limited travel by DEA and availability of partners.	Very likely	Significant	DEPP II has demonstrated a valuable ability to perform its activities virtually while connecting with partners online. The virtual approach has been applied with success covering a diverse set of activities. DEPP III will apply a similar virtual approach in case of restricted travel and lock down by partner institutions hence the residual risk is reduced. In the worst case of lengthy periods of lockdown of partners, delivery modes may need to be changed and ambitions might have to be scaled back.	Major	Restricted travel by DEA to partner countries which may compromise the level of engagement with partners. Similarly, Covid-19 lock down may affect partner institutions operational and day-to-day engagement in the programme if staff are working from home.

Institutional risks

Risk Factor	Likelihood	Impact	Risk response	Residual Risk	Background to assessment
The programme could fail to deliver its outcomes, which will reflect negatively on DEA, MEUC, and the MFA.	Unlikely	Insignificant	The theory of change and results framework with SMART indicators to the extent possible will be designed with realistic and measurable targets. A stakeholder platform and effective communication strategy will ensure that results, achievements and any difficulties or drawbacks are communicated effectively to key audiences.	Minor	The programme is strategic and is of major importance to the partner institutions but there are many other actors whose actions have a bearing on the sector and the mitigation of CO_2 emissions. Complete failure is unlikely, and delays in meeting targets could not realistically be attributable to Danish cooperation. Even if it were, this would be unlikely to damage the reputation of the Danish partners.
There could be unrealistic expectations of opportunities for Danish private sector commercial interests related to the cooperation.	Unlikely	Insignificant	The partners are aware of the strengths of the Danish private sector and for the most part see this as one of the potential benefits of the programme. The private sector will be kept informed of the progress being made and will have an opportunity to comment and to advise on any adjustments that may help remove barriers to investment.	Minor	As Denmark has a strong resource base in renewable energy, energy efficiency and climate change mitigation, and all of the programme countries present attractive markets for renewable energy in the coming decades, there are expectations that the cooperation will give rise to commercial opportunities. This general issue is part of the Program concept and is generally welcomed by partners as an additional benefit of the cooperation.
Partners external to DEA could engage in fraud, corruption or human rights violations under activities funded or facilitated by the programme.	Unlikely	Significant	The programme will follow DEA financial procedures and the risk of direct corruption is considered unlikely. Where pilot projects are included in program activities, screening for possible human rights issues or environmental issues will be carried out in advance.	Minor	Any corruption, violations of human rights or environmental damage related to programme activities could negatively affect the reputation of implementing and funding partners. In Vietnam DEPP III centres around peer to peer skills transfer and institutional capacity development. These are unlikely to be susceptible to any such risk. Since the budget is in control of the DEA, mainly allocated for TA provision from Denmark

	Potentially risky interventions will be identified and addressed at this stage.	and only limited funds available to be spent in country the impact of corruption on implementation will be insignificant. Human rights violations are unlikely given the nature of the programme activities, i.e. technical cooperation at local government and industrial installation level.

Annex 6: Draft Terms of Reference for LTAs

DEPP III will be posting Long-Term Advisors (LTAs) in partner institutions. LTAs have proven to be a critical element of the most successful interventions for capacity development under DEPP II. The LTAs deliver technical capacity to partner's organisations and contribute to fruitful and trust-based relationship between the partners and DEA. In addition to technical outputs and deliverables, the LTAs ensure that the programme support is well anchored and sustained within the partner institutions. Moreover, LTAs will be tasked with carrying out targeted Institutional Needs Assessments of the organisations that are receiving capacity development support on an ongoing basis based on daily interactions with partners to ensure that the cooperation matches the partner's needs and priorities. Based on these features, DEPP III will enhance the LTA function by posting two LTAs in Vietnam.

This annex outlines ToRs for the two LTAs to be funded under DEPPIII.

ToR
Long-Term Energy Advisor (LTA), MOIT (EREA, ERAV)
Vietnam -Denmark Energy Partnership Programme
(DEPPIII), Vietnam

1. DEPP III in Vietnam

1.1 Background in short:

Vietnam has a population of approximately 96.2 million with a population density of 290 persons /km2. Vietnam is the 45th largest economy in the World with an annual growth rate of 7% and a GDP of USD 2,564 per capita. 2% of its population lives below poverty line (the USD 1.9 per person per day poverty line). According to reports of a conference held by the Ministry of Natural Resources and the Environment (MONRE) on August 18, 2017, in HCMC Vietnam is the 27th largest greenhouse gas emitter in the world, accounting for 0.72% of total global emissions.

Urban air pollution is critical in Vietnam. Recognizing the global and local benefits of lowered carbon emissions and pollution abatement, Vietnam has put in place strategies and policies to advance green growth. The Government is aware of the need to lower the environmental footprint of the country's growth, to effectively mitigate and adapt to climate change, and that addressing these challenges also present opportunities to contribute to growth. At COP21 in Paris in 2015, Vietnam committed unconditionally to an 8% reduction in greenhouse gas emissions by 2030 and a conditional reduction of 25%, depending on the level of international aid.

1.2 The programme in short:

DEPP III builds on the progress achieved and the lessons learned from DEPP II. It is therefore clearly advantageous to continue working with the same partners to benefit from previous knowledge of and working relationships with the partner and to consolidate the achievements. Key criteria for partner selection still apply, however. These include:

- Relevance of authority and mandate regarding energy and climate policy development
- Demand from relevant national sector leaders and from the agency itself for the competences and modality of cooperation offered by the Danish Energy Agency
- Mandates that directly address the key objectives of the DEPP III.
- Capacity to engage in a cooperation programme at the ambition level agreed
- Ability to use the inputs to achieve the desired outcomes either directly or by influencing policy, planning or legislation
- Priority and need in relation to the DEPP objectives and the national context in which they operate
- Acceptable level of risk that the programme can be implemented and that the Theory of Change will be valid.

DEA's primary collaborative authority in the DEPP II has been the Vietnamese Ministry of Industry and Trade (MOIT). MOIT is the governmental agency responsible for state management of industry and trade including electricity, renewable energy, energy efficiency, oil and gas. The Development Engagements in Vietnam in DEPP II were with three organisations that operate under the umbrella of MOIT, namely, Electricity and Renewable Energy Authority (EREA), Electricity Regulatory Authority of Vietnam (ERAV) and the Energy Efficiency and Sustainable Development Department (EESD). One long-term adviser (LTA) has been operating out of MOIT for most of this period.

Partners' engagement and readiness to receive technical assistance is briefly explained below.
EREA: Vietnamese policy makers at both sector and national levels are seeking and ready to adopt the proposed changes of the engagement. Evidence for this includes that EREA staff are interested, committed and have the availability to engage in the envisioned capacity development.

ERAV: Vietnamese policy makers at both sector and national levels are seeking and ready to adopt the proposed changes of the engagement. This include that Vietnamese authorities continue to plan for development and integration of larger shares of wind and solar power into the national power grid and provide a transparent and level playing field for wind and solar power developers.

EESD: Vietnamese policy makers at both national and provincial levels are seeking and ready to adopt the proposed changes of the engagement. This include that EESD and DOIT staff are interested, committed and have the availability to engage in the envisioned capacity development and that funds can be made available to implement a sufficiently attractive incentive scheme for the industry sector.

Cooperation between the Danish and Vietnamese partners has been good, and both sides have expressed great satisfaction with the results so far. All the selection criteria continue to be met and no other candidates have been identified that could match the criteria or the objectives of DEPP III as well as do the current partners. Therefore, DEPP III will continue with the same development partners.

1.3 Requirements and expectations from the relevant parties

The role of the Long-term Energy Adviser (LTA) will be primarily to assist MOIT, DEA and EDK with the implementation of the interventions of the programme activities related to development engagement 1 and 2 and to document and communicate results related hereto. The LTA is the focal point for Danish knowledge and technical advice and responsible for coordination between the partner organizations of development engagement 1 and 2. Other tasks are to communicate programme activities and results at various events, workshops and seminars hosted by the MOIT, DEA and EDK as well as other stakeholders.

The partner organisations are responsible for implementation of programme activities and includes MOIT, DEA and EDK:

- MOIT will allocate sufficient resources to host the LTA i.e. providing a work station within the partner institution, relevant materials, information and data for supporting capacity building and allocation in-kind of hours of partner staff to collaborate with the expert.
- The DEA team will among other tasks provide TA for programme activities, be responsible for international consultant coordination as well as budget and accounting. The DEA team will be a direct link to the Danish Government approach and allow for access of relevant materials, information and data for supporting the work of the LTA.
- The EDK will allocate in-kind hours of staff to support with the LTA on on-boarding, networking, event planning and implementation of activities.
- The LTA will refer and report to the Manager of Project Management Unit at the MOIT, to the Country Team Leader at the DEA and to the relevant Senior Programme Manager at the EDK.

