KCMI CODE 2011 + COMPETENT PERSON INDONESIA

(COMPARISON WITH UNFC 2009)

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- Chairman of Masyarakat Geologi Ekonomi Indonesia

(Indonesia Society of Economic Geologists)

- *Joint Committee PERHAPI – IAGI/ MGEI for KCMI*
- ***Agus Sumaryanto***
- *Center for Nuclear Mineral Technology*
- *National Nuclear Energy Agency*

UNECE Resource Classification Week 2016

Palais des Nations, Geneva, 26-29 April 2016

KCMI CODE 2011 & CPI

BACKGROUND

JOINT COMMITTEE PERHAPI-IAGI

CPI SYSTEM AND KCMI CODE

CPI + KCMI CODE AND MINING INDUSTRY

CPI VERIFICATION AND RECENT UPDATES

UNFC 2009 APPLICATION CASE STUDY ON URANIUM POTENSIAL RESOURCES

KCMI CODE – 2011

Volunteer committee of

- Indonesian Society of Economic Geologist (MGEI) – Indonesian Association of Geologist (IAGI)
- Association of Indonesian Mining Professional (PERHAPI)

Representation by invitation from :

- Indonesia Stock Exchange (IDX)
- Indonesia Finacial Services Authority (OJK)

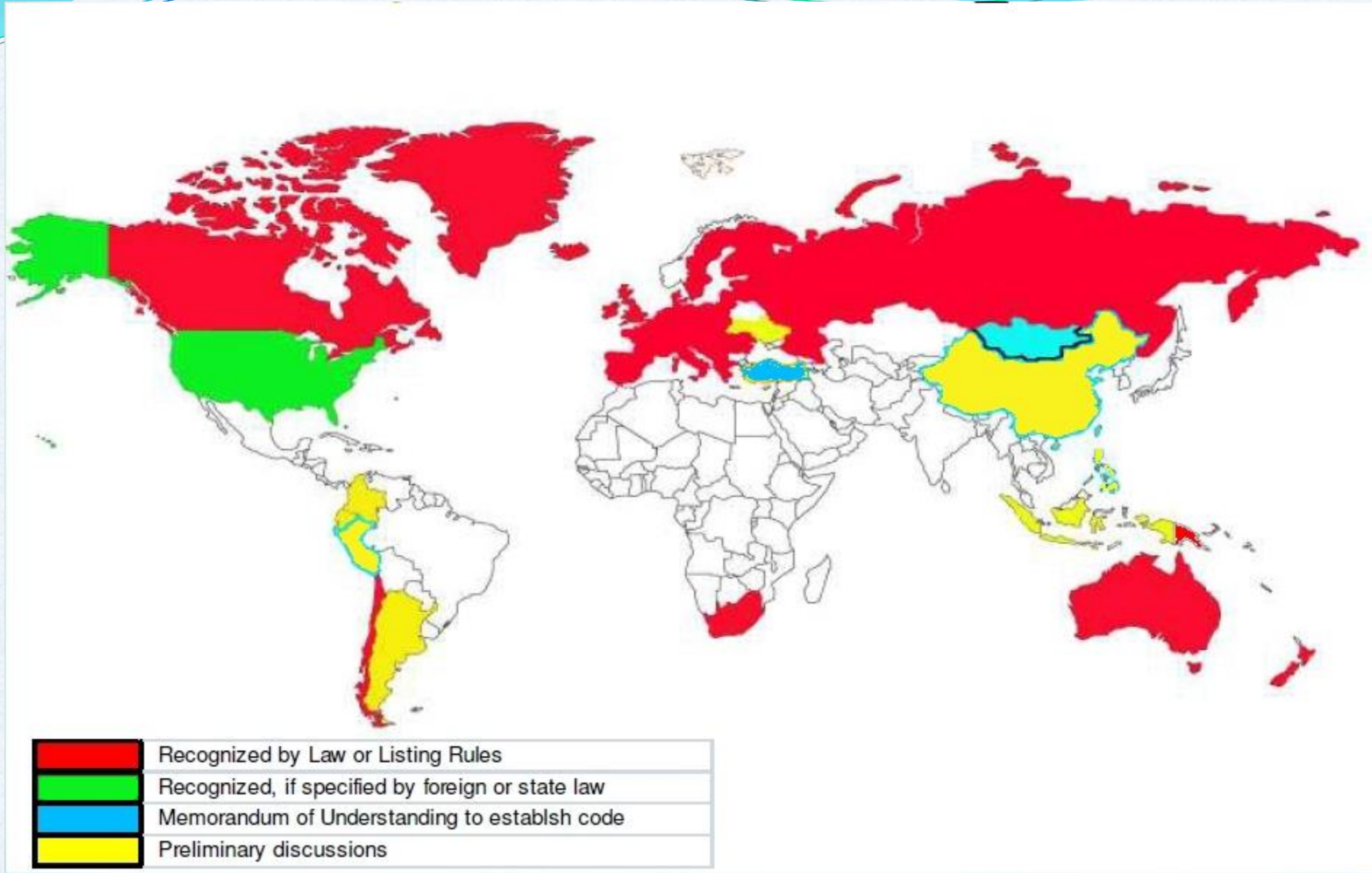
KCMI Code – Minerals Include

- Metalliferous Mineral – e.g. gold, silver, copper, lead, zinc, iron, alluminium, tungsten, uranium, mineral sands (REE)
- Non – Metalliferous Mineral – e.g. coal, phosphate, diamond, gemstone
- Industrial and Construction Materials – e.g. sand, gravel, granite, limestone, kaolin

