



**NORDIC PARTNERSHIP INITIATIVE PILOT PROGRAMME FOR  
SUPPORTING UP- SCALED CLIMATE CHANGE MITIGATION ACTION  
IN VIETNAM'S CEMENT SECTOR**



**Progress Report**  
**Report No. 7**  
**July 2015 – Mid. January 2016**  
**and plan for finalisation of the contract**

Submitted to

**Ministry of Construction**

Department of Science, Technology and Environment (DSTE)





## TABLE OF CONTENTS

<b>TABLE OF CONTENTS</b> .....	<b>3</b>
<b>1 INTRODUCTION</b> .....	<b>4</b>
<b>2 MAIN ACHIEVEMENTS OF THE SEVENTH AND EIGHTH QUARTERS (JULY 2015 TO JANUARY 2016)</b> .....	<b>4</b>
2.1 International Advisory Group’s Mission .....	4
2.2 Mission to Europe in 2015 (P-0.8.2).....	4
2.3 Report “Data collection and database system including third version of database” (P-1.2-5/6).....	5
2.4 Report “CO2 emission scenario analysis of the Vietnam cement industry” (P-I.3.1/2/3/4).....	5
2.5 Report “Setting up sector-level MRV system of international standard for the cement sector in Vietnam” (P-I.4.1/2/3/4) .....	6
2.6 Report “Current and Planned Policies” (P-I.5.1a) .....	6
2.7 Report “Policies in Other Countries and their Applicability in Vietnam” (P-I.5.1b) .....	6
2.8 Report “Low carbon options for the cement sector of Vietnam” (P-I.5.2/3/4).....	6
2.9 Report “NAMA Design Options for the Cement Sector in Vietnam & Supporting Regulatory Framework” (P-I.6.1/2).....	7
2.10 Report “Institutional requirements for the possible NAMA” (P-I.6.3) .....	7
2.11 Report: “Existing and Potential Financing Sources, Instruments and Incentives to Support Mitigation Action in Vietnam’s Cement (P.I.7.1) .....	7
2.12 Report: “Definition of NAMA financing needs, analysis of carbon market mechanisms and results-based approaches to finance the NAMA and setting up a NAMA financial plan’ (P-I.7.2/3/5) .....	8
2.13 Report: “Programs/projects relevant for the NAMA cement project” (P-I.7.4) .....	8
2.14 Report: “Stakeholder Management Strategy to support the NAMA for the cement sector in Vietnam” (P.I.8.1) .....	8
2.15 Report: “Study on Baseline Scenarios and Mitigation Options for the Cement sector of Vietnam” (P.I.9.1).....	8
2.16 Report: “Draft Readiness Plan for the Cement Sector in Viet Nam” (P.I.9.2).....	9
2.17 Report: “MOM for consultation with 5 selected cement plants” (P.III.2.1) .....	9
<b>3 PRESENTATION OF THE SEVENTH QUARTER ADMINISTRATIVE ISSUES.</b> .....	<b>9</b>
3.1 Biweekly coordination meeting.....	10
3.2 Budget management .....	10
3.3 Publication of Project progress reports and the executive summaries of the technical reports on NDF’s home page .....	10
<b>4 EMERGING IDEAS AND OPPORTUNITIES</b> .....	<b>10</b>
<b>5 CONCLUSIONS AND RECOMMENDATIONS</b> .....	<b>10</b>
<b>6 WORKS TO BE DONE IN THE REST OF THE PROJECT PERIOD (OCT/NOV. 2015 – MAY 2016.)</b> .....	<b>11</b>
<b>ANNEX 1. INTERNATIONAL ADVISORY GROUP’S MISSION</b> .....	<b>14</b>
<b>ANNEX 2. MOM OF NAMA WORKSHOP</b> .....	<b>1</b>

## **1 INTRODUCTION**

The 27<sup>th</sup> January 2014 a contract was signed between the Ministry of Construction (MOC) and the Consortium. The consortium consists of 5 companies – NIRAS, South Pole, Perspectives, VNEEC and NIRAS-Vietnam (RCEE-NIRAS). The contract period runs from primo 2014 to first half 2016.

The seventh project progress covers the period of July 2015 to Mid. January 2016 and the plan for finalization of the project. During this period, the Consultant has been working to finalize all remaining deliverables under Phase I and have started some activities under Phase II and III.

## **2 MAIN ACHIEVEMENTS OF THE SEVENTH AND EIGHTH QUARTERS (JULY 2015 TO JANUARY 2016)**

The main activities and products in the seventh and eighth quarters:

### **2.1 International Advisory Group's Mission**

From 14-15 October 2015, the International Advisory Group (IAG) led by Ms. Martina Jägerhorn, Country Project Manager of Nordic Development Fund conducted a mission to Vietnam. Participants of the IAG include representatives from Nordic Development Fund, Swedish Environment Protection Agency, Norwegian Ministry of Climate and Environment. Detailed agenda of the mission is attached in Annex 1.

During the mission, the IAG also attended the Workshop on Nationally Appropriate Mitigation Action (NAMA) in Vietnam's cement sector hosted by the Department of Science Technology and Environment, Ministry of Construction on 14th October, 2015. The purpose of meeting is to report the project achievements and collect comments and opinions for next steps of project activities. The meeting has had the participation from relevant ministries and stakeholders in cement sector. The Minutes of Meeting is attached in Annex 2.

#### Conclusions/results in brief:

Ms. Martina Jägerhorn, Country Project Manager of Nordic Development Fund acknowledged the excellent way MOC manages the project, the Consultants and coordinate line ministries. MOC appreciated the focused and trustful cooperation and MOC was very much looking forward to the continuation of supports from NDF, if possible, and other donors for the 2<sup>nd</sup> phase of this initiative.

### **2.2 Mission to Europe in 2015 (P-0.8.2)**

In the period between 26 November to 9 December 2015, MOC has performed a mission to the France and Switzerland. The mission was structured to attend the 21<sup>st</sup> Conference of Parties (COP) held in Paris, aiming to share Nordic Experiences of Nationally Appropriate Mitigation Actions (NAMAs) and introduce Vietnamese draft NAMA Readiness Plan for the cement sector to relevant organizations/partners for future cooperation in the Implementation Phase. Furthermore meetings was held with the Cement Sustainability Initiative (CSI) both in Geneva and Paris.