1.4 Expected composition of the selection committee

Applicants for the position will be selected for interview by the Danish Ministry of Energy, Utilities and Climate, the Danish Energy Agency and the Danish Ministry of Foreign Affairs, in collaboration with MOIT, who will also be represented at the job interview. Danish Energy Agency will lead the process of appointment by conducting tests and interviews with the selected candidates, as well as lead the final interview. The final interview panel consists of the Danish Energy Agency, representative from Ministry of Energy, Utilities and Climate, Royal Danish Embassy in Hanoi and representatives from MOIT.

2. The position

2.1 Title:

- Adviser (N2)

2.2 Place of service:

- Ministry of Trade and Industry (MOIT), Electricity Regulatory Authority of Vietnam, Hanoi, Vietnam

2.3 Terms of employment:

- Contract period: 2 years with a possibility for a one-year extension. Attractive remuneration package reflecting family status. Contribution to a pension scheme, health insurance and reimbursement of school fees. House rent allowance through the salary. Grant for relocation. For more details please refer to Danida's Staff Regulations – Advisers on Long-term Assignments https://amg.um.dk/en/Technical-guidelines/technical-assistance/

2.4 Area of responsibility/tasks

The main responsibility of the LTA will be to serve 1) as an expert on building capacity within energy planning under the capacity development for long-range energy sector planning, 2) as an expert on building capacity within technical power regulations and integration of renewable energy in the electricity system; 3) as an expert on building capacity within offshore wind and 4) as technical adviser and expert in building capacity within demand side management, Key Performance Indicators (KPIs) and in other programme activities within the Energy Partnership Program between Vietnam and Denmark.

As lead adviser to the capacity development for long-range energy sector planning, the LTA is expected to:

- Contribute to capacity development with regards to data collection, synthesizing, documenting and consolidation among stakeholders, including establishment of a framework for continued updating of the data needed for modelling, and to QA data collected, especially with regard to investments in RE power plants.
- Contribute to capacity development with regards to development of relevant policy scenarios and subsequent modelling as well as the interpretation of modelling results, and provide specific inputs to the Energy Outlook Reports, and related reports and documents (Technology Catalogue for power production, data sheet and data reports), official government planning exercises (such as revision of power and energy plans) and provision of quality assurance.
- Contribute to capacity development with regards to operation and development of relevant models for energy sector analysis such as e.g. Balmorel, TIMES and LEAP and analysis results.
- Contribute to capacity development with regards to development of instructions or guidelines for material of training courses or capacity development activities.

As lead adviser to the capacity development within technical power regulations and integration of renewable energy in the energy system operation, the LTA is expected to:

- Contribute to capacity development based on Danish and other international experiences with regards to technical and market regulations of stakeholders in the electricity sector such as TSO, DSOs, system and market operator, retailers, generators and consumers with regard to connection and implementation of grid codes.
- Contribute to capacity development based on Danish and other international experiences in increasing the ability to integrate variable renewable energy including increased flexibility from generation and demand.
- Contribute to capacity building based on Danish and other international experiences in power system operation and development of technical regulations with the overall purpose of increasing the ability of the system to integrate more variable renewable energy.
- Contribute to capacity building based on Danish and other international experiences in Demand Side Management and development of KPIs for Utilities.

As adviser on offshore wind energy the LTA is expected to:

- Provide technical assistance and build capacity in the MOIT and related agencies (EREA and ERAV) on offshore wind energy in general, but in particular government practices and regulation
- Contribute to strengthening the capacity of MOIT and relevant agencies in setting up the regulatory structure that will govern the development of offshore wind energy in Vietnam in a cost-efficient way

Furthermore, the LTA is expected to:

- Identify needs of the relevant Vietnamese partners and facilitate technical assistance from the DEA team in Denmark
- Facilitate close coordination and communication between the partner organisations, including status meetings and reporting about short term progress and plans
- Preparation and participation in programme missions to Vietnam and study tours to Denmark.

- Communicating programme activities and results including stakeholder consultation and speaking at energy sector events.
- Providing support on development of ToRs for technical assistance and other input, working with MOIT to select consultants, follow-up on consultants work progress and commenting on their deliverables and reports.
- Provide input to Work Programme development and progress report drafting
- Planning and preparation of programme workshops and events
- Keep updated on energy sector development and establish a personal network with development partners, civil society organisations and private sector.
- Provide input and/or report to policy dialogues relevant for the partners and the entire Energy Partnership Programme as requested incl. preparation of policy briefs or background notes as required by MOIT, DEA and EDK.
- Support the programme secondary strategic objectives by actively explore possibilities for the engagement of Vietnamese and Danish private sector actors, Vietnamese civil society, multilateral agencies (such as IRENA, OECD and IEA) and academia in programme activities as well as increasing programme policy outreach e.g. to the Vietnamese National Assembly.
- On behalf of EDK, to act as co-chair of the Technical Working Group on Energy Data and Statistics under the Vietnam Energy Partnership Group.
- Prepare recommendations, memo based on his technical advice if MOIT, DEA required.

2.5 Success criteria

- Successfully capacitate MOIT in best practices within long-range energy sector modelling planning, integration of renewable energy and offshore wind regulatory framework development and communicate results as concrete policy inputs.
- Successfully ensure that MOIT continue to use long-range energy modelling and competencies within integration of renewable energy in policy development as well as actively lead the offshore wind regulatory framework development after the end of the Partnership Programme.
- Provided strategic policy and technical advice of high quality and relevance in areas that the bilateral partnership programme is active.
- Delivered expediently technical inputs required for the completion of programme activities.
- Provided high quality input on identification and recruitment of appropriate international and national consultants.
- Successfully coordinated with the Danish Embassy in Vietnam, Vietnamese partners and stakeholders, and DEA.
- Successfully documented and communicated results of programme activities.
- Successfully engaged proactively with a wide range of actors across government, business and organizational sectors to ensure ownership, legitimacy and effectiveness of programme activities.
- Successfully together with partner organisations developed best practice solutions with maximum relevance of value for MOIT

3. Profile/Qualifications

3.1 Requirements and expectations concerning the formal qualifications of the candidate

- Solid knowledge of The Danish energy system, Danish Energy policy, the Danish offshore energy sector, long-range energy sector planning and integration of renewable energy inenergy system operation is a requirement
- A master level degree or corresponding qualifications in energy/environmental management, economics, political science, engineering and/or subjects relevant to renewable energy could be relevant
- Extensive experience working with one or more related fields such as: energy system modelling, measures for integration of renewable energy, power system operation, electricity market development, technical regulations of the energy sector, regulation of offshore wind energy, promotion of offshore wind energy investments, renewable energy planning
- Project management and coordination experience and experience from delivery of technical assistance, exchange visits and technical secondments
- Experience from developing countries, preferably Vietnam will be an advantage
- Knowledge of the renewable energy technology providers is an advantage
- Fluency in English, written and spoken, is required. Fluency in Danish is an advantage.
- Good written and verbal communication skills

3.2 Requirements and expectations concerning the personal qualifications of the candidate:

- Openness towards and understanding of different cultures and capacity to work in a different cultural setting
- Inter-personal skills with a high level of initiative and diplomacy
- Ability to work as part of an interdisciplinary team with relations to different ministries and stakeholders
- Proactive and flexible attitude, adaptability, social sensitivity, with respect for other cultures
- Capacity to manage and facilitate working processes involving parties at different levels

ToR
Long-Term Energy Advisor (LTA), MOIT (EESD)
Vietnam-Denmark Energy Partnership Programme
(DEPP III), Vietnam

1. DEPP III in Vietnam

1.1 Background in short:

Vietnam has a population of approximately 96.2 million with a population density of 290 persons /km2. Vietnam is the 45th largest economy in the World with an annual growth rate of 7% and a GDP of USD 2,564 per capita. 2% of its population lives below poverty line (the USD 1.9 per person per day poverty line). According to reports of a conference held by the Ministry of Natural Resources and the Environment (MONRE) on August 18, 2017, in HCMC Vietnam is the 27th largest greenhouse gas emitter in the world, accounting for 0.72% of total global emissions.