History of Development of KCMI Code

- 2009 : Join Committee IAGI and PERHAPI formed
- 2009-2011 : Guidelines on Classification and Reporting for Exploration Result, Resource and Reserve Estimation –KCMI Code 2011
- Release of KCMI Code 2011 (20 Sep 2011)
- Committee Implementation for CPI IAGI dan PERHAPI (November 2011)
- MoU with Indonesia Stock Exchange (IDX) and Indonesia Financial Services Authority (OJK), Dec 2014
- Indonesia Regulation for KCMI and CPI (*Directorate General of Mineral and Coal, Ministry of Energy and Mineral Resources), April 2015*
- 2016 : First meeting with Committee for Mineral Reserves International Reporting Standards (CRIRSCO)

Countries adopting CRIRSCO Template



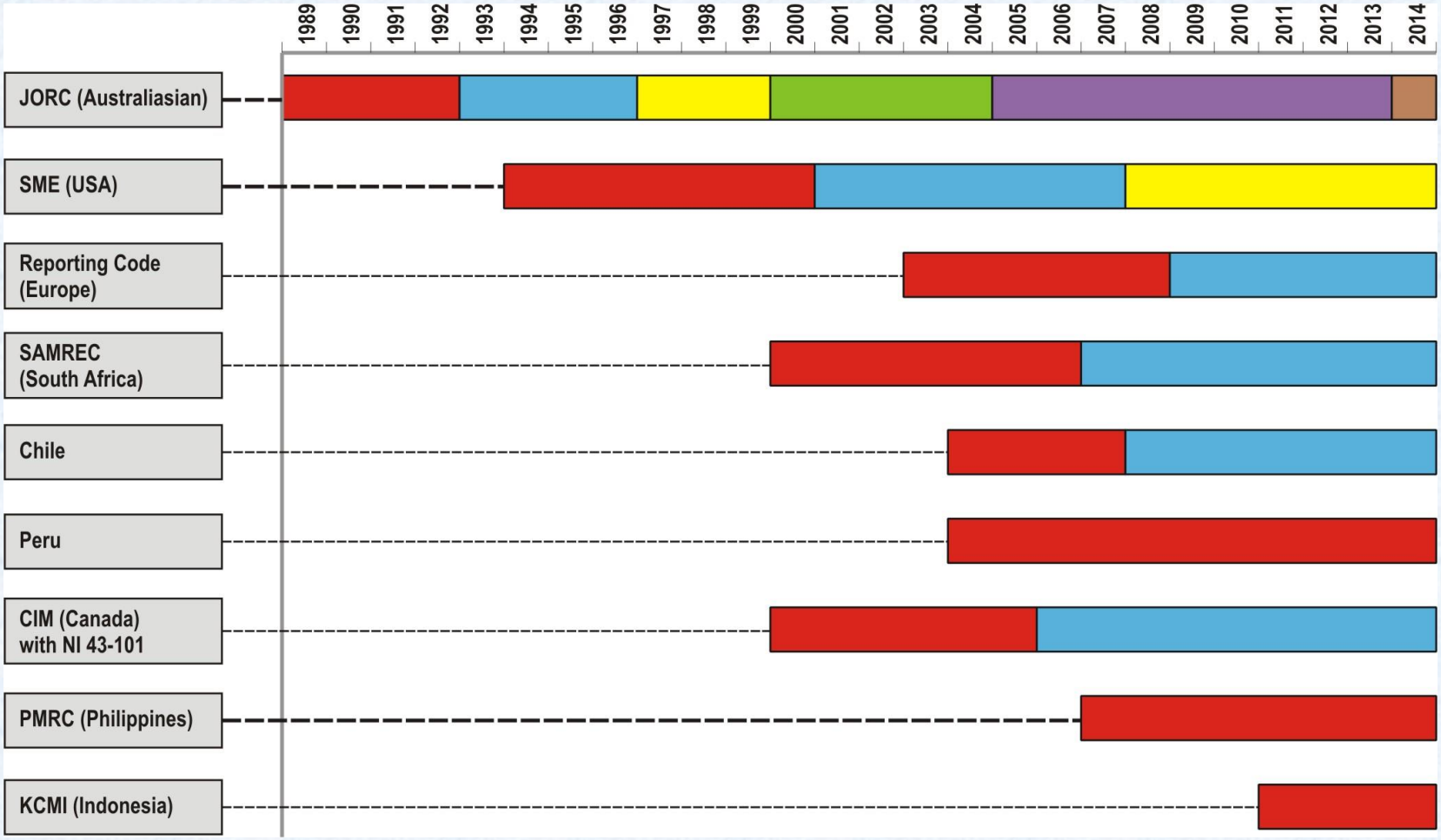
WHY NEED KCMI CODE + CPI?

- People globally demands: transparency, standardization, and accountability → *other countries have common reporting codes*
- Indonesian mining industry growth: expansion of funding and fund sources → *banks, capital market, other investors*
- Demand of credible reports on exploration result, resource and reserve estimation → *by capital market, private investor,* ***Government of Indonesia***
- Requests from investors, investment institutions and others in Indonesia for reports complied to other country's code (mostly like Australian JORC) → *why Indonesia did not make its own code*

→ → →

Indonesian mining community needs to develop its own code for Exploration Result, Resource and Reserve reporting

