

EMB Accomplishments On Climate Change CY 2012-2013

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1. Overview of EMB Accomplishments on Climate Change

The EMB as the focal agency of the Department on climate change had continually fulfilled its roles by working on the following initiatives:

- Mainstreaming climate change into the Bureau's priority programs and activities
- Supporting local and international programs and institutions concerned with climate change
- Cooperating in efforts to improve the understanding on climate change among various stakeholders
- Building the capacities of communities to adapt to the changing climate
- Encouraging industries to transform their operations from a business-as-usual setup into a system that integrates environmentally-sound practices and climate-smart principles.

The implementation of these initiatives were efficiently facilitated with the heightened awareness of the public on the effects of climate change and the need for a collective effort to stop further aggravation of the condition of the environment due to our anthropocentric worldview.

Climate change had also been a priority concern by the government for the year 2013. In fact, among the five key results areas in Pres. Aquino's Social Contract with the Filipino People (EO 43) include climate change mitigation and adaptation. The EO directs all government agencies to re-orient their programming and budgeting with priority areas and measures to address climate change.

Part of the implementation mechanisms of the EMB on climate change issues included consultative dialogues, participation in inter-agency committee meetings, collaboration with local and international institutions, CDM application processing and monitoring, community mobilization on climate change mitigation and adaptation and drafting of supplemental policies/standards.

These mechanisms paved the way for the successful delivery of outputs and provision of inputs such as the development, preparation and submission of proposed standardized baselines to UNFCCC, technical documents and position papers to UN and other international bodies, CDM monitoring reports, preparation and consolidation of EMB central and regional entity-level GHG inventory reports, preparation of rough corporate-level GHG inventory of some industries, technical papers on climate change, exhibit on climate change mitigation, documentation of practical application for CLUP outputs of climate proofing and IEC materials. Lastly, with the enormous amount of documents and information materials that accumulate in the office, there is the need for the establishment of an efficient and secured data management system.

In the course of implementing programs and projects by EMB, the imperative challenges still are the increasing temperature, extreme weather events and the slow onset of rising sea level. These challenges urge the Bureau to intensify its efforts in climate change adaptation and mitigation. The involvement of the stakeholders and the public in general is significant as this would indicate the success of the plans and program in terms of their practical and realistic application.

- 2. Climate Change Mitigation
 - 2.1 National Implementation of the Clean Development Mechanism Under the Kyoto Protocol

The Clean Development Mechanism (CDM) was introduced by the Kyoto Protocol as one of the three (3) flexibility mechanisms primarily to assist developed countries (Annex 1 Parties) able to meet their emission reduction targets at a least cost and at the same time help developing countries (non-Annex 1 Parties) achieve their sustainable development goals and objectives. In its interest to participate in the CDM, the Philippine government ratified the Kyoto Protocol in 2003 which was followed by the designation of the Department of Environment and Natural Resources (DENR) as the National Authority for CDM (DNA) with the EMB serving as the CDM Secretariat.



Registered Projects by Host Party

As of 03 February 2014

As of 31 December 2013, the Philippines ranked No. 11 in terms of the number of CDM project activities registered globally having registered 70 project activities most of which are on renewable energy projects expected to generate an estimated average annual CERs (certified emission reduction units) of 3,490,997 tCO₂e (tons of carbon dioxide equivalent). Ten (10) of which have been issued about 1,230,576 carbon credits or CERs (Certified emission reduction units) altogether as follows:

	Name of CDM Project Activity	Total Issued
		CERs
1.	Bataan 2020 12.5 MW Power Rice Hull Cogeneration Project	44,520
2.	San Carlos Renewable Energy Project	21,442
3.	NorthWind Bangui Bay Project	217,300
4.	Quezon City Controlled Disposal Facility Biogas Emission Reduction Project	466,740
5.	Philippine Sinter Corporation Sinter Cooler Waste Heat Recovery Power Generation	122,675
	Project	
6.	Hedcor Sibulan 42.5 MW Hydroelectric Power Project	136,931
7.	Wastewater treatment using a Thermophilic Anaerobic Digestor at an ethanol plant in	41,363
	the Philippines	
8.	Ambuklao Hydro Electric Power Plant (AHEPP) rehabilitation project	168,531
9.	Superior Hog Farms Methane Recovery	5,437
10.	Joliza Farms Inc. Methane Recovery	5,637
	Total	1,230,576

Such projects have provided benefits to the country through the provision of technologies mostly on methane recovery and electricity generation from swine and poultry wastewater, landfill gas recovery and power generation, renewable energy technologies such as wind, hydropower, solar and geothermal, among others which in turn facilitated the generation of livelihood and employment opportunities in the communities, provision of free education, training and skills development among the youth, generally addressed improvement of environmental quality and ultimately, uplifted the socio-economic status of the residents.





Early on in 2005, the implementation of the CDM worldwide had certainly made a good start as favorable financial prospects attracted many private investors to embark on CDM projects. However, as the first commitment period of the Kyoto Protocol nearly met its end in 2012, uncertainties arose on the future of CDM

henceforth, resulted to the slow decreasing demand of CERs which in turn brought down the price of carbon.

In order to maintain transparency in drafting supplemental policies, the proposed Sustainable Development Indicator Matrix/survey questionnaire for CDM project activities had been drafted and has been disseminated among CDM project developers for their comments and suggestions.

The Philippines thru the DNA (the DENR), for its part in its continued support to the promotion of potential CDM project activities in the country, engaged in the capacity building of the Department of Energy (DOE) in the calculation and development of the national grid emission factor. With support from the Institute for Global Environmental Strategies (IGES), Japan, initial consultation meetings and workshops started in 2010 primarily among the DOE officials and technical staff. The workshop which was conducted by the 3rd Quarter of 2012 in Tagaytay City facilitated the establishment of the NGEF which has been made at the DOE and EMB websites early 2013 as reference for project developers and investors in CDM (Please see table below.)

Preliminary Result of the Grid Emission Factor Calculation				
Particulars	Woм	Wвм	Luzon-Visayas Combined Margin Emission Factor	Mindanao Combined Margin Emission Factor
Wind and solar power generation project activities for the first crediting period and for subsequent crediting periods	0.75	0.25	0.5535	0.3930
All other projects for the first crediting period	0.5	0.5	0.5038	0.4972
All other projects for the second and third crediting period	0.25	0.75	0.4541	0.6014

Moreover, in the country's efforts to encourage and attract more investments in CDM, the Philippine DNA submitted its proposal which recommends some of the country's specific renewable energy technologies particularly, **hydropower** and **biomass**, for approval by the CDM Executive Board as eligible for automatic additionality on microscale (5MW and below) CDM project activities and/or programme of activities being implemented in the Philippines as compliant to "Guidelines For Demonstrating Additionality Of Microscale Project Activities (Version 04.0)". The proposal was then accepted by the CDM Executive Board and has been made available at the UNFCCC/CDM website.

Standardized baselines for relevant sectors are being developed for purposes of consistency in terms of methodologies and procedures and facilitating approval process for small-scale programme of activities which exempts them from the additionality requirement.

2.2. Greenhouse Gas Accounting for Industries/Private Sector

In line with the EMB's capacity development program on climate change mitigation, a series of three (3) nationwide training-workshops on Greenhouse Gas Accounting and Management have been conducted among Pollution Control Officers (PCOs) in the industry/private sectors throughout the year. In cooperation with the Pollution Control Association of the Philippines, Inc. (PCAPI) and the Philippine Chamber of Commerce and Industry (PCCI), the workshops aimed toward raising awareness and building capacities in conducting the greenhouse gas (GHG) inventory and management. It is likewise envisaged that the GHG inventory process be institutionalized in every industry as this would later facilitate inputs to the proposed enhancement of the Self-Monitoring Reports (SMR) and its reporting requirements and procedure in the near future. Also joined in by the respective EMB Regional GHG Inventory Teams, each workshop was participated in by close to 40 participants from different industry sectors in the regions.



Luzon Date: April 29-30, 2013 Venue: Lewis Grand Hotel Angeles City Pampanga



Visayas Date: June 25-26, 2013 Venue: Cebu Parklane International Hotel, Cebu City



- Mindanao Date:September 19-20, 2013 Venue: East Asia Royale Hotel General Santos City
- 2.3. Capacity Building in the Preparation of National Greenhouse Gas Inventory for Industrial Processes and Waste Sectors

The EMB in partnership with the Climate Change Commission (CCC) and has been currently involved in the Low Emission Capacity Building (LECB) Philippine Project since early 2013. Referred to as the "Philippines: Climate Change Capacity Building Project", the four-year LECB Philippine Project focuses on Public Sector Capacity

Building on GHG inventory systems, NAMAS, LEDS and MRV (Area 1) in designated four sectors composed of the Transport, Agriculture, Waste and Industry Sectors.

Based on the project's proposed management-institutional arrangements, the EMB takes the lead in facilitating the GHG inventories for the industrial processes and waste sectors that shall eventually serve as inputs to the completion of the next national GHG inventory.

Henceforth, earlier focused-group discussions and training-workshops have been taking place since late 2012 onwards with the aim of building the capacity particularly, among the technical staff of the EMB Central and Regional Offices for this major role and task as follows:

August 27-29, 2012,	Training-Workshop on GHG Inventory among the EMB central and
Tagaytay City	regional offices. Focus was on the GHG inventory – entity level where
	hands-on exercises/computations have been undertaken. Further, overview
	on the GHG inventory particularly, for the waste and industrial processes
	sectors were also presented being within the mandate of the Bureau.
October 15-19, 2012,	Training-Workshop on GHG Inventory on Waste and Industrial
Eurotel North EDSA-	Processes Sectors for EMB central and regional offices. Focus on the
Quezon City	methodologies on the various sub-sectors under the waste and industrial
-	processes sectors; subsequently, hands-on exercises/computation were
	likewise conducted.
April 16-17, 2013	LECB FGD with EMB on the National GHG Inventory
August 13-15, 2013	LECB Workshop on the Integration of GHG Data into the CMR/SMR
-	System
November 12-13, 2013	LECB GHG Training on Waste Sector

2.4 Entity Level GHG Inventory for EMB Central and Regional Offices

A series of Training-workshops on the process of conducting entity-level GHG accounting and management for EMB central and regional offices had been conducted on 19-20 July 2012 to strengthen the skills of EMB technical staff and prepare them in the institutionalization of the inventory process in their respective offices. In regards to this, each of the sixteen (16) EMB Regional Offices had formed their regional GHG inventory teams tasked to conduct and regularly submit their respective regional GHG inventories.

As for the EMB Central Office, with the implementation of the EMB Low Carbon Emission Program (S.O. No. 197 – Series of 2012), entity-level greenhouse gas inventory/ accounting is continually being undertaken to measure the amount of carbon emission (in CO_2 -equivalent) produced by the Bureau and to determine the appropriate project activities that will be undertaken by EMB/or an EMB staff in order to mitigate or neutralize such emission.

Below shows the GHG emissions trend from significant emissions sources within the EMB Central Office in the last 18 months (January 2012-June 2013) since the implementation of the program.



The total GHG emissions from fuel use of EMB vehicles for the past 18 months (January 2012-June 2013) is 214.80 tCO₂-eq, with an average emissions of 11.93 tCO₂-eq per month.



The total GHG emissions from electricity use for the past 18 months (January 2012-June 2013) is 383.41 tCO₂-eq, with an average emissions of 21.30 tCO₂-eq per month.



GHG Emissions from Official Air Travels

The total GHG emissions from official air travels for the past 18 months (January 2012-June 2013) is 392.22 tCO₂-eq, with an average emissions of 21.79 tCO₂-eq per month.



The total GHG emissions of EMB is 988.09 tCO_2 -eq. GHG emissions from air travels had the highest percentage share of about 40%. While, GHG emissions from fuel consumption had the lowest percentage share of about 21%.

3. Climate Change Adaptation



3.1 Climate Proofing (Tagging) of EMB Policies and Programs

An orientation workshop on the Department of Budget and Management Guide in Tracking the Philippine Government Climate Expenditure was organized by the CCD in February 2013 to provide guidance to the various divisions of the EMB on how to orient their programs, projects and activities towards the pursuit of Key Result Area 5 (Integrity of the Environment and Climate Change Adaptation and Mitigation). Their "climate-tagged" PPAs for the period 2014-2016 was an integral part of EMB's input to the DENR climate change planning workshop.

The guide was developed for the purpose of tracking and reporting public financial flows that support climate change mitigation and adaptation, monitor progress in climate-related public investment, and build accountability and synergy among public institutions in addressing climate change risks. The tracking and reporting of public investment in climate change is based on the following criteria: a) Statement of purpose or objective to address climate change related risks and vulnerability; and b) Program, project or activity designed in the context of available climate change information and analysis of climate vulnerability

3.2 Capacity Building in Mainstreaming Climate Change Adaptation in CLUPs of selected LGUs

EMB staff actively participated as trainers and facilitators during a series of Trainings on Climate Proofing for Development (CP4D) for selected local government units (LGUs) of the provinces of Eastern Samar, Surigao del Norte, Palawan, Batanes, Romblon, and Bohol which were pilot sites of the Climate Change Commission's Ecotown Project. The trainings aimed to equip the participants with the knowledge and skills to mainstream climate change adaptation in local development plans, in particular, the Comprehensive Land Use Plan.

At the national level, the EMB staff were likewise involved in the CP4D trainings conducted for the Departments of Energy and Agrarian Reform.

4. Institutional Linkages and Partnerships

The Bureau maintains a range of partnerships and linkages with other agencies and organizations as it undertakes several programs and projects on climate change mitigation and adaptation.



The diagram above illustrates the institutional linkages established by EMB with agencies with related undertakings on climate change. The linkages have been established through various MOAs and project partnership with local and international donors.

The Table below summarizes the areas of joint undertakings by EMB with its local partners:

Agency/ Organization	Areas of Collaboration with EMB
EDNP	Mini(mize) Carbon Olympics Project in Selected High Schools and Universities/Colleges in NCR
ASOG	Scaling-up of CDM Program of Activities to Nationally Appropriate Mitigation Action (NAMA)
CHED/DEPED	Mini(mize) Carbon Olympics Project in Selected High Schools and Universities/Colleges in NCR
PCAPI/PCCI	Capacity Building in the Preparation of National Greenhouse Gas Inventory for Industrial Processes and Waste Sectors
CCC	Low Emission Capacity Building Programme Trainings on Climate Proofing for Development (CP4D) for selected LGUs which were pilot sites of CCC's Ecotown Project
DOE	Climate-Proofing of the National Renewable Energy Plan
UP-ITDC	ICT Strategic Planning for Enhancing EMB's Role in the Implementation of the National Climate Change Strategy
PBE	Streamlining and Synchronizing the Data Management Systems of Reporting Required by SMRs/CMRs as set by Law.
PCEPSDI	Certification Scheme on Greening the Supply Chain of Industries for Cleaner Production
RBCO	Climate-Proofing of Master Plans of Selected Major River Basins

5. Mainstreaming Climate Change Into EMB Mandates

Environmental Impact Assessment (DRR-CCA Integration)	•EIS Screening Forms to be used in scoping for EIA studies • IEE Checklist Report Forms •Generation of GHG emission data from industry CMRs
Air Quality Management	•Climate-resilient AQM stations •Generation of GHG emission data from industry SMRs
Water Quality Management	•Climate-resilient communal septage management facilities •Climate-resilient wastewater treatment facilities
Toxic Substances and Hazardous Waste Management	 Climate-resilient policies and guidelines on TSD facilities (including chemicals storage, labelling, etc.)
Solid Waste Management	•Climate-resilient guidelines formulated siting criteria for SWM facilities; 10-year SWM Plan; and climate-friendly technologies
Environmental Education and Information	•Building capacities for CC adaptation for relevant universities and their client communities
Philippine Ozone Desk & Clean Development Mechanism	 Policy intervention on GHGs covered by Kyoto and Montreal Protocols
Research and Development	•Climate Change Adaptation for Coastal Communities

6. Promotion of Awareness on Climate Change

6.1 Technical Paper Presentations and Discussions

The EMB has been invited to present technical paper presentations and position papers on climate change-related themes and issues in recently-held conferences, symposiums, training-workshops and annual conventions from various government organizations, academic/research institutions, private/business organizations and professional associations, both locally and international.

6.2 Observance of National Climate Change Consciousness Week

In 2012, the EMB conducted the EMB T-shirt Design Contest with the theme, "Climate Change is Real. Act Now." Among the 22 entries received, 3 winners were chosen for the 1st category while another 3 for the 2nd category. In line with this, exhibit materials on the basics of climate change, the country's scenarios and projections, adaptation strategies and mitigation measures which highlighted the country's CDM project activities were developed and displayed at the UP Palma Hall West wing in coordination with the College of Social Sciences and Philosophy (CSSP) Student Council and at the DENR Lobby.

The EMB also provided inputs and the concept design for the participation of the DENR as one of the major exhibitors in the Green S.T.O.R.E (Strategies, Technologies and Opportunities to Reduce Emissions)





held on 19 November 2012 at the New World Hotel, Makati City. The DENR exhibit, with the theme "Pursuing a Low Carbon Path to Climate Change", highlighted two (2) exemplary programs of the DENR– the National Greening Program (NGP) and the CDM which both provide wide-ranging opportunities in reducing carbon emissions.



In 2013, the EMB organized the Low Carbon Exhibit and Fair Carbon themed "Make Low Lifestyle a Way of Life" on 26-27 November 2013 at the EMB Grounds. This aimed to enhance public awareness of a greener and low-carbon lifestyle. It showcased low-carbon initiatives and green practices of both private and public sectors.

6.3 Production of IEC Materials

Publication of the Training Toolkit on Climate Proofing for Development (CP4D Toolkit)

The CP4D Toolkit aims to serve as a tool to heighten the capacity among the various Bureaus of the DENR and its stakeholders to be able to successfully fulfill its mandate and to take action on climate change adaptation.



Work on the document began in July 2009 when the Adaptation to Climate Change and Biodiversity Conservation (ACCBio) introduced the GIZ instrument Climate Check and the concept of analyzing climate risks through climate proofing.

Since then, the tool has evolved into a full-blown training toolkit in response to the need to build the institutional capacity of the DENR to "systematically integrate the concept of climate change in various phases of policy formulation, development plans, poverty reduction strategies, and other

development tools and techniques" which is consistent with the mandate of the Climate Change Act of 2009.

The Toolkit has four (4) volumes as follows:

Volume 1	Overview
Volume 2	Applying A Climate Lens
Volume 3	The Four-Step Approach to Mainstreaming Adaptation
Volume 4	Planning for Climate Change Action

The Toolkit was subjected to an iterative process of testing and improvement in the climate proofing trainings of the Ecosystems Research and Development Bureau, Biodiversity Management Bureau, Planning and Policy Office-DENR, and the Forest Management Bureau. It was likewise tested during the two-day Orientation and five-day Full Training Courses on CP4D on the EMB Regional Directors and Senior Technical Staff, respectively.

This initiative on capacity development on climate change adaptation was undertaken with assistance from the GIZ through the projects, ACCBio and "Inventory of Methods for for Adaptation to Climate Change" funded by the German Federal Ministry for Environment, Nature Conservation and Nuclear Safety under its International Climate Initiative.

The EMB was the lead agency for the institutional strengthening component of the ACCBio Project.



Development and Production of Video Documentary on Climate Change Mitigation

A video documentary on climate change mitigation had been produced with the Philippine Information Agency (PIA) and have been distributed among relevant institutions and organizations.

6.4 Development of Educational Modules Integrating Climate Change Adaptation and Disaster Risk Reduction

As part of the MDGF 1656 Project on Building Capacities for Climate Change Adaptation for Relevant Universities and Colleges and their Client Communities, the EMB together with PATLEPAM and selected academicians nationwide developed educational modules integrating climate change concerns for use in the nursing, engineering and NSTP courses/ subjects. These were the outputs after a review and curricular enrichment proposals of the following courses had been undertaken:

- B.S. Fisheries for the Coastal and Marine Sector
- B.S. Nursing for Health
- B.S. Agriculture and Agricultural Engineering for Agriculture
- BS Civil Engineering for Water Sector
- B.S. Forestry for Forestry and Biodiversity Sector

It also reviewed the curriculum for the National Service Training Program (NSTP) for the General Education Curriculum of tertiary education.

These were officially submitted to the Commission on Higher Education in the hope of possible revision and climate proofing of the curricula to better cope with climate change concerns.

- 7. International Concerns and Commitments
 - 7.1 Participation in UN Climate Negotiations

The Bureau has been designated as the DENR's technical focal agency for international affairs in relation to the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Clean Development Mechanism (CDM). Its valuable contribution and participation in UN climate talks has been recognized by the Department of Foreign Affairs and by the Climate Change Commission that authorized the Bureau as the DENR's regular member of the Philippine delegation of negotiators to the sessions by the UNFCCC and its bodies.

The Bureau has been given the credentials to participate in three (3) major events by the UNFCCC that comprised the sessions by the Conference of Parties, Subsidiary Bodies and Ad Hoc Working Group.



7.2 Partnership with International Institutions

EMB has established institutional partnerships with various international organizations that enable the Bureau to benefit from the co-implementation of programs related to capacity building and information/experience sharing and to gain state-of-the-art technical know-how and knowledge.

The diagram below indicates the areas of partnership by the Bureau with the UNFCCC, IGES, GIZ, UNDP and ESCAP.



7.3 EMB-UNFCCC Joint Undertaking On Capacity Building for DNAs/NFPs



The DENR, being the Philippines' Designated National Authority for Clean Development Mechanism (DNA-CDM), through the EMB as its CDM Secretariat, cohosted with the UNFCCC Secretariat, United Nations Development Programme, Asian Development Bank (ADB) and Institute for Global Environmental Strategies (IGES) of Japan, the UNFCCC events on 18-20 July 2012 and 2-5 September 2013 at the ADB Headquarters, Mandaluyong City.

The events enhanced the capacity of designated national authorities (DNAs), coordinating and managing entities (CMEs) of programmes of activities (PoAs) and other stakeholders for the Asia-Pacific and Eastern Europe region in the development of standardized baselines (SBs), implementation of POAs, development of NAMAs, and establishment of Nationally Appropriate Mitigation Actions (NAMAs) including reducing barriers in CDM loan scheme, emission trading schemes and inter-linkages, and innovation in carbon finance, among others.

8. Assessment of Performance

The implementation of the Clean Development Mechanism (CDM) of the Kyoto Protocol placed the Philippines as one of the prospective host countries with vast potential for CDM investments. As such, the program has paved the way for more foreign investments particularly in renewable energy project activities which aside from addressing climate change mitigation through the reduction and/or avoidance of greenhouse gases, have likewise facilitated the country's achievement of its sustainable development objectives through the provision of economic, social and environmental benefits.

For instance, efficient and more appropriate technologies for renewable energy such as wind, hydropower and geothermal which have been transferred to specific sites which are in dire need of adequate electricity have opened opportunities among the nearby communities for employment, livelihood, more social services, and somehow improved standard of living.

On the part of the investor/project proponent, aside from generating savings from maintenance and operating costs which could be channeled to more important services, certified emission reduction units (CERs) or carbon credits could also be earned thereby increasing profits from the business side of it in addition to its corporate responsibility towards environmental protection and management.

