

Ministry of Foreign Affairs of Denmark
Represented by the Royal Danish Embassy in Viet Nam

**Promoting Green Reforms in a Rapidly Industrializing Country: Energy
Transition and Climate Smart Development in Viet Nam**

**Implemented by the University of Copenhagen Development Economics Research
Group**
(UCPH-DERG)

2026 Mid-Year Narrative Report

Reporting period: 1 January – 30 June 2026

DRAFT 11 July 2026

MFA Ref.: 360 No.: 25/05740

1. Overview

The project document for the present Danida funded UCPH-DERG implemented project was formally approved by the Danish Embassy in Viet Nam on 11 September 2025. The PI is Professor Finn Tarp, and in addition to other UCPH staff¹ the project includes a sub-contract with National Institute for Economics and Finance (NIEF) in the Ministry of Finance (MOF).

The three sets of **activities** are:

- i. Conduct policy-relevant research and analysis
- ii. Pursue policy engagement and effective communications
- iii. Implement training and capacity development activities

Together these activities are associated with three specified **outputs**:

- i. Updated macromodel, associated data and two policy studies
- ii. New dynamic GreenTransition² model with associated 2024 SAM data base and four policy studies
- iii. Policy engagement and capacity building

The implementation schedule is organised around three core **clusters**, with timelines for all cluster sub-components, which are outlined here:

Cluster 1: Macroeconomic modelling and data upgrading

- Model development
- Compiling macro data set and estimating parameters
- Documentation
- Two policy studies

Cluster 2: Constructing a Vietnam version of the DREAM model

- Compiling 2024 SAM data set
- SAM construction
- Documentation
- GreenTransition model adaptation & development
- Model validation/testing
- Four policy studies

¹ They include Associate Professor Peter Kjær Kruse-Andersen, Assistant Professor Rasmus Kehlet Skjødt Berg, a PhD student Rasmus Strøbæk, and consultancy services.

² The term GreenTransition model is used here (as preferred by NIEF authorities), but it is equivalent to the GreenReform model referred to in the project document.

Cluster 3: Policy engagement and capacity building

- Dialogue with policy makers
- Four trainings
- Three policy events
- Final conference

The present progress report covers the period 1 January to 30 June 2026, and is organised as follows. After this overview, section 2 summarises implementation progress, while section 3 provides a succinct outline of the project management. Section 4 addresses financial issues, and section 5 challenges and mitigation measures taken. The report concludes in section 6 with planned activities for the next six-months period.

2. Implementation progress

The project was swiftly established on the UCPH project list on 25 November 2025 with project reference number 128103. The main progress in implementation includes:

- Cluster 1: the macro model was developed; macro data for 2024 and estimating parameters was completed.
- Cluster 2: a detailed overview of the data requirements and methodology for updating the 2019 SAM to 2024 was compiled (see Annex 1); the development of the GreenTransition model was initiated (including work with the DREAM team and a meeting with the Danish Energy Agency).
- Cluster 3: dialogue with policy makers was undertaken on a recurring basis; policy event 1 was carried out as a project launch (see Annex 2); training 1 was designed (see Annex 3) and started up with a virtual comprehensive macro-economic course held on 25 June 2026.

Further implementation details include that all parties (including the Danish Embassy) participated in the project launch workshop on 18 March 2026. At this event the UCPH-NIEF consultancy agreement was signed. The planned inception meeting was held, and the Steering Committee was formed.

The launch workshop/event included both the formal launching policy event and a technical workshop. Opening remarks were made by Mr. Nguyen Nhu Quynh, NIEF President, and Ms. Mette Ekeroth, Deputy Head of Mission of the Royal Danish Embassy before the project overview.

The technical workshop included three in-depth presentations on macro-modelling, global knowledge about the green transition, and dynamic Computable General Equilibrium (CGE)

GreenReform modelling. The full programme is in Annex 2, and all slides will be made available on the project web-site, which will be available in early September 2026 at the UCPH-DERG webs-site – see <https://www.econ.ku.dk/derg>.