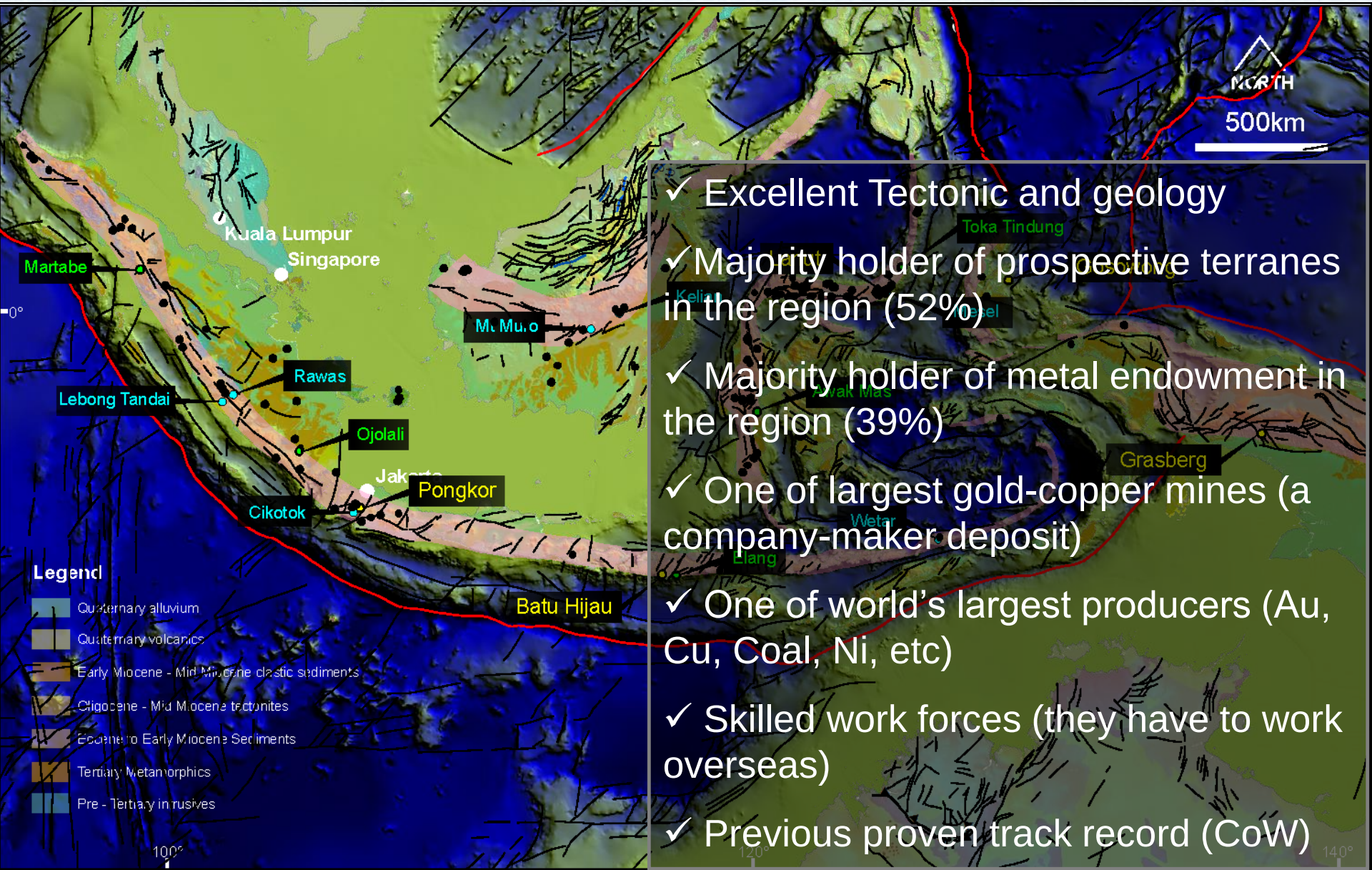
OTHER CODES WORLDWIDE



There are various regulation on reporting. Yet, they have the same purpose to provide the clear and accountable information

Geology and Prospectivity of Indonesia

Mineral Focus and Regional Stud Mined and Active Mines



- ✓ Excellent Tectonic and geology
- ✓ Majority holder of prospective terranes in the region (52%)
- ✓ Majority holder of metal endowment in the region (39%)
- ✓ One of largest gold-copper mines (a company-maker deposit)
- ✓ One of world's largest producers (Au, Cu, Coal, Ni, etc)
- ✓ Skilled work forces (they have to work overseas)
- ✓ Previous proven track record (CoW)

PRIMARY MISSION

- Increase stakeholder's confidence in good practices of "mining industry reporting system"
- Increase stakeholder's confidence in geologists and mine engineers ("competent person")

Give more assurance in investment climate of mineral and coal mining industry.

KCMI CODE & CPI

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JOINT COMMITTEE PERHAPI – IAGI/MGEI for KCMI & CPI

- Compilation of Code on Reporting on Exploration Result and Estimation of Mineral and Coal Resource and Reserves → *KCMI Code 2011*
- Preparing and Developing System for Competent Person Indonesia → *CPI System*
- Socialization of KCMI & CPI System to stakeholders
- Improving KCMI Code suited to progressive change in mining industry in Indonesia and the world .
- Keeping good relation with institutions (internal) and international relationship toward RPO (Recognized Professional Organizations) and registered in CRIRSCO (Committee for Mineral Reserves International Reporting Standards)

