

Study on cooperative MRV as a foundation for a potential regional carbon market within ASEAN

Philippines Country Report

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Abbreviations

ASEAN	Association of South East Asian Nations
BOI	Board of Investment
BUR	Biennial Update Report
CAGR	Compound Average Growth Rate
CDM	Clean Development Mechanism
CO₂	Carbon dioxide
CO₂e	Carbon dioxide equivalent
CPI	Carbon Pricing Instruments
CSI	Cement Sustainability Initiatives
DENR	Department of Environment and Natural Resources
DOTr	Department of Transportation
GDP	Gross Domestic Product
GHG	Greenhouse Gases
INC	Initial National Communication
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial processes and Product Use
LRT	Light Rail Transit
LUCF	Land-Use Change and Forestry
M&R	Monitoring and Reporting
MP	Monitoring Plan
MRV	Monitoring, Reporting and Verification
MVUC	Motor Vehicles User's Charge
NAMA	Nationally Appropriate Mitigation Actions
NC	National Communication
NICCDIES	National Integrated Climate Change Database and Information Exchange System
PhP	Philippine Peso
PMR	Partnership for Market Readiness
SNC	Second National Communication
TNC	Third National Communication
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar

Executive Summary

The Philippines' total GHG emissions excluding LUCF in 2000 were estimated at 127 MtCO₂e. The energy sector (70 MtCO₂e) is the largest contributor to the country's GHG emissions, followed by agriculture (37 MtCO₂e) and industrial production and product use sector (9 MtCO₂e). The country's final INDC pledge has a relative national emission reduction target of 70 percent by 2030 compared to a 2000-2030 business-as-usual scenario. The Philippines signed the Paris Agreement on April 22, 2016 and ratified it on March 23, 2017. On the other hand, the Philippines is still in the process of identifying sector level NDC targets.

Philippines' main strategy to achieve its INDCs is to promote renewable energy as the country has large potential for renewable energy, in particular 76,000 MW of wind power. In addition, the Philippines is exploring carbon pricing instruments (CPIs) in the power, iron & steel, cement and transport sectors under World Bank's Partnership for Market Readiness (PMR) programme. Therefore, introducing CPIs in the energy sector is expected to support the country in achieving its INDCs.

For national, sectoral, and facility level MRV, the Philippines has developed MRV templates based on CDM methodologies to collect activity data and calculate GHG emissions. However, these were not used by the different government agencies due to their complexity and lack of familiarity with these CDM methodologies. As such, revisiting and simplifying the templates in a manner so as to be used by the sectoral agencies could be a basis for developing a national MRV system. Additionally, improved templates could be used in other ASEAN countries to harmonize the use of MRV systems across the region.

1. National Climate Change Context

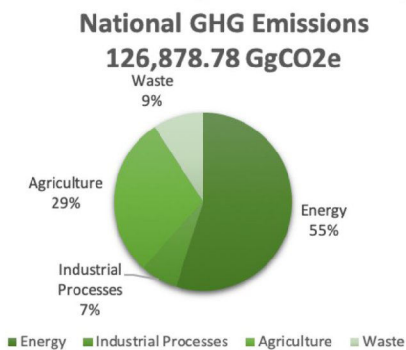
The Philippines is an archipelagic country consisting of 7,641 islands situated in the Western Pacific Ocean. The mid-year population of the country in 2017 was estimated at 104.9 million¹. The Philippines has the second largest population among ASEAN countries and it also exhibits the highest growth rate.

The Gross Domestic Product (GDP) of the country in 2016 at current price was USD 311,453 million² (14,481 billion Philippine pesos). The average annual GDP growth rate was approximately 6.1 percent for the period 2010-2016. The GDP per capita of the country at current price in 2016 was USD 3,017. The Philippine's GDP per capita is sixth among the ten ASEAN countries, yet below the average GDP per capita of ASEAN in 2016 (which was at USD 4,034). Major economic sectors that contributed to GDP in 2016 were services (57.5 percent of GDP), followed by industry (33.8 percent of GDP) and then agriculture (8.8 percent of GDP).