The conduct of the greenhouse gas inventory as a climate change mitigation initiative would serve as a sound basis for identifying appropriate sectors and areas where mitigation actions could take place. Henceforth, it should be ensured that all EMB regional offices should already been able to establish their respective regional ghg inventory teams. Outputs are likewise envisioned to be part of the next national communications on climate change.

As Chair of the Cabinet Cluster on Climate Change Mitigation and Adaptation, the 5year Climate Change Capacity Development Plan being facilitated by the EMB could be a useful adaptation tool in ensuring the DENR's programs and activities to be more responsive to the impacts of climate change.

9. Way Forward

9.1 Millennium Development Goals Carbon Facility (MDG CARBON)

The MDG Carbon Facility was launched by UNDP with the purpose of providing carbon finance to developing countries which are promoting emission reduction projects. These projects would contribute to the Millennium Development Goals because of their sustainable development and poverty reduction benefits.

UNDP will work with the Philippine government through the EMB by providing technical assistance and carbon finance services in the implementation of emissions reductions projects and at the same time, generate carbon credits. UNDP will establish partnership with buyers from the private or public sector who can be the potential buyers of the projects' carbon credits.

Specifically, UNDP will support the EMB-CCO as the secretariat of the Philippine Designated National Authority for CDM to develop a standardized baseline for the Agricultural sector (rice production) in the Philippines.

The goal is to standardize the CDM methodology on "Methane Emission Reduction by Adjusting Water Management Practice in Rice Cultivation".



9.2 Promotion of Sustainable Consumption Through the EcoPerform Recognition System

EMB will establish partnership with the Philippine Center for Environmental Protection and Sustainable Development, Inc. (PCEPSDI) in developing a voluntary recognition mechanism, the EcoPerform, that will promote sustainable consumption and production (SCP). EcoPerform ultimately aims to green the supply chain of industries and to promote cleaner production.



9.3 Efforts Toward Low Emission Development Strategies

The EMB will pursue various initiatives and undertakings for the attainment of the country's Low Emission Development Strategies. It will maintain its partnership and institutional partnership with various agencies, institutions and entities which promote and undertake low carbon emission projects and programs.

The figure below shows various undertakings by the Philippines wherein EMB is involved in project implementation either as the lead agency or as a project/ program partner.



9.4 Building Adaptive Capacities and Resilience to Climate Change

The overall outcome of the ongoing undertakings by the Bureau on Climate-Proofing is primarily to increase the adaptive capacity of communities and resilience of natural ecosystems to climate change as reflected in the flow of activities/ programs below.



10. Challenges

Climate data for the past 50 years already shows trends of rising temperatures by about 0.011 degree Celsius, changes in rainfall pattern, and increasing number of extreme climate events like cyclones, flooding, and drought.

The table below illustrates frequency and intensity of tropical cyclones that have visited the Philippines over the last ten years that have brought about massive loss of lives and billions of pesos in damage in properties.



Scientific studies indicate that even if significant reduction in greenhouse gas emissions is made, the lag in the climate system means that the world still faces decades of climate change due the emissions already put into the atmosphere. Although the Philippines is not a major emitter of greenhouse gases, it will not be spared from the adverse effects of global climate change.

Adaptation is therefore a necessary complement to measures that reduce greenhouse gas emissions. It is a mechanism intended to manage risks, adjust economic activity to reduce vulnerability, and to improve business certainty.

The CCD have undertaken capacity building activities within the EMB, LGUs and other national government agencies to guide them in mainstreaming climate change adaptation into their plans, programs and programs in the pursuit of making them climate-resilient and climate responsive.

Despite these achievements, however, there is still a need to capacitate more organizations on how to undertake the basic climate adaptation planning process to come up with more trainers to fast-track the process and to monitor progress within the EMB.

While initial steps have already been undertaken in mainstreaming climate change adaptation in the Bureau's major programs, there is a need to level-up such efforts for more concrete and meaningful implementation of its mandate to be able to effectively management the country's environment despite the changing climate.

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