The following persons have participated in the mission:

Name	Position
<b>Nguyen Cong Tinh</b>	Deputy Director, Department of Science, Technology, Environment (DSTE)/MOC
<b>Luu Linh Huong</b>	PMU Secretary, DSTE/MOC
<b>Morten Pedersen</b>	Team Leader
<b>Ha Dang Son</b>	Deputy Team Leader

Conclusions/results in brief:

The participation at the COP21 and meeting with CSI were very successful and an excellent promotion of the NAMA cement and the close cooperation between MOC and NDF was recognized. It was a good place to promote specific projects and MOC should consider to participate in future COPs as it can attract further funding to Viet Nam.

### **2.3 Report “Data collection and database system including third version of database” (P-1.2-5/6)**

Based on the results from assessment of availability and quality of data and gap analysis, this Report proposes the data collection and management framework for the Viet Nam cement industry and presents the third version of database template. Given the early stage of management awareness and data collection as well as the MRV in the industry, a simplified system including only the minimal required data is provided.

As agreed with Ministry of Construction (MOC), the report has been updated as the update of the sector database has been made with more cement plants to be included in the database.

Conclusions/results in brief:

Per comments by NDF and MOC by end of December 2014, the Consultant team have finalized and the report and submitted to NDF and MOC by mid. October 2015.

### **2.4 Report “CO2 emission scenario analysis of the Vietnam cement industry” (P-I.3.I/2/3/4)**

This report has identified and analysed the historical development of production, energy consumption, CO2 emission and efficiency of Vietnam’s cement sector and to develop and discuss scenarios for future trends with the purpose to identify and quantify the energy and CO2 mitigation potential of the cement industry in Vietnam.

Conclusions/results in brief:

The draft final report has been submitted to NDF and MOC by mid. April 2015. Comments were sent by NDF and MOC by end of August 2015. The Consultant team has worked on the revision and submitted the revised report by mid. September 2015.

## **2.5 Report “Setting up sector-level MRV system of international standard for the cement sector in Vietnam” (P-I.4.1/2/3/4)**

This study aims to set up a suitable MRV system for the cement sector in Vietnam under the readiness phase of the NAMA cement that is based on the national and sectoral contexts but meet the international standards.

### Conclusions/results in brief:

The draft final report has been submitted to NDF and MOC by end of September 2015. Comments were sent by NDF on August 2015 and by MOC on end of December 2015. The Consultant team has been working on the revision and will submit the revised report by end of January 2016.

## **2.6 Report “Current and Planned Policies” (P-I.5.1a)**

The report presents the assessment of the current and planned policies relevant to Vietnam’s cement sector having connection to emissions of the cement sector in Vietnam and provides recommendations on whether the current regulatory system could facilitate the implementation of low carbon initiatives and standardized MRV system in the cement sector of Vietnam, or if new/revised policies/legal documents would be required. The methodology of the report is based on survey analysis, gaps analysis and comparative analysis. A significant number of meetings have been held with key stakeholders and policy makers such as: MOC, MOIT, MONRE, and MPI, research institute: VIBM and key cement producers.

### Conclusions/results in brief:

The draft report has been submitted to NDF and MOC for comments by mid. July 2015. Comments were sent from NDF and MOC in mid. September 2015. The Consultant team has finalized the report and submitted to NDF and MOC by end of September 2015.

## **2.7 Report “Policies in Other Countries and their Applicability in Vietnam” (P-I.5.1b)**

The report presents the assessment of policies and regulations that have connection to cement sector emissions in other countries. Also, the Consultant provides evaluation whether they can be used in a Vietnamese context as well as recommendations for improvement of the legal and institutional framework for cement sector in Vietnam deriving from international practices and measures.

### Conclusions/results in brief:

The report has been finalized and submitted to NDF and MOC for comments by mid. June 2015. Remarks by NDF has been collected late August 2015 and no further revision for the report is required.

## **2.8 Report “Low carbon options for the cement sector of Vietnam” (P-I.5.2/3/4)**

The report presents the most important mitigation options, related marginal abatement costs and relevant barriers for the cement sector of Viet Nam. This study on the cement industry in Vietnam envisages four scenarios calculating the CO<sub>2</sub> emission reduction versus a reference level of today’s existing capacity and practice (reference years 2009-2013).

Conclusions/results in brief:

The report has been finalized and forwarded to NDF and MOC by mid. December 2015. The Consultant are receiving remarks by NDF and MOC by the end of January 2016 and will submit the revision by mid. February 2016.

## **2.9 Report “NAMA Design Options for the Cement Sector in Vietnam & Supporting Regulatory Framework” (P-I.6.1/2)**

The main objective of subtask I.6.1 is to introduce the concept of a NAMA, define NAMA types, NAMA elements and requirements to these elements under various NAMA types. This part of the report is based on the hands-on experience of the authors and ongoing work of the Consortium members on designing sectoral NAMAs in Asia and the Pacific, Latin America and Africa as well as review of existing NAMA literature.

Conclusions/results in brief:

Report I.6.1-2 was finalized and submitted to the client at the end of August 2015. Remarks from NDF and comments from MOC were received; the revision of the report has been forwarded to NDF and MOC by end of December 2015.

## **2.10 Report “Institutional requirements for the possible NAMA” (P-I.6.3)**

The report for this sub-task I.6.3 will be describing the institutional requirements for coordinating policy options under the possible NAMA Cement of the Phase 1- Designing stage. The Consultant team has proposed NAMA institutional framework (including a clear definition of responsibilities and the related governance structure) and NAMA operational arrangements (including the designation of a NAMA entity responsible for its implementation and functioning).

Conclusions/results in brief:

Report I.6.3 was finalized and submitted to the client at the end of August 2015. Remarks from NDF and comments from MOC were received; the Consultant team has revised accordingly and submitted the final revised report by end of December 2015.

## **2.11 Report: “Existing and Potential Financing Sources, Instruments and Incentives to Support Mitigation Action in Vietnam's Cement (P.I.7.1)**

The Task identified and assessed the potential domestic and international financing sources, instruments and incentives, which could be utilized to implement the mitigation activities in the cement industry NAMA in Vietnam. The paper is based on a review of publicly available information, existing reports and consultations with stakeholders in Vietnam on 11-13 March 2015.

Conclusions/results in brief:

Comments and peer reviews have been collected for the report. The Consultant has submitted the final revision of the report to NDF and MOC by mid. September 2015

## **2.12 Report: “Definition of NAMA financing needs, analysis of carbon market mechanisms and results-based approaches to finance the NAMA and setting up a NAMA financial plan’ (P-I.7.2/3/5)**

The key objective of this report is to design a financial plan for the Nationally Appropriate Mitigation Actions (NAMA) in the cement sector in Vietnam. In order to estimate how financial flows should be prioritised and spread out over the NAMA readiness and implementation stages by 2030, the Consultant has prepared the roll-out plans outlining steps (actions) to be taken to realise the full GHG reduction potential of the priority mitigation actions. The task has been described in the sixth quarterly report

### Conclusions/results in brief:

The draft final Report I.7.2/3/5 has been submitted to NDF and MOC in mid-November 2015. Comments were received from NDF, MONRE and MOC, and the revision of the report has been forwarded on 8 January 2016.

