IAGI

PERHAPI
PERHIMPUNAN AHLI PERTAMBANGAN INDONESIA
ASSOCIATION OF INDONESIAN MINING PROFESSIONALS

Komite Bersama KCMI
The Joint Committee for KCMI

The KCMI Progress: an Indonesian Perspective

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CRIRSCO Annual Meeting
Yogyakarta 29 – 31 October 2017

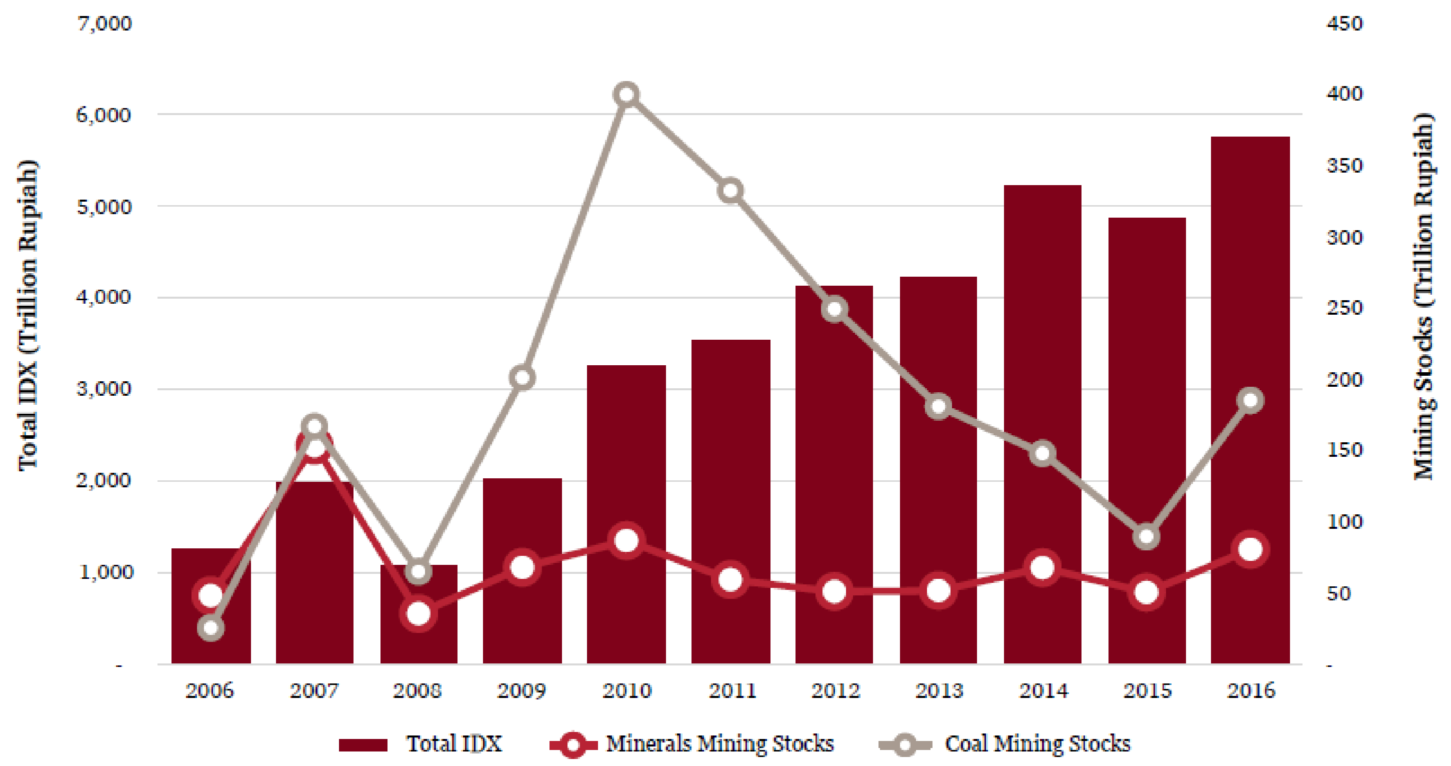
Presentation Agenda

- Background
- KCMI 2011 vs KCMI 2017
- The Competent Person Indonesia (CPI) System
- CRIRSCO and Transition - Implementation Plan
- Challenges and Opportunities
- Conclusions