Urban air pollution is critical in Vietnam. Recognizing the global and local benefits of lowered carbon emissions and pollution abatement, Vietnam has put in place strategies and policies to advance green growth. The Government is aware of the need to lower the environmental footprint of the country's growth, to effectively mitigate and adapt to climate change, and that addressing these challenges also present opportunities to contribute to growth. At COP21 in Paris in 2015, Vietnam committed unconditionally to an 8% reduction in greenhouse gas emissions by 2030 and a conditional reduction of 25%, depending on the level of international aid.

1.2 The programme in short:

DEPP III builds on the progress achieved and the lessons learned from DEPP II. It is therefore clearly advantageous to continue working with the same partners to benefit from previous knowledge of and working relationships with the partner and to consolidate the achievements. Key criteria for partner selection still apply, however. These include:

- Relevance of authority and mandate regarding energy and climate policy development
- Demand from relevant national sector leaders and from the agency itself for the competences and modality of cooperation offered by the Danish Energy Agency
- Mandates that directly address the key objectives of the DEPP III.
- Capacity to engage in a cooperation programme at the ambition level agreed
- Ability to use the inputs to achieve the desired outcomes either directly or by influencing policy, planning or legislation
- Priority and need in relation to the DEPP objectives and the national context in which they operate
- Acceptable level of risk that the programme can be implemented and that the Theory of Change will be valid.

DEA's primary collaborative authority in the DEPP II has been the Vietnamese Ministry of Industry and Trade (MOIT). MOIT is the governmental agency responsible for state management of industry and trade including electricity, renewable energy, energy efficiency, oil and gas. The Development Engagements in Vietnam in DEPP II were with thee organisations that operate under the umbrella of MOIT, namely, Electricity and Renewable Energy Authority (EREA), Electricity Regulatory Authority of Vietnam (ERAV) and the Energy Efficiency and Sustainable Development Department (EESD). One long-term adviser (LTA) has been operating out of MOIT for most of this period.

Partners' engagement and readiness to receive technical assistance is briefly explained below.
EREA: Vietnamese policy makers at both sector and national levels are seeking and ready to adopt the proposed changes of the engagement. Evidence for this includes that EREA staff are interested, committed and have the availability to engage in the envisioned capacity development.

ERAV: Vietnamese policy makers at both sector and national levels are seeking and ready to adopt the proposed changes of the engagement. This include that Vietnamese authorities continue to plan for development and integration of larger shares of wind and solar power into the national power grid and provide a transparent and level playing field for wind and solar power developers.

EESD: Vietnamese policy makers at both national and provincial levels are seeking and ready to adopt the proposed changes of the engagement. This include that EESD and DOIT staff are interested, committed and have the availability to engage in the envisioned capacity development and that funds can be made available to implement a sufficiently attractive incentive scheme for the industry sector.

Cooperation between the Danish and Vietnamese partners has been good, and both sides have expressed great satisfaction with the results so far. All the selection criteria continue to be met and no other candidates have been identified that could match the criteria or the objectives of DEPP III as well as do the current partners. Therefore, DEPP III will continue with the same development partners.

1.3 Requirements and expectations from the relevant parties

The role of the of the Long-term Energy Adviser (LTA) will be primarily to assist MOIT, DEA and EDK with the implementation of the interventions of the programme activities related to development engagement 3 and to document and communicate results related hereto. The LTA is the focal point for Danish knowledge and technical advice and responsible for coordination between the partner organizations of development engagement 3. Other tasks are to communicate programme activities and results at various events, workshops and seminars hosted by the MOIT, DEA and EDK as well as other stakeholders.

The partner organisations are responsible for implementation of programme activities and includes MOIT, DEA and EDK:

- MOIT will allocate sufficient resources to host the LTA i.e. providing a work station within the partner institution, relevant materials, information and data for supporting capacity building and allocation in-kind of hours of partner staff to collaborate with the expert.
- The DEA team will among other tasks provide TA for programme activities, be responsible for international consultant coordination as well as budget and accounting. The DEA team will be a direct link to the Danish Government approach and allow for access of relevant materials, information and data for supporting the work of the LTA.
- The EDK will allocate in-kind hours of staff to support with the LTA on on-boarding, networking, event planning and implementation of activities.
- The LTA will refer and report to the Manager of Project Management Unit at the MOIT, to the Country Team Leader at the DEA and to the relevant Senior Programme Manager at the EDK.

1.4 Expected composition of the selection committee

- Applicants for the position will be selected for interview by the Danish Ministry of Energy, Utilities and Climate, the Danish Energy Agency and the Danish Ministry of Foreign Affairs, in collaboration with MOIT, who will also be represented at the job interview. Mercuri Urval A/S will participate in the process of appointment by conducting personality tests and interviews with the selected candidates, as well as taking part in the final interview. The final interview panel consists of: representatives from Ministry of Energy, Utilities and Climate, the Danish Energy Agency, representative(s) from MOIT, representative(s) from the Danish Ministry of Foreign Affairs and the consultant from Mercuri Urval A/S in charge of the recruitment process.

2. The position

2.1 Title:

- Senior Adviser (N1)

2.2 Place of service:

- Ministry of Trade and Industry (MOIT) at Energy Efficiency Sustainable Department (EESD), Hanoi, Vietnam

2.3 Terms of employment:

- Contract period: 2 years with a possibility for one-year extension. Attractive remuneration package reflecting family status. Contribution to a pension scheme, health insurance and reimbursement of school fees. House rent allowance through the salary. Grant for relocation. For more details please refer to Danida's Staff Regulations – Advisers on Long-term Assignments (http://amg.um.dk/en/Technical-guidelines/technical-assistance/).

2.4 Area of responsibility/tasks

The main responsibility of the adviser will be to serve 1) as an in-house expert on energy efficiency in industry to build capacity in MOIT/EESD and provinces; support and advise MOIT/EESD upon request in the implementation of VNEEP 3; 2) as technical adviser in other program activities within the Energy Partnership Program between Vietnam and Denmark.

As lead adviser to the capacity development for energy efficiency in industry, the Long-term Energy Adviser is expected to:

- Provide technical assistance and develop capacity in the MOIT/EESD and provincial departments DOITs on energy efficiency in industry and in particular development and revision of the EE-regulatory framework, incentive schemes for industry and development of EE technology catalogues in close cooperation with Danish Energy Agency experts as well as other international and local experts
- Contribute to strengthening the capacity of MOIT/EESD and DOITs in setting up the regulatory structure that will govern the energy efficiency in industry in a cost-efficient way
- Support and advise MOIT/EESD in the implementation of VNEEP 3 when requested
- Identify technical needs and facilitate technical assistance to MOIT/EESD from the DEA team in Denmark
- Support implementation of relevant activities on energy efficiency such as: development of energy efficiency strategy, plan, recommendations for future activities and cooperation between Vietnam and Denmark and relevant tasks based on MOIT/EESD's request.

As adviser for the Energy Partnership Programme, the Long-term Energy Adviser is also expected to:

- Identify needs of the relevant Vietnamese partners and facilitate technical assistance from the DEA team in Denmark
- Facilitate close coordination and communication between the partner organisations, including status meetings and reporting about short term progress and plans
- Preparation and participation in programme missions to Vietnam and study tours to Denmark.
- Communicating programme activities and results including stakeholder consultation and speaking at energy sector events.
- Provide high quality technical advisory assistance to MOIT/EESD implement and manage technical inputs, formulate policies, regulations and guidelines required for the project at national and provincial local levels.
- Providing support on drafting of ToRs for technical assistance and other input, selection of consultants, follow-up on consultants work progress and commenting on their deliverables.
- Guide and supervise (including timelines, quality and appropriateness of the technical support) local and international consultants hired for different outcomes, to ensure maximum synergy between consultants working for different components.
- Provide input to Work Programme development and progress report drafting
- Planning and preparation of programme workshops and events incl. delivery of presentations in the workshops, events.
- Support developing innovative financing solutions for energy services related projects.
- Keep updated on energy sector development and establish a personal network with development partners, civil society organisations and private sector.
- Provide input to policy dialogues relevant for the partners and the entire Energy Partnership Programme as requested incl. preparation of policy briefs or background notes as required.
- Support the programme secondary strategic objectives by actively explore possibilities for the engagement of Vietnamese and Danish private sector actors, Vietnamese civil society, multilateral agencies (such as

IRENA, OECD and IEA) and academia in programme activities as well as increasing programme policy outreach e.g. to the Vietnamese National assembly.
- Support the monitoring and evaluation of DEPP3 in collaboration with DEA, the Danish Embassy, EESD and other experts.
- Support the implementation of the Low Carbon Transition in Energy Efficiency phase 2 (LCEE2) if the programme is approved by the Danish Ministry of Foreign Affair.
- Prepare reports and advices/recommendations based on request of EESD and/or DEA.