KCMI CODE & CPI

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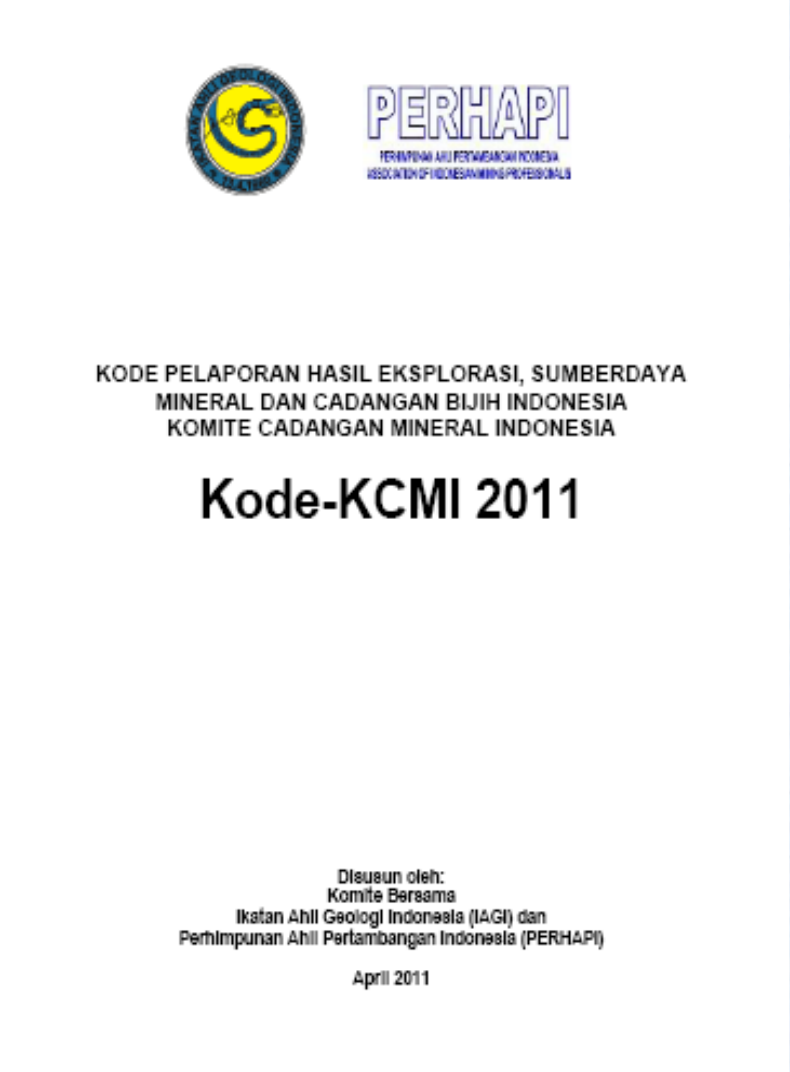
KCMI CODE

KCMI Code is about **Reporting** of Exploration Result, Mineral Resource and Reserve

- Concern about standardizing of **Report** – is not about how or to estimate mineral resource and coal/ ore reserve
- Reporting made by company to **public** (and to government)
- Company report to public must be signed by
- **"Competent Person Indonesia"**

Member of PERHAPI or IAGI/ MGEI

With special requirements



PERHAPI

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

CHARACTERISTIC of KCMI

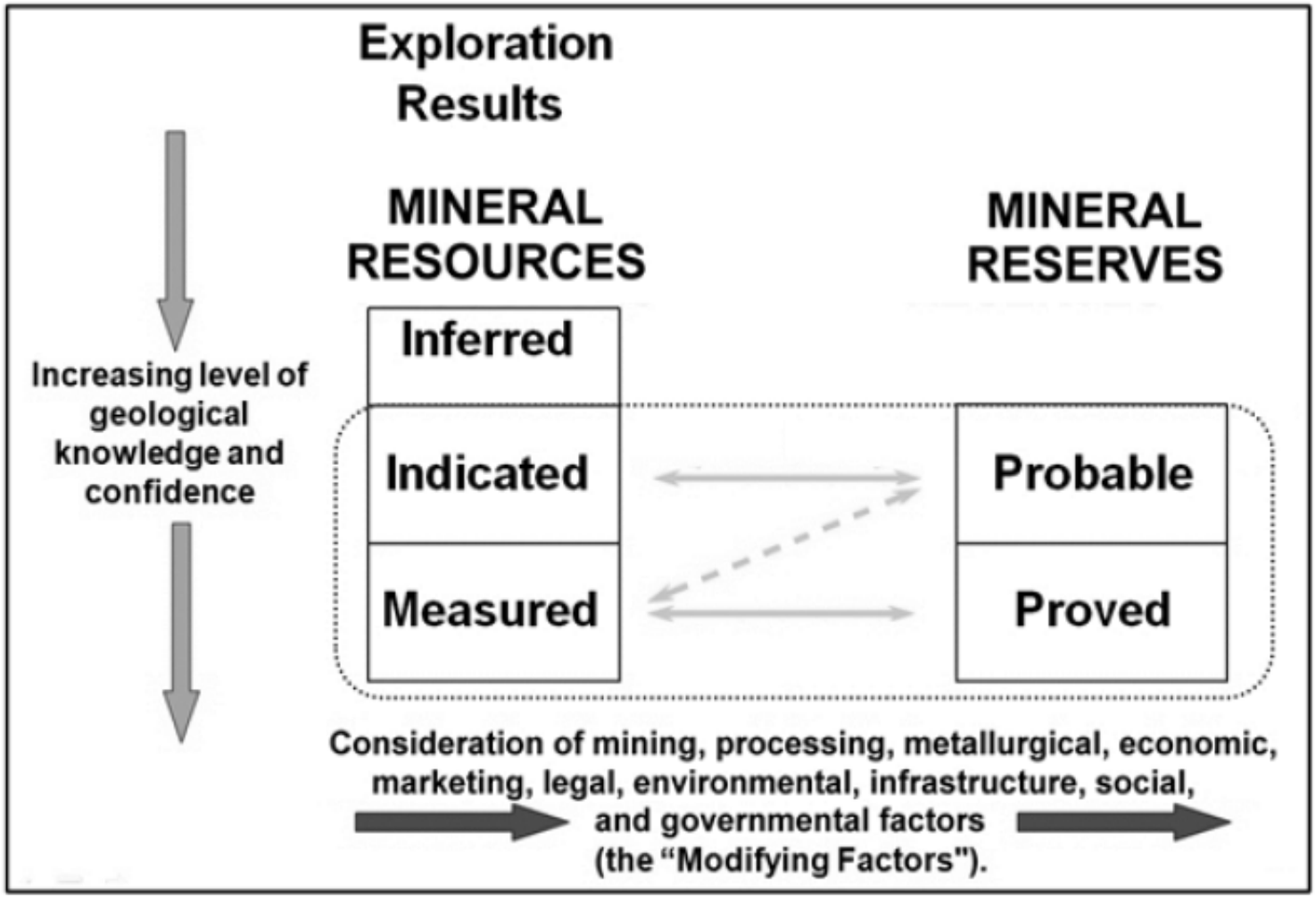
Introducing minimum standard for Reporting (in Indonesia) on Exploration Result, Mineral Resource and Ore Reserve

