IMPLEMENTATION PLAN
FOR THE
REPUBLIC OF THE PHILIPPINES NATIONALLY DETERMINED CONTRIBUTION (NDC)
2020–2030



IMPLEMENTATION PLAN
FOR THE
REPUBLIC OF THE PHILIPPINES NATIONALLY DETERMINED CONTRIBUTION (NDC) 2020–2030

Published by the Climate Change Commission (CCC) and the Department of Environment and Natural Resources (DENR)

Send inquiries to:

Climate Change Commission
6th Floor, First Residences Building
1557 J.P. Laurel St. San Miguel, Manila, Philippines
T: (632) 8353 8494

info@climate.gov.ph
www.climate.gov.ph

DENR Climate Change Service
2nd Floor, DENR Main Building
Visayas Avenue, Quezon City, Philippines
T: (632) 8929 6626

ccs@denr.gov.ph
www.climatechange.denr.gov.ph

CONTENTS

FIGURES, TABLES, AND BOXES

FIGURES

TABLES

BOXES

ABBREVIATIONS

ADB	Asian Development Bank
AF	Adaptation Fund
ANR	agriculture and natural resources
BaU	business-as-usual
BCG	Boston Consulting Group
BEM	British Embassy Manila
BR	Biennial Report
BSP	Bangko Sentral ng Pilipinas
BTR	Biennial Transparency Report
BUR	Biennial Update Report
CCC	Climate Change Commission
CCET	Climate Change Expenditure Tagging
CIDs	Climatic Impact Drivers
DA	Department of Agriculture
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DOE	Department of Energy
DOF	Department of Finance
DOTr	Department of Transportation
DPWH	Department of Public Works and Highways
DTI	Department of Trade and Industry
EV	electric vehicle
EVIDA	Electric Vehicle Industry Development Act
FAO	Food and Agriculture Organization of the United Nations
GAA	General Appropriations Act
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	greenhouse gas
GHGI	greenhouse gas inventory
IPPU	industrial processes and product use
LGU	local government unit
MRV	measurement, reporting, and verification
$mmtCO_2e$	million metric ton of carbon dioxide equivalent
$MtCO_2e$	metric ton of carbon dioxide equivalent
NAP	National Adaptation Plan
NC	National Communication
NCCAP	National Climate Change Action Plan
NDC	Nationally Determined Contribution
NDC-PAMs	Nationally Determined Contribution – Policies and Measures
NDC-TWG	NDC Technical Working Group
NDCIP	Nationally Determined Contribution Implementation Plan

NEDA	National Economic and Development Authority
NGA	national government agency
PAMs	policies and measures
PDP	Philippine Development Plan
PPP	public–private partnership
PUVMP	Public Utility Vehicle Modernization Program
RE	renewable energy
SCM	supplementary cementitious materials
SCMR	self-compliance monitoring and reporting
solar PV	solar photovoltaic
TA	technical assistance
UK-FCDO	United Kingdom's Foreign Commonwealth and Development Office
UNFCCC	United Nations Framework Convention on Climate Change

EXCHANGE RATE

$1 = ₱56.8

EXECUTIVE SUMMARY

In 2021, the Philippines submitted its Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC). Through the NDC, the Philippines commits to a projected greenhouse gas (GHG) emissions reduction and avoidance of 75%, for 2020 to 2030, of which 2.71% is unconditional and 72.29% is conditional. This NDC Implementation Plan (NDCIP) sets out a roadmap and actions for implementing the Philippines' NDC. It outlines policies and measures (PAMs) to reduce or avoid emissions in five sectors: agriculture, waste, industry, transport, and energy. NDC PAMs include actions to be implemented in each sector, with implementation overseen by four sector departments: the Department of Agriculture (DA), Department of Energy (DOE), Department of Environment and Natural Resources (DENR), and Department of Transportation (DOTr). The PAMs were developed through a bottom-up approach, building actions and needs at the sector level, to drive necessary action at the national level.

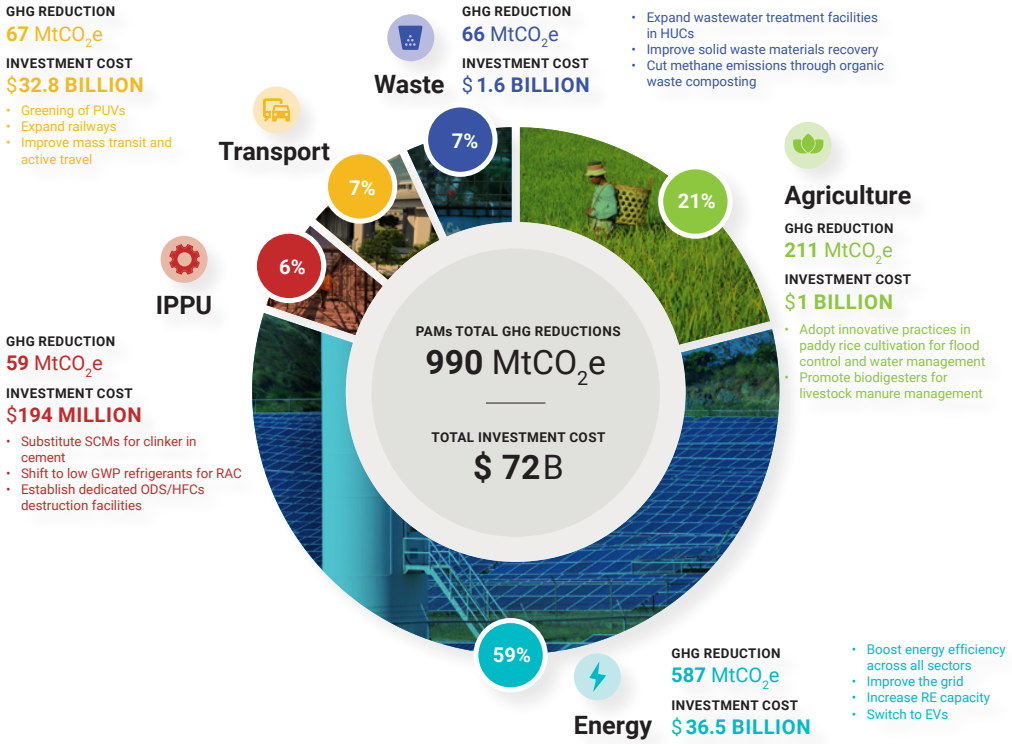
Regular updates to the plan will align with modifications to the NDC, ensuring continued relevance and efficacy.

A. Nationally Determined Contribution Policies and Measures

The initial phase of mitigation actions, encapsulated as NDC PAMs, are articulated in this plan. These initiatives set the Philippines on a pathway to low-carbon growth, delivering, once fully implemented, an aggregate reduction of approximately 990 million metric tons of carbon dioxide equivalent ($mmtCO_2e$) against the baseline. The delivery of the PAMs thus ensures that the unconditional NDC target of 2.71% is met and considerably exceeded, while also contributing to the partial fulfillment of the conditional target.

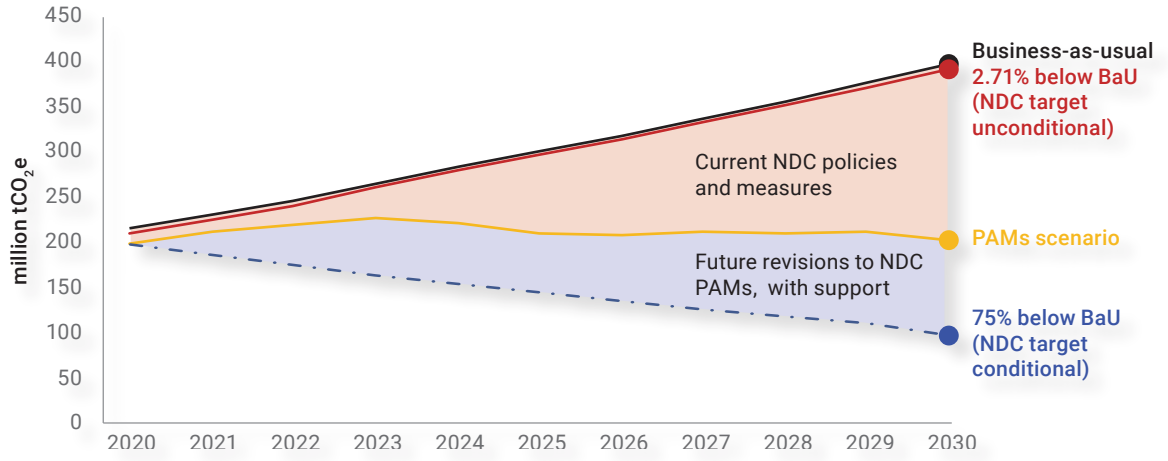
As additional support becomes available, the PAMs will be further enhanced through periodic reviews, enabling reductions toward achieving the NDC's conditional target. This plan will then be updated to reflect changes to and strengthen current and future PAMs.

Figure ES 1: Commitments and Cost of NDC Policies and Measures



EVs = electric vehicles, GHG = greenhouse gas, GWP = global warming potential, HFCs = hydrofluorocarbons, HUCs = highly urbanized cities, $MtCo_2e$ = million metric tons of carbon dioxide equivalent, NDC = nationally determined contribution, ODS = ozone-depleting substances, PAMs = policies and measures, PUVs = public utlity vehicles, RAC = refrigeration and air-conditioning, RE = renewable energy, SCMs = supplementary cementitious materials.
Source: Government of the Philippines.

Figure ES 2: Delivery of the Philippines Nationally Determined Contribution



BaU = business-as-usual, NDC = nationally determined contribution, PAMs = policies and measures. tCO_2e = ton of carbon dioxide equivalent.
Source: Government of the Philippines.

B. Governance

This plan delineates governance and implementation structures, along with the specifics of measurement, reporting, and verification (MRV), and financing. A governance system has been established to guarantee the effective horizontal and vertical implementation of the NDC. Substantial capacity building is required across all levels of government to ensure the successful delivery of NDC and the associated PAMs. The establishment and enhancement of dedicated climate change units and expertise within the lead sector agencies will support this.

C. Measurement, Reporting, and Verification

The MRV framework outlined in this plan establishes a systematic approach for measuring, reporting, and verifying the implementation and impact of mitigation actions, along with the financial resources allocated for their support. Mitigation actions will undergo continuous monitoring, assessing adherence to the NDC PAMs articulated in present and future implementation plans. The economy-wide impacts of mitigation action will be tracked through the national GHG inventory (GHGI), pursuant to Executive Order 174.

Data gaps at the sector level have been identified in the development of this plan. These will be addressed through enhancements of reporting systems and capacity building support, including the incorporation of integration requirements.

D. Financing

The Philippines requires significant investment to implement its NDC targets. The implementation of the PAMs within this plan requires an estimated investment of approximately $72 billion (₱4.1 trillion). This needs to be seen in the context of the overall financing requirements of the country. Domestic budget financing and international public climate finance constitute only a fraction of the overall requisite investment. Predominant financing requirements are identified in the energy sector (about $36.5 billion or ₱2.1 trillion[1]) followed by the transport sector (around $33 billion or ₱1.9 trillion). A comprehensive overview of climate finance flows, including from the private sector, to support these investments will be developed.

International donors are urged to deepen engagement with the Philippines' NDC agenda, particularly in critical sectors such as agriculture, to facilitate the delivery of conditional actions. A concurrent initiative to track and enhance the financing of the unconditional commitment

[1] This accounts for the renewable energy investment cost for the relevant Clean Energy Scenario of the Philippines Energy Plan 2023-2050 (PEP2023-2050). It excludes network and ancillary investments, technical assistance (TA), and investment cost for fossil fuels to be constructed under the plan. As such it has to be considered a lowest-bound estimate of the true investment cost.

through the national budget Climate Change Expenditure Tagging (CCET) exercise is underway. A number of PAMs actions necessitate feasibility and market studies, as well as financial and investment support, technical assistance, and capacity building, which will benefit from international support. With such support and by utilizing their own resources, sector departments will translate the PAMs into implementable or bankable projects utilizing business models capable of attracting investments and support from the private sector and development partners.

A comprehensive governance framework for climate finance will be developed and operationalized. This framework will integrate additional components to ensure the effective tracking of climate finance through the MRV system. This will also facilitate access to available climate finance mechanisms. In the context of this effort, enabling policies and incentives will be instituted to support PAMs implementation.

1

NATIONAL CIRCUMSTANCES

A. Climate Risk Profile

The Philippines is a low-middle income developing country with a population of about 109 million, expected to be growing at a projected average rate of 1.63% until 2045. It is a climate vulnerable nation, ranking first on the 2023 World Risk Index list of countries with the highest risk from extreme weather events.

The climate profile and vulnerability of the Philippines are defined by its geography, archipelagic nature, and topographic features. It is in the Tropical Cyclone Belt and the Pacific Ring of Fire, and has an extensive coastline of 36,289 kilometers, surrounded by the Philippine Sea and Pacific Ocean (east), West Philippine Sea (west), and Sulu and Celebes Seas (south). The three major island groups—Luzon, Visayas, and Mindanao—have complex topographic features consisting of plains, hills, valleys, and high mountains, reaching heights of up to three kilometers.

Climate and weather conditions have implications on the country's environment. Based on available data on climate and weather events published by the Department of Science and Technology (DOST) Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), the Philippines is exposed to both rapid and slow-onset events such as tropical cyclones, rain-induced flooding and landslides, drought, and sea-level rise.

The DOST-PAGASA further recorded that an average of 20 tropical cyclones enter the Philippine Area of Responsibility (PAR) annually. In the past decade (2011 to 2021), tropical cyclones caused ₱673.30 billion—an amount twice the 2023 national budget of the Philippines for education, or equivalent to a yearly salary of three million Filipino minimum wage earners. Loss and damage accounted for about 1.2% of the country's gross domestic product (GDP) in 2011, and, without action, is expected to increase by up to 7.6% to 13.6% in 2030 and 2040, respectively. Socially, the country is burdened with a poverty incidence of 16.7% and suffers from aging infrastructure and intermittent insecurities in the food and agriculture and health sectors.

Further, extreme weather events in the same period have taken more than 12 thousand lives and affected the livelihoods and futures of Filipino communities.

Identified in consultation with national climate experts such as the National Panel of Technical Experts (NPTE) and the Consultative Group of Experts (CGE) for the Philippines' NAP development, following the latest science as provided by the Intergovernmental Panel on Climate Change (IPCC), and supplemented by global and national historical and projected data, the four Climatic Impact Drivers (CIDs) relevant for the Philippines are (i) increased temperature and drought, (ii) sea level rise and extreme sea levels, (iii) extreme precipitation, and (iv) extreme winds and tropical cyclones.

In terms of GHG emissions, the Philippines emitted an average of 1.98 metric tons of carbon dioxide equivalent (CO_2e) per capita in 2020, or considerably below the global average of four metric tons per capita.[2]

The Philippines has only contributed 0.40% to historic global GHG emissions; however, it suffers from the impacts of climate change. Socioeconomic impacts are notable, and loss and damage need to be further addressed, minimized, and averted.[3]

With the IPCC's assessment of future climate change, accumulated and continued GHG emissions lead to increasing global warming, in which every "increment of global warming" subsequently corresponds to more intensified multiple and current hazards, and compounding and cascading risks that would require more complex solutions.

Through policies and programs developed and implemented through a whole-of-government and whole-of-nation approach, the Philippines remains steadfast in achieving zero poverty by 2040, while pursuing inclusive, low-carbon, and sustainable economic development.

B. Mitigation as a Function of Adaptation

In 2021, the Climate Change Commission (CCC) submitted the Philippines' first NDC to the UNFCCC. Under the business-as-usual (Bau) scenario, the Philippines has committed to a projected GHG emissions reduction and avoidance of 75% for 2020 to 2030. The commitment reflects both unconditional and conditional targets of 2.71% and 72.29%, respectively, for agriculture, waste, industries and industrial processes, transport, and energy.

As a developing, vulnerable country, the Philippines' NDC likewise conveys the adaptation challenges and requirements of the country, anchored on the National Climate Change Action Plan (NCCAP) which indicates adaptation as the anchor strategy for climate change action.

In 2023, the Philippines through the CCC and the DENR and with support from the United Kingdom's Foreign, Commonwealth and Development Office (UK-FCDO) / British Embassy Manila (BEM), through the technical assistance from the Boston Consulting Group (BCG), developed a multi hazard, multi sectoral National Adaptation Plan (NAP) for the Philippines. The overall objective of the NAP is contained in the Strategic Framework, which aims to "steadily reduce climate-related loss and damage and build the country's adaptive capacity towards transformative resilience and sustainable economic development by 2050."

Stipulated in the NCCAP are the thematic priorities of the government to address climate change and its impacts: food security, water sufficiency, environmental and ecological stability, human security, sustainable energy, climate smart industries and services, and knowledge and capacity development.

[2] Philippines NDC, April 2021.
[3] CCC Factsheet

The NAP includes the pillars for well-being and stability (agriculture, fisheries, and food security; water resources; health; ecosystem and biodiversity; and cultural heritage and population displacement and migration), factors underpinning economic resilience and resilience-building (land use and human settlements; livelihoods and industries; energy, transport and communications), and crosscutting outcomes (risk assessments and knowledge management, capacity development and institutional strengthening; technology development and transfer; climate finance and resource mobilization; research and development; gender equity, diversity, and social inclusion; stakeholder engagement, information, education and communication; and advocacy; and monitoring, evaluation, accountability and learning).

Enhancing adaptive capacities and resilience of the nation and communities in pursuit of a low-carbon, sustainable, and climate- and disaster-resilient development requires a whole-of-nation, whole-of-society, and whole-of-world approach. By enhancing transformative policies and measures for climate change mitigation and adaptation, especially the emphasis for clear and actionable co-benefits strengthening convergence and collaboration, and accelerating access to means of implementation and support, the Philippines will be able to achieve its targets and address gaps and challenges toward resilience.

2

NDC BASELINES AND ACTIONS

A. Policies and Regulatory Framework

1. Greenhouse Gas Inventories

Article 4 of the UNFCCC mandated that all Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives, and circumstances, shall:

(i) develop, periodically update, publish, and make available to the Conference of the Parties, in accordance with Article 12 of the UNFCCC, national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties; and
(ii) formulate, implement, publish, and regularly update national and, where appropriate, regional programs, containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change.

Following a decision made during the Conference of the Parties in Katowice in 2018, each Party should implement and maintain national inventory arrangements, including institutional, legal, and procedural arrangements for the continued estimation, compilation, and timely reporting of national inventory reports in accordance with the modalities, procedure, and guidelines (MPGs).

2. Nationally Determined Contribution Aspirations

The intent of the NDC is for the Philippines' climate change mitigation actions to strengthen the resilience and adaptive capacity of the country at the same time as they reduce the overall burden on the planet. It must be emphasized that the NDC is a multi decadal progressive commitment. It also represents the country's "aspirational" investment plan in clean and climate-friendly technologies. It is primarily "GHG mitigation-centric" while reflecting the Philippines' adaptation requirements over time.

The NDC outputs and outcomes will be anchored on strong bilateral, regional, and multilateral cooperation. Furthermore, the Philippines intends to take advantage of the benefits of market mechanisms and non-market approaches under Article 6 of the Paris Agreement (PA), where these are consistent with national circumstances and sustainable development aspirations. The Philippines proposes that full GHG avoidance projects should be eligible for the Article 6 mechanisms and relevant processes of the Convention. Emissions avoidance represents a higher GHG mitigation impact than projects or interventions that simply reduce emissions (e.g., energy efficiency, emissions absorption through sinks).

To achieve the objectives of the NDC, it is critical to gain enhanced access to climate finance, technology development and transfer, and capacity building, especially in support of the implementation of the sectoral policies and measures (PAMs), consistent with the modes of implementation under the Paris Agreement. There are six identified pillars in the NDC in which action needs to take place to ensure delivery:

(i) achieving the conditional and unconditional NDC objectives,
(ii) working with international partners,
(iii) exploring market-based actions,
(iv) strengthening resilience and adaptive capacity,
(v) cascading the subnational level actions, and
(vi) ensuring private sector participation.

B. Nationally Determined Contribution Baseline and Targets

1. Greenhouse Gas Emissions Profile and Trends

The Philippines has prepared five national GHG inventories (GHGIs), for 1994, 2000, 2010, 2015, and 2020 as part of its two national communications submitted to the UNFCCC in fulfillment of its obligations. The inventories cover agriculture, waste, industrial processes and product use (IPPU), forestry and other land use (FOLU), and energy sectors, following IPCC Guidelines.

The 1994 and 2000 GHGI used the global warming potential (GWP) values from the IPCC Second Assessment Report (SAR), the 2010 GHGI used values from the Fourth Assessment Report (AR4), and the 2015 and 2020 GHGIs used values from the Fifth Assessment Report (AR5). There are also differences in guidelines used. The 1994 and 2000 GHGIs followed the 1996 IPCC Guidelines, while the 2010, 2015, and 2020 GHGIs adhered to the 2006 IPCC Guidelines. The 2000 GHGI primarily used the 1996 IPCC Guidelines, except for the waste sector. It is therefore important to note that the five GHG inventories are not entirely comparable due to differences in parameters.

In 2020, the Philippines emitted a net total of 204 million metric tons of CO_2e ($mmtCO_2e$). This includes 230 $mmtCO_2e$ in emissions and 25.9 $mmtCo_2e$ in net sequestration by FOLU sectors. The energy sector is the largest source of emissions, followed by agriculture with 54 $mmtCO_2e$ and waste with 30 $mmtCO_2e$.

The summarized results of these inventories are presented in Table 1.

Table 1: Summary of Philippine Greenhouse Gas Inventories, 1994–2020

GHGI Year	1994[a]	2000[b]	2010[c]	2015[d]	2020[e]
Methodology	1996 IPCC	1996 IPCC[f]	2006 IPCC	2006 IPCC	2006 IPCC
GWP	SAR	SAR	AR4	AR5	AR5
Sector GHG Emissions ($GgCO_2e$)					
Energy[g]	50,038	69,667	77,279	106,143	129,286
Industry/IPPU	10,603	8,610	8,363	15,297	16,772
Agriculture	33,130	37,003	43,152	52,704	54,080
FOLU/LULUCF	–126	–105,111	–37,007	35,668	–25,935
Waste	7,094	11,559	15,559	23,176	30,122
Total (without FOLU)	**100,864**	**126,879**	**144,352**	**197,319**	**230,260**
Total (with FOLU)	**100,738**	**21,767**	**107,345**	**232,988**	**204,325**

AR4 = Fourth Assessment Report; AR5 = Fifth Assessment Report; FOLU = forestry and other land use; $GgCO_2e$ = gigagrams of carbon dioxide equivalent; GHG = greenhouse gas; GHGI = greenhouse gas inventory; GWP = global warming potential; IPCC = Intergovernmental Panel on Climate Change; IPPU = industrial processes and product use; LULUCF = land use, land-use change, and forestry; SAR = Second Assessment Report.

[a] Initial National Communications (1999).
[b] Second National Communications (2014).
[c] 2010 National GHG Inventory Executive Summary (2021).
[d] 2015 and 2020 National GHG Inventory Report (2023; to be published).
[e] To be included in the first Biennial Update Report of the Philippines.
[f] Mostly 1996 IPCC Guidelines, 2006 IPCC Guidelines used for the Waste Sector.
[g] includes transport, fuel use in industry, commercial, public and household sectors

Source: Climate Change Commission.

Examining the four non-FOLU sectors over five base years reveals consistent trends. First, the energy sector consistently holds the largest share, followed by agriculture, waste, and the IPPU sectors. Secondly, all non-FOLU sectors show substantial increases in emissions.

However, the FOLU sector shows variation, notably becoming a net emitter in the 2015 base year. Differences in methodologies and tools and applications used may have contributed to these abrupt changes.

While total GHG emissions from non-FOLU sectors show an increasing trend, there is no definite trend for total GHG emissions, when including the FOLU sector.

Sectoral Discussions

For the energy sector, the top two emission sources are the transport (IPCC Category Code 1.A.3) and energy industry (1.A.1) subsectors, consistent throughout the national GHGIs.

The mineral industry sector (2.A) is the top emission source throughout the national GHGIs for the IPPU sector, and this is mostly from the cement industry (2.A.1). The second-highest emission source is the metal industry sector (2.B) for the 1994, 2000, and 2010 NGHGIs. For 2015 and 2020, the second highest emission source is from the product uses as substitutes

for ozone depleting substances category (2.F), which is composed only of the refrigeration and air conditioning subsector (2.F.1).

Throughout the NGHGIs, the top emission source for the agriculture sector is rice cultivation (3.C.7), followed by domestic livestock (3.A). Domestic livestock emissions come from enteric fermentation (3.A.1) and manure management (3.A.2).

Wastewater treatment and discharge (4.D) is the top source of emission for the waste sector, and this is dominantly from domestic wastewater treatment and discharge (4.D.1). Solid waste disposal (4.A) is the second highest contributor to this sector.

Noting the differences in the methodologies and tools and applications used for the FOLU sector, it is difficult to compare the results of each of national GHGI values. However, it can be observed that forestland has remained a net sink throughout the national GHGIs (~29,000 – ~77,000 $GgCO_2e$ sequestration).

For the other land use, it is more difficult to compare since each national GHGI has a different land use scope. For example, the 1994 national GHGI only estimates emissions from cropland while the 2015 and 2020 NGHGI accounted for the emissions from land use change to croplands, grasslands, settlements, and other land use.

2. Emissions Projections

The projected business-as-usual (BaU) baseline for the Philippines' NDC is that total emissions will be 3,340 $mmtCO_2e$ for the period 2020 to 2030. This baseline is built on assumptions about growth, development, and sector changes as envisioned in the Philippine Development Plan (PDP) 2017–2022 and is in line with the vision of AmBisyon Natin 2040. However, due to several global events, including the coronavirus disease (COVID-19) and its impacts on the Philippine economy, actual emissions in 2020 were lower than the projected emissions, and similar divergences are expected in 2021 and 2022. Overall, the difference between projected and actual emissions in the first 3 years of the BaU period for the NDC are estimated between 1% and 1.5% of the NDC baseline emissions estimate.

New projections for the BaU baseline will be formulated as part of the development of the next NDC.

C. Nationally Determined Contribution Governance

Following the issuance of Executive Order (EO) 174 in 2014, the lead agencies convened to conduct the first national exercise in developing the National GHG Inventory with base year 2010. EO 174 was issued to institutionalize the Philippine GHG Inventory, Monitoring, and Reporting System (PGHGIMRS), and the Climate Change Commission (CCC) serves as the overall lead. Through the PGHGIMRS, the 2010 National GHG Inventory—the first inventory prepared by the government—was developed. The 2010 National GHG Inventory was used by the government as the baseline for the first NDC submitted in 2021.

Implementation of the Philippines NDC is based on sector-specific mitigation action as outlined in the PAMs, while having economy-wide transformation as the core impact objective. Delivery of the PAMs and the NDC overall requires coherent action and close coordination between all stakeholders, including national government and local government, international partners, the private sector and civil society organization.

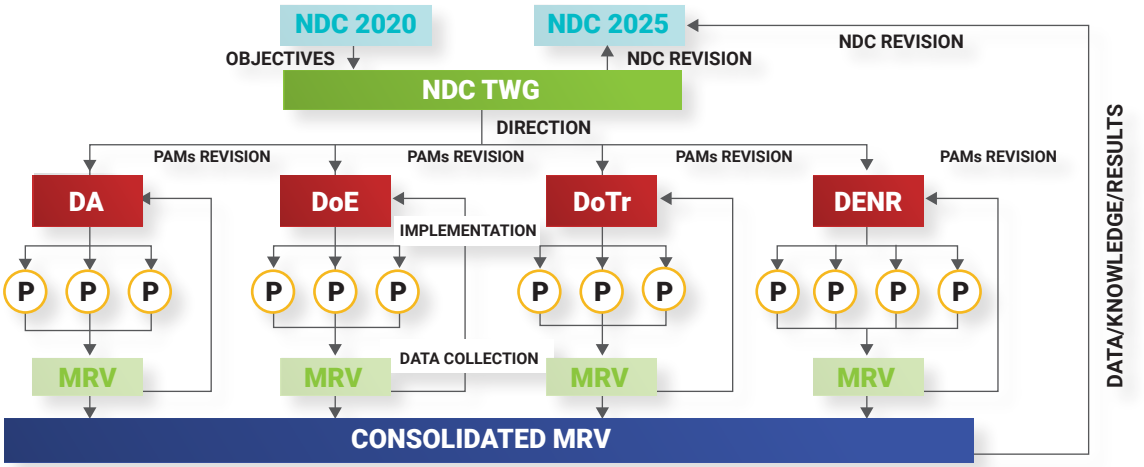
Overall, implementation of the NDC is coordinated through the NDC Technical Working Group (TWG). The NDC-TWG was established in 2016 and brings together all national government agencies involved in the delivery of the NDC. It acts as a coordination mechanism that not only has responsibility for the NDC delivery but also the alignment with the PDP and the Philippines Investment Plan (PIP).

Membership of the NDC-TWG consists of officials at the level of the department secretaries. The current membership will be expanded to include additional agencies as needed. The TWG shall report on the progress of the implementation of the NDC and any challenges encountered to the Cabinet and Senate on a semi-annual schedule.

Taking its direction from the NDC, the NDC-TWG will, in turn, direct the future evolution of the PAMs, to ensure that they deliver on the commitments made in the NDC. The PAMs will be developed by sector departments, while cross-sectoral PAMs will be developed by two or more departments. The PAMs will be implemented by the sector departments, local government units (LGUs), and/or the private sector, as appropriate. Figure 1 shows the concept for the integrated delivery of the NDC and how the measurement, reporting, and verification (MRV) process will enable the continued revision of PAMs and the next iteration of the NDC.

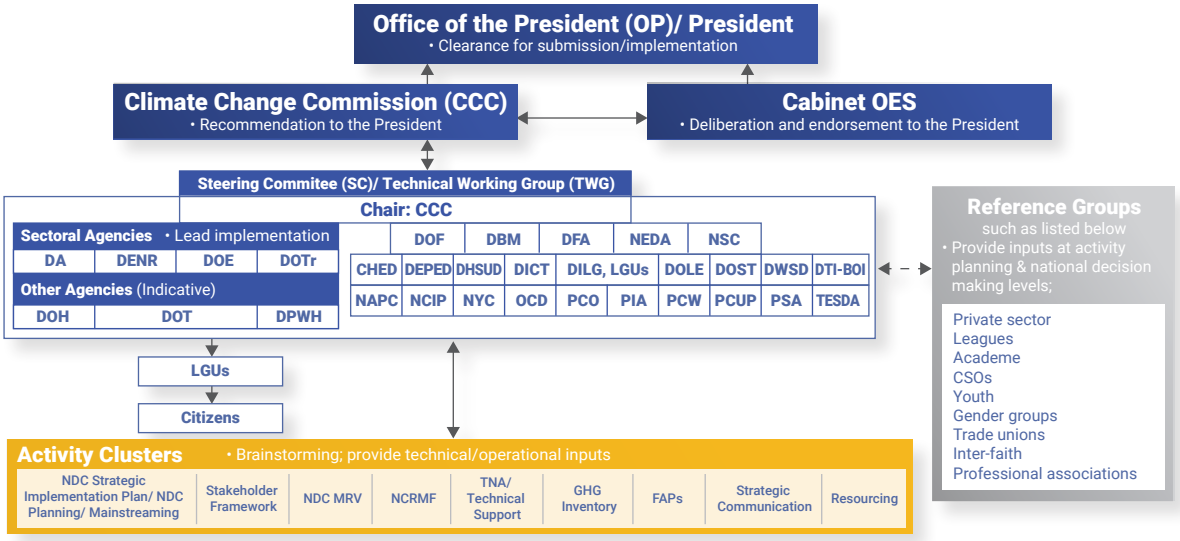
At the heart of the implementation, through the NDC-TWG (Figure 2), there will be a sophisticated information management system based on the MRV processes. This system will track the delivery of sector and future cross-sectoral PAMs, track the impacts achieved by the PAMs and will be coupled with the upgraded Climate Change Expenditure Tagging (CCET), which will enable the tracking of NDC-related expenditure in the general budget. This implementation information will be collected by sector departments and consolidated at the level of the NDC-TWG to enable regular reporting of progress to the relevant stakeholders, revision of the PAMs in the light of experience, and preparation for the NDC revision in 2025.

Figure 1: Integrated Delivery and Revision Structure of the Nationally Determined Contribution



DA = Department of Agriculture; DENR= Department of Environment and Natural Resources; DoE = Department of Energy; DoTr = Department of Transportation; MRV = measurement, reporting, and verification; NDC = nationally determined contribution, PAMs = policies and measures, P = project, TWG = technical working group.

Figure 2: Structure of the Nationally Determined Contribution Technical Working Group



CCC = Climate Change Commission, CHED = Commission on Higher Education, CSOs = Civil society organizations, DA = Department of Agriculture, DBM = Department of Budget and Management, DENR = Department of Environment and Natural Resources, DEPED = Department of Education, DFA = Department of Foreign Affairs, DHSUD = Department of Human Settlements and Urban Development, DICT = Department of Information and Communications Technology, DILG = Department of the Interior and Local Government, DOE = Department of Energy, DOF = Department of Finance, DOH = Department of Health, DOLE = Department of Labor and Employment, DOST = Department of Science and Technology, DOT = Department of Tourism, DOTr = Department of Transportation, DPWH = Department of Public Works and Highways, DSWD = Department of Social Welfare and Development, DTI-BOI = Department of Trade and Industry – Board of Investments, FAPs = Foreign-assisted projects, GHG = Greenhouse gas, LGUs = Local government units, NAPC = National Anti-Poverty Commission, NCIP = National Commission on Indigenous Peoples, NCRMF = National Climate Risk Management Framework, NDC = Nationally Determined Contribution, NDC MRV = NDC Measurement, Reporting, and Verification, NEDA = National Economic and Development Authority, NSC = National Security Council, NYC = National Youth Commission, OCD = Office of Civil Defense, OES = Office of the Executive Secretary, OP = Office of the President, SC = Steering Committee, PCO = Presidential Communications Office, PCUP = Presidential Commission for the Urban Poor, PCW = Philippine Commission on Women, PIA = Philippine Information Agency, PSA = Philippine Statistics Authority, TESDA = Technical Education and Skills Development Authority, TNA = Technology Needs Assessments, TWG = Technical Working Group.

The NDC-TWG reports directly to the Office of the President. Its members include secretaries or their representatives. The NDC-TWG is responsible for:

- the overall direction and implementation progress of the NDC;
- reporting to the relevant executive and legislative bodies on progress, in line with legal and regulatory obligations;
- stakeholder consultation; and
- the direction of the CCC in its role as Secretariat to the NDC-TWG.

The CCC acts as the secretariat for the NDC-TWG and is responsible for:

- assessing the contribution of the sector PAMs to the overall NDC objective;
- the assurance of balance in NDC delivery;
- the MRV of the NDC delivery; and
- reporting under national and international requirements, e.g., under the Paris Transparency Framework.

The CCC is furthermore responsible for the assessment of any high-level opportunities and challenges that could affect the delivery of the NDC, e.g., through the risk register, but also through its work in international bodies. The CCC will:

- establish and maintain and/or update a delivery timeline for the NDC, including the definition of clear milestones where this is required;
- integrate climate finance streams into the NDC delivery;
- manage and update the risk register, as required, including mitigating actions; and
- direct the MRV efforts in the DENR and ensure that they are fit for purpose for the purposes of tracking NDC delivery, raising and reporting on climate finance, and carbon trading under Article 6 of the Paris Agreement.

Within the NDC-TWG, national government agencies are responsible for the delivery of each sector, with additional cross-sector coordination required for implementation of the PAMs.

D. Assessment of Current Delivery Status and Progress against Targets Since 2020

Current NDC PAMs set the Philippines on a pathway to low-carbon growth. Collectively, the PAMs represent about 990 mmtCO_2e in emission reductions against the baseline. Once implemented, the PAMs ensure the attainment of the unconditional NDC target, with an additional accomplishment of about 37% toward the conditional target. As not all actions and measures in the PAMs have been fully assessed for their mitigation potential, the mitigation impact as well as the investment cost is expected to increase. Once all PAMs have been fully assessed, the delivery against the conditional target is anticipated to increase.

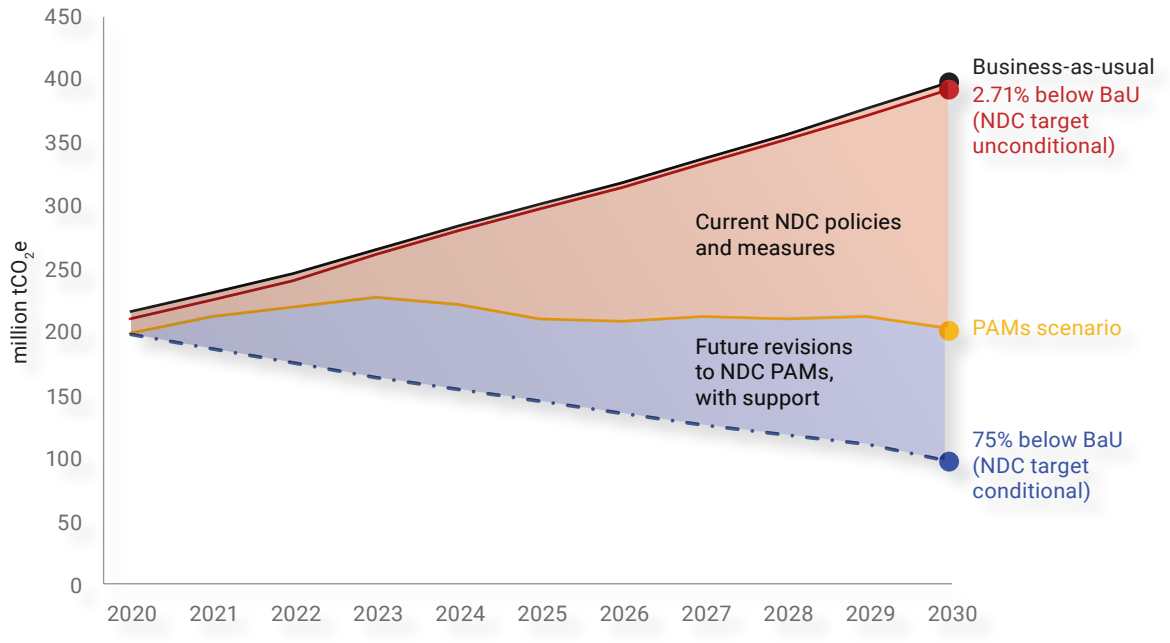
Table 2: Policies and Measures Commitments and Cost by Sector

Sector	Agriculture	Energy	IPPU	Transport	Waste	Total[a]
GHG Mitigation, mmtCO_2e	211	587	59	67	66	990
Cost, mUSD[b]	1,027	36,455	194	32,758	1,575	72,014

GHG = greenhouse gas, IPPU = industrial processes and product use, mmtCO_2e = million metric ton of carbon dioxide equivalent, mUSD = million United States dollar, NDCIP = Nationally Determined Contribution Implementation Plan.
[a] Totals may differ due to rounding errors.
[b] For this NDCIP, investments already made or known to be made by the private sector are not fully costed due to data availability constraints across most sectors.
Source: Government of the Philippines.

Continued strengthening of the PAMs is essential to achieve additional emission reductions aligned with the overarching NDC target. Periodic reviews will enhance PAMs, enabling more significant GHG reductions and contributing to the overall conditional target of the NDC. Increased ambition of future PAMs will require the adoption and implementation of new technologies, contingent upon securing the necessary financial and capacity-building support.

Figure 3: Delivery of the Philippines Nationally Determined Contribution under an Accelerated Business-as-Usual Scenario



BaU = business-as-usual, NDC = nationally determined contribution, PAMs = policies and measures. tCO_2e = ton of carbon dioxide equivalent.
Source: Government of the Philippines.

E. Delivery Across Sectors

The reduction in emissions from unconditional NDC PAMs varies across sectors. Based on estimated reductions from unconditional NDC PAMs between 2023 and 2028,[4] the transport sector accounts for the largest share of unconditional PAMs. As presented in the PDP 2023–2028, unconditional PAMs will reduce 37.9 mmtCO_2e reductions over the same period, or 42% of the unconditional NDC target (2.71% of BaU during 2020–2030). Table 3 shows the currently determined breakdown of unconditional delivery across sectors for 2023–2028.

Table 3: Emission Reductions from Unconditional Nationally Determined Contribution Policies and Measures, by Sector, under the Philippine Development Plan 2023–2028

NDC Targets	Agriculture[a]	Energy	IPPU	Transport	Waste	Total
Unconditional NDC PAMs in mmtCO_2e[b]	0	3.4	3.06	26.04	5.4	37.9
Share of allocated target	0%	9%	8%	69%	14%	100%

IPPU = industrial processes and product use, NDC = nationally determined contribution, PAMs = policies and measures.

[a] In the agriculture sector, all actions are conditional, leading to an increase in unconditional actions for all other sectors, while conditional actions are decreased.

[b] Source: Government of the Philippines, *Philippine Development Plan 2023–2028*, 358.

It is important to note that the PAMs may underestimate their emissions reduction and avoidance potential since some measures have not been assessed for their GHG reduction potential. The following further observations can be made:

(i) The delivery of the unconditional objective is highly likely to be achieved and surpassed through the implementation of PAMs actions alone in every sector that has an unconditional objective.

(ii) Achieving the conditional objective will require further revisions to the current PAMs. Energy and IPPU are closest to achieving a balanced objective. The gap from the conditional objective, indicated by the current PAMs, may narrow in the future through ongoing reviews and refinements of the PAMs, along with more detailed assessments for included measures.

[4] Government of the Philippines, *Philippine Development Plan 2023–2028* (Manila: National Economic and Development Authority, 2022), 358, https://pdp.neda.gov.ph/philippine-development-plan-2023-2028/.

3

NATIONALLY DETERMINED CONTRIBUTION IMPLEMENTATION PLAN

A. Policies and Regulatory Framework

The Philippine NDC is based on and informed by a framework of national laws, as well as domestic legal, financial, and policy frameworks, related to climate change. This includes: (i) Republic Act No. 9729, otherwise known as the Climate Change Act of 2009, as amended by Republic Act No. 10174, and its requisite policy instruments and (ii) the National Framework Strategy on Climate Change 2010–2022 and the National Climate Change Action Plan 2011–2028.

The implementation of the NDC is closely linked to the PDP 2023–2028, Philippine Energy Plan 2023–2028, Bangko Sentral ng Pilipinas (BSP) Sustainable Finance Framework (2020), Department of Finance (DOF) Sustainable Finance Policy Framework (2021), and other related frameworks and instruments.

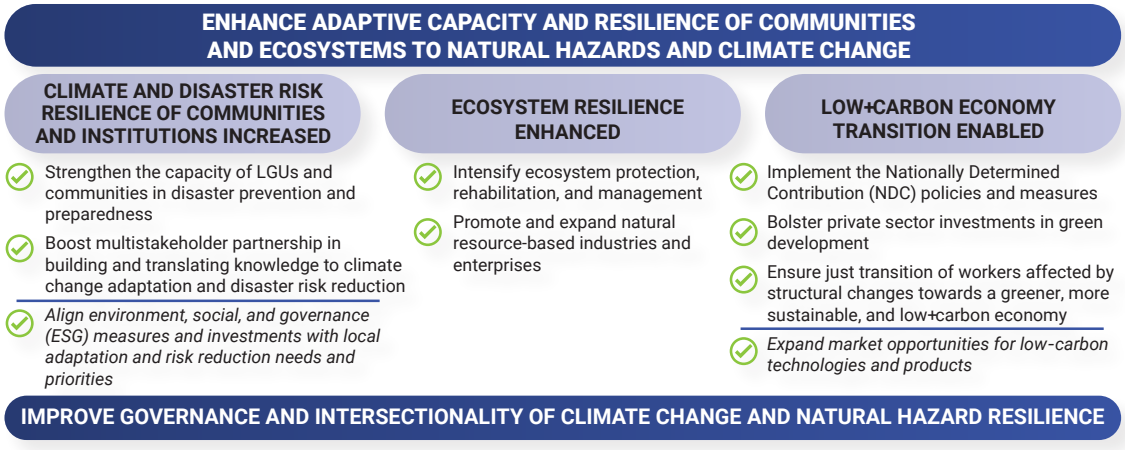
The PDP 2023–2028 incorporates standalone strategies to accelerate Climate Action and Strengthen Disaster Resilience, including specific actions to support the implementation of the NDC by enabling low-carbon economy transition.

Box 1: The Philippine Development Plan Chapter on Climate Action and Disaster Resilience

The Philippine Development Plan (PDP) 2023–2028 is the critical guide in development planning and socioeconomic policies, strategies, and programs for the period. It incorporates climate change considerations, aligning development goals with climate resilience through a dedicated chapter for climate change—Chapter 15: Accelerate Climate Action and Strengthen Disaster Resilience, which outlines strategies for enhanced adaptive capacity and resilience through:

(i) increased climate and disaster risk resilience of communities and institutions,
(ii) enhanced ecosystem resilience, and
(iii) enabling low-carbon economy transition.

Figure 4: Philippine Development Plan Climate Change Framework



LGU = local government unit.
Source: Government of the Philippines, *PDP 2023-2028*, 349.

B. Just Transition and Gender and Social Inclusion

1. Just Transition

The implementation of the Philippines NDC will be conducted in the context of a just transition of its sectors into a green economy. The Government of the Philippines considers decent work and human capital development as central in promoting environmentally sustainable growth and in building climate resilience through just transition. The NDC implementation will therefore seek and reinforce synergies between environmental, economic, and social issues.

On a macro level, a managed shift away from fossil fuels would also result in shifts in labor force, job availability (type and location), as well as the type of human capital development needs of the Philippines. This includes the transition out of specific fuels for e.g., power generation and transport, but also the transition into renewable energy (RE). A skilled workforce is needed to support planned investments in RE. There can also be opportunities of new types of businesses and supply chains.

Just Transition is steered by an interagency committee. Within this framework, a framework for tracking the impact of Just Transition activities across the economy will be developed and implemented.

To deliver a Just Transition Strategy, the implementation of the NDC therefore will:

- Identify the social impacts of projects within the PAMs and outline mitigation;
- Investigate long-term, cross-sectoral mitigation strategies to minimize the social impact of the energy transition;
- Aim to maximize the social benefits of the implementation of the PAMs; and
- Engage in participatory planning with all stakeholders, including civil society and nongovernment organizations, trade unions, and others, based on sector-specific stakeholder mapping.

Box 2: International Labour Organization Definition of Just Transition

A Just Transition means greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities, and leaving no one behind.

A Just Transition involves maximizing the social and economic opportunities of climate action, while minimizing and carefully managing any challenges—including through effective social dialogue among all groups impacted, and respect for fundamental labor principles and rights.

Source: "Frequently Asked Questions on Just Transition." International Labour Organization. October 22, 2021. https://www.ilo.org/global/topics/green-jobs/WCMS_824102/lang--en/index.htm

Key considerations for a Just Transition in the Philippines include:

- addressing the impacts of phasing out fossil fuels to workers in impacted industries and on potential issues related to decent work standards for those involved in potential new clean energy sectors (e.g., renewable energy manufacturing);
- ensuring affordable energy access for the poorest households by guaranteeing their access to transformative energy systems;
- inclusion of informal workers in the waste collection and disposal systems during the upgrading of waste facilities;
- modernization and adoption of technologies in the agriculture sector, which will be rolled out in an inclusive manner, considering the high number of smallholder farmers and the high incidence of poverty and vulnerability to extreme weather events in the agriculture sector, which means that not all farmers will be able to afford new, climate-resilient technologies; and
- retraining drivers and ensuring jobs for other workers involved in the jeepney industry during the introduction of modern, clean, and efficient public transport.

Just transition in the NDC implementation will be driven by Republic Act No. 10771 or the Green Jobs Act, which seeks to incentivize individuals and business enterprises that will help create a green economy. Green jobs, as defined by the law, are those that contribute to preserving or restoring the quality of the environment, respect the rights of workers, and provide a fair income and security in the workplace.

A key feature of the law is the provision of incentives[5] to enterprises to encourage investment on skills development, research and capital equipment that would directly contribute to generating and sustaining green jobs. Through these incentives, the Philippines is aiming for stronger compliance with environmental and labor policies.

The more recent Republic Act No. 11697, or the Electric Vehicle Industry Development Act (EVIDA), seeks to capitalize on the shift from liquid to electric power by supporting the development of a domestic vehicle industry.

2. Gender and Social Inclusion

The Paris Agreement and its implementation guidelines call parties to revise and implement NDCs in a gender-responsive and participatory manner, and this can be extended to green finance more generally. Over the last decade, the Philippines has taken important steps toward achieving gender equity.

In 2019, the CCC issued a Commission Resolution for mainstreaming and strengthening gender-responsive approaches in the formulation and implementation of climate change policies, plans, programs, and activities. While each government agency and local government unit

[5] Fiscal and non-fiscal incentives: special deduction from the taxable income equivalent to 50% for skills training and research and development expenses and tax and duty free importation of capital equipment

have their corresponding gender and development (GAD) focal point, the government overall does not yet systematically generate sex disaggregated data and conduct gender analysis. The Harmonized Gender and Development Guidelines (HGDG) have been formulated to serve as the national approach to assessing gender mainstreaming and provide a common set of analytical concepts among government agencies and other stakeholders in the planning and implementation of plans, projects, and programs. The government recognises that a gender sensitive and responsive approach must be implemented in tackling climate change.

The implementation of the NDC in the Philippines takes full regard of the need to balance gender and inclusion considerations. This reflects that Filipino women and girls are at the same time highly exposed to climate change impacts given their limited access to resources, particularly financial resources, as they are less likely to participate in the workforce. On the other hand, they also provide a labor force reservoir for economic growth and the development of new, sustainable business approaches.

In recent years, progress on gender equality has been made. For example, the gender pay gap has narrowed substantially, with the Philippines being one of the best performers in the region in this regard. Nevertheless, women's labor force participation remains persistently low. At just 49%, the Philippines' female labor force participation in 2019 was one of the lowest in the East Asia-Pacific (EAP) region, where the regional average rate is 59%. In contrast, 76% of Filipino men were in the labor force, creating a substantial gender employment gap. Progress toward closing the gap has been minimal and female labor force participation has remained roughly the same since 1990, with the gap shrinking by a mere 0.3 percentage points since 2015.[6]

Women's low labor force participation is a missed opportunity for economic growth and increased prosperity in the Philippines. An increase of women's labor supply by a mere 0.5 percentage points per year would increase GDP per capita by about 6% by 2040 and almost 10% by 2050. In the context of the NDC, women will be encouraged and enabled to more easily move into new, green, and climate-friendly jobs, through the right kind of training and support.

Private sector, gender-focused financing of climate action that will prioritize gender inclusion is currently at its development stage. Further engagement by the government and development partners will help support the achievement of gender objectives also in the private sector.

To ensure gender-sensitivity and -mainstreaming of the Strategy, the implementation of the NDC will:

- identify separately the gaps, needs, and barriers experienced by women and men as related to green actions;
- ensure that technical assistance for capacity development is also aimed at enhancing the abilities of vulnerable groups, including women;

[6] Buchhave, Helle and Nadia Belhaj Hassine Belghith. "Overcoming Barriers to Women's Work in the Philippines." *World Bank Blogs* (blog), October 2, 2023. https://blogs.worldbank.org/eastasiapacific/overcoming-barriers-womens-work-philippines.

- introduce innovative financing and support tools specifically targeting NDC-related activities implemented by women businesses and entrepreneurs;
- collect and utilize sex-disaggregated data in the formulation and implementation of PAMs; and
- adopt common gender mainstreaming tools, such as the customized HGDG for climate change adaptation and mitigation (CCAM).

3. Local Government Participation and Engagement

LGUs have a critical role to play in the delivery of the PAMs. This is particularly the case for the delivery of local transport projects, the delivery of electric vehicle charging locations, and the handling of waste and sewage projects. To ensure the successful realization of these PAMs elements, LGUs will be closely involved with the relevant sector departments in the delivery of the current and the formalization of future PAMs.

C. Conceptual Approach

The implementation of the NDC is a long-term process, with multiple feedback loops. The core of this is a robust MRV system, in which the experience of sector programming and project delivery is captured through the MRV process and fed back into the next stage of national NDC planning and refinement. This is described in detail in Chapter 5.

Figure 5 shows the interaction, which is geared on the MRV process. In the NDC delivery, policy drives sector actions, which leads to the implementation of projects. Feedback from the projects through the MRV process leads to refinement and better understanding of sectoral potentials and actions, which in turn will be used by policymakers to develop and amend policies in the next NDC, scheduled for 2025, and the national development planning cycle. This is a permanent feedback loop system that will operate through a coherent institutional governance framework.

Figure 5: Nationally Determined Contribution Implementation Plan Delivery Cycle

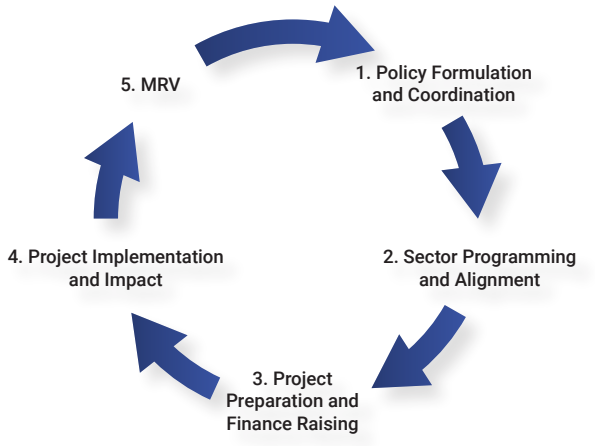
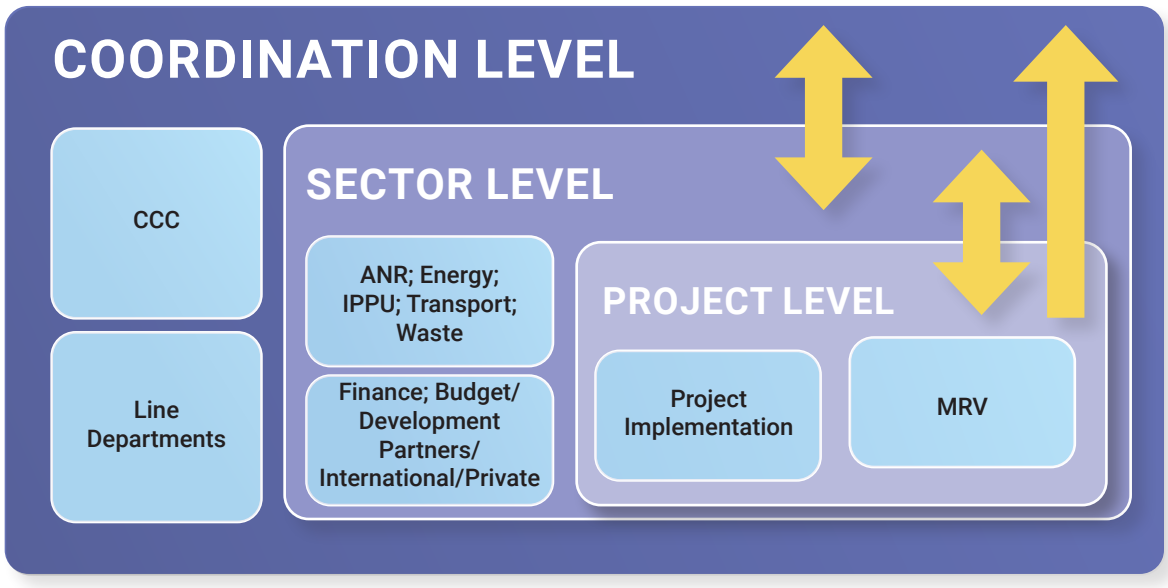


Figure 6 shows how the various elements of the system link together in the implementation of the NDC, from the coordination level down to project implementation and MRV.

Implementation of the NDC will flow across three levels, coordination (national), sector, and project (subsector). Figure 6 provides a conceptual overview of this implementation framework.

- **Coordination level.** The CCC and sector departments and agencies work together to ensure that the PAMs are delivering the ambitions of the NDC, and are revised as new opportunities emerge and challenges are addressed. This level is informed by MRV results from sector and project levels.
- **Sector level.** At the sector level, sector departments work with each other, their subordinated agencies, and the Department of Budget and Management (DBM)/DOF as well as development partners, and the international and national private sectors to drive the PAMs delivery in their sector, and across sectors, as applicable. The level is informed by the direction from the coordination level, and in turn provides inputs into that level. It is also informed by project level MRV and knowledge and information sharing, and in turn, provides direction to the project level. Through delivery at the sector level, co-benefits can be maximized.
- **Project level.** At this level, the actual project implementation and project-level MRV take place. Results, experiences, and needs are communicated to the sector level and directly to the coordination level, for critical projects. The project level receives direction from the sector level.

Figure 6: Vertical and Horizontal Integration of Nationally Determined Contribution Implementation Plan Delivery



ANR = agriculture and natural resources; CCC = Climate Change Commission; IPPU = industrial processes and product use; MRV = measurement, reporting, and verification.

D. Risk Register

A wide range of risks could affect the delivery of the NDC. The risk register captures these and identifies the approaches to mitigating them. The risk register is a living document, which will need to be updated and amended throughout the delivery of the NDC.

The CCC, in coordination with agencies involved, is responsible for tracking these risks and being aware of risks that may emerge, e.g., from external events or from sector-level actions.

Table 4: Nationally Determined Contribution Implementation Risks

Risk	Impact	Likelihood	Overall	Mitigation
Macroeconomic Risks				
Economic crisis	🔴	🟡	🔴	Monitor macro developments, focus on low-/no-cost and financially beneficial actions if external situation deteriorates
Changing growth patterns	🟡	🟢	🟡	Long-term changes in the external and internal environment could affect growth patterns, with a slowing of growth affecting the ability to invest in transitioning to a green economy. This can also be tied to changing demographic patterns, technological and social changes. Close monitoring and focus on low-/no-cost options is a mitigant.
Energy crisis	🔴	🟡	🟡	While an energy crisis must be considered likely at present, such a crisis would also provide an opportunity to accelerate the energy transition to renewables, energy efficiency and nuclear power.
Currency crisis	🟡	🟡	🟢	A currency collapse would increase the cost of imported renewable or energy efficiency equipment for example, but similarly would increase the cost of imported energy.
Financial Risks				
Government budget constraints	🔴	🟢	🟢	While the impact of a budget crisis would be high, it is considered unlikely given the relatively strong position of the finances of the Philippines.
Access to donor funds	🔴	🟢	🟢	Failing to access donor funds would substantially affect the ability of the Philippines to implement the NDC actions, in particular in agriculture. This can be mitigated by capacity building measures for sector departments to support them in structuring a pool of robust NDC projects.
External Risks				
Natural disasters	🔴	🔴	🔴	As a seismically active country that is exposed to typhoons on a regular basis the Philippines will have to put in place Disaster Risk Reduction (DRR) measures at sector/project level as appropriate to ensure that this wide range of risks is appropriately managed as the NDC is delivered.
Re-emergence of the SARS-COVID19 Pandemic	🟡	🟡	🟡	Maintain existing pandemic precautions, ensure that response systems developed in the course of managing the 2020 SARS COVID19 pandemic continue to be functional.

Risk	Impact	Likelihood	Overall	Mitigation
Regional conflict	🔴	🟢	🟢	Regional conflict could negatively affect the implementation of the NDC.
Failure to engage private sector	🔴	🟢	🟢	A failure to engage the private sector would be critical to the ability to deliver the NDC. Throughout the further development and implementation, the government will involve the private sector closely through associations and direct consultations to ensure their participation.
Delivery Risks[a]				
Failure to achieve governance/ MRV control	🔴	🟢	🟢	Risk management will rest on the implementation of robust governance and MRV processes that will support all government departments from the top down in having appropriate levels of visibility to implementation progress, challenges encountered, and solutions implemented.
Lack of implementation capacity	🔴	🟡	🟡	
Delays in infrastructure projects	🟡	🟡	🟡	
Failure to achieve cross-sector coordination	🟢	🟡	🟢	

🔴 = High, 🟡 = medium, 🟢= low, MRV = measurement, reporting, and verification; NDC = nationally determined contribution.
[a] Described in detail at the level of sector appendices.

E. Sector-Level Delivery of Nationally Determined Contribution Policies and Measures

At sector level, NDC delivery is the responsibility of sector departments, who own, manage, and develop the sector PAMs, including the assessment of PAMs cost and impacts. They are responsible for the continuous development of the PAMs within the framework of the NDC objectives and the overall delivery of PAMs results, fund mobilization for implementation, updating the PAMs as needed, and reporting outcomes, needs and risks into the NDC-TWG.

Each sector has an implicit NDC objective (Table 3) which is broken into conditional and unconditional elements, based on the components in the NDC.[7] Sector departments are responsible for:

- developing the PAMs in response to the objective;
- assuring that their current and future PAMs reflect this objective;
- updating the NDC-TWG on any additional opportunities and/or new challenges that emerge;

[7] Agriculture is the only sector without an unconditional objective, reflecting the specific nature of the sector. Its unconditional objective has been distributed across the other sectors, with corresponding adjustments in the sectoral conditional objectives.

- managing the implementation timeline for their PAMs actions;
- identifying their financing requirements and expected sources of finance; and
- as applicable to raise and track finance for their PAMs actions at Department level, reporting them to the NDC-TWG.

Within sector departments, there are planning units tasked with developing the sectoral strategic plans over a medium- and long-term horizon for the agriculture, waste, industry, transport, forestry, and energy (AWIT-FE) sectors. In some, but not all, sectors these planning departments—for example, the Department of Energy (DoE) Energy Policy and Planning Bureau (EPPB)—include or lead staff from the inventory team. Sector departments are responsible for ensuring that these units have appropriate capacity, management responsibility, and budgets to fulfil their role in the implementation of the NDC.

1. Agriculture

a. Objectives

The agricultural sector has not pledged any unconditional objectives. The total estimated emission reductions achieved by all PAMs amount to 211 mmtCO_2e. Sector emissions may also be offset by ongoing plantation activities. For example, an estimated 3.6 million hectares of coconut plantations are currently planted, with the potential to sequester all the carbon emitted by the sector. Carbon sequestration values are not currently quantified in the national inventory but could be included in a future national inventory.

b. To accelerate meeting the ambition, the following high-impact interventions are prioritized:

From the viewpoint of mitigation impact, a key intervention is the use of alternate wet and drying cropland management and renewable energy for flood control and water management systems in paddy rice cultivation. Another key intervention is the use of biodigester and nature-based solutions in livestock-manure management, which has already been allocated $53 million in the 2023 General Appropriations Act (GAA).[8]

[8] PAMs and GAA/CCET typologies to change to reflect budget going toward composting facilities.

Table 5: Agriculture Policies and Measures

PAMs	Description	Impact ($mmtCO_2e$)	Cost ($ million)
Total All Measures		**211.00**	**1,027**
Use of alternate wet and drying, cropland management, and renewable energy (RE) for flood control and water management systems in paddy rice cultivation	100% adoption in total irrigated paddy rice area = 3.21 million hectares	62.81	528
Use of nature-based solutions and breeding interventions in livestock-enteric fermentation	50% reduction in enteric fermentation/ animal	41.23	106
Use of cropland management, precision agriculture, and biotech crops to reduce N_2O emissions from annually cultivated soils	25% reduction in total N_2O emission (Total annually cultivated area = 8.017 million hectares)	Direct N_2O Emissions from managed soils: -0.03 Indirect N_2O from managed soils: -0.171	70
Use of biodigester and nature-based solutions in livestock-manure management	100% adoption by the livestock sector	0.77 Indirect N_2O from manure management: 0.14	106
Use of precision agriculture and cropland management	50% reduction in urea application	0.55	70
Use of nature-based solutions / circular bio-economy	Zero biomass burning	2.02	70
Implementation of additional measures to reduce carbon footprint of agricultural products including using renewable energy powered equipment, precision agriculture, changing crop varieties, etc.[a]	-	No estimate	No estimate
Implementation of carbon sequestration measures (i) Use of organic fertilizers (ii) Use of biochar (ii) Expansion of coconut bands along storm surge prone shores (iv) Rehabilitation/ expansion of mangrove areas (v) Establishment of bamboo plantation (vi) Increase soil organic carbon sequestration	-	Items a – e: no estimate Item f: Around 3.7 tC/ha (medium sustainable soil management scenario)	No estimate
RE-powered service centers and offices of the Department of Agriculture	-	No estimate	-

PAMs	Description	Impact ($mmtCO_2e$)	Cost ($ million)
Increase the adoption of existing RE technologies in the agriculture and fisheries (agrifisheries) sector.	By the end of 2030: • Reduce by 2.0% the average annual production cost of 7,410 hectares of various crop production areas to be covered by RE-based small-scale irrigation systems; • Increase by 121 units or 801 kWp the average annual installation of solar PV Systems per baseline data • Increase by 3 units the average annual installation of wind pump irrigation systems per baseline data • Increase by 3 units the average annual installation of ram pump irrigation systems per baseline data • Increase by 8 units the average annual installation of biogas plants with an average capacity of $12m^3$; • Install an average of 7 units/year of flat-bed dryers with a capacity of 6 tons/batch using the baseline of 3 units/year; and • Install an average of 181 units/year of multicommodity solar tunnel dryer (MCSTD) using the baseline of 146 units/year.	102.93	77

kWp = kilowatt peak, $mmtCO_2e$ = million metric ton of carbon dioxide equivalent, PAMs = policies and measures, PV = photovoltaic.
[a] The full list of proposed actions under this PAMs includes: Use of pest-resistant crops; Use of biocontrol agents; Microbial inoculation to reduce inorganic fertilizer requirement; Use of fast -growing climate resilient crops/livestock/aquaculture species; e. RE -powered agricultural equipment, machineries, and postharvest and processing facilities; f. Precision agriculture with digital technology – e.g., Nutrient expert for Corn, Rice Crop Manager, laser land leveling; and climate information systems.
Source: Department of Agriculture.

c. Results

The government will closely monitor the sector during the NDC implementation period. The reason for this is that there was a slight increase in agriculture sector emissions between the 2015 and 2020 GHGIs. This happened in a year where a sector crisis (Swine flu) restrained emissions, and an emissions decrease had been expected.

Action on the delivery of the NDC has already commenced, e.g., funding of $53 million from the 2023 GAA has been allocated for manure management (composting), which will enable investment in 3,247 small composting stations. Further funding will be required for the delivery of the PAMs.

d. Measurement, Reporting, and Verification

Institutional capacity building and other support measures will be needed to increase MRV capacity within the Department of Agriculture (DA) and the sector, building on existing data collection and aggregation capabilities in the DA and its regional field offices.

Noting further the need to identify new or additional PAMs, subject to baselining activities and cost benefit analysis, technical assistance will be sought, including for the following:

- implementation of additional measures to reduce the carbon footprint of agricultural products and
- implementation of carbon sequestration measures

e. Partnerships

By the nature of the sector, and by nature of the PAMs that have mitigation outcomes as co-benefits, close cooperation between the DA and DENR will be necessary, in relation to agroforestry and waste, and DoE in relation to RE, among others. It is noted that internationally, organizations such as the Food and Agriculture Organization of the United Nations (FAO), the Asian Development Bank (ADB), and the World Bank are providing support, mainly for readiness. Continuous partnership with other entities for international public climate financing remains critical for the full implementation of NDC PAMs.

f. Private Sector

The DA will engage corporate plantation owners to spearhead efforts in the sector. Engagement with the domestic and international private sector is vital. In achieving NDC targets through the implementation of identified PAMs, different industries on climate-ready crops, livestock and fish; biocontrol agents; pest-resistant crops; microbial inoculants; RE-powered agricultural equipment, machineries, and postharvest processing facilities; precision agriculture; biodigesters; and organic agriculture, among others can be developed to envision participation of the private sector.

g. Capacity Building

The agriculture sector requires capacity building to enable the DA to formulate additional PAMs, prioritize them based on cost benefit analysis, and implement them with domestic and international finance.

h. Risks

There is a high risk of severe under-delivery in this sector, without early intervention for both financing PAMs and MRV capacity building.

2. Energy

a. Objectives

The PAMs in this sector will achieve results across multiple sub-sectors through a range of measures. PAMs delivery will occur between now and 2030. Capacity additions projections are available until 2027. The impact of the PAMs is estimated at 587 mmtCO2e to 2030.

Only the energy efficiency program is unconditional. The unconditional reduction of GHG emissions under this program is 3.4 mmtCO_2e.

b. To accelerate meeting the ambition, the following high-impact interventions are prioritized:

To support the delivery of the NDC, the DoE established an auction program for RE capacity in 2022. This auction program is the most critical NDC program run by the DoE as it will enable the delivery of substantial emissions reduction in the power sector, reduce dependence on imported fuels, provide additional capacity, and enable electrification across other sectors with clean energy.

The introduction of renewable energy sources (RES) into the power generation park will be accelerated through an ambitious focus on offshore wind and in the revised Philippine Energy Plan (PEP) 2023–2050, and supported by measures addressing infrastructure bottlenecks. The expansion of the grid and of port capacity are the main enablers required for this expansion. The successful implementation of this program will be key to the DoE's ability to deliver the sector target. Apart from this focus on the supply side, cross-sectoral programs such as transport electrification will increase delivery of NDC objectives.

The Philippines' strategy on accelerating renewable energy deployment and advancing energy efficiency and conservation measures is viewed to contribute to the reduction and avoidance of sector emissions. Access to international climate finance is of critical importance in the transformational shift of the power system and in achieving a just energy transition.

Table 6: Energy Policies and Measures

PAMs	Description	Impact ($mmtCO_2e$)	Cost ($ million)
Total all measures		**587**[1]	**36,455**[2]
Energy efficiency (non-conditional)	• 5% energy savings by 2030 • Promotion of energy efficiency across all sectors	11.57	
Renewable energy (conditional)	• 35% RE by 2030 1. Hydropower (impounding, run of the river, pumped storage) 5,115.69 MW 2. Geothermal – 2,417.00 MW 3. Solar (ground-mounted, floating, BTM) 10,765.60 MW 4. Wind (onshore, offshore) – 11,448.20 MW 5. Biomass and WTE – 749.00 MW	105.35	35,298,699
Biofuels (conditional)	• 2% biodiesel and 10% bioethanol	22.97	
Fuel switch	• Use of natural gas for power generation – 6,144.50 MW		
Smart grids	• Development of smart grids to support RE integrations		
Other technologies	• Use of Battery electric energy storage (BESS) – 2,236.00 MW		1,156,366
Other policy	• Knowledge sharing and learning	Not separately identified	Not separately identified

BESS = battery electric energy storage, BTM = behind-the-meter, MW = megawatts, RE = renewable energy, WTE = waste to energy,
[1] Individual measures below do not add up as not all measures have been fully assessed for impact
[2] This accounts for the renewable energy investment cost for the relevant Clean Energy Scenario of the Philippines Energy Plan 2023-2050 (PEP2023-2050). It excludes network and ancillary investments, TA and investment cost for fossil fuels to be constructed under the plan. As such it has to be considered a lowest-bound estimate of the true investment cost.
Source: Department of Energy.

c. Results

Looking ahead to 2030 and taking account of the fossil fuel capacity additions and the current emissions trajectory of the energy sector, it is highly likely that this sector will maintain emissions well below the modelled 2030 level of 192.3 $mmtCO_2e$.

d. Measurement, Reporting, and Verification

The DoE is tracking the addition of new renewable power generation capacity and has a strong grasp on sector emissions and modelling.

e. Partnerships

The DoE plays a key role in promoting electrification of transport. Cooperation with other departments is the focus for this intervention. Partnerships with development financial institutions (DFIs) will be strengthened to deliver the grid improvements and coal transition.

f. Private Sector

The private sector will be responsible for the delivery of most of the DoE's PAMs, including almost all investment in RE.

g. Capacity Building

Capacity building for the energy sector will focus on a range of actions, including MRV and baseline establishment to enable the tracking of emissions reductions from, e.g., energy efficiency or fuel switching, or new forms of renewables. The work will also include support for knowledge management. The integration of weather forecast data into power generation modelling for RES, and mainstreaming adaptation measures and identifying co-benefits of the sector PAMs. Technical assistance (TA) support will be used for feasibility studies, e.g., for island hybrid systems, policy framework establishment, renewable energy projects and fuel-switching projects, and for market assessment, including gender aspects, for alternative, renewable fuels such as green hydrogen and green ammonia and green technologies.

h. Risks

Caution will be taken to curtail emissions growth, especially in the "other" sub-sector.[9] This requires focused implementation of the energy efficiency policies that are currently being planned.

Management of the grid operator to deliver RE results is a crucial measure for the DoE's success in delivering power sector transition.

In the Industry sector, controlling emissions growth requires strategies such as fuel switching to natural gas while initiatives focused on energy efficiency, renewable energy use, and electrification are being advanced.

3. Industrial Processes and Product Use

a. Objectives

PAMs delivery has started in 2020 and will continue through to 2030. The NDC objectives in the sector will be delivered across multiple subsectors by the PAMs. These include the mineral industry subsector and IPPU subsector (product uses as substitutes for ozone-depleting substance). The impact of the PAMs is estimated at 59.2 mmtCO_2e to 2030.

Overall, it will be important to intervene at critical points in the sector by introducing best practices to private sector action, supported where appropriate by incentives and/or regulation to motivate private sector actors.

[9] The "other" subsector includes energy use in commercial, public sector, household, and agriculture/fisheries/forestry sectors.

b. To accelerate meeting the ambition, the following high-impact interventions are prioritized:

The key intervention for the sector is clinker substitution in cement manufacturing, which is an unconditional measure. Steady progress has been made on clinker substitution in cement production (i.e., blended cement) by some large cement manufacturers in the Philippines. The government will consider public procurement measures supporting the acceptance of low-carbon blended cement in public infrastructure projects to accelerate delivery of these PAMs.

Table 7: Industrial Processes and Product Use Policies and Measures

PAMs	Description	Impact ($mmtCO_2e$)	Cost ($ million)
Total all measures		59	194
Substitution of clinker in cement production with supplementary cementitious materials (SCMs) such as fly ash, blast-furnace slag, and other pozzolanic materials	Clinker production is an energy-intensive and carbon-intensive process. Replacing a portion of clinker with SCMs can reduce their carbon emissions.	20.65	Negative cost
Increase use of cullet in glass production	-	0.59	(0.00074)
Shift to low-Global Warming Potential (GWP) refrigerants in the RAC industry	By using low-GWP refrigerants, the RAC industry can help reduce in emitting potent GHG into the atmosphere.	19.92	30
Establishment of a dedicated and efficient destruction facility (non- incineration) for ODS and HFCs	-	10.53	No estimate
Installation of Waste Heat Recovery (WHR) Facility in cement plants	By using the WHR systems, the excess waste heat can be captured and used for energy generation to fuel cement plant's auxiliary consumption.	1.71	164
Alternative fuel and raw materials (i.e., waste and biomass) in cement co- processing	By substituting fossil fuels with alternative fuels, cement kilns can lower their GHG emissions. Use of alternative raw materials can also reduce the energy required for clinker production.	5.84	Data gathering ongoing
Reduction of emissions from iron and steel industry	-	Data gathering ongoing	Data gathering ongoing
Use of bio-naphtha as feedstock in ethylene production and establishment of carbon capture, utilization, and storage (CCUS) facility	-	No estimate	No estimate
SF6 emission reductions in electrical grids	-	No estimate	No estimate

GHG = greenhouse gas, HFC = hydrofluorocarbons, $mmtCO_2e$ = million metric ton of carbon dioxide equivalent, ODS = ozone-depleting substances, PAMs = policies and measures, RAC = refrigeration and air conditioning, SF6 = Sulfur hexafluoride .
Source: Department of Environment and Natural Resources.

Technology transfer to support low-carbon waste heat recovery technology through foreign financial assistance, such as the Joint Crediting Mechanism (JCM), will also facilitate the sector to achieve additional mitigation outcomes.

Enhancing the transition to the use of low GWP refrigerants in the refrigeration and air-conditioning industry subsector is another intervention important for the delivery of NDC objectives. The government will seek to accelerate this by creating enabling mechanisms, such as incentive systems, to ensure the availability of the low GWP refrigerants that are readily available internationally to the domestic market.

c. Results

It is highly likely that the IPPU sector will continue to operate well below the modelled 2030 emissions level of 38.1 mmtCO_2e. This is attributed to both the modeling assumptions of the BaU scenario and the ongoing efforts of leading cement companies to meet their own emission reduction goals, aligning with the delivery of the sector's priority PAMs actions. Estimates show cumulative emission reductions in the order of 48 mmtCO2e in the 2020–2030 period.

d. Measurement, Reporting, and Verification

A regional data collection matrix spreadsheet has been created as a tool to assist regional offices in the collection of GHGI activity data for the IPPU sector. The data collected by this tool serve as the basis on sector emissions estimation and modelling.

e. Partnerships

The DENR will play a key role in facilitating the acceptance of low-carbon blended cement in the public sector over the country. Cooperation with other departments, such as the Department of Public Works and Highways (DPWH), Department of Trade and Industry (DTI), and its Bureau of Philippine Standards (BPS), will indirectly drive clinker substitution in cement production through increasing demand for this product.

f. Private Sector

The private sector will be responsible for the delivery of most of the IPPU's PAMs. Government support is required for the creation of an enhanced enabling environment and to ensure the demand for low-carbon products in construction.

g. Capacity Building

Capacity building for the IPPU sector will center around MRV as the NDC will require the DENR to track private sector data in a way that it has not been necessary previously. Importantly, the introduction of green procurement within the government will also be a key to accelerating delivery in this sector, as public sector works account for approximately half of the country's cement demands.

h. Risks

The actions taken by several leading cement manufacturers, representing the overwhelming majority of production, are the basis for estimating delivery across the entire sector. The DENR will keep track of progress for all cement manufacturers to ensure that the mitigation actions are implemented steadily as per their planned decarbonization initiatives.

4. Transport

a. Objectives

The transport sector is substantially below the modelled emissions due to pandemic effects, although it is now growing in line with the BaU model trajectory.

b. To accelerate meeting the ambition, the following high-impact interventions are prioritized:

Delivery of large-scale capital projects under the current programs, including the Philippines' $147 billion[10] "Build, Better, More" program and the Public Utility Vehicle Modernization (PUVM) program, will make a significant contribution to the national mitigation target. The critical opportunity for the sector is to scale up the ambition level in transport electrification, primarily for the main driver—road transport. Moving from liquid fuels to electricity will not only contribute to sectoral mitigation target delivery, but also generate a range of important public policy and macroeconomic benefits for the Philippines, such as improving health and increasing access to transport.

While current modelling indicates that emissions from the sector will continue to be high for decades, this is unlikely to be realized due to the international automotive sector rapidly moving toward electrification. The sector will prepare for this shift also in the Philippines.

The government will continue to invest in projects that will enable a modal shift, and thereby constrain the growth of individual transport demand. An important intervention is the recent Davao Public Bus Modernization Program, which will be replicated in other locations.

The sector needs to invest in technology and improve fuel standards to reduce emissions from the vehicle fleet.

[10] ₱8.3 trillion

Table 8: Transport Policies and Measures

PAMs	Description	Impact ($mmtCO_2e$)	Cost ($ million)
Total all measures		**67**	**32,758**
Public Utility Vehicle Improvement	• Set of programs to improve the environmental performance of PU vehicles	21.25	39
Rail Projects under BBM Program	• Set of projects extending railways across the country, including freight corridors, including expansion of the Philippines railways system from 77 km to more than 1,200 km by 2022 and beyond	28.21	28,085
Mass Transport and Active Travel	• Set of projects in Metro Manila and other regions, including EDSA and Makati Greenways (active travel), Davao public transport, Cebu and other BRT systems	10.46	4,347
Maritime Transport	• Set of shipping projects, including "Green Ports" to reduce emissions from port operations and a high-capacity, low-carbon ferry system linking Manila Bay and Laguna Lake through the Pasig River and an electric passenger ferry project for Mandaue and Lapu-Lapu, Cebu strait		
Aviation Projects	• Night rating for airports to enhance efficiency		
Technology and Fuel Standards	• Introduction of more stringent fuel standards. Introduction of new technologies such as BEV and FCEV	6.18	

BBM = Build Better More program, BEV = battery electric vehicle, BRT = bus rapid transit, FCEV = fuel cell electric vehicle, $mmtCO_2e$ = million metric ton of carbon dioxide equivalent, km = kilometer, PAMs = policies and measures, PU = public utility,
Source: Department of Transportation.

c. Results

The impact of the PAMs to 2030 is estimated at 67 $mmtCO_2e$. The PAMs cover primarily the currently identified project pipeline of the Department of Transportation (DOTr), out to 2027. It has not been fully assessed for GHG impacts, so there is upward potential in the emissions reductions. The transport sector is expected to exceed its unconditional objective.

d. Measurement, Reporting, and Verification

The DOTr has the capacity to track emissions at subsector level. Current DOTr modelling integrates the introduction and penetration of electric vehicles (i.e., hybrid, fully electric, etc.) as well as the use of various Euro-compliant fuel standards. The DOTr shall work toward the updating of the models for each of the subsectors (i.e., aviation, maritime, rail, road) as well as the recalibration of methodologies and the validation of data to assure the robustness of the models.

e. Partnerships

The DOTr plays a key role in developing the public transport network and promoting the electrification of transport. Cooperation with other departments is the focus for delivering electrification. The DOTr is also working closely with development partners in driving innovative projects to affect structural change, such as the Davao Public Bus Modernization Program, and

a modal shift through the introduction of bus rapid transit (BRT) systems, such as the Cebu BRT project.

f. Private Sector

The private sector has an important role to play in delivering large-scale infrastructure under the "Build, Better, More" program.

g. Capacity Building

Capacity building for the transport sector will center around establishing GHG baselines for the maritime and aviation sectors, the development of subsector and sector master plans, the delivery of feasibility studies for key projects in the project pipeline, such as the night rating of airports, the EDSA Greenway, and seamlessly integrated mobility, scrappage and other vehicle-specific projects such as the PUV Modernization Program, or the Motor Vehicle Inspection Program (MVIP). Further details are in Appendix D.

h. Risks

The key risk in the transport sector is that emissions will rapidly catch up to BaU predictions as the Philippines exits coronavirus disease (COVID-19) restrictions. Tracking the emissions for 2023 early, e.g., on the basis of fossil fuel import data, will give an understanding as to whether this is happening.

5. Waste

a. Objectives

The NDC objective in the sector is to be achieved by the PAMs designated for both solid waste and wastewater subsectors. PAMs delivery will occur between now and 2030. The impact of the PAMs is estimated at 65.8 mmtCO_2e to 2030.

b. To accelerate meeting the ambition, the following high-impact interventions are prioritized:

For the solid waste subsector, the key intervention is methane capture and utilization/flaring at sanitary landfills. National and provincial government support will be implemented. This will include attracting financial support, facilitating aggregation of waste especially outside large regional cities, and greater enforcement of existing regulations. In addition to this support for the enabling environment, financial assistance and incentive mechanism will also be considered.

For the wastewater subsector, the expansion of septage and sewage treatment facilities in highly urbanized cities and other cities outside the Manila Bay area, and the expansion of wastewater treatment facilities to rehabilitate Manila Bay are key interventions. To facilitate this, measures will be implemented to ensure enforcement of rules and regulations to manage and govern the

water sector, strengthen capacity to implement sanitation services under water districts (WDs) and LGUs, and expand the National Sewerage and Septage Management Program (NSSMP) funding to be available to WDs.

Table 9: Waste Policies and Measures

PAMs	Description	Impact ($mmtCO_2e$)	Cost ($ million)
Total all measures		**66.00**	**1,575**
Expand septage and sewerage treatment facilities in highly urbanized cities (HUCs) and other cities outside Manila Bay area. This measure aims to avail of support for the implementation of the government's National Sewerage and Septage Management Program (NSSMP).	The Clean Water Act of 2004 is a legislation that mandates the preparation of a NSSMP and requires HUCs to provide sewerage and septage services to minimize the adverse impacts of domestic wastewater discharges on the waterbodies.	17.05	600
Expand wastewater treatment facilities in compliance to the Supreme Court Mandamus to rehabilitate Manila Bay	To achieve the goal of the Manila Bay Rehabilitation Program, wastewater treatment facilities are required to be expanded or constructed.	7.99	No estimate by the government of the Philippines
Composting of organic wastes	Composting is a process that transforms organic materials in wastes into nutrient-rich soil conditioner. It helps divert biodegradable organic wastes from landfills, in turn reducing methane emissions.	12.52	540
Methane flaring in disposal facilities	Flaring helps reduce methane's environmental impact by converting it into a less harmful gas: CO_2.	3.23	20
Methane recovery from sanitary landfills for electricity	Methane recovery from landfills for electricity generation not only mitigates its impact on climate change, but also reduces reliance on fossil fuel-generated electricity.	10.75	20
MSW digestion of organic waste with methane capture	MSW digestion converts organic waste into biogas, primarily composed of methane.	2.43	50
Use of eco-efficient soil cover	This involves the use of eco-efficient soil cover (e.g., compost) to lay on top of the waste. It helps in transforming CH_4 emissions into CO_2 by microbial processes while passing a soil cover.	10.93	310

PAMs	Description	Impact ($mmtCO_2e$)	Cost ($ million)
Promotion of industrial wastewater systems/ technologies that consider the capture and utilization of biogas in an anaerobic system	Wastewater generated from various industries, such as sugar and beverage, usually contains high organic load.	0.9[a]	35
Avoidance of methane and nitrous oxide emissions from sugarcane preharvest open burning through mulching	-	No estimate	No estimate
Avoidance of landfill gas emissions by in-situ aeration of landfills	-	No estimate	No estimate

CH_4 = methane, CO_2 = carbon dioxide, $mmtCO_2e$ = million metric ton of carbon dioxide equivalent, MSW = municipal solid waste, PAMs = policies and measures.
[a] Excluding energy displacement
Source: Department of Environment and Natural Resources.

c. Results

While the sector is governed by a comprehensive legal framework, including Republic Act No. 9003 (RA9003) (Ecological Solid Waste Management Act of 2000) and the Republic Act No. 9275 (Clean Water Act of 2004), and supported by the rollout of the NSSMP, GHG emissions from the waste sector in the Philippines continue to steadily increase.

As the 2020 GHGI data for the waste sector is 56% higher than the 2020 NDC modelled data, it is expected that, without further interventions, the waste sector will continue to have higher emissions compared to the modelled level.

d. Measurement, Reporting, and Verification

In compliance with the mandate of RA9003 to develop waste minimization and reduction auditing procedures for evaluation process, a self-monitoring tool, the solid waste management self-compliance monitoring and auditing report (SWM-SCMAR), was developed. Similarly an SCMAR exists for the evaluation of wastewater from domestic and industrial sewage treatment plants (STPs). This tool, which is the responsibility of the LGUs, serves as the annual monitoring system and contains wide-ranging information/data for GHG emissions calculations. Action will be taken to make this fully compatible for NDC reporting purposes. These actions may, for example, include the updating of the Clean Water Act (RA9275) and/or changes to SCMAR requirements to require the inclusion of the biochemical oxygen demand (BOD) of influent of wastewater from STPs in addition to the effluent, the latter which is currently required by the DENR-EMB to be reported.

e. Partnerships

Close cooperation on solid waste data collection and treatment method will be ensured between DENR and the LGUs, and within Manila between the Metropolitan Manila Development Authority (MMDA) and LGUs. Information provided in the LGUs' 10-year Solid Waste Management Plans, which are relied on for situational data, will be updated.

f. Private Sector

The private sector, through its contracts with LGUs, will be responsible for the delivery of most of the solid waste-related PAMs, while both private and public sectors, including LGUs and WDs, will be responsible for the delivery of the wastewater-related PAMs.

Several new private sector projects are under construction for municipal solid waste, which will increase materials recovery by up to 6,000 metric tons per day (tpd) by 2025, however, due partly to limited data availability, no national estimate is available. The NSSMP has had limited impact so far, but as the wastewater component of the Manila Bay Rehabilitation Program has now commenced, this is expected to change. Three sewage treatment plants (STPs) are under construction, one STP is at the detailed design stage and seven more STPs are targeted for completion by 2030/2031 by Manila Water and Maynilad, the two concessionaires.

Where services beyond disposal are provided by private sector contractors, partnerships with the private sector are essential.

g. Capacity Building

But for a few exceptions such as for the Manila Bay Rehabilitation Program, in the waste sector overall, there is a lack of data and a lack of an aggregation system to capture information. Apart from the difficulties this situation presents for MRV, it also impedes the ability of government to intervene early in accelerating PAMs that may be falling behind in delivery. It is therefore essential for capacity building to focus on data collection and aggregation in an NDC-relevant manner. Additionally, capacity building will also be carried out for greater cooperation between different levels of government taking into consideration that not all LGUs and water districts have the critical mass to carry out viable waste management activities alone.

h Risks

Strengthening the MRV mechanism to keep track of the progress on both solid waste and wastewater subsectors will be undertaken to mitigate risk and to ensure that interventions to ensure delivery will be evidence-based and targeted. MRV capacity building will be undertaken.

F. Implementation Arrangements and Milestones

1. Actions

Full implementation of the Philippines NDC will require meeting of the following objectives:

(i) achieving the conditional and unconditional NDC objectives,
(ii) working with international partners,
(iii) exploring market-based actions,
(iv) strengthening resilience and adaptive capacity,
(v) cascading subnational level actions, and
(vi) ensuring private sector participation.

Meeting these objectives will require initial actions (within 1 year or less) and medium-term actions (within 2–3 years). Initial actions will be undertaken immediately and/or continuously from now on, as they set the enabling framework for the delivery of the NDC. Mid-term actions can be delivered over a longer timeframe, as they will continue to guide the implementation of the NDC over the period to 2030. Both types of actions are important as the NDC itself will be delivered over a longer timeframe with continuous action and attention by the relevant actors.

The actions are grouped into pillars with more detailed actions undertaken by the various delivery levels (NDC-TWG, CCC, sector departments, agencies, etc.) under each of the pillars.

Table 10: Key Actions for Implementation

Pillar	Actions	
	Initial Actions	Mid-term Actions
1. Delivering conditional and unconditional NDC action	• Deliver PAMs Actions in accordance with technical appendices. • Establish/formalize inter-departmental coordination groups for cross-sectoral delivery. • Identify gaps in sector programs. • Continuous develop sector PAMs. • Integrate PAMs into budget and planning processes.	• Establish continuous monitoring of NDC delivery at project level and above through an integrated MRV framework. • Utilize data gathered to strengthen future iterations of PAMs. • Develop department-level mid-term strategies that can help define future PAMs revisions.
2. Advancing co-operation with international partners	• Prioritize PAMs actions for international funding support. • Develop a mid-term program for international support to 2030 and regularly update it.	• Deepen MDB/DFI partnerships. • Structure engagement with development partners around NDC delivery
3. Develop market-based action	• Clearly identify sectors/actions that can be traded, and those in which no trading is possible. • Develop required policies and regulations to enable trading.	• Work with partners interested in trading. • Participate in international standard setting. • Ensure MRV systems are robust enough for trading activities

4. Strengthen resilience and adaptive capacity	• Clearly identify resilience/adaptation co-benefits in PAMs.	• Integrate NDC and NAP MRV and Planning and use resilience as a driver for PAMs revisions. • Elaborate the national concept for a Just Transition.
5. Cascading the subnational level actions	(To be developed further - indicative) • Identify responsibilities, capacities and needs at LGU level. • Assess existing initiatives at the LGU level, to be covered with a holistic MRV system. • Develop capacity-strengthening program as required in response to the assessment.	(To be developed further-indicative) • Identify and address legislative and regulatory barriers (e.g. in municipal solid waste (MSW) management) to encourage long-term investment, among others.
6. Ensuring private sector participation	(To be developed further – indicative) • Identify and address required incentives and legislative/regulatory/institutional actions to promote private sector participation. • Develop an approach to green procurement in support of the NDC.	(To be developed further – indicative) • Implement green procurement through targeted measures supporting the NDC PAMs, e.g., by promoting use of blended cement by DPWH, or setting purchase targets for electric vehicle purchases for public fleets, subject to appropriate mechanisms to be issued.

DFI = development financing institution; DPWH = Department of Public Works and Highways, LGU = local government unit; MDB = multilateral development bank; MRV = measurement, reporting, and verification; NAP = national adaptation plan; NDC = nationally determined contribution; PAMs = policies and measures.

2. Timeline

The timeline for the delivery of the ambitious NDC objectives will be driven by the delays imposed by the COVID-19 pandemic. It is broken down by year in Table 11, taking account of the need for actions to take place early on, establishing the foundation for delivery in later years, and ongoing actions that are recurrent throughout the delivery period of this NDC.

The frontloading of many foundational actions puts a heavy load on the government agencies and departments, in particular the CCC, but also on development partners who are needed to support these actions to ensure there is sufficient capacity for the government and other implementation partners.

Delivering the ambitious NDC objective of the Philippines will necessitate a rapid start of engagement on all parties, to be followed by continuous actions as the NDC is implemented and, toward the end of the period, revised for a new iteration.

Table 11: Nationally Determined Contribution Implementation Roadmap and Timetable

No.	Measure	2024	2025	2026	2027	2028	2029	2030
Pillar 1 – Delivering conditional and unconditional mitigation action								
1.1	Delivery of PAMs Actions in accordance with technical appendices	Energy, IPPU, transport and waste PAMs delivery already started pre-2024.	Establish and staff project preparation facilities for Agriculture and Waste sector PAMs Establish DOF financing facilities dedicated specifically to LGUs	Agriculture PAMs delivery to start	Transport PAMs Delivered			
1.2	Establishing/ formalizing inter-departmental coordination groups for cross-sectoral delivery	Coordination achieved between: DENR-DOE DA-DOE DA-DENR	Ongoing coordination					
1.3	Identification of gaps in sector program	Continuous						
1.4	Continuous development of sector PAMs	Continuous						
1.5	Integrate PAMs into budget and planning processes of DBM and NEDA		Modifying CCET complete	CCET at NDC level operational				
1.6	Establish continuous monitoring of NDC delivery at project level and above through an integrated MRV framework	Establishment of climate units at lead sector agencies complete Seeking technical assistance for PAMs level impact quantification complete	Lead sector agencies start carrying out PAMs impact quantification Standardized baselines for priority PAMs developed	MRV framework operational				

No.	Measure	2024	2025	2026	2027	2028	2029	2030
1.7	Utilize data gathered to strengthen future iterations of PAMs	All sector lead agencies to report implementation status annually to extent possible	All sector agencies to have strengthened ability to track NDC targets. Impact reporting mechanism will be developed.	All sector lead agencies report progress on the NDC targets annually. [Note: unconditional targets are reported annually as indicated in the PDP. For further development is the reporting of conditional targets]				
1.8	Develop department-level mid-term strategies that can help define future PAMs revisions			Mid-Term Strategies developed				Mid-Term Strategies revised
Pillar 2 – Advancing cooperation with international partners								
2.1	Prioritize PAMs actions for international funding support	PAMs prioritization complete	Revised PAMs prioritization complete	Funding raised continuously				
2.2	Develop a mid-term program for international support to 2030 and regularly update it		DA program to seek international support for PAMs operational					
2.3	Deepen MDB/DFI partnerships		Regular meetings on PAMs delivery					
2.4	Structure engagement with development partners around NDC delivery	Continuous						
Pillar 3 – Develop market-based action								
3.1	Clearly identify sectors/actions that can be traded, and those in which no trading is possible		Sectors/ actions identified					
3.2	Develop required policies and regulations to enable trading			Policies and regulations enacted				
3.3	Work with partners interested in trading	Continuous						

No.	Measure	2024	2025	2026	2027	2028	2029	2030
3.4	Participate in international standard setting			Continuous				
3.5	Ensure MRV systems are robust enough for trading activities	Learning-by-doing feedback for ITMOs complete		MRV systems for ITMOs and CAs complete				
Pillar 4 – Strengthen resilience and adaptive capacity								
4.1	Clearly identify resilience/ adaptation co-benefits in PAMs and use resilience as a driver for PAMs revisions		Initial assessment completed	Continuous				
4.2	Integrate NDC and NAP MRV and Planning		MRV aligned					
4.3	Elaborate the national concept for a Just Transition		Concept Issued					
Pillar 5 – Cascading the subnational level actions								
5.1	Identify responsibilities, capacities and needs at LGU level	Initial assessment completed						
5.2	Develop and implement capacity-strengthening program as required in response to the assessment		Capacity-building program developed	Continuous delivery of capacity building				
5.3	Identify and amend legislative and regulatory barriers (e.g. in municipal solid waste (MSW) management) to encourage long-term investment	Barriers identified	Laws and regulations amended					
Pillar 6 – Ensuring private sector participation								
6.1	Identify required incentives and legislative/ regulatory changes to promote private sector participation		Initial assessment completed	Continuous development/review of incentive schemes/regulatory and legislative action				

No.	Measure	2024	2025	2026	2027	2028	2029	2030
6.2	Develop an approach to green procurement in support of the NDC	Green procurement opportunities identified	Green procurement regulations enacted					
6.3	Implement green procurement through targeted measures supporting the NDC PAMs, e.g. by mandating the purchase of blended cement by DPWH or setting purchase targets for electric vehicle purchases for public fleets.	Identify required legislation, regulation and incentive action	Legislation, regulation and incentive action enacted	Green procurement operational				
6.4	Develop legislation and regulation to encourage private sector action, including incentives where needed (e.g. for coal plant retirements)	Identify required legislation, regulation and incentive action	Legislation, regulation and incentive action enacted					

CA = corresponding adjustment, CCET = climate change expenditure tagging, DA = Department of Agriculture, DBM = Department of Budget and Management, DENR = Department of Environment and Natural Resources, DFI = development finance institution, DOE = Department of Energy, DOF = Department of Finance, DPWH = Department of Public Works and Highways, ITMO = internationally transferred mitigation outcome, IPPU = industrial processes and product use, LGU = local government unit, MDB = multilateral development bank, MRV = measurement, reporting and verification, MSW = municipal solid waste, NAP = national adaptation plan, NDC = nationally determined contribution, NEDA = National Economic and Development Authority, PAMs = policies and measures, PDP = Philippine Development Plan.

3. Institutional and technical capacity support

Delivery will be further supported by the implementation of a comprehensive technical assistance program developed by the NDC Partnership country program described in the Appendices.

The Philippines NDC Partnership Plan recognizes capacity building as one of its major outcomes. This intends to capacitate key institutions including the public and the private sectors, and to develop and strengthen the skills and abilities specifically in the relevant sectors to deliver the goal of the NDC. An important element in capacity building is transformation generated and sustained, and such change should go beyond the delivery of the tasks to the actual implementation of actionable climate change mitigation and adaptation measures.

The capacity building output, as stated in the Partnership Plan, includes improving data collection, monitoring and evaluation, access to finance, and increasing technology and innovation. Detailed actions are provided in Appendix D.

4

FINANCING THE NDC

A. Overview

Delivery of the Philippines NDC will require an estimated investment of around $72 billion, based on the costed PAMs set out by sector departments. This figure is an underestimation of the full cost required as (i) it does not include a full picture of private sector costs associated with all the actions and (ii) PAMs have not been fully costed at this time, due to a lack of availability of data. In addition, costs are expected to change as PAMs are further revised to increase ambition of mitigation action.

The greatest financing needs are in the energy sector where they are estimated to require an investment of $36.5 billion, followed by the transport sector where investment needs are estimated at almost $33 billion. Between them, both sectors account for 97% of the identified investment needs. This investment will be supported by government budgets, development partners' support, and the private sector.

B. Conditional and Unconditional Support

The NDC stipulates that 2.71% of the reduction and avoidance of GHG emissions will be unconditional and 72.29% is conditional.

Box 3: Financing Sources to Support Unconditional and Conditional Nationally Determined Contribution Policies and Measures

Unconditional, in the context of nationally determined contribution (NDC) finance, refers to policies and measures that can be undertaken using publicly mobilized domestic resources; it is what countries could implement without any conditions and based on their own resources and capabilities.
In the case of the Philippines, this includes but is not limited to the available funds under the General Appropriations Act (GAA), the respective budgets of local government units (LGUs), and any funds raised by government-owned and controlled corporations (GOCCs) and government financial institutions (GFIs) pursuant to their respective functions.

Covered herein are national and local government revenues including taxes, fees and charges, proceeds, and the like.

Conditional refers to policies and measures that countries would undertake if external means of support, whether public or private, are provided.

For the conditional actions, the Philippines is relying on international climate financial mechanisms, including those under the United Nations Framework for Climate Change Convention (UNFCCC), Paris Agreement, Kyoto Protocol and other multilateral environmental agreements such as the Green Climate Fund (GCF), Global Environment Facility (GEF), and Adaptation Fund (AF), climate and development finance sources administered by multilateral development banks and bilateral development partners, international organizations such as the United Nations System and its agencies, other regional and international sources, and the private sector.

Source: Department of Finance.

Examples of financing mechanisms and instruments that could be used to support conditional actions include but are not limited to grants, technical assistance, concessional loans, guarantees, other bilateral and multilateral financing mechanisms (including blended finance), insurance, and foreign direct investments.

C. Delivery of Financing to Support Nationally Determined Contribution Implementation

1. Emerging Instruments

At the sector level, the context around NDC financing varies. Financing mechanisms and sources for a large share of energy and transport sector PAMs have been identified by sector departments. For the agriculture and waste sectors, dedicated efforts will be required to identify and mobilize additional resources to ensure PAMs delivery. Realizing adaptation co-benefits will be an important consideration in these efforts.

Building on current mechanisms, a project preparation facility could be established, possibly focused on the waste and agriculture sectors, as these are the sectors most in need of help to structure their PAMs into concrete and bankable projects. Facilities dedicated to the financing of project preparation, including pre-investment and investment requirements (e.g., feasibility studies, design) exist at the level of LGUs, such as those managed by the NEDA, DPWH, Public–Private Partnership (PPP) Center, the People's Survival Fund's Project Development Grant facility, the project preparation facilities overseen by the DOF and other agencies. They are sometimes supported with loan assistance from the ADB (e.g., Infrastructure Preparation and Innovation Facility) and the Export-Import Bank of Korea's Economic Development Cooperation Fund. These could be scaled-up or strengthened, and additional facilities established dedicated to sectors that may need additional support. Such facilities could also support capacity building to increase the delivery capacity at regional, local, and provincial government levels.

A dedicated financing facility for such projects could also be explored, building on the People's Survival Fund and other public funding initiatives.[11] Such a facility could help aggregate smaller projects, and leverage limited budget financing to mobilize private capital.[12]

[11] Notwithstanding, the DOF recommends that the operationalization of such a facility should also consider the additional financing LGUs will receive under the Mandanas-Garcia Ruling. Aside from financial resources and capacity building, additional financing arising from the NDC could help LGUs craft policies and implement projects that are sustainable in the long run and deliver adaptation and environmental co-benefits (PDP, Chapter 15).

[12] Exploring the creation of green investment or financing vehicles is an action outlined in the Philippines Sustainable Finance Roadmap released by the Interagency Technical Working Group on Sustainable Finance (ITSF) in 2021.

2. Institutional Arrangements and Implementation Actions

Under Executive Orders 127, 127-A, and 292, the DOF is responsible for the formulation, institutionalization, and administration of fiscal policies in coordination with other concerned subdivisions, agencies, and instrumentalities of the government, as well as the management of domestic and foreign public sector debt. In line with this, the DOF is mandated under RA10174 and its revised implementing rules and regulations (IRR) to coordinate with the CCC on matters concerning fiscal policies related to climate change, and to monitor and report measures involving climate finance in coordination with the Development Budget Coordination Committee (DBCC).[13]

To ensure the delivery of the ambitious conditional NDC objective, it will be necessary for the Philippines to raise substantial volumes of climate finance. As this is a process that is subject to considerable hurdles and delays, CCC, under the guidance of and in coordination with the DOF and NEDA, will seek to fully integrate all aspects of climate finance into the NDC delivery process, including tracking the balance of allocation between public budgets, international climate finance and private finance, transparent reporting, and tracking the need for international climate finance across the PAMs portfolio of measures.

The Interagency Technical Working Group on Sustainable Finance (ITSF) or 'Green Force' will serve as the main channel for discussions on financing for the NDC. Established in 2021, the ITSF serves as a coordination mechanism on sustainable and green financing, including financing for climate change.

The following actions will be taken to mobilize financing for NDC delivery:

(i) The development of a NDC financing plan with dedicated actions to be taken by sector and expanding on potential financing instruments/approaches.
(ii) Strengthened coordination across the government, including those led by the DOF, on efforts to promote dedicated market-based mechanisms.
(iii) Strengthening the role of the ITSF as the main channel for reviewing financing needs for the NDC and helping streamlining access to international finance.

[13] As the economic team leader and fiscal manager, the DOF plays a lead role on climate financing. The DOF is the lead negotiator and oversees mobilization of external financing, including from global climate funds. All climate funds-financed projects and programs are subjected to the same government processes and standards from planning, programming, financing, financial management such as budgeting, accounting and auditing, and monitoring and evaluation. Financing, regardless of the source, will ultimately be based on the national plan using a "whole of government" or "whole of society" approach.

D. Overview of Climate Finance Flows

A limited overview of climate finance flows are given in this section, as a full overview of climate finance flows is not yet available.

1. Domestic Climate Finance: Public

In 2021 and 2022 the government allocated about $5.5 billion per year to climate change-tagged expenditures as part of the national budget. In 2023, this allocation has significantly increased, with over $8 billion (₱464.5 billion) allocated toward climate change adaptation and mitigation, an increase of about 60% compared to the previous year. Across all years, most of the resources allocated in the government's expenditure program supported climate change adaptation.

As shown in Table 12, only a fraction of climate-tagged expenditures in the budget have been linked to NDC actions. In 2020–2023, the Philippines invested a total of about $1.1 billion in NDC-related projects, or 9.75% out of the total climate-tagged expenditure over this period. Most of this funding, $975 million or 94%, was allocated to railway projects.

Table 12: Public Nationally Determined Contribution-related Climate Finance Flows Based on Budget Analysis, FY2020–2023, ($)

Dept.	PAP Description	FY2020 GAA	FY2021 GAA	FY2022 GAA	FY2023 GAA
DoE	Development of energy efficiency key indicators	2,758,696	1,174,214	2,841,852	3,883,051
DENR	Manila Bay Coastal Management Strategy	23,806,999	27,456,752	28,693,938	27,456,752
DOTr	Rail Projects			258,718,275	716,524,585
	PUVM			31,826,105	
	BRT				12,371,863
Total NDC tagged		**26,565,695**	**28,630,965**	**322,080,170**	**760,236,250**
Total CCET		**4,114,453,164**	**4,990,535,63**	**5,120,755,46**	**8,209,608,201**
Total budget		**72,463,768,116**	**79,639,448,568**	**88,787,557,441**	**88,787,557,441**
% NDC tagged in CCET		**5.68%**	**6.27%**	**6.29%**	**9.25%**
% CCET tagged in total budget		**0.65%**	**0.57%**	**5.77%**	**9.26%**
% NDC tagged in total budget		**0.04%**	**0.04%**	**0.36%**	**0.86%**

BRT = bus rapid transit, CCET = Climate Change Expenditure Tagging, DENR = Department of Environment and Natural Resources, DoE = Department of Energy, DOTr = Department of Transport, FY = fiscal year, GAA = General Appropriations Act, PAP = programs and projects, PUVM = Public Utility Vehicle Modernization.
Source: Government of the Philippines, *Philippine General Appropriations Act of FY2020, FY2021, FY2022, and FY2023.*

2. Domestic Climate Finance: Private

The domestic private sector is a critical element in the provision of finance for some of the most important investments in support of sector PAMs. For example, it will finance the renewable energy program under the DOE PAMs, enabled by the auction-based system for capacity allocation. Similarly, under the EVIDA, private sector investments in electric vehicle infrastructure and potentially manufacturing will finance the objective of fuel switching of road transport from liquid to electric.

PPPs are another important instrument. As of early September 2023, the Philippines had 180 PPP projects under implementation with an estimated cost of $53 billion. Furthermore, the country's PPP center reported 103 projects in the pipeline worth and estimated at $50 billion. Information on the number of PPPs linked to the NDC is not yet available.

The financial sector is therefore a critical channel for private sector financing of NDC projects. Banks in the Philippines represent 80% of the country's financial system.[14] Legislation has been introduced to incentivize inclusive green finance in selected sectors,[15] and around 19% of loan portfolios were seen to target sustainable finance objectives, including climate change, in 2021–2023 (Box 4).

Financial regulators are also developing a national Sustainable Finance Taxonomy, which will support further tracking of NDC-related investments. The taxonomy will provide further clarity to the domestic private sector and financial markets with regard to climate mitigation projects.

[14] IMF. "Philippines: Financial Sector Assessment Program-Technical Note on Risk Assessment of Banks, Non-Financial Corporates, and Macro-Financial Linkages," June 2, 2022. https://www.imf.org/en/Publications/CR/Issues/2022/06/02/Philippines-Financial-Sector-Assessment-Program-Technical-Note-on-Risk-Assessment-of-Banks-518569.

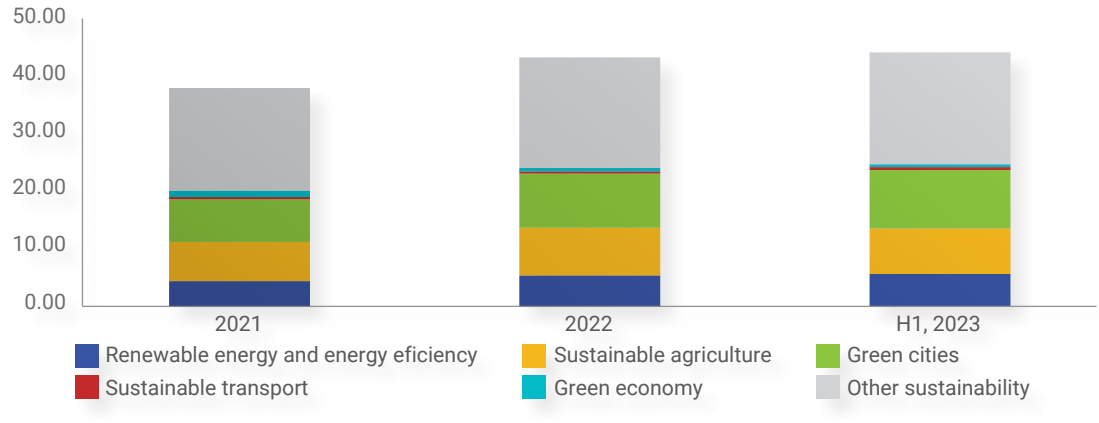
[15] Republic Act No. 11901 or the "Agri-Agra Reform Credit Act" requires all banks to set aside a minimum credit quota to finance the requirements of agriculture and fisheries sectors. This includes financing for sustainable projects, including climate-related ones.

Box 4: Sustainable Lending in Philippine Banks, 2021–2023

An ad-hoc survey on green lending was carried out on 45 universal and commercial banks active in the Philippines by the Bangko Sentral ng Pilipinas (BSP) in October 2023. These banks account for roughly 84% of the total loan portfolio of the Philippines or $188 billion of the $222 billion total loan portfolio of the Philippines banking sector in 2022.

The survey showed that from 2021–2023, surveyed banks invested roughly 19% of their total loan portfolios toward social, environmental, development, and other sustainable goals, with a marked increase in loan portfolios targeting these objectives in the first half of 2023. Half of these portfolios targeted climate change-related activities, with the other half targeting broader categories of sustainable finance not specifically related to climate change.

Figure 7: Total Loan Portfolios of Universal and Commercial Banks Targeting Sustainable Financing ($ billion)



Note: The figure aggregated data from the original survey for purposes of analysis. "Renewable energy and energy efficiency" includes survey category: Adaptation and mitigation project (GP 1); "Sustainable agriculture" includes survey categories: Promoting resilient food systems; "Green cities" includes survey categories: Green buildings, Sustainable water and wastewater management; "Green economy" includes survey categories: Pollution prevention and control, Promoting resource efficiency, circular economy, and Responsible Consumption and Production (SDG 12); "Other sustainability" includes survey categories: Social welfare, Socioeconomic empowerment, Affordable infrastructure, Access to essential services, Microfinancing in underserved communities, Employment Generation, Sustainability Linked Loan, Industry, Innovation and Infrastructure (Sustainable Development Goal [SDG] 9), Life below water (SDG 14).
Source: Bangko Sentral ng Pilipinas.

Source: Bangko Sentral ng Pilipinas.

3. Domestic Climate Finance: Bonds

Green bonds are an important instrument to mobilize capital markets and institutional financing for NDC PAMs.

The Philippines issued its first sovereign green bond in 2022. At present, the framework used to support these bonds, i.e., the Government of the Philippines' Sustainable Finance Framework is not able to track NDC-related projects and activities at bond issuance level. Bond proceeds support activities financed as part of the budget, and future tracking could be supported through the CCET system, which could feed into the Green Bond Tracking Allocation Impact Report.

In addition to green bonds, the DOF will also explore using Blue Bonds, Sukuk Bonds, Sustainability Bonds, and other instruments to finance NDC PAMs.

Further, to encourage the issuance of private sector green and sustainability bonds, the DOF will coordinate with the DBM, the Bureau of Treasury (BTr), and Securities and Exchange Commission (SEC) on bond issuances and explore the possibility of harnessing the market regulatory oversight of the SEC over corporations and the BSP over banks and other financial intermediaries, to realize the potential of climate financing, including its measurement, reporting, and verification.

4. International Climate Finance: Public

The principal climate finance funding instruments at the global level are the Green Climate Fund (GCF), the Global Environment Facility (GEF), the Adaptation Fund (AF), and the Climate Investment Funds (CIFs). To date, the GCF has approved 12 projects and activities consisting of 5 project readiness activities estimated at $2.2 million and 7 projects with a total GCF financing of $129.7 million. The Philippines has also made considerable progress in improving access to the GEF in recent years, for community-based activities and climate resilient agriculture.

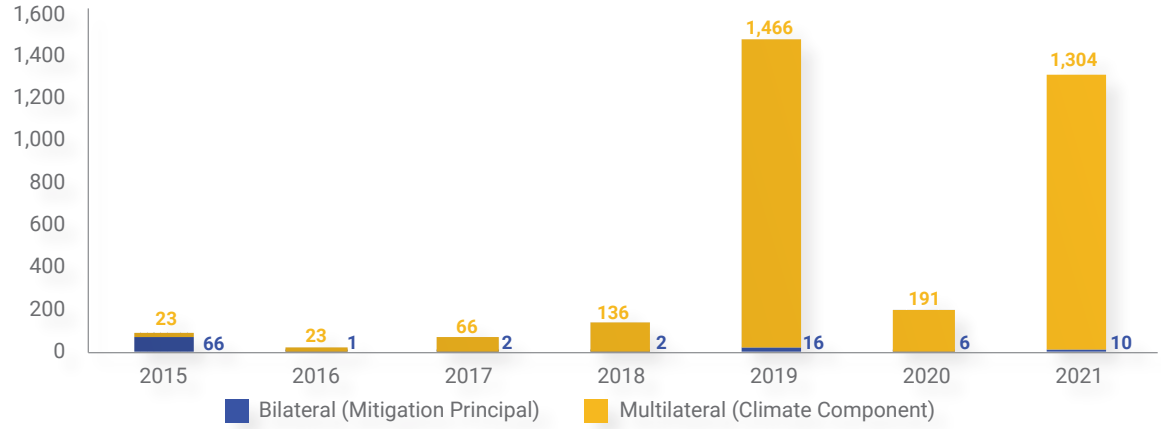
The progress of the Philippines in accessing these funds has been uneven in past years due to substantial barriers to access. More recently, progress has been made in this area, however. For instance, the Philippines' access to funding from the GCF is expected to further improve with the program called *Readiness Support to Strengthen Philippines' Capacity and Knowledge on Accessing Green Climate Fund* (RPSP1), which includes capacity building activities to better translate adaptation and mitigation opportunities into well-crafted project proposals.

With regard to broader bilateral and multilateral sources, climate-related development finance for the Philippines between 2015 and 2021, specifically for climate change mitigation, varied substantially between $25 million in 2016 to $1.7 billion in 2021 (Figure 8 and Appendix E).[16]

Notwithstanding significant year–to–year variations, mobilization of bilateral mitigation financing from a wide variety of sources, instruments, and channels remains the critical source for conditional financing. In line with Article 9.3 of the Paris Agreement, the Philippines relies on commitments from developed Country Parties (i.e., bilateral mitigation financing) to provide the necessary financial resources to implement essential climate initiatives.

[16] OECD DAC Creditor Reporting System. https://oe.cd/riomarkers

Figure 8: Climate-related Development Financing Targeting Mitigation in the Philippines, 2015–2021, ($ million)



Note: The graph includes climate-related development finance (overseas development assistance and other related-flows) from multilateral and bilateral sources. Data from multilateral sources includes climate components of multilateral financing, and on bilateral sources it includes mitigation finance tagged with a principal objective as defined in the Organisation of Economic Co-operation and Development (OECD) DAC Rio Marker methodology.
Source: OECD DAC Creditor Reporting System.

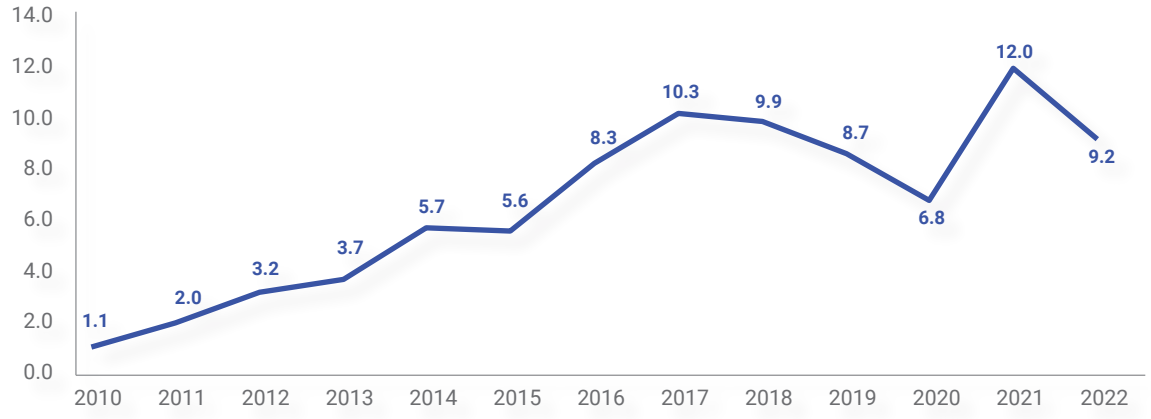
5. International Climate Finance: Private

Foreign direct investment (FDI) covers direct investment equity flows in the reporting economy. These private financial flows—equity and debt—account for the bulk of private finance supporting the development of the Philippines and are expected to become a substantial source of finance for the NDC objectives.

Figure 9 illustrates the inflows of FDI into the Philippines relative to balance of payments, in current United States (US) dollars.[17] According to the World Bank database the Philippines received a net inflow of $9.2 billion in 2022, down from $12 billion in 2021. According to the US Department of State investment climate statements, in 2021, Japan and the Netherlands accounted for over 50% of inflows, followed by Singapore, Switzerland, and the US.[18]

[17] The World Bank Database. https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?contextual=aggregate&end=2022&locations=PH&start=2010&view=charttt (accessed October 2023).
[18] United States Department of State. "2023 Investment Climate Statements: Philippines," July 26, 2023. https://www.state.gov/reports/2023-investment-climate-statements/the-philippines/.

Figure 9: Foreign Direct Investment, Net Inflows Balance of Payments, Current United States Dollars— Philippines ($ billion)



Source: The World Bank Database.

There is, at present, no system by which international private finance in support of the NDC could be comprehensively tracked. The characteristics and functions of such a system will need to be established before work on developing it can begin. This is not a short-term task.

5

MEASUREMENT, REPORTING, AND VERIFICATION

A. Overview

Measurement, Reporting, and Verification (MRV) are essential tools to deliver NDC actions successfully and in a timely manner. NDC MRV will track (i) economy-wide impacts of mitigation action through the national GHGI and (ii) NDC progress through regular updates on achievement of milestones set out above and the implementation of the PAMs set out in this and future implementation plans. Data gaps at the sector level have already been identified that will require further action and capacity building support. The NDCIP MRV is building on the significant work already undertaken by UNDP/CCC in 2021 on the "*Development of the Measurement, Reporting and Verification Plan or the Philippines Nationally Determined Contributions*" (hereinafter referred as "MRV Publication").[19]

The MRV framework in this plan sets out a process to track and report on the implementation and impacts of mitigation actions, and the finance used to support these actions. The focus of the system is on operationalizing mechanisms by building on existing systems and identifying areas for further support to strengthen the MRV system. The nature of MRV means that the approach is evidence-based. Results of monitoring are fed back at both national and sectoral levels to ensure resources, both financial and otherwise, are targeted at PAMs that are in most need of assistance. Monitoring of domestic and foreign public investments will also inform the NDC-TWG as to what actions to prioritize for budgeting and for attracting international support, including balance between funds allocated between each sector agency as compared to their sectoral targets.

B. National Reporting / Monitoring Mechanisms

Executive Order 174 of 2014 assigned CCC as the overall lead agency for the GHGI.[20,21] The CCC is responsible for the integration of sector level and statistical reports into the GHGI. The CCC's focus for mitigation MRV is on the Agriculture, Waste, Industry, Transport, Forestry, and Energy (AWIT-FE) sectors. For each sector, there is a designated department in charge of leading climate change mitigation and adaptation MRV.

The NDC MRV framework follow the structure of the GHGI, with the following departments as sector lead agencies:

- Department of Agriculture (DA) for agriculture;
- Department of Energy for energy;
- Department of Environment and Natural Resources for waste, and IPPU; and
- Department of Transportation for transport.

[19] *Development of the Measurement, Reporting and Verification Plan or the Philippines Nationally Determined Contributions*, in contribution to the NDC Partnership, March 2021

[20] It is important to note that the NDC action reporting cannot be linked directly to the GHG Inventory, as these are based on fundamentally different datasets.

[21] Government of the Philippines. "Executive Order No. 174: Institutionalizing the Philippine Greenhouse Gas Inventory Management and Reporting System." https://niccdies.climate.gov.ph/files/documents/Executive%20Order%20174.pdf.

A key action to ensure the delivery of the critical MRV elements for the delivery of the NDC is that each lead agency will set up a dedicated climate change team that can streamline all work related to climate change—including not only NDC but also GHGI and NAP—to collect, process, and disseminate the necessary information from within the lead agency and from associated agencies, to enable evidence-based actions.

C. International Reporting

Parties to the UNFCCC are required to submit national reports to enable the Parties to (i) assess the implementation of the UNFCCC and progress toward achieving its ultimate objective, (ii) evaluate support needs of Parties, and (iii) guide the operationalization of the mechanisms and frameworks of the UNFCCC.

These national reports consist of the National Communications (NCs), Biennial Reports (BRs), Biennial Update Reports (BURs), and Biennial Transparency Reports (BTRs). For Developing Countries under the Convention, such as the Philippines, the requisite national reports to be submitted are the NCs, and BURs. By 2024, BURs will be replaced by the BTRs under the Enhanced Transparency Framework (ETF) of the Paris Agreement.

1. National Communications

NCs communicate the progress and needs of Parties to the UNFCCC in the implementation and achievement of the ultimate objectives of the Convention. Annex I and non-Annex I Parties of the UNFCCC are mandated, under Article 4 paragraph 1 and Article 12 paragraph 1, to provide information on their efforts to address climate change NCs. NCs, per UNFCCC Decision 17/CP.8 and its Annex, are to be submitted every 4 years. The contents of the NCs are the following: (i) national circumstances and institutional arrangements; (ii) adaptation and mitigation measures; (iii) national GHGIs,[22] research and systematic observation; and (iv) challenges and support needed.

2. Biennial Update Reports

BURs are to be submitted by Developing Country Parties every 2 years as an update to their NCs. Particularly, BURs provide progress reports on mitigation components of NCs, specifically setting out, (i) national circumstances and institutional arrangements; (ii) mitigation actions and their effects; (iii) national GHGIs;[23] (iv) means of implementation; and (v) domestic measurement, reporting, and verification (MRV) systems.

[22] This can also be a stand-alone report.
[23] This can also be a stand-alone report.

3. Biennial Transparency Reports

BTRs are detailed reports of all Parties to the UNFCCC on the implementation of the Paris Agreement, submitted every 2 years, starting in 2024. These supersede the preparation of BURs per UNFCCC Decision 1/CP.21, par. 98, as BTRs serve as enhancements to BUR preparation by improving consistency and comparability of reporting across all Parties in line with the ETF of the Paris Agreement.

Unlike differentiated reporting for non-Annex 1 and Annex 1 Parties to the UNFCCC through their BURs and BRs respectively, BTRs shall be submitted by all country Parties, and thus shall have common reporting requirements, templates, and timeframes, with some areas for flexibility considerations for developing country Parties. The contents of the BTR are (i) progress of NDC, (ii) national GHG inventories,[24] (iii) adaptation measures, (iv) support received, and (v) MRV.

D. Tracking Mitigation Actions and Progress

The following are considered building blocks to the national and sectoral MRV systems for the NDC: expenditure tagging for unconditional, means of implementation (MOI) tracking for conditional, project implementation progress tracking, GHG calculations, and mitigation/adaptation planning pathways. While expenditure tagging and GHG calculations are already in place, the same may still be enhanced while the others are still for development.

1. Implementation Progress Tracking

To ensure full monitoring of the NDC implementation progress at national level, the CCC will regularly assess the progress of the implementation and further refinement of the sector PAMs. In parallel, CCC will also analyze PAMs across sectors, to be able to fully assess the cross-sectoral interactions and thereby create a holistic national view of the progress of the implementation of the NDC. This work will be undertaken in close coordination with the relevant agencies and other stakeholders, aiming also to inform the future development of the NDCs. As part of this process, CCC will analyze the options for sector actions for their:

- effectiveness in achieving NDC objectives (i.e., progress over enabling instruments, achieving budget allocations, physical implementation);
- remaining potential for climate change adaptation and mitigation in the sector;
- contribution to other development goals in line with the SDG agenda, including technology transfer;
- cross-sectoral implications of PAMs actions; and
- balance of expenditure and delivery across sectors.

[24] This can also be a stand-alone report.

CCC will thus assess the overall effectiveness of NDC actions at the national level, while the tracking related to projects and actions occurs at sectoral level, carried out by the sector lead agencies.

NDC and NDC-PAMs progress tracking will include the status of PAMs activities and associated mitigation impacts expressed in tCO_2e, with minimal time lag. Taking into consideration institutional capacity, priority will be placed in the short term on building up capabilities for tracking the status of PAMs activities on an annual basis. A range of institutional strengthening actions will be carried out, considering the differing sectoral needs.

- **Agriculture sector**. Due to the focus on adaptation in the sector, technical assistance will be sought for short-term annual tracking.
- **Energy sector**. Minimal action is deemed necessary due to ready availability of highly accurate data. Once PAMs relevant power generators are identified, using the PEP as the basis, the process can be replicated by DOE annually.
- **IPPU sector**. Some institutional strengthening to be carried out. The industrial sector is dominated by private sector and apart from assessing compliance related applications, the DENR has not needed to track progress. In view of the new need to closely monitor industrial activities for NDC tracking, modifications to current systems such as Environmental Compliance Certificate (ECC) process and Self Compliance Monitoring and Auditing Report (SCMAR) will be made.
- **Transport sector.** Minimal institutional strengthening will be carried out. PAMs are highly visible large public sector projects and progress will be readily identified and reported by the DOTr. Modelling assumptions will be reviewed to give stronger consideration to the transition of the sector toward electric mobility.
- **Waste sector**. Institutional strengthening to be carried out, considering the complex setup in which monitoring is the responsibility of LGUs, water districts, and private sector contractors. As with the IPPU sector, the DENR will modify current systems such as ECC and SCMAR to capture implementation status.

2. Mitigation Impact Quantification

At the national level, the CCC will guide sector lead agencies on methodologies and where necessary, common or standardized emission factors. Activity level data is functionally equivalent to the implementation progress data and will be collected at the sectoral level.

As stated in the preceding section, the quantification of mitigation impacts is ideally coordinated with the tracking of implementation status. However, considering that quantification, with the use of a common baseline, can occur later to a reasonable degree of accuracy, it is deemed a lesser priority item. To address this gap in the medium term, technical assistance will be sought to strengthen institutional capabilities within sectoral agencies. Capacity building may also focus on adopting a higher-tier approach recommended by the IPCC for better quantification of the impact of PAMs. The strengthening of capabilities for NDC delivery will also have a long-

term positive impact on the accuracy of the GHGI, creating a complementary relationship where there is an overlap.

Over time and in a much broader context, the GHGI will also show how effective the NDC has been in reducing the national GHG emission levels, among other factors. This is particularly so with the shortening of the GHGI production cycle to 2 years, down significantly from the current 5 years.[25]

E. Tracking Financing

1. Expenditure Tagging

In 2015, the DBM, together with the CCC, established a common framework for identifying and tagging climate change expenditures across all national government agencies (NGAs). The CCET framework consists of policy-based definitions of CC response, a detailed CC typology, a common method for tagging CC expenditure, a process of reviewing and reporting on results, and the assignment of roles and responsibilities to NGAs.

CCET is maintained under the National Integrated Climate Change Database and Information Exchange System, and NGAs are required to report climate-related expenditure to CCC. It is a tool to track climate change programs with proposed funding under the General Appropriations Act. Thus, CCET is designed to track public finance flows to unconditional activities but cannot track impacts.

The system is already successful in tracking climate change related expenditures, which could be enhanced to capture other sources of financing. Improvements will be carried out to fill the gaps currently present in CCET, to allow:

- A broad distinction between investment expenditures resulting in direct mitigation impacts and (e.g., funds for a solar power plant) and investment expenditures for enabling actions (e.g., funds for a smart grid).
- Tagging of foreign public funds and PPP.

Specific actions for the modification are listed in Appendix F.

Improvements to the system will be carried out at national level by DBM and CCC. In order for the CCET to capture and track all tagged NDC PAMs by lead sectoral agencies, capacity building / technical assistance will be sought for the CCET Helpdesk. For smooth reporting, further capacity building at NGAs, particularly at key sectoral agencies, will be carried out once

[25] It is important to emphasize that the GHGI and NDC MRV are interrelated yet separate items. The GHGI cannot served as NDC tracking tool. The majority of the GHGI calculations employ Tier 1 IPCC methodology utilizing aggregated data, default emission factors, and values, and, in some cases, assumptions due data limitations. The GHGI data also needs analysis to put changes in emission levels into proper context, as the NDC is not the only factor influencing the emission levels. Noise from other factors such as pandemics, recessions, structural change unrelated to NDC actions and natural disasters will need to be filtered out.

these improvements are made, including the clear identification of annually tagged Programs, Activities and Projects (PAPs) related to the NDC PAMs as part of the MRV process.

2. Compliance Mechanisms (Verification)

As a long-term action, and in line with the MRV publication, a National Panel of Technical Experts and/or third-party experts will be relied upon for verification of the overall NDC data. This will entail the reconstitution of the NPTE where mitigation, Article 6, and MRV experts will be considered for engagement. This is not a priority for this NDCIP, where the effort will be made for the front end of the MRV process, i.e., measurement and reporting.

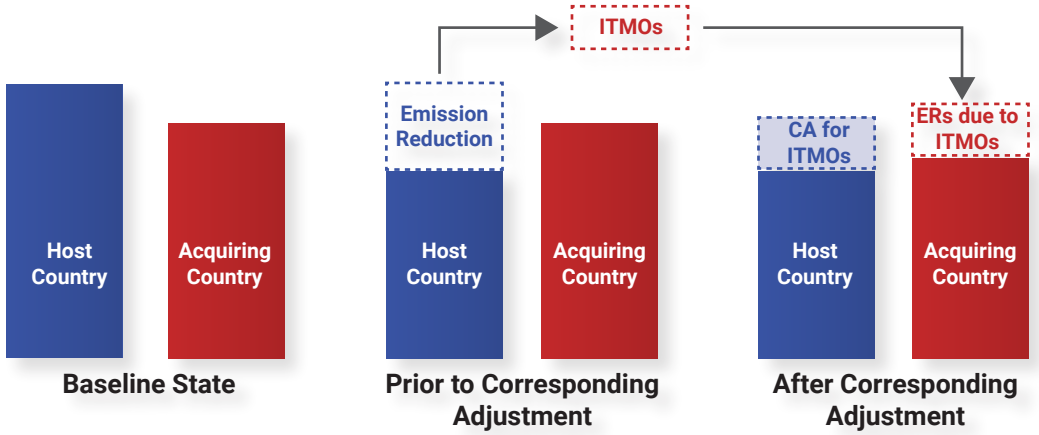
The only requirement for verification will occur if/when there is an International Transfer of Mitigation Outcomes (ITMO) under the relevant provisions of the Paris Agreement (see section 3 below).

3. Internationally Transferred Mitigation Outcomes and Corresponding Adjustments

The NDC will utilize Paris Agreement Article 6.2 mechanisms when the modalities and procedures are finalized by the UNFCCC Subsidiary Bodies and adopted at COP. ITMOs for use by a different country in meeting its NDC obligations requires the effective cancellation of those mitigation outcomes domestically, through Corresponding Adjustments (CAs). Robust MRV structures for tracking of ITMO activities as well as the project-level GHG impact calculations will therefore be an imperative part of the national MRV system.

- **GHG impact calculations.** As ITMOs are required to be "real and verified," there is a need to adopt high standards for quantification and verification, similar to existing compliance-purpose mechanisms such as the Clean Development Mechanism (CDM). As the Philippines' role in this will be limited to inputs from the sectoral lead agencies and CCC review, this is not identified as a major gap and action point at present, although some capacity building may be required at sectoral level.

Figure 10: Simplified Corresponding Adjustment



CA = corresponding adjustment, ER = emission reduction, ITMO = internationally transferred mitigation outcome.
Source: Asian Development Bank, *Article 6 of the Paris Agreement – Drawing Lessons from the Joint Crediting Mechanism* (2019).

- **Corresponding adjustments.** These are a direct result of authorizing ITMOs. A CA is the main tool that will be used to avoid double counting or double claiming of emission reductions from Article 6 activities and will be reported in the BTR.

The CCC is assessing the transfer of existing projects under the Kyoto Protocol, namely CDM and JCM, to Article 6 mechanisms. With the volume of transactions initially expected to be minimal, efforts for systematic MRV for upcoming ITMO activities will be designed based on lessons from this learning-by-doing process.

APPENDICES

A. Policies

1. Administrative and Executive Orders

- **Administrative Order No. 220 s. 1991** established an Inter-Agency Committee on Climate Change tasked to formulate climate change policies and response strategies, identify information needs for United Nations negotiations, establish working groups to monitor and assess local climate change, environment, and socioeconomic impacts, and appoint a focal point to engage with international organizations.
- **Administrative Order No. 171 s. 2007** created the Philippine Task Force on Climate Change (PTFCC) to assess and address the impacts of climate change, implement measures to prevent and reduce greenhouse gas (GHG) emissions and compliance with air emission standards, conduct public awareness and coordination with international partners, and mainstream climate change in government policies, programs, and plans.
- **Executive Order No. 774 s. 2008** reorganized the PTFCC and established task groups to implement adaptation and mitigation measures in environmental protection, water management, agriculture, and fisheries, transport and energy sector, information and education, international relations, and economic development.
- **Proclamation No. 1667 s. 2008** declared the celebration of the "Global Warming and Climate Change Consciousness Week" on November 19–25 of every year.
- **Executive Order No. 785 s. 2009** mandates the PTFCC to develop a National Climate Change Framework and coordinate, monitor, and review the country's climate change adaptation and mitigation programs. The EO also instructs for the development of a national Information, Education, and Communication Program on climate change.
- **Executive Order 174 s. 2014** assigned CCC as the lead agency for the GHGI.[1,2] CCC is responsible for the integration of sector level and statistical reports into the GHGI. The CCC's focus for mitigation MRV is on the Agriculture, Waste, Industry, Transport, Forestry, and Energy (AWIT-FE) sectors. For each sector, there is a designated department in charge of leading climate change mitigation and adaptation MRV.

2. Legislation

A range of legislation that has been adopted since 1997 covers climate issues, starting with the Agriculture and Fisheries Modernization Act. GHG emissions became subject to legislative action by 1999.

- **Republic Act No. 8435.** The Agriculture and Fisheries Modernization Act aims to modernize the agriculture and fisheries sector by advancing new technology, promoting equitable access to resources, pursuing a market-driven approach, increasing profitability, ensuring food security and promoting sustainability, and empowering small farmers

[1] It is important to note that the NDC action reporting cannot be linked directly to the GHG Inventory, as these are based on fundamentally different datasets.

[2] Government of the Philippines. "Executive Order No. 174: Institutionalizing the Philippine Greenhouse Gas Inventory Management and Reporting System." https://niccdies.climate.gov.ph/files/documents/Executive%20Order%20174.pdf.

and fisherfolks. It required the regular monitoring and consideration of the effects of climate change, weather disturbances, and the annual productivity cycle in developing agriculture and fisheries production programs.

- **Republic Act No. 8749.** The Clean Air Act of 1999 established the country's air quality management program to prevent emissions and to meet the prescribed air emission standards. It also required the development of national plans to reduce GHG emissions in the country.
- **Republic Act No. 9003.** The Ecological Solid Waste Management Act of 2000 aims to establish a comprehensive national and local solid waste management and implement measures to reduce and manage the growing solid waste problem in the country. It mandates establishing and operationalizing sanitary landfills as a final disposal site. The act was later amended by Republic Act 11898 or the Extended Producer Responsibility Act of 2022.
- **Republic Act No. 9275.** The Philippines' Clean Water Act of 2004 was enacted for the purpose of protecting, preserving, and managing the country's water resources from pollution and meeting the established water quality standards and regulations.
- **Republic Act No. 9513.** The Renewable Energy Act of 2008 was enacted to support the mainstreaming, adoption, development, and increased utilization of renewable energy sources in the energy mix in the country.

Other climate-related laws enacted highlighted the commitment of the country to strengthen disaster preparedness, response, and recovery, scale-up environmental conservation and protection, and just transition to a green economy.

- **Republic Act No. 10121.** The Philippine Disaster Risk Reduction and Management Act of 2010 was enacted to strengthen the capacity of national and local governments in implementing measures to prepare, respond, and recover from disasters. The Act also established the National Disaster Risk Reduction Management Council (NDRRMC), composed of representatives from the government, private sector, civil society organizations, and other stakeholders and which served as oversight in the formulation of disaster risk reduction policies, plans and measures.
- **Republic Act No. 10771.** The Philippine Green Jobs Act of 2016 aims to scale up and promote sustainable growth and decent job creation and guide the transition into a green economy. The Act established incentive mechanisms for companies to generate and sustain green jobs.
- **Republic Act No. 11038.** The Expanded National Integrated Protected Areas System Act of 2018 was enacted to enhance further efforts in the conservation and protection of protected areas (PAs).
- **Republic Act No. 11285.** The Energy Efficiency and Conservation Act of 2019 was enacted to institutionalize energy efficiency and conservation measures in the country.
- **Republic Act No. 11697.** EVIDA was enacted to provide an enabling environment in the development, promotion, and adoption of the use of electric vehicles (EVs) in the country. The act also mandates the formulation of the Comprehensive Roadmap for the

Electric Vehicle Industry (CREVI), which outlines the EV industry's plan to accelerate the development, commercialization, and utilization of EVs in the country.

- **Republic Act No. 11898.** The Extended Producer Responsibility Act of 2022 was enacted to reduce plastic waste in the country. The Act requires companies to implement programs to recover a percentage of their plastic packaging waste and submit an annual compliance report.

National policy frameworks include:

- **National Framework Strategy on Climate Change (NFSCC).** Formulated in 2010, it sets the country's agenda for climate change adaptation as an anchor strategy while capitalizing on mitigation opportunities. The Framework served as a basis for the national program on climate change. It identified key result areas to be pursued in key climate-sensitive sectors in addressing the adverse effects of climate change both under adaptation and mitigation.
- **National Climate Change Action Plan (NCCAP).** Formulated in 2012, the NCCAP serves as the operational plan of the NFSCC. It outlines the country's long-term agenda for adaptation and mitigation for 2011–2028. It also identifies key strategies to enhance the adaptive capacity and resilience of vulnerable communities and ecosystems to climate change. The NCCAP focuses on seven thematic priorities: food security, water sufficiency, ecological and environmental stability, human security, climate smart industries and services, sustainable energy, and knowledge and capacity development.
- **National Climate Risk Management Framework (NCRMF).** Adopted in 2019 through a Commission Resolution, the NCRMF underpins the Philippines' climate change adaptation and Loss and Damage management work seeking to advance the risk assessment methodology in view of the increasing uncertainty surrounding climate change.

B. Recommendations/Implications for Future Nationally Determined Contributions

1. Clear Highlighting of Adaptation/Resilience Co-benefits of Policies and Measures

Many policies and measures (PAMs) actions will deliver adaptation and resilience benefits alongside the mitigation impacts. To fully assess these co-benefits of the PAMs, a systematic tracking and reporting framework could be developed that will allow departments and the Nationally Determined Contribution Technical Working Group (NDC-TWG) to utilize the scale of the adaptation/resilience co-benefits to support the prioritization of PAMs actions for accelerated implementation and raising climate finance.

2. Development of Economy-wide Actions

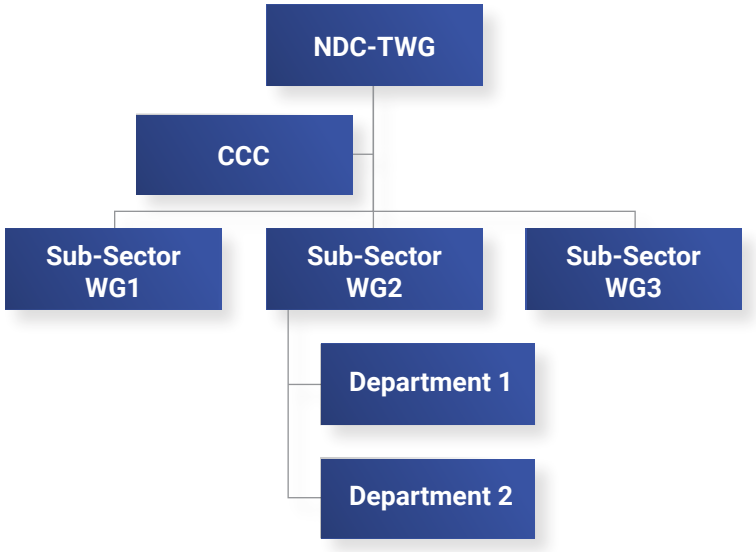
Measures that affect mitigation across the whole of the economy, such as carbon trading, should be analyzed for their impact and considered in future PAMs, which would need to be developed centrally rather than by a single department.

3. Development of Cross-sectoral PAMs

PAMs are presently developed at the sector level, which risks neglecting cross-sectoral actions. This is particularly the case in more complex areas, such as agricultural value chains, the introduction of low-carbon cement, or the switch to EV power trains. When developing the next revision of the NDC, it would be useful to consider the introduction of a cross-sectoral PAMs which contains such actions, including the expected impacts, costs, and responsibility for implementation.

In a cross-sectoral PAMs where actions span multiple national government agencies and/or LGUs, the NDC-TWG will explore establishing sub-working groups with the remit to guide the delivery of these actions, and the requirement to report back to the NDC-TWG.

Figure A1: Nationally Determined Contribution Technical Working Group Sub Working Groups



CCC = Climate Change Commission, NDC-TWG = Nationally Determined Contribution Technical Working Group, WG = working group.

Apart from collaborating on designing and implementing the NDC actions, the NDC-TWG will also review existing PAMs to ensure that no double counting occurs during the measurement, reporting, and verification (MRV) process for those activities with cross-sectoral elements. Examples include:

- **Electric vehicle introduction.** A range of actions are required across the Department of Trade and Industry (DTI), DoE, and DoTr, to create an EV ecosystem. To ensure this happens, departments will act across a range of areas, including aligning their market projections, introducing regulations for charger connections into the local grid, or vehicle standards.
- **Low-carbon cement.** The private sector will need to invest in the production methods, but needs assurance of a market for the new, low-carbon product before doing so. Public procurement for the "Build, Better, More" program could be an important driver.
- **Renewable energy in non-energy sectors.** Budgets and actions may come under a national government agency (NGA) other than the DOE, but the impact will be aggregated under the energy sector. Particular care will be taken with industrial processes and product use (IPPU), where figures reported by industrial facilities may have renewable energy (RE) elements embedded in them, to ensure there is no double counting.
- **Sharing of facilities across sectors.** Composting stations established under the Composting Facility for Biodegradable Wastes Program of the Department of Agriculture (DA) are also being used to divert organic waste from landfills from the waste sector. The DA and Department of Environment and Natural Resources (DENR) will adopt a consistent approach to MRV. DENR will consider the facilities provided by the DA at zero cost to the waste sector in costing.

4. Addition of the Forestry and Other Land Use Sector to the Nationally Determined Contribution

In line with other countries, Philippines will recognize forestry and other land use (FOLU) as a sector that will contribute to reaching NDC targets. The addition of FOLU will enhance the Philippines' ability to reach its overall emission reduction target. Moreover, potential FOLU actions such as rehabilitation of and reforestation on degraded land have important adaptation attributes, making it all the more logical to include the sector in the NDC.

5. Review of Unconditional and Conditional Targets

The Philippines has a highly ambitious target of a 75% reduction by 2030, of which 2.71% is unconditional and the balance of 72.29% is conditional. As a result of the 2020 GHGI, which supersedes the 2030 BaU modeling effort, and initial assessment of progress of unconditional and conditional PAMs, a review will be conducted to:

- Remodel the BaU trajectory to 2040.
- Consider revising the 2.71% unconditional target upwards on the basis of good results achieved thus far using national resources.
- Consider revising the 72.29% conditional target downwards, taking account of the impacts of COVID-19 pandemic and supply-chain disruptions, as well as the challenging multilateral funding environment.

On the point of possible revision of the conditional target, the assessment should include the implications of including FOLU in NDC actions.

To prepare for this review, existing data and capacity gaps will be closed, and modelling of the sector emissions trajectories aligned across departments.

6. Utilize a Balanced Baseline for the Development of Sectoral Targets for the Next Nationally Determined Contribution

Sector targets for conditional and unconditional mitigation action could help guide decision-making. There is an imbalance in the sector PAMs compared to the sector weights within the Philippines' emissions profile, based on the 2015 GHGI. While there is no need to strive for a balanced delivery, an assessment of how much a sector would have to deliver based on its weight in the national emissions can be a useful starting point for allocating GHG emission reduction objectives at sector level. Once delivery cost and co-benefits are considered, sector weights will shift. For the next revision of the NDC, a balanced allocation of the NDC objectives at the sector level can be derived using the 2015 or 2020 GHGI figures, representing the most recent available data, even though 2020 is affected by events like the 2020 swine flu and the COVID-19 pandemic.

7. Pre-screening and Prioritization of Policies and Measures

With NDC reporting to be evidence-based, sector lead agencies shall put forward PAMs that are pre-screened firstly for mitigation impact. These need to then be further prioritized based on adaptation and other Sustainable Development Goals (SDGs) co-benefits, institutional readiness, actionability and investment and economic cost to public and private sectors.

8. Retirement of Sources of Greenhouse Gas Emissions

To accelerate the reduction of GHG emissions, it is not sufficient to add cleaner solutions (such as renewable power generation or battery-electric vehicles). It is also necessary to remove emitting sources, as progress will be slower otherwise. In some countries, incentive schemes are in place to scrap older vehicles, while other countries have an accelerated program for coal power station retirement.

9. Accelerate Electrification Across All Sectors

Electrification, pursued in parallel with accelerated introduction of RE generation, is a powerful tool for emissions reductions due to the very high efficiency of electric energy utilization compared to fossil fuels. Future PAMs will consider the potential contribution from accelerated electrification across all sectors, including transport, industry, and buildings.

10. Fully Integrate Financial and Impact Tracking of Nationally Determined Contribution Delivery

To be able to fully assess the potential for conditional and unconditional actions, a full integration of NDC impact and finance tracking at the level of the PAMs will be needed. This includes the development of a uniform methodology for costing the PAMs and monitoring their impacts, requiring all sectors to work to the same methodologies.

11. Selection of Policies and Measures Actions for Article 6 Trading

As PAMs are being further refined, sector departments could identify actions dedicated to Article 6 trading, and utilize finance raised in this way to support other actions, both in adaptation and mitigation.

12. Green Procurement

Consider the use of green procurement as a cross-sectoral instrument to drive action in e.g., renewables, blended cement production, energy efficiency, and transport fleet electrification.

C. Actions by Pillar

Table A1: Actions by Pillar

No.	Area of Intervention	Actions	Output	Timeline	Responsible Entities
Pillar 1 – Delivering conditional and unconditional mitigation action					
1.1	Delivery of PAMs Actions in accordance with technical appendices	• Implementation of sector-level PAMs • Implementation of cross-sectoral actions	• PAMs delivered	2023–2030	• CCC • Sector departments
1.2	Establishing/ formalizing inter-departmental coordination groups for cross-sectoral delivery	• Setting up cross-sectoral coordination mechanisms, e.g., for renewables in agriculture or EV introduction	• Effective cross-sector coordination between departments	2023–2024	• CCC • Sector departments
1.3	Identification of gaps in sector program	• Review of PAMs against technical opportunities in mitigation • Implement enabling activities[a]	• PAMs revisions to close gaps	2023–2030	• Sector departments

No.	Area of Intervention	Actions	Output	Timeline	Responsible Entities
1.4	Continuous development of sector PAMs	• Prioritizing activities for sector PAMs • PAMs updates on regular basis, including new projects, updating progress	• PAMs are revised	2024–2030	• Sector departments
1.5	Integrate PAMs into budget and planning processes	• Develop indicators and tagging systems for NDC projects	• NDC tagging	2023–2024	• DoF • DBM • NEDA
1.6	Establish continuous monitoring of NDC delivery at project level and above through an integrated MRV framework	• Develop robust and integrated MRV systems for the NDC • Ensure full alignment with DBM data including foreign sources of funding	• MRV is operational	2023–2024	• CCC • Sector departments DBM • NEDA
1.7	Utilize data gathered to strengthen future iterations of PAMs	• Establishment of feedback loop from implementation performance to PAMs revision	• Enhanced PAMs	2024–2030	• CCC • Sector departments
1.8	Develop department-level mid-term strategies that can help define future PAMs revisions	• Utilize PAMs and NDC to develop clear strategies at department level	• Mid-term strategies adopted	2023–2025	• Sector departments
Pillar 2 – Advancing co-operation with international partners					
2.1	Prioritize PAMs actions for international funding support	• Identification of conditional/ unconditional PAMs actions and most bankable projects	• Projects are financed by DFIs	2023–2030	• Sector departments
2.2	Develop a mid-term program for international support to 2030 and regularly update it	• Identification of key thematic areas for international support	• Projects in thematic areas are funded	2023–2030	• CCC • NEDA
2.3	Deepen MDB/DFI partnerships	• Undertake dedicated relationship-building with DFIs focused on the climate agenda	• DFIs are ready to finance more projects in the Philippines	2023–2030	• DOF • CCC
2.4	Structure engagement with development partners around NDC delivery	• Focus discussions for development partner funding clearly on the needs of the NDC, including resilience aspects.	• Development partners are fully integrated into NDC delivery	2023–2030	• DOF • CCC
Pillar 3 – Develop market-based action					
3.1	Clearly identify sectors/ actions that can be traded, and those in which no trading is possible	• Definition of sectors eligible under Art. 6 trading	• Art. 6 trades are enabled	2023–2024	• DENR • CCC • DOF • Sector departments
3.2	Develop required policies and regulations to enable trading	• Policies and regulations are enacted that allow Art. 6 trading	• Art. 6 trades are initiated	2023–2024	• DENR • CCC

No.	Area of Intervention	Actions	Output	Timeline	Responsible Entities
3.3	Work with partners interested in trading	• Opportunities for Art. 6 trading are marketed	• Art. 6 trades conclude	2023–2030	• Sector departments DOF
3.4	Participate in international standard setting	• Government supports the development of standards and international rules	• International rules reflect needs of the Philippines	2023–2030	• DENR • CCC
3.5	Ensure MRV systems are robust enough for trading activities	• Art. 6 trading requirements are fully reflected in MRV • Baselines are established at sub-sectoral/project level	• Philippines maximizes Art. 6 benefits	2023–2030	• DENR • CCC • Sector departments
Pillar 4 – Strengthen resilience and adaptive capacity					
4.1	Clearly identify resilience/ adaptation co-benefits in PAMs and use resilience as a driver for PAMs revisions	• PAMs identify resilience benefits, and new actions are driven by resilience	• Actions with adaptation co-benefits are given high priority	2023–2030	• Sector departments
4.2	Integrate NDC and NAP MRV and Planning	• Development of indicators to fully reflect NDC and NAP actions in the MRV system	• NDC and NAP performance is fully tracked in the MRV system	2023–2024	• DENR • CCC
4.3	Elaborate the national concept for a Just Transition	• An integrated national Just Transition concept is approved	• Just Transition considerations are mainstreamed into PAMs	2023–2024	• CCC • Sector departments • DepEd
Pillar 5 – Cascading the subnational level actions					
5.1	Identify responsibilities, capacities and needs at LGU level	• LGU capacity assessment in line with identified responsibilities. • LGU needs assessment of required actions to deliver responsibilities	• Identification of actions at LGU level • LGU capacity assessment • LGU capacity development program defined	2024	• CCC • All Departments with actions at LGU level
5.2	Develop capacity-strengthening program as required in response to the assessment	• Implementation of LGU capacity development program, including identification of funding and international support, as appropriate	• Capacity development program delivered	2024–2030	• CCC • All Departments with actions at LGU level
5.3	Identify and address legislative and regulatory barriers (e.g. in municipal solid waste (MSW) management) to encourage long-term investment, among others	• Review of legislation/ regulation to identify barriers to NDC implementation, e.g., in administrative regulations, budgeting, LGU powers	• Report on barriers	2024	• CCC • All Departments with actions at LGU level

No.	Area of Intervention	Actions	Output	Timeline	Responsible Entities
Pillar 6 – Ensuring private sector participation					
6.1	Identify and address required incentives and legislative/regulatory/ institutional actions to promote private sector participation	• Assess legislative, regulatory, and institutional barriers to private sector participation in NDC delivery • Develop action plan to remove barriers as appropriate and provide incentives where needed or justified • Where required, raise international funding for incentive schemes for conditional actions	• Report on barriers • Amendments to legal/ regulatory/ institutional regimes • Incentive schemes developed • Funding raised	2023–2030	• CCC • All Departments
6.2	Develop an approach to green procurement in support of the NDC	• Assess key areas for green procurement, where government actions can drive market transformation • Establish an MRV track to assess the impact of green procurement	• Report on green procurement in support of the NDC • Green procurement MRV integrated	2024	• DENR • CCC • DOF • DBM
6.3	Implement green procurement through targeted measures supporting the NDC PAMs, e.g. by promoting use of blended cement by DPWH, or setting purchase targets for electric vehicle purchases for public fleets, subject to appropriate mechanisms to be issued.	• Establish green procurement targets for key interventions that can have transformative impact, i.e. where the government/ public sector is a major buyer with potentially market-driving influence.	• Green procurement executed	2025–2030	• All relevant government agencies

CCC = Climate Change Commission; DBM = Department of Budget and Management; DepEd = Department of Education; DFI = development financial institutions; DoF = Department of Finance; DPWH = Department of Public Works and Highways; EV = electric vehicle; LGU = local government unit; MDB =multilateral development bank; MRV = measurement, reporting, and verification; NDC = nationally determined contribution; NEDA = National Economic Development Authority, PAMs = policies and measures.

[a] Specific enabling activities required (e.g. review of and streamlining standards for blended cement in the cement sub-sector of the IPPU sector) are elaborated in sector technical appendices.

D. Institutional and Technical Capacity and Needs

Sections outlined in Table A2 are priority sections selected from the NDCP capacity building program.

Table A2: Multisector Capacity Building Priorities

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
OUTCOME 1: Capacity and awareness of key institutions, including public and private, to deliver [gender-responsive] transformational change through mitigation, adaptation, and other relevant climate actions increased				
1.1) Capacity of relevant national agencies to formulate bankable climate mitigation and adaptation projects and access climate finance and investments enhanced	By the end of 2023, at least 18 permanent staff from concerned agencies capacitated to formulate bankable projects	Multisector	CCC	Yes
	Modules and guidelines for basic and advanced training on [gender-responsive] bankable climate mitigation and adaptation projects developed by the end of 2023	Multisector	CCC	Yes
	By the end of 2023, at least 15 bankable climate mitigation and adaptation projects from AWITFE sectors formulated	Multisector	CCC	Yes
1.2) NDC Communication Plan operationalized	By the end of 2023, KAP (Knowledge, Attitude/ Awareness, Practice/Perception) scores increased by X points	Multisector	CCC	Yes
	NDC communication plan developed by 2023 [taking into account gender equality and social inclusion principles]	Multisector	CCC	Yes
	By the end of 2023, 5 public service announcements disseminated through social media, print media, television, and radio	Multisector	CCC	Yes
1.3) Capacity of DENR Regional Staff on using new forest resources assessment methodology enhanced	By 2023, 250 DENR Regional personnel able to use new forest resources assessment methodology	Forestry	DENR-FMB	
1.4) Capacity of FMB personnel enhanced on the measurement of other carbon pool (soil, litter, HWPs)	By 2023, 30 FMB personnel capacitated on the measurement of other carbon pool (soil, wetlands, litter, HWPs)	Forestry	DENR-FMB	
	Methodologies reviewed, and approach and tools developed	Forestry	DENR-FMB	

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
1.5) Capacity enhanced in using MRV technologies (drone, image interpretation, remote sensing applications) for the forestry sector	By 2023, 100 DENR field personnel capacitated in using MRV technologies for the forestry sector	Forestry	FMB, DENR Regional Offices	
1.6) Climate change mitigation and adaptation learning exchange visit conducted	New technologies on climate change mitigation and adaptation assessed and identified by 2023	Multisector	DENR-CCS	Yes
	DENR-CCS exposed to the identified new technologies by 2023	Multisector	DENR-CCS	Yes
1.7) GHG archiving system in place	GHG archiving system formulated and adopted by 2023	Multisector	CCC, FMB	Yes
1.8) Country-specific emission factor adopted	Country-specific Emission Factor formulated and validated by 2026	Multisector	DOE, DOTr, FMB	Yes
	Emission factors for different agricultural mitigation strategies established by 2023	Agriculture	DA	Yes
1.9) NDC implementation strategies/plan developed and implemented [guided by principles of gender equality and respect to human rights]	18 public consultations on NDC implementation completed by 2025	Multisector		Yes
	By 2025, NDC implementation strategies/plan implemented	Multisector		Yes
1.10) Baseline information on MSMEs' emission potential established by 2023	Inventory of MSMEs conducted by 2023	Industry	DENR-CCS	
1.11) Capacity to manage national climate risk management and mitigation statistics	By the end of 2023, DENR-CCS capacitated on using Climate Risk Management Framework (CRMF) tools	Multisector	DENR-CCS, CCC	Yes
	The national climate risk management and mitigation statistics adopted/integrated on a web platform by 2023	Multisector	DENR-CCS, CCC	Yes
1.12) Knowledge, research, and best practices on adaptation and mitigation disseminated	IEC materials on technologies developed by 2023 for the Agriculture Sector	Agriculture	DA	
	IEC developed by 2023 for the Energy Sector (DOE PAMs)	Energy	DOE	

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
1.13) MRV of actual reduction, capacity building on the technologies and measurement of indicators and technology transfer (DOE PAMs: Implement energy efficiency across all sectors)	KPI to be identified	Energy	DOE	
1.14) NDC GHG modeling and GHG quantification for transport sub-sectors conducted	NDC GHG modeling for the maritime and aviation by 2023	Transport	DOTr	
	GHG reduction of the freight sector quantified by 2023	Transport	DOTr	
1.15) Capacity of sectoral GHG Inventory Team built to effectively conduct inventory, reporting, QA, QC	Verification of the projected GHG reduction for the PAMs; monitoring and evaluation on the annual actual GHG reductions. (DOTR PAMs: Fuel Efficiency and Improvement Standards on Public Utility Vehicle Modernization Program - Phase 1 and Motor Vehicle Inspection System - Phase 1)	Transport	DOTr	Yes
	Verification of the projected GHG reduction for the PAMs; monitoring and evaluation on the annual actual GHG reductions. (DOTr PAMs: Rail Projects under the BBB Program) (DOTr Proposed Additional PAMs: Other Rail Projects under the BBB Program)	Transport	DOTr	Yes
	Verification of the projected GHG reduction for the PAMs; monitoring and evaluation on the annual actual GHG reductions. (DOTr PAMs: Bus Rapid Transit Projects)	Transport	DOTr	Yes
	Verification of the projected GHG reduction for the PAMs; monitoring and evaluation on the annual actual GHG reductions. (DOTr Proposed Additional PAMs: Road Sector; PUVMP Phase 2&3; MVIS Phase 2; MVES)	Transport	DOTr	Yes
OUTCOME 2: Safer and resilient community, ecosystem, and infrastructure to the impacts of climate change				
2.1) Climate-resilient soil and water conservation measures (vegetative and structure) established	600 climate-resilient soil and water conservation measures (vegetative and structure) established by 2025	Forestry	FMB-DENR	
	250 rainwater collection facilities installed by 2025	Multisector	DPWH	

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
2.2) Resilience of critical infrastructure assessed and strengthened [taking into account gender considerations]	Strategies/plans to strengthen the resilience of critical infrastructure sectors (food, water supply, energy, transport, communications, health) developed by 2023 [developed through gender methodologies and participatory processes engaging women and men in equal terms]	Multisector	FMB, DOE, DENR-CCS, DA	Yes
2.3) Sectoral Risk and vulnerability assessment conducted	Risk and vulnerability assessment for key sectors completed by 2024	Multisector	DENR CCS, DOE	Yes
2.4) Sectoral impact models for climate-sensitive sectors developed	Sectoral impact studies for water resources, agriculture, forestry, coastal and marine resources, health, and infrastructure developed by 2024	Multisector	DENR CCS, DA, FMB	Yes
2.5) Establishment of carbon sinks to absorb emission, specifically bamboo plantation	Bamboo village established by 2023	Agriculture	DA	
2.6) Strengthening DA network of commodity biotech centers that will develop genetically improve-climate resilient varieties of crops, breed of livestocks and strain of aquaculture species	KPI to be identified	Agriculture	DA	
2.7) DOE PAMs: Development of models on climate change impacts of weather extremes, seasonal variability, changes in temperature and wind speeds to assess implications on energy supply resources (e.g., wind, solar, hydro), and on energy consumption patterns)	KPI to be identified	Energy	DOE	

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
OUTCOME 3: NDC integrated into National, sectoral, local plans, and policies				
3.1) Economy-wide analysis and emissions scenario conducted for the formulation of subsequent NDC	2 emission scenarios developed by 2024	Multisector	CCC/NEDA	Yes
	Module for updating and enhancing economy-wide analysis model developed by 2024	Multisector		Yes
3.2) Economy-wide transition plan for NDC implementation developed	By the end of 2024, 5 Sectoral transition plans formulated for NDC implementation	Multisector	CCC/NEDA	Yes
	Economy-wide transition plan integrated into the Philippine Development Plan by 2024	Multisector	CCC/NEDA	Yes
3.3) Operational Guidelines on REDD+ implementation in the Philippines developed	Operational guidelines adopted by 2024	Forestry	FMB-DENR	
3.4) Operational Guidelines on establishing a Domestic Carbon Market Mechanism for investors in forest carbon projects developed	Guidelines on domestic carbon market mechanism reviewed and adopted by 2024	Forestry	FMB-DENR	
3.5) Guidelines on the Improved National Forest Resources Assessment designed and adopted	Guidelines on the Improved National Forest Resources Assessment adopted by 2023	Forestry	FMB-DENR	
3.6) Fuelwood consumption and its impact on forests study conducted by 2023	Fuelwood consumption study conducted by 2023; Updated data on household and industry fuelwood consumption	Multisector	FMB-DENR, DOE	Yes
3.7) Hybridization of island grids, from diesel or heavy fuel oil to RE	Feasibility Study for RE/Climate benign energy generation technologies for selected island provinces/regions	Energy	DOE	
	Hybridization of SPUG areas electricity supply with RE	Energy	DOE	
3.8) DOE PAMs: Mainstream climate change adaptation in energy policies, plans and programs including laws and regulations	KPI to be identified	Energy	DOE	

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
3.9) Transport implementation plan established	KPI to be identified	Transport	DOTr	
3.10) Sectoral baseline energy utilization conducted	KPI to be identified	Multisector	DOE	Yes
3.11) Policy framework for green hydrogen and ammonia as well as studying its co-firing with biomass, coal, etc.	KPI to be identified	Energy	DOE	
3.12) Harmonizing Energy Efficiency Standards and MRV of EE implementation	KPI to be identified	Energy	DOE	
3.13) Preparation of Tier II emissions database for the energy sector	KPI to be identified	Energy	DOE	
3.14) Sectoral Implementation Plan for the agriculture sector	KPI to be identified	Agriculture	DA	Yes
OUTCOME 4: Transparent monitoring, reporting, and verification system institutionalized				
4.1) Monitoring, reporting, and verification system operationalized	Criteria and indicators developed for adaptation measures by 2023 [capture vulnerabilities and access to benefits in a sex-disaggregated manner]	Multisector	CCC	Yes
	M&E/MRV system online by 2024 [include sex-disaggregated socio-economic data on vulnerabilities, and access to adaptation and mitigation benefits]	Multisector	CCC	Yes
4.2) MRV technology (drone, image interpretation, remote sensing applications) for the forestry sector utilized	Forestry sector monitoring equipment procured and utilized by 2024	Forestry	FMB-DENR	

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
OUTCOME 5: Access to climate finance and investments, including sustainable financing mechanisms strengthened				
5.1) Study on establishing a sustainable financing mechanism for forest conservation conducted	Study on sustainable financing mechanism for forest conservation conducted by 2023 [addressing the barriers women and men may face when seeking to join forest conservation schemes]	Forestry	FMB-DENR	
5.2) Market analysis for clean technologies (AWITFE sectors) conducted	Market analysis on clean technologies for mitigation and adaptation on the energy sector completed by 2023 including the barriers women and men may face to access, afford or accept these technologies	Energy	DOE	Yes
	Market analysis for clean/Non-GHG emitting technologies on waste and industry sectors completed by 2023 - DENR PAMs	Industry	DENR CCS	Yes
	Clean/Non-GHG emitting technologies in waste and industry sectors acquired and deployed in LGUs by 2023 - DENR PAMs	Industry	DENR CCS	Yes
	Market analysis for clean technologies on the transportation sector conducted by 2023 - DOTr PAMs on new technologies	Transport	DOTr	Yes
5.3) Marginal Abatement Cost Curve (MACC) analysis conducted	MACC analysis completed by 2023	Multisector	DOE	Yes
5.4) Barrier analysis to implement mitigation and adaptation options developed	Barrier analysis completed by 2023 [including perceptions and/or knowledge gaps on these technologies by women and men in the Philippines}	Multisector	DOE, DOTr, DENR CCS	Yes
5.5) Sectoral mitigation and adaptation investments mobilized	15 sectoral mitigation and adaptation projects supported by 2025	Multisector	DENR CCS	Yes
5.6) Macroeconomic analysis of climate impacts and adaptation and mitigation investments carried out	Macroeconomic analysis of climate impact and adaptation and mitigation investments conducted by 2023	Multisector	DENR CCS	Yes

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
5.7) Investment planning for sector resilience conducted	Strategic climate investment planning framework developed by 2023	Multisector	DENR CCS	Yes
5.8) Feasibility study (FS) for identified transport projects conducted	Feasibility studies conducted by 2023 (FS of the following components to be confirmed by DOTr: scrappage facility, transport data center, blue solutions, PUVMP, MVIP)	Transport	DOTr	
	Study on the efficiency and reduction in air time of airlines through improvements brought about the night rating of airports and potential GHG reduction conducted	Transport	DOTr	
	GHG reduction of EDSA greenway project computed	Transport	DOTr	
	Feasibility study on Seamless Integrated Mobility (SIM) system introduction	Transport	DOTr	
5.9) Policy and financial tools to support the implementation of NDC actions developed	12 Multisectoral consultations on policy and financial tools for the implementation of NDC actions conducted by 2024	Multisector		Yes
	By 2023, two policy and financial tools for the implementation of NDC actions developed	Multisector		Yes
5.10) Establishment of innovative funds that will support small fisherfolks/ farmers to pilot test technologies, tools and practices	KPI to be identified	Agriculture	DA	

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
5.11) Technology combinations for a climate-resilient and carbon neutral food system promoted, scaled-up, and transferred (Included in the DA PAMs)	By 2023, climate resilient and carbon neutral system technology for rice farming (AWD/SRI, microbial inoculant, organic fertilizer/biochar, flood/rain water harvesting, biocontrol agents, use of solar powered pumps) promoted	Agriculture	DA	
	By 2023, climate resilient and carbon neutral system technology for corn farming (herbicide-tolerant, insect-resistant, organic fertilizer/biochar, microbial inoculant, biocontrol agents for non-target pest, use of solar powered pumps) promoted	Agriculture	DA	
	By 2023, climate resilient and carbon neutral system technology for vegetable farming (microbial inoculant, organic fertilizer/biochar, flood/rain water harvesting, biocontrol agents, use of solar powered pumps) promoted	Agriculture	DA	
	By 2023, climate resilient and carbon neutral system technology for hog/chicken farming (probiotic [e.g., *Lactobacillus*], biodigester, organic fertilizer production and sale) promoted	Agriculture	DA	
	By 2023, climate resilient and carbon neutral system technology for carabao/dairy/cattle (probiotic through silage) promoted	Agriculture	DA	
	By 2023, bamboo clumps within farms of AMIA villages established	Agriculture	DA	
	Use of cropland management, precision agriculture, and biotech crops to reduce N_2O emission from annually cultivated soils	Agriculture	DA	
	Use of precision agriculture and cropland management	Agriculture	DA	
5.12) Technology options for mitigation for agriculture expanded - DA PAMs	By 2023, new climate-resilient varieties of plants, new strain of livestock and aquaculture species, new technologies for managing enteric fermentation, evaluation of various flood/rain water harvesting for effectiveness and acceptability developed	Agriculture	DA	
5.13) Biomass-based power plants established	By 2023, biomass-based power plants established	Agriculture	DA	

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
5.14) Research for mitigation options for waste and industry sectors conducted - DENR PAMs	New KPI to cover other valuable recyclables	Waste	DENR CCS	
	Emissions inventory for iron and steel; and food and beverage (DENR-CCS to include other needs in the KPI)	Industry	DENR CCS	
	Emission factor development for industrial waste water	Waste	DENR CCS	
	Feasibility study on establishment of Philippine hubs for the development of storage batteries to complement RE power generation	Industry	DENR CCS	
	Feasibility studies for non-GHG emitting alternatives to current practice in the above industry sub-sectors	Industry	DENR CCS	
5.15) Feasibility study, pilot/demo, and investments for energy sector projects	Pilot/demo projects and investments for increasing RE share in power generation and energy mix - DOE PAMs	Energy	DOE	
	Feasibility studies, pilot/demo projects and investments for new and emerging technologies (hydrogen and ammonia study, assessment for co-firing of biomass and coal with hydrogen or ammonia, FS for a hybrid technology) - DOE PAMs	Energy	DOE	
	Feasibility studies, pilot/demo projects and investments for aggregate natural gas consumption in commercial and industrial sectors - DOE PAMs	Energy	DOE	
	Feasibility studies, pilot/demo projects and investments for grid modernization program/ smart grids (ICT) - DOE PAMs	Energy	DOE	
5.16) Technology development (RE) plus promotion, Implementation Support, M&E Support, MRV Reporting Support (DA PAMs: Use of nature-based solutions / circular bio-economy)	KPI to be identified	Agriculture	DA	
5.17) New and emerging technologies for methane capture deployed	KPI to be identified	Waste	DENR CCS	

Output	Key Performance Indicator	Sector	Agencies	Focus Action for NDCIP Capacity Building
5.18) Energy generation: Ocean energy baseline survey - ocean (tides, waves, currents) offshore wind; offshore solar	Baseline survey for ocean (tides, waves, currents) offshore solar conducted by 2023	Energy	DOE	
5.19) Energy sector projects installed, piloted, and assessed	Increased installation of RE sources including low enthalpy geothermal energy, offshore wind, floating solar	Energy	DOE	
	Installation of microgrids using RE	Energy	DOE	
	Piloting of coal power plant repurposing	Energy	DOE	
	Assessment of the economic cost and end-user cost of energy sector decarbonization	Energy	DOE	
5.20) Study on mitigation agents in agriculture and soil organic carbon	Study on investment requirements	Agriculture	DA	
	Baseline study	Agriculture	DA	
	Emission avoidance study	Agriculture	DA	
5.21) National Assessment of RE use opportunities for the Agriculture Sector		Agriculture	DA	

AMIA = Adaptation and Mitigation Initiative in Agriculture, AWD = alternate wetting and drying, AWITFE = agriculture, waste, industry, transport, forestry and energy, BBB = Build Build Build, CCC = Climate Change Commission, CCS = Climate Change Service, CRMF = Climate Risk Management Framework, DA = Department of Agriculture, DENR = Department of Environment and Natural Resources, DOE = Department of Energy, DOTr = Department of Transport, EE = energy efficiency, FMB = Forest Management Bureau, FS = feasibility study, GHG = greenhouse gas, ICT = information and communication technologies, HWP = harvested wood products, KAP = knowledge, attitude/awareness, practice/perception, KPI = key performance indicator, LGU = local government unit, M&E = monitoring and evaluation, MACC = Marginal Abatement Cost Curve, MRV = measurement, reporting and verification, MSME = micro, small & medium enterprises, MVES = motor vehicle emission standards, MVIS = motor vehicle inspection system, MVIP = motor vehicle inspection program, NDC = nationally determined contribution, NEDA = National Economic and Development Authority, NDCIP = nationally determined contribution implementation plan, PUVMP = public utility vehicle modernization program, RE = renewable energy, REDD+ = reducing emissions from deforestation and forest degradation, plus the sustainable management of forests, and the conservation and enhancement of forest carbon stocks, SIM = Seamless Integrated Mobility, SPUG = small power utilities group, SRI = system of rice intensification, QA = quality assurance, QC = quality control
Source: NDC Partnership Plan for the Philippines.

E. Climate-Related Development Financing Projects Targeting Mitigation in the Philippines, 2015 to 2021

Table A3: Organisation for Economic Co-operation and Development Assistance Committee (OECD DAC) Principal Mitigation Objective Operations, 2015–2021

Project Title	Extending Agency	Climate-related Development Finance - Commitment (2021 USD thousand)	Sector
2015			
EDC Burgos Wind Power Corporation	Asian Development Bank	22,673	Wind energy
RBT et amelioration du systeme de transport	French Development Agency	64,790	Rail transport
Recherche sécurité alimentaire et lute contre la pauvreté peerenne	French Ministry of Education, Higher education and Research	371	Agricultural research
Strengthening the Impact of Community-based Renewable Energy Systems in Luzon and the Visayas	German Federal Ministry for Economic Cooperation and Development	339	Energy generation, renewable sources—multiple technologies
TC aggregated activities	Japanese International Cooperation Agency	7	Energy generation, renewable sources—multiple technologies
Eclairage pour les members de Kasammaka	Luxembourg Ministry of Foreign and European Affairs	70	Solar energy for centralized grids
Technical Assistance – Waste-to-Energy Facilities in the Philippines, through Core International, Inc.	US Trade and Development Agency	20	Biofuel-fired power plants
Technical Assistance – Cepalco Scaled Implementation of Advanced Metering Infrastructure Project, Through Enterprise – United States	US Trade and Development Agency	796	Energy generation, non-renewable sources, unspecified
2016			
AP Renewables Inc.	Asian Development Bank	23,187	Geothermal energy
Integrated Regional Development With Emphasis on Community-Based Renewable Energy and Water Supply in Rural Villages of Mindanao	German Federal Ministry for Economic Cooperation and Development	348	Hydro-electric power plants
Recherche sécurité alimentaire et lute contre la pauvreté peerenne	French Ministry of Education, Higher education and Research	275	Agricultural research
TC aggregated activities	Japanese International Cooperation Agency	76	Forestry policy and administrative management

Project Title	Extending Agency	Climate-related Development Finance - Commitment (2021 USD thousand)	Sector
TC aggregated activities	Japanese International Cooperation Agency	3	Energy generation, renewable sources - multiple technologies
2017			
Metro Manila Flood Management Project	International Bank for Reconstruction and Development	13,815	Waste management/ disposal
Metro Manila BRT Line 1 Project	International Bank for Reconstruction and Development	45,595	Road transport
FS – Tayabas Geothermal Project Feasibility Study Through Enterprise – United States	U.S. Trade and Development Agency	1,486	Geothermal energy
TC aggregated activities	Japanese International Cooperation Agency	383	Forestry policy and administrative management
Scientific cooperation with other countries (not included in other areas)	German Federal Ministry of Education and Research	160	Energy research
Enhancing Biodiversity, Maintaining Ecosystem Flows, Enhancing Carbon Stocks Through Sustainable Land Management and the Restoration of Degraded Forests	Global Environment Facility General Trust Fund	1,792	Forestry development
Integrated Approach in the Management of Major Biodiversity Corridors (IA biological corridors)	Global Environment Facility General Trust Fund	1,680	Forestry development
Enhancing Biodiversity, Maintaining Ecosystem Flows, Enhancing Carbon Stocks Through Sustainable Land Management and the Restoration of Degraded Forests	Global Environment Facility General Trust Fund	1,120	Forestry development
Integrated Approach in the Management of Major Biodiversity Corridors (IA biological corridors)	Global Environment Facility General Trust Fund	1,066	Agricultural policy and administrative management
Enhancing Biodiversity, Maintaining Ecosystem Flows, Enhancing Carbon Stocks Through Sustainable Land Management and the Restoration of Degraded Forests	Global Environment Facility General Trust Fund	448	Agricultural development
South Pole Carbon Asset Management	David & Lucile Packard Foundation	15	Energy generation, renewable sources - multiple technologies

Project Title	Extending Agency	Climate-related Development Finance - Commitment (2021 USD thousand)	Sector
2018			
Philippine Rural Development Project	International Bank for Reconstruction and Development	61294.39	Fishery development
Philippine Rural Development Project	International Bank for Reconstruction and Development	39188.21	Fishery services
Integrated Regional Development with Emphasis on Community-Based Renewable Energy and Water Supply in Rural Villages of Mindanao	German Federal Ministry for Economic Cooperation and Development	698.18	Energy generation, renewable sources - multiple technologies
Financing and Integrating Renewable Energy for the City of Butuan	German Federal Min. for the Env., Nature Conservation and Nuclear Safety	696.88	Energy generation, renewable sources - multiple technologies
TC Aggregated Activities	Japanese International Co-operation Agency	429.67	Forestry policy and administrative management
WWF International	Oak Foundation	178.65	Energy generation, renewable sources - multiple technologies
STICHTING EUROPEAN CLIMATE FOUNDATION	David & Lucile Packard Foundation	71.84	Energy generation, renewable sources - multiple technologies
KOICA-Colombo Plan Joint Fellowship Program-Waste Management and Renewable Energy in Response to Climate Change	Korea International Cooperation Agency	22.99	Waste management/ disposal
Improving Growth Corridors in Mindanao Road Sector Project	Asian Development Bank	35692.28	Road transport
2019			
Malolos – Clark Railway Project (PFR1)	Asian Development Bank	1,420,132	Rail transport
Infrastructure Preparation and Innovation Facility	Asian Development Bank	21,021	Transport policy and administrative management
Infrastructure Preparation and Innovation Facility	Asian Development Bank	19,050	Road transport
Access to Sustainable Energy in the Philippines	European Commission	7,377	Energy policy and administrative management
Climate Resilience and Inclusive Green Growth for Poor Rural Communities	Korea International Cooperation Agency	5,300	Agricultural education/ training
Infrastructure Preparation and Innovation Facility	Asian Development Bank	2,628	Transport policy and administrative management

Project Title	Extending Agency	Climate-related Development Finance - Commitment (2021 USD thousand)	Sector
TC aggregated activities	Japanese International Co-operation Agency	1,236	Forestry policy and administrative management
Philippines Small Island Areas Water-Energy Nexus Project	Korea International Cooperation Agency	703	Solar energy for centralised grids
Strengthening the Impact of Community-Based Renewable Energy Systems in Luzon and the Visayas, Philippines	German Federal Ministry for Economic Cooperation and Development	671	Energy generation, renewable sources - multiple technologies
Improving the Lives of People in Off-Grid Communities in Mindanao Through the Provision of Sustainable Energy	German Federal Ministry for Economic Cooperation and Development	547	Energy generation, renewable sources - multiple technologies
Agricultural research projects through the CGIAR	Japanese Ministry of Foreign Affairs	91	Agricultural development
Agricultural research projects through the CGIAR	Japanese Ministry of Foreign Affairs	91	Agricultural research
Production d'energie, sources renouvelables-energie solaire poru reseaux isolés et systems autonomes	Franch COOP DECENTRAL/MAE	22	Solar energy for isolated grids and standalone systems
TC aggregated activities	Japanese International Co-operation Agency	12	Energy generation, renewable sources - multiple technologies
Malolos – Clark Railway Project (PFR1)	Asian Development Bank	3,131	Rail transport
Infrastructure Preparation and Innovation Facility	Asian Development Bank	70	Transport policy and administrative management
Infrastructure Preparation and Innovation Facility	Asian Development Bank	64	Road transport
Infrastructure Preparation and Innovation Facility	Asian Development Bank	9	Transport policy and administrative management
2020			
Epifanio de Los Santos Avenue Greenways Project	Asian Development Bank	130,786	Transport policy and administrative management
Competitive and Inclusive Agriculture Development Program (sub-program 1)	Asian Development Bank	13,100	Agricultural policy and administrative management
Global Programme to Support Countries with the Shift to Electric Mobility - Addendum	Global Environment Facility General Trust Fund	4,391	Electric mobility infrastructures
Energy-Secure Philippines activity	US Agency for International Development	3,135	Energy policy and administrative management

Project Title	Extending Agency	Climate-related Development Finance - Commitment (2021 USD thousand)	Sector
Energy-Secure Philippines activity	US Agency for International Development	2,090	Energy policy and administrative management
For support of the South-East Asia Clean Energy Facility (SEACEF) – A Facility That Supports Early Stage Clean Energy Development	David & Lucile Packard Foundation	279	Energy generation, renewable sources - multiple technologies
TC aggregated activities	Japanese International Co-operation Agency	254	Forestry policy and administrative management
Accelerating the Adoption and Scale-up of Electric Mobility for Low-Carbon City Development in the Philippines	Global Environment Facility General Trust Fund	160	Electric mobility infrastructures
Stichting Doen: Village Empowerment	Dutch Postcode Lottery	50	Energy generation, renewable sources - multiple technologies
Production d'energie, sources renouvelables-energie solaire poru reseaux isolés et systems autonomes	French COOP DECENTRAL/MAE	33	Solar energy for isolated grids and standalone systems
Stichting Doen: Selco Foundation	Dutch Postcode Lottery	24	Energy generation, renewable sources - multiple technologies
Agricultural policy and administrative management	Food and Agriculture Organization of the United Nations	2	Agricultural policy and administrative management
Plant and post-harvest protection and pest control	Food and Agriculture Organization of the United Nations	0	Plant and post-harvest protection and pest control
Competitive and Inclusive Agriculture Development Program (sub-program 1)	Asian Development Bank	42,537	Agricultural policy and administrative management
2021			
Metro Manila Bridges Project	Asian Development Bank	4,237.42	Transport policy and administrative management
Local Governance Reform Program (Subprogram 2)	Asian Development Bank	31,600.00	Decentralisation and support to subnational government
Local Governance Reform Program (Subprogram 2)	Asian Development Bank	54,760.00	Decentralisation and support to subnational government
Build Universal Health Care Program (Subprogram 1)	Asian Development Bank	4,980.00	Health policy and administrative management
Build Universal Health Care Program (Subprogram 1)	Asian Development Bank	105,000.00	Health policy and administrative management
Facilitating Youth School-To-Work Transition Program (Subprogram 3)	Asian Development Bank	3,525.00	Vocational training

Project Title	Extending Agency	Climate-related Development Finance - Commitment (2021 USD thousand)	Sector
Facilitating Youth School-To-Work Transition Program (Subprogram 3)	Asian Development Bank	5,070.00	Vocational training
Facilitating Youth School-To-Work Transition Program (Subprogram 3)	Asian Development Bank	5,875.00	Macroeconomic policy
Facilitating Youth School-To-Work Transition Program (Subprogram 3)	Asian Development Bank	8,450.00	Macroeconomic policy
Scaling Roof-Top Solar Generation in Oriental Mindoro	Global Green Growth Institute Green Growth Planning and Implementation	31.19	Solar energy for centralised grids
Climate Resilient and Inclusive Green Growth for Poor Rural Communities: Accelerating Implementation in the Agriculture Value Chain (KOICA)	Global Green Growth Institute Green Growth Planning and Implementation	47.98	Energy policy and administrative management
Bataan Electric Public Transport Program	Global Green Growth Institute Green Growth Planning and Implementation	58.93	Electric mobility infrastructures
Sustainable Urban Transport	Global Green Growth Institute Green Growth Planning and Implementation	67.34	Electric mobility infrastructures
Climate Resilient Recovery Readiness Support In The Philippines	Green Climate Fund	220.94	Public sector policy and administrative management
Philippine Rural Development Project	International Bank for Reconstruction and Development	1,600.20	Agricultural policy and administrative management
Philippine Rural Development Project	International Bank for Reconstruction and Development	63,047.16	Rural development
Philippine Rural Development Project	International Bank for Reconstruction and Development	180,615.32	Agricultural development
Philippines COVID-19 Emergency Response Project	International Bank for Reconstruction and Development	1,571.07	Medical services
Philippines COVID-19 Emergency Response Project	International Bank for Reconstruction and Development	2,111.13	Medical services
Philippines COVID-19 Emergency Response Project	International Bank for Reconstruction and Development	859.70	Health policy and administrative management

Project Title	Extending Agency	Climate-related Development Finance - Commitment (2021 USD thousand)	Sector
Philippines COVID-19 Emergency Response Project	International Bank for Reconstruction and Development	2,674.94	Health policy and administrative management
Philippines Seismic Risk Reduction and Resilience Project	International Bank for Reconstruction and Development	150,000.00	Multi-hazard response preparedness
Philippines First Financial Sector Reform Development Policy Financing	International Bank for Reconstruction and Development	21,815.20	Formal sector financial intermediaries
Philippines First Financial Sector Reform Development Policy Financing	International Bank for Reconstruction and Development	49,222.80	Informal/semi-formal financial intermediaries
Philippines Promoting Competitiveness and Enhancing Resilience to Natural Disasters Sub-Program 3	International Bank for Reconstruction and Development	33,333.33	Public sector policy and administrative management
Philippines Promoting Competitiveness and Enhancing Resilience to Natural Disasters Sub-Program 3	International Bank for Reconstruction and Development	3,330.00	Business policy and administration
Philippines Promoting Competitiveness and Enhancing Resilience to Natural Disasters Sub-Program 3	International Bank for Reconstruction and Development	3,332.00	Business policy and administration
Philippines Promoting Competitiveness and Enhancing Resilience to Natural Disasters Sub-Program 3	International Bank for Reconstruction and Development	66,672.00	Multi-hazard response preparedness
Fourth Disaster Risk Management Development Policy Loan with a Catastrophe-Deferred Drawdown Option	International Bank for Reconstruction and Development	50,000.00	Vocational training
Fourth Disaster Risk Management Development Policy Loan with a Catastrophe-Deferred Drawdown Option	International Bank for Reconstruction and Development	450,000.00	Multi-hazard response preparedness
Technical Support in Developing Climate Resilient Coconut-Based Farming Systems	Food and Agriculture Organization of the United Nations	223.75	Plant and post-harvest protection and pest control
Tcpf: Support on Developing Agriculture Component of Philippines Nationally Determined Contribution	Food and Agriculture Organization of the United Nations	7.01	Agricultural policy and administrative management
	Belgium	2,147.27	

Project Title	Extending Agency	Climate-related Development Finance - Commitment (2021 USD thousand)	Sector
China Coal - Phase 3	Children's Investment Fund Foundation	600.00	Energy generation, renewable sources - multiple technologies
Ahk Philippines H2 - Market Study For Green H2 And Fuel Cell Technologies In Philippine Urban Areas To Promote German Technology Transfer	German Federal Min. for the Env., Nature Conservation and Nuclear Safety	43.80	Energy generation, renewable sources - multiple technologies
Tc Aggregated Activities	Japanese International Co-operation Agency	336.12	Forestry policy and administrative management
Pre-Feasibility Study for Microgrid in Bohol, Philippines	Republic of Korea	21.84	Energy generation, renewable sources - multiple technologies
Feasibility Study for Microgrid in Bohol, Philippines	Republic of Korea	48.06	Energy generation, renewable sources - multiple technologies
Improves the Resilience and Response Capacity to Natural Disasters of Communities in Vulnerable Situations, Adapted to the Context of Pa	Spain	271.05	Disaster Risk Reduction
Energy Secure Philippines Activity	US Agency for International Development	3,000.00	Energy generation, renewable sources - multiple technologies
Energy Secure Philippines Activity	US Agency for International Development	138.40	Biosphere protection
Climate Resilient Cities Project	US Agency for International Development	350.00	Environmental policy and administrative management
Climate Resilient Cities Project	US Agency for International Development	2,812.60	Environmental policy and administrative management
Rehabilitation of Degraded Mangroves	US Department of Agriculture	35.00	Forestry policy and administrative management
Feasibility Study - Sun Keeper Utility-Scale Solar Project, Through Enterprise - United States Unknown	US Trade and Development Agency	529.46	Solar energy for centralized grids

BRT = bus rapid transit, CGIAR = Consultative Group on International Agricultural Research, EDC = Energy Development Corporation, FS = feasibility study, IA = integrated approach, KOICA = Korea International Cooperation Agency, PFR = periodic financing request, TC = technical cooperation
Source: Organisation for Economic Co-operation and Development.

F. Measurement, Reporting and Verification

Climate Change Expenditure Tagging

The following specific modifications will be made to CCET, which were formulated based on a deep dive into the existing system. Some room is left for minor deviations for practical purposes.

(i) Introducing weights to tagging, to enable:
  (a) segregation of physical implementation that directly leads to mitigation outcomes, and other readiness activities such as capacity building and introduction of laws and regulations, which can be done through expansion of typologies; and
  (b) identification of cross-cutting activities with both mitigation and adaptation attributes.

(ii) Adding a pull-down list of PAMs (including "no applicable PAMs found") which can be associated to each budget. In doing so, it may be necessary to break down PAMs into separate elements.

(iii) Adding associated mitigation outcomes (ton of carbon dioxide equivalent [tCO_2e]/year) for each cycle (e.g., annual, to 2030, to 2035). Ideally there will be two input fields—one for *ex ante* estimation, and one for *ex post* reporting.

(iv) Expanding data sources. Currently CCET captures climate-related budgets reported by NGAs, cross-referenced against budgets approved in the GAA, which nets all domestic public expenditure data. Provisions will be made to also capture private sector investments both foreign and domestic, and international support.

(v) Concessionality and conditional targets. NGAs will be required to identify the funding source when reporting to CCET, which is readily available in the GAA list published by the DBM. This is relevant since foreign support is also identified as a funding source under GAA and therefore tagging of conditional targets will also become possible provided the parameters are set correctly.

Once the above modifications are complete, capacity building will be held to enable NGAs to utilize the online CCET system, given that currently most of the inputs are done manually after being received in excel format by the CCC.