

Original Paper

Evolution of Transparency Reporting towards Effective Transition to Low Carbon Economy in Vietnam

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Abstract

The paper analyzed the evolution of policies to reduce GHG emissions reduction in Vietnam, primarily to fulfill its transparency commitment under the UNFCCC and the Paris Agreement. The uncertainty in the transparency rules of the Paris Agreement will be considered to sketch-out the most likely options for developing national policies to meet the future transparency requirements. The key actors and factors in Vietnam impacted by the policies are illustrated. To analyze the extent of penetration of transparency actions and future potentials provided these options, the progress of building congruence toward domesticating international norms of climate change in Vietnam by empirical assessment of the readiness to implement the ETF is conducted. In their turns, the way each relevant stakeholder responded to newly introduced requirements has a profound impact on policy making and enforcement in Vietnam and can represent a typical example of how the community react to a shift in transparency frameworks. Besides, the paper explores how the transparency policies will imply on the monitoring the transition to a low carbon economy in Vietnam under those reactions and the recommend the way forwards that the country may adopt to make its climate change commitment achieved and benefit

significantly from the process.

Keywords

transparency, policy development, MRV, NDC, Paris Agreement, Vietnam, congruence building, bifurcated system

1. Introduction

Vietnam is one among 197 countries that are the parties to the United Nations Framework Convention on Climate Change (UNFCCC) with the aims of keeping a global temperature increase to well below 2 degrees Celsius and shifting to low carbon economy.

Transparency has traditionally been a key building block for the international regime to combat climate change and its impacts. The UNFCCC (Article 12 in accordance with Article 4) obliges all Parties to communicate to the Conference of the Parties (COP) information relevant to the implementation of the Convention, including in relation to emissions and removals (Notes 1, 2). The arrangements for national reporting have evolved throughout the history of the Convention, its Kyoto Protocol and most recently—the Paris Agreement (PA), into a more comprehensive measurement, reporting and verification (MRV) framework. The Modalities, Procedures and Guidelines (MPGs) adopted at COP24 in Katowice lay out rules for reporting and review under the Enhanced Transparency Framework (ETF) of the PA (Notes 3, 4). The ETF is a central component of the post-2020 international climate policy regime that will supersede the current transparency system under the UNFCCC in order to significantly enhance transparency for the reporting and review of information on parties' emissions, mitigation efforts, and support provided or received. Most importantly, it will underpin the dynamic process of updating nationally determined contributions (NDCs) and provide input to the global stock takes on successive five-year cycles. The ETF will apply to all Parties, with flexibility considering capacities of all parties.

Vietnam has been implementing different policies and activities to meet the transparency reporting obligations under the UNFCCC that are critical for building international trust and the domestic processes and capabilities needed to facilitate the transition to low-emission, climate-resilient development pathways. Like other developing countries, such a transparency system in place could facilitate implementation of mitigation actions via identifying areas requiring support. Furthermore, the greater transparency would help Vietnam jump start whatever carbon pricing instruments (either cap-and-trade or other regulatory approach) chosen to apply in the country to mitigate GHG emissions at a more economic efficiency to the society and enterprises.

Like most other developing countries, Vietnam faces challenges in complying with the requirements. The most dominant challenges include lack of institutional and technical capacity, lack of political buy-in and supports from different actors in the system.

However, among developing country Parties, Vietnam is one of the earliest to submit national reports, such its initial and second Biennial Update Reports (BURs) and the third National Communication

(NC3) (Note 5). While the submission of the national reports is obliged under the UNFCCC, many developing country parties have not been able to do so in a timely manner. In this regard, the question often arise what enabled Vietnam to adhere to the requirement of the regime. Kawanishi et al., highlighted the institutional design of developing a national GHG inventory may have affected Vietnam's higher performance to respond to the international requirements (Note 6). Yet, a question remains on what factors have driven Vietnam to continue to accept such obligations for transparency in a proactive manner. Zimmer argued Vietnam's positive attitude in climate change in general has been promoted by co-benefits of climate change abatement, but not necessary focusing on the transparency issue. In this connection, the authors wish to build a hypothesis that the progress of "congruence building" between domestic conditions and international norms on transparency has influenced to facilitate positive attitude of Vietnam. Along with a series of international negotiation on the future climate change regime, one of key issues has been how to effectively engage developing country parties in global mitigation and transparency efforts, and for this reason, the framework for transparency under the UNFCCC has gradually developed by allowing flexibility for developing countries. On the other hand, countries like Vietnam, in partnership with development cooperation partners, developed domestic climate policy and strengthened a basis for positively responding such norms.

In this context, this study will first highlight the key milestones in evolving of the transparency reporting system internationally and nationally in Vietnam. Then it sketches out the vital gaps of the existing national MRV system to satisfy the MPGs. The uncertainty in the transparency rules of the PA will be considered when discussing the most likely options for the development of the suitable national policies, as the umbrella part of the multiple layers of the governance, through which norms related to the ETF under the PA are to be diffused.

The enhancement of the national MRV system will require a balance between the information Vietnam shall provide to meet the ETF requirement and the country's capability. Understanding the key actors in Vietnam that are highly impacted by the domestic transparency policies is important for an effective design and implementation of such policies. This paper highlights the key actors and assesses their readiness in moving toward a streamlined MRV system. In their turns, the way each relevant actor and factor respond to the effect of newly introduced transparency requirement has a profound impact on the enforcement of the policies and finally on the enhancement. The experience in introducing and effectiveness of implementing other reporting obligations is examined to predict the barriers and challenges for imposing the additional reporting requirement on GHGs at facility level. The suggestions are recommended to enhance the new regulations to satisfy the emerging ETF requirements but considering the country's capability.

Since 2012, Vietnam has been striving to low carbon economy by issuing the National Green Growth Strategy with the objective of "Green growth, as a means to achieve a low carbon economy and to enrich natural capital, will become the principal direction in sustainable economic development" (Note

5). In the light of the PA, how the domestic MRV system can spur the transition to a low carbon economy in Vietnam? The paper describes and explores how the monitoring for green growth should be part of domestic MRV system and how the enhancing of transparency policies under the ETF will imply on the monitoring the transition to a low carbon economy in Vietnam.

Finally, the paper will conclude the implications on the reporting policies design and implementation under the expected reactions from the impacted actors and recommend the way forwards that the country may adopt to make its climate change commitment achieved and benefit significantly from the process to the country, especially in pursuit of low carbon development.

As a theoretical background, this paper relies on the concept of congruence building in earlier literature with constructivist analysis. According to them, the readiness of domestic implementation of international norms crucially depends on congruence with key actors (Eimer, Lütz, & Schüren, 2016; Stevenson, 2011; Botcheva & Martin, 2001) (Note 7). Also, it is known the congruence has a variety in local context (Acharya, 2004) (Note 8). This paper shed a light on the congruence in the context of international norm on climate change transparency and Vietnam's domestic situation.