Giving classification system in tonnage and grade estimation that must be referred to be based on geological confidence and mining technical and economic consideration.

Requires Public Reports to be based on work undertaken by Competent Person Indonesia, that also describe qualification and experience of the person/persons creating the reports.

Provides extensive guidelines in criteria need to be considered in the making of the Report on Exploration Result, Mineral Resource and Ore Reserve Estimation.

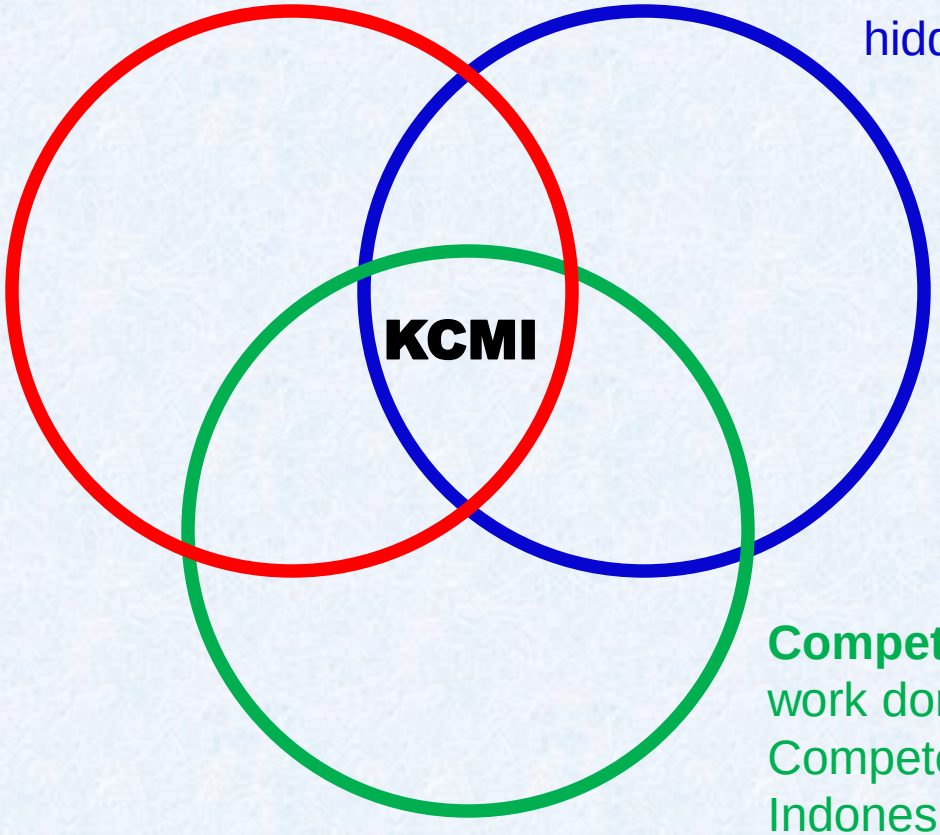
Classification



KCMI CODE :
PRINCIPLES BASED STANDARD

Transparency Data and information clearly presented and not ambiguous

Materiality: all relevant data is presented (no hidden data)



Competency based on work done by Competent Person Indonesia (CPI)

