

System of Environmental-Economic Accounting: The Philippine Experience

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Regional Training Workshop on SEEA Asset Accounts for Sustainable Development

Chiba, Japan
16 to 19 June 2025



Outline

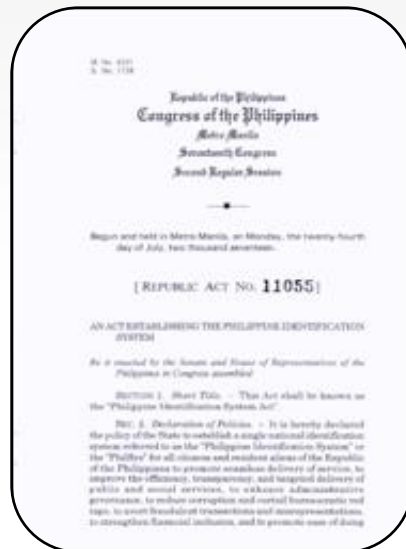
- Introduction
- Asset Accounts of the Philippines
- Natural Capital Accounting Roadmap
- The Philippine Ecosystem and Natural Capital Accounting System (PENCAS) Act
- Ways Forward

Introduction

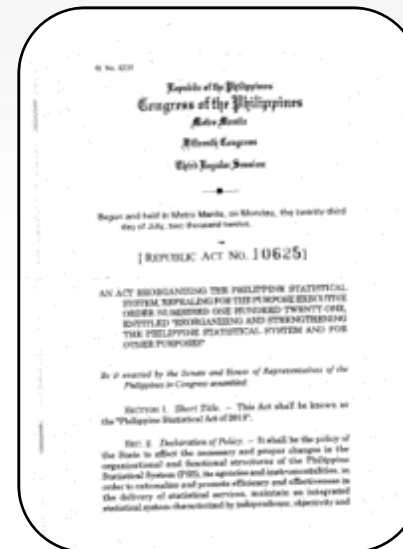
About PSA. Historical background.

About PSA

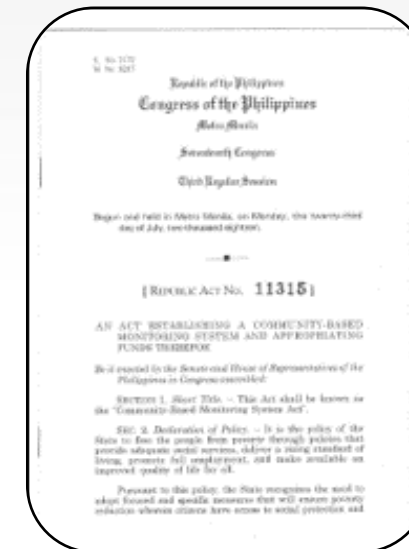
Responsible for the implementation of the objectives and provisions of:



Republic Act No. 11055
Philippine Identification System Act

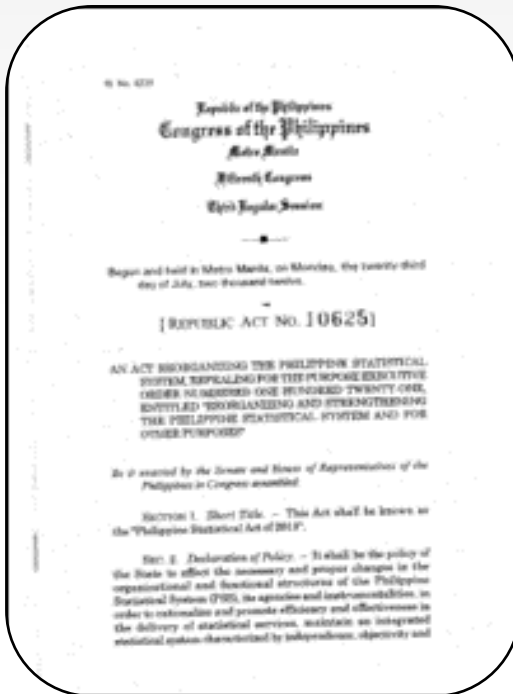


Republic Act No. 10625
Philippine Statistical Act of 2013



Republic Act No. 11315
Community-Based Monitoring System Act

Environment and Natural Resources Accounts Division

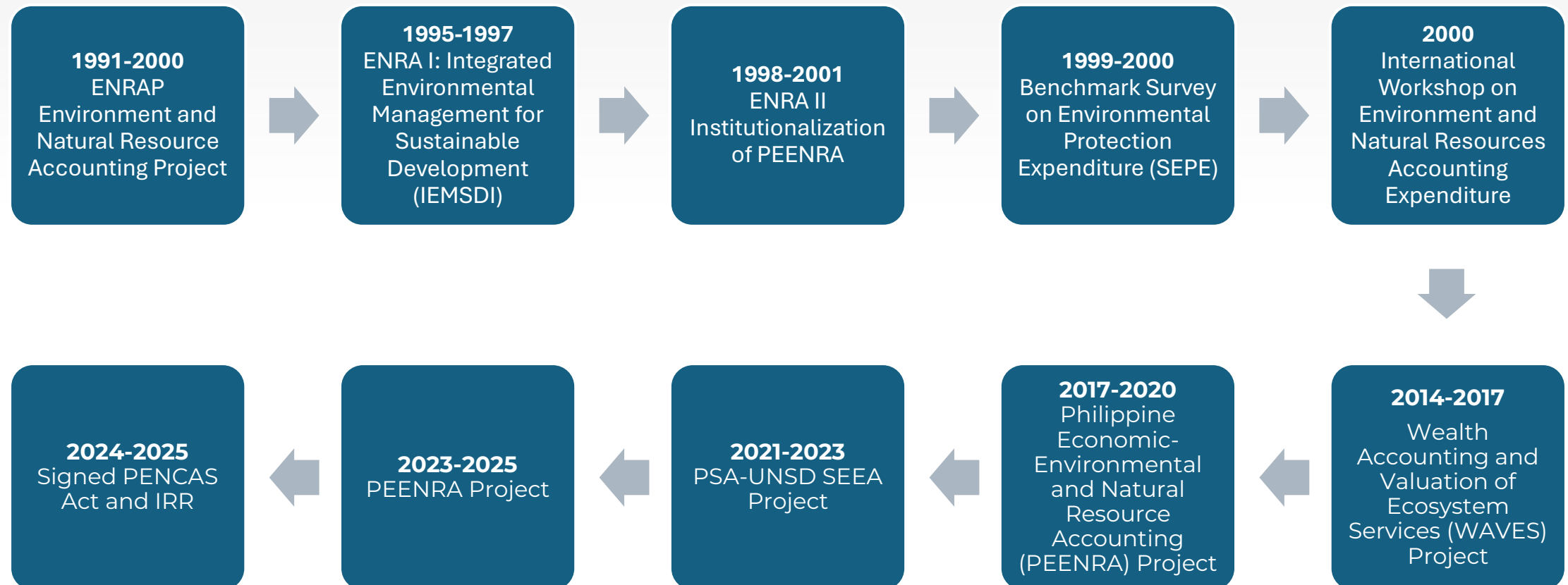


Republic Act No. 10625
*Philippine Statistical
Act of 2013*

Develops and maintains the compilation as well as conducts research and studies for the improvement of **natural capital accounts, environmental accounts, and ecosystem accounts**

Develops and maintains statistics and indicators on **environment, climate change, and disaster** to be able to provide environment, climate change, and disaster statistics-based information support system by region