3. Project management

Following the signature of the project document an in-person meeting to review administrative needs and procedures took place in Hanoi in late November among the senior partner representatives of the partners. They include:

- Dr. Tran Toan Thang, National Institute for Economics and Finance (NIEF) in the Ministry of Finance (MOF)
- Dr. Dang Thi Thu Hoai, Institute of Policy and Strategy Study (IPSS) in the Central Commission Policy and Strategy (CCPS)
- Dr. Truong Thi Thu Trang, Institute of Strategy and Policy on Agriculture and Environment (ISPAE) in the Ministry of Agriculture and Environment (MAE)
- Professor Finn Tarp, University of Copenhagen Development Economics Research Group (UCPH-DERG)

In the weeks following the technical workshop on 18 March, the project sub-teams were established as follows:

NIEF

Dr. Tran Toan Thang; Dr. Nguyen Thi Doan Trang; MSc. Do Van Lam; MSc. Nguyen Thi Thuy Trang; MSc. Ta Van Thang ; MSc. Vu Thi Huyen Trang

IPSS

Dr. Dang Thi Thu Hoai; MA. Nguyen Thanh Huyen ; MA. Pham Phu Minh; Dr. Ha Thi Thu Thuy; Dr. Nguyen Phuong Thao ; MA. Hoang Thi Minh Ha ; Ms. Tran Binh Minh

ISPAE

Dr. Truong Thi Thu Trang; Dr. Doan Minh Thu; Dr. Dinh Quynh Oanh; MA. Nguyen Thi Thuy; MA. Pham Kieu Hanh

These 19 professionals will form the core of the Vietnamese research teams engaged with the project and will be in focus in capacity building efforts. They will be joined by a broader group of colleagues whenever relevant for specific events.

The Advisory Committee was also formed and includes:

- Dr. Nam Hoang Vu, Associate Professor of Development Economics in the Faculty of International Economics at Foreign Trade University (obtained his Ph.D. degree from the National Graduate Institute for Policy Studies, Japan).
- Dr. Pham Ngoc Toan, Director, Center for Information, Analysis, Strategic Forecasting and Public Services, Institute of State Organization and Labour Science, Ministry of Home Affairs.
- MA. Nguyen Ngoc Que, former director of the Center for Agricultural Policy under IPSARD, MARD.

4. Financial summary

The total approved budget is DKK 4,800,000.00.

The financial flows were slow in getting started. UCPH could only request the first transfer from the Danish Embassy once there was certainty about the signature of the consultancy agreement with NIEF. Moreover, the actual transfer (amounting to DKK 1,207,668.00) required additional documentation.

The first transfer of funds to be received by NIEF only reached its destination on 18 June 2026, due to the date of signing the sub-contract and a misunderstanding about the bank account procedures.

This means that while activities were initiated as reported elsewhere in this report, actual booking of expenditures on the UCPH project account has been slow.

The following has happened in terms of actual registered financial disbursements:

- Transfer from Danish Embassy to UCPH: DKK 1,207,668.00
 - Transfer of DKK 396,951.00 (=USD 62,463.77) from UCPH to NIEF
 - Salary payments at UCPH: 375,717.20
 - Consultancy funds committed: DKK 195.000,00
 - Overhead payments at UCPH: DKK 37,459.01
- Total booked at UCPH: DKK 1,005,127.21
- Balance at UCPH DKK 202,549.75.
- Total booked at NIEF: DKK 0

UCPH will submit a statement of accounts to the Danish Embassy as soon as possible covering registered expenditures, at which point in time the next request for transfer of funds from will be made. It is noted that activities will from 1 July proceed according to the planned schedule independent of the time of transfer of funds from the Danish Embassy.

5. Challenges and mitigation

After the approval of the project document, a follow-up detailed in-person planning meeting took place in Hanoi in the beginning of December 2025. Here it became clear that delays in the finalization of the project set-up and actual start-up of implementation would be unavoidable. This is due to the ongoing institutional reforms in Viet Nam. Senior levels in all three Vietnamese partner institutions have expressed their unreserved support for the project. However, formal approval remained pending, and the necessary procedures clearly would take time.