Background

- Indonesia is a significant player in the global mining industry (coal, copper, gold, tin, nickel and bauxite)
- The contribution of mining industry to national economy is significant
- Based on PricewaterhouseCooper (PwC) Indonesia’s “Mining in Indonesia: Investment and Taxation Guide” (May, 2017):
  - The total market capitalization of mining stocks on the IDX soared 90% from Dec. 2015 to Dec. 2016
  - In 2016, the mining industry contributed 4,2% to Indonesian GDP
  - The mining industry’s contribution to total Indonesian export revenues (2014 – 2016) consistent at 13%

Market Capitalisation of Listed Mining Companies in Indonesia



Source: IDX
Note: The market capitalisation of listed mining companies in the above chart only includes coal, metal and mineral mining companies listed on the IDX

Source: IDX in PwC Indonesia (May, 2017)

Why do we need KCMI code?

- A global trend towards tighter corporate governance and regulation demands the application of high standard public reporting by experienced/competent persons
- The contribution of mining industry to national economy is significant while we need funding continuity for exploration, mine development, M&A etc: *banks, IDX investors*
- High standard reporting requirements for exploration results, mineral resources and mineral reserves: government, Indonesian Stock Exchange (IDX), other investors
- Based on experiences, a lot of mining reports are presented in unclear, insufficient and ambiguous information

Indonesian Mining professionals are need to develop a high standard of Indonesian code for explorations results, mineral resources and mineral reserves reporting

The Importance of Mineral Resources and Mineral Reserves Reporting Code

- Before 2011, there was no high standard of reporting code in Indonesia
- The Busang scandal in Kalimantan by Bre-X was a good learning point for Indonesia and all of us:
  - Total $6 billion gold fraud that shocked the mining industry (Business Insider, 1 July 2012)
  - The real scandal story happened in Indonesia that inspired the movie called "GOLD" (January, 2017)

Response from Indonesian Mining Professionals

- In late 90s, PERHAPI decided to adopt the JORC code :MoUs with AusIMM (1998) and MICA (2004)
- IAGI and PERHAPI worked together with Surabaya stock exchange (BES/SSX) in December 2000 to develop regulation regarding the listing of mining companies. Unfortunately the SSX was merged to JSX and becoming IDX (2007)
- Then, the process was slowing down……

BURSA EFEK SURABAYA
SURABAYA STOCK EXCHANGE

REGULATION
REGARDING THE LISTING OF
MINING STOCK ISSUERS' SHARES

AND

GUIDANCE ON REPORTING MINING OPERATIONS
AND CLASSIFICATION OF
MINERAL RESOURCES AND RESERVES

KCMI Milestone: Significant progress

- IAGI and PERHAPI established a joint committee to develop the first KCMI code (Nov. 2009)
- The KCMI 2011 was launched (Sep. 2011)
- Develop implementation committee for CPI IAGI and CPI PERHAPI (2011 – now)
- Cooperation with IDX and OJK/*Financial Services authority of Indonesia* (Dec 2014)
- Support and cooperation with Indonesian government (Ministry of ESDM): Perdirjen for KCMI/Directorate General of ESDM for KCMI regulation (Apr. 2015)
- Establish communication with CRIRSCO representatives: Australia and Brazil (April 2016 - now)
- The revision of KCMI 2011 to KCMI 2017 (Oct. 2017)

KCMI 2011 vs KCMI 2017: Important Changes

KODE PELAPORAN HASIL EKSPLORASI, SUMBERDAYA MINERAL DAN CADANGAN BIJIH INDONESIA
KOMITE CADANGAN MINERAL INDONESIA

Kode-KCMI 2011

Disusun oleh:
Komite Bersama
Ikatan Ahli Geologi Indonesia (IAGI) dan
Perhimpunan Ahli Pertambangan Indonesia (PERHAPI)

April 2011

Indonesian Code of Reporting Exploration Results, Mineral Resources and Mineral Reserves

Indonesian Committee for Mineral Reserves

Compiled by:
Joint Committee for KCMI
IAGI – Indonesian Association of Geologists
PERHAPI – Indonesian Association of Mining Professionals

Effective 1 November 2017 and
mandatory from 1 November 2019

KODE – KCMI 2017

KCMI 2011	KCMI 2017
INDONESIAN CODE FOR REPORTING EXPLORATION RESULTS, MINERAL RESOURCES AND ORE RESERVES KOMITE CADANGAN MINERAL INDONESIA	INDONESIAN CODE FOR REPORTING EXPLORATION RESULTS, MINERAL RESOURCES AND MINERAL RESERVES KOMITE CADANGAN MINERAL INDONESIA
MINERAL RESOURCES AND ORE RESERVES (MROR)	MINERAL RESOURCES AND MINERAL RESERVES (MRMR)

- KCMI 2017 : Effective 1 November 2017 and mandatory from 1 November 2019

Introduction

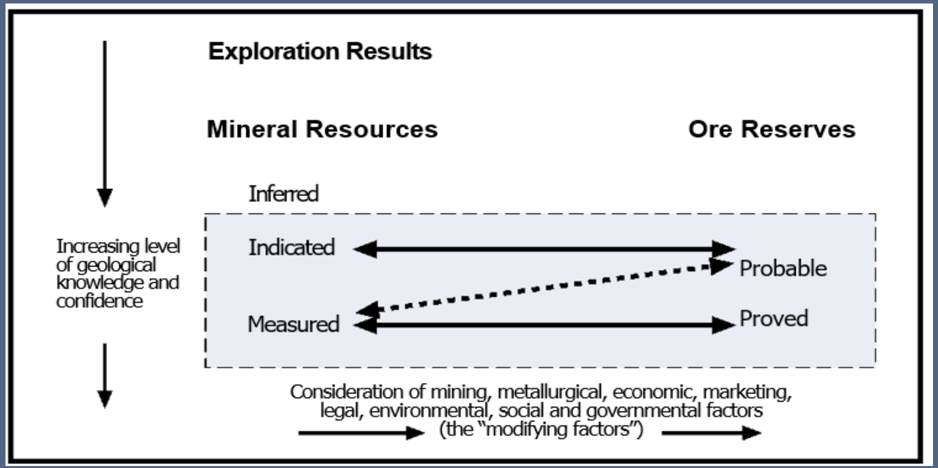
KCMI 2011	KCMI 2017
3. Majority of this Code was adopted from "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code – 2004 Edition." This Code is implemented to each Competent Person Indonesia, which are the members of PERHAPI and IAGI. Also it is adopted and stated in the Indonesia Stock Exchange regulation.	3. Majority of this Code was adopted from "Australian Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves – The JORC Code – 2004 Edition." This Code is implemented to each Competent Person Indonesia, which are the members of PERHAPI and IAGI. Also it is adopted and stated in the Indonesia Stock Exchange regulation. The current version has been updated in order to be in compliance with the CRIRSCO International Template 2013, which includes the standard definitions adopted by all CRIRSCO members.

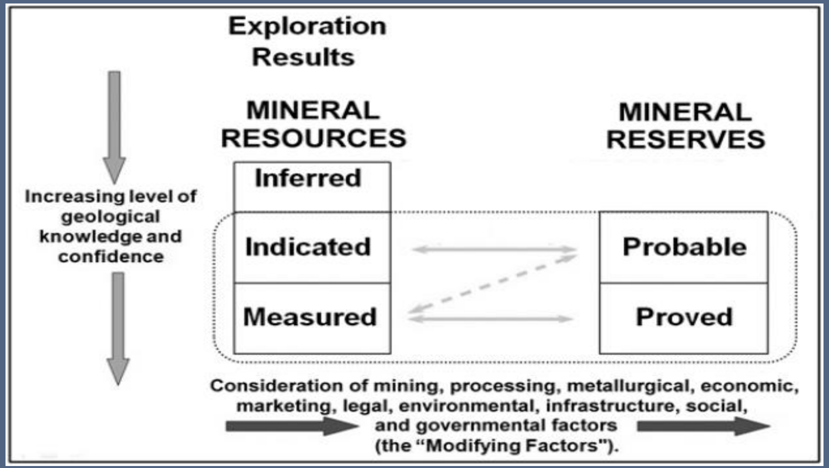
Competent Person Indonesia

KCMI 2011	KCMI 2017
10. A ‘Competent Person Indonesia’ is a Member IAGI or PERHAPI who is registered as CPI IAGI or PERHAPI based on the rules of each of these professional organizations.	10. A ‘Competent Person Indonesia’ (CPI) is a minerals industry professional who is a member of and registered as CPI IAGI or CPI PERHAPI or ‘Recognised Professional Organisations’ (RPO) based on the rules of each of these professional organizations . These organisations have enforceable disciplinary processes including the powers to suspend or expel a member. The RPOs are recognised by Komite Bersama KCMI as included in a list promulgated from time to time.

Modifying Factors

KCMI 2011	KCMI 2017
The term 'Modifying Factors' is defined to include mining, metallurgical, processing, economic, marketing, legal, environmental, social and governmental considerations.	'Modifying Factors' are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, economic, marketing, legal, environmental, infrastructure, social and governmental factors.
Mineral Resources and Ore Reserves	Mineral Resources and Mineral Reserves





Inferred Mineral Resource

KCMI 2011	KCMI 2017
20. An 'Inferred Mineral Resource' is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability.	20. An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Resources has a lower level of confidence than that applying to an Indicated Mineral Resources and must not be converted to a Mineral Reserve. It is reasonable expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Indicated Mineral Resource

KCMI 2011	KCMI 2017
21. An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.	21. An ‘Indicated Mineral Resources’ is that part of a Mineral Resources for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Measured Mineral Resource

KCMI 2011	KCMI 2017
22. A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.	22. A 'Measured Mineral Resources' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Mineral Reserve or to a Probable Mineral Reserve.

Reporting of Mineral Reserves

KCMI 2011	KCMI 2017
28. An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined. Appropriate asessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves.	28. A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowance for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time or reporting, extraction could reasonably be justified. The reference point at which Reserves are defined, usually the point where the mineral is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

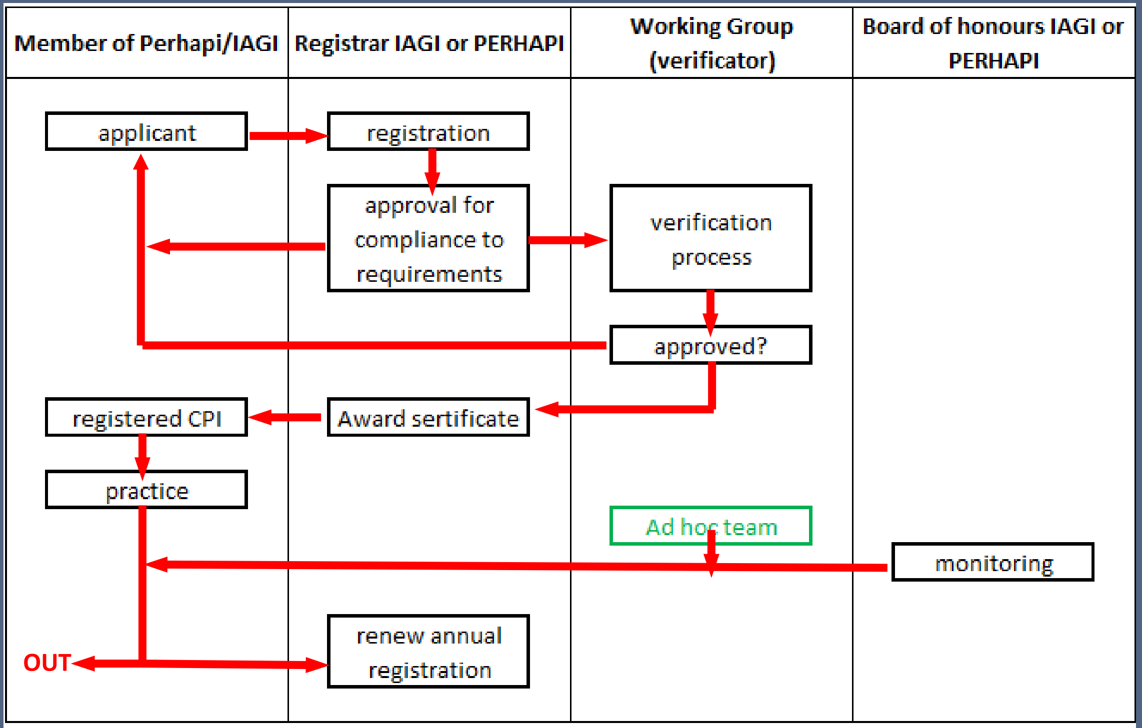
Technical Studies

KCMI 2011	KCMI 2017
Appropriate Technical Studies	36. A Scoping Study is an order of magnitude technical and economic study of the potential viability of Mineral Resources that includes appropriate assessments of realistically assumed Modifying Factors together with any other relevant operational factors that are necessary to demonstrate at the time of reporting that progress to a Pre-Feasibility Study can be reasonably justified.
	37. A Pre-Feasibility Study is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Competent Person, acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting. A Pre-Feasibility Study is at a lower confidence level than a Feasibility Study.
	38. A Feasibility Study is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a Pre-Feasibility Study.

The CPI System

- Minimum 5 years of relevant experience (exploration, mineral resources, mineral reserves for specific commodities)
- Member of self-regulating professional organization and has disciplinary powers to suspend or expel a member (CPI-IAGI, CPI-PERHAPI, RPO)
- Acceptance of CPI IAGI-CPI PERHAPI through verification process (currently every two months)
- Conduct regular Continuing Professional Development (CPD) program (currently 6 times a year)

CURRENT STATUS (Management System CPI)



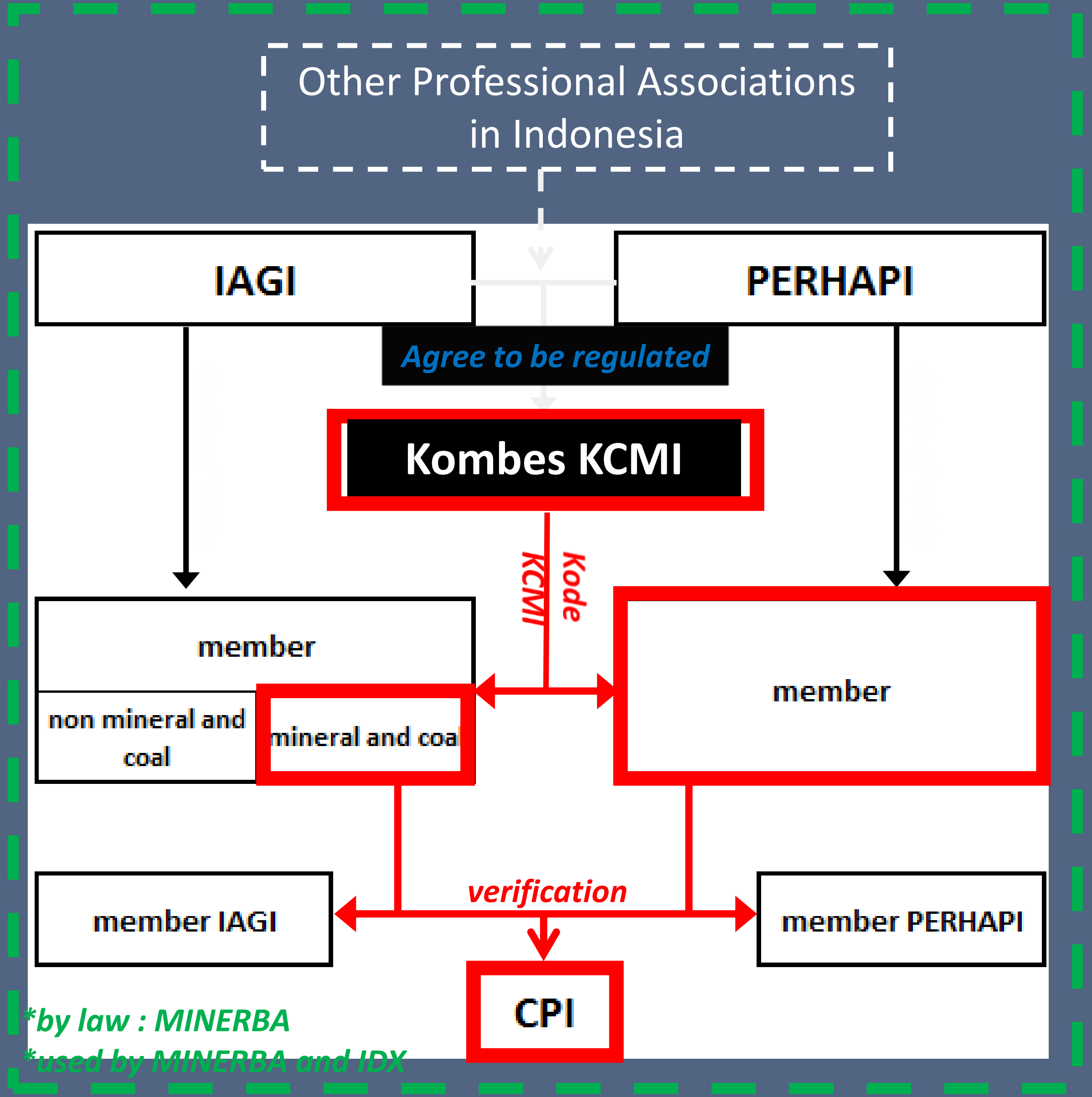
Ad hoc team : disiplinary committee created to assess complaint

	Competent Person Indonesia		
	Exploration Results	Mineral/Coal Rosources	Mineral/Coal Reserves
coal			
precious & base metals			
ferrous (steel) metals			
Industrial minerals			
Special metals (REE, U, Th etc)			

Selected Area of Competencies

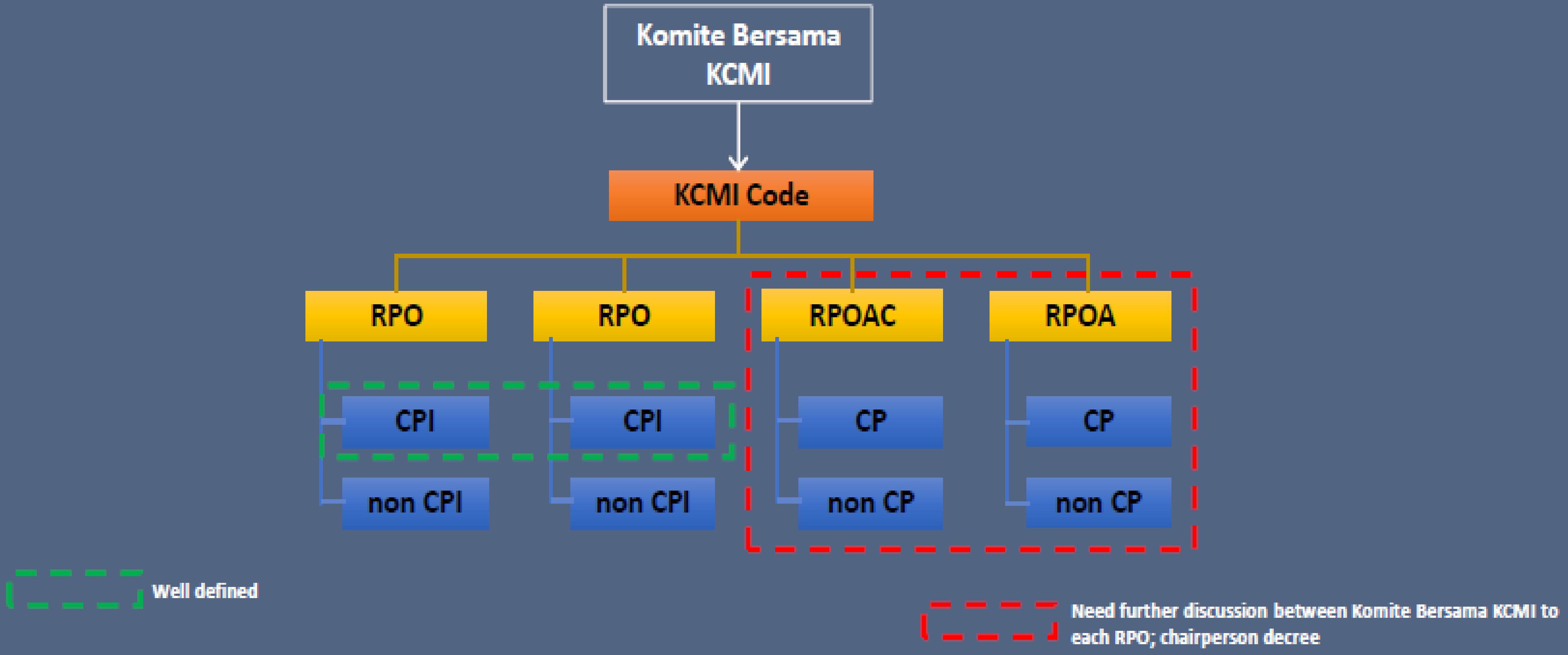
- Registrar responsible for socialization, screening and register the candidate to be verified, then looking for verificator from available CPI who able to assess competency of candidates then administer the remaining process
- Working group is invited based on competency of applicant with task to approve candidate, otherwise fail
- Board of honors selected by President of each association to monitor practice of its member
- Area competency is designed based on field of experience

CURRENT STATUS (organization of Kombes KCMI)



- IAGI and PERHAPI agree for their members to be regulated
- Other Professional Associations are currently being approached
- IAGI and PERHAPI has code of ethic to conduct disciplinary action to all members of organizations
- Acceptance of CPI through verification
- By law by MINERBA, applied by May 2017; commitment to use by MINERBA and IDX

Relationship of The Joint Committee KCMI to KCMI and RPO/RPOAC/RPOA



Joining CRIRSCO and Implementation Plan

- Countries represented by CRIRSCO account for >80% of mining industry stock exchange capitalization (J. Clifford, 2005): *positive effects for Indonesia to become*
- Joining CRIRSCO is an important milestone for Indonesian mining industry to attract more investments and capital *a CRIRSCO member*
- MoU between Kombers and CRIRSCO signed in Jaipur, India (November, 2016)
- KCMI 2017 draft and all required documents are submitted to CRIRSCO

MoU KOMBERS dan CRIRSCO

(Jaipur, India – 2016)

crirsco
COMMITTEE FOR MINERAL RESERVES
INTERNATIONAL REPORTING STANDARDS

KCMI 2017: Transition and Implementation Plan

- 2 years period of transition and implementation program:

		Period	Months																							
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Refinement The KCMI 2017 Code Document	3 months																								
2	Internal approval (Kombers)	1 month																								
3	CRIRSCO Approval	1 month																								
4	"Internalization"	6 months																								
5	-Sosialization" (Public Introduction)	6 months																								
6	Trial period	6 months																								
7	Official Implementation																									

- During transition period, the KCMI 2011 is still applicable
- No more KCMI 2011 after 1 November 2019
- Any RPO recognized by CRIRSCO could be recognized by KCMI under bilateral cooperation and registered by the Joint Committee of KCMI

Point no 1 to 3 are completed

Challenges, Opportunities and Next Program

- The transition and Implementation plan in the next 2 years: *Socialization to all stakeholders*
- Improve and set up system with regulators (ESDM, OJK), IDX and other stakeholders
  - FGD with MAPPI/ISA (Indonesian Society of Appraisers)
  - FGD with IDX for exploration companies listing rules
- Defining standards of Technical Studies (Scoping, Pre FS and FS)
- The CPI and RPO set up system
- The availability of CPI vs IUP (> 6000 mining concessions vs 244 CPI)
- Variations of mineral deposits/commodities vs CPI availability

ESDM: Ministry of Energy and Mineral Resources of the Republic of Indonesia

Conclusions

- Mining contributions for Indonesian economy is significant while we are operating in a global capital and commodity market
- Mineral resources and mineral reserves (MRMR) disclosures are vital for understanding Indonesian mining companies performances and values
- The high standard of KCMI code is highly required to represent materiality, transparency and competency principles to the investors
- Joining CRIRSCO is an important milestone for Indonesian mining industry to attract more investments and capital

THANK YOU