



Utilizing Our Natural Resources In The Environmental Way

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UNIVERSITY OF THE PHILIPPINES COLLEGE OF LAW

**CROSSROADS AT THE INTERSECTION OF LAW AND SOCIETY
THE LAW AND THE ENVIRONMENT**

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- Legal Committee, Petroleum Association of the Philippines
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- Contributes articles on legal, regulatory and policy issues on resources and energy to Philippine Resources Journal <http://www.philippine-resources.com/>
- <https://penarroyo.com/>



LEARNING OUTCOMES

After the presentation, the participants are expected to:

- Acquire a knowledge of the legal and institutional framework of resources development in the Philippines
- Understand the important laws in relation to resources development
- Learn the present state of the industry especially in light of the Covid-19 pandemic
- Know the concept of “social license to operate” and “ethical sourcing” of resources
- Analyze if existing environmental laws are investor-friendly or hindrance to development

CONTENTS

- Legal and Institutional Framework
- Philippine Resources Industry Update
- Resources Industry in the Time of the Pandemic
- The Future of Mining
- Conclusion

LEGAL AND INSTITUTIONAL FRAMEWORK

- Constitution
- Mining Act of 1995
- Indigenous Peoples Rights Act
- Local Government Code
- Environmental Impact Statement System
- Rules of Procedure for Environmental Cases
- Other laws related to resource development
- Executive Order No. 79
- Investment laws in energy resource development

CONSTITUTION

- All lands of the public domain, water, minerals, coal, petroleum, and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and other natural resources are owned by the state.
- The exploration, development and utilization of these natural resources are under the full control and supervision of the State.

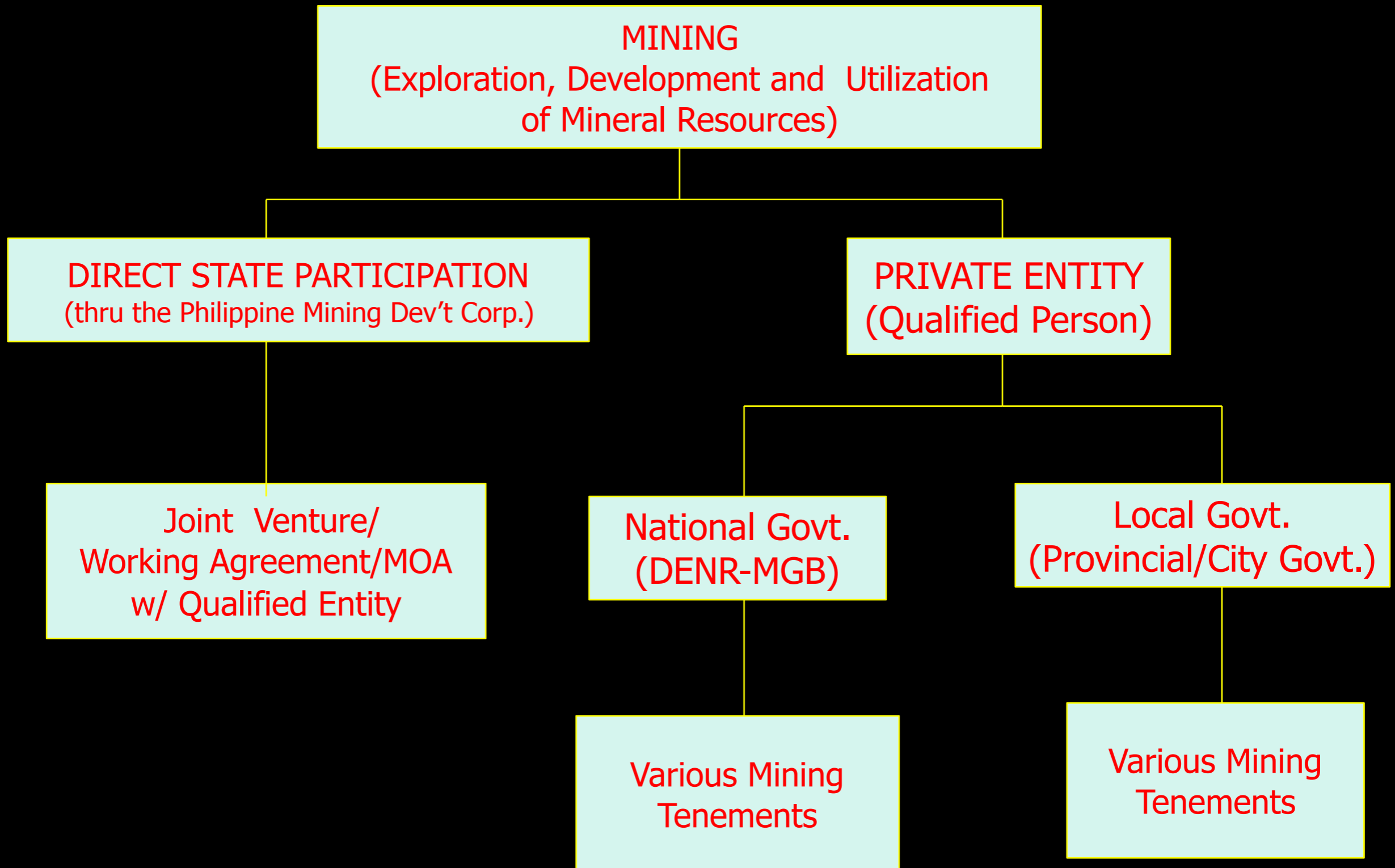


CONSTITUTION

- The State has the option of entering into co-production, joint venture or production sharing agreements with Philippine citizens or Philippine corporations or associations.
- At least 60% of the capital of a corporation or association must be owned by Phil. Citizen to qualify as a Philippine corporation or association.

THE 1987 PHILIPPINE CONSTITUTION





CONSTITUTION

- Exception to the nationality requirement: The Constitution authorizes the President to enter into agreements with foreign-owned corporations involving either financial or technical assistance, for large-scale exploration, development and utilization of minerals, petroleum and other mineral oils.