2. Evolution of Transparency Requirements under the UNFCCC

The UNFCCC provides the foundation for intergovernmental action to combat climate change and its impacts on humanity and ecosystems with the ultimate objective is to achieve stabilization of GHG concentrations "at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system" (Note 9). Since 1992, transparency for reporting and reviewing information on climate policies and measures taken by Parties has become one of the key elements to achieve the objective of the UNFCCC. Under the Article 4.1 and Article 12.1 of UNFCCC, each Party is obliged to communicate to the Conference of the Parties (COP) information on the implementation of their Convention commitments to mitigate and adapt to climate change as well as means of implementation such as finance, technology transfer and capacity-building (Note 1, 2).

At COP13 (Bali, 2010), the Bali Action Plan introduced the notion of a measurable, reportable and verifiable process (popularly known as MRV), to ensure transparency in mitigation commitments or actions undertaken by all parties that significantly enhance transparency of action and support under the UNFCCC (Note 10). However, the Bali Action Plan left open many questions, including what M, R and V are, what they should apply to, who should undertake them, and how. Until COP16 (Cancun, 2010), the elements of existing MRV were adopted and introduced the reviewing process which is known as the International Assessment and Review (IAR) for developed countries and the International Consultation and Analysis (ICA) for developing ones (Note 11).

In 2015, the PA was adopted at COP21 in which each party commits to reduce national emissions and adapt to the impacts of climate change via developing individual climate commitments, known as Nationally Determined Contributions (NDCs). In order to promote transparency and mutual trust in the process, the PA includes a key element referred to as the Enhanced Transparency Framework (ETF) for

action and support that is based on existing MRV framework set up under the UNFCCC (Note 3).

The new enhanced transparency framework consists of a common set of guidelines for all country Parties. This is a significant shift from the previous approach under the UNFCCC, which involved two separate guidelines for developed and developing countries and resulted in differing levels of quality of information.



Figure 1. Evolution of Transparency under the UNFCCC Regime

Source: revised from (Note 12).

This “bifurcated system” of the ETF was elaborated as a results of compromise in the negotiation between the needs for establishing a common denominator for all parties to report the progress of mitigation actions and the challenge for many developing countries to undertake obligations despite limited capacity. By allowing flexibility for developing countries to gradually adjust the level of accuracy and details of reporting contents, the ETF demonstrated an enabling environment for congruence building from the development of norms, by demising the design of the system.

While the current MRV system requires developed countries and encourages developing nations to report climate action, the ETF requires all countries to do so every two years. As provided in the Table 1, the ETF introduced mandatory reporting items in addition to those required in the current transparency framework.

At COP 24 in Katowice, the transparency framework that is guided by the Modalities, Procedures and Guidelines (MPGs) was agreed (Note 3). COP 24 decided that the parties to the Agreement must follow the MPGs when reporting their annual GHG inventory under the UNFCCC, and “may” follow the MPGs when reporting overlapping information required by the two treaties in their NCs (Note 4).

MPGs will supersede the existing MRV systems established under the Cancun Agreement. MPGs stipulates that all countries (except Least Developed Countries (LDC) and Small Island Developed States) are required to submit reports and information every two years. At the same time, the current international assessments and reviews and the international consultation and analysis process will be replaced by technical expert reviews and facilitative multilateral consideration of progress on support, implementation and achievement of NDCs (Note 4).

The parties to the PA are to follow these MPGs starting with the first Biennial Transparency Reports

(BTR), National Inventory Reports (NIRs) (if submitted as a stand-alone report) are due by 31 December 2024 (UNFCCC, 2020). The BTR reporting outline is still to be defined (SBSTA is requested to develop the same by November 2020) (Note 4).

According to MPG (Note 4), the NIRs shall generally be based on IPCC 2006 guidelines. However, Parties may apply nationally determined methodologies if they are consistent with the IPCC guidelines and better reflect national circumstances, which shall be transparently explained. Each Party shall report on the most disaggregated level possible about all seven GHGs, though developing countries have the flexibility only to report on CO₂, CH₄, N₂O (i.e., all gases included in NDC must be reported for under the NIR/BTR). Parties shall report at least on the sectors of energy, industrial processes and product use, agriculture, LULUCF and waste. Developing countries must at least start annual reporting from 2020 onwards.

Reporting Elements for Non-Annex I Parties	☒ Included ☐ Enhanced	Common Inventory NDC/Mitigation Adaptation			
		Under the Convention		Under the ETF of the PA	
		NCs	BUR	BTR	NIR (optional stand-alone)
National circumstances and institutional arrangement for reporting		✓	✓	□	□
National GHG inventory		✓	✓		
GHG accounting methodologies, parameters and data used, and rationale for use		✓	✓		✓
Estimate uncertainty, assessed completeness and QA/QC implementation		✓	✓		✓
Description of the Nationally Determined Contribution				✓	
Mitigation policies and measures, actions and plans		✓	✓	□	
Projections of GHG emissions and removals				✓	
Progress in implementing and achieving the NDC: approaches, methodologies and assumptions				✓	
Constraints and gaps in finance, technology and capacity		✓	✓	□	
Description of financial, technology, and capacity building support needed and received		✓	✓	□	
Description of support needed and received to enhance transparency				✓	
Information on the national/domestic MRV system		✓	✓	□	
Climate change impacts, risks and vulnerabilities		✓		✓	
Adaptation policies and measures, actions and plans		✓		□	
Progress on the implementation of adaptation and results, including approaches and methodologies		✓		□	
Information related to averting, minimizing and addressing loss and damages				✓	
Research and systematic observations		✓			
Education, training and public awareness		✓			
Cooperation, good practices, experience and lessons learned for adaptation				✓	
Technical expert review			✓	□	
International consultation and analysis (ICA) & Facilitative, multilateral consideration of progress			✓	□	

Figure 2. Comparison between the Existing Transparency Framework and the ETF

Source: Perspectives Climate Group (2019), edited by the Authors.

The MPGs strengthen current reporting requirements of GHG inventories, particularly for developing countries. Nevertheless, flexibility is provided to those developing countries in the light of their capacities on a number of provisions in the inventory section of the MPGs.

The ETF indicates that flexibility in the implementation of the Transparency Framework would be provided “to those developing country Parties that need it in the light of their capacities” (Note 4). The use of flexibility affects the type, quantity, frequency, and accuracy of information that is ultimately provided by Parties. While the PA does not specify how a need for flexibility is to be determined, the

MPGs provide that such need is to be determined by a developing country itself. To reduce the risk of an abusive reliance on flexibility, the MPGs also require those countries that need it should clearly indicate the provision to which flexibility is applied, clarify capacity constraints, and provide estimated time frames by which the constraints will be addressed (Note 14).

At COP25 in Madrid 2019, the remaining elements of the PA's enhanced transparency framework have been agreed, including: formulating Common Reporting Tables (CRTs) and Common Tabular Formats (CTFs) that Parties must use in reporting information; agreeing the outlines of BTR, NIRs and Technical Expert Review (TER) reports; and designing a training programme for the technical experts in the TER process. The entire packages of these elements are expected to be adopted at COP26 (Note 15).

The effectiveness of the PA rests in the transparency system, since the Agreement has been designed to be a non-adversarial and non-punitive manner so that parties voluntarily pledge their commitment *ex ante*, and report progress of achievement *ex post*. This is a reflection of extremely complicated situation of the climate negotiation in Paris, in particular, for ensuring active participation by developing country parties, while many of them had expressed their concerns regarding their readiness to undertake a reporting obligation under the ETF. Such a strong voice became a driving force for a consideration for a balance agreement and demising the ETH by allowing different levels of accuracy with a view to gradual improvement of developing country parties. Thus, establishing and enhancing a national MRV system that will, in its turn, enhance and guide the NDCs is required for all parties under the Article 13 of the PA. The role of MRV is enhancing transparency of climate actions will remain as the core component of the PA. For developing countries, including Vietnam, the lack of robust MRV systems represents technical, technological, and financial challenges, as the country enters quantitative and legally binding commitments to reduce their GHG emissions committed under their NDCs. In other words, it can be said that the bifurcation has taken place as an important element of congruence, which was intended to fill the significant gap of their participation to a common and single transparency system. One may say this flexibility by designing the bifurcated system removed one of significant barriers towards the domestication of the norms under the ETF in developing countries, including Vietnam.

3. The Evolution of the Transparency Reporting System in Vietnam

Vietnam's transparency journey and commitment have been started since the preparation for the first NC in 1994, which was submitted in 2003. Figure 3 shows GHG emissions of Vietnam in the past and projection until 2030.

Unit: Million tons CO₂e

No	Categories	2014	2020	2030
1	Energy	171,6	320,5	643,2
2	IPPU	38,6	83,3	127,7
3	Agriculture	89,8	104,5	112,2
4	LULUCF	-37,5	-35,5	-49,0
5	Waste	21,5	29,4	54,8
Total		284	502,2	888,9

Figure 3. Vietnam's GHG Inventory in the Past and Projection until 2030

Source: Third National Communication of Vietnam (2019).

3.1 Existing National MRV System and Practice

To date, Vietnam has completed five inventories, included in three NCs and two BURs submitted to the UNFCCC to meet the existing reporting requirements for non-Annex I Parties (developing countries, like Vietnam). With the submission of the NC2 in 2010, Vietnam accelerated its pace, with submission of the BUR 1 in 2014, BUR2 in 2017, and the NC3 in 2019. As mentioned above, a question often arises why the submission of these reports after 2010 became so frequent, while many other countries have continued to take more time. According to the earlier constructivist discussion, it may be a case that a “norm-taker” (Checkel, 1998) (Note 16) has successfully built congruence between international norm set by the UNFCCC and the domestic governance structure in Vietnam, and the international norm has been diffused.

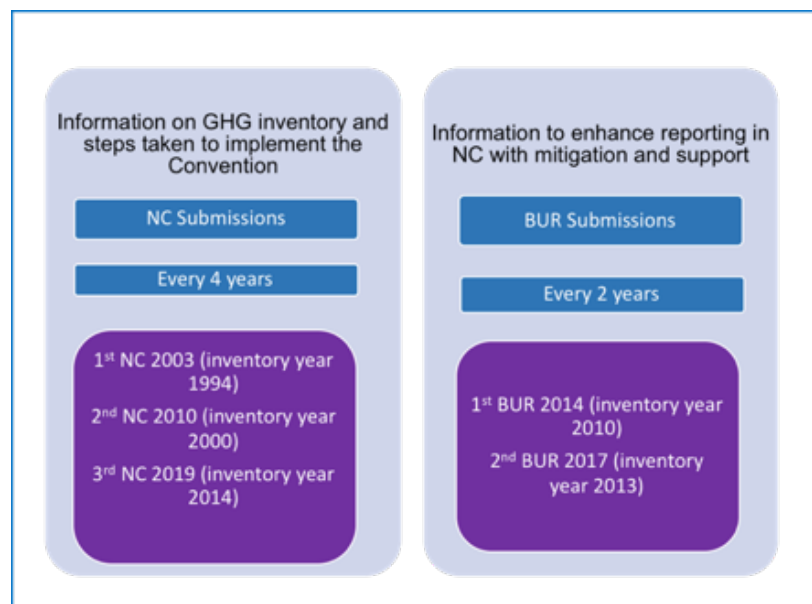


Figure 4. The Existing UNFCCC Reporting Requirement and the Vietnam's Practice

Source: Adapted from (Note 13).

In order to clarify this hypothesis, at first, the authors wish to shed a light on a historical development of the institutional arrangement of the national MRV system in Vietnam.

The main domestic set up for the national MRV system are initially prescribed in the national GHG inventory system of Vietnam under the two Prime Minister's Decisions No. 2359/QD-TTg in December 2015 (Note 17) and No. 2053/QD-TTg in October 2016 (Note 18), with the first focused on the responsibility of line ministries and relevant stakeholders within the system while the latter is more on the implementation role of the parties involved.

The Decision 2359/QD-TTg is, to date, probably the most important legal document that formulates and describes the system to fulfil the UNFCCC requirement on reporting GHG inventory. The implementation plan for the periodic national GHG inventory as regulated by the Decision is described in Figure 5 below.

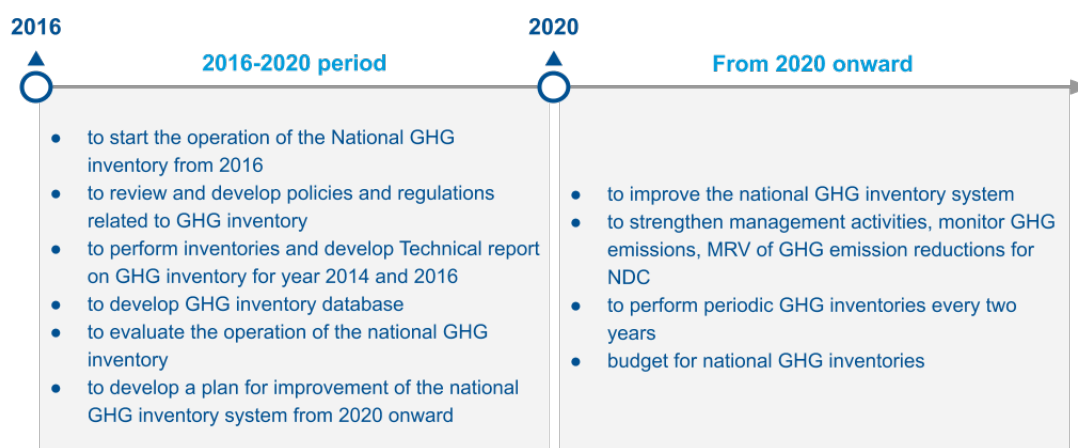


Figure 5. Implementation Plan for the Periodic National GHG Inventory

Source: MONRE (2016).