## **2.13 Report: “Programs/projects relevant for the NAMA cement project” (P-I.7.4)**

The Consultant has mapped the relevant domestic and donor supported programs/initiatives running in the Vietnam. During the mapping process, related objectives, procedures, description for each program/initiated are listed for the recommendations to coordinate with NAMA Cement.

### Conclusions/results in brief:

The report has been finalised and submitted to NDF and MOC for comments by end of August 2015. Remarks from NDF, NOAK PG and peer reviews from MOC were received; the Consultant team has revised the report accordingly and submitted the revision to NDF and MOC the 15<sup>th</sup> of January 2016.

## **2.14 Report: “Stakeholder Management Strategy to support the NAMA for the cement sector in Vietnam” (P.I.8.1)**

The task has been described in the sixth quarterly report.

### Conclusions/results in brief:

The report has been finalized and submitted to NDF and MOC for comments by end September 2015. Based on the quick comments by MOC, the Consultant team has updated the report and re-submitted by end of December to MOC for their further comments. MOC is in the process of deciding whether peer-review is required.

## **2.15 Report: “Study on Baseline Scenarios and Mitigation Options for the Cement sector of Vietnam” (P.I.9.1)**

This report is based on a significant number of sub-products prepared until now within this project, relevant to baseline and mitigation options. This report compiles the information pertaining to: Emission trends; baseline scenarios; data status (availability, needs and gap); MRV status (needs and gaps); mitigation potential, costs and barriers; and preliminary lessons learned from consultations with relevant stakeholders.

### Conclusions/results in brief:



The report is elaborated with up-to-date information/details coming from review process and consultations, which are not covered yet in the finalized sub-products, thus a large part of the input will be restructuring and fine-tuning text from existing reports. The draft final report has been forwarded for internal review and will be submitted to MOC and NDF by mid-January 2016.

## **2.16 Report: “Draft Readiness Plan for the Cement Sector in Viet Nam” (P.I.9.2)**

The draft Readiness Plan for the Cement Sector proposes priority actions and innovative ideas, which can be initiated accordingly. The preparatory work for the draft Readiness Plan for the Cement Sector has concluded that there are a significant number of commercially viable CO<sub>2</sub>reduction efforts that can be taken by cement plants. In the next months the consultation process will be on-going as part of this assignment and the focus should be to have further clarification and buy-in from the cement plants.

The draft Readiness Plan for the Cement Sector has been prepared in a form that could be the final Readiness Plan for the Cement Sector. Therefore only minor adjustments are expected when preparing the final version..

### Conclusions/results in brief:

The draft Readiness Plan for the Cement Sector has been developed in close co-operation with stakeholders and under the overall coordination of MOC. The final Draft Readiness Plan has been submitted to NDF and MOC in mid. November 2015. Based on the comments from peer reviews collected in December 2015, the Consultant team will respond to the comments by early February 2016.

The proposed adjustments will be incorporated in the Final Readiness Plan for the Cement Sector (which is the last product of this consultancy contract) together with all the comments from the stakeholder consultations and will be delivered by end of April 2016.

## **2.17 Report: “MOM for consultation with 5 selected cement plants” (P.III.2.1)**

The Task III.2.1 deal with the Collection and analysis of further data needs to provide policy makers feedback about the project activities. The consultation meeting was organized on 18 December 2015 in Kien Giang province with 05 selected cement plants. The consultation helps to explain the project in more detailed and clarify whether new adjustments are needed in the on-going work and final readiness framework. It can, in parallel be seen as promotion activity. The meeting was attended by chaired by Mr. Le Trung Thanh, Director of DSTEE/MOC and representatives from 05 selected cement companies.

### Conclusions/results in brief:

Minutes of the meetings were developed and submitted to NDF and MOC in early January 2016.

## **3 PRESENTATION OF THE SEVENTH QUARTER ADMINISTRATIVE ISSUES.**

### **3.1 Biweekly coordination meeting**

The consortium has coordination meetings when appropriate. The meetings are mainly related to the specific products and sub-products.

### **3.2 Budget management**

As consulted and agreed with MOC, 06 workshops, instead of 03 as budgeted will be organized to provide more opportunities to discuss with industries and create an enabling environment for the cement industry to undertake up-scaled mitigation actions. The Consultant will reallocate the budget from different budget lines to cover the increase of cost for workshops organization, however the total budget will not exceed the total contract value.

### **3.3 Publication of Project progress reports and the executive summaries of the technical reports on NDF's home page**

It has been agreed by MOC and NDF that the project progress reports and the executive summaries of the technical reports will be published on NDF's home page. Through this publicity, it is expected that it can contribute to attract the financing for investments for the cement sector in the future. Also, It is a good way of advertisement of the works performed by the Consultant team.

The project information is available on NDF's home page via the link: <http://www.ndf.fi/project/nordic-partnership-initiative-pilot-programme-ndf-c34> since September 2015.

It is recommended to publish articles concerning selected topics, like MRV, Mitigation options and financing, in case further funds can be allocated. NOAK is exploring whether they have the possibility to support this.

## **4 EMERGING IDEAS AND OPPORTUNITIES.**

MOC has stressed the importance of having a pilot project as the continuation of the actual contract. MOC is exploring different opportunities with the support from the Consultant team.

## **5 CONCLUSIONS AND RECOMMENDATIONS**

The project is complex and many sub-tasks are being developed in parallel. Many tasks are progressing well, but in general the overall original time-schedule for the project seems too optimistic and we have noted this before. However, the Consultant team is doing its utmost to keep progress and developing several reports in parallel to try to recover some of the incurred delays.

Most products and sub-products are interlinked. The Consultant team has agreed to incorporate the outputs of some sub-tasks into one integrated report. This approach is considered effective and can speed up several tasks. This is one of the reasons why the Consultant team is confident that will be able to recover some of the delay and be close to the original plan for finalisation of the contract.

## 6 WORKS TO BE DONE IN THE REST OF THE PROJECT PERIOD (OCT/NOV. 2015 – MAY 2016.)

No.	Sub-task	Description	Sub-product	Responsible	Expected date	Original date	Remark
<b>PHASE II -CONSULTATION STAGE</b>							
7	II.1.1	Stakeholder consultation - workshop 1	Mission 1: First round of consultations and workshops for stakeholders in Vietnam. Focus on the cement plants (4 regions)	Manuel Cocco	18-22.01.2016	26.04.2015	The Consultant proposes to integrate the TORs for several tasks under Phase II to improve efficiency of work and to strengthen the priority objectives: setting up the NAMA Framework and creating an enabling environment for the cement industry to undertake up-scaled mitigation actions
8	II.1.2	Stakeholder consultations and workshop 2.  Information campaign using different media.	Mission 2: Second round of consultations and workshops for stakeholders in Vietnam. Focus on policy makers and potential NAMA supporters	Manuel Cocco	24-26.02.2016	26.06.2015	
9	II.2.3	Summary of status and needs, recommended actions and relevant stakeholders	Report: 'Outcomes of stakeholder consultations and recommendations for further activities'	Manuel Cocco	01.04.2016	30.07.2015	
10	II.2.1	Status report of work done this far	Status Report - 5 page note	Ha Dang Son	Done	10.07.2015	No separate report – it has been integrated in III.2.1 and directly taken into consideration when finalising I.9.1.
11	II.2.2	Evaluate whether	Note for adjustments in the	Ha Dang Son	15.03.2016	10.07.2015	

No.	Sub-task	Description	Sub-product	Responsible	Expected date	Original date	Remark	
		information received during the stakeholder consultation will require adjustments in the summary baseline and option study described in the readiness plan	summary of baseline and options study presented in draft Readiness plan					
12	II.2.4	Update the financial plan based on the remarks from the two stakeholder consultations.	Final financial plan	Dang Hanh	03.04.2016	10.07.2015	Consultations with ministries (under workshops) have been conducted on 14 October 2015	
<b>PHASE III -READINESS STAGE</b>								
13	P-III.2.1	Collection and analysis of further data needs to inform the policy-makers.	Note – selection of 5 cement companies including minutes of meeting	Nguyen Tuan Anh	Done	20.10.2015		
14	P-III.2.2	Prepare a simple excel-based spreadsheet with step by step instructions	Standardized database toolkit at plant-level together with users' manual	Tran Tuyen	Minh	05.02.2016	18.11.2015	A draft has been forwarded the 15 January 2016 for internal consultation
15	P-III.2.3	Analysis of design options for existing and new market mechanisms in the cement sector of Vietnam	½ half day workshop for policy marker	Nguyen Dinh	Tien	14.04.2016	01.11.2015	Replaced as the final workshop around 14 April 2016
16	P-III.2.4	Prepare a simple guide “how to design NAMA and MRV	“Guide on NAMA design and MRV structure”	Axel Michaelowa		22.02.2016	30.11.2015	Outline has been prepared and the work is progressing

No.	Sub-task	Description	Sub-product	Responsible	Expected date	Original date	Remark
17	P-III.2.5	Prepare a proposal for how sector-level MRV can be linked to MRV for the specific cement plant	“ Guide on database development and management at plant level and link sectoral MRV”	Dang Hanh	05.02.2016	19.12.2015	A draft has been forwarded the 15 January 2016 for internal consultation. This report is merged with III.2.2
17	P-III.2.6	Supporting stakeholder coordination and possible set-up of intermediary institutions such as energy service companies (ESCOs)	Information note concerning ESCO 5 Minutes of Meetings	Ha Dang Son	25.03.2016	19.12.2015	
18	P-III.3.1	Update the draft readiness plan.	Final NAMA cement readiness report.	Morten Pedersen	27.04.2016	29.01.2016	The finalisation of the Readiness plan is dependent on comments received and also the acceptance of II.2.4 the financial plan in a fast internal peer-review process and also a agreed proposal for the NAMA Framework, which will be enclosed as annex.

## ANNEX 1. INTERNATIONAL ADVISORY GROUP'S MISSION

Date/ Time	Program	Venue	Participants	Issues to discuss	Contact infor./Remark
<b>Wednesday 14 October 2015</b>					
8:00 – 12:00	NAMA Cement Workshop	Hilton Opera Hotel Hanoi,	Project Steering Board IAG Ministris and relevant stakeholders	Update on Project Progress and relevant implementation issues	
14:00 – 15:00	Meeting with Consultant team	Project Office, MOC Building, 37 Le Dai Hanh, Hanoi	International Advisory Group Project team	Update on Project Progress and relevant implementation issues	
18:00	Dinner				
<b>Thursday 15 October 2015</b>					
6:30 – 9:30	Travel to cement plant	Restaurant close to the cement plant	IAG MOC	Mitigation options and barriers Database and MRV	
9:30 – 11:30	Site visit to cement plant		Project team		

## ANNEX 2. MOM OF NAMA WORKSHOP



NORDIC PARTNERSHIP INITIATIVE PILOT PROGRAMME  
FOR SUPPORTING UP-SCALED CLIMATE CHANGE  
MITIGATION ACTION IN VIETNAM'S CEMENT SECTOR



### WORKSHOP ON NATIONALLY APPROPRIATE MITIGATION ACTION (NAMA) IN VIETNAM'S CEMENT SECTOR

**Date, time:** Wednesday, 14<sup>th</sup> October, 2015, 8:30 - 12:00 (Hanoi time)  
**Location:** Hanoi Opera Hilton, No 1A, Le Thanh Tong, Hanoi, Vietnam.

### WORKSHOP PROCEEDINGS



7

## Table of Contents

1. BACKGROUND
2. OPENING CEREMONY
3. PRESENTATION #1 READINESS PLAN FOR THE CEMENT SECTOR IN VIET NAM - KEY FINDINGS, RECOMMENDATIONS AND NEXT STEPS
4. PRESENTATION #2 GREEN GROWTH AND GREEN CLIMATE FUND IN VIETNAM
5. PRESENTATION #3 GHG EMISSION REDUCTIONS IN VIETNAM: FROM POLICIES TO ACTIONS
6. PRESENTATION #4 VIETNAM NATIONAL ENERGY EFFICIENCY AND CONSERVATION
7. PRESENTATION #5 VIETNAM ENERGY EFFICIENCY FOR INDUSTRIAL ENTERPRISES PROJECT
8. PRESENTATION #6 VICEM - OPPORTUNITIES AND DEMAND OF CARBON EMISSION REDUCTION
9. DISCUSSION
10. CONCLUSION

ANNEXES



## BACKGROUND

Within the framework of the Nordic Partnership Initiative Pilot programme for supporting up-scaled climate change mitigation action in Vietnam's cement sector, the Ministry of Construction organize a workshop on "Nationally appropriate mitigation action (NAMA) in Vietnam's cement sector". The objectives of this workshop are to present the key findings and recommendations for the NAMA Readiness Plan and consult with stakeholders for improvement and finalization of the project's outputs.

The workshop was organized on 14 November 2015 in Hanoi with 80 participants from Ministry of Construction, International Advisory Group, relevant ministries, Institutions and Associations, donors and international programmes, cement enterprises, energy efficiency services providers, Consultant team and media.

## OPENING CEREMONY

### **Mr. Do Duc Duy** - Vice Minister of Ministry of Construction

Cement industry are growing fast and has it important role in construction field as well as in the national economy. The industry contributes to the national budget at estimated 4-4.5 million USD/ 1 million ton of cement product. In 2014, there have been 03 new cement projects which come into operation and the total cement facilities in Vietnam has increased by 74 units with the total designed capacity of 77.35 million tons per year. The total cement consumption has reached 70.6 million tons, equivalent to 110% as planned and 15% of that in 2013. The total domestic consumption was 50.9 million tons and approximately 19.7 million tons for export. The total consumption in 2014 has been estimated at 70-72 million tons and this amount is expected to reach 100 million tons per year by 2020.

However, cement production industry is considered as the intensive energy user and a great GHG emitter. The total GHG emission in 2014 from cement production has been estimated as 55.6 million ton of CO<sub>2</sub> equivalent and is expected to reach more than 60 million tons in 2015. Therefore, it is critical to investigate and implement emission reduction options in order to ensure both the development target and environment protection towards to sustainable development.

In the framework of Nordic partnership initiative pilot programme for supporting up-scaled climate change mitigation action (NAMA) in Vietnam's cement sector funded by Nordic Development Fund (NDF), the project has conducted a sector survey, data collection, assessment of GHG emission reduction potentials at cement plants, development of emission baseline and MRV system in compatible with international standard, analysis of cost, barriers and institutional solutions for NAMA in cement sector.

Ministry of Construction (MOC) organize this workshop to present the draft NAMA for cement sector to relevant ministries, organizations, international donors and to collect comments from participants for finalization of the NAMA proposal. The project's product will be the technical inputs for MOC to consider for next steps of integrating into the sectorial policies. MOC also expect the consensus with relevant ministries and organizations, attracting

the technical, technology and financial supports from international donors and developed countries for the implementation of NAMA for cement industry.

**Ms. Ms. Martina Jargerhorn** - Country Programme Manager, NDF

The workshop is latest output of the Nordic partnership initiative pilot programme for supporting up-scaled climate change mitigation action (NAMA) in Vietnam's cement sector. The project is funded by NDF and implemented in the leadership of Ministry of Construction. The project is implemented in the time of two years, which is now 75% has been completed. The project will have 06 more months to be implemented.

We have now the first draft of the Readiness Plan prepared and the project is entering into a new phase of extensive consultation with key stakeholders. We are moving from Design phase to Consultation Phase. I hope all of you will take active role and contribute to this important consultation process. At the end of this Phase, we will have the final Readiness Plan and will be ready to receive financing from national and international sources for NAMA in cement sector. This is the significant step for Vietnam and Vietnam also serves as the model for other countries. We hope this work will attract financing for investment in the cement sector which will make the cement production more clean in the way of benefiting not only the climate but also the development goals of Vietnam.

#### PRESENTATION #1 READINESS PLAN FOR THE CEMENT SECTOR IN VIET NAM - KEY FINDINGS, RECOMMENDATIONS AND NEXT STEPS

The sustainable and low carbon development of the cement sector is a high priority for the Ministry of Construction of Viet Nam (MOC) and MOC has gained support from the Nordic Development Fund (NDF) under the framework of the Nordic Partnership Initiative with the project "Pilot Programme for Supporting Up-scaled Climate Change Mitigation Action in Viet Nam's Cement Sector". The project was initiated primo 2014 and it will be finalized in 2016. For the Nordic Council of Ministers (2015), the objective of the Readiness Plan is to strengthen Vietnam's ability to prepare, propose and implement a full-scale scheme of a clearly specified NAMA in the cement sector.

This draft Readiness Plan is the presentation of the key findings and recommendations found during the first 1½ years of the NAMA cement project. The draft Readiness Plan has been developed in close co-operation with the involved stakeholders and under the overall coordination of MOC. This process will be continued and a final version of the Readiness Plan is expected in the first half of 2016. The key findings and recommendations are presented in the five building blocks 1) Database and MRV, 2) Baseline and Mitigation Options, 3) Legal and Institutional Framework, 4) Financing Arrangements and 5) Stakeholder Engagement and Capacity Building. Based on this a proposal for a roll- out of the Readiness Plan is made.



Refer to the PPT Presentation: Readiness plan for the Cement sector in Vietnam - Key findings, recommendations and next steps  
Morten Pedersen and Ha Dang Son

## PRESENTATION #2 GREEN GROWTH AND GREEN CLIMATE FUND IN VIETNAM

Vietnam Green Growth Strategy includes 12 groups of activities with 66 specific activities, aiming at 03 strategic tasks: (1) Reducing the intensity of GHG emissions and promote the use of clean and renewable energy, (2) Greening production, and (3) Greening lifestyle and promoting sustainable consumption. Viet Nam has moved green growth from being a Strategy to an important driver forces for Sustainable Growth. Even though it still needs to complete the policy framework, but Vietnam is ready to move from policy to implementation with the integration of climate change and green growth contents in the Law on Environment Protection 2014 and some other regulations. Many partners have joined Viet Nam's 'green coalition', such as UNDP, KOICA, GIZ, Belgium, the EU, ADB, USAID, and the World Bank.

Green Climate Fund (GCF) has its management unit of finance mechanism under UNFCCC with the objective to contribute importantly and ambitiously to global climate change response effort. In Vietnam, there have been meetings between GCF and MPI, MOIT, MOF, MARD, MONRE, SBV, VDB, some commercial banks, enterprises cooperation and some development partners in Jan. 2015. A workshop on Pathway and Readiness of Vietnam to join GCF has been organized in Jun. 2015. In Aug. 2015, the working group had a meeting with GCF's Director in Songdo to discuss about: 1) GCF's conditions of funding for Vietnam in the coming period, especially when Vietnam becomes a mid-income countries; 2) The funding of 30 million USD for project " Building coastal climate change resilience for vulnerable community" proposed by MARD and MOC; and 3) Support of GCF for capacity building to successfully access the Fund.



Refer to the PPT Presentation: Green Growth and Green Climate Fund in Vietnam  
Nguyen Tuan Anh

## PRESENTATION #3 GHG EMISSION REDUCTIONS IN VIETNAM: FROM POLICIES TO ACTIONS

Vietnam is one of the fastest growth of GHG emission in the region and CO2 intensity of GDP increased more than that of regional average. For contribution to GHG emission reductions, Viet Nam 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 and forest cover will increase to the level of 45%. There have been climate change policies which have been issued, and policy on NAMA will be developed and completed.

Several opportunities for mitigation activities have been identified (the development of Nationally Appropriate Mitigation Actions (NAMAs) is among them). Also, there are some challenges for the implementation of GHG reductions: (1) Incomplete National GHG Inventory system, (2) Inadequate policies and guidance for NAMA development and management, (3) Few application of advanced technologies to reduce GHG emission, (4) Financial support and investment remain limited, (5) Fragmented and few technology transfers and technical support, (6) Few capacity building programmes, only top-down approach at this stage.



Refer to the PPT Presentation: GHG Emission Reductions in Vietnam:  
From Polices to Actions  
Luong Quang Huy

#### PRESENTATION #4 VIETNAM NATIONAL ENERGY EFFICIENCY AND CONSERVATION

Ministry of Industry and Trade (MOIT) is the ministry in charge of state management in energy efficiency and conservation in Vietnam. MOIT is implementing National Target Program on Energy Efficiency and Conservation (VNEEP) for the period 2006-2015. The objectives of VNEEP are: (1) to achieve 5-8% savings on total national energy consumption for the period 2012-2015, (2) to set up a network for the implementation of the Law on Energy Efficiency and Conservation at central and local levels, (3) to widely use high efficient equipment, removing backward technologies and equipment, reducing 10% of energy intensity in energy intensive industries, (4) to have mandatory management in accordance to Vietnam Building code for 100% new buildings or renovated buildings and (5) to meet 10-15% demand of public transportation in big cities.

The establishment of benchmarks and minimum energy performance standards for industries in Vietnam is in progress with some achievements, i.e. the issuance of Circular 02/2014/TT-BCT dated 16 January 2014 promulgating EE&C measures in industries in general, and the energy management/EE measures in the chemical industry in particular, Circulars guiding EE&C measures in steel and beverage industries, benchmark in preparation for pulp and paper, plastic, and food processing industries. Proposals and actions plans for next activities include: (1) To continue the development of energy benchmark for key industrial sectors, (2) To promote the communication, energy audit and consulting services for entities in key industrial sectors, giving priorities for the application of high efficient equipment, gradually removing low efficient equipment, (3) To develop ESCO market to support energy efficiency investments for enterprises in the industry sector, (4) To develop and perfect the energy consumption database system as the tool for energy efficiency assessment, (5) To develop M&E framework and NAMA in EE.



Refer to the PPT Presentation: Vietnam National Energy Efficiency and Conservation  
Trinh Quoc Vu

#### PRESENTATION #5 VIETNAM ENERGY EFFICIENCY FOR INDUSTRIAL ENTERPRISES PROJECT

There are some barriers for energy efficiency activities in Vietnam. There is a lack of accountability to enforce the national-level EE targets, as Energy Efficiency (EE) is usually not a priority for industrial enterprises. Also, financial incentives offered by the government are insufficient. And there is a lack of access to financing for EE is the major bottleneck to EE scale-up. Credit risks, Performance risks, lack of expertise, interest, and confidence in EE financing on the part of financial institutions, Small deals with high transaction costs have been identified as the financing barriers for EE in industrial enterprises

Vietnam Energy Efficiency for Industrial Enterprises Project (VEEIEs) is designed with 02 components: Component 1 includes a fund of \$330 million over five years to provide loans for energy efficiency projects in industrial sector and Component 2 includes Technical Assistance and Capacity Building for Improving Energy Efficiency. The Project will be effective late 2015-early 2016. Project Concept was agreed by the WB's management and financing mechanism was agreed by the government. Development of Project Pipeline has already started.



Refer to the PPT Presentation: Vietnam Energy Efficiency For Industrial Enterprises Project  
Chu Ba Thi

## PRESENTATION #6 VICEM - OPPORTUNITIES AND DEMAND OF CARBON EMISSION REDUCTION

In terms of production technologies used among cement plants owned by Vietnam Cement Industry Corporation (VICEM), the technology includes clinker production line with dry technology (preheater and rotary kiln). 5% design capacity of cement grinding process is Vertical Roller Mill and 25% design capacity of cement grinding process is a ball mill with pre-grinding.

VICEM has investment demand for emission reductions, which are grouped into three main project activities: technology improvement and small-scale energy efficiency, utilizing waste heat for generator, and using alternative fuels and recycled raw materials. Some challenges for emission reduction projects have been identified, including Capital and Investment efficiency, Technical and technological level, Awareness on energy efficiency, Policies. Some recommendations have been proposed regards with financial support, penalties, awareness raising and capacity building.



Refer to the PPT Presentation: Opportunities and demand of carbon emission reduction  
Do Hoang Linh

## DISCUSSION

**Question: What level of MRV information should be included and classified into each level (at-plant, sectoral, and national level)?** By Mr. Nguyen Lanh (Institute of Strategy and Policy on Natural Resources and Environment)

**Answer from the Consultant:** To clarify MRV information, it should be clear that NAMA is different from National GHG Inventory activities. According to NAMA's requirement, NAMA should not only contribute to GHG emission reduction but also to national sustainable development goals. It should be inter-linked with the national green growth objectives and others. Therefore, in order for NAMA implementation, it is compulsory that MRV shall be for GHG and other co-benefits despite the fact that no specific criteria for a MRV has been set forth by UNFCCC so far but recommended by domestic and international donors.

In the workshop framework, we are unable to go into detail each criterion for each MRV level. However, a comprehensive MRV system has been provided in the MRV report of the project. For example, for GHG MRV, 29 criteria are provided, each of which provides with information such as frequency of measurement, location of measurement; what plant-level MRV is; what sectoral MRV is; and what national MRV is; what figures shall be mentioned, etc. Also, for non-GHG MRV, we have provided in detail, what should be reported/measured and to whom the report shall be submitted.

We/MOC are willing to share and discuss with further information after this workshop.



**Question: As you mentioned in your presentation about GHG and non-GHG emission, could you please further define what non-GHG is? By Mr. Nguyen Xuan Quang representative of Institute of Heat and Refrigeration Science and Technology/Hanoi University of Science and Technology**

**Answer from the Consultant:** As mentioned in the presentation, as defined by IPCC, GHG emission is categorized into 03 types. Those are direct emissions (from heating limestone in the kiln, burning fossil fuels), indirect emissions (from electricity consumption activities), and emissions from other activities such as transportation of clinker and cement to distribution networks. In the project framework, we only study two first emission types (direct and indirect emissions).

**Question: by Thai Duy Sam (General Secretary of Vietnam Association of Building Materials)**

On behalf of VABM, I would like to express my appreciation on huge effort and outcomes of the project have been done so far, especially the resulting database of the cement sector.

We hope that after the project completion, clear mechanisms, measures, and policies shall be developed by competent authorities to implement proposals and recommendations given in the project.

In addition, as mentioned in the representation that it is recommended to use limestone and puzzolane for blending to reduce clinker content in cement. In my opinion, volume of limestone and puzzolane in Vietnam is limited. Ash and slag from coal-fired plants are plentiful. Therefore, it is recommended to focus on ash and slag.

**Answer from the consultant:** Thank you very much for your contributions.

**Question: by Nguyen Hoan Cau, General Secretary of VNCA. I have no question but would like to share with you some information**

We met up with some Japanese project teams. We were informed that a Company (NEDO) is willing to fund a project (using household wastes as fuels for cement kilns) in terms of technology and equipment. Small part of counterpart capital contribution is required from Vietnam side. We and the team conducted site visit to some cement plants such in Ha Nam, Hai Phong provinces, and Hue province as Luks cement (in Hue province) and Dong Lam cement plant. But the project team could not find a counterpart for implementing this project.

In addition, another project team introduced a project on recycling domestic and industrial wastes for partly substitution of materials for cement production. The surprising substitution ratio is over 50%. In my opinion, the ideas of the said projects are good and workable, I would like MOC and related governmental authorities to support such projects.

**Answer: by Mr. Le Trung Thanh, Director of DSTE/MOC**

Thank you so much for sharing this information. We will consider your suggestion with all support from governmental policies on new low-emission technology.

## CONCLUSION

**Mr. Do Duc Duy** - Vice Minister of Ministry of Construction

The draft NAMA in the cement sector has been developed comprehensively, including sector database, emission scenarios and recommendations for technical options and financial demands for each emission scenario. Also, we appreciate the presentations from other speakers, discussing for key issues and comments and opinions provided in the workshops.

The draft NAMA in cement sector has proposed 04 main groups of options, including: (1) Blending, (2) WHR, (3) Multichannel burner and (4) Enhancing process and energy management. It is noted that the option of improvement of grinding technology which has been recommended by VICEM should be considered. Such options are suitable in the local context of Vietnam at present and in the future, however, the feasibility of these options also depends on the timing and on the actual situation of each cement plant.

For the finalization of the NAMA proposal, the proposal should also include the calculation of added cost per cement product unit to cover the investment in GHG emission reduction options. There should be analysis on added cost for the options included in each selected scenario as well as the investment return. These factors will affect the implementation roadmap and the feasibility of the selected scenario. Regards with the financial sources for investment, there should be information on % from enterprises, % from donors, % from carbon trading, % from environment fund. Such information will help to determine how the enterprises can afford and the duration of the implementation phase.

Regards with the recommendations provided by the Consultants on action by the Ministry of Construction and relevant authorities, MOC appreciate and will consider these recommendations immediately but not until the final NAMA is approved. In fact, some recommendations proposed have been being implemented by MOC, i.e. including WHR projects into the list of renewable energy projects in priority attached in the revised Resolution, using fly ash from chemical plants, fertilizer manufacturers, thermal power plants for building materials.

MOC very much looks forward to the continuation of supports from NDF and other donors for the 2<sup>nd</sup> phase of this initiative, in which 02 activities are of high priority:

- Establishment of MRV system at plant level and sector level.
- Development of pilot projects (i.e. WHR, municipal waste for burning in the clinker kilns. Such pilot projects are the inputs for the replication in the sector.

## ANNEX 1. FINAL WORKSHOP AGENDA

Time	Contents	In charge
08:00 – 08:30	Registration	
08:30 – 08:40	Welcome speech	Mr. Do Duc Duy, Vice Minister of Ministry of Construction
08:40 – 08:50	Opening speech	Ms. Martina Jargerhorn, Country Programme Manager, NDF
08:50 – 9:30	<p>Key findings and recommendations:</p> <ul style="list-style-type: none"> <li>- Sectoral Database and MRV system for Vietnam’s cement sector</li> <li>- Reviewing institutional and regulatory framework for NAMA</li> <li>- Emission scenario and mitigation actions</li> <li>- Financial needs and plans for NAMA</li> </ul> <p>NAMA Readiness Plan – First ideas on pilot project and comprehensive implementation</p>	<p>Mr. Morten Pedersen, Team Leader                      And                      Mr. Ha Dang Son, Deputy Team Leader</p>
09:30 – 09:45	Coffee Break	
09:45 – 10:00	Green Growth Fund and Financial management for NAMAs in Vietnam	Mr. Nguyen Tuan Anh, Deputy Director of the Department of Science, Education, Natural Resources and Environment, Ministry of Planning and Investment
10:00 – 10:15	Development of NAMAs in Vietnam	Mr. Luong Quang Huy, Director of Division of GHG Emission Monitoring and Low carbon Economy; Department of Meteorology, Hydrology, and Climate Change Natural Resources and Environment
10:15 – 10:30	VNEEP and energy efficiency activities in the industries	Mr. Trinh Quoc Vu, Director of the Department of Science, Technology and Energy Efficiency, General Directorate of Energy, Ministry of Industry and Trade
10:30 – 10:45	Introduction on energy efficiency investment fund for industrial entrepreneurs of the World Bank in Vietnam	Mr. Chu Ba Thi, Project Team Leader, World Bank.
10:45 – 11:00	Opportunities and emission reduction needs of VICEM’s companies	Mr. Do Hoang Linh - VICEM
11:00 – 11:45	Open discussion	All participants
11:45 – 12:00	Conclusions and Closing	Mr. Do Duc Duy, Vice Minister of Ministry of Construction
12:00 –	Lunch at the hotel	



## ANNEX 2. LIST OF PARTICIPANTS

### LIST OF SPEAKERS

No	Name	Organization	Position
1	Mr. Do Duc Duy	Ministry of Construction	Vice Minister
2	Mr. Morten Pedersen	NIRAS A/S	Project Team Leader
3	Mr. Ha Dang Son	RCEE-NIRAS	Project Deputy Team Leader
4	Mr. Nguyen Tuan Anh	Department of Science , Education, Natural Resources and Environment/MPI	Deputy Director
5	Mr. Luu Quang Huy	Division of GHG emission monitoring and low-carbon economy/Department of Meteorology, Hydrology and Climate Change/MONRE	Director
6	Mr. Trinh Quoc Vu	Department of Science, Technology and Energy Efficiency/MOIT	Director
7	Mr. Do Hoang Linh	VICEM	Technical Expert
8	Mr. Chu Ba Thi	World Bank	Energy Board

### LIST OF PARTICIPANTS

No	Name	Organization	Position
9	Mr. Le Trung Thanh	Department of Science, Technology and Environment (DSTE) /MOC	Director
10	Mr. Nguyen Trung Hoa	Department of Science, Technology and Environment (DSTE) /MOC	Former Director, Project Director
11	Ms. Luu Linh Huong	DSTE/MOC	Official
12	Mr. Hoang Huu Tan	Department of Building Materials (DBM)/MOC	Deputy Director
13	Ms. Pham Thi Hong My	International Cooperation Department/MOC	Official
14	Ms. Do Nguyet Anh	International Cooperation Department/MOC	Official
15	Mr. Luu Duc Cuong	Vietnam Institute for Urban and Rural Planning	Official
16	Mr. Truong Viet Cuong	Industrial Safety Techniques and Environment Agency (ISEA)/MOIT	Official

17	Mr. Dao Quoc Cuong	Department of Foreign Economic Relations	Official
18	Mr. Nguyen Lanh	Institute of Strategy and Policy on Natural Resources and Environment/MONRE	Official
19	Ms. Hong Hanh	Vietnam Chamber of Commerce and Industry	Official
20	Mr. Luong Thai Son	Department of Renewable Energy/MOIT	Official
21	Mr. Nguyen Hoan Cau	Vietnam Cement Association/MOC	Director
22	Ms. Nguyen Thi Thu Huyen	Vietnam Institute of Building Materials (VIBM)/MOC	Official
23	Mr. Nguyen Van Hoan	Vietnam Institute of Building Materials (VIBM)/MOC	Official
24	Mr. Le Duc Thinh	Vietnam Institute of Building Materials (VIBM)/MOC	Official
25	Mr. Thai Duy Sam	Vietnam Association of Building Materials/MOC	General Secretary
26	Mr. Nguyen Ngoc Quy	Cement Investment and Development Consulting Company	Director
27	Mr. Luong Xuan Tuan	Centre for Cement Information/VNCA/MOC	Director
28	Mr. Bui Thanh Hung	Bach Khoa Energy Efficiency JSC	Specialist
29	Mr. Nguyen Duc Vinh	Bach Khoa Energy Efficiency JSC	Specialist
30	Mr. Nguyen Manh Tuong	Institute of Cement Technology	Specialist
31	Ms. Nguyen Thi Thanh An	AFD	Expert
32	Mr. Do Duc Tuong	USAIDS	Expert
33	Ms. Vu Phuong Lan	Embassy of Denmark	Expert
34	Ms. Tran Hong Viet	Embassy of Denmark	Expert
35	Mr. Nguyen Van Kien	NAMA GIZ (IMHEM)	Expert
36	Mr. Iacob Kurian	UNDP/MOIT CCIT project ("Strengthening Capacity on Climate Change Initiatives in the Industry and Trade sectors)	Expert
37	Ms. Pham Thi Nga	"Promoting Energy Efficiency in Industries by optimization of system and energy management standards in Vietnam" Project/GEF	Expert
38	Mr. Hoang Dung	CPEE - WB	Expert

39	Ms. Phan Thi Hanh Nhan	LCEE project/Danida	Expert
40	Mr. Nguyen Xuan Quang	LCEE project/Danida	Expert
41	Mr. Nguyen Tuong Khanh	GIZ	Expert
42	Mr. Le Duc Chung	BTC-GGSF	Expert
43	Mr. Phung Van Quan	BTC-GGSF	Expert
44	Mr. Hoang Thanh	EU Hanoi Delegation	Expert
45	Mr. Nguyen Van Khang	Hai Phong VICEM Co., Ltd	Production Deputy Director
46	Mr. Dao Xuan Phuc	Duyen Ha Cement Company	Deputy Director
47	Mr. Nguyen Tien Dat	Duyen Ha Cement Company	Head of Planning Department
48	Mr. Dang Ngoc Thao	Quang Son Cement Company	Production Deputy Director
49	Mr. Truong Quang Loi	Long Son Cement Company	Project manager
50	Mr. Kieu Van Mat	Song Da Cao Cuong JSC	Deputy Director
51	Mr. Nguyen Van Toan	Phu Tan Cement Company	Technician
52	Mr. Pham Viet Hung	AFI JSC	Deputy Director
53	Mr. Tran Anh Tu	ABB Vietnam Co., LTD	Consultant
54	Mr. Vo Van Tot	ALPI Vietnam	Director
55	Mr. Bui Thanh Hung	Bach Khoa Energy Efficiency JSC	Director
56	Mr. Bui Minh Hai	VETS	Technician
57	Ms. Le Hong Nhung	VETS	Technician
58	Mr. Nguyen Thanh Ha	VESCO	Expert
59	Ms. Nguyen Thanh Mai	RCEE - NIRAS	Consultant
60	Mr. Phillipe Lavoie	RCEE - NIRAS	Consultant
61	Mr. Nguyen Tien Dat	RCEE - NIRAS	Consultant
62	Ms. Nguyen Thi Huong Diu	EPRO Consulting JSC	Consultant
63	Mr. Tran Hoang Long	EPROTECH Co., Ltd	Consultant
64	Mr. Bui Huy Phung	Vietnam Energy Association	Expert
65	Mr. Khong Minh Phuong	Electric Power University	Expert
66	Ms. Martina Jägerhorn	NDF	Programme Country

			Manager
67	Ms. Sara Almqvist	Swedish Environmental Protection Agency	Senior advisor
68	Ms. Ulla Jennische	Swedish Environmental Protection Agency	Senior advisor
69	Mr. Jurgen Wiesmann	Greenstream	Consultant
70	Mr. Terje Kronen	Norwegian Ministry of Climate and Environment	Senior advisor
71	Mr. Nguyen Tuan Anh	RCEE - NIRAS	Cement Expert
72	Ms. Phan Minh Thao	RCEE - NIRAS	Administration Deputy Team Leader
73	Ms. Dang Hong Hanh	VNEEC	MRV and Climate Finance Expert
74	Ms. Nguyen Hong Loan	VNEEC	Public Awareness Campaign Specialist
75	Mr. Nguyen Tien Hai	VNEEC	Modelling Expert
76	Mr. Tran Minh Tuyen	VNEEC	Database Manager
77	Mr. Le Anh Tung	VNEEC	Project Officer
78	Reporter	Online Labor and Society Magazine	
79	Reporter	Online Labor and Society Magazine	
80	Reporter	MOC News	
81	Reporter	MOC News	
82	Reporter	MOC News	
83	Reporter	MOC News	
84	Reporter	Information Centre/MOC	
85	Reporter	Information Centre/MOC	
86	Reporter	Consumers Magazine	