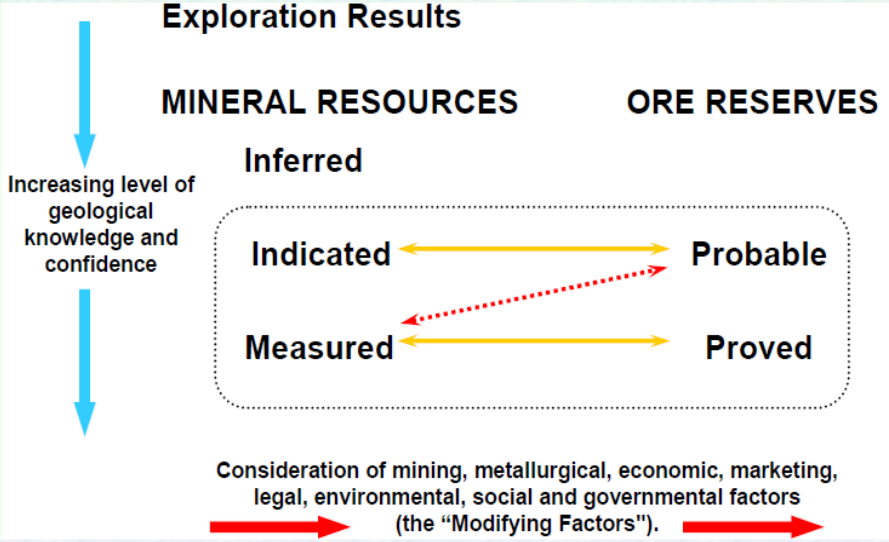
KCMI 2011 vs JORC 2004

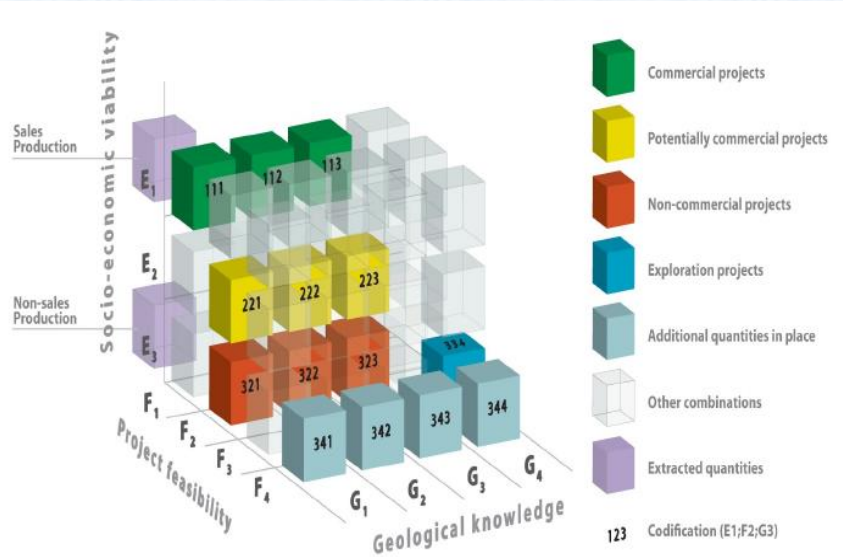
- Code Contents→ almost identical *(KCMI – in Indonesian Language)*
  similar with CRIRSCO template

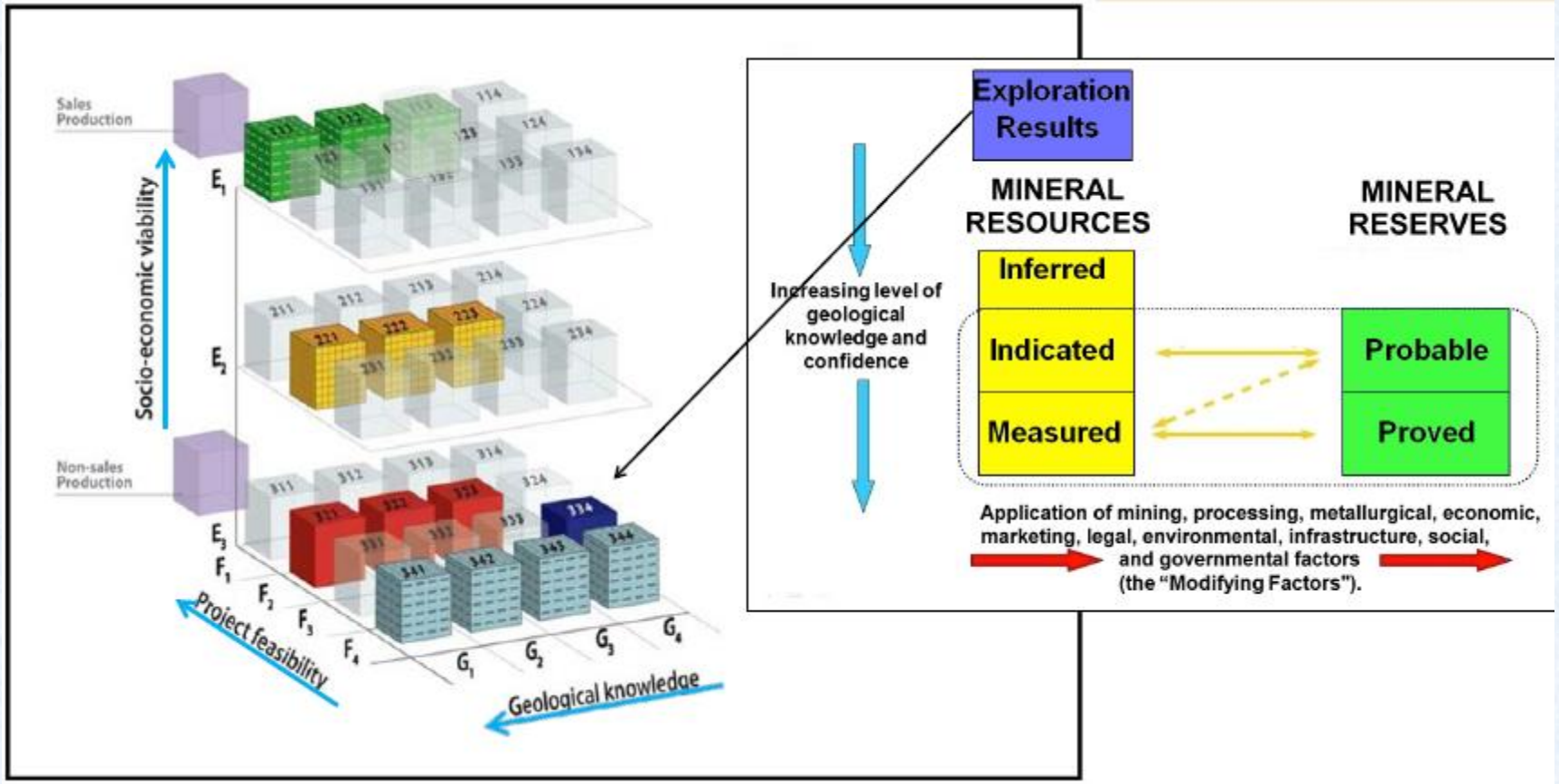
- Competent Person
  - JORC → self declared
  - KCMI → self declared – plus verification by GFC and registered to IAGI/ MGEI or PERHAPI
    - ✓ *Not all member of IAGI/ MGEI and PERHAPI is automatically a CPI*
    - ✓ *Verification by GFC periodically, every 3 months (4 times / year)*