These landmark decisions were made along with the process of the preparation for and the development of the national reports to the UNFCCC. As a usual formation of GHG inventory development, the MONRE set up a group of experts of GHG inventory compilers with sectoral expertise. While official query for GHG inventory data collection have made to the General Statistic Office (GSO) and the sectoral line ministries, the supplementary work are usually done by these experts under the MONRE, and the GHG inventory is developed in a timely manner (Kawanishi, 2019). Some of these experts have passed the examination for review experts under the UNFCCC and have been registered on the roster of international experts. Through the series of the efforts to develop GHG inventory, the MONRE established its outstanding position with high level of knowledge and expertise. Such development affected the MONRE to drive the efforts to domesticate decisions made by the UNFCCC. In a way, the MONRE has played a significant role of international norm-taker for the government, while at this moment, the involvement of the line ministries in the detailed technical

discussion for GHG inventory development is relatively limited.

So far, Vietnam has gone through pre-2020 arrangement, made by the Cancun Agreement. In order to respond to the ETF introduced by the PA, Vietnam needs to further domesticate guidance to be issued by the UNFCCC. One significant difference between pre and post 2020 arrangements is that the government has pledged NDC as a commitment under the PA. Such a commitment will be implemented by mitigation efforts by respective sectors. For tracking the progress of implementing the commitment via the ETF, it will be necessary for Vietnam to have more in-depth involvement of line ministries. In this regard, the MONRE, as a norm-taker, is expected to increase its efforts to diffuse the international norms widely among relevant line ministries.

After signing the PA, the Decision of the Prime Minister No. 2053/QĐ-TTg (Note 17) was issued to specify the tasks in the Implementation Plan of the PA that are related to GHG inventories, as described in Table 1.

Table 1. GHG Inventory-Related Tasks to Implement PA in Vietnam under Decision No. 2053/QĐ-TTg

Task description	Leading/cooperating agencies	Expected year of completion
Implement GHG inventory and periodic assessment of Vietnam's efforts in mitigating GHG emissions to update NDC and take stock for the global stock-take in 2018	Ministry of Natural Resources and Environment (MONRE), Ministry of Planning and Investment (MPI), Ministry of Industry and Trade (MOIT), Ministry of Transport (MOT), Ministry of Construction (MOC), Ministry of Agriculture and Rural Development (MARD), other relevant ministries, sector localities	2016, 2018, 2020
Implement GHG inventory for national reports under the provisions of the Paris Agreement and periodic global stock-take	MONRE	2022, 2024, 2026, 2028, 2030

Source: (Note 17).

The Implementation Plan regulates the compulsory for establishment of transparency system (MRV) by 2018 at the national and sectoral levels for (i) mitigation of GHG emissions, (ii) adaptation to climate change by 2018, and at the national level for (iii) resource allocation. The Plan indicates the main budget sources for the task are from the Government budget and international support (Note 17).

There are bold remarks concluded from the current state of national activities and regulations to fulfil the transparency requirement:

- The current GHG inventory practices in Vietnam, based on the inventory years mentioned above, show no periodical frequency but were more conducted on an ad-hoc basis.

- The current practices in the latest inventory follow 1996 IPCC Guidelines, except for the IPPU sector (“applying 2006 IPCC Guidelines”), and Tier 1 is commonly applied for almost all sectors except for two sub-sectors in the agricultural sector (manure management and rice cultivation), and two sub-sectors in the LULUCF sector (forest land and crop land).
- According to the Implementation Plan in 2016, Vietnam has to carry out a GHG inventory every two years in order to meet the requirements of the PA, as well as serve the periodic global stock take and already set up the transparency system (MRV) but is not in place yet in 2020.

3.2 Assessment of the Readiness to Implement the ETF at the National Level

The primary objective of a national MRV system is to report on the BTR progress of domestic efforts under those indicators set in the NDC. Vietnam will use its MRV system to report tracked progress towards the achievement of its NDC, as well as related actions as defined in the national, sectoral policies, and strategies, and efforts for continuous improvement. The MRV system arrangement should also be able to report participation in international market mechanisms under Article 6 and the associated transfers of Internationally Transferred Mitigation Outcomes (ITMOs), according to Paris Agreement rules and guidance.

To submit the first BTR by the end of 2024 as regulated under the ETF, the existing domestic MRV system of Vietnam must be enhanced and, if necessary, re-structured.

The country’s experience with the current reporting mechanism under the UNFCCC and the plan for implementing the PA revealed that Vietnam already faced challenges in complying with the existing requirements not mentioning yet the new reporting requirements under the future ETF. The existing issues are the lack of valid data to feed into the current system and the capacity to evaluate and analyse the data accordingly to the requirement of the UNFCCC.

The national regulation is available to create a national legal framework to address the reporting requirement to a certain aspect (focusing on GHG inventory mainly). In fact, there are several gaps to meet the ETF requirements that should be addressed further domestically and with international supports. We sketch out the key gaps to meet the new and emerging reporting requirements under the future BTR based on the latest reporting information in BUR 2.

At the national level, expected normative diffusion provided by the ETF are suggested as below.

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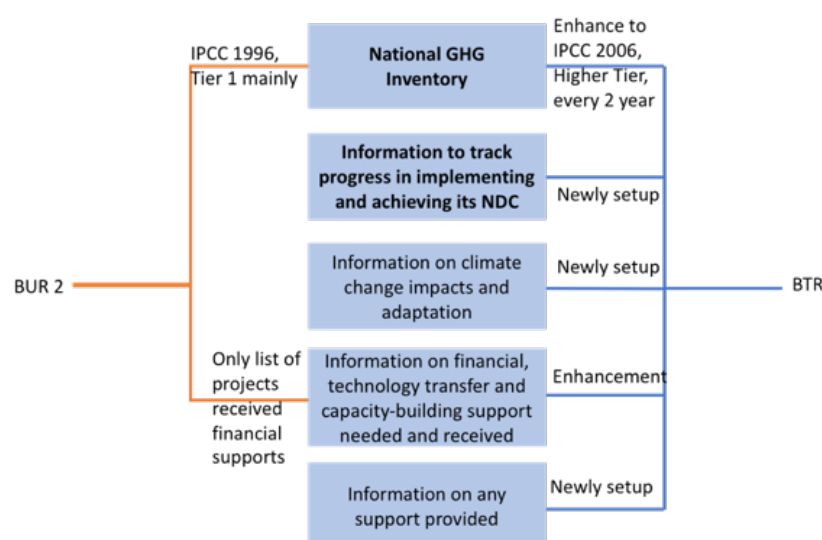


Figure 6. Key Elements of the Biennial Transparency Report (BTR) and Biennial Update Report (BUR) for Developing Countries

Source: based on (Notes 4, 19).

For the national GHG inventory specifically, the needs for enhancement of the current MRV system to bridge the gaps to meet ETF requirements are quite substantial as summarized in Table 2.

Table 2. Gaps to meet ETF Requirements on GHG Inventory

Reporting element	ETF requirements (Note 4)	Current practices in Vietnam (Note 15)	Gaps identified (Note 15)
Methodologies, parameters, and data	Use the 2006 IPCC Guidelines	The Revised 1996 IPCC Guidelines have been applied to four out of five inventory sectors in Vietnam	2006 IPCC Guidelines have not yet been applied in Vietnam and it is required that they be applied in the first BTR by 31 Dec 2024 at the latest
Key category analysis	Make every effort to apply higher tier methods to the key categories	Use Tier 1 for most categories and Tier 2 for some sub-categories.	Key categories have not applied Tier 2, Tier 3 as recommended
Time-series consistency and recalculations	Use the same methods and a consistent approach for underlying activity data and emission factors for each reported year	Use the revised 1996 IPCC Guidelines	Current practice is ad hoc. Need to ensure consistency in time-series and recalculations when updating for the 2006 IPCC Guidelines
	Consistent annual time series starting from the reference year for NDC (2010 in the case of Vietnam)	Annual time series are not reported	No consistent annual time series starting from the reference year for NDC (2010)
	Latest reporting year: no more than two years prior to the submission of the national inventory report	Time gap is five years between the latest reporting year and the submission of the NIR in NC3	Time gap is more than two years between the reporting year and the submission of the NIR
Uncertainty assessment	Uncertainty of emission and removal estimates for the reference year for NDC (2010 in the case of Vietnam)	Uncertainty assessment was not performed in BUR1 for the reference year for NDC (2010)	Uncertainty assessment was not performed for the reference year for NDC (2010)
	Uncertainty of trend between the starting year and the latest reporting year	Uncertainty of trend is provided for 1994 and 2000 in NC2	Uncertainty of trend was not performed between 2010 and the latest reporting year

Metrics	100-year time horizon GWP from the IPCC Fifth Assessment Report (AR5)	100-year time horizon GWP from the IPCC Fourth Assessment Report (AR4)	100-year time horizon GWP from the IPCC AR5 was not applied
Complete-ness assessment	Once emissions or removals have been estimated for a category, and if they continue to occur, each Party shall report them in subsequent submissions	HFCs, PFCs, PCFs, and SF6 emissions in Industrial Processes are reported in total in BUR2 – but not reported in NC3.	HFCs, PFCs, SF6 and NF3 in Industrial Processes are not reported consistently.
QA/QC	Elaborate an inventory QA/QC plan in accordance with IPCC guidelines Provide information on general inventory QC procedures in accordance with its QA/QC plan and the IPCC guidelines	No information about an inventory QA/QC plan in the NC3 No information about general inventory QC procedures in NC3	No information about an inventory QA/QC plan in the NC3 No information about general inventory QC procedures in NC3
Sectors and gases	Report at least three gases (CO ₂ , CH ₄ and N ₂ O) as well as any of the additional four gases (HFCs, PFCs, SF ₆ and NF ₃)	NC3 reports on CO ₂ , CH ₄ , H ₂ O. There are also reported data on NO _x , NMVOC, CO, SO ₂	Consider reporting additional four gases (HFCs, PFCs, SF ₆ and NF ₃)

The latest national GHG inventory demonstrated that the gaps towards progressive ETF reporting are quite substantial across all five sectors. Until the submission of the first BTR by 2024 which offers more stringent in the BUR, the emerging needs to address the gaps and adapt to new ways of reporting things to create a robust MRV system become more urgent for Vietnam.

Considering the above gaps, it is important to strike a balance between the information Vietnam shall provide to meet the ETF requirement and the country's capability. The flexibility clause in the implementation of the ETF is granted to those developing countries (applicable to Vietnam as well) that need it in light of their capacities and flexibility can be provided in areas such as the scope, frequency and level of reporting. The interpretation of "flexibility" is still varied among Parties.

Hence, a high priority task to implement the ETF in Vietnam is to define on how, to what extent and areas the "flexibility" option should be applied to improve the country's reports from one submission to the next but at the pace suitable to the national circumstance. As argued in earlier scholarship discussions (Acharya, 2004) (Note 8), localization of international norms has a range of responses, in evolutionary and path-dependent forms. Therefore, the interpretation of this flexibility may allow some margin for Vietnam, and the MONRE may also play a role of agent to provide an effective and realistic

interpretation, which is suitable to the Vietnamese governance context.

At sectoral level, the governance system of Vietnam gives the responsibility to manage the economic sectors to the five line ministries. The MOIT is for energy and industrial processes, the MARD is for agriculture and LULUCF, the MOT is for energy use in transport, the MOC is for energy use in building and construction works. The MONRE is now sharing the responsibility on waste management with the MOC despite the role is not entirely clear between the two. The MONRE, however, assume the critical role of compiling all the reporting requirement by the UNFCCC as assigned by the Government and facing various issues due to its capacity and resources to fulfil such responsibility.

The obligation to the ETF therefore also places on those line ministries. Consultation shows the line ministries are willing to, and in their respective authority, eager to implement such inventory and MRV works to gain more data and information from those they manage. What they need is the legal foundation for such work and substantial works to improve their capacity.

4. The Readiness of Key Actors in Meeting in a Streamlined National MRV System under the PA

To provide more insights for building on the country's capabilities to report under the ETF, we further examine the readiness of key actors in moving toward a streamlined national MRV system to build the country's accountability under the PA. The norms provided the ETF should be diffused through multiple layers of the domestic governance.

4.1 MRV for Sectors and Provinces

Under Prime Minister's Decision No. 2359/QĐ-TTg (Note 12), different governmental entities (ministries, provincial/municipal People's Committees) are in charge of data collection in their relevant sector(s)/sub-sector(s) for input into the national GHG inventory system, as elaborated in the Figure below.

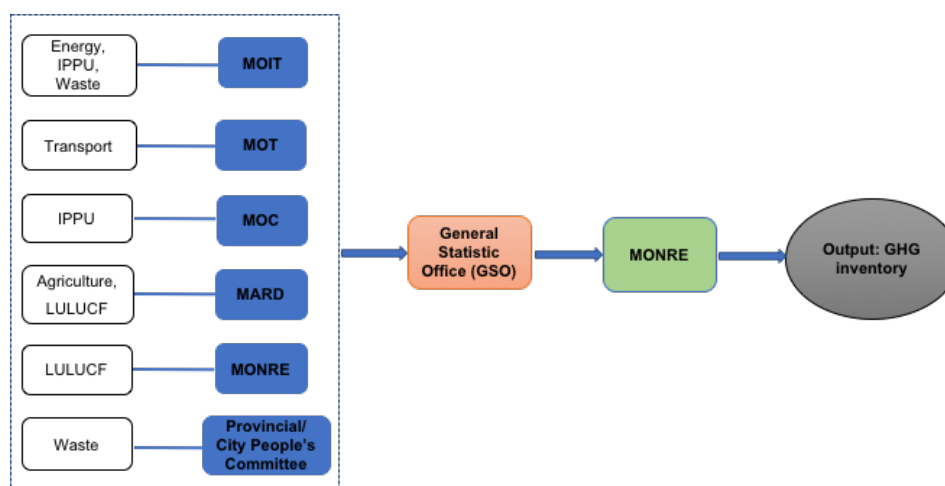


Figure 7. Required Data Collection by Different Ministries for the National GHG Inventory System

Source: based on (Note 12).

The key actors at the sectoral and provincial levels listed in Figure 5 have been making an effort to fulfil the data requirements for the national GHG inventory system. For data from the sectors, line ministries in charge of respective sectors will provide data. As shown in Figure 7, local government (provincial and city's people's committee) will collect and submit waste related data.

The level of effort might, however, be different from ministry to ministry, and at the ministerial level from the provincial level. The roles and performance of GSO in the current scheme is mainly to receive of data reported from these key actors but the analysis is performed by the MONRE.

Until now, no major legal documents have been issued by line ministries and provincial authorities to implement these two Prime Minister's Decisions at sectoral and provincial levels except the Circular 48/2017/TT-BGTVT regulating statistics indicators and the reporting regime for the transport sector, which include indicators for the GHG inventory (Note 17). At a city level, Ho Chi Minh City conducted a GHG inventory for the base year 2013 and developed the City-level GHG Inventory Preparation Manual with the support from Japanese Government. The review of experience in conducting and reporting sectoral GHG inventories and the interviews with line ministries revealed that the most challenge is not only in issuing legal documents but is in building capacity of relevant entities to collect and provide data at all levels. The lack of expertise, budget and assignment of permanent staff is the key challenges to aim for the enhancement at the sectoral and provincial/municipal levels. The Implementation Plan was in place since 2016 but no major achievement in the national MRV system, it is too optimistic to expect a dramatical improvement in the coming years though there are some on-going technical assistance to support in transport and energy sectors.

Under the enhancement of ETF, the legal basis of the national and sectoral MRV regulations should be improved first to create a legislative framework to tackle other national gaps (institutional, technical, financial, etc.) to enable line ministries and provincial authorities to develop the necessary guidance for required MRV systems at lower levels. The collaboration among line ministries and local authorities under the lead of the MONRE will be one of the most important challenges but also one of the most difficult to meet. The institutional channel set up under Decision No. 2359/QD-TTg is not yet fully operationalized and the existing collaboration is not sufficient to provide the required activity data for the national inventories. To meet the emerging requirement under the ETF, the collaboration should be strengthened by the legislation with the responsibilities and reporting hierarchy are clearly defined.

4.2 MRV at Facility Level

Currently there no requirement at a facility level for the national GHG inventory in particular and MRV systems in general under the existing MRV legal framework. All the inventories so far have been conducted top-down to the sectoral level only.

The enhancement requirement to apply higher tier methods to the key categories and to track the NDC's targets in Vietnam entails the need to involve and to regulate GHG emissions at a facility level, or in other words, imposing an additional reporting requirement on them. At this level, reporting responsibility will come along with the obligation to implement GHG inventory that would lead to the

government imposes the target for GHG emission reduction to the facility accordingly to an implementation roadmap appropriate to various sectors.

In the early stage of implementing the ETF in Vietnam, it is certainly that not all entities emitting GHGs will be targeted under the new reporting requirement but only the facilities which are defined as major energy users regulated under the Law on Economical and Efficient Use of Energy (Law No. 50/2010/QH12 dated 17 June 2010) (Note 17).

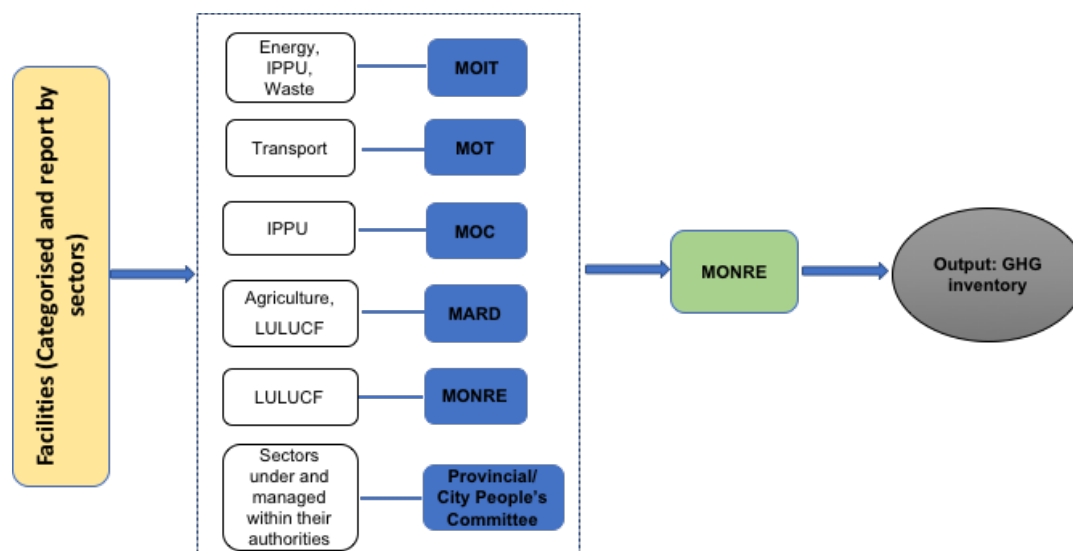


Figure 8. Proposal for Data Collection Scheme at Ministry/Provincial Level and Facility Level for the National GHG Inventory System

Source: based on (Note 18).

To understand the impacts on entities at the facility level and their readiness in complying with the new regulation, we examine the emerging challenges on them from the proposed MRV regulation by comparing these obligations with those from current regulations and with common practice on board.

In the early stage of implementing ETF in Vietnam, it is certainly that not all entities emitting GHGs will be targeted under the new reporting requirement but only the facilities which are defined as major energy users regulated under the Law on Energy Efficiency and Conservation.

The reporting system for Designated Energy Units (DEUs) was prescribed under the Law on Economical and Efficient Use of Energy and Decree 21/2011/ND-CP (Note 22) provides further details on and measures for the implementation of the Law. According to these, the industrial, agricultural, transport facilities that consume a total energy above 1,000 Ton Oil Equivalent (TOE) a year, and buildings that consume a total energy above 500 TOE a year are subject to the development of an annual and five-year plan for the efficient use of energy and annual and five-year reports on energy consumption, as well as a compulsory energy audit every three years. According to the Prime Minister's Decision No. 1469/QĐ-TTg, in 2018 there were about 1,500 MEUs in different sectors in

Vietnam. These DEUs account for about 30% of the total energy consumption in Vietnam (Note 20). Recently in the Legal Document No. 10075/BCT-TKNL, the MOIT regulated on the reporting scheme of energy use, energy performance standards and updates the list of DEUs and requested the report is conducted online via <http://dataenergy.vn> annually on 01 February at the latest (Note 25). In the latest interviews with experts from line ministries, People's Committee and energy consultants, there is concern over the quality of data reported since it is considered as sensitive data of DEUs in relation with tax reports. The energy cost constitutes the product costs and then revenue of a DEU, the report on energy consumption and costs of a DEU to serve different reporting purposes may not bring the benefits but disadvantages in the view of a DEU. Therefore, the motivation of DEUs to report energy consumption data, especially ensuring the accuracy of data is not strong enough. The Legal Document No.10075/BCT-TKNL accouples by a request to the Department of Industry and Trade in all provinces to work closely with DEUs under their management to comply the reporting obligation.

In parallel, pursuant to the Law on Environmental Protection (Law No. 55/2014/QH13 dated 23 June 2014) (Note 26), Circular 43/2015/TT-BTNMT (Note 27) regulates a mandatory to prepare and submit periodically environmental report. It is applied to all production facilities, industrial zones, residential areas, urban areas, commercial centres, plants, which have received certificate of environmental protection commitment, certificate of environmental protection plan, and approval of environmental impact assessment, including all DEUs. There are discussions to include large emitters in the new reporting requirements, in this case GHG emission reporting, to the revised Law on Environmental Protection which shall provide a whole new responsibility to the facility and to their governing agencies (Note 22).

To whom it reports to and the frequency of the report depend on what is committed to in the submitted and/or endorsed Environmental Impact Assessment report or Environmental Protection Commitment.

For the first step of regulating GHG emission at a facility level, a legislative reporting obligation for MRV of GHG emissions from DEUs shall be established as part of the national system. DEUs would thereby be obliged to monitor parameters related to GHG emissions as regulated in the methodologies accepted/approved under the national MRV system. The monitored parameters would need to be verified and different indicators based on these parameters would have to be reported on an annual basis.

The most challenge post issuance is to guarantee for an effective enforcement, especially when it comes with new reporting burdens on the targeted facilities. The penalties sanctions for non-compliance of legal documents in general are relatively weak in Vietnam. In the view of these facilities, they will consider the compliance if only the entailed cost (including penalty cost) is outweighed the benefit factor.

Obviously, complying with this new requirement will lead to additional administrative costs for the owners/operators of DEUs, whose impacts vary depending on sectors. Nonetheless, the size of the impacts can be certainly reduced if the new reporting scheme can be combined with the existing

systems that are already established at the DEUs.

The existing system for the collection of energy consumption data from DEUs should be considered for utilization and integration when the MRV system is enhanced to cover the data collection from facilities for future. In this case, the existing forms should be revised to integrate GHG emission data to avoid the overlapping/duplication of work and reduce the cost for reporting entities.

The integration of the national MRV system with the existing reporting systems, especially on energy can be considered on two counts, as follows:

- The existing monitoring and reporting procedure could be enhanced to convert the units of data collected from energy consumption to GHG emissions; and
- The existing energy auditing of the DEUs could just as well be transformed into GHG emissions verification.

In terms of the benefits offered by the new requirement, it is quite a significant challenge for policy makers to define a suitable and realistic motivation to get stronger commitments from the owners/operators of the facilities to report. So far, data reported under other regulations is usually archived by the authorities, but the analysis of the received information is conducted at a limited extend and the outcomes are not published publicly, as there are concerns of publicizing the link of data and their daily performance for commercial reasons.

Using the comparative analysis to facilitate the data sharing/reporting can be demonstrated via the case of the cement sector. The analysis conducted by the MOC resulted to developing a database for the comparative analysis for a period of 5 years with a high participation of the cement factories accounting for 80% of total cement produced in the country at the time of the survey (2015). Analysis can be performed from the data presented in the Vietnam cement energy and CO₂ database for comparative assessment among the cement companies as well as sector-planning and policy making providing a benchmarking and a basis for setting up Minimum Energy Performance Standards (MEPS) for the sector.

4.3 Transparency through Domestic and International Carbon Market Mechanism as an Enabling Factor

Participating in international/domestic carbon market-based mechanisms is one of the rewards and motivations for GHG data report at a facility level. Detailed facility-level data that are increasingly collected for tracking the progress of NDC's target can be utilized for the MRV system for carbon crediting. The benefit from either having additional revenues or reducing the cost of carbon off-set can be generated only if the domestic carbon market is functional that is not yet the case for Vietnam until the due of the first BTR. Another challenge for inventory compilers is assessing how best to integrate facility reported data to achieve improvements, especially if there are some outstanding coverage and completeness issues.

The existing MRV arrangements for GHG emissions and mitigation activities separate from other related data collection systems for NDC tracking in Vietnam. The implemented MRV set-up for

mitigation activities in Vietnam is dominated in the context of international crediting schemes, covering the Clean Development Mechanism (CDM), Verified Carbon Standard (VCS), Gold Standard (GS) and the Joint Crediting Mechanism (JCM). Further, the emerging MRV systems under other domestic initiatives, such as NAMAs have been designed but not yet operationalized in the country until now. Vietnam has developed the legal framework for the MRV of GHG emission reductions at a project level under these crediting mechanisms only.

The readiness analysis for the reporting GHG emissions and mitigation activities to meet the requirement of ETF shows there are the gaps should be addressed at all the three levels, i.e. national, sectoral and facility ones.

Recently, the Partnership for Market Readiness (PMR) funded by the World Bank recommended market-based carbon pricing approaches at the national level, with a focus on data collection, MRV-related components, and key design elements, principles, and criteria for the crediting process. This packaged support provides data gap analysis and recommendations on inventory guidelines and requirements and develop an action plan to align the national GHG emission inventory with IPCC and national guidelines and requirements on market-based carbon pricing. In parallel, it also identifies the key elements, barriers to operationalize the national MRV systems for crediting programs as well as provide recommendations to overcome the existing barriers. Therefore, the outcomes of this package will directly build up the country's competence in enhancing the capability toward the new, emerging reporting obligations under the PA.

Apart from following the action plan and recommendations that are proposed under the PMR, at a national level, Vietnam should articulate the rationale for availing flexibility that is not yet defined under the ETF for gradually improving the country's readiness to strike a balance between meeting the conditionality of targets and the information Vietnam is able to provide in tracking progress towards achieving its NDCs.

At the facility level, there are certainly more works need to be done to set up a robust MRV system since no implementing experience yet in the country, except for the implementation of CDM and JCM projects.

When the CDM was introduced in Vietnam, attention to climate change by the private sector was suddenly boosted since the CDM provided an opportunity for the Vietnamese private sector to participate in GHG emission reduction activities and a channel for receiving investment and financial returns. Market mechanisms in connection with the ETF may require more sophisticated and integrated design, in line with the Vietnam's NDC. By so doing, the MONRE may engage the private sector in a more committed manner and lead the country to achieving the 2030 target as well as realizing a low carbon society.

5. Connection between the Nationally Robust MRV System and the Low Carbon Development Plan as a Way to Strengthened Engagement

Vietnam has recently announced to strive for a low-carbon economy and tap into market opportunities for investment from domestic resources, international finance, and commercial sources. Since the promulgation of the National Green Growth Strategy—VGGS (2012) (Note 9), green growth and a low carbon economy have been ranked high on Vietnam's agenda and the notion of “low carbon development” has been the aim in the national green growth action plan as well the provincial action plans.

The VGGS—combining energy-, economic-, and climate policy—aims to “achieve a low carbon economy” (Note 26). The VGGS stated the objective “Green growth, as a means to achieve a low carbon economy and to enrich natural capital, will become the principal direction in sustainable economic development”. The VGGS defines explicit emission reduction targets for the energy sector. Vietnam now unconditionally commits itself to reduce its GHG intensity per unit of GDP by 8 to 10% by 2020 compared to 2010 levels and to reduce GHG emissions from energy activities by 10% (additional 10% conditional on international support) below business as usual by 2020 and 20% (additional 10% with international support) in 2030 (Note 9).

However, so far there is no system to MRV the low carbon economy targets and to connect to the NDC performance evaluation.

Though sounding cliché “we can't manage what we can't measure” but it is still very true and relevant in the case of low carbon development—how the low carbon targets can be in line and support for the targets under the NDC and vice versa without the system to measure the GHG emissions and reductions?

In VGGS, Vietnam also announced plans to move towards “trading of certified greenhouse gas emissions, carbon tax and fees and levies” (Note 9). This may pave the way for a stronger engagement by providing incentives for the sectoral ministries and private sectors with carbon pricing instruments such as a carbon tax, sectoral crediting, or an emissions trading scheme in the country's context, while the prerequisite for such pricing emissions is to build robust MRV scheme.

Hence, pursuing low carbon development path will raise the need for an MRV system to provide quantitative information to manage and evaluate the progress and outcomes. In its turn, a robust domestic MRV system will directly provide quantitative information to support decision making and operation in the transition process to a low carbon economy in the three levels, namely national, sectoral and facility in Vietnam. And enhancing of transparency policies under the ETF will certainly create the foundation on the monitoring the transition to a low carbon economy in Vietnam.

In diffusion of norms provided by the ETF, an enhanced MRV system at sectoral and facility level requires legal basis from the government and the governing agencies of various economic sectors, those in this case are the five main line ministries. Such legal documents shall follow the instruction of the national government where the implementation of low carbon economy is high in the political

agenda. Several co-benefits that will attract the facility owners that the government can provide in the form of support for technology change and some types of tax exemption or financial support to the transition. Other aspects of co-benefits that local government, who directly manages the operation of the facility on regular basis, include employments generated from the change, improved environmental condition and health.

Those benefits can act as competitive advantage of the facility that decides to participate in the transition to the low carbon economy. Nevertheless, this transition cannot be realized without strong support from the government and its agencies at provincial and sectoral levels. It is best to legislate such support to gain the trust and willingness of the facility to broaden the scope of the transition.

6. Conclusions

Like many other developing countries, Vietnam is yet to streamline its domestic MRV system. The obligations to meet the ETF requirements in Vietnam can be built on the existing MRV framework and as such, some requirements under the ETF will already be met. But inevitably there will be several aspects of the ETF that Vietnam is not yet meeting. At the time of writing this paper there are still over four years before the first BTR must be submitted, meaning there is time to implement the necessary improvements.

As the international climate change framework developed through negotiation provided a flexibility in the ETF, by reflecting both needs for establishing universal system of transparency and the challenges held by developing countries. The bifurcated system provided a margin of congruence building for the Parties. At the national level in Vietnam, the MONRE played a role of norm-taker for the government, and with its high level of knowledge and expertise on the international transparency system, it has provided effective interpretation to facilitate diffusion of international norms to the domestic governance system.

Certainly, the flexibility provision should be determined to apply within the context of Vietnam to build adequate reporting capacities while complying the reporting set under the ETF. Responding to future challenge of complying with requirements under the ETF, would require an investment of resources and commitment by the country. This also implies the opportunity to promote and pursuing low carbon development path in the country via enhancing the domestic MRV mechanisms with wider participation of stakeholders. To this end, inclusive and extensive domestic stakeholder engagement is essential for conducting self-assessment and thereon building a robust framework. An integrated MRV system for GHG mitigation requires streamlined data management systems, technical capacity, improved analytical capabilities, and most importantly, active coordination amongst all the stakeholders.

So far, certain efforts have been made to build MRV for the specific sectors, actions, and programmes but not for GHG mitigation directly. MRV is currently scattered and varies with respect to policy, action, and sector. This results in a strong need to integrate all these individual actions into one

common platform to address challenges such as transaction cost, time, etc. It is then important to strengthen and streamline capacities and capabilities of relevant national institutions (including central, sectoral, provincial/municipal, research institutions, civil societies, etc.) with national priorities, and bring in suitable mechanisms backed by legal mandates that ensure the improvement of transparency over time.

Guidance on how best to use facility-level data that are not originally designed for national greenhouse gas inventory compilation. A new decision tree for selecting facility-level data is provided as well as good practice reporting considerations associated with facility-level data used in the national GHG inventory.

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