The latest official GHG emissions of the Philippines can be sourced from the national GHG inventory prepared based on activity data in 2000 as part of its Second National Communication (SNC). The SNC was submitted to UNFCCC in 2014.

Table 1 presents the breakdown of GHG emissions, by sub-sector in 2000. CO₂ emissions accounted for approximately 56 percent of GHG emissions, which totaled 126,879 MtCO₂e. The energy sector, which accounts for nearly 50 percent of total GHG emissions (62 MtCO₂e), was the major contributor. Transport is the major emitting sub-sector, accounting for nearly 20 percent of total GHG emissions (26 MtCO₂e). Figure 2 presents a breakdown of GHG emissions in each major sector.

Figure 1 – GHG emissions by source in the Philippines, 2000



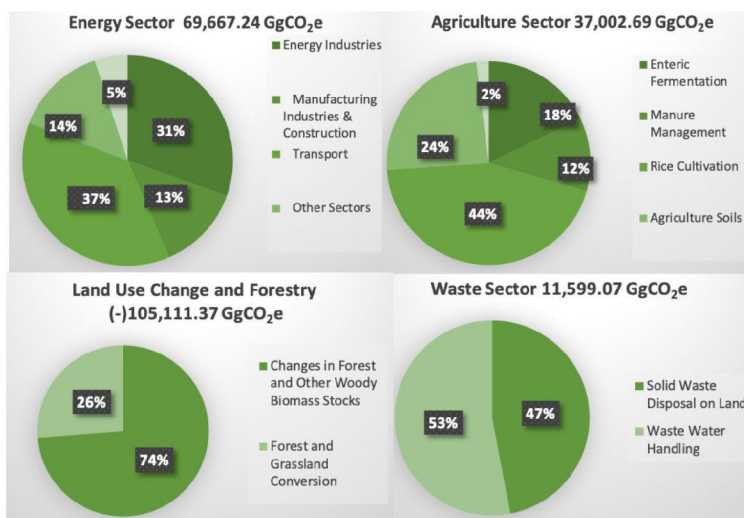
Source: Second National Communication, 2014

Table 1: GHG emissions (Gg) by source in Philippines, 2000.

Greenhouse Gas Source and Sink Categories	CO ₂	CH ₄	N ₂ O	CO ₂ e
Energy	62,499.10	304.14	2.52	69,667.24
Energy Industries	21,127.35	0.40	0.27	
Manufacturing Industries & Construction	9,015.30	1.91	0.28	
Transport	25,792.03	3.45	0.23	
Other Sectors	6,564.42	130.29	1.74	
Solid Fuels	-	1.60	-	
Oil & Natural Gas	-	166.49	-	
Industrial Processes	8,604.74	0.24	-	8,609.78
Mineral Production	7,911.74	-	-	
Chemical Industry	54.00	0.24	-	
Metal Production	639.00	-	-	
Agriculture	-	1,209.79	37.41	37,002.69
Enteric Fermentation	-	314.50	-	
Manure Management	-	87.43	7.99	
Rice Cultivation	-	782.71	-	
Agriculture Soils	-	-	-	
Prescribed Burning of Savannas	-	0.73	0.01	
Field Burning of Agriculture Residues	-	24.42	0.60	
Land Use Change and Forestry	(104,040.29)	(46.28)	(0.32)	(105,111.37)
Changes in Forest and Other Woody Biomass Stocks	77,526.65	-	-	
Forest and Grassland Conversion	26,513.64	46.28	0.32	
Waste	-	500.67	3.50	11,599.07
Total (Net) National Emissions (Mt CO₂e)	(32,936.45)	1,968.56	43.11	21,767.41

Source: Second National Communication, 2014

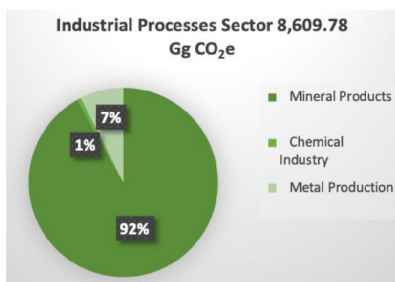
Figure 2 - GHG emissions by sub-sectors, 2000



Source: Second National Communication, 2014

1 National account of the Philippines (1st Quarter 2018).
2 ASEAN Statistical Yearbook 2016/2017.

Figure 2 - GHG emissions by sub-sectors, 2000 (contd.)



Source: Second National Communication, 2014

The Philippines signed the Paris Agreement on April 22, 2016 along with 174 countries, and ratified it on March 23, 2017. In October 2015, the Philippines submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC. The Philippines is ranked first in terms of the most affected countries by climate change according to the 2013 Climate Risk Index (CRI)³. The country aims to reduce its national GHG emissions approximately 70 percent by 2030 against the BAU scenario of 2000-2030. Energy, transport, industry, waste and forestry are the sectors identified to achieve the emission reduction goal of 2030. In addition, on its NDC, the Philippines highlighted the following strategies focusing on increasing energy self-sufficiency as a means to support GHG emission reductions:

- Aggressively develop renewable energy potentials from biomass, solar, wind and ocean resources;
- Increase the use of alternative fuels;
- Strengthen and enhance energy efficiency and conservation programs.

The Philippines foresees that renewable energy sources will play a critical role in reducing GHG emissions, and therefore their promotion is a high priority as per the INDC. In particular, the Philippines has an abundant supply of geothermal energy since it is located within tectonic plate boundaries⁴. Currently, the Philippines is the second largest geothermal energy producer in the world. Additionally, the Philippines holds a high potential for wind energy, with a technical resource potential of 76,600 MW according to estimates by the US National Renewable Energy Laboratory. The hydropower potential is not as high as wind power, yet it still contributes to around 8.3 percent of the total indigenous resources. With regard to biomass, the major sources for energy production are bagasse as well as municipal, agricultural and animal waste⁵.

The Philippines has developed several policies, strategies, laws and plans that will support the reduction of GHG emissions. Table 2 is a summary of major policies and strategies.

Table 2: Summary of policies, strategies and laws on climate change mitigation in the Philippines

Policy, Law or Strategy	Year/ Time Period	Brief overview
Climate Change Act	2009 (amendment in 2012)	The law aims to mainstream climate change adaptation into government policy and establish a framework strategy. The 2012 amendment introduced the Peoples' Survival Fund, aimed at allocating national budget for adaptation needs of local communities and local governments.
National Disaster Risk Reduction and Management Law	2010	Guide to mitigate impacts of disasters and increase resilience.
National Framework Strategy on Climate Change (NFSCC)	2010 - 2020	Lays the foundation and a roadmap for addressing climate change. It identifies adaptation as the anchor strategy and considers mitigation as a function of adaptation.
Renewable Energy Act	2008	Aimed at increasing the utilization of renewable energy sources and the use of alternative fuels.
Clean Air Act	1999	Addresses air pollution from mobile and stationary sources. Lays out a basis for fines and penalties applying to owners/ operators who exceed GHG emission levels.
Philippines' REDD+ Strategy	2010 - 2020	Lays out the basis for implementing REDD + programs, research, projects and activities to reduce greenhouse gas emissions from deforestation and forest degradation, conserve biodiversity and improve living conditions.
Senate P.S. Res. No. 13 Carbon Pricing Mechanism	2016	The Philippines' Senate presented a resolution directing the Committee on Climate Change to look into the viability of establishing carbon pricing mechanisms in the country to ensure its contribution in the attainment of targets for GHG emission reductions set in the country's INDC.
Executive Order 174, November, 2014	2014 (Department order issued in 2018)	Sets the mandate to institutionalize the Philippines' Greenhouse Gas Inventory, Management, and Reporting System for all sectors (Agriculture, Waste, Industry, Transport, Forestry, and Energy). The Executive Order determines the development of capacities for data collection and reporting. In addition, from 2018 onwards, all brand new vehicles should be Euro 4 complied, this policy was issued in 2015.

³ The Philippines' Intended Nationally Determined Contribution (INDC).

⁴ The Philippines' Second National Communication (SNC).

⁵ Ibid.

As per publicly available information, the government of the Philippines does not have a law or policy related to a carbon tax, through the government has considered the implementation of such tax⁶. However, various policies and regulations exist to promote low-carbon technologies and to reduce GHG emissions, such as: i) incentives for manufacturing, assembling, converting, and importing of plug-in hybrid electric vehicles⁷; ii) incentives for renewable energy under the Renewable Energy Act of 2008⁸; and iii) environmental tax⁹ system, which helped to establish an industrial waste water effluent fee programme for reducing the discharge of waste by incentivising industries. An Environment User Fee System (EUSF) was also established to implement an environmental tax; 20 percent of tax revenues from the EUSF will be allocated to develop and implement environment projects such as sewage plants. Table 3 provides a summary of major plans and programmes related, directly or indirectly, to climate change mitigation in the Philippines.

Table 3: Summary of plans and programmes on climate change mitigation in the Philippines

Plan/Programme	Time Period	Overview	Responsible Agency
National Climate Change Action Plan (NCCAP)	2011 - 2028	Sets the tone for the Government to implement short, medium and long-term actions in seven thematic areas: food security, water security, ecological and environmental stability, human security, climate smart industries and services, sustainable energy, and knowledge and capacity development.	Republic of the Philippines Climate Change Commission
National Energy Efficiency and Conservation Programme (NEECP)	2005 - 2014 (first version) 2017 - 2040 (second version)	The overall objective of the programme is to reduce energy intensity and consumption in relation to business as usual (BAU). The programme targets different stakeholders, especially in the transport, industrial and commercial sectors.	Department of Energy
Efficient Lighting Market Transformation Programme (PELMATP)¹⁰	2005 - 2011	Promote the utilization of energy-efficient lighting (EEL) systems in the Philippines and reduce greenhouse gas emissions.	Department of Energy
National Solid Waste Management Strategy	2012 - 2016 (second version in preparation)	Sets the development path for the Philippines' solid waste sector and contains detailed proposals for the National Solid Waste Management Commission, its member agencies and other concerned organizations to more effectively ensure the implementation of Ecological Solid Waste Management Act of 2000.	National Solid Waste Management Commission
The Philippine Development Plan	2017 - 2022	The Philippine Development Plan (PDP) 2017-2022 aims to create the an enabling environment to support sustainable development priorities	National Economic and Development Authority
The Philippine Energy Plan	2016 - 2030 2017 - 2040	Consists of sectoral energy roadmaps that set out specific actions and directions to support reducing demand energy demand	Department of Energy

⁶ Monteleagre, K. A. M., Renewables could take up to 60% share with carbon tax, subsidies, Business World, April 25, 2018.

⁷ Bill of the Plug-in Hybrid Electric Vehicles Incentives Act of 2017, SB No. 1422 of 2017. Senate of The Philippines. May 2, 2017.

⁸ Renewable Energy Act of 2008. Senate of the Philippines. 2008.

⁹ Environmental Tax.

¹⁰ UNDP, Philippines Efficient Lighting Market Transformation Project (PELMATP) - Terminal Evaluation, 2012

2. Analysis of national MRV system

2.1 Carbon pricing status and outlook

As one of the world's most vulnerable countries to the impacts of climate change, the Philippines understands the urgent need to control GHG emission levels. Even though the country does not have any carbon pricing instrument in place, it has explored the possibility of applying these instruments. In particular, in May/June 2016 it commissioned a study¹² to assess their feasibility. Before this, the Philippines had also proposed an emissions trading system (called cap-and-trade) in 2013 via a Senate Bill¹³ (pending approval at the time of the finalization of this study). The results of the feasibility study which explored the possibility of implementing carbon pricing instruments are discussed below. A starting point for the study was estimates of CO₂ emissions, which was the basis to calculate the potential revenue from introducing a carbon tax.

The study results indicate that total CO₂ emissions by 2030 to be 168 MtCO₂. The energy generation sector, which contributes 56 percent of total CO₂ emissions by 2030 is the major emitting sector followed by the transport and industry sectors (20 percent each). Taking this into account, a rate of PhP 100.00 (approximately USD 2) to PhP 1,000.00 (USD 20) per tonne of CO₂ is suggested as a carbon tax, which was on par with carbon taxes introduced by other countries. The revenue that could be generated from levying a tax along these lines could amount to 16.82 billion PhP in 2030 (approximately USD 320 million), as indicated in the table below.

According to a tariff reduction and GHG emissions study carried out for the Philippine in 2007¹⁴, a carbon tax of PhP 100.00 per tCO₂ would result in a reduction of one percent of CO₂ emissions in the country.

Table 4: Estimated revenue from carbon tax by sector (In Billion PhP)¹⁵

Year	Industry	Transportation	Commercial	Residential	Agriculture	Electricity Generation	Total
PhP 100.00 per tonne of CO ₂							
2015	1.20	2.39	0.31	0.28	0.05	4.03	8.26
2030	3.14	3.27	0.44	0.48	0.03	9.47	16.82
Average (2015-30*)	2.08	2.81	0.37	0.38	0.04	6.52	12.20
Share %	17.05	23.04	3.05	3.11	0.32	53.43	100.00
PhP 1000.00 per tonne of CO ₂							
2015	11.96	23.92	3.08	2.83	0.47	40.30	82.56
2030	31.39	32.67	4.38	4.75	0.33	94.67	168.19
Average (2015-30*)	20.79	28.10	3.72	3.80	0.39	65.17	121.97
Share %	17.05	23.04	3.05	3.11	0.32	53.43	100.00

¹² NTRC Tax Research Journal, Feasibility of Imposing a Tax on the Emissions of Carbon Dioxide in the Philippines, 2016.

¹³ Low Carbon Economy Act, Senate of the Philippines, 2008.

¹⁴ Corong, E., Tariff Reductions, Carbon Emissions, and Poverty: An Economy-Wide Assessment of the Philippines, Economy and Environment Program for Southeast Asia, 2007.

¹⁵ NTRC Tax Research Journal, Feasibility of Imposing a Tax on the Emissions of Carbon Dioxide in the Philippines, 2016.

The Philippines has become a technical partner to the Partnership for Market Readiness (PMR) programme of the World Bank in 2018. The PMR will support the Philippines assessing feasible and cost-effective carbon pricing instrument (CPI) options for the energy sector. The Philippines expects identified CPIs will contribute to: i) setting realistic but ambitious NDC mitigation targets; and ii) developing plans to implement the identified CPIs. The Department of Finance (as the national PMR focal point), the Department of Energy, Climate Change Commission, the National Economic and Development Authority, and the Department of Trade and Industry are the national institutions involved in CPI development.

In addition to the work under the PMR programme, the Philippines has in place a number of taxes and initiatives that implicitly put a price on carbon emissions, in particular:

- **Coal Excise Tax:** This tax has existed for the past 40 years, even though the coal industry was exempted from it. As per 2016, the tax on coal and coke was updated to PhP 10.00 (USD 19) per metric tonne.
- **Fuel Excise Tax:** The government has imposed an excise tax on manufactured oil and other fuels (ranging from PhP 0.00 to PhP 4.35 per liter, and a 12 percent value added tax). However, it has also allowed an income tax holiday (five years) for refining, marketing and distribution of petroleum products under Executive Order 226 from July 16, 1987¹⁶.
- **RoadTax:** A road tax designated as “Motor Vehicles User’s Charge” (MVUC) has been in place in the Philippines according to Republic Act No. 8794 in early 2000. The tax rate is determined based on the type and weight of the vehicle, and whether it is for hire/private use/ government use. Hired vehicles have a lower tax rate compared to government and private vehicles.
- **Tax exemption for electric vehicles:** The Board of Investment (BOI) of the Philippines introduced a tax exemption to manufacture electric vehicles. According to Executive Order 488 of 2006, the tariff rate for electric vehicle components was reduced to zero by allowing manufactures to import components at a more affordable price.

In addition to the above, the Philippines introduced two major funds aimed at protecting the environment, some of them aligned with the instruments indicated above:

- **Special Vehicle Pollution Control Fund:** 7.5 percent of the MVUC tax will go to this fund, which is being managed by the Department of Transport (DOTr).
- **Air Quality Management Fund:** The air quality management fund, managed by the Department of Environment and Natural Resources (DENR), is maintained by non-compliance of environmental standards in industries, private emission testing stations, and smoke belching vehicles.

According to the Department of Environment and Natural Resources’s Environmental Management Bureau (DENR EMB), the Philippines has received 118 CDM applications as of September 2012. Of those 118 applications, DENR has issued letters of approval for 1124. As per the UNFCCC CDM website, as of August 24, 2018, there were 72 registered CDM projects from the Philippines covering mainly the energy (renewable energy) and waste (waste water treatment and methane recovery) sectors¹⁷. The Government has also been working with Japan on the development of Joint Crediting Mechanism (JCM) projects since January 2017.

2.2 MRV at facility level

The Philippines does not have a framework to measure, report and verify GHG emissions at the facility-level. However, the country has various systems in place to collect certain types of data from major energy producers and consumers as well as large industries. The processes and data collected for the power generation, cement production and transport sectors are briefly captured on the following page.

¹⁶ Omnibus Investments Code, EO 226, Government of the Philippines, 1987.

¹⁷ CDM Projects Database.

Power Sector

The Department of Energy frequently collects facility level data from power producers. The type of data collected includes: power plant type and technology installed power capacity; and number of units. However, this information is not sufficient to measure the GHG emissions from the power plants. As such, the existing system would need to be enhanced to collect facility activity data (for example: On fuel consumption, power output, etc.) which is required to measure GHG Emissions.

Industry sector (cement industry)

Cement facilities do not directly report to the government activity data needed to measure GHG emissions. However, they do report some data, including on cement production and total CO₂ emissions, in the context of the Cement Sustainability Initiative (CSI) under the World Business Council for Sustainable Development (WBCSD).

Transport Sector

Activity data is collected on a regular basis from the Manila Light Rail Transit System (LRTS) and the Metro Rail Transport (MRT) system. This includes data on passengers and kilometers travelled, which is reported to the Department of Transportation (DOTr).

2.3 Sectoral and policy-level MRV

The Philippines was part of United Nations Development Program's (UNDP) Low Emission Capacity Building (LECB) project. The objectives of the LECB were: i) to operationalize the GHG inventory management system; ii) formulate Nationally Appropriate Mitigation Actions (NAMAs); and iii) design a measurement, reporting, and verification (MRV) system to support the implementation of mitigation actions.

As part of the LECB project, the government of the Philippines developed a sectoral MRV template using CDM methodologies. However, due to the complexity of the templates and lack of institutional familiarity with CDM methodologies, government departments which were supposed to collect activity data using those templates did not eventually implement them. Subsequently, the government introduced a web-portal entitled "National Integrated Climate Change Database Information and Exchange System" (NICCDIES), which includes the GHG database under the LECB project. The NICCDIES portal was launched in 2018 and will, in the future, collect climate change related information including GHG emissions.

A few Nationally Appropriate Mitigation Action (NAMA) programmes have been developed in the Philippines, which are at different stages of development. Some of them already have a detailed project design, while others are at the concept level. Table 5 lists the NAMAs currently in place in the Philippines as well as their latest status. The MRV system introduced as part of the only NAMA design document that provides this information in some level of detail is presented in Table 6.

Table 5: List of NAMAs developed in the Philippines

NAMA title	Overview and status
NAMA on Jeepney+ NAMA of the Philippine Government ¹⁸	Aims at transforming road-based Public Transport in the Philippines. At concept level. Neither detailed design nor blueprint of MRV system is available.
NAMA on Enabling Distributed Solar Power in the Philippines ¹⁹	At concept level: neither detailed design nor blueprint of MRV system is available.
NAMA on Philippines Energy Efficient Low Cost Housing & NAMA on the Uptake of Green Buildings through a Green Building Rating Scheme ²⁰	At concept level: neither detailed design nor blueprint of MRV system is available.
NAMA on Revolving Fund for Waste-to-Energy Projects & NAMA on Philippine Financing Facility to Support Private Sector Participation to RE Development	At concept level: neither detailed design nor blueprint of MRV system is available.
NAMA on Adaptation and Mitigation Initiatives in Rice Cultivation ²¹	This NAMA lays out a simple MRV system.

¹⁸ GIZ, Transport NAMA Monitor, 2016.

¹⁹ NAMA Facility, NAMA on Enabling Distributed Solar Power in the Philippines.

²⁰ Philippine Green Building Council, National Consultation and Workshop for the Development of NAMA for the Building Sector in Asia, 2017.

²¹ NAMA Database, Adaptation and Mitigation Initiatives in Rice Cultivation, 2013.

Table 6: MRV system for Rice NAMA

	MRV for NAMA on Adaptation and Mitigation Initiatives in Rice Cultivation
Measurement/ Monitoring	<ul style="list-style-type: none"> • MRV system for the NAMA has been designed based on the approved Standardized Baseline ASB0008 “Standardized Baseline for Methane Emissions in Rice Cultivation in the Republic of the Philippines”. • Data collection starts from the individual rice farmers who adopt “Alternate Wetting and Drying” as their water management practice. With the assistance of Crop Specialists/Rice Sufficiency Officers (CSs/RSOs), a Farmer Monitoring Sheet is filled in by the farmer during each rice planting season. • Subsequently, the completed Farmer Monitoring Sheet is collected by the farmer’s Irrigators’ Association (IA) and submitted to the CS/RSO. The CS/RSO collates the individual data collected from their member farmers and enters it on the Irrigators’ Association Monitoring Sheet. • The Irrigators’ Associations will collect the data from their members and forward it to the Adaptation and Mitigation Initiatives in Agriculture (AMIA) implementer on a monthly basis. • The database and the compliance system will be set up by the AMIA implementer.
Reporting	<ul style="list-style-type: none"> • The Irrigators’ Association Monitoring Sheet is forwarded to the AMIA implementer for data processing, aggregation and archiving. • The Department of Agriculture and Bureau of Agricultural Statistics, publish the compliance data in the national statistics and provide additional support for this component of the MRV, if needed.
Verification	<ul style="list-style-type: none"> • For verification purposes, the NAMA design document recommends the use of existing CDM auditors or ISO 14000 certification bodies with experience in the agricultural sector and a good understanding of local conditions in the Philippines. • NAMA or AMIA-specific verification rules are recommended to be developed in the future.

2.4 National GHG Inventory and MRV procedures

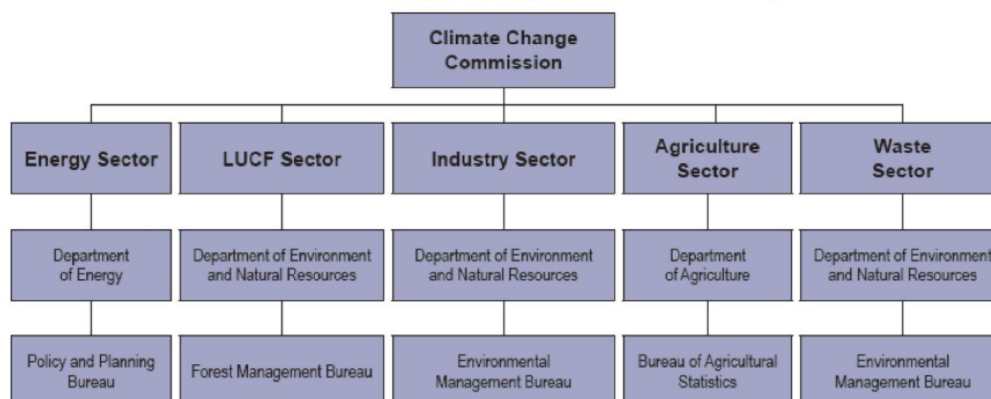
The most recent GHG inventory is displayed in the Second National Communication (SNC) of the Philippines, with data from year 2000. IPCC 1996 guidelines were used as the methodology for calculating emissions except for the waste sector, where IPCC 2006 guidelines were used. The SNC has considered three greenhouse gases: CO₂; CH₄ and N₂O.

Activity data was sourced from national statistics, government agencies, and also the private sector, while emission factors were largely sourced from IPCC default values. Some emission factors were country specific.

In 2014, the Philippines institutionalized the country’s GHG inventory management and reporting system²². As part of new institutional arrangements (under Executive Order No. 174), a tool kit and manual for GHG inventory was developed with the support of USAID. Additionally, 300 of 1,700 local governments were trained on GHG inventory reporting in the country. Figure 3 pictorially expresses the institutional arrangement for compiling the GHG inventory by sector.

The Philippines is in the process of preparing its Third National Communication (TNC). The TNC will use 2006 IPCC guidelines for all the sectors as well as IPCC software. Both Tier 1 and Tier 2 approaches will be used for the calculations based on 2010 data.

Figure 3 - Institutional arrangement of GHG Inventory ²³



For the transport sector, the responsible agency for GHG inventory is Department of Transportation (DOTr).

²² Executive Order No. 174, 2014.

²³ The Philippines' Second National Communication (SNC).

3. Concluding remarks and future outlook

The Philippines has significant interest in developing carbon pricing instruments in the energy sector, which is evidenced by: i) its involvement in 2018 as a technical partner to the PMR with specific work on this field; ii) the commissioning of a feasibility study in 2016 to explore the potential for a carbon tax; and iii) through proposing an emissions trading system in 2013 via a Senate bill.

Despite being host to CDM projects and engaging with the Japanese Joint Crediting Mechanism, the Philippines has not yet implemented a carbon pricing instrument in the country. Since ASEAN is also working towards a common tax system, considering the introduction of a regional carbon pricing instruments to cover high GHG emitting sectors such as power, iron and steel, cement, and transport could be a possibility on the way forward.

While the Philippines has some experience in the development of a national MRV system, the country still does not have a proper national or sector-level MRV system adopting international MRV standards. As such, there is an opportunity to develop a sectoral level MRV system using internationally accepted standards such as the CDM to quantify GHG emissions from sectoral initiatives. In the context of the Philippines, it would be useful to review existing sectoral level MRV templates, improve those templates to meet international requirements, and enhance the capacity of relevant sectoral agencies rather than developing a new MRV system. Those enhanced MRV templates could then be replicated in other ASEAN countries in order to support the harmonization of MRV systems across the region.

The Philippines' main strategy to achieve its INDC (70 percent emission reduction by 2030) is to promote renewable energy. As such, introducing CPIs for the power sector would be an adequate initiative for the country to achieve its INDC goals in a cost-effective manner while enhancing collaboration with other countries.

Furthermore, the Philippines may consider introducing a carbon tax for fuel as the country is considering removing fossil fuel subsidies.

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