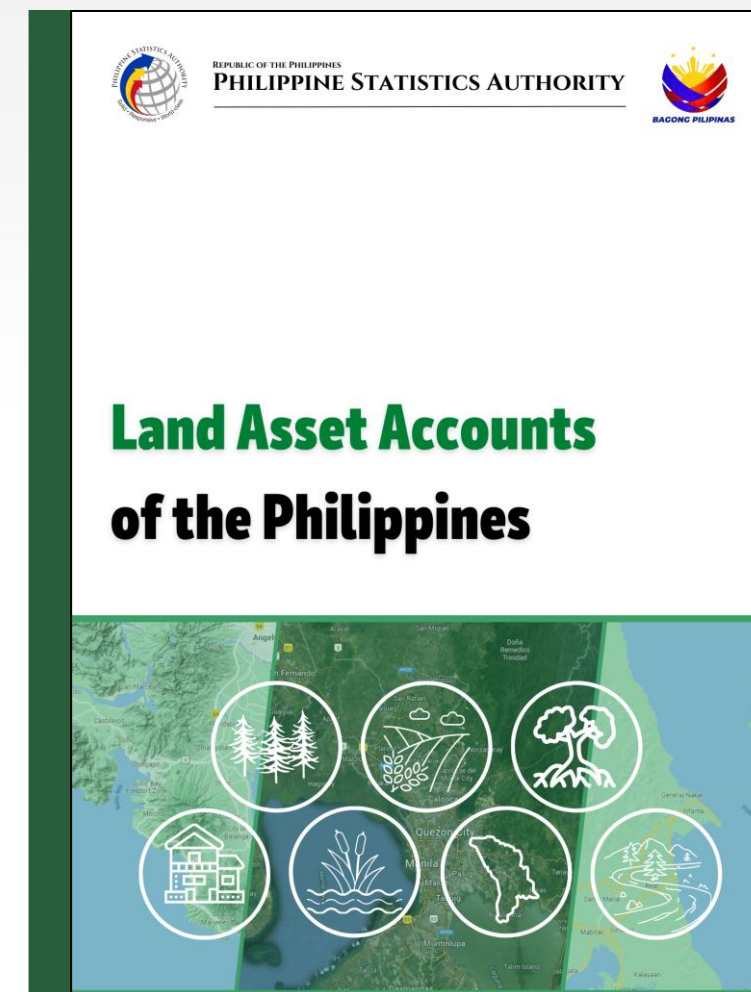
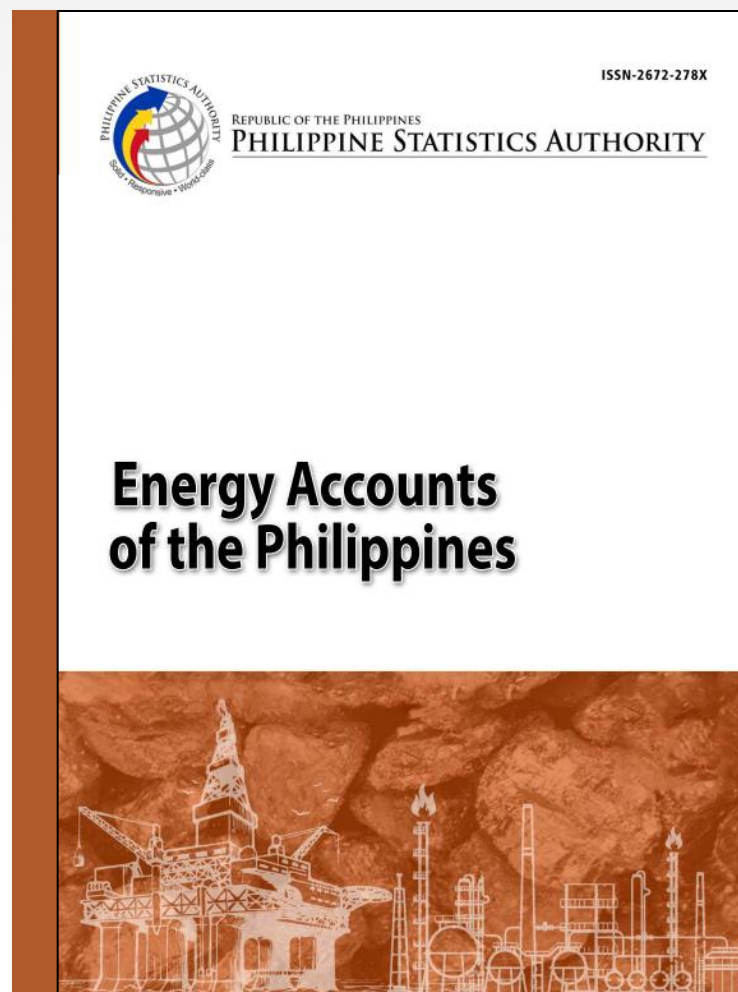
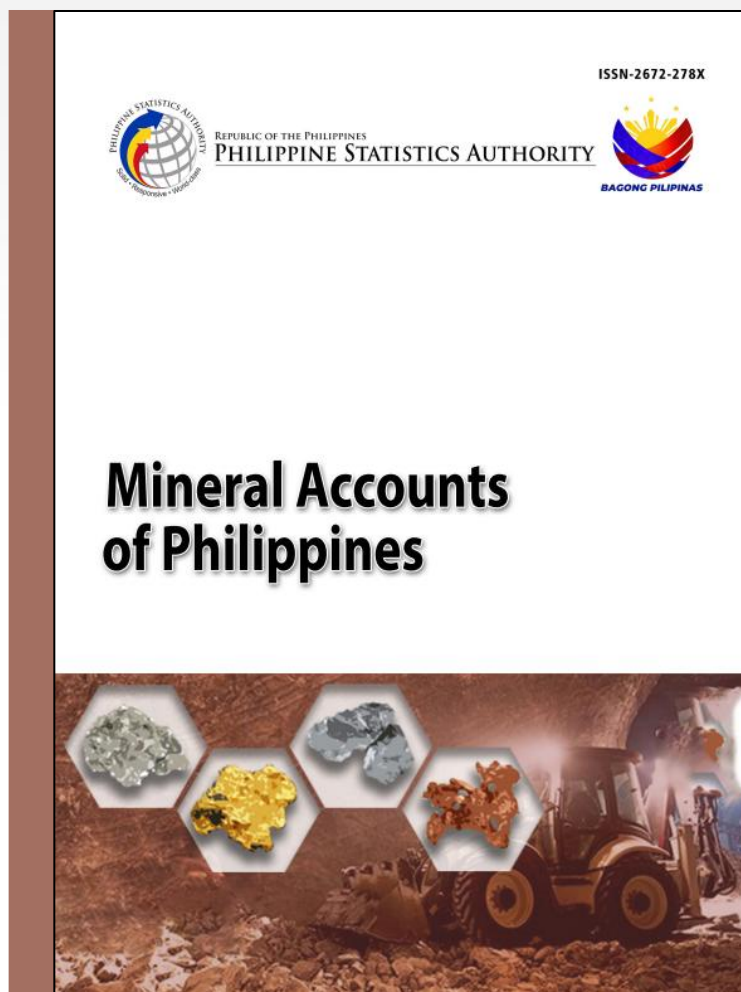
Environmental-Economic Accounting in the Philippines



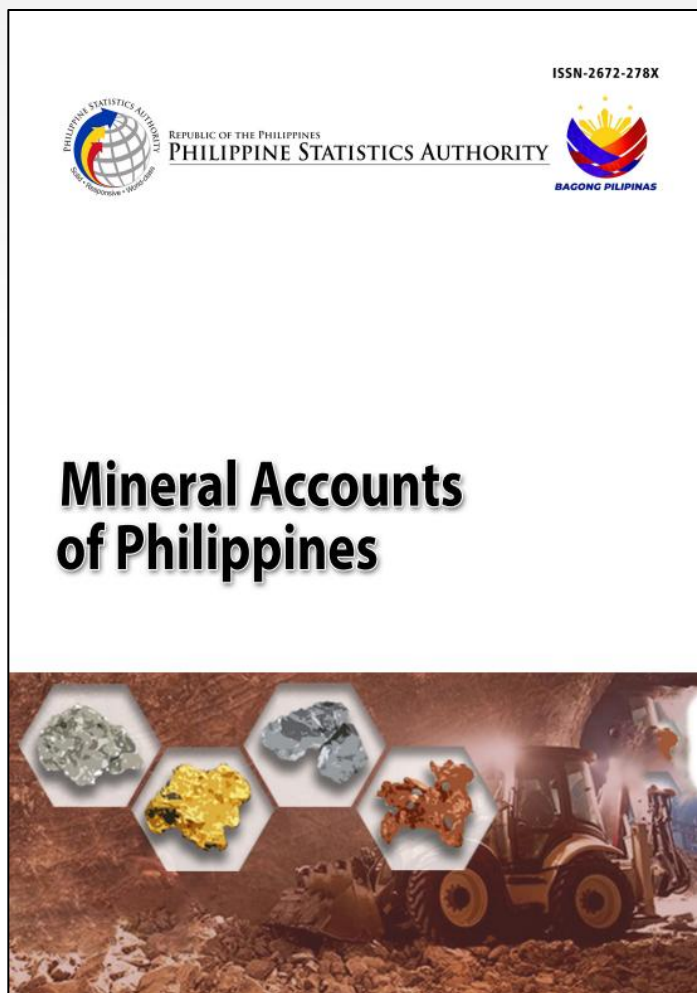
Asset Accounts of the Philippines

Accounts. Scope and Coverage. Data Sources and References. Classification Criteria. Challenges, Issues and Limitations. Outputs.

Asset Accounts of the Philippines



Mineral Asset Accounts



- Physical and monetary asset accounts of the country's metallic mineral resources, namely: **gold, copper, nickel, and chromite.**
- Updated annually, with latest coverage of 2014 to 2023
- Physical:
 - Gold: metal content, kilograms
 - Copper: metal content, metric tons
 - Nickel: ore form, dry metric tons
 - Chromite: ore form, metric tons
- Monetary: Philippine Peso
- Classified as **Class A**, commercially recoverable resources; **Class B**, potentially commercially recoverable resources; and **Class C**, non-commercial and other known deposits

Data Sources

Physical Accounts



Mines and Geosciences Bureau

- Mineral Resource/Reserve Inventory by Mining Contractors, Region, Province, Year, and Commodity
- Mineral Production by Mining Contractors, Region, Province, Year, and Commodity

Physical Asset Accounts Data Requirements	Data Collected
Opening Stocks	Inventory of the previous year
Discoveries of New Stock	Mineral Resource/Reserve Inventory
Upward and Downward Reappraisals	Estimated as balancing item (case to case)
Reclassifications (Additions and Reductions in Stocks)	Mineral Resource/Reserve Inventory Production Data Tenurial Permits, Suspension and Closure Orders
Extractions	Production Data
Closing Stocks	Mineral Resource/Reserve Inventory

Data Sources

Monetary Accounts



- Physical Asset Accounts for Mineral Resources
- Gross Value Added in Mining and Quarrying
- Input-Output Table, Supply and Use Table
- Annual Survey on Philippine Business and Industry (ASPBI)
- Census on Philippine Business and Industry (CPBI)



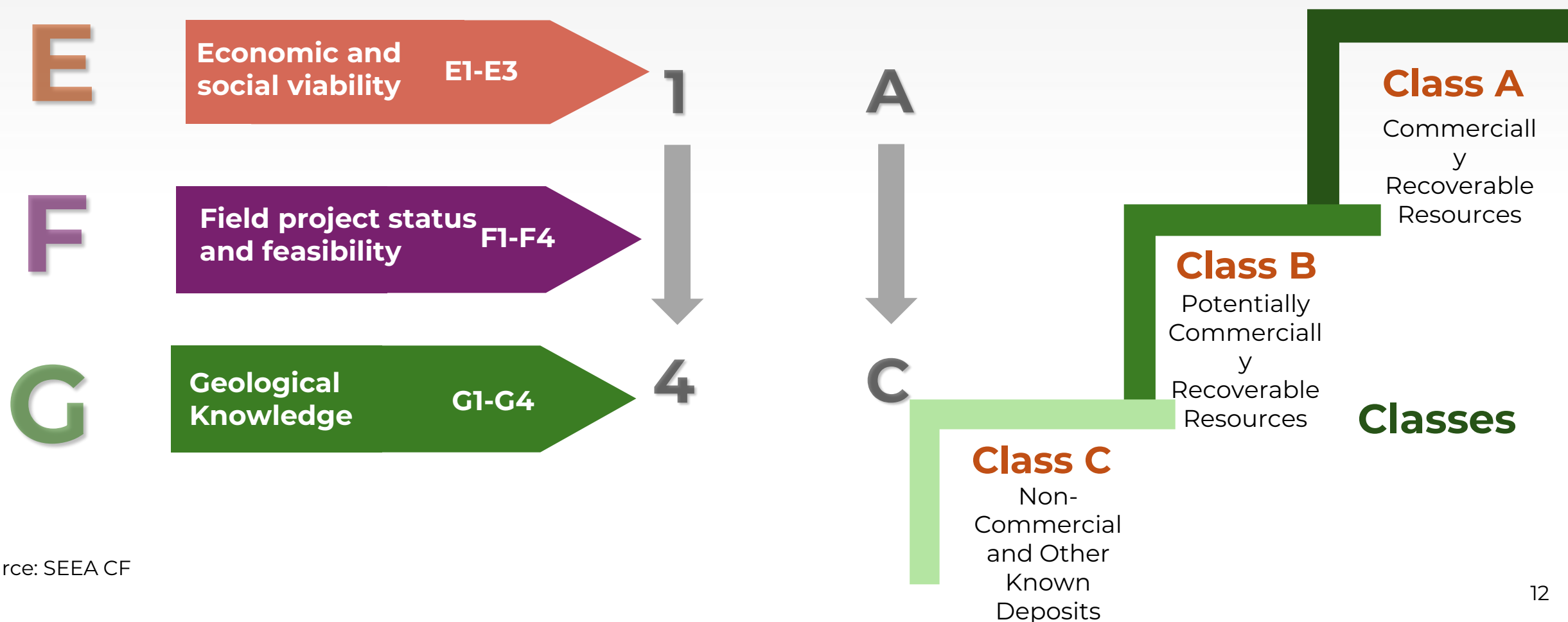
Parameters on financial investments



Social Discount Rate

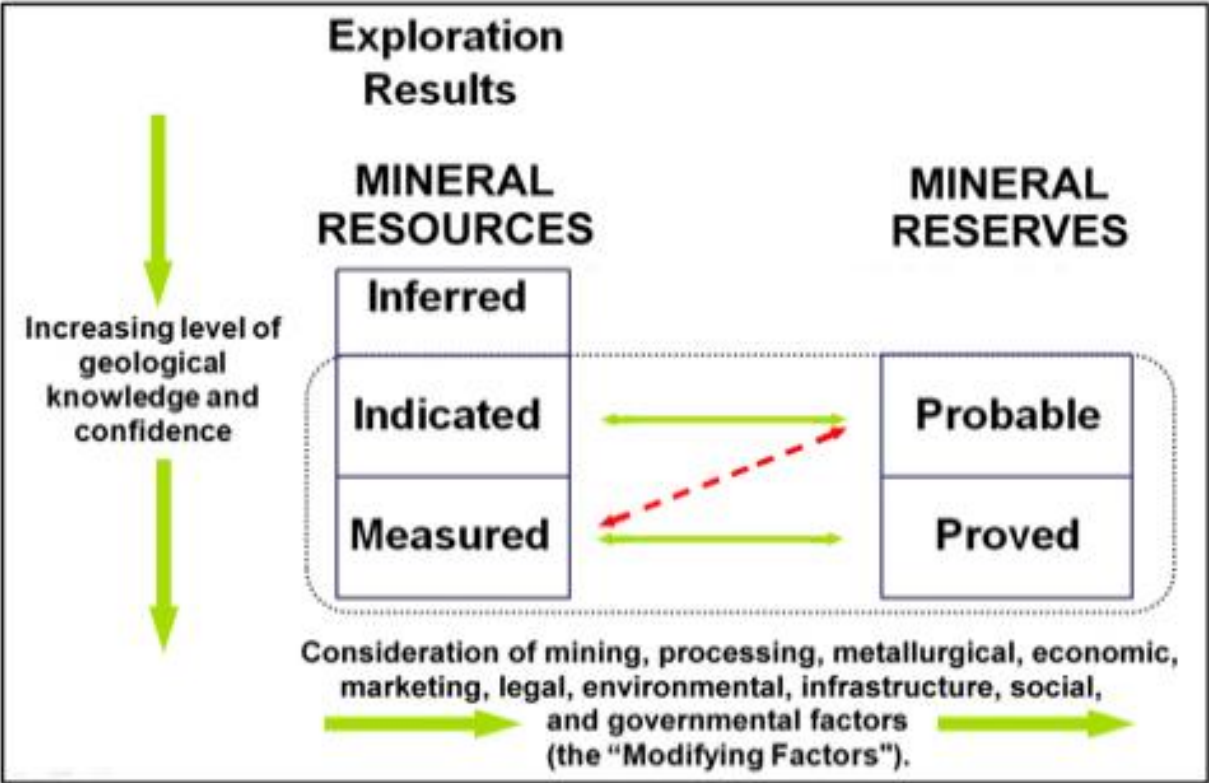
Resource Rent Estimation Data Requirements	Data Source
Gross Output of MAQ Sub-Industry (e.g. Mining of nickel ores, gold ores and other precious metals, etc.)	National Accounts (GDP)
Gross Value Added of MAQ Sub-Industry	National Accounts (GDP)
Compensation of Employees	Input-Output Table Parameter
Other Taxes on Production plus other Subsidies	Input-Output Table Parameter
Consumption of Fixed Capital	Input-Output Table Parameter
Book Value of Fixed Capital	Establishment Survey (extractive industries)
Interest Expense	Establishment Survey (extractive industries)
Revenue	Establishment Survey (extractive industries)

SEEA Mineral Classification



Committee for Mineral Reserves International Reporting Standards

The CRIRSCO standards aim to **quantify, qualify, and categorize mineral assets on the basis of the best supported data, models, and criteria**. A clear distinction between resources and reserves is mandatory. Data from MGB follows this categorization (DAO 2010-09).



DENR Administrative Order 2010-09
“Providing for the Classification and Reporting Standards of Exploration Results, Mineral Resources and Ore Reserves”

The Mineral Resource/Reserve Inventory (MRI) of the Mines and Geosciences Bureau follows this categorization.

Update: DAO 2023-05 – Revised Guidelines for the Classification and Reporting Standards of Exploration Results, Mineral Resources and Mineral Reserves

Status-based Classification Criteria

MRI	SEEA Class	Criteria based on the Status of Operation
Reserves	A	Producing / Commercial operation
		Not yet producing but DMPF is approved
	B	Has a DMPF awaiting approval
		Temporarily suspended/Under Care and Maintenance
Resource (Measured or Indicated)	C	Decommissioned / Closed Inactive
	A	N/A
		Commercial operation
	B	Development Stage
Resource (Inferred)	C	Under Exploration
		Decommissioned / Closed Inactive
Other Known Deposits*	C	<i>Regardless of status</i>
	C	Inactive
		Additional quantities in place

Challenges and Issues

- The Mines and Geosciences Bureau also depends on the submission of mining companies. Thus, incomplete submission from them means incomplete data provided to PSA.
- The unit of measurement for the commodities differs among mining companies.

Outputs

REPUBLIC OF THE PHILIPPINES PHILIPPINE STATISTICS AUTHORITY PRESS RELEASE

Value of Philippines' Class A Gold, Copper, Nickel, and Chromite Reserves Amounted to PhP 474.00 Billion in 2023

Date of Release: 06 June 2024
Reference No. 2024 – SSD 160

Monetary Asset Accounts

The total monetary value of the Philippines' Class A gold, copper, nickel, and chromite reserves amounted to PhP 474.00 billion in 2023. This amount went up by 2.0 percent from PhP 464.51 billion in 2022.¹

Figure 1. Gold, Copper, Nickel, and Chromite: Monetary Value in Billion Philippine Peso (PhP), 2014 to 2023



Class A gold indicating an increase of 1.5 percent from 408.00 thousand kg in 2022. On the other hand, the extraction of gold, on the other hand, slightly increased by 0.4 percent to 21.48 thousand kg in 2023 from 21.40 thousand kg in 2022. (Figures 2 and 3)

¹ Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) is not yet included in the Mineral Accounts of the Philippines due to data limitations.



Highlights of the Mineral Asset Accounts of the Philippines 2014 to 2023

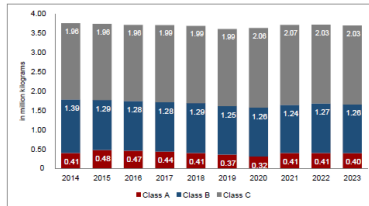
The Mineral Asset Accounts of the Philippines presents the physical and monetary asset accounts of the country's metallic mineral resources, namely: gold, copper, nickel, and chromite.¹ It provides information on the volume and value of stocks of these metallic minerals at the start and end of each year as well as the changes in stocks that occurred during the period. These mineral resources were also classified as follows: Class A, commercially recoverable resources; Class B, potentially commercially recoverable resources; and Class C, non-commercial and other known deposits.

Physical Asset Accounts

Gold

In 2023, the country's total gold reserves and resources reached 3.69 million kilograms (kg), down by 0.6 percent from 3.72 million kg in 2022. Among the three classes, Class C had the highest volume in 2023 comprising 55.1 percent of the total gold reserves and resources or equivalent to 2.03 million kg. (Figure 1)

Figure 1. Total Gold Reserves and Resources by Class: Physical Asset Accounts in million kilograms, 2014 to 2023



Source: Philippine Statistics Authority

The stocks of Class A gold reserves declined to 401.70 thousand kilograms (kg) or by 1.5 percent from 408.00 thousand kg in 2022. The extraction of gold, on the other hand, slightly increased by 0.4 percent to 21.48 thousand kg in 2023 from 21.40 thousand kg in 2022. (Figures 2 and 3)

¹ Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) is not yet included in the Mineral Accounts of the Philippines due to data limitations.

REPUBLIC OF THE PHILIPPINES PHILIPPINE STATISTICS AUTHORITY

TECHNICAL NOTES Mineral Accounts of the Philippines: Asset Accounts

I. Conceptual Framework

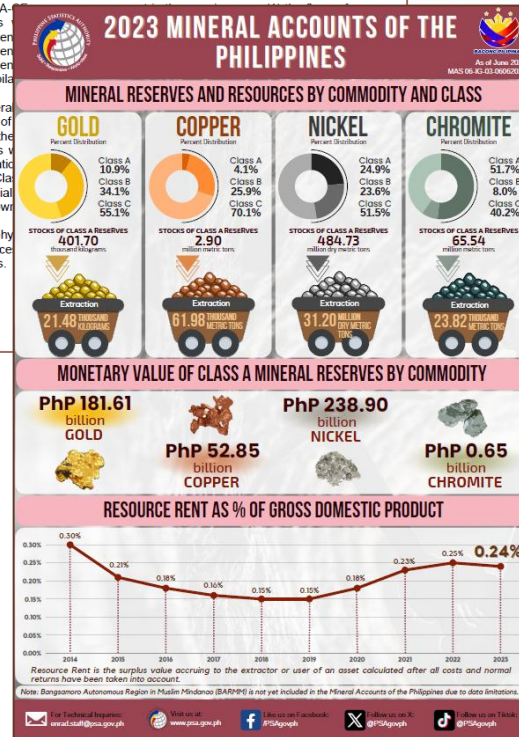
The Mineral Accounts of the Philippines is a publication that presents the physical and monetary asset accounts of the country's metallic mineral resources, namely: gold, copper, nickel, and chromite. The accounts are updated on an annual basis.

The System of Environmental-Economic Accounting 2012 Central Framework (SEEA-CF), a multi-purpose framework for measuring the environment and its interaction with the economy, serves as the framework for this compilation. It is also a statistical framework that consists of a comprehensive set of tables and accounts which guides the compilation of consistent and comparable statistics and indicators for policy making, analysis, and research.

The SEEA resources, environment, and environment accounts are compiled.

The mineral accounts of stocks of well as the resources and resources v. Classification follows: Class A, commercially recoverable resources; Class B, potentially commercially recoverable resources; and Class C, non-commercial and other known deposits.

A basic physical account of resource accounts.



Note: Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) is not yet included in the Mineral Accounts of the Philippines due to data limitations.

THE MINERAL ACCOUNTS OF THE PHILIPPINES

Aims to provide information on the volume and value of stocks and changes in stocks of **GOLD, COPPER, NICKEL, and CHROMITE**.

Mineral resources are classified according to three criteria affecting their likelihood of extraction:
Economic and social viability (E), Field project status and feasibility (F), Geological knowledge (G)

- Class A:** Commercially recoverable resources
- Class B:** Potentially commercially recoverable resources
- Class C:** Non-commercial and other known deposits

Source: UN Framework for Classification for Fossil Energy and Mineral Reserves and Resources (UNFC-2009)

Physical Stocks and Extraction of Class A Reserves, 2023

Gold Extraction 21.48 THOUSAND KILOGRAMS	GOLD RESERVES 401.70 THOUSAND kilograms
Copper Extraction 61.98 THOUSAND METRIC TONS	COPPER RESERVES 2.90 MILLION metric tons

NICKEL RESERVES 484.73 MILLION dry metric tons

CHROMITE RESERVES 65.54 MILLION metric tons

Note: Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) is not yet included in the Mineral Accounts of the Philippines due to data limitations.

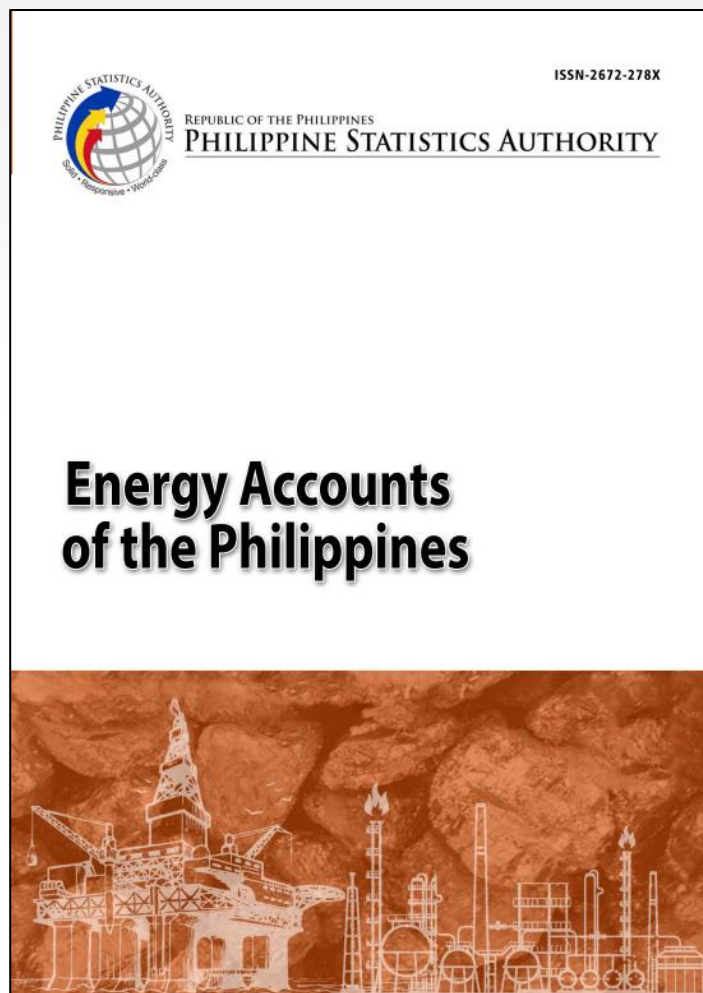
Monetary Value of Class A Reserves, 2023

The value of country's Class A Gold, Copper, Nickel, and Chromite increased to **PhP 474.00 billion** in 2023 from PhP 464.51 billion in 2022.

Release Date: 06 June 2024

<https://psa.gov.ph/statistics/environmental-accounts/mineral/node/1684063890>

Energy Asset Accounts



- presents the physical and monetary asset accounts of the country's energy resources, namely: **coal**, **oil**, **natural gas**, and **condensate**.
- Updated annually, with latest coverage of 2014 to 2023
- Physical:
 - Coal: metric tons
 - Oil: barrels of oil (bbl Oil)
 - Natural Gas: standard cubic feet of gas (scf)
 - Condensate: barrels
- Monetary: Philippine Peso
- Classified as **Class A**, commercially recoverable resources; **Class B**, potentially commercially recoverable resources; and **Class C**, non-commercial and other known deposits

Data Sources

Physical Accounts



Department of Energy
Energy Resource Development Bureau (ERDB)

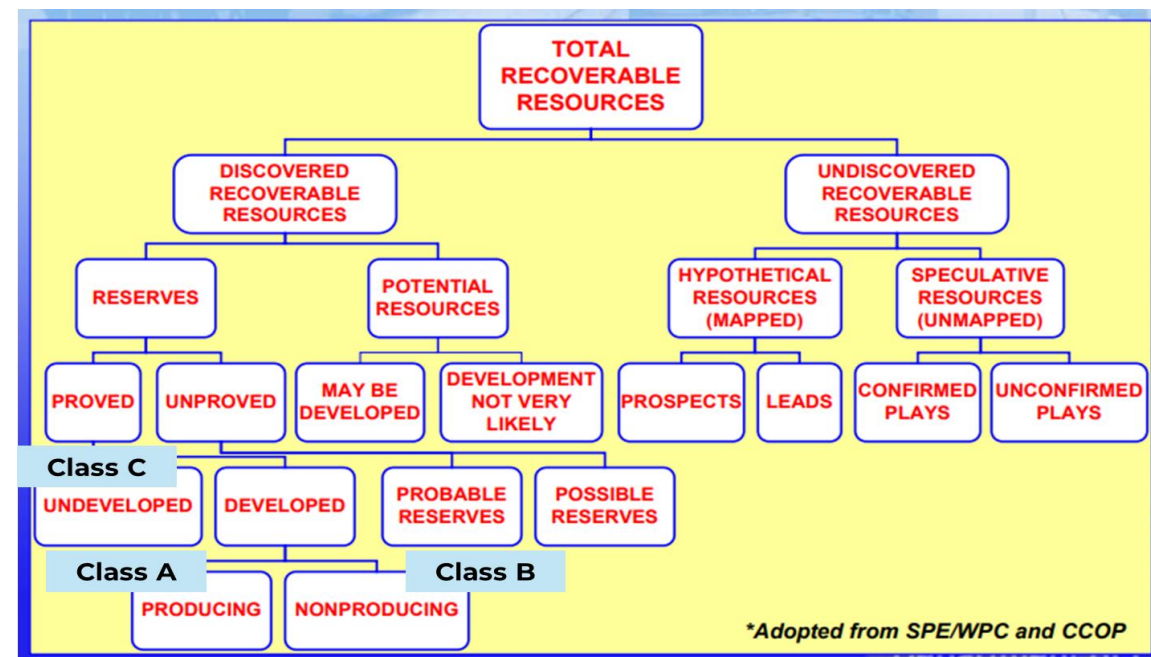
- Coal Reserves by Coal Region, Coal Production by Coal Operating Contract and by Small Scale Coal Mining Permit
- Oil, Natural Gas, and Condensate Reserves and Extractions by Service Contractors

Physical Asset Accounts Data Requirements	Data Collected
Opening Stocks	Inventory of the previous year
Discoveries of New Stock	Coal, Oil, Natural Gas, and Condensate Reserves Inventory
Upward and Downward Reappraisals	Estimated as balancing item (case to case)
Reclassifications (Additions and Reductions in Stocks)	Coal, Oil, Natural Gas, and Condensate Reserves Inventory Production Data
Extractions	Production Data
Closing Stocks	Coal, Oil, Natural Gas, and Condensate Reserves Inventory

Status-based Classification Criteria

Class	Criteria
A	Producing / Commercial Operation
B	Temporary Suspension
C	Permanently stopped operations / Decommissioned
	Inactive

Philippine Petroleum Resource Classification System



Challenge

Issues and Challenges	Resolution
<p>Data availability of coal reserves by Coal Operating Contracts and by Small Scale Coal Mining Permit areas</p>	<ul style="list-style-type: none">• Accounting for coal resources by coal region.• DOE planning to adopt the Committee for Mineral Reserves International Reporting Standards.

Outputs



REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY



PRESS RELEASE

Philippines' Class A Coal, Oil, Natural Gas, and Condensate Reserves Valued at PhP 317.65 Billion in 2023

Date of Release: 17 October 2024
Reference No. 2024-SSO-049

Monetary Asset Accounts

The total monetary value of the coal, oil, natural gas, and condensate reserves amounted to PhP 317.65 billion in 2023. This was a decline of 46.5 percent from PhP 374.55 billion in 2022. (Figure 1)

Figure 1. Coal, Oil, Natural Gas, and Condensate Reserves in Billion Philippine Pesos



In 2023, Class A coal reserves represented a 48.7 percent decline from 2022. Similarly, the value of oil reserves decreased by 16.2 percent from PhP 19.07 billion in 2022 to PhP 15.99 billion in 2023. Class A natural gas reserves recorded a decrease of 67.9 percent from PhP 19.55 billion in 2022 to PhP 7.28 billion in 2023. Condensate reserves also declined by 50.0 percent from PhP 8.00 billion in 2022 to PhP 22.81 billion in 2023.



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DIVINA GRACIA L. DEL PRADO, PhD
 Assistant Secretary
 Deputy National Statistician
 Sectoral Statistics Office


* Based on the System of Environmental-Economic Accounting Central Framework (SEEA-CF), resource rent is the surplus value accruing to the extractor or user of an asset, calculated after all costs and normal returns have been taken into account.

* The valuation of the energy assets of the Philippines uses the Net Present Value Approach as recommended by SEEA-CF using a 10.0 percent social discount rate.

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2023 ENERGY ACCOUNTS OF THE PHILIPPINES



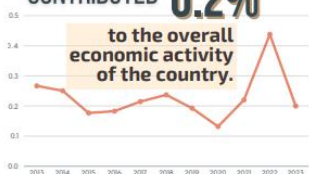
THE ENERGY ACCOUNTS OF THE PHILIPPINES aims to provide information on the volume and value of stocks and changes in stocks of coal, oil, natural gas, and condensate resources in the country.

Energy resources are classified according to three criteria affecting their likelihood of extraction: Economic and social viability (E), Field project status and feasibility (F), Geological knowledge (G)

- Class A:** Commercially recoverable resources
- Class B:** Potentially commercially recoverable resources
- Class C:** Non-commercial and other known deposits

Source: UN Framework for Classification for Fossil Energy and Mineral Reserves and Resources (UNFC-2009)

NON-RENEWABLE ENERGY RESOURCES CONTRIBUTED 0.2% to the overall economic activity of the country.



STOCKS OF CLASS A RESERVES

Resource	Stocks (2023)
Coal	411.71 million metric tons
Natural Gas	19.55 billion scf ¹
Oil	30.41 million barrels of oil
Condensate	8.00 million barrels

EXTRACTIONS

Resource	Extractions (2023)
Coal	19.56 million metric tons
Natural Gas	80.66 billion scf ¹
Oil	501.20 thousand barrels of oil
Condensate	1.90 million barrels

¹ scf means standard cubic feet of gas

MONETARY VALUE OF CLASS A ENERGY RESOURCE

in billion Philippine Peso (PhP)

Resource	Value (2023)
Natural Gas	PHP 7.28
Oil	PHP 15.99
Condensate	PHP 22.81
Coal	PHP 271.57


For Technical Inquiries: email: stat@psa.gov.ph

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2023 ENERGY ACCOUNTS OF THE PHILIPPINES



ENERGY ASSET ACCOUNTS

aim to provide information on the volume and value of coal, oil, natural gas, and condensate.

Energy resources are classified according to three criteria affecting their likelihood of extraction: Economic and social viability (E), Field project status and feasibility (F), Geological knowledge (G)

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STOCKS OF CLASS A RESERVES

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EXTRACTIONS

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Natural Gas	80.66 billion scf ¹
Oil	501.20 thousand barrels of oil
Condensate	1.90 million barrels

¹ scf means standard cubic feet of gas

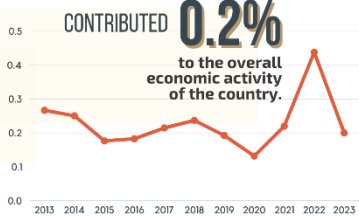
MONETARY VALUE OF CLASS A ENERGY RESOURCES

in billion Philippine Peso (PhP)

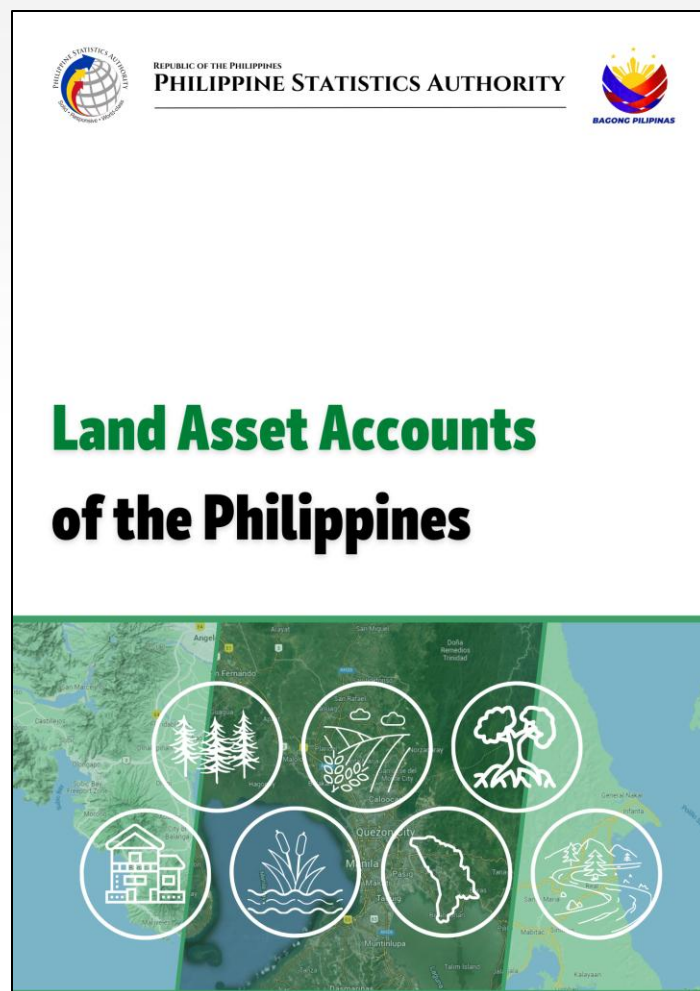
Class A reserves are valued at:

Resource	Value (2023)
Coal	PHP 271.57
Natural Gas	PHP 7.28
Oil	PHP 15.99
Condensate	PHP 22.81

NON-RENEWABLE ENERGY RESOURCES CONTRIBUTED 0.2% to the overall economic activity of the country.



Land Asset Accounts



- The Land Asset Accounts of the Philippines presents the physical asset accounts for the country's land resources in terms of land cover.
- The development of land asset accounts in the Philippines is part of a collaborative initiative by the Philippine Statistics Authority (PSA), the National Mapping and Resource Information Authority (NAMRIA), and the United Nations Statistics Division (UNSD) through the project "Environmental-Economic Accounting for Evidence-Based Policy in Africa and Asia".

Data Sources

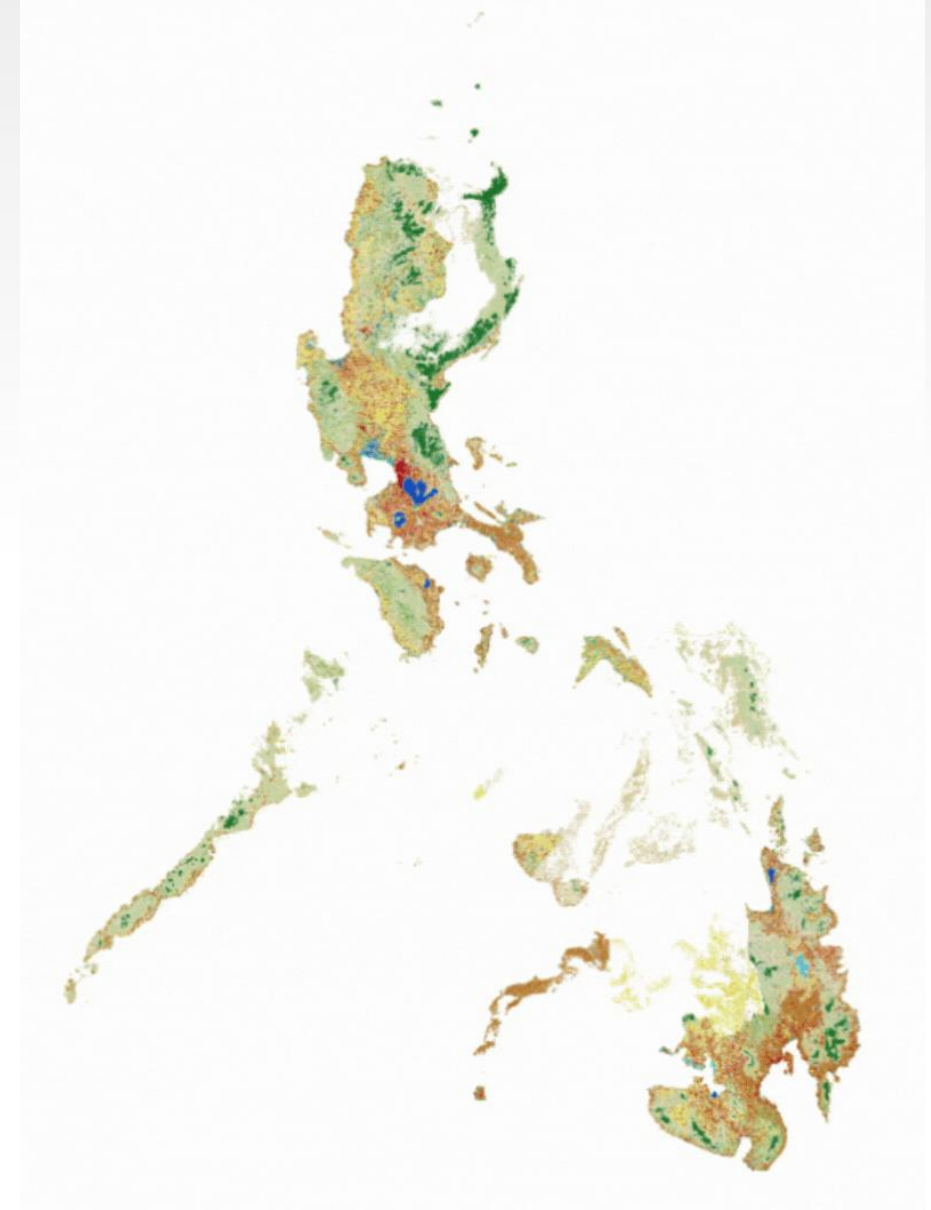


- 2015 Land Cover
- 2020 Land Cover



- National Greening Program (NGP) Data

Note: NGP dataset for 2011-2013 sites was used as reference for figures on 'managed expansion' in SEEA tables



Land Cover of the Philippines

2003 (21 classes)	2010 (14 classes)	2015 (12 classes)
Closed forest, broadleaved	Closed Forest	Closed Forest
Closed forest, mixed		
Closed forest, coniferous		
Open Forest, broadleaved	Open Forest	Open Forest
Open Forest, mixed		
Open Forest, coniferous		
Forest Plantation, broadleaved	Closed or Open Forest	Closed or Open Forest
Forest Plantation, coniferous		
Mangrove Forest	Mangrove Forest	Mangrove Forest
Other wooded land, shrubs	Shrubs	Shrubs
Other wooded land, fallow	Fallow	
Other wooded land, wooded grassland	Wooded grass	
Other land, natural, grassland	Grassland	Grassland
Other land, cultivated, pastures	Pastures	Pastures
Other land, cultivated, annual crop	Annual Crop	Annual Crop
Other land, cultivated, perennial crop	Perennial Crop	Perennial Crop
Other land, natural, barren land	Open/Barren	Open/Barren
Other land, built-up area	Built-up	Built-up
Other land, natural, marshland	Marshland	Marshland
Other land, fishpond	Fishpond	Fishpond
Inland Water	Inland Water	Inland Water

Challenges



Capacity Building

Continuous capacity buildings and learning sessions
e.g., GIS and SEEA Frameworks



Software

Availability of advanced software
e.g., ARCGIS



Equipment

Access to high-specification computers capable of running QGIS software



Internet Connection

Reliable internet connection to support online meetings and interactive exercises

Limitations



Datasets: Limited to two comparable years from 30m resolution satellite imagery.




Geospatial Data: Insufficient reference data for managed expansion.



Processing Delays:

Processing handled by two separate agencies, resulting in delays.

Outputs


REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY
SPECIAL RELEASE
The Philippines' Open and Closed Forest Cover Grew by 2.9 percent in 2020

Date of Release: 20 December 2024
Reference No. 2024-12-20-001

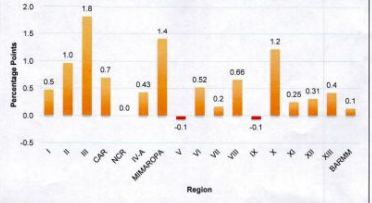
The Land Asset Accounts of the Philippines aims to describe the changes of the country's area in terms of the land cover types from the beginning to the end of the reference period. Generally, the country's total area of land will remain unchanged hence, land accounts will primarily encompass the changes between different land classes.

Land asset accounts provide inputs to five Sustainable Development Goals (SDG) indicators, namely 6.6.1 Change in the extent of water-related ecosystems over time, 14.5.1 Coverage of protected areas in relation to marine areas, 15.1.1 Forest area as a proportion of total land area, 15.3.1 Proportion of land that is degraded over total land area, and 15.4.2 (a) Mountain Green Cover Index and (b) proportion of degraded mountain land.

The country's total land area is 29,588,367 hectares (ha), which covers the forest area (closed, open, and mangrove), brush and shrubs, open/barren, grassland, marshland/swamp, annual and perennial crop, fishpond, built-up, inland water, and sea and ocean.

A significant increase in areas of the several land cover classes were observed in 2020. The forest cover (closed, open and mangrove), open/barren, marshland/swamp, perennial crop, and built-up area increased its total area compared to their values in 2015. Closed forest had the largest increase among all land cover classes with 2.22 million ha in 2020 compared to 2.03 million ha in 2015. On the contrary, brush/shrubs, annual crop, fishpond, and inland water registered decreases in their total land area. Specifically, brush/shrubs had the largest decrease in total land area with 5.81 million ha in 2020 from 6.03 million ha in 2015. (Table 1 and Figure 1)

Figure 1. Percentage Points Contribution to Growth of Closed Forest by Region, 2020



Source: Philippine Statistics Authority

In the same year, built-up land cover in the Philippines grew to 1.03 million ha, an increase of 20.6 percent from its value of 850,249 ha in 2015. Central Luzon contributed a 2.9 percentage points increase to the total land cover built-up and shared a total of 142,632 ha (13.9%) to the country's built-up land cover. It was followed by CALABARZON with a share to total built-up of 138,919 ha (13.5%) and Central Visayas with 73,165 ha (7.1%). (Table 1, Table 2.3, Table 2.6, and Table 2.10)

Perennial Crop recorded the largest percentage shares of land cover area, covering 6.57 million ha or 22.2 percent of the total land cover area.

Page 2 of 3

Highlights of the Land Asset Accounts of the Philippines 2015-2020

The Land Asset Accounts of the Philippines aims to describe the changes of the country's area in terms of the land cover types from the beginning to the end of the reference period. Generally, the country's total area of land will remain unchanged hence, land accounts will primarily encompass the changes between different land classes.

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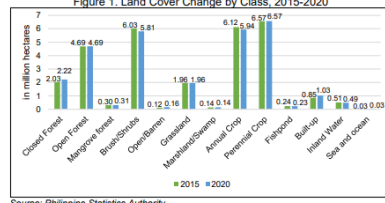
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Land Cover Change

A significant increase in areas of the several land cover classes were observed in 2020. The forest cover (closed, open and mangrove), open/barren, marshland/swamp, perennial crop, and built-up area increased its total area compared to their values in 2015. Closed forest had the largest increase among all land cover classes with 2.22 million ha in 2020 compared to 2.03 million ha in 2015. On the contrary, brush/shrubs, annual crop, fishpond, and inland water registered decreases in their total land area. Specifically, brush/shrubs had the largest decrease in total land area with 5.81 million ha in 2020 from 6.03 million ha in 2015. (Table 1 and Figure 1)

Figure 1. Land Cover Change by Class, 2015-2020



Source: Philippine Statistics Authority

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2020 LAND ASSET ACCOUNTS OF THE PHILIPPINES

THE LAND ASSET ACCOUNTS OF THE PHILIPPINES aims to describe the changes of the country's area in terms of the land cover types from 2015 to 2020.

Link to SDG Indicators
The land accounts provide information that monitor indicators of the following SDGs:

6.6.1 CLEAN WATER AND SANITATION
14.5.1 LIFE BELOW WATER
15.1.1 LIFE ON LAND

TOP THREE REGIONS WITH THE LARGEST CLOSED FOREST AREA in Hectares (ha) and Percent Share

5.08M ha (22.9%) **REGION II**
2.72M ha (12.2%) **REGION III**
2.65M ha (11.9%) **CAR**

PERCENT DISTRIBUTION OF LAND COVER BY LAND CLASS

29.59 million ha

BUILT-UP 3.5%
GRASSLAND 6.6%
BRUSH/SHRUB 19.6%
FOREST 24.4%
OTHERS 3.5%
CROPLAND 42.4%

TOP FIVE REGIONS WITH THE LARGEST SHARE OF BUILT-UP AREA TO ITS REGIONAL TOTAL AREA

8.98M ha (15.1%) **REGION II**
8.06M ha (13.6%) **REGION VI**
6.40M ha (10.8%) **REGION III**
6.12M ha (10.4%) **REGION IV-A**
5.81M ha (9.7%) **REGION I**

TOP THREE REGIONS WITH THE LARGEST ANNUAL CROP AREA in Hectares (ha) and Percent Share

8.98M ha (15.1%) **REGION II**
8.06M ha (13.6%) **REGION VI**
6.40M ha (10.8%) **REGION III**

NCR 86.2%

Source: DENR Memorandum Circular 2005-05, Adopting Forestry Definitions Concerning Forest Cover/Land Use

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LAND ASSET ACCOUNTS OF THE PHILIPPINES

Ang land ay isang natatanging asset ng kalikasan na naglalarawan sa espasyo kung saan nagaganap ang mga aktibidad na pang-ekonomiya at pang-kalikasan, at kung saan matatagpuan ang mga asset ng kalikasan at ng ekonomiya.

- System of Environmental-Economic Accounting (SEEA) 2012 Central Framework¹

Batay sa SEEA 2012 Central Framework, ang **Land Asset Accounts** sa physical terms ay naglalarawan sa land at ang mga pagbabago nito sa paglipas ng panahon.

Ang **Land Cover** ay tumutukoy sa observed biophysical at biological na cover ng mundo, kabilang ang mga nabubuhay at mga likas na yaman.

¹ Ang SEEA 2012 Central Framework ay inilalarawan ang mga pangunahing may kaugnay sa ekonomiya at kapaligiran, mga likas na yaman at pangkalahatang itala. Sa pagpapaliwanag ng land asset accounts, ang land asset accounts ay naglalarawan sa land at ang mga pagbabago nito sa paglipas ng panahon.

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LAND COVER CLASSIFICATIONS

Annual Cropland

Lupaing may pananim na tumutubo sa loob ng isang taon na dapat ay bagong tanim upang magamit pa sa ibang produksyon pagkatapos anihin.

Perennial Cropland

Lupaing may pananim na hindi kailangan itanim muli sa loob ng mahabang panahon pagkatapos ng bawat ani.

Marshland/Swamp

Natural na lugar na karaniwang dominated ng grass-like na halaman, tulad ng cat tails at sedges, na nakalutang sa tubig ngunit ang ugat ay nasa bottom sediments.

Source: DENR Memorandum Circular 2005-05, Adopting Forestry Definitions Concerning Forest Cover/Land Use

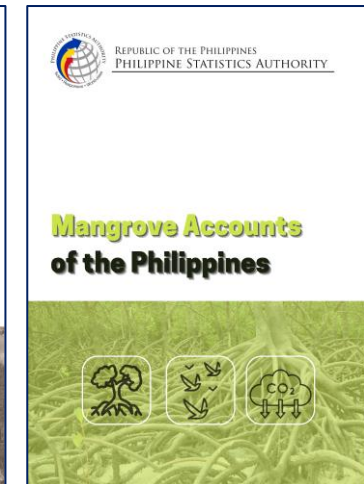
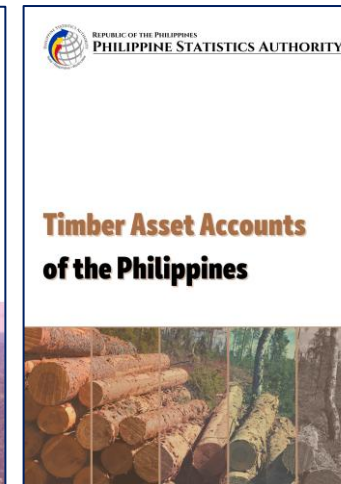
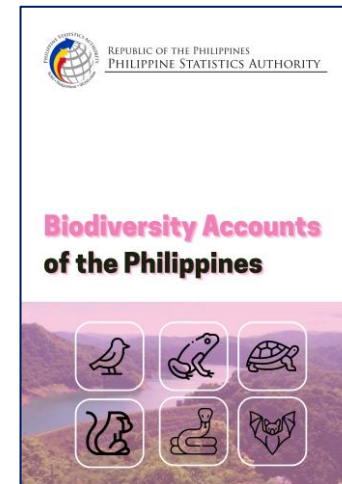
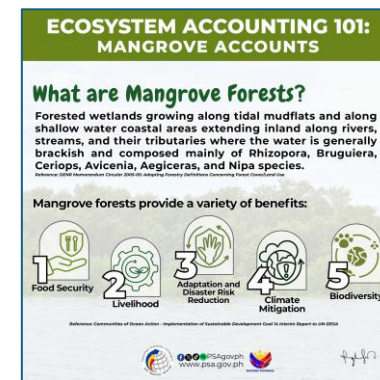
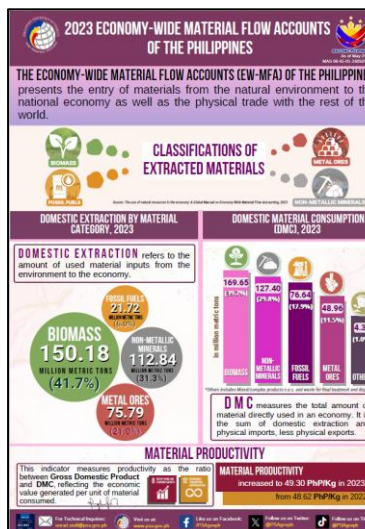
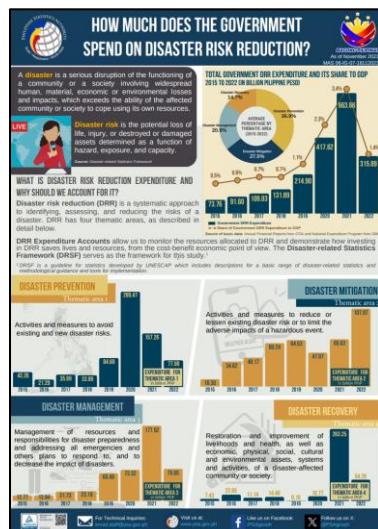
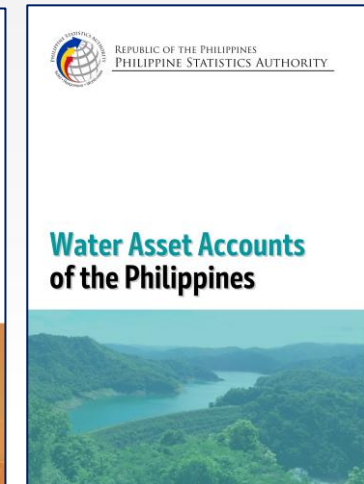
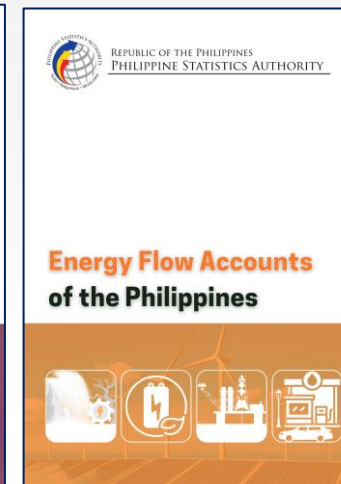
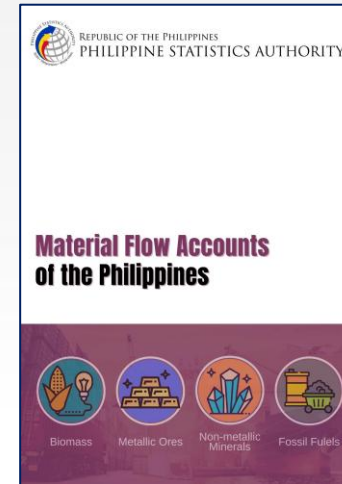
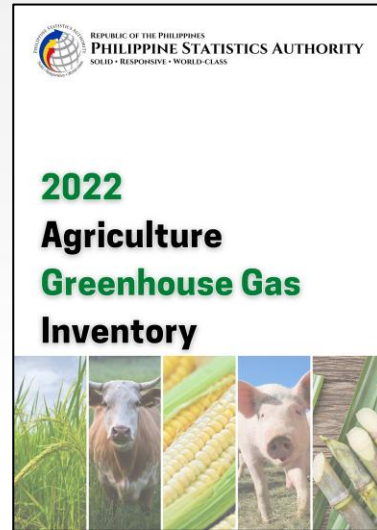
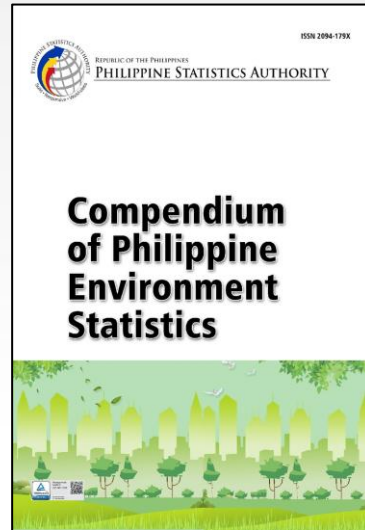
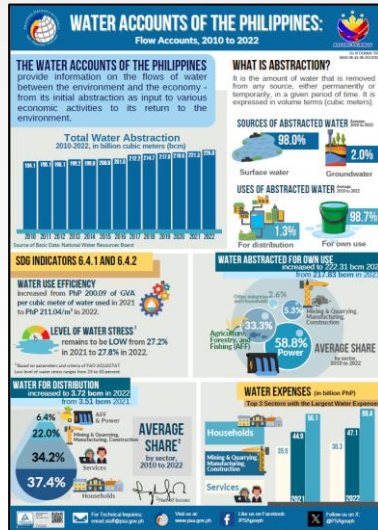
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Release Date: 20 December 2024

<https://psa.gov.ph/statistics/environmental-accounts/node/1684065498>

Other Environmental Accounts and Environment Statistics

Environmental Accounts



17 Regions

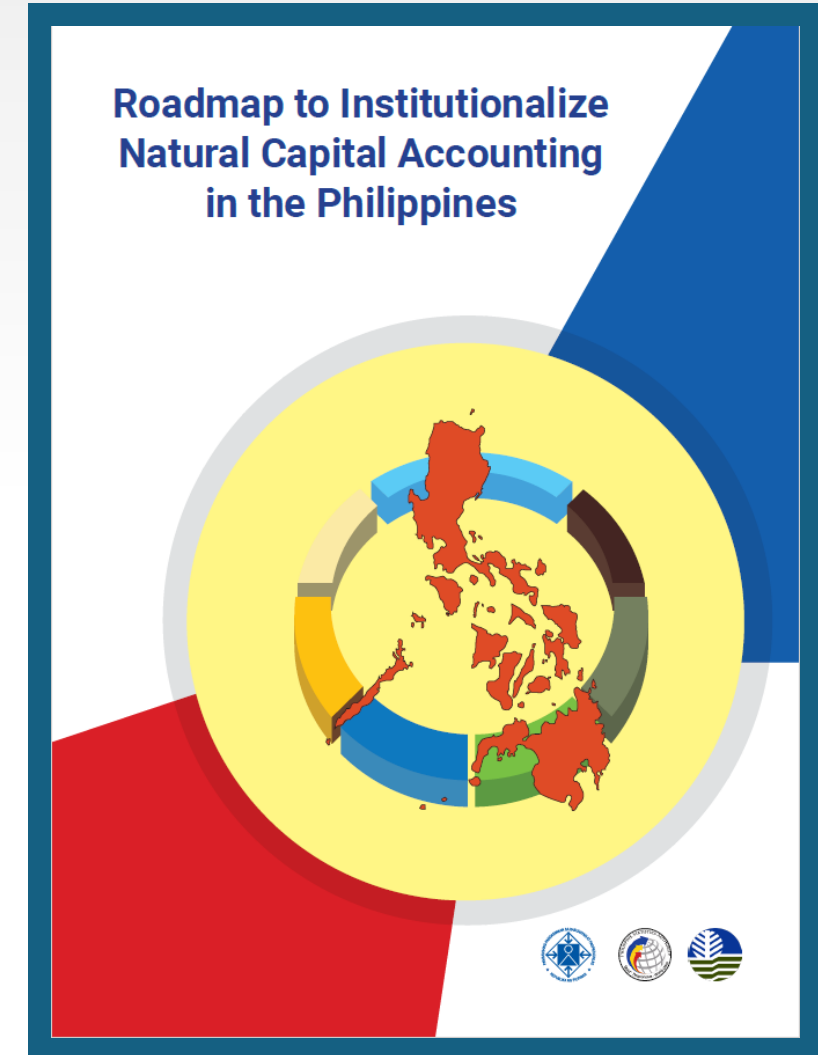
are developing and updating their
Regional Environmental Accounts
and

8 Regions

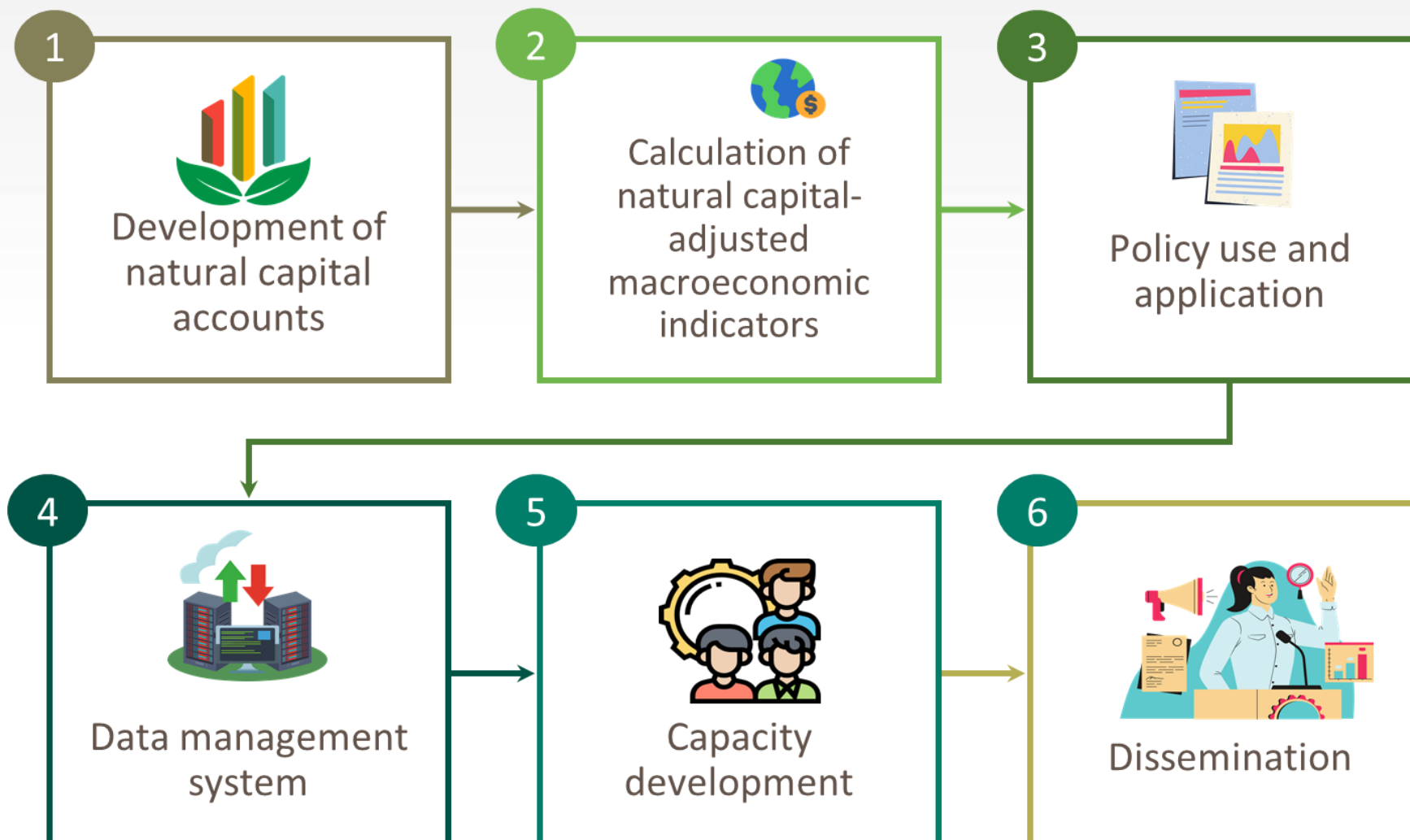
are compiling and updating their
Regional Environment Statistics



Roadmap to Institutionalize Natural Capital Accounting in the Philippines



Six Components of the NCA Roadmap



The Philippine Ecosystem and Natural Capital Accounting System (PENCAS) Act

The Philippine Ecosystem and Natural Capital Accounting System (PENCAS) Act

An Act institutionalizing the Philippine Ecosystem and Natural Capital Accounting System (PENCAS), **mandating its use in policy and decision-making, designating the agencies responsible** for its implementation, **providing institutional arrangements** among responsible agencies, and **appropriating funds** therefor.

S. No. 2439
H. No. 8443

Republic of the Philippines
Congress of the Philippines
Metro Manila
Nineteenth Congress
Second Regular Session

Begun and held in Metro Manila, on Monday, the twenty-fourth day of July, two thousand twenty-three.

[REPUBLIC ACT NO. 11995]

AN ACT INSTITUTIONALIZING THE PHILIPPINE ECOSYSTEM AND NATURAL CAPITAL ACCOUNTING SYSTEM, MANDATING ITS USE IN POLICY AND DECISION-MAKING, DESIGNATING THE AGENCIES RESPONSIBLE FOR ITS IMPLEMENTATION, PROVIDING INSTITUTIONAL ARRANGEMENTS AMONG RESPONSIBLE AGENCIES, AND APPROPRIATING FUNDS THEREFOR

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

SECTION 1. *Short Title.* – This Act shall be known as the “Philippine Ecosystem and Natural Capital Accounting System (PENCAS) Act”.

SEC. 2. *Declaration of Policy.* – It is hereby declared the policy of the State to:

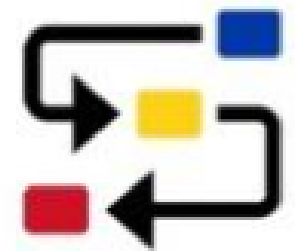
(a) Recognize natural ecosystems as an integral part of our patrimony and heritage;

Philippine Ecosystem and Natural Capital Accounting System



The PENCAS shall be based on **internationally accepted environmental-economic accounting frameworks**.

The PENCAS framework shall include, among others, **a list of the officially designated statistics** on the **depletion, degradation, and restoration of natural capital**; **environmental protection expenditures**; **pollution and quality of land, air and water**; **environmental damages**; and **adjusted net savings**.



supports
policy-making



provides a
system



serves as a
framework

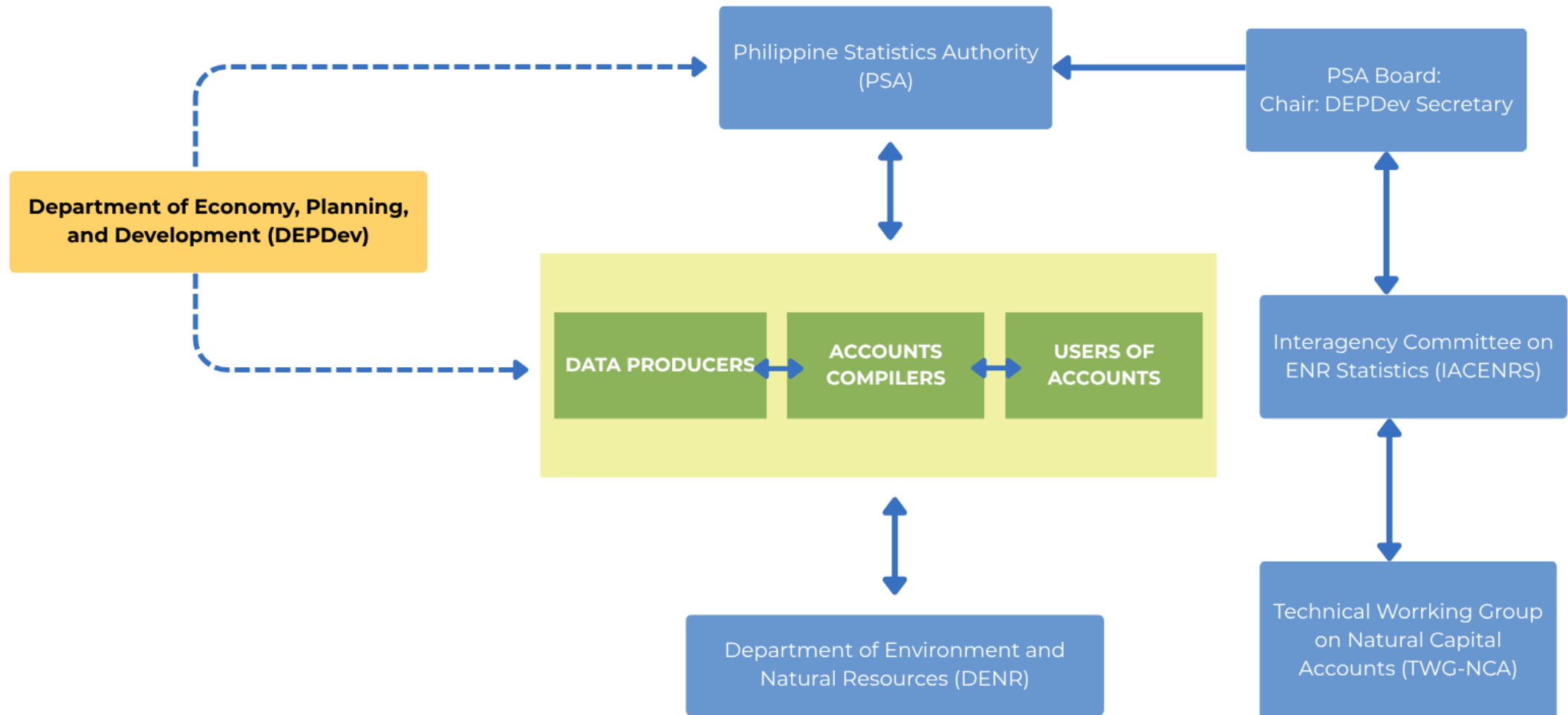


provides tools
and measures



ecosystem
services valuation

Institutional Arrangement





Ways Forward

1. Compilation of mineral accounts at the sub-national data, inclusion of additional metallic minerals such as iron and silver and non-metallic minerals, and use of ore mined/extracted.
2. Enhancement of data to be used in the compilation such as coal reserves by Coal Operating Contract and by Small Scale Coal Mining Permit.
3. Valuation of the land accounts.
4. Development of Energy Flow Accounts.
5. Establishment of the Interagency Committee on Energy Statistics.
6. Implementation of RA 11995 or the Philippine Ecosystem and Natural Capital Accounting System (PENICAS) Act and its Implementing Rules and Regulations.



Thank you

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