2.5 Success criteria

- Successfully capacitate MOIT in best practices within energy efficiency in industry into concrete policy inputs and assistance to MOIT, EESD and DOITs
- Expedient delivery of technical inputs required for the completion of programme activities related to energy efficiency in industry in cooperation with the DEA
- Provided strategic policy and technical advice of high quality and relevance in areas that the bilateral partnership programme is active.
- Provided high quality input on identification and recruitment of appropriate international and national consultants.
- Successfully coordinated with the Danish Embassy in Vietnam, relevant Vietnamese partners and stakeholders, and DEA.
- Successfully documented and communicated results of programme activities.
- Successfully engaged proactively with a wide range of actors across government, business and organizational sectors to ensure ownership, legitimacy and effectiveness of programme activities.

3. Profile/Qualifications

3.1 Requirements and expectations concerning the formal qualifications of the candidate

- Solid knowledge of Danish energy policy and energy efficiency in industry is a requirement
- A master level degree or corresponding qualifications in energy/environmental management, economics, political science, engineering and/or subjects relevant to energy efficiency could be relevant
- Extensive experience working with one or more related fields such as: development of the EE-regulatory framework and benchmarking, development of incentive schemes for EE activities in industry sector, EE technology catalogues for application; setting up the regulatory structure to govern the energy efficiency in industry in a cost-efficient way incl. energy audit and energy management system.
- Project management and coordination experience and experience from delivery of technical assistance, exchange visits and technical secondments
- Experience working with incentive schemes for EE activities in industry sector will be an advantage
- Experience from developing countries, preferably Vietnam will be an advantage
- Knowledge of the energy efficiency technology providers for the industry sector is an advantage
- Fluency in English, written and spoken, is required. Fluency in Danish is an advantage.
- Good written and verbal communication skills

3.2 Requirements and expectations concerning the personal qualifications of the candidate:

- Openness towards and understanding of different cultures and capacity to work in a different cultural setting
- Inter-personal skills with a high level of initiative and diplomacy
- Ability to work as part of an interdisciplinary team with relations to different ministries and stakeholders
- Proactive and flexible attitude, adaptability, social sensitivity, with respect for other cultures

Ministry of Industry and Trade
Electricity and Renewable Energy Authority
Danish Ministry of Foreign Affairs
Danish Ministry of Climate, Energy and Utilities

Capacity Development for long-range energy sector planning
Development Engagement Document
Electricity and Renewable Energy Authority

1. Introduction

The present development engagement document details the objectives and management arrangements for the development cooperation concerning capacity development for long-range energy sector planning with Electricity and Renewable Energy Authority (EREA) between 2020 and 2025 as agreed between the parties specified below. The development engagement document is annexed to the Bilateral Agreement with Implementing Partner and constitutes an integrated part hereof together with the documentation specified below. This Development Engagement with EREA is part of the Danish support provided through the Danish Energy Partnership Programme (DEPP III) to China, Vietnam, South Africa and Mexico, with funds from the Danish Climate Envelope.

1.1 Parties

The Danish Energy Agency (DEA)
Carsten Niebuhrs Gade 43, 1577 Copenhagen V
Denmark

and

Ministry of Industry and Trade
Electricity and Renewable Energy Authority

1.2 Documentation

"The Documentation" refers to the partner documentation for the supported intervention, which is:

1. The Green Growth Strategy (2012)
2. The Green Growth Action Plan (2014)
3. The Plan for Implementation of the Paris Agreement (2016)
4. Intended Nationally Determined Contribution of Viet Nam (2015)
5. The revised National Power Development Master Plan VII (2016)
6. The Development Strategy of Renewable Energy (2015)
7. Preparation note on the National Energy Development Master Plan in the 2021-2030 period, with a vision to 2050 (2019)
8. Resolution of the Politburo on the orientation of the national energy development strategy until 2030, with a vision to 2045 (2020)

1.3 Contributions

Denmark, represented by the Ministry of Climate, Energy and Utility's Energy Agency (DEA), commits to a contribution to the engagement with support of peer-to-peer technical assistance, training, workshops and seminars needed to reach the outcome and outputs stipulated in this engagement, with inputs agreed on an annual basis during the period from 2020 to 2025.

2. Approach to reach results – Theory of Change

The Theory of Change is that if DEA, based on experience and expertise from the green transition of Denmark's energy system within renewable energy and energy efficiency, supports EREA with

technical assistance and peer learning and feeds this into wider policy dialogues on energy sector planning, then the capacity of EREA will be strengthened through interventions aimed at national energy system planning and policy development, that aims at integrating renewable energy, including offshore wind and energy efficiency technologies, as cost-effective measures of meeting the Vietnamese NDCs while ensuring national security of supply.

This will lead to that EREA will be aware of and knowledgeable in all relevant aspects pertaining to renewable energy technologies, their deployment features and opportunities, also in the medium and long term. EREA will also be able to apply modelling tools and frameworks that can duly represent the operation of renewable energy in the power system, and the relevant integration measures thereof, and EREA will have a solid understanding of climate change drivers and concepts of externalities to be able to incorporate and address climate change as part of the quantitative energy system modelling. This will be reflected in the biennial publication of the Vietnamese Energy Outlook Report, used as the main vehicle to evaluate, revise and raise ambitions of future energy and climate scenarios to influence national policies towards decarbonisation of power production and boosting influencing more ambitious NDC targets.

The rapid growth in power demand has fostered increasing interest in renewable energy deployment. Therefore, Denmark's contribution is welcomed by MOIT/EREA and will enhance knowledge and understanding across the entire life-cycle of the energy system planning and modelling process; from data collection and analysis to model set-up and operation through to scenario development and result interpretation, and effective reporting thereof. DEA is the only partner in the development of the EOR and the first partner in support to offshore wind regulation. Other aspects of offshore wind are supported by other development partners, which require careful coordination.

The theory of change rests on the assumption that the Vietnamese policy makers at both sector and national levels are seeking and ready to adopt the proposed changes of the engagement. This include that EREA staff are interested, committed and have the availability to engage in the envisioned capacity development. Risks include poor political commitment and leadership to retain a low carbon development path, and; limited political and managerial mandate or abilities to implement the proposed changes.

3. Development Engagement Objective

The intended impact of the development cooperation among the parties is: Reduced greenhouse gas emissions in partner countries.[1]

The overall objective of DEPP III in Vietnam is that: Vietnam develop a sustainable and low carbon energy mix in accordance with their NDC targets, which will enable them to upscale NDC targets by 2025.

[1] The programme will contribute to emission reductions measured in tons of carbon dioxide equivalent, but this cannot be accurately estimated at the overall programme level as impacts of the contribution are impossible to separate from those of many other initiatives in the four countries in the space of renewable energy, climate change mitigation and sustainable development. Moreover, impacts are likely to manifest themselves concretely in the longer term, beyond completion of the five-year programme. However, all efforts will be made to assess emission reductions resulting from the interventions.

The DEA will base the actual support on progress attained in the implementation of the engagement as described in the documentation.

For management and reporting purposes the following key outcome and output indicators have been selected to document progress.

Detailed indicators for each output will be revisited and potentially refined as part of the inception, where the baselines and targets will be adjusted with reference to prevailing knowledge and the Danish Climate Envelope guidelines for monitoring.

Engagement Title		**Capacity Development for long-range energy sector planning**
Outcome		Capacity enhanced in energy sector planning and policy development, integrating renewable energy, including offshore wind and energy efficiency technologies, as cost-effective measures of meeting the Vietnamese NDCs while ensuring national security of supply
Outcome indicator		Sustainable pathways from developed scenarios with increasing shares of renewable energy, including offshore wind and energy efficient technologies presented in the EOR, are applied within national energy and power planning and policy development.
Baseline	Year 2020	1. EOR issued biennially with projections for different development paths of energy sector development 2. EREAs capacity on offshore wind is limited
Target	Year 2025	1. The biennial EOR is used as the main vehicle to evaluate, revise and raise ambitions of future energy and climate scenarios and selected sustainable pathway thereof meeting the NDC commitments is applied in national energy sector planning and policy development 2. EREA leads implementation of necessary preconditions for offshore wind sector development
Output 1		MOIT capacitated to independently prepare high-quality integrated scenario-based long-term modelling of the Vietnamese energy system presented in bi-annual EORs, to provide significant support to Vietnamese national energy system planning and policy development processes
Output indicator		EOR preparation, independently led by EREA and based on high quality data, develops NDC scenarios that are incorporated into the power planning and policy development
Baseline	2020	Vietnam EOR is prepared in cooperation between EREA and DEA with significant external support and is used as input to national energy plans, including PDP 8 and EMP development processes.
Target	2023	Vietnam EOR is developed and published, headed by EREA with support from DEA, and used for national energy plans, including stock-taking of the progress of PDP 8 and EMP and progress toward meeting the targets of the NDCs.

Target	2025	EREA leads, independently, the development of further improved Vietnam EOR and uses it to support national energy plans, including the revision of PDP 8 with pathways to meet the NDC targets.
Output 2		Vietnamese authorities capacitated to lead and manage offshore wind (OSW) development and roll-out
Output Indicator		Implementation of OSW follows well informed developed regulatory framework, technical standards for OSW and successful design of OSW auctioning scheme
Baseline	2020	Roadmap for OSW completed
Target	2023	Pilot regulatory mechanism for OSW transparent and competitive auctioning prepared, ready for submission for approval
Target	2025	Well-informed offshore wind regulatory framework, technical standards and support scheme prepared

4. Management arrangement

The parties have agreed to the following management arrangement with the aim to ensure adequate dialogue and timely decisions regarding the three development engagements.

The daily implementation is the responsibility of EREA, in joint cooperation with DEA.

An Implementation Group for EREA's development engagement on *Capacity Development for long-range energy sector planning* will manage daily implementation of the annual work programmes and will consist of focal points from the partner institution, DEA, LTA – shared with EREA, and EDK. The Implementation Group will guide daily implementation and meet on a needs basis, and will: i) develop annual work programmes and progress reports for the development engagement, matching priorities in the partner's work programmes, ii) determine need for Technical Assistance (TA) inputs from DEA experts, LTA and from national and international consultants through development of a TA provision plan; iii) draft and approve TOR for TA and; iv) monitor and coordinate day-to-day progress of development engagement implementation. The Implementation Group reports on the development engagement to the Steering Committee.

A Steering Committee for DEPP III in Vietnam is established and anticipated to meet once to twice per year and is a forum for high level policy dialogue in addition to setting direction for programme implementation. The Steering Committee should be co-chaired by the Minister or Vice Minister of Industry and Trade and the Danish Ambassador to Vietnam and include a representative from Danish Energy Agency and heads/deputy heads of departments for the development engagement partner institutions. Its main task will be to approve the Standard Operating Procedures (SOP) for DEPP III, annual work programmes, budgets and reports, and review annual progress. The Steering Committee should provide strategic guidance to the Partnership Programme, encourage cross-fertilisation and discuss and resolve issues related to program progress and decide on any reallocation between the Development Engagements. Decisions are made by consensus.

A Secretariat to the Steering Committee, headed by the EESD leader, the DEA country team leader and Senior Program Officer EDK, will be established to coordinate inputs from the Implementation Groups and ensure quality assurance of materials (e.g. work programmes and progress reports) submitted to the SC and facilitate decision making processes and resolving issues during programme implementation.

Implementation arrangements

At implementation level EREA is responsible for implementation of the DE with DEA being responsible for providing the necessary and timely technical advice to deliver the outputs, according to the output-based budget and the requests for TA from the DE. Each DE partner has, at output level, dedicated partner specialists in a peer-to-peer arrangement with DEA that provide inputs to the annual work programmes, bi-annual and annual progress report and proposed needs for provision of TA. This include formulating detailed Terms of References (TORs) and specific TA profiles and time-input required to deliver the outputs. Provision of TA will be agreed in the TORs along the following principles of applying a) DEA experts where peer advise is required; b) national specialists where relevant and; c) international specialists where dedicated international technical expertise will be needed.

EREA, DEA and EDK are responsible for coordination of inputs to the annual work programmes, bi-annual and annual progress report. EREA and DEA are responsible for advising on implementation and approving deliverables of TAs.

In addition to DEA, national and international short-term experts, the programme will finance an LTA to be placed in ERAV. ERAV will arrange and finance project office. Other equipment and facilities (e.g. printer, stationery, etc.) will be provided by DEPP3. The LTA will have primary focus on delivering technical advice at output level to the present engagement and will also assist with coordination of TA-missions from Denmark, and facilitation of knowledge sharing across the programme and provide advisory and reporting support in relevant areas under the present engagement on ERAV and EREA demand. The LTA would also use any opportunity to encourage partners (as duty bearers) to ensure consultation of relevant DE outputs with right holders – civil society organizations, private sector investors and other relevant stakeholders. For details please refer to the Terms of Reference for the LTA.

The EDK, through their Sector Counsellor, assist in coordinating relevant programme implementation and inputs from Denmark.

DEA (via EDK) has the possibility to engage local consultants to support programme activities (e.g. review relevant policy, mechanism and legal framework, coordination, administration, QA of materials/deliverables, meetings, missions and study tours, logistical support) related to activities of three development engagements to a limited extent based on specific ToRs.

5. Monitoring and Evaluation

Daily progress will be followed by Implementation Group, who will report progress towards outputs and outcome of this engagement through bi-annual progress reporting to the Steering Committee.

The Implementation Group will also provide an Annual Progress Report to be approved by the Steering Committee. All reporting should, to the extent possible and when relevant, be disaggregated by gender, area, sector, etc. and forwarded to the DEPPIII Advisory Group in Copenhagen, which follow the overall DEPP III implementation.

Detailed indicators for each specific development engagement output will be revisited and potentially refined as part of the inception, where annual targets, in line with already defined targets will be adjusted with reference to the guidelines for monitoring of the Danish Climate Envelope. Monitoring towards these targets will be reported through the bi-annual progress reporting using a "traffic-light" system, where:

- "green" is on-track – implementation progresses as scheduled;
- "yellow" is partly on-track, which needs an explanation by Implementation Group including actions taken to get back on-track;
- "red" is off-track, which needs a detailed explanation by Implementation Group to the Steering Committee with recommendations of changes to the implementation to get the engagement back on-track. If "red" in two consecutive reporting periods, the Steering Committee may consider extraordinary mitigation measures such as allocation of a task force and reallocation between outputs or between the development engagements or abandonment of activities as deemed relevant.

Monitoring of actual budget spent by international and national TA as well as DEA staff will be reported in the biannual progress reports by DEA and updated work programmes incl. a projection of TA input for the following 6 months. Similar reporting will be done for other costs incl. missions, workshops and study-tours.

The Danish Ministry of Foreign Affairs shall have the right to carry out any technical mission that is considered necessary to monitor the implementation of the programme. This includes a mid-term review. After the termination of the programme support the Danish Ministry of Foreign Affairs reserves the right to carry out evaluation in accordance with this article.

6. Prerequisites

This cooperation will become effective upon signing of the Government to Government Agreement, to which this DED is annexed.

Ministry of Industry and Trade
Electricity Regulatory Authority of Vietnam
Danish Ministry of Foreign Affairs
Danish Ministry of Climate, Energy and Utilities

Capacity Development for Renewable Energy Integration into the Power System

Development Engagement Document

Electricity Regulatory Authority of Vietnam

1. Introduction

The present development engagement document details the objectives and management arrangements for the development cooperation concerning capacity development for renewable Energy Integration into the power system with Electricity Regulatory Authority of Vietnam (ERAV) between 2020 and 2025 as agreed between the parties specified below. The development engagement document is annexed to the Bilateral Agreement with Implementing Partner and constitutes an integrated part hereof together with the documentation specified below. This Development Engagement with ERAV is part of the Danish support provided through the Danish Energy Partnership Programme (DEPP III) to China, Vietnam, South Africa and Mexico, with funds from the Danish Climate Envelope.

1.1 Parties

The Danish Energy Agency (DEA)
Carsten Niebuhrs Gade 43, 1577 Copenhagen V
Denmark

and

Ministry of Industry and Trade
Electricity Regulatory Authority of Vietnam

1.2 Documentation

"The Documentation" refers to the partner documentation for the supported intervention, which is:

- Circular 25/2016/TT-BCT and 39/2015/TT-BCT Regulations on Electricity Transmission and Distribution System; Circular 30/2019/TT-BCT Amending and supplementing a number of articles of Circular 25/2016/TT-BCT and Circular 39/2015/TT-BCT.
- Circular 40/2014/TT-BCT and Circular 31/2019/TT-BCT Regulations on Dispatching in national power system.
- Some technical procedures under Transmission and Distribution regulations such as Ancillary services, power system operation, forecasting, testing, etc.
- Other relevant documents.

1.3 Contributions

Denmark, represented by the Ministry of Climate, Energy and Utility's Energy Agency (DEA), commits to a contribution to the engagement of with support of peer-to-peer technical assistance, training, workshops and seminars needed to reach the outcome and outputs stipulated in this engagement, with inputs agreed on an annual basis during the period from 2020 to 2025.

2. Approach to reach results – Theory of Change

The Theory of Change is that if DEA, based on experience and expertise from the transition of Denmark's energy system within renewable energy, through experienced organisations including but not limited to Energinet, supports ERAV, National Load Dispatch Center (NLDC) and the other

stakeholders (Power Corporations (PCs), National Power Transmission Corporation (NPT), etc.) with technical assistance and peer learning, then the capacity of ERAV, NLDC and other stakeholders (PCs, NPT, etc.) will be strengthened through joint development of a regulatory framework that ensure a power system that is sufficiently flexible to cost-effectively integrate wind and solar power and improve capacity and efficiency of these stakeholders as well.

This will lead to that ERAV increase the quality towards easier integration of RE, lower costs and have a more secure system, and that they know in what way to update rules and requirements for how consumers, utilities and power producers shall act and exchange information when connected to the grid to ensure secure operation of the power system and to enable developers of wind and solar power to connect and operate their production facilities;. In addition, ERAV will be better at monitoring and evaluating efficiency in operation of other stakeholders (NLDC, PCs, NPT, etc.). ERAV will also be able to develop a power market, that accommodate wind and solar power production, which includes incentivising dispatchable power plants and consumers to contribute to balancing the variable production from wind and solar power. It will also lead to operator of the power system and power market, developing tools to handle the near future dynamics in the power system to enable continued balancing of the system. This includes application of forecasting of wind and solar power production in system operation as well as increased monitoring of the power system and tools to apply this information for secure system operation. The security and reliability of power system will be improved with high penetration of RE, the performance of distribution network will be increased with the high penetration of embedded generation such as rooftop solar, small RE, etc.

The demand to ERAV, NLDC, NPT and PCs to increase integration of variable renewable energy (wind and solar) into the national power grid is rising, based on pressure from Vietnam's response to the Paris Agreement and other external climate policy factors. Integration of larger shares of wind and solar power will only take place if the changes to regulations and operation of the power system happen, as the connection of more renewable energy will otherwise result in increasing risks for black-outs and an increasingly expensive operation of the power system. Changes are already in progress including updates on some grid codes, based on support from DEPP II. This requirement also brings the needs to monitor and evaluate activities and operation of these stakeholders to ensure efficiency of integrating variable renewable energy into the power grid.

The Theory of Change rests on the assumption that the Vietnamese policy makers at both sector and national levels are seeking and ready to adopt the proposed changes of the engagement. This includes that Vietnamese authorities continue to plan for development and integration of larger shares of wind and solar power into the national power grid and provide a transparent and level playing field for wind and solar power developers. Risks include poor political commitment and leadership to retain a low carbon development path through integration of renewable energy into the national power grid; limited political and managerial mandate or abilities to implement the proposed changes; poor knowledge on financial competitiveness of renewable energy and how a just transition, incl. job creation, can be achieved.

3. Development Engagement Objective

The intended impact of the development cooperation among the parties is: Reduced greenhouse gas emissions in partner countries.[1]

The overall objective of DEPP III is: The partnership countries develop a sustainable and low carbon energy mix in accordance with their NDC targets, which will enable them to upscale NDC targets by 2025.

The DEA will base the actual support on progress attained in the implementation of the engagement as described in the documentation.

For management and reporting purposes the following key outcome and output indicators have been selected to document progress.

Detailed indicators for each output will be revisited and potentially refined as part of the inception, where the baselines and targets will be adjusted with reference to prevailing knowledge and the Climate Envelope guidelines for monitoring.

Engagement Title		**Capacity Development for Renewable Energy Integration into the Power System**
Outcome		Regulatory framework and flexible options in the power system supports the efficient and secure transition towards clean energy with a rising share of electricity from variable renewable energy (VRE) sources
Outcome indicator		Transparent regulatory framework in line with international standards in place for efficient, secure and market-based integration of variable renewable energy (VRE) generation in the power system
Baseline	Year 2020	Incomplete framework for integration of renewable energy in place.
Target	Year 2025	1. Ancillary services deployment and evaluation of electricity market stakeholders for VRE integration is governed by enhanced regulatory framework. 2. Increased VRE integration, system flexibility that rely on VRE forecasting, and enhanced system stability
Output 1		Regulatory framework developed, to ensure the security and quality of power system operation and regulation and benchmarking of power companies[2] for increased integration of VRE

[1] The programme will contribute to emission reductions measured in tons of carbon dioxide equivalent, but this cannot be accurately estimated at the overall programme level as impacts of the contribution are impossible to separate from those of many other initiatives in the four countries in the space of renewable energy, climate change mitigation and sustainable development and because the reduction in CO2 might only happen after the finalization of the programme. Moreover, impacts are likely to manifest themselves concretely in the longer term, beyond completion of the five-year programme. However, all efforts will be made to assess emission reductions resulting from the interventions.

[2] Power companies are stakeholders operating power system such as NLDC, PCs, NPT.

Output indicator		Updated grid codes and regulations of electricity sector stakeholders such as power distribution companies, transmission companies and the system and market operator
Baseline	2020	Grid codes partially updated, without considering new technologies (e.g. offshore wind storage etc.)
Target	2023	Draft regulatory framework ready, which consider new technologies and cover electricity sector stakeholders such as power distribution companies, transmission companies and other power service companies
Target	2025	Enforcement and implementation of relevant regulation, including grid codes, for increased VRE integration into the grid
Output 2		Solutions focusing on the demand side and dispatchable power generation to ensure increased integration of VRE
Output indicator		Mechanisms to ensure optimal integration of VRE through flexibility of dispatchable power plants and demand flexibility
Baseline	2020	Limited incentives for demand flexibility and not applied
Target	2023	Solutions for flexibility in power generation and demand-response to allow for optimal integration of VRE
Target	2025	Optimization of VRE integration regulated through enforcement of updated mechanisms.
Output 3		Vietnamese power system operation capacity enhanced to ensure optimal integration of VRE into the power system
Output indicator		Capacity to optimize integration of VRE into the grid
Baseline	2020	Currently capacity for VRE integration applied in system operation is limited
Target	2023	Application of tools, e.g. forecasting and monitoring tools, for optimal VRE integration designed, ready for testing in system operation
Target	2025	Developed tools for VRE integration are applied in system operation

4. Management arrangement

The parties have agreed to the following management arrangement with the aim to ensure adequate dialogue and timely decisions regarding the three development engagements.

The daily implementation is the responsibility of ERAV, in joint cooperation with DEA.

An Implementation Group for ERAV's development engagement on *Capacity Development for Renewable Energy Integration into the Power System* will manage daily implementation of the annual work programmes and will consist of focal points from the partner institution, DEA, LTA and EDK. The Implementation Group will guide daily implementation and meet on a needs basis, and will: i) develop annual work programmes and progress reports for the development engagement, matching priorities in the partners work programmes, ii) determine need for Technical Assistance (TA) inputs from DEA experts, LTA and from national and international consultants through development of a TA provision plan; iii) draft and approve TOR for TA and; iv) monitor and

coordinate day-to-day progress of development engagement implementation. The Implementation Group reports on the development engagement to the Steering Committee.

A Steering Committee is established and anticipated to meet once to twice per year and is a forum for high level policy dialogue in addition to setting direction for programme implementation. The Steering Committee should be co-chaired by the Minister or Vice Minister of Industry and Trade and the Danish Ambassador to Vietnam and include a representative from Danish Energy Agency and heads/deputy heads of departments for the development engagement partner institutions. Its main task will be to approve the Standard Operating Procedures (SOP) for DEPP III, annual work programmes, budgets and reports, and review annual progress. The Steering Committee should provide strategic guidance to the Partnership Programme, encourage cross-fertilisation and discuss and resolve issues related to program progress and decide on any reallocation between the Development Engagements. Decisions are made by consensus.

A Secretariat to the Steering Committee (SC) headed by the EESD leader, the DEA country team leader and Senior Program Officer EDK will be established to coordinate inputs from the Implementation Groups and ensure quality assurance of materials (e.g. work programmes and progress reports) submitted to the SC and facilitate decision making processes and resolving issues during programme implementation.

Implementation arrangements

At implementation level ERAV is responsible for implementation of the DE with DEA being responsible for providing the necessary and timely technical advice to deliver the outputs, according to the output-based budget and the requests for TA from the DE. ERAV has, at output level, dedicated partner specialists in a peer-to-peer arrangement with DEA that provide inputs to the annual work programmes, bi-annual and annual progress report and proposed needs for provision of TA. This include formulating detailed Terms of References (TORs) and specific TA profiles and time-input required to deliver the outputs. Provision of TA will be agreed in the TORs along the following principles of applying a) DEA experts where peer advice is required; b) national specialists where relevant and; c) international specialists where dedicated international technical expertise will be needed.

ERAV, DEA and EDK are responsible for coordination of inputs to the annual work programmes, bi-annual and annual progress report. ERAV and DEA are responsible for advising on implementation and approving deliverables of TAs.

In addition to DEA, national and international short-term experts, the programme will finance an LTA to be placed in ERAV. ERAV will arrange and finance project office. Other equipment and facilities (e.g. printer, stationery, etc.) will be provided by DEPP3. The LTA will have primary focus on delivering technical advice at output level to the present engagement, support ERAV and EREA to develop ideas and contents within the programs (e.g. TORs) and will also assist with coordination of TA-missions from Denmark, and facilitation of knowledge sharing across the programme and provide advisory and reporting support in relevant areas under the present engagement on ERAV and EREA demands. The LTA would also use any opportunity to encourage partners (as duty bearers) to ensure consultation of relevant DE outputs with right holders – civil society organizations, private sector investors and other relevant stakeholders. For details please refer to the ToR for the LTA.

The Embassy of Denmark (EDK) will assist in coordinating relevant programme implementation and inputs from Denmark.

DEA (via EDK) has the possibility to engage local consultants to support programme activities (e.g. review relevant policy, mechanism and legal framework, coordination, administration, QA of materials/deliverables, meetings, missions and study tours, logistical support) related to activities of three development engagements to a limited extent based on specific ToRs.

5. Monitoring and Evaluation

Daily progress will be followed by Implementation Group, who will report progress towards outputs and outcome of this engagement through bi-annual progress reporting to the Steering Committee. The Implementation Group will also provide an Annual Progress Report to be approved by the Steering Committee. All reporting should, to the extent possible and when relevant, be disaggregated by gender, area, sector, etc. and forwarded to the DEPPIII Advisory Group in Copenhagen, which follow the overall DEPP III implementation.

Detailed indicators for each specific development engagement output will be revisited and potentially refined as part of the inception, where annual targets, in line with already defined targets will be adjusted with reference to the guidelines for monitoring of the Danish Climate Envelope. Monitoring towards these targets will be reported through the bi-annual progress reporting using a "traffic-light" system, where:

- "green" is on-track – implementation progresses as scheduled;
- "yellow" is partly on-track, which needs an explanation by Implementation Group including actions taken to get back on-track;
- "red" is off-track, which needs a detailed explanation by Implementation Group to the Steering Committee with recommendations of changes to the implementation to get the engagement back on-track. If "red" in two consecutive reporting periods, the Steering Committee may consider extraordinary mitigation measures such as allocation of a task force and reallocation between outputs or between the development engagements or abandonment of activities as deemed relevant.

Monitoring of actual budget spent by international and national TA as well as DEA staff will be reported in the biannual progress reports by DEA and updated work programmes incl. a projection of TA input for the following 6 months. Similar reporting will be done for other costs incl. missions, workshops and study-tours.

The Danish Ministry of Foreign Affairs shall have the right to carry out any technical mission that is considered necessary to monitor the implementation of the programme. This includes a mid-term review. After the termination of the programme support the Danish Ministry of Foreign Affairs reserves the right to carry out evaluation in accordance with this article.

6. Prerequisites

This cooperation will become effective upon signing of the Government to Government Agreement, to which this DED is annexed.

Ministry of Industry and Trade
Energy Efficiency and Sustainability Development Department
Danish Ministry of Foreign Affairs
Danish Ministry of Climate, Energy and Utilities

Low carbon development in the industrial sector
Development Engagement Document
Energy Efficiency and Sustainable Development Department

1. Introduction

The present development engagement document details the objectives and management arrangements for the development cooperation concerning low carbon development in the industrial sector with Energy Efficiency and Sustainable Development Department (EESD) between 2020 and 2025 as agreed between the parties specified below. The development engagement document is annexed to the Bilateral Agreement with Implementing Partner and constitutes an integrated part hereof together with the documentation specified below. This Development Engagement with EESD is part of the Danish support provided through the Danish Energy Partnership Programme (DEPP III) to China, Vietnam, South Africa and Mexico, with funds from the Danish Climate Envelope.

1.1 Parties

The Danish Energy Agency (DEA)
Carsten Niebuhrs Gade 43, 1577 Copenhagen V
Denmark

and

Ministry of Industry and Trade (MOIT)
Energy Efficiency and Sustainable Development Department

1.2 Documentation

"The Documentation" refers to the partner documentation for the supported intervention, which is:

- Law on Energy Efficiency and Conservation (LEEC)
- Decree No. 134: regulations on sanction against administrative violation in the field of electricity, safety of hydroelectric dam, thrifty and effective use of energy
- Decree No. 21: detailing the Law on economical and efficient use of energy and measures for its implementation
- Energy Benchmarking Circulars issued by MOIT.

1.3 Contributions

Denmark, represented by the Ministry of Climate, Energy and Utility's Energy Agency (DEA), commits to a contribution to the engagement with support of peer-to-peer technical assistance, training, workshops and seminars needed to reach the outcome and outputs stipulated in this engagement, with inputs agreed on an annual basis during the period from 2020 to 2025.

2. Approach to reach results – Theory of Change

The Theory of Change (TOC) is that if DEA, based on experience and expertise from the transition of Denmark's energy system within energy efficiency, supports EESD with technical assistance and peer learning and feeds this into policy dialogues on energy efficiency (EE) planning and action plans, then the capacity of EESD will be strengthened to: Develop the national EE regulatory framework

and incentive schemes for the industry sector, and; to enforce compliance with the EE regulatory framework at national and provincial level that meet national energy efficiency targets.

This will lead to EESD being able to make necessary development and revisions of EE regulations and incentive schemes, administrative procedures, guidelines, tools and templates that guide the industrial energy users in reporting on compliance with the EE regulatory framework. The support will also lead to development of technology catalogues guiding selected industrial sectors in investment in energy efficient technology. In addition, EESD and selected provincial authorities will have the capacity to implement a developed incentive scheme that support energy efficiency investment in energy intensive industries inspired by the Danish developed voluntary scheme for energy intensive industry.

Ambitious legislation stipulating National energy efficiency targets by 2030 is in place which leads EESD to contribute to fulfilling the political demand to meet the growing power demand through energy efficiency applied as the "first fuel".

The TOC rests on the assumption that the Vietnamese policy makers at both national and provincial levels are seeking and ready to adopt the proposed changes of the engagement. This include that EESD staff in MOIT and staff in the Departments of Industry and Trade at provincial level (DOITs) are interested, committed and have the availability to engage in the envisioned capacity development and that funds can be made available to implement a sufficiently attractive incentive scheme for the industry sector. Risks include poor political commitment and leadership to retain a low carbon development path, and; limited political and managerial mandate or abilities to implement the proposed changes.

3. Development Engagement Objective

The intended impact of the development cooperation among the parties is: Reduced greenhouse gas emissions in partner countries.[1]

The overall objective of DEPP III is: The partnership countries develop a sustainable and low carbon energy mix in accordance with their NDC targets, which will enable them to upscale NDC targets by 2025.

The DEA will base the actual support on progress attained in the implementation of the engagement as described in the documentation.

For management and reporting purposes the following key outcome and output indicators have been selected to document progress.

[1] The programme will contribute to emission reductions measured in tons of carbon dioxide equivalent, but this cannot be accurately estimated at the overall programme level as impacts of the contribution are impossible to separate from those of many other initiatives in the four countries in the space of renewable energy, climate change mitigation and sustainable development. Moreover, impacts are likely to manifest themselves concretely in the longer term, beyond completion of the five-year programme. However, all efforts will be made to assess emission reductions resulting from the interventions.

Detailed indicators for each output will be revisited and potentially refined as part of the inception, where the baselines and targets will be adjusted with reference to prevailing knowledge and the Danish Climate Envelope guidelines for monitoring.

Engagement Title		Low carbon development in the industrial sector
Outcome		Incentive schemes for energy efficiency in the industrial sector and improved capacity in place to develop and revise the EE regulatory framework at national level and enforce compliance with EE legal framework at provincial level
Outcome indicator		EE regulatory framework under effective implementation at national and provincial level and incentive schemes in place for industries
Baseline	Year 2020	1. Compliance with EE legal framework for industrial sector is limited at provincial level 2. EE incentive schemes for industry are absent
Target	Year 2025	1. Compliance with EE legal framework for industrial sector improved at provincial level 2. EE incentive scheme ready for approval by the competent authorities
Output 1		EE legal framework developed and revised, and compliance with EE legal framework enforced at provincial level.
Output indicator		1. Developed or revised energy consumption benchmarking regulations in industrial sector 2. % of enterprises complying with energy consumption benchmarking regulations
Baseline	2020	1. A number of energy consumption benchmarking regulations issued from 2014 to 2016 need continued updating 2. Compliance is poor at provincial level
Annual target	2023	1. At least one energy consumption benchmarking regulation developed or revised 2. Compliance is 50% of enterprises in target provinces
Annual target	2025	1. At least one additional energy consumption benchmarking regulation developed or revised 2. Compliance is 80% of enterprises in target provinces and minimum 50% on average from selected other provinces
Output 2		EE incentive scheme for industry sector designed for selected enterprises in provinces, and the roadmap and action plan of finalized EE incentive scheme ready for approval
Output indicator		1. EE incentive scheme for industry sector designed and tested 2. Final EE incentive scheme, roadmap and action plan ready for approval by the competent authorities
Baseline	2020	1. No EE incentive schemes available 2. No incentive schemes tested at provincial level
Annual target	2023	1. EE incentive scheme designed

			2. EE incentive scheme tested in at least two selected provinces and in at least four specific enterprises
Annual target	2025		1. EE incentive scheme design finalized 2. Roadmap and action plan for nation-wide roll-out of incentive scheme ready for approval by competent authorities
Output 3			EE technology catalogues for industry and technical guidelines for selected industrial sectors developed, disseminated and application status assessed
Output indicator			1. EE technology catalogue for industry and technical guidelines for selected industrial sectors developed and disseminated. 2. Assessment of application status of technologies in the developed EE technology catalogue in selected industrial sectors
Baseline	2020		No EE technology catalogue and technical guidelines issued
Annual target	2023		1. One EE technology catalogue developed for industry and two technical guidelines for selected industrial sectors developed and disseminated 2. Assessment of application status of technologies in the developed EE technology catalogue in two selected industrial sectors
Annual target	2025		1. Two additional technical guidelines for selected industrial sectors developed and disseminated 2. Assessment of application status of technologies in the developed EE technology catalogue in two additional selected industrial sectors

4. Management arrangement

The parties have agreed to the following management arrangement with the aim to ensure adequate dialogue and timely decisions regarding the three development engagements.

The daily implementation is the responsibility of EESD, in joint cooperation with DEA.

An Implementation Group for EESD's development engagement on *Low carbon development in the industrial sector* will manage daily implementation of the annual work programmes and will consist of focal points from the partner institution, DEA, LTA and EDK. The Implementation Group will guide daily implementation and meet on a needs basis, and will: i) develop annual work programs and progress report matching priorities in the partners work plans, ii) determine need for Technical Assistance (TA) inputs from DEA experts, LTA, international and national consultants and develop TA procurement plans; iii) draft and approve TORs for TA and; iv) monitor and coordinate day-to-day progress of development engagement implementation and; v) approve deliverables of TA. The Implementation Group reports on the development engagement to the Steering Committee.

A Steering Committee for DEPP III in Vietnam is established and anticipated to meet once to twice per year and is a forum for high level policy dialogue in addition to setting direction for programme implementation. The Steering Committee should be co-chaired by the Minister or Vice Minister of Industry and Trade and the Danish Ambassador to Vietnam and include a representative from Danish Energy Agency and heads/deputy heads of departments for the development engagement

partner institutions. Its main task will be to approve the Standard Operating Procedures (SOP) for DEPP III, annual work programmes, budgets and reports, and review annual progress. The Steering Committee should provide strategic guidance to the Partnership Programme, encourage cross-fertilisation and discuss and resolve issues related to program progress and decide on any reallocation between the Development Engagements. Decisions are made by consensus.

A Secretariat to the Steering Committee, headed by the EESD leader, the DEA country team leader and Senior Program Officer EDK, will be established to coordinate inputs from the Implementation Groups and ensure quality assurance of materials (e.g. work programmes and progress reports) submitted to the SC and facilitate decision making processes and resolving issues during programme implementation.

Implementation arrangements

At implementation level EESD is responsible for implementation of the DE with DEA being responsible for providing the necessary and timely technical advice to deliver the outputs, according to the output-based budget and the requests for TA from the DE. EESD has, at output level, dedicated partner specialists in a peer-to-peer arrangement with DEA that provide inputs to the annual work programmes, bi-annual and annual progress report and proposed needs for provision of TA. This include formulating detailed Terms of References (TORs) and specific TA profiles and time-input required to deliver the outputs. Provision of TA will be agreed in the TORs along the following principles of applying a) DEA experts where peer advice is required; b) national specialists where relevant and; c) international specialists where dedicated international technical expertise will be needed.

EESD, DEA and EDK are responsible for coordination of inputs to the annual work programmes, bi-annual and annual progress report. EESD and DEA are responsible for advising on implementation and approving deliverables of TAs.

In addition to DEA, national and international short-term experts, the programme will finance an LTA to be placed in EESD. EESD will arrange and finance project office. Other equipment and facilities (e.g. printer, stationery, etc.) will be provided by DEPP3. The LTA will have primary focus on delivering technical advice at output level to the present engagement, support EESD to develop ideas and contents within the programs (e.g. TORs) and will also assist with coordination of TA missions from Denmark, facilitation of knowledge sharing across the programme and provide advisory and reporting support in relevant areas under the present engagement on EESD demand. The LTA would also use any opportunity to encourage partners (as duty bearers) to ensure consultation of relevant DE outputs with right holders – civil society organizations, private sector investors and other relevant stakeholders. For details please refer to the ToR for the LTA.

The EDK will, through their Sector Counsellor, assist in coordinating relevant programme implementation and inputs from Denmark.

DEA (via EDK) has the possibility to engage local consultants to support programme activities (e.g. review relevant policy, mechanism and legal framework, coordination, administration, QA of

materials/deliverables, meetings, missions and study tours, logistical support) related to activities of three development engagements to a limited extent based on specific ToRs.

5. Monitoring and Evaluation

Daily progress will be followed by Implementation Group who will report progress towards outputs and outcome of this engagement through bi-annual progress reporting to the Steering Committee. The Implementation Group will also provide an Annual Progress Report to be approved by the Steering Committee. All reporting should, to the extent possible and when relevant, be disaggregated by gender, area, sector, etc. and forwarded to the DEPPIII Advisory Group in Copenhagen, which follow the overall DEPP III implementation.

Detailed indicators for each specific development engagement output will be revisited and potentially refined as part of the inception, where annual targets, in line with already defined targets will be adjusted with reference to the guidelines for monitoring of the Danish Climate Envelope. Monitoring towards these targets will be reported through the bi-annual progress reporting using a "traffic-light" system, where:

- "green" is on-track – implementation progresses as scheduled;
- "yellow" is partly on-track, which needs an explanation by Implementation Group including actions taken to get back on-track;
- "red" is off-track, which needs a detailed explanation by Implementation Group to the Steering Committee with recommendations of changes to the implementation to get the engagement back on-track. If "red" in two consecutive reporting periods, the Steering Committee may consider extraordinary mitigation measures such as allocation of a task force and reallocation between outputs or between the development engagements or abandonment of activities as deemed relevant.

Monitoring of actual budget spent by international and national TA as well as DEA staff will be reported in the biannual progress reports by DEA and updated work programmes incl. a projection of TA input for the following 6 months. Similar reporting will be done for other costs incl. missions, workshops and study-tours.

The Danish Ministry of Foreign Affairs shall have the right to carry out any technical mission that is considered necessary to monitor the implementation of the programme. This includes a mid-term review. After the termination of the programme support the Danish Ministry of Foreign Affairs reserves the right to carry out evaluation in accordance with this article.

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This cooperation will become effective upon signing of the Government to Government Agreement, to which this DED is annexed.