MEMORANDUM

TO : **Bureau Directors**
Environmental Management Bureau
Biodiversity Management Bureau
Forest Management Bureau
Ecosystems Research and Development Bureau

Service Directors
Policy and Planning Service
Foreign-assisted and Special Projects Service

Attached Agency Heads
National Mapping and Resource Information Authority
Laguna Lake Development Authority

Executive Director
Manila Bay Coordinating Office

All Regional Executive Directors
All Regional Directors
Environmental Management Bureau

FROM : **The Undersecretary for Finance, Information Systems and Climate Change**

SUBJECT : **MAINSTREAMING OF THE NATIONALLY DETERMINED CONTRIBUTION IMPLEMENTATION PLAN (NDCIP) INTO THE DENR PLANS AND PROGRAMS**

DATE : 26 February 2024

This refers to the NDCIP which the President has directed the DENR and all agencies to implement immediately during the meeting in Malacanang last 24 January 2024. Said plan was presented during the DENR National Reprogramming Workshop last 31 January 2024.

To guide your offices in mainstreaming the NDC IP in your sectoral and regional plans (2024 Work and Financial Plan, 2025 Budget Proposal, 2026 and 2027 Forward Estimates, and beyond), please note the following:

I. Key Considerations

A. Greenhouse Gas Inventory (GHGI)

The greenhouse gas inventory is an important element for setting targets and identifying policies and measures to achieve the NDC. Executive Order 174 series of 2014 on Institutionalizing the Philippine greenhouse gas inventory management and

reporting system mandated the DENR to serve as lead agency for waste, industrial processes and the land-use and forestry sectors. It is responsible for conducting, documenting, archiving, and monitoring GHGIs for the aforementioned sectors. It is also responsible for reporting sector-specific greenhouse gases (GHG) to the Climate Change Commission (CCC) as overall-lead of Executive Order (E.O.) 174.

To date, DENR has produced GHGIs for waste, industrial processes and product use (IPPU), and forestry and other land uses (FOLU) for the years 2010, 2015 and 2020. In November 2023, E.O. 174 agencies agreed to work on their respective 2022 sectoral GHGI expected to be submitted to the CCC by July 2024 for consolidation and inclusion to the first Biennial Transparency Report to be submitted to the United Nations Framework Convention on Climate Change by December 2024. The DENR is gearing towards annual reporting of sectoral emissions.

B. NDCIP Key Pillars

The Philippine submission sets a 75% emissions reduction and avoidance target for the period 2020-2030. This will be sourced from the energy, transportation, agriculture, waste, and industry sectors. Of this target figure, 2.71% is unconditional using domestic resources and 72.29% is conditional to the means of implementation such as climate finance, technology development & transfer, and capacity building to be provided by developed countries.

The Philippine Development Plan (PDP) for 2023-2028 has included annual mitigation targets per sector based on the NDC unconditional target. The DENR is tasked to report for the waste and industry sector emissions reduction. Table 1 shows the annual targets:

Table 1: Annual PDP mitigation targets for waste and industry sectors

Year	Emissions reduction target for the industry sector In million metric tons of CO2 equivalent (MtCO2e)	Emissions reduction target for the waste sector In million metric tons of CO2 equivalent (MtCO2e)
2024	0.33	0.80
2025	0.39	0.83
2026	0.47	0.89
2027	0.62	1.04
2028	0.71	1.08

The NDCIP has identified six (6) key pillars to implement the NDC in the short, medium and long-term.

a. Deliver mitigation actions
b. Advance international cooperation
c. Develop market-based actions
d. Strengthen resilience and adaptive capacity
e. Cascading sub-national actions
f. Engaging private sector

C. DENR DAO 2021-22

D. Climate Change Expenditure Tagging

The Department of Budget and Management. (DBM) and the Climate Change Commission (CCC) issued the DBM-CCC Joint Memorandum Circular 2015-01 providing guidance to national government instrumentalities in tagging budgets for their climate change-related activities. In April 2023, the Commission on Audit (COA) has issued Circular Number 2023-001 providing the guidelines for conducting the audit of programs, activities and projects with climate change expenditure tagging under the General Appropriations Act.

II. DENR Strategies

Table 2 below outlines the various strategies for each of the NDCIP Pillars.

Table 2: DENR Strategies for the NDCIP

NDCIP Pillar: Deliver Mitigation Actions					
Strategies	**Indicators**	**DENR Offices**	**Timeline**	**DENR PAP**	**CCET Typology**
Issuance of a policy instrument establishing the institutional arrangement within the DENR for the NDCIP	Policy instrument issued	CCS	2024	Formulation and monitoring of ENR sector policies, plans, programs and projects	A831-02: Planning on national and local climate change adaptation action
Facilitate implementation of waste and industrial processes and product use (IPPU) policies and measures (PAMs)	Implementation plan for waste and IPPU developed	EMB	2024-2030	(EMB) Clean Air Program (EMB) Clean Water Program	M512-02: Baseline data on GHG emissions from industry and other sources
		EMB		(EMB) Chemical and Hazardous Waste Program	M512-02: Baseline data on GHG emissions from industry and other sources
		EMB		(EMB) Solid Waste Management	M512-02: Baseline data on GHG emissions from industry and other sources
		MBCO		(DENR) Development, Updating and Implementation	A234-01: Incorporate changes in design of

				of the Operational Plan for the Manila Bay Coastal Management Strategy pursuant to SC GR No. 171947-48	sanitation systems, wastewater treatment and disposal system in response to extreme weather and flood events arising from climate change and climate variability
Revision of PAMs for waste and IPPU sectors to address gaps	NDC PAMs updated	EMB	2025	(EMB) Clean Air Program (EMB) Clean Water Program	M512-02: Baseline data on GHG emissions from industry and other sources
		EMB		(EMB) Chemical and Hazardous Waste Program	M512-02: Baseline data on GHG emissions from industry and other sources
		EMB		(EMB) Solid Waste Management	M512-02: Baseline data on GHG emissions from industry and other sources
		MBCO		(DENR) Development, Updating and Implementation of the Operational Plan for the Manila Bay Coastal Management Strategy pursuant to SC GR No. 171947-48	A234-01: Incorporate changes in design of sanitation systems, wastewater treatment and disposal system in response to extreme weather and flood events arising from climate change and climate variability
		CCS		(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	A831-02: Planning on national and local climate change adaptation action

Integrate GHG inventory and PAMs in the budget and planning processes of DBM and NEDA	Number of PAPs tagged under CCET	CCS FMB EMB NAMRIA BMB ERDB	2024 (annual until 2030)	(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	A831-02: Planning on national and local climate change adaptation action
Enhanced capacity of the Department and the key stakeholders on the					
Establish a monitoring system for waste and IPPU PAMs	MRV system for PAMs developed	CCS EMB LLDA	2026	(DENR) Data management including systems development and maintenance	M844-01: Monitoring of national and local climate change mitigation actions
Research studies on country-specific emission factors and carbon assessments	Number of studies conducted	ERDB	2025	(DENR) Conduct of special studies, design development in support of forestry, mining and environmental management operations, including climate resilience	M712-01: Support research on CC mitigation
NDCIP Pillar: Advance International Cooperation					
Strategies	**Indicators**	**DENR Offices**	**Timeline**	**DENR PAP**	**CCET Typology**
Identify PAMs for international support	Pipeline of projects for conditional PAMs developed	FASPS	2024	(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	M831-02: Planning on national and local climate change mitigation action
Structured engagement for development partners for NDC delivery	Strategic Plan for engaging development partners developed	FASPS	2024	(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	M831-02: Planning on national and local climate change mitigation action
NDCIP Pillar: Develop Market-based Action					

Strategies	Indicators	DENR Offices	Timeline	DENR PAP	CCET Typology
Clearly identify sectors/actions that can be traded	Technical paper on eligible sectors for carbon market trading drafted	CCS, FMB	2025	(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	A831-02: Planning on national and local climate change adaptation action
		FMB		(FMB) Forest Protection Program	M314-04: Avoided deforestation
		FMB		(FMB) Forest Development, Rehabilitation and Maintenance and Protection (eNGP)	M314-02: Reforestation and afforestation that increases vegetative cover or sequesters carbon
Develop required policies and regulations to enable trading	Framework and Policy on Carbon Markets	CCS, FMB	2026	(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	M831-02: Planning on national and local climate change mitigation action
		FMB		(FMB) Forest Protection Program	M314-04: Avoided deforestation
		FMB		(FMB) Forest Development, Rehabilitation and Maintenance and Protection (eNGP)	M314-02: Reforestation and afforestation that increases vegetative cover or sequesters carbon
Establish Monitoring, Reporting and Verification (MRV) system for carbon markets	MRV system established	CCS	2027	Data management including systems development and maintenance	M844-01: Monitoring of national and local climate change mitigation actions
NDCIP Pillar: Strengthen Resilience and Adaptive Capacity					
Strategies	**Indicators**	**DENR Offices**	**Timeline**	**DENR PAP**	**CCET Typology**

Clearly identify resilience/adaptation co-benefits in PAM and use resilience as a driver for PAM revisions	Prioritization criteria with adaptation indicators developed	CCS EMB FMB BMB ERDB	2025	(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	A831-02: Planning on national and local climate change adaptation action
NDCIP Pillar: Cascading the Sub-national Actions					
Strategies	**Indicators**	**DENR Offices**	**Timeline**	**DENR PAP**	**CCET Typology**
Identify responsibilities, capacities and needs at the LGU level	Capacity needs assessment conducted	CCS EMB FMB ERDB LLDA	2024	(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	A831-02: Planning on national and local climate change adaptation action
Develop capacity strengthening program as required in response to the assessment	Capacity building programme developed	CCS EMB	2024	(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	A831-02: Planning on national and local climate change adaptation action
NDCIP Pillar: Engaging Private Sector					
Strategies	**Indicators**	**DENR Offices**	**Timeline**	**DENR PAP**	**CCET Typology**
Identify and address institutional actions to promote private sector participation	Strategic plan for private sector engagement developed	CCS EMB FMB BMB	2024	(DENR) Formulation and monitoring of ENR sector policies, plans, programs and projects	A831-02: Planning on national and local climate change adaptation action

Annex 1. IPPU and Waste Sector NDC PAMs

Policies and Measures	Target	Barriers/Challenges	Relevant Stakeholders	Support Needed
IPPU SECTOR				
1. Substitution of clinker in cement production with supplementary cementitious materials (e.g. fly ash, blast-furnace slag and other pozzolanic materials)	Increase the production share of blended cement by 5% from the baseline of 65% from 2020 to 2025 and additional 10% increase by 2026 to 2030. And a 10% reduction on the clinker content of blended cement from the 70% baseline by 2026.	Differing standards on blended cement (Type 1P), particularly on the loss of ignition (LoI) requirement. The Philippine National Standard (PNS-63) limit for LoI is 8% while the existing DPWH standard is only 5%. The cement industry identified the 5% LoI limit a barrier as blended cement have generally higher LoI than ordinary Portland cement (OPC)	DENR, DPWH, DTI, Cement Manufacturers, Cement Association (CeMAP)	Technical and high-level discussions to harmonize the standards. Review and assessment of existing studies and if necessary, conduct further study to assess performance of blended cement with increased LOI.
2. Increase use of cullet (recycled glass) in glass production.	Increase cullet ratio of float/flat glass to 40% from baseline of 25% in 2020 and increase cullet ratio for container glass (bottle) to 75% from average cullet ratio of 65%.	Lack of collection points and facilities in some areas/province that affects the recycling viability. Issues on handling of broken glass Absence of guidelines on recycling of flat glass	DTI, DENR, NSWMC, Glass Manufacturers, LGUs	Development of collection points in strategic areas to minimize transport and handling costs. Issuance of enabling policy to support the recycling of flat glass.

3. Shift to low-Global Warming Potential (GWP) refrigerants in the refrigeration and air-conditioning (RAC) industry	Phase in of low- Global Warming Potential (GWP) Refrigerants in the refrigeration and air-conditioning equipment from 2020-2030.	Dependence with the international market on low GWP RAC equipment. Investment cost for changes in production line for manufacturers. Lack of capacity on safe handling of flammable and toxic alternatives (e.g. hydrocarbon and ammonia) Huge number of informal (fly by) technicians without proper equipment and technical know-how.	DENR (EMB), , DTI, DOE, TESDA, RAC Manufacturers and Distributors Consumers Association	Facilitate market access to low GWP RAC equipment. Create enabling mechanisms such as an incentive system to support transition of RAC industry. Capacity building for technicians. Regulation of service centres and informal technicians
4. Establishment of a dedicated destruction facility for ODS and HFCs.	By 2025, 70% of the HFCs and ODS recovered from disposed RAC equipment are destroyed in a dedicated destruction facility.	Minimal recovery of refrigerants from end of life (EoL) RAC equipment Recovering low volume of refrigerants is not economically viable Absence of a destruction facility Lack of clear guidelines and weak enforcement of RA 6969 (Toxic and Hazardous Waste) regulation	DENR (EMB), DTI, DOST, TSD Facilities and RAC Industries	Technical and financial assistance is needed for the establishment and operation of a destruction facility. Enhanced policy on refrigerant recovery and management and strengthen enforcement of regulation.
WASTEWATER SUB-SECTOR				

1. Expand coverage of septage and sewerage treatment facilities in HUCs and other cities outside Manila Bay building on the National Sewerage and Septage Management Program (NSSMP), for its enhanced implementation.	By 2022, 80% of the population in the 17 priority highly urbanized cities (HUCs) will have access to centralized, aerobic, treatment facilities. And an additional 20% of the population from 20 cities (identified) outside Manila Bay Area will have access to sewerage and septage treatment facility by 2022, 40% by 2026 and 50% in 2030.	High cost and investment required particularly for sewerage treatment facilities Reliance on private sector investments Lack of technical capacity of LGUs and local water districts (WDs) Difficulty in accessing the subsidy under the National Sewerage and Septage Management Plan (NSSMP) Lack of available land area in urban cities	DPWH, DENR (EMB), LWUA, DILG, LGUs, Academe	Financial assistance and private sector investment Development of sound proposal to facilitate access to the NSSMP Capacity building for LGUs and WDs, acquisition of land and appropriate technologies Enhanced policies on wastewater management
2. Expand coverage of centralized aerobic wastewater treatment facilities within Manila Bay Area in compliance to the Supreme Court (SC) Mandamus	In line with the SC Mandamus for MWSS and its concessionaires, (Manila Water and Maynilad) to provide full wastewater treatment facilities in Manila Bay Area or at least within the concessionaire's service area by 2037.	Lack of available space/land within Metro Manila to put-up wastewater treatment facilities High investment requirement Large number of existing structures Presence of informal settler families Inconvenience to the public (e.g. traffic disruption)	MWSS, Water Concessionaires (Manila Water, Maynilad), LWUA, DENR, Mandamus Agencies	Assessment/Demonstration of various wastewater treatment technologies considering limited space availability.

SOLID WASTE SUB-SECTOR				
1. Composting of Organic Wastes	By 2030, increased composting rate to 24.3% with 3 new large composting facilities to accommodate 1,000 ton/day biodegradable wastes from the 2010 baseline of 5%.	Lack of market for compost products Varying quality of compost (usually don't qualify as fertilizer) Non-compliance to RA 9003 particularly on segregation and management of biodegradable waste (diversion) Relatively low cost of land-filling	NSWMC, DENR, DILG, DOST, LGUs, Private Sector (engaged in solid waste management)	Assess different composting technologies and identify enabling mechanisms (i.e. incentives, enhancement enforcement of regulations). Capacity building, acquisition and pilot implementation of state-of-the-art large composting facilities.
2. Methane Flaring in Disposal Facilities	By 2030, 30% of methane from 86 sanitary landfill (SLF) with capacity under Category 4 will be recovered for flaring.	Not part of the existing measures to manage methane gas in landfill. Additional investments Lack of technical capacity	NSWMC, DENR, DOST, LGUs, Academe, Private Sector	Incorporate and/or require flaring for those not viable for recovery. Capacity building and financial investments.
3. Methane Recovery from Sanitary Landfills for Electricity Generation	By 2030, 56% of Category 4 SLF (large) installed with methane recovery technology for energy generation	High investment cost Requires investment from private sector Contradicts the RA 9003 regulation on organic waste diversion Availability of biogas to make the project viable Lack of technical capacity	NSWMC, DENR, DOE, LGUs, Private Sector, Banks and Financial Institutions	Financial assistance and investments (PPP) Conduct of feasibility studies on Category 4 SLFs Capacity building Acquisition of state-of-the-art technologies and its pilot implementation.

		Difficulty in processing permits for grid connection		
4. Municipal Solid Waste (MSW) Digestion of Organic Waste with Methane Recovery for Energy Utilization	31 Waste to Energy (bio-digesters) facilities phased in until 2025 to selected LGUs to accommodate a total of 1000 ton/day biodegradable waste wherein methane recovered are fully utilized	Lack of capital investment and human power Weak compliance to waste segregation and collection regulation Lack of access to state-of-the art bio digester technologies High power requirement/consumption of some bio-digesters	NSWMC, DENR, DOE, DOST, DILG, LGUs, Private Sector, Banks and Financial Institutions	Requires technical and financial assistance or private sector investments to LGUs Conduct of feasibility study Acquisition of appropriate and efficient technologies Capacity building
5. Use of Eco-Efficient Soil Cover	50% of Open Dumpsite and Controlled Disposal Facilities applied with eco-efficient soil cover by 2030	Lack of research and studies and could lead to erosion/siltation. The technology has not been adopted and proven Not considered in the existing policies	NSWMC, DENR, DOST, LGUs, Academe	Need further study and demonstration in pilot areas to look at the feasibility and the overall impact of the measure Develop policy and guidelines and possible amendment to RA 9003.
ADDITIONAL PAMS				

1. Installation of Waste Heat Recovery (WHR) Facility in cement plants	Installation of WHR facility in 15 cement plants with a total capacity of 66.6 MWh with 1 facility installed in 2022 and 14 in 2024.	High investment cost for WHR technology. Lack of enabling policies and incentives	Cement Manufacturers, DTI, DENR, DOE, LGUs, Private Sector, Banks and Financial Institutions	Financial assistance or enabling mechanism (incentives or policy) to maximize the deployment of the technology.
2. Alternative fuel and raw materials (i.e. waste and biomass) in cement co-processing	Increase utilization of AFR in existing cement co-processing plants and implementation of co-processing in 7 other cement plants by 2024.	Investment cost and maintenance is required as well as manpower. Improper segregation and collection of waste. Lack of enabling policies and incentives Stringent requirement on the air quality monitoring particularly for carbon monoxide (CO)	Cement Manufacturers, DTI, DENR, DOE, LGUs, Academe	Conduct of feasibility study Identification of appropriate enabling mechanism including the use of incentives Demonstration utilizing various materials as AFR Review of the air quality monitoring guidelines
3. Reduction of emissions from iron and steel industry	Introduction of energy efficient/energy savings technology, process improvement in the iron and steel industry.	Inefficient and energy intensive technologies. Investment cost for state-of-the-art technologies	Iron and Steel Industry, DTI, DENR, DOE, LGUs, Academe, Private Sector, Banks and Financial Institutions	Study on the potential technology improvements Private sector investment Demonstration of appropriate and efficient technologies

4. Promotion of industrial wastewater systems/ technologies that consider the capture and utilization of biogas in an anaerobic system	Installation of anaerobic digester technology with biogas capture in 7 sugar refining facilities by 2024.	High investment cost Difficulty in processing permits for grid connection Lack of understanding on the cost and benefits on the use of the technology Lack of enabling policies and incentives	DENR, DOE, Sugar Regulatory Agency, DOST, LGUs, Academe Sugar Industries, Private Sector, Banks and Financial Institution	A feasibility study is needed to look at the viability of utilizing the appropriate methane recovery technology in industries discharging strong wastewater. Technology demonstration is also needed as well as enabling policies.

Please submit to us respective plans integrating NDCIP in your plans and programs for 2024 and 2025, until February 27, 2024, and forward estimates for 2026 to 2027 until February 29, 2024.

ATTY. ANALIZA REBUELTA-TEH

C.C.

The Office of the Secretary

The Undersecretaries for Field Operations
- for Luzon, Visayas and Environment
- for Mindanao

The Undersecretary for Policy, Planning and International Affairs