The original plan was for UCPH-DERG to have three separate contractual partnership agreements with IPSS, NIEF and ISPAE, respectively; but this plan had to be dropped. A revised plan of entering into one overall consultancy agreement with NIEF that would in turn recruit collaborators from IPSS and NIEF was therefore devised and agreed in principle. However, the approval processing time in NIEF meant that formal approval could only take place on 18 March 2026. On this date the agreement was signed by NIEF President Nguyen Nhu Quynh, at the launch event that took place on the same date.

In parallel, UCPH proceeded to advertise the Post. Doc. position, but no candidate was assessed as qualified after the internal UCPH procedures had been completed. Two steps were therefore taken. First, a qualified Master's degree holder (Mr. Jonathan Wenzel Pedersen) was recruited to help initiate macro-related work. Second, the Post. Doc. post was reclassified to a PhD. The selected candidate (Mr. Rasmus Strøbæk) was not however immediately available, adding another element of delay, but he is now on-board. In addition, one UCPH staff was on 3 months paternity leave.

In sum, the ongoing institutional reforms in Viet Nam and associated approval procedures delayed the launching of the project and events internal to the UCPH contributed as well. All start up difficulties have at the time of reporting been overcome and very good progress has as noted above been made, especially on the macro modelling. This is important as the project is (due to concerted efforts by all parties involved) well underway to bringing existing Danish modelling expertise together to empower Viet Nam to ensure national growth targets are internally feasible.

Furthermore, despite the delays, an effective platform for effective frontier capacity-building of staff from the three key Vietnamese policy institutions (IPSS, NIEF, and ISPAE) has been established and all administrative and other procedures were developed and are now on place.

The development of a modified dynamic GreenTransition analytical framework customized to Vietnamese conditions, incorporating both population forecasts and technology

catalogues took longer than planned to get going (due to the recruitment delays) but this work did begin and steady progress is now being made in parallel with the Danish DREAM team that is responsible for the prototype GreenReform EU model that will be adapted to Vietnamese conditions.

The above factors imply, that it is recommended that the Steering Committee considers a no-cost extension as a mitigating measure, with a view to ensuring the Vietnamese counterparts have the necessary time to absorb the modelling tools to maximize project impact. It should also be considered that NSO will produce a new input-output (IO) table and supply-use tables (SUT) by mid-2027.

6. Planned activities for the next period

The first meeting of the Steering Group will take place on 22 July at 09:30 am at the Danish Embassy in Hanoi. The first Advisory Group meeting could not take place in March, but will take place before the end of July 2026. Frequent contacts will be made with the Danish Embassy, including during in-person visits by UCPH staff in November 2026.

Further planned activities for the coming six-months period (i.e. second half of 2026) include:

- Cluster 1: Macroeconomic modelling and data upgrading: Model validation/testing will begin; documentation will be completed; and the identification of topics of the two policy studies will begin.
- Cluster 2: Constructing a Viet Nam version of the DREAM model: The compilation of the 2024 SAM data set (see Annex 1) will begin and the same goes for the SAM construction and the elaboration of the documentation; GreenTransition model development will intensify, but this work will slip into early 2027.
- Cluster 3: Policy engagement and capacity building: Dialogue with policy makers will continue; training 1 (Annex 3) will be implemented in July; training 2 with a focus on data upgrading and SAM construction will be designed and take place in November; testing of data will include running the data on a static Computable General Equilibrium (CGE) Model.

Annex 1: Data requirements and methodology for updating the 2019 SAM to 2024

Introduction

A 2019 Social Accounting Matrix (SAM) was compiled during the UNDP sponsored project that took place from 2024-2025. There is a need to update the 2019 SAM to a more recent year. The National Accounts identify 2024 as the latest - albeit provisional - data point on which a SAM can be benchmarked. The National Statistics Office (NSO) has indicated that they are not planning an update of the Supply Table and Use Table, the second corner stone of the 2019 SAM. Given these constraints, this annex briefly discusses the best-case data requirements for a short-cut update of the 2019 SAM to the year 2024. This is followed by a brief outline of a two-stage update methodology and some brief concluding remarks.

Data Requirements for 2019 SAM Update to 2024.

Use the 2019 SAM as a format. This SAM is based on unpublished National Statistics Office (NSO) Supply Table and Use Table data. All required data values discussed below are in current prices:

1. 2024 National Accounts
 - a. Expenditure Method: $Y = C + G + I + (E - X)$ <https://www.nso.gov.vn/en/px-web/?pxid=E0308&theme=National%20Accounts%20and%20State%20budget>.
 - b. Income Method: $Y = \text{Wages \& Salaries (W\&S)} + \text{Gross Operating Surplus (GOS)} [+ \text{Net Indirect Taxes on Products (NIT)}]$. This data does not seem to currently be reported on the NSO website.
 - c. Production Method: $Y = X - \text{Intm} (+ \text{NIT})$. This data does not seem to currently be reported on the NSO website.
2. Gross value of production by industry for as many industries are possible with mapping to 178 industries in the 2019 SAM. Perhaps this can be sourced from unpublished NSO data.
3. Value Added by industry for as many industries are possible, with mapping to 178 industries in the 2019 SAM. Perhaps this can be sourced from unpublished NSO data and broken down by
 - a. GOS by industry for as many industries are possible
 - b. W&S by industry for as many industries are possible

Currently	NSO	(https://www.nso.gov.vn/en/px-web/?pxid=E0308&theme=National%20Accounts%20and%20State%20budget)	only
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identifies 3 main sectors (Agriculture, forestry and fishing / Industry and Construction / Services).

4. Net Indirect Taxes on products. Currently NSO data <https://www.nso.gov.vn/en/px-web/?pxid=E0308&theme=National%20Accounts%20and%20State%20budget> only reports the macroeconomic total. A breakdown of this total by 171 products is required for the SAM update to 2024.

5. Trade data (imports and exports) for detailed goods [Harmonised System (HS) or Standard Industrial Trace Classification (SITC)] based on NSO data or from the World Integrated Trade Solution (WITS) hosted by the World Bank (WB). This requires a mapping from HS or SITC to 171 products identified in the 2019 SAM. The NSO data portal (<https://www.nso.gov.vn/en/px-web/?pxid=E0911&theme=Trade%2C%20Price%20and%20Tourist>) only identifies a limited number of 11 goods classified by economic activity. Similarly, only a limited number of 8 types of services are identified.

6. Total Household Expenditure based on recent VLHSS data. The breakdown by Urban/Rural, Farm/Non-Farm and income quintiles will be discussed in 11 below.

7. Government Expenditure for selected products (see below for products identified in the 2019 SAM). No data other than the macro data mentioned in 1.a could be found.

8. Investment demand for selected products (see below for products identified in the 2019 SAM). NSO only identifies a very limited number of investment goods.

9. Changes in stocks for as many products as possible that can be mapped to list of products identified in the 2019 SAM. No data other than the macro data mentioned in 1.a could be found.

10. Detailed W&S by industry and highest level of education attained from the most recent VLHSS and LFS to break the industry totals of 3.b down.

11. Detailed household expenditure breakdown of 6 above by Urban/Rural, Farm/Non-Farm and income quintiles from the most recent VLHSS. The same source is also used to disaggregate household tax and savings.

12. Income Distribution: various transfers from production factors to households from the most recent VLHSS

13. Various transfers amongst institutions (enterprise, households, government and rest of the world (RoW) from the state budget revenue information of the MEF, corporate income tax (CIT), sourced from the aggregated data reported on the Viet Nam Fiscal Transparency

Portal, Ministry of Finance and the gross primary and secondary income flows to and from the Rest of the world, sourced from the International Balance of Payments (BoP) table from the State Bank of Viet Nam statistics.

Methodology

SUTSAM

A. In a first step, a SUTSAM is generated with identifies a single type of labour and a single type of household. Given availability of the above data source, the following sub-steps can be identified:

- a. Use the difference between 2. and 3. above to derive total intermediate inputs purchased by each of the 178 industries, using the detailed per unit intermediate input purchases from the 2019 SAM as a prior value.
- b. Total domestic supply and be derived from 2. as the diagonal entries of the Supply Matrix.
- c. Margins are added using 2019 margin rates (Unless original data on margins is available)
- d. Net indirect taxes of products available from 4. above scaled to an overall total from the national accounts.
- e. Import are available from 5. above
- f. Summing A.b - A.e, then yields total marketed supply which also serves as the control total for demand of 171 products.
- g. Total intermediate demand for 171 products can be derived as row totals of the Use Matrix from A.a.
- h. Use 1.a together with 5. - 9. to derive final demand for final demand component and 171 products.
- i. If not all data in 2. - 9. are available from primary sources, use shares from the 2019 SAM
- j. Check for major differences between supply and demand for 171 products.
- k. Set-up a bi-proportional scaling routine to ensure consistence between product supply and demand. If this doesn't yield feasible results, use the Entropy method.

Full SAM

B. In a second step a full SAM is derived. Using the SUTSAM data described A.a - A.k the following sub-steps are envisaged:

- a. Disaggregate labour earnings (W&S) to highest level of education using 10.
- b. Adding detailed household outlays, transfers amongst institutions and income distribution using 11. - 13. into the SAM in the same way as in the 2019 SAM. Thus, when assembling the data into the SAM, an imbalance between the corresponding row and column totals of the household income and expenditure accounts is likely to remain. A second bi-proportional scaling method will be used to balance these accounts. This method distributes the difference between the account totals in a proportional and iterative way across the entries of the household income accounts, while allowing for the rest of the SAM to remain fixed.

Concluding Remarks

The broad update schedule presented above should be seen as a best-case scenario. In practice, it is expected that not all data requirements can be satisfied and unforeseen ad-hoc change to the above schedule may be necessary. These changes cannot be anticipated with certainty at this stage and will have to be introduced as the process unfolds. Discussion of such changes is therefore a moot point and therefore not explored further at this stage.

Government Expenditure Products in the 2019 SAM

Code Product

c_136 Publishing activities

c_137 Film services, television program production, recording and music publishing

c_138 Radio and television broadcasting services

c_139 Telecommunication services

c_141 Other information services

c_150 Scientific research and technology development services

c_151 Advertising and market research services

c_152 Other professional, scientific and technological services

c_158 House, construction and landscape cleaning services

- c_159 Administrative services, office support and other business support activities
- c_160 Services of the Communist Party, socio-political organizations, state management, national security and defence and compulsory social security
- c_161 Education and training (except college, university and postgraduate training)
- c_162 College, university and postgraduate training services
- c_163 Health services
- c_164 Centralized care and nursing services
- c_165 Social support services are not centralized
- c_166 Creative, artistic and entertainment services
- c_167 Services of libraries, archives, museums and other cultural activities
- c_169 Sports, entertainment and recreation services
- c_170 Services of other associations and organizations

Products of Investment Demand in the 2019 SAM

Code Product

- c_009 Fruit tree products
- c_016 Buffalo and cow livestock products
- c_017 Pig farming products
- c_018 Poultry products
- c_019 Other remaining livestock products
- c_086 Consumer electronic products
- c_087 Measurement, testing, navigation and control equipment; clock; Radiation equipment, medical electronic equipment, electrotherapy; Optical equipment and instruments; tape, magnetic and optical disks
- c_088 Motors, generators, power transformers, power distribution and control equipment
- c_094 Common machine
- c_095 Specialized machine
- c_096 Cars of all kinds

c_097 Remaining motor vehicles (except cars of all kinds), car bodies and other motor vehicles, trailers and semi-trailers; Spare parts and accessories for cars and other motor vehicles

c_098 Ships and boats; Locomotives, trams and rolling stock; Aircraft, spacecraft and related machinery, Combat vehicles used in the military

c_099 Motorcycles, motorbikes

c_100 Other means of transport remain

c_101 Bed, wardrobe, table, chair

c_102 Jewelry, imitation jewellery and related details; Musical instrument; Sports Instruments; Toys, games

c_103 Medical, dental, orthopaedic and rehabilitation equipment and instruments

c_104 Other processing and manufacturing products not yet classified

c_115 House to live in

c_116 Other types of houses and house construction services

c_117 Railways, railway construction services

c_118 Road works, road construction services

c_119 Public works and construction services of public works and other civil engineering works

c_120 Specialized construction services

Annex 2: LAUNCH WORKSHOP AGENDA - "PROMOTING GREEN REFORM IN A RAPIDLY INDUSTRIALIZING COUNTRY: ENERGY TRANSITION AND CLIMATE SMART DEVELOPMENT IN VIETNAM"

Time: 18 March, 2026

Venue: National Institute for Economics and Finance, 65 Van Mieu, Hanoi

Time	Description
Morning: Launch workshop	
09:30-10:00	Reception and Registration
10:00-10:30	Opening Remarks: <i>Mr. Nguyen Nhu Quynh, NIEF's President; Ms. Mette Ekerøth, Deputy Head of Mission of the Royal Danish Embassy</i>
10:30-11:15	Project overview
11:15-11:45	Q&A
11:45-12:00	Closing Remarks
Afternoon: Technical Workshop	
13:00-13:30	Opening Remarks: <i>Prof. Finn Tarp (UCPH); Dr. Tran Toan Thang, Director, Department of International studies and Integration Policy, NIEF</i>
13:30-14:00	The macro-model: <i>Prof. Finn Tarp (UCPH)</i>
14:00-14:30	Global knowledge about the Green transition: <i>Peter Kjær Kruse-Andersen, UCPH</i>
14:30-15:00	Dynamic CGE GreenReform modelling: <i>Rasmus Kehlet Skjødte Berg, UCPH</i>
15:00-15:30	Q&A
15:30-15:50	Next steps
15:50-16:00	Closure: <i>Prof. Finn Tarp (UCPH); Dr. Tran Toan Thang, Director, Department of International studies and Integration Policy, NIEF</i>

Annex 3: Agenda macro-model training 8-9-10 and 14 July 2026³

Context: Within the agreement between National Institute for Economics and Finance (NIEF) and the University of Copenhagen Development Economics Research Group (UCPH-DERG) dated 5 January 2026 and entitled "Promoting Green Reforms in a Rapidly Industrializing Country: Energy Transition and Climate Smart Development in Viet Nam" cluster 1 is focused on Cluster 1: Macroeconomic modelling and data upgrading.

For this reason, the research teams are planning a training of NIEF staff and associated researchers on the following topics: Model development, Compiling macro data set and estimating parameters, Model validation/testing, and Documentation. The objective is to be able to apply a Vietnam version of the macro “merged model” (VMM) to support macro-economic forecasting and analysis.

Venue and Time:

National Institute for Economics and Finance (NIEF); Address: 65 Van Mieu, Van Mieu – Quoc Tu Giam, Hanoi, Vietnam; In-person 8-9-10 and 14 July 2026 at 09.30 am to noon (plus individual exercises in the afternoons)

Programme Agenda:

Thursday 8 July: Model framework and background

- Go through World Bank RMSM and IMF FP models, background (motivation), mathematics and intuition.
- Show how they are combined into the Vietnam Macro Model (VMM).
- Demonstrate how the model including its variables work and interact.

Friday 9 July: Code setup and running the model

- Assist participants installing and setting up the programming language Julia
- Go through basic Julia code.
- Demonstrate to participants how to run the model in Julia and for them to try it out and understand what each part of the code does.

Monday 10 July: Update the model (Changing data + new base year)

- Show participants how to update the model with new data.
- Identify and experience standard pitfalls hit when updating the database and what to do.

Tuesday 14 July: Shocks and extensions to the model

- Show how to shock the model
- Experimenting with various shocks.
- Extending the model.

³ A virtual macro-economic four-hour course was implemented on 25 June entitled “The Merged Macro-model: background and context”.