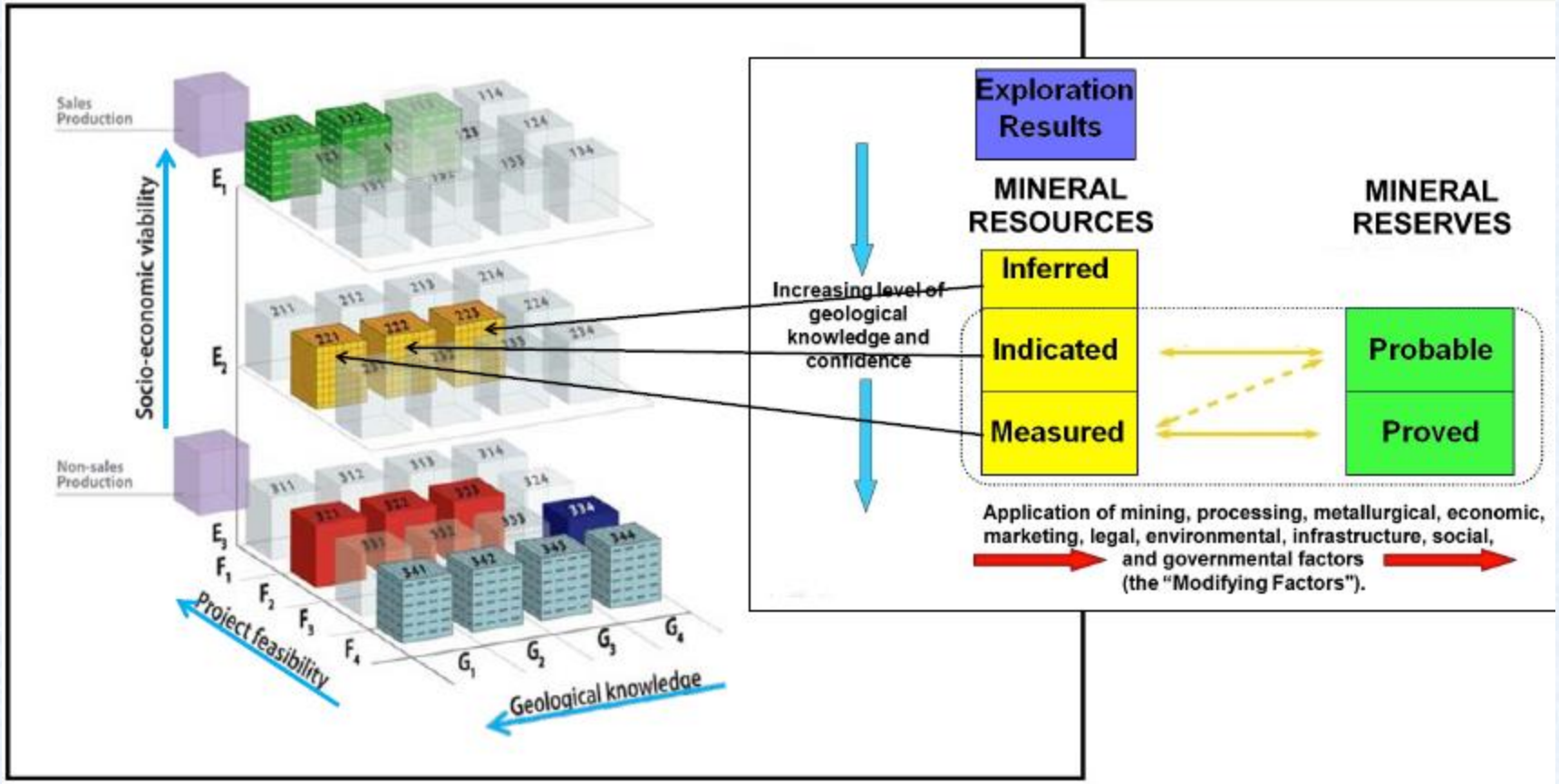
Comparison KCMI and UNECE(FC)

KCMI 2011	UNFC 2009
2-dimensional	3-dimensional
5 possible categories	41 possible categories
Technical information for financial	For government to rank potential
Competent Person	No Competent Person






Sales Production
Non-sales Production
Socio-economic viability
Project feasibility
Geological knowledge
Exploration Results
MINERAL RESOURCES
MINERAL RESERVES
Inferred
Indicated
Measured
Probable
Proved
Increasing level of geological knowledge and confidence
Application of mining, processing, metallurgical, economic, marketing, legal, environmental, infrastructure, social, and governmental factors (the "Modifying Factors").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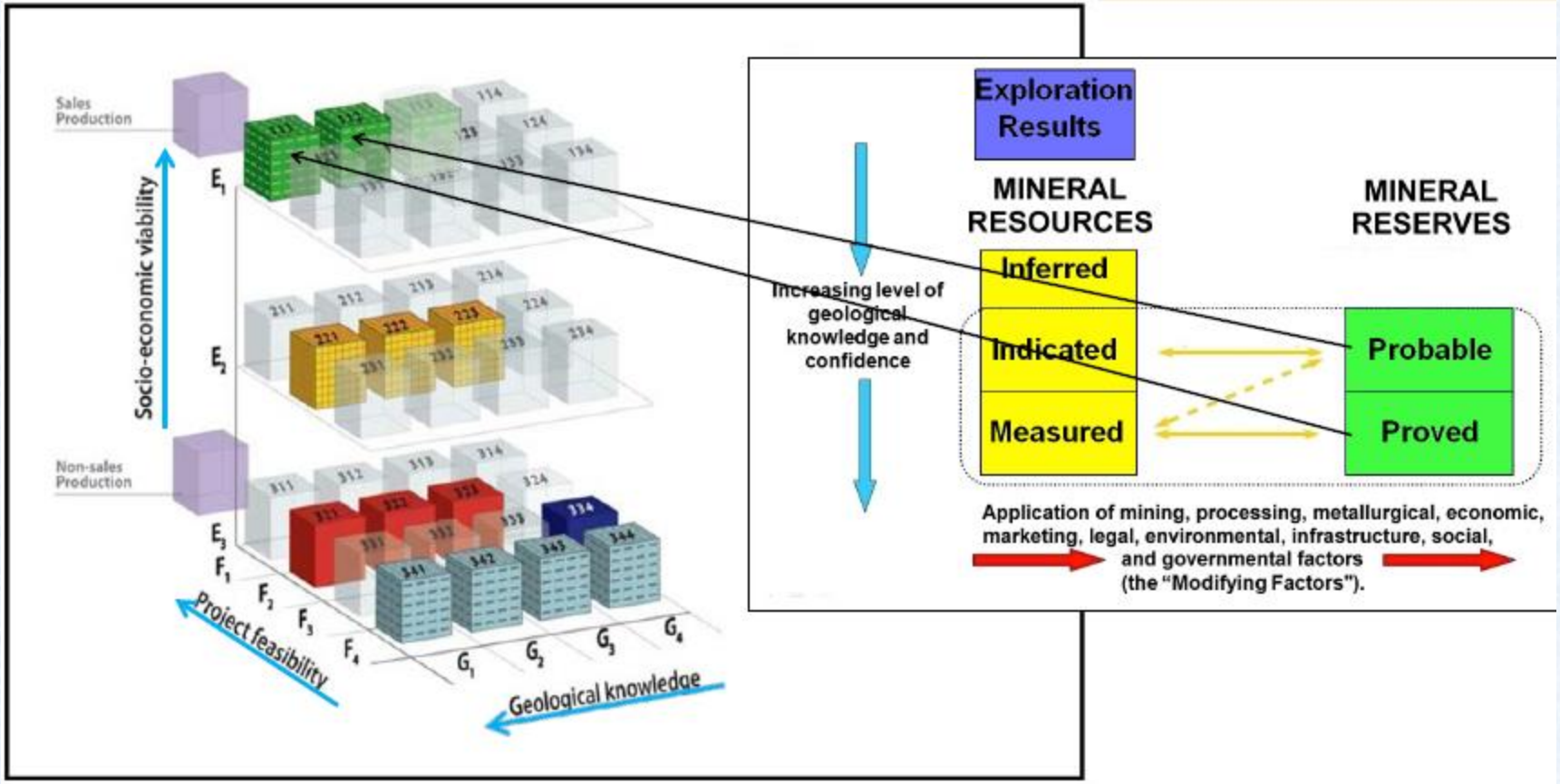
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Increasing level of geological knowledge and confidence
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COMPETENT PERSON INDONESIA (CPI):

- Member of PERHAPI and/or IAGI-MGEI
- Five years of relevant experience
- Comply with PERHAPI and IAGI-MGEI Code of Ethics.
- Passing verification by Committee of KCMI Code Implementation and CPI jointly made by PERHAPI and IAGI-MGEI
- PERHAPI and IAGI-MGEI have the authority in members disciplinary including give discipline warning and sanction to their members (CPI)

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RELATION WITH OTHER REGULATIONS

- Regulation in Capital Market-- (IDX; OJK)
  - ✓ Regulation on Stock Listing for Mining Issuer –*effectively Nov 2014*
  - ✓ MoU between IDX and IAGI-PERHAPI about "competent" expert *dated 11 December 2014*
- Government Regulation
  - ✓ Perdirjend Minerba – KESDM RI No 569.K/30/DJB/2015 (*April 2015*) – *requiring all IUP/KK/PKP2B (tenement holders) to comply with KCMI Code 2011 in their exploration reporting, and estimation of mineral resource and reserve.*

COMPETENT PERSON and KCMI

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Implementation System Organizers

1. Advisory Council
2. Management Board(Chairman, External Relation, Implementation)
3. First Member / Grand Father Clause
4. Ethics and Discipline Council

MASYARAKAT GEOLOGI EKONOMI INDONESIA
(A Commission of Indonesian Association of Geologists - IAGI)

Secretariat:
Rasuna Office Park, Blok JR-03, Kawasan Epicentrum
Jln. HR Rasuna Said, Jakarta 12960 ; Telp/Fax : +62 21 83786386 ; Email: sekretariatmgei@gmail.com

KEPUTUSAN PENGURUS
MASYARAKAT GEOLOGI EKONOMI INDONESIA
(MGEI)

No. SK/MGEI/04/2013

TENTANG KEPENGURUSAN KOMITE IMPLEMENTASI
SISTEM "COMPETENT PERSON" IAGI
DAN
SISTEM PELAPORAN HASIL EKSPLORASI, SUMBERDAYA
DAN CADANGAN MINERAL DAN BATUBARA INDONESIA TAHUN 2013-2015

Menimbang:

1. Perkembangan dunia pertambangan saat ini menuntut adanya Transparansi, Standarisasi dan Akuntabilitas.
2. Tuntutan akan Laporan Hasil Eksplorasi, Sumberdaya dan Cadangan Mineral dan Batubara harus memiliki kepastian dