

**Danish Ministry of Foreign Affairs of Denmark
Danish Ministry of Energy, Utilities and Climate**

Danida

**Capacity Development for long-range energy sector planning with
Ministry of Industry and Trade, Planning Department of the General
Directorate of Energy**

**Development Engagement Document
Annex A to
Energy Partnership Programme between Viet Nam and Denmark
Development Engagement 1**

May 16th 2017

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1 INTRODUCTION

The present development engagement (DE) document details the objectives and management arrangements for the development cooperation concerning “Capacity Development for long-range energy sector planning” with the Ministry of Industry and Trade (MOIT), Planning department of the General Directorate of Energy (DGE), for the period from July 2017 to June 2020 as agreed between the parties specified below. The development engagement document is an annex to the Bilateral Agreement with the Implementing Partner and constitutes an integrated part hereof together with the documentation specified below. This DE with GDE is part of the support provided through the Energy Partnership Program between Viet Nam and Denmark. The Partnership Programme with Viet Nam is embedded in the Danish Energy Agency (DEA) Energy Partnership Programme (DEPP) supported by the Danish Climate Envelope focusing on four countries including also China, Mexico and South Africa.

2 PARTIES

The Danish Energy Agency
Amaliegade 44
1256 København K
Denmark

and

The Ministry of Industry and Trade (MOIT), General Directorate of Energy
[insert address]

3 DOCUMENTATION

The partner documents that support this intervention are:

- 1 The Green Growth Strategy and Action Plan
- 2 The Plan for Implementation of the Paris Agreement
- 3 The National Power Development Master Plan (version VII) and the
- 4 Renewable Energy Strategy.

4 BACKGROUND

Viet Nam has ratified the Paris Agreement under the UNFCCC (the United Nation Framework Convention on Climate Change) and has submitted its NDC (Nationally Determined Contribution), committing to a Greenhouse Gas (GHG) reduction of eight percent compared to the BAU (business as usual) scenario by 2030. The reduction could be up to 25 percent if Viet Nam receives international support. Viet Nam believes its contribution is fair and ambitious, feasible and achievable. Its GHG intensity per capita is lower than the average global level, but the intensity of emissions per unit of GDP is higher and greater than some neighbouring countries. There are other considerations driving Viet Nam’s policies towards reduction of fossil fuel use. The traditional primary energy sources are becoming very limited: Viet Nam 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 Viet Nam will need to start importing liquid natural gas (LNG) beginning in 2023.

Key documents for Viet Nam to move its energy and power system in a more sustainable direction include the Green Growth Strategy, the Plan for Implementation of the Paris Agreement, and the National Power Development Master Plan (version VII). The vision expressed through these involves assuring national energy security by developing different energy sources, reducing reliance on petroleum products, and encouraging the exploitation and use of renewable and low GHG emission energy sources. The strategy includes “changing the energy infrastructure, improving the power grid and ... applying modern technologies to improve the quality of power distribution networks, reduce power losses, increase electricity use efficiency and move towards the construction of smart-grids.” The Renewable Energy Strategy of 2015 constitutes the key policy document on renewable energy promotion. The wider climate change and green growth policies are reinforced by the National Climate Change Action Plan and the National Green Growth Action Plan (March 2014). The renewable energy strategy sets overall RE targets of increase of total production and use of RE sources from approximately 25 million TOE (tons of oil equivalent) in 2015 to 37 million TOE in 2020 and 62 million TOE in 2030.

The Ministry of Industry and Trade (MOIT) is the governmental agency responsible for state management of industry and trade including electricity, renewable energy, oil and gas. MOIT is, through the planning department of its General Department of Energy (GDE), in the process of strengthening its energy sector planning capacity to assess impacts of different policy choices. The planning department has responsibility for updating the Power Development Plan (PDP) at least every five years. The PDP serves as a national masterplan to mobilize all national and international resources for power development to ensure adequate power supply including supply from renewable energy with increasing quality and reasonable electricity price for the country’s socio-economic development. Major shortcomings of the current plan are the unreliability of the long-range demand forecasting; and, the inability to offer guidance on the adjustment of the power system that will be necessary to allow the future inclusion of large amounts of renewable energy. Consequently, GDE is so far not able to produce an accurate cost-optimised plan. These shortcomings prevent Viet Nam from achieving the optimal energy mix from an economic, security, and developmental point and affect potential renewable energy suppliers as they maintain uncertainty around renewable energy pricing. The resulting uncertainty deters investment.

With DEA support, in previous and ongoing programmes, a model of the Viet Nam power sector has been developed, and a number of scenario analyses have been performed utilizing the Balmorel model¹. This will help further develop the power sector which are essential to facilitate the implementation of the RE strategy. Continued support as from DEA as requested by GDE will develop GDE’s capacity to select, apply and customise relevant energy planning models and to enhance the quality of the input data to ensure that the models’ outputs are as reliable as possible.

¹ A partial equilibrium model originally developed with finance from the Danish Energy Research Program, now further developed and refined through successive projects and collaborative sharing of results, code and data, in a number of developing countries including China and Mexico. It is of particular value to support analyses of the energy sector with emphasis on electricity and combined heat and power systems.

The previous and ongoing co-operation also supported the production of the first Energy Outlook Report (EOR), which is due to be published in September 2017 with projections from 2015. This support will continue in the proposed development engagement with the aim of updating the EOR more frequently and developing the internal capacity in the planning department to update the report without being reliant on external assistance. Forward-looking analyses will be developed as a basis for concrete development planning and the production of new coherent and consistent policy documents. The EOR will also inform the debate on the actual cost of RE development. This will facilitate decisions on subsidies, pricing and other policy measures, including feed-in tariffs for wind, to ensure that the respective returns on investment in RE and fossil fuel based power matches their value to the wider economy and hence attract investments in RE. In addition, the analyses will help to support the development of the electricity system, in concert with DE 2, of the proposed new programme.

MOIT has presented a major re-structuring plan to government, which is going through the approval process as this document is being prepared and expected to be implemented before the start of the programme. The changes reflect Government's intention to strengthen the climate change agenda within MOIT and ensure that sufficient resources are available for the integration of RE into the power system. The engagement is therefore highly relevant and, although the planning department will not be directly affected, this capacity building plus the experience of the current cooperation, is a strong indication that the Planning Department will have the necessary capacity and resources to absorb the support.

5 DEVELOPMENT ENGAGEMENT OBJECTIVE

The objective of the wider Energy Partnership Programme between Viet Nam and Denmark is that cost-effective opportunities for low carbon transition in energy system are more widely adopted throughout Viet Nam. This objective is in alignment with Viet Nam's Plan for Implementation of the Paris Agreement, the Viet Nam National Green Growth Strategy, and the RE Master Plan. The particular objective of this DE is that Viet Nam's energy system is made more sustainable through implementation of cost-optimised policy and planning.

The DEA will base the actual support on progress attained in the implementation of the engagement as described in the documentation. Progress will be measured through the GDE's monitoring framework, the Climate Change Envelope (CCE) indicators, and some specific indicators developed for this DE.

6 THEORY OF CHANGE

The intended outcome of the DE is that Vietnamese energy policy and planning is strengthened and informed by analyses and dialogue around the potential for cost-effective sustainable energy systems. This will be achieved through two outputs. The first is the development of the capacity of the GDE Planning Department and institutions involved in power system planning such as Institute of Energy to commission, develop, and analyse integrated modelling of long-term energy and power sector development scenarios. This output is achieved through: training and capacity development in scenario development using the Balmorel model as well as other models as per needs and subject to the Danish competences being available; training in adjustment and reprogramming of the models to

deal with different scenarios; development of capacity to disaggregate the energy demand by sectors and end users and project the demand at disaggregated level; establishment of a framework for continued updating of the data needed for demand forecasts; and capacity development on a demand responsive basis in relevant associated areas that GDE considers necessary to develop policy, including familiarisation with Danish and international experience, systems and technologies.

Having undertaken the modelling and produced the, often highly technical analyses, a second output will be centred around the publication of regular Energy Outlook Reports (EOR). The EOR is developed based on the technical results of the full cost modelling executed under the first output into a narrative description of policy alternatives with information useful for decision makers and other stakeholders - technical and non-technical. GDE has prioritised the production of EORs as a tool for meeting its requirement to disseminate essential information to planners and decision makers in other sectors and as a platform for policy dialogue as the availability of energy and power becomes a critical issue for the continuing growth of Viet Nam's economy. The support will include activities to disseminate the EOR and manage feedback. Support will also be given to the extension and consolidation of the EOR preparation process to streamline and make sustainable its production and to further enhance its quality.

The Planning Department may contract the production of the modelling and the production of the EOR out to, for example, the Institute of Energy, in which case the assistance will cover the commissioning, management and quality control of the process as well as technical support to cater for needs which may emerge during programme implementation, on a demand responsive basis and subject to the Danish competences being available.

The Theory of Change related to this DE is that by informing policy dialogue and decisions in Viet Nam through the use of credible and consistent scenarios and long term forecasts of the energy and power system, policymakers can make decisions with greater certainty about central issues of concern such as costs, security of supply etc. The outputs of this DE will be able to feed into the updates of the PDP, thus contributing to the implementation of the Renewable Energy Strategy by MOIT.

Danish energy policy has been based on comprehensive analysis of various future development pathways for integration of increasing levels of renewables into the energy system. If GDE is capacitated to present evidence-based policy options to decisions makers, more ambitious policies can be implemented as described in the NDCs including more ambitious targets. Danish experiences and expertise offers strong insights into efficient data collection, the use of accurate models and ways to communicate the results of highly complex and comprehensive methodologies in a way that is relevant to policy makers and other stakeholders.

The change logic rests on the assumption that government retains its commitment to a low-carbon transition and related targets for climate change mitigation and energy, and that this commitment will be reflected in key planning documents as well as in resource allocation to responsible ministries and institutions. The commitment of government is strong, reflecting various strategic concerns driving energy sector development. Government has always made rapid economic development its number one priority,

however senior decision makers now put high priority on power planning and integrating renewable energy into the power mix. This is because they now consider that power sector restructuring is essential to maintaining economic growth and energy security.

7 RESULTS FRAMEWORK

For Danida's 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 Change Envelope guidelines for monitoring:

Outcome		Vietnamese energy policy and planning is strengthened Recurrent planning processes and associated inputs are informed by more consolidated data, forecasts, peer reviewed assumptions and additional long range policy and policy implementation scenarios for a less carbon-intensive energy sector, including through the expansion of RE-generation capacity.	
Outcome indicator		Consultations among stakeholders and decision makers on the future development paths of the energy sector are based on the EOR and the comprehensive scenario analyses carried out.	
Baseline	Year	2017	Power development policy developed based on low-cost scenarios for conventional fuel sources and preliminary assessment of renewable energy integration in the power system.
Target	Year	2020	Long-term cost-optimized scenarios with integration options for renewable energy are used for informing policy dialogue and policy preparation on sustainable energy systems.
Output 1		Capacity development on integrated, scenario-based long-range modelling of the energy system	
Output indicator		Balmorel model is used in energy planning process in Viet Nam.	
Baseline	Year	2017	Planning Department and institutions involved in power system planning has basic understanding of the use of Balmorel and other models in modelling energy system.
Annual target	Year 1	2018	Detailed demand forecasts developed based on disaggregated demand
Annual target	Year 2	2019	In drafting EOR 2019, the Planning Department demonstrates competence in selection, use and customisation of a range of energy planning models.

Target	Year 3	2020	Policy options identified based on long range scenarios
Output 2		Energy Outlook Reports published	
Output indicator		Long-term scenarios of low-carbon energy sector possibilities published in key policy papers and subject to dialogues	
Baseline	Year	2017	First EOR expected to be available with preliminary assessment of renewable energy integration in the power system.
Target	Year 1.5	2019	2 nd EOR that includes long-term scenarios of low-carbon energy sector possibilities published and subject to dialogues with right holders and duty bearers (including government stakeholders, academia, civil society, private sector investors and other relevant stakeholders).
Target	Year 3	2020	Policy recommendations include long-term scenarios of low-carbon possibilities.

8 RISK MANAGEMENT

The major risks of the development engagement are that:

Political considerations and vested interests prevent scenarios from being translated into policy recommendations. The risk is real, since in Viet Nam the overriding political concern is that no policy changes should be allowed that might threaten rapid economic growth. The engagement is, however, structured to highlight the economic benefits of policy change and the design includes not only consultation with stakeholders, but production of the Energy Outlook Report, which is a vehicle for broader consultation and policy dialogue. The residual risk is, therefore, minor.

Problems collecting sufficient or reliable data to feed into the models so that results are invalid or lack credibility. The design of the engagement includes capacity development on data collection and validation. The risk is therefore minor.

There are no other major risks identified that have not been mitigated as part of the design, but risks will be monitored closely throughout implementation and measures will be carried out accordingly.

9 INPUTS/BUDGET

Outputs	Contribution with Danish funds	Partner Contribution in-kind
1. Capacity development on integrated, scenario-based long-term modelling of the	3,133	5000 hours

energy system		
TA travel costs etc. in DKK '000	370	
Delegations to Denmark in DKK '000	0	
Other costs in DKK '000	200	
TA from DEA	989	
TA from other international experts	756	
TA from local consultants	719	
Long Term Advisor	1,890	
2. Energy Outlook Reports	1,489	6000 hours
TA travel costs etc. in DKK '000	151	
Delegations to Denmark ,in DKK '000	0	
Other costs, in DKK '000	200	
TA from DEA	416	
TA from other international experts	540	
TA from local consultants	282	
Long Term Advisor	1,890	
Office space for LTA and international TA		Office space: 20 m2
GRAND TOTAL, in DKK'000	8,403	

10 MANAGEMENT ARRANGEMENT

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

The development engagement is anchored in the General Directorate of Energy, Planning department or successor department (after reorganisation) that has the overall responsibility for implementation of the engagement. The daily implementation is the responsibility of the Leader of the department.

A Development Engagement Implementation Group, hereafter called the Implementation Group, managing daily implementation of the development engagement will be headed by a person from the partner institution and consist of the international Long Term Adviser posted with MOIT, the EDK programme officer, the DEA country coordinator/DEA expert and partner specialists as required. The Implementation Group will guide daily implementation and meet on a needs basis, and will: i) develop annual and detailed half-yearly work plans for the DE, matching priorities in the partners work plans, ii) associated with the detailed half-yearly work plan determine need for Technical Assistance (TA) inputs from DEA experts and from national and international TA through development of a TA provision plan; iii) endorse inputs based on TOR prepared at output level; iv) monitor day-to-day progress of DE implementation. The head of the Implementation Group reports on DE outputs to the Management Group.

A Management Group is established with representatives from the partner institutions at senior operational level, LTA, DEA-representative(s) and EDK representative. The

Management Group will be led by DEA country coordinator, EDK programme manager and MOIT Programme Director. The Management Group follows progress, approve work plans with associated TA procurement plans to be reported to the Steering Committee (annual), advises the Steering Committee and is a forum for technical level policy dialogue. This group will meet at least twice per year and have the responsibility to: i) consolidate and check annual and detailed half-year work-plans with associated TA procurement plans against development engagement partners work-plans and budgets; ii) monitor and report performance progress at output level, using the “traffic light” system; iii) ensure cross fertilization between engagements. Decisions are made by consensus.

The Steering Committee is established and expected to meet once or twice per year. The Steering Committee should be co-chaired by Vice Minister of MOIT and the Danish Ambassador to Viet Nam 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 plans, budgets and reports, and review annual progress. The Steering Committee should provide strategic guidance to the Partnership Programme, discuss and resolve issues related to program progress and decide on any reallocation between the Development Engagements. Decisions are made by consensus. Also, the Steering Committee is a forum for high level policy dialogue on matters of relevance to the programme.

Implementation arrangements

At implementation level the DE partners are responsible for implementation of the DE with DEA being responsible for providing the necessary and timely resources to deliver the outputs, according to the output-based budget and the requests for TA from the DEs. Each DE partner has, at output level, dedicated partner specialists, assisted by DEA, that provide inputs to the annual and half-yearly work-plans, and proposed needs for provision of TA. This includes formulating detailed Terms of Reference and specific TA profiles and time-input required to deliver the outputs. Provision of TA should be based on the principles of a) DEA experts where peer advice is required; b) national TA where relevant and; c) international specialists where dedicated specialist tasks will be needed.

DEA is also responsible for coordination of inputs from Denmark and for advising on implementation, and approving deliverances from external service providers.

In addition to national and international short term TA, the programme will finance a Long Term Adviser to be placed in MOIT. MOIT will arrange and finance project office facilities. The LTA adviser will have primary focus on delivering technical advice at output level to DE 1 with GDE, but will also support the other development engagements including assist with coordination on the Vietnamese side of TA-missions from Denmark, and facilitation of data sharing across programme and beyond. 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. The LTA will also support integrated policy dialogues. The LTA will be able to draw on local TA from the programme, when required.

At the Embassy of Denmark (EDK) a programme officer will coordinate programme implementation and facilitate inputs from Denmark. The programme officer will also participate in meetings of the Implementation Group as needed.

11 PROCUREMENT AND FINANCIAL MANAGEMENT

This development engagement will have no cash transferred or disbursed directly to the development engagement partner. Hence, there are no requirements for accounting of funds and financial reporting at development engagement level. However, based on the agreed annual workplan the international and national adviser inputs will be budgeted and agreed in terms of days delivered in country. The bi-annual progress reports will include the actual time spent for each TA input to monitor the use against agreed TA budget.

Procurement of agreed international TA (in any form) will be carried out by DEA and follow Danish procurement rules/drawn from a pool of experts. Final selection will be done in close cooperation based on no objection from the Implementation Group.

Procurement of agreed national specialist TA, not covered by the above, will be carried out by the EDK in consultation with DEA, and follow Danish procurement rules for local procurement of TA. Final selection will be done by in close cooperation with the Implementation Group.

Recruitment of the Long Term Adviser (LTA) follows procedures of the Danish Ministry of Foreign Affairs. Representatives from MOIT will be part of the recruitment panel together with representatives from DEA, EDK and MFA.

Study tours will be paid for by the partnership programme with Viet Nam. This includes airfares, accommodation and daily allowances. DEA, through the EDK, will arrange all bookings of airfares, hotels, transport and other practical arrangements. Daily allowances for the entire trip will be paid out by the EDK in cash upon departure following EDK procedures for appropriate documentation. Workshops and seminars in Viet Nam will be paid for by the partnership programme through EDK, based on appropriate quotations approved by EDK and documented expenses. Sitting allowance for any workshop or meetings will be paid for out of partners own budgets.

12 MONITORING AND EVALUATION

Daily progress will be followed by the Implementation Group, who will report progress towards outputs and outcome of this engagement through bi-annual progress reporting to the Management Group, that consolidates reports across the programme and report this to the Steering Committee at annual or bi-annual Steering Committee meetings. The Management 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 DEPP Advisory Group in Copenhagen, which follow the overall DEA Energy Partnership Programme in all countries.

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 Implementation Group to the Management Group, including actions taken to get back on-track and closer monitoring of progress by the Management Group;
- “red” is off-track, which needs a detailed explanation by the Management 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 reallocation between outputs within or between the development engagements as deemed relevant.

Monitoring of actual time spent by international and national advisers will be reported in the biannual progress reports, which will include an updated work plan and a projection of TA input for the following quarter. Similar reporting will be done for workshops and study-tours.

The Danish MFA shall have the right to carry out any technical mission that is considered necessary to monitor the implementation of the programme, which may include a mid-term review. After the termination of the programme support, the Danish MFA reserves the right to carry out evaluation in accordance with this article.

Anti corruption

No offer, payment, consideration or benefit of any kind, which could be regarded as an illegal or corrupt practice, shall be made, promised, sought or accepted - neither directly nor indirectly - as an inducement or reward in relation to activities funded under this agreement, incl. tendering, award, or execution of contracts. Any such practice will be grounds for the immediate cancellation of this agreement or parts of it, and for such additional action, civil and/or criminal, as may be appropriate. At the discretion of the Danish Government, a further consequence of any such practice can be the definite exclusion from any projects funded by the Government of Denmark.

Prerequisites

This Development Engagement is in accord with a Memorandum of Understanding between the Ministry of Trade and Industry of Viet Nam and the Ministry of Climate, Energy and Building of Denmark, signed on 6th June 2015. There are no additional prerequisites.

Signatures

Partner/DEA