THE 1987 PHILIPPINE CONSTITUTION

MINING ACT

- Exploration Permit
- Mineral Agreements
 - - MPSA
 - - Co-Production Agreement
 - - Joint Venture Agreement
- Financial and Technical Assistance Agreement
- Mineral Processing Permits
- http://www.mgb.gov.ph/images/stories/RA_7942.pdf
- <http://www.mgb.gov.ph/images/stories/CDAO-Final.pdf>

Republic of the Philippines
Congress of the Philippines
Metro Manila

Republic Act No. 7942

**AN ACT INSTITUTING A NEW SYSTEM OF MINERAL
RESOURCES EXPLORATION, DEVELOPMENT, UTILIZATION
AND CONSERVATION**

**CHAPTER I
INTRODUCTORY PROVISIONS**

Section 1. Title. - This act shall be known as the Philippine Mining Act of 1995.

Section 2. Declaration of Policy. - All mineral resources in public and private lands within the territory and exclusive economic zone of the Republic of the Philippines are owned by the State. It shall be the responsibility of the State to promote their rational exploration, development, utilization and conservation through the combined efforts of government and the private sector in order to enhance national growth in a way that effectively safeguards the environment and protect the rights of affected communities.

Section 3. Definition of Terms. - As used in and for purposes of this Act, the following terms, whether in singular or plural, shall mean:

- (a) "Ancestral lands" refers to all lands exclusively and actually possessed, occupied, or utilized by indigenous cultural communities by themselves or through their ancestors in accordance with their customs and traditions since time immemorial, and as may be defined and delineated by law.
- (b) "Block" or "meridional block" means an area bounded by one-half (1/2) minute of latitude and one-half (1/2) minute of longitude, containing approximately eighty-one hectares (81 has).

Areas for Mining

Areas Open to Mining Operations

- all mineral resources in public or private lands, including timber or forestlands as defined in existing laws

Areas Closed to Mining Operations

- a. In military and other government reservations, except upon prior written clearance by the government agency concerned;
- b. Near or under public or private buildings, cemeteries, archeological and historic sites, bridges, highways, waterways, railroads, reservoirs, dams or other infrastructure projects, public or private works including plantations or valuable crops, except upon written consent of the government agency or private entity concerned;
- c. In areas covered by valid and existing mining rights;
- d. In areas expressly prohibited by law;
- e. In areas covered by small-scale miners as defined by law unless with prior consent of the small-scale miners
- f. Old growth or virgin forests, proclaimed watershed forest reserves, wilderness areas, mangrove forests, mossy forests, national parks provincial/municipal forests, parks, greenbelts, game refuge and bird sanctuaries as defined by law and in areas expressly prohibited under the National Integrated Protected Areas System (NIPAS) under Republic Act No. 7586, Department Administrative Order No. 25, series of 1992 and other laws.

EXPLORATION PERMIT

- Grant gives holder the right to conduct exploration for all minerals within a specified area
- Valid for 2 yrs, can be renewed for another two but cannot exceed 6 yrs
- If exploration results reveal economic mineral deposits and technically feasible for mining, holder can file a declaration of mining project feasibility (MPF)
- Approval of MPF shall grant the holder exclusive right to Mineral Agreement or FTAA



MINERAL AGREEMENTS

- Mineral Production Sharing Agreement (“MPSA”)
- Co-Production Agreement
- Joint Venture Agreement
- All agreements grant the contractor the exclusive right to conduct mining operations and to extract all mineral resources in the contract area



MPSA

- Contractor provides the financing, technology, management and personnel necessary for the implementation of the MPSA
- Valid for 25 yrs and renewable for another 25
- Government is entitled to a share in the gross production of the mining operation in the form of 4% excise tax



FINANCIAL AND TECHNICAL ASSISTANCE AGREEMENT (“FTAA”)

- Pursuant to the Constitution, the Mining Act provides that the President may enter into an FTAA with 100% foreign-owned corporation for the large-scale exploration, development and utilization of mineral resources.
- Minimum investment of US\$50M
- Not applicable to cement raw materials, marble, granite, sand and gravel, and construction aggregates



SMALL-SCALE MINING

- PD 1899 "A Decree Establishing Small Scale Mining As a New Dimension in Mineral Development" allowed local government units to issue mining permits https://mgb.gov.ph/images/stories/PD_1899.pdf
- RA 7076 "People's Small-Scale Mining Act" (1991) mandates that all applications for small scale mining will now be under the approval of the Secretary of the DENR <https://mgb.gov.ph/images/stories/DAO2015-03.pdf>
- PD No. 1899 and RA No. 7076 shall continue to govern small-scale mining operations. For areas not declared as People's Small-Scale Mining area (PSSMA) under RA No. 7076, the pertinent rules and regulations of PD 1899 shall apply.
- PMRB - Accepts, process and evaluate applications and determine administrative charges and fees for Quarry, Sand and Gravel, Small Scale Mining Permits



IMPORTANT LAWS RELATED TO MINERAL DEVELOPMENT

- Indigenous Peoples Rights Act (“IPRA”) <https://www.officialgazette.gov.ph/1997/10/29/republic-act-no-8371/>
- Environmental Impact Statement (“EIS”) System <http://eia.emb.gov.ph/wp-content/uploads/2016/06/PD-1586.pdf>
- Local Government Code of 1991 <https://www.officialgazette.gov.ph/downloads/1991/10oct/19911010-RA-7160-CCA.pdf>
- National Integrated Protected Areas System Act (“NIPAS”) <https://www.officialgazette.gov.ph/1992/06/01/republic-act-no-7586/>

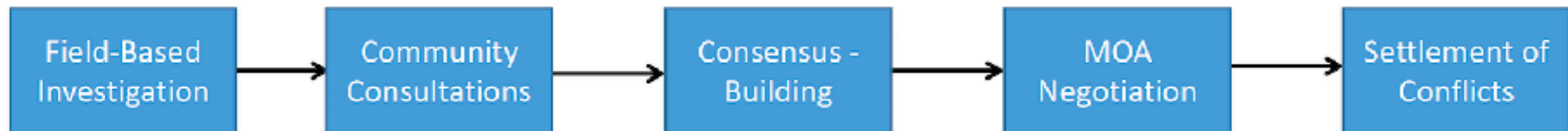
INDIGENOUS
PEOPLES
RIGHTS ACT



INDIGENOUS PEOPLES RIGHTS ACT

- Preferential rights over ancestral domains/natural resources and exercise of customary laws
- Free and prior informed consent
 - right to self determination, respect for IP decision-making process, right to accept or reject projects on ancestral domain
 - Identity of proper IPs
 - Royalty and right to benefits
- Rules on how to arrive at a decision making process of IPs
- FPIC for renewal of mining agreements

FPIC Process



1. Certificate of Non-Overlap (CNO)

- is issued if the land involved in an energy project does not overlap an ancestral domain (AD)

2. Certification Precondition (CP)

- Is issued when the land involved is within AD and the concerned Indigenous Cultural Communities/Indigenous Peoples (ICCs/IPs) gave their free and prior informed consent (FPIC)

Administrative Order No. 3, series of 2012 (April 13, 2012) <http://ncipcar.ph/images/pdfs/ncip-ao-no-3-s-2012-fpic.pdf>

Documents required to accompany application

1. Project profile/proposal showing the nature and purpose of the project and its duration;
2. Documents showing project location with an indicative map showing the names of sitios and/or barangays that will be affected;
3. Abstract of proposed project describing the size, pace, reversibility and scope;
4. Preliminary assessment of the likely economic, social, cultural and environmental effects, including potential risks and how these will be addressed;
5. Indicative budget;
6. Persons to be involved in implementation;
7. Operational Plan and activities; and
8. Profile of the applicant.

Contents of MoA

1. Detailed benefit-sharing provisions in accordance with rules and regulations [i.e. not less than 1% royalty under mining act];
2. Development projects based on the development priorities of the community;
3. Monitoring of the implementation MOA to be implemented by NCIP in partnership with LGUs and CSOs. This undertaking shall be paid for by the company;
4. Mitigation and resettlement plans for potential risks ;
5. Redress mechanisms;
6. Clause on the non-transferability of the MOA;
7. Clause for renegotiation of the economic provisions;
8. Whether the concerned ICCs/IPs shall require another FPIC to be conducted in case of merger, reorganization, transfer of rights, acquisition by another entity, or joint venture;

9. List of responsibilities of the company and the affected community
10. Inclusive dates/duration of agreement;
11. Other than what has already been granted by law, the benefits to be derived by the host ICC/IPs indicating the type of benefits, specific target beneficiaries as to sector and number, the period covered, and other pertinent information;
12. Detailed use of all funds to be received by the host ICC/IP communities, ensuring that a portion of such funds shall be allocated for development projects, social services and/or infrastructures in accordance with their development framework and the Guidelines on the Management of Royalty Share and Other Benefits promulgated by the Commission En Banc;
13. Transparency mechanism on transfer and disbursement of funds;

LOCAL GOVERNMENT CODE



LOCAL GOVERNMENT CODE

- Proponents applying for exploration applications intended for exploration activities are required to conduct consultation with all LGUs concerned, or the legislative councils (*sanggunian*) at the provincial, city/municipal, and barangay levels.



LGUS OUTRIGHT REFUSAL OF CONSENTS

- declaration of mining moratoriums, ban of particular technologies like open pit mining and submarine tailings disposal, opposition to energy projects like coal-fired and hydro power plants, wind farms and geothermal exploration
- Industry is not paying its fair share and that mineral wealth has rarely translated into the alleviation of poverty.
- Expedite and streamline the release of LGU share on revenues and taxes
- Other issues: local taxation; wastes, emissions and pollution; loss of agricultural land and subsequent livelihood; threat to water resources; relocation and right of way; and health and safety of workers and communities.



THE BASICS OF



ENVIRONMENTAL IMPACT ASSESSMENT

A PLANNING TOOL FOR ENVIRONMENTALLY SOUND DEVELOPMENT

What's an EIA?

An **ENVIRONMENTAL IMPACT ASSESSMENT** is a process that involves predicting and evaluating the likely impacts of a project (including cumulative impacts) on the environment throughout the length of the project life from construction, commissioning, operation, to abandonment.

Is your project required to have an ECC?
All persons, partnerships, or corporations planning to undertake or operate a project or area should refer to the **Project Thresholds for Coverage Screening and Categorization** in Annex A of EMB Memorandum Circular 2014-005. It has a compiled version of the required document types (CNC, IEE Checklist, or EIS) required by specific project categories and their corresponding parameters.
as mandated by Section 4 of PD 1586



GOVERNING POLICY
PD 1586
The Philippine
Environmental Impact
Statement System

ENVIRONMENTAL COMPLIANCE CERTIFICATE

who are involved in EIA?

- Project Proponent (Owner/ EIA Consultant/ EIA Preparer/ Developer)
- EMB Staff
- Review Committee
- Affected communities

Our issued documents

ECC AN ENVIRONMENTAL COMPLIANCE CERTIFICATE

- Is a decision document issued by EMB after a positive review of an ECC Application
- Is a certification that the proponent has complied with the requirements of the EIS System
- Serves as the proponent's commitment to implement the Environmental Management Plan
- Contains specific measures and conditions the proponent has to comply with
- Is issued after submission of the requirements for IEE Checklist or EIS Document

CNC A CERTIFICATE OF NON-COVERAGE

- Certifies that the project is not covered by the EIS System and is NOT required to secure an ECC
- Is not required by EMB but proponents may secure one, if they are required by other government agencies

Where can you start?

You can go to www.emb7-dnr.com to apply online or give us a visit at the DENR-EMB7

EIS SYSTEM UNDER PRESIDENTIAL DECREE NO. 1586

- Project proponent of environmentally critical projects and projects within environmentally critical areas must obtain an environmental compliance certificate prior to commencement
- EMB/DENR as lead agency
- Revised Procedural Manual for DENR Administrative Order No. 30 Series of 2003 (DAO 03-30) Implementing Rules and Regulations of PD 1586, (Published August 2007) [http://
eia.emb.gov.ph/wp-content/uploads/2016/06/Revised-
Procedural-Manual-DAO-03-30.pdf](http://eia.emb.gov.ph/wp-content/uploads/2016/06/Revised-Procedural-Manual-DAO-03-30.pdf)



Republic of the Philippines
Department of Environment and Natural Resources
ENVIRONMENTAL MANAGEMENT BUREAU
EMB Building, DENR Compound, Visayas Ave. Diliman, Quezon City
Tel. 927-15-17/18, 925-4793 to 97, 920-2240 to 41

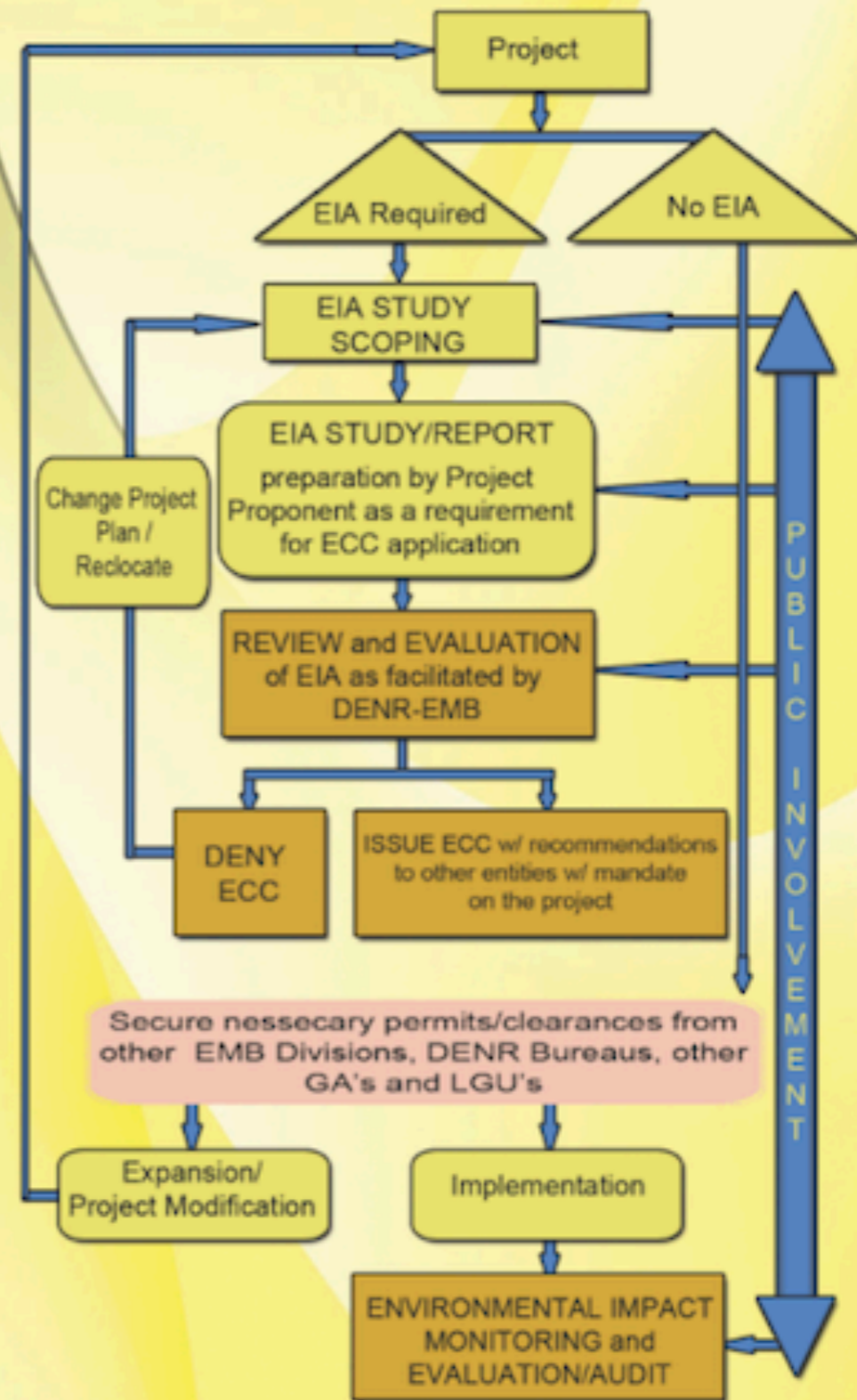
REVISED PROCEDURAL MANUAL

FOR

DENR ADMINISTRATIVE ORDER
NO. 30 SERIES OF 2003 (DAO 03-30)

(Implementing Rules and Regulations
of Presidential Decree No. 1586,
Establishing the Philippine
Environmental Impact Statement System)

Summary Flowchart of the EIA Process



Legend:

- Proponent Driven
- DENR-EMB Driven
- Proponent Driven but outside the EIA Process as requirements are under the mandate of other agencies
- Public involvement, which typically begins at scoping but may occur at any stage of the EIA Process.

UNDER THE MINING ACT, COMPANIES ARE REQUIRED TO FUND/DEPOSIT TO THE FOLLOWING ENVIRONMENTAL PROTECTION MEASURES:

Environmental Protection and Enhancement Program ("EPEP")- 10% of Project Cost

Annual Environmental Protection and Enhancement Program - 3% to 5% of Direct Mining and Milling Cost

Contingent Liability and Rehabilitation Fund

- ◆ Monitoring Trust Fund - not less than PHP 50,000/month
- ◆ Rehabilitation Cash Fund - 10% of the total amount to implement the EPEP or PHP5 million, which ever is lower
- ◆ Environmental Trust Fund - PHP 50,000.00
- ◆ Mine Waste and Tailings Fees Reserve Fund - PHP0.05/MT of mine waste produced and PHP0.10/MT of mill tailings generated
- ◆ Final Mine Rehabilitation and Decommissioning Fund:
Annual Provision = Cost of Implementing the Approved FMRDP x Percentage Required (in accordance with the IRR)

OTHER LAWS RELATED TO MINERAL DEVELOPMENT

- Ecological Solid Waste Management Act <https://www.officialgazette.gov.ph/2001/01/26/republic-act-no-9003-s-2001/>
- Toxic Substances and Hazardous and Nuclear Wastes Control Act <https://www.officialgazette.gov.ph/1990/10/26/republic-act-no-6969/>
- Clean Air Act <https://emb.gov.ph/wp-content/uploads/2015/09/RA-8749.pdf>
- Clean Water Act <https://emb.gov.ph/wp-content/uploads/2015/09/RA-9275.pdf>
- 1976 Philippine Water Code defines the extent of the rights and obligations of water users <https://www.officialgazette.gov.ph/1976/12/31/presidential-decree-no-1067-s-1976/>
- 1998 Philippine Fisheries Code provides for the sustainable development of fishery and aquatic resources <https://www.officialgazette.gov.ph/1998/02/25/republic-act-no-8550/>
- Pollution Control Law <http://r12.emb.gov.ph/wp-content/uploads/2016/04/presidential-decree-no984.pdf>
- National Environmental User's Fee of 2002 https://mgb.gov.ph/images/stories/DAO_2002-16.pdf
- Palawan Council for Sustainable Development <http://extwprlegs1.fao.org/docs/html/phi19797.htm>
- Incentives granted by the Board of Investments (BOI) pursuant to Executive Order No. 226, otherwise known as the Omnibus Investments Code of 1987 <https://boi.gov.ph/wp-content/uploads/2018/02/EO-226-omnibus-investments-code.pdf>

NATIONAL WATER RESOURCES BOARD

PERMIT UNDER PD 1067

- Authorizes water extraction from surface and groundwater sources
- Application should define the projected annual consumption and source/s of water and competing uses
- Application fee is PhP 7,200 per permit / well / surface extraction point
- Annual water charges is PhP5,000 plus a fee ranging from P12.30 to P30.55/liter/second

LAND CONVERSION CERTIFICATE

- Required if a project structure such as road or building falls on agricultural or public land outside of the MPSA/FTAA area.
- Filed with the CENRO
- Filing fee of PHP1,000 and inspection fee of PHP10,000

OTHER DENR PERMITS AND FEES

- TREE CUTTING PERMIT - Cutting of trees within road right of way, mining area, building site. Fee is PHP 300.00 per tree cut
- WASTEWATER DISCHARGE PERMIT
- PERMIT TO OPERATE Air Pollution Device for the generators
- HAZARDOUS WASTE GENERATOR ID together with inspection clearance of its hazardous waste storage
- MINE WASTES AND TAILINGS FEE – may be increased to PHP 0.10 per MT of mine wastes and PHP 0.15 per MT of tailings

EXECUTIVE ORDER NO. 79

In October 2011, a mining study group was constituted, which included the Executive Secretary and several members of the Climate Change Adaptation and Mitigation Cabinet Cluster.

Input from different stakeholders were obtained, including those from the following: mining companies and allied industries and services; environmental CSO/NGOs; church groups; members of the academe; LGUs; different government agencies concerned with mining.

It sets the policy framework that will guide government and other stakeholders in the implementation and operationalization of mining laws, rules and regulations. It also provides concrete steps and solutions to major issues and concerns of the mining sector.

<https://www.officialgazette.gov.ph/2012/07/06/executive-order-no-79-s-2012/>

EXECUTIVE ORDER NO.79

Areas closed to mining applications – In addition to the areas declared Mining Act and NIPAS Act, the EO disallows applications for mineral contracts, in:

- prime agricultural lands, in addition to lands covered by the Comprehensive Agrarian Reform Law of 1988, including plantations and areas devoted to valuable crops;
- strategic agriculture and fisheries development zones, fish refuge and sanctuaries declared as such by the Secretary of the Department of Agriculture;
- tourism development areas as identified in the National Tourism Development Plan; and
- other critical areas, island ecosystems, and impact areas of mining as determined by current and existing mapping technologies, that the DENR may identify pursuant to existing laws, rules, and regulations, such as but not limited to the NIPAS Act.

EXECUTIVE ORDER NO. 79

- Full enforcement of environmental standards in mining
- Review of existing mining operations
- Moratorium on the grant of new mineral agreements pending legislation - no moratorium on the issuance of EPs, FTAAAs, and Mineral Processing Permits, only MPSAs
- Establishment of mineral reservations
- Imposition of competitive public bidding requirement
- Development of downstream industries

EXECUTIVE ORDER NO. 79

- Disposition of abandoned ores and valuable metals
- Creation of a Mining Industry Coordinating Council
- Measures on Small-Scale Mining Activities
- Consistency of local ordinances with national laws
- Creation of One-stop Shop for all Mining Applications
- Creation of a Centralized Database for the Mining Industry and Integrated Map System to include mining related maps
- Use of the Programmatic Environmental Impact Assessment

LEGAL REQUIREMENTS UNDER THE MINING ACT AND ITS IRR

- **Technical and financial qualifications** to engage in large-scale mining in the Philippines;
- **The area being applied for is open and available for mining activities** and is not located within any of the areas where mining is prohibited;
- **An approved ECC**, showing that the impacts of mining in the area can be mitigated and/or remediated through proper environmental protection measures;
- **An approved Project Feasibility Study**, showing that the mine has enough ore reserves to operate profitably, and can give government a fair share in revenues.
- **The endorsement/approval of the local government units** (Province, Municipality/City, and Barangays) that will be impacted by the proposed mining activity;
- **The endorsement/approval of the indigenous peoples in accordance with FPIC**, if the area being applied for is within their ancestral domains.
- **Requirements under EO 79 IRR** - https://mgb.gov.ph/images/stories/DAO_2012-07.pdf

OTHER INVESTMENT LAWS IN ENERGY RESOURCE DEVELOPMENT

- Presidential Decree (P.D.) 87, as amended, "Oil Exploration and Development Act of 1972" for petroleum service contracts – allows 100% foreign ownership <https://www.officialgazette.gov.ph/1972/12/31/presidential-decree-no-87-s-1972/>
- PD 972, as amended, introduced the coal service contract system and established the guidelines for coal operations – 60/40 coal operating contracts <https://www.officialgazette.gov.ph/1976/07/28/presidential-decree-no-972-s-1976/>
- RA 9513 "Renewable Energy Law of 2008" for renewable energy service contracts including geothermal <https://www.officialgazette.gov.ph/2008/12/16/republic-act-no-9513/>

RULES OF PROCEDURE FOR ENVIRONMENTAL CASES

- Introduced new remedies for the “alleged” violation of environmental laws (April 13, 2010):
 - temporary environmental protection order;
 - writ of continuing mandamus; and
 - Writ of Kalikasan.
- Until the new policies and institutional safeguards are fully in place, the government should strictly apply the **precautionary principle**. The principle is public policy under the Climate Change Act of 2009, and was enunciated by the Supreme Court in issuing the Writ of Kalikasan.
- https://www.chanrobles.com/scdecisions/rulesofcourt/2010/am_09-6-8-sc_2010.php

PRECAUTIONARY PRINCIPLE

- A generally accepted international law principle – expressed by the Supreme Court in the Rules of Procedure for Environmental Cases (Part V, Rule 20):
 - Sec. 1. When there is a **lack of full scientific certainty in establishing a causal link between human activity and environmental effect**, the court shall apply the precautionary principle in resolving the case before it.
 - Sec. 2. In applying the precautionary principle, the following factors, among others, may be considered: (1) threats to human life or health; (2) inequity to present or future generations; (3) prejudice to the environment without legal consideration of the environmental rights of those affected.

WRIT OF KALIKASAN

- a **legal remedy** available to any natural or juridical person, entity authorized by law, people's organization, non-government organization, or any public interest group accredited by or registered with any government agency,
- on behalf of persons whose **constitutional right to a balance and healthful ecology** is violated, or threatened
- with violation by an **unlawful act or omission** of a public official or employee, or private individual or entity,
- involving **environmental damage** of such magnitude as to prejudice the life, health or property of inhabitants in two or more cities or provinces.
- Rules of Procedure for Environmental Cases A.M. No. 09-6-8-SC Rule 7, Sec. 1.

MINING INDUSTRY UNDER DUTERTE

Policy Roadblocks - moratorium on new mining permits that has been in place since 2012 under Executive Order 79 and the ban on open pit mining

- DMO 2016-01, issued on 08 July 2016, mandated the audit of all operating mines and moratorium on new mining projects;
- DAO 2017-10, issued on 27 April 2017, banning the open pit mining method for gold, silver, copper, and complex ores;
- Closure of 28 operating mines and the cancellation of 75 mineral production sharing agreements as they allegedly encroached on watersheds and destroyed marine ecosystems.



BAN ON OPEN PIT MINING HAS NO LEGAL BASIS AND SHOULD BE REVERSED

- **Open pit mining should NOT be banned in the country.** It is an internationally accepted method done in many countries of the world and has been repeatedly proven to be safe for miners, the community and the environment. While the environmental footprint may be visibly large, open pit mines can be successfully rehabilitated and converted into other land uses like agriculture, forestry, and even tourism.
- **For shallow ore deposits, such as nickel, iron, coal, and copper, and for large non-metallic quarries, open pit mining is the only economically viable method extraction.**
- **An open pit mining ban will also have adverse impacts on our energy security,** as coal mining is done in the country only through open pit mines.



Manila Bay Beach Nourishment Project

Dolomite Sand: Will It Help Solve the
Root of the Environmental Problem In Manila Bay?

ENERGY RESOURCES ISSUES

- **Oil** - West Philippine Sea maritime dispute - petroleum exploration moratorium lifted by DOE
- **Natural Gas** - Malampaya gas field depletion, no new gas fields discovered, no legal framework, lack of available natural gas infrastructure network
- **Coal** - modest indigenous reserves, ban on open pit mining, expiring coal operating contracts - end of 50 year limit
- **Geothermal** - dropped in world ranking, permitting requirements, grid connectivity, incentives for new technology
- **Nuclear** - no legal and regulatory framework, new technologies, social and environmental acceptability

BUSINESS UNUSUAL



MINING OPERATIONS IN THE TIME OF COVID-19

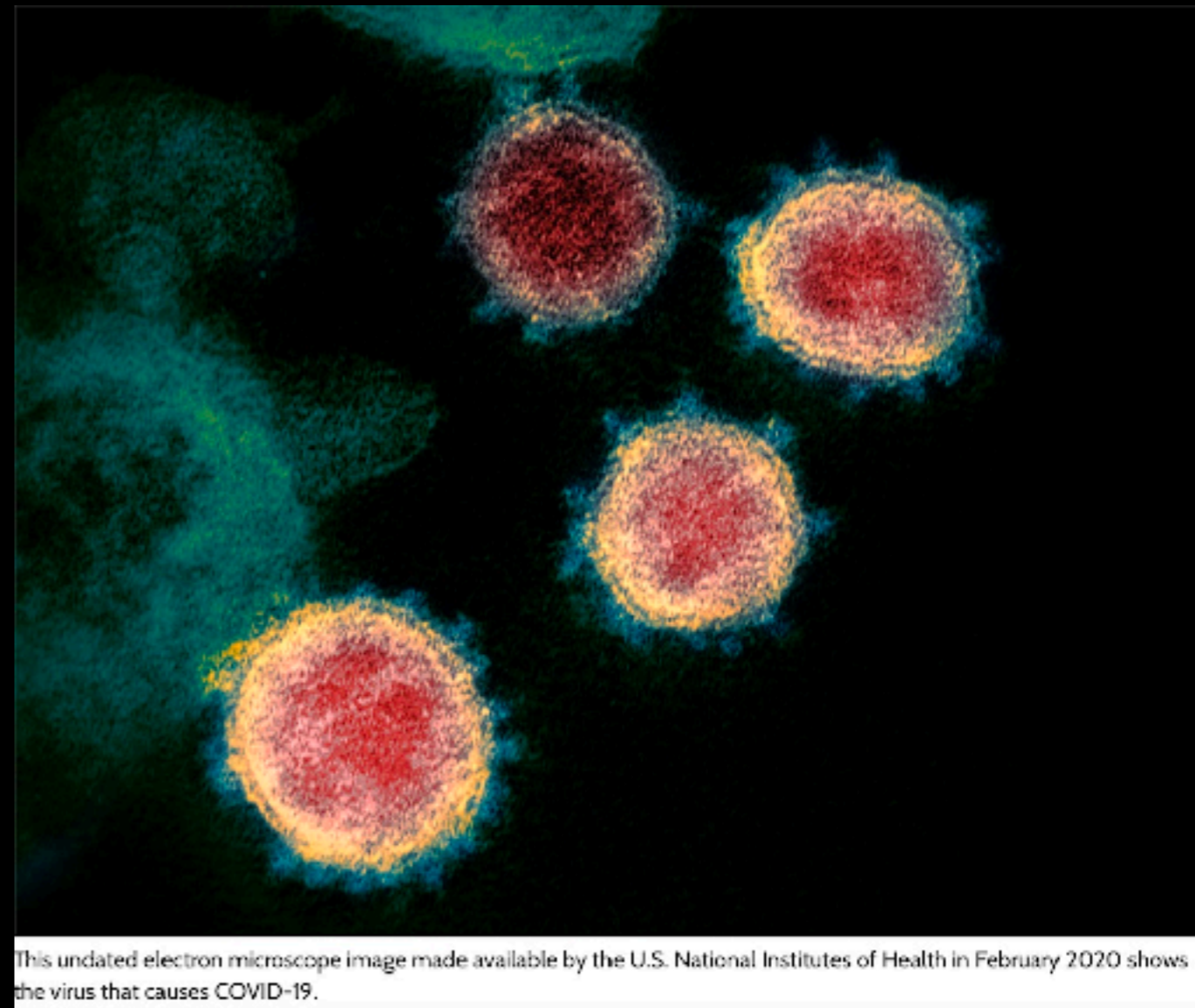
- Metallic mineral production went down by 14.37% in 1H 2020
- Government issued several regulations:
 - **Realignment of Social Development and Management Program Budget raised PHP 402M for COVID-19 response**
 - Extension of deadlines
 - Protocols for the resumption of mining and mineral processing operations/workforce and working arrangements
 - Guidelines for shipment of minerals and mineral products



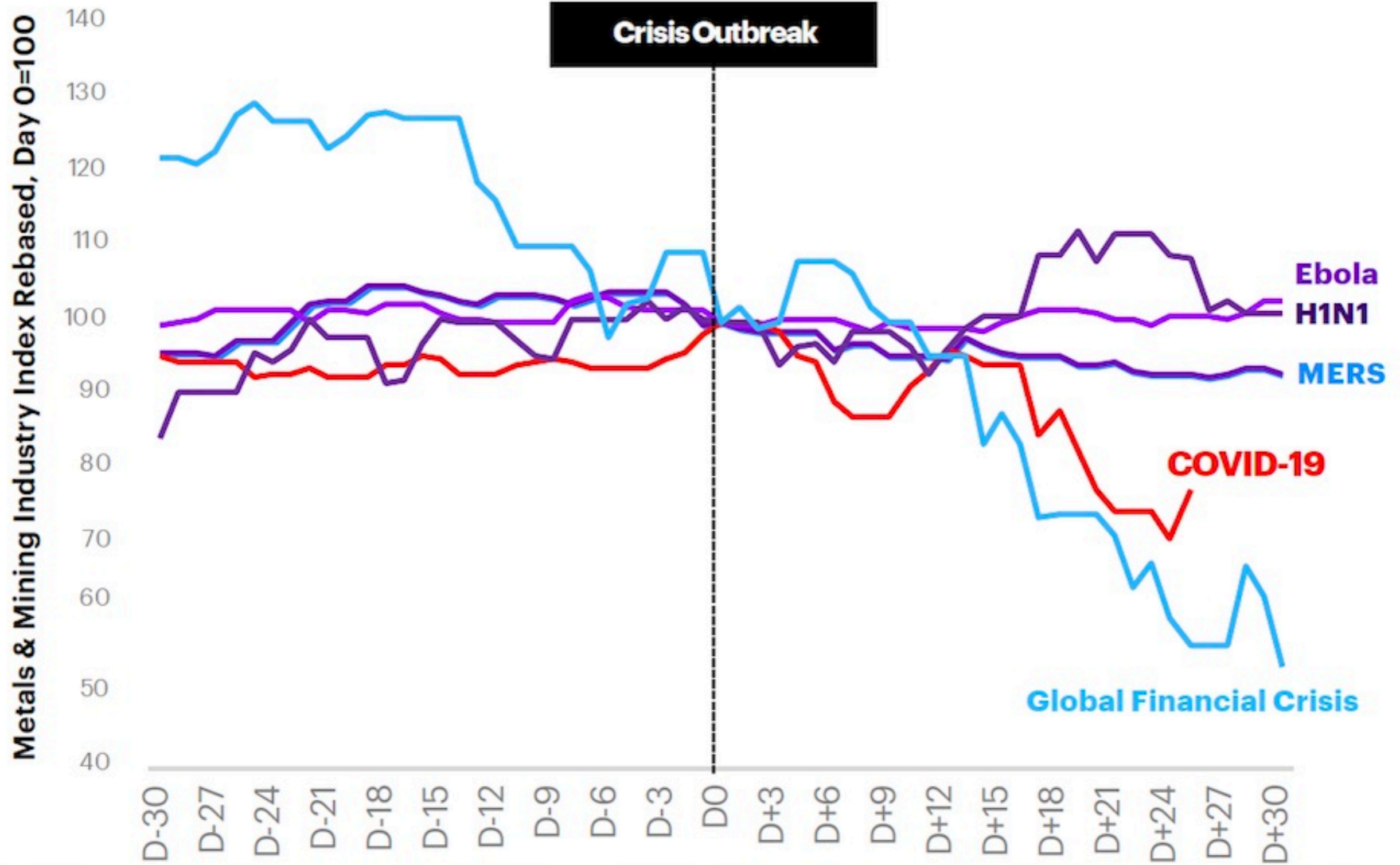
PHL MINING INDUSTRY IN THE TIME OF COVID-19

Mining sector is optimistic

- An export industry, it was allowed to continue operating but with precautionary measures
- Lifting of the moratorium on new permits is anchored on the passage of a new mining tax regime.
- Indonesia's ban on nickel exports will be a boon to the Philippines
- Output and value of exports will recover once pandemic-related restrictions are lifted, & gov't encourage consumer demand and implement economic stimulus initiatives
- To cover mounting expenses to address the COVID-19 pandemic, the government is looking at privatizing some of its mining assets.



IMPACT OF CRISES ON THE METALS AND MINING INDUSTRIES



Source: Accenture Research analysis of metals and mining industry index sourced from Capital IQ.

S&P 500 Metals & Mining Industry Index Rebased D0 = 100 (the crisis outbreak date). The outbreak dates (D0) are as follows: COVID-19 = Feb 21, 2020; MERS = May 20, 2015; Ebola = Apr 10, 2014; H1N1 = Apr 17, 2009; Global Financial Crisis = Sep 15, 2008.

The oil and gas industry experienced its third price collapse in 12 years.

McKinsey
& Company

An offshore oil rig is silhouetted against a dark, stormy sea under a heavy, overcast sky. The rig is positioned in the center-right of the frame, with its complex structure of towers and platforms visible. The water is choppy with whitecaps, and the overall atmosphere is somber and dramatic.

Oil and gas after COVID-19: The day of reckoning or a new age of opportunity?

DROP IN RE CAPACITY

- 167 GW of renewable capacity will be added in 2020, a 13% drop compared to the rise in 2019 and the first decline in the growth rate in 20 years. Overall worldwide renewable capacity is still set to increase by 6%.
- The drop reflected “delays in construction activity due to supply chain disruption, lockdown measures and social-distancing guidelines”.
- Dwindling prices for green tech are proving to be no match for COVID-19. The economics, while steadily improving, “will not be enough to shelter renewables from the impacts of coronavirus, including the economic downturn,”

iea



International
Energy Agency

Renewable Energy Market Update

Outlook for 2020 and 2021

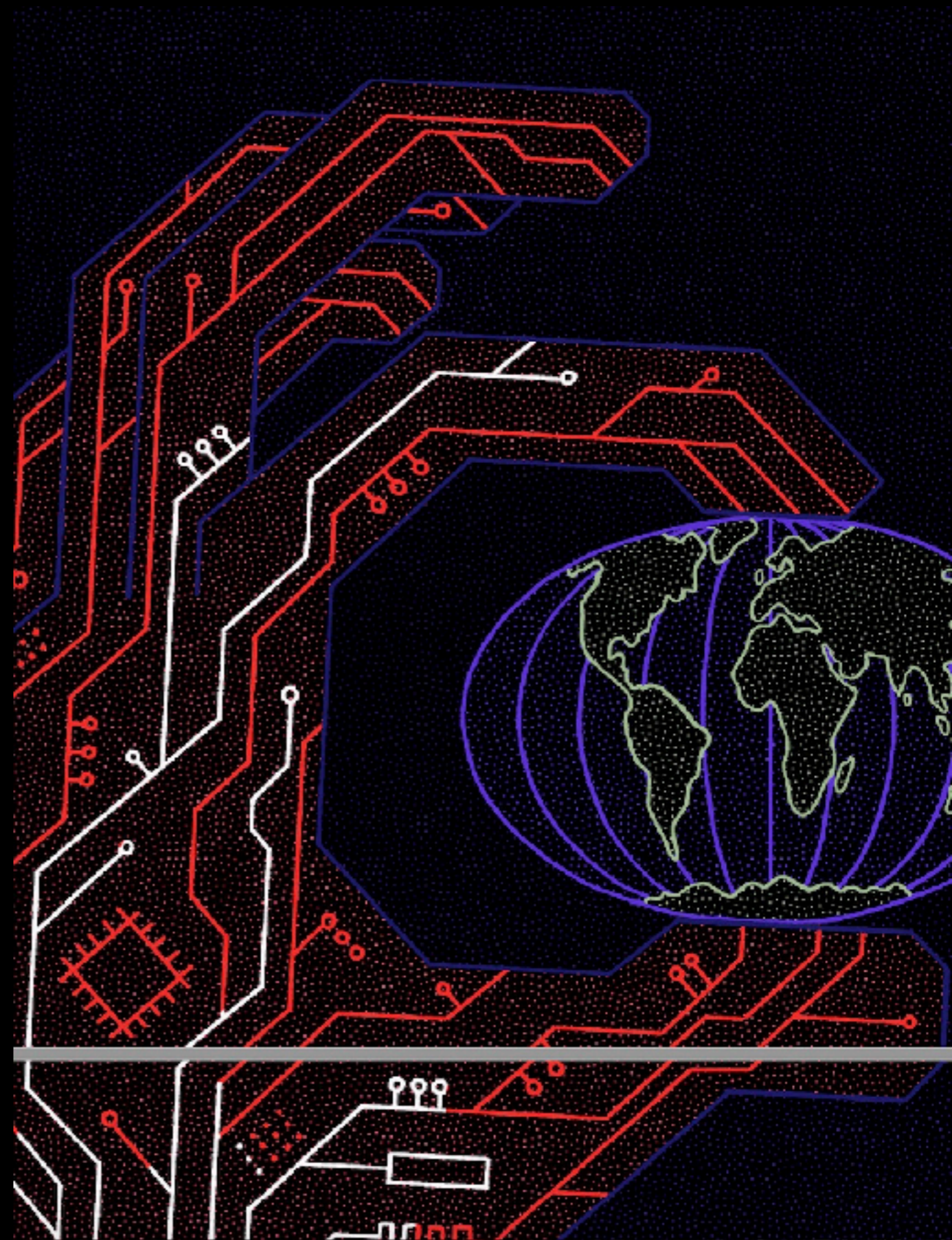
NEW ECONOMY MINERALS

- Digital technologies have resulted in a change in commodity demand for critical minerals such as cobalt, lithium and copper. These minerals are required to manufacture energy conversion and storage equipment needed to supply the renewable energy industry.
- The rise of electric vehicles and the production of an ever-growing variety of high tech and green technologies, from batteries, smart phones and laptops to advanced defense systems have also boosted demand and competition for new world commodities.



TECH GIANTS EMERGING FROM CORONAVIRUS CRISIS STRONGER THAN EVER

- Amazon, Apple, Facebook, Google and Microsoft are aggressively placing new bets as the coronavirus pandemic has made them near-essential services.
- Combined, they are sitting atop about \$557 billion, enabling them to maintain a pace of acquisitions and investments.
- They have been among the top corporate spenders on research and development for most of the last decade.
- Without any pushback from regulators, big tech companies would almost unquestionably come out of the pandemic more powerful.
- **Tech giants are on the hunt for investment opportunities in the mining sector, in a push that is destined to change the landscape of the resources industry.**



Conclusion

- **Mining industry will continue to remain relevant in this era of digitization and sustainability.**
- Demand for new world commodities is going to increase as they become central to the production of an ever-growing variety of high tech and green technologies.
- Ethical Sourcing of Minerals for Tech Companies - Smarter and Greener?
- In the age of digital technology and renewables, tech companies will invest in if not dominate the resources industry.
- Can the Philippine mining industry adapt to the “new world economy”?





Utilizing Our Natural Resources In The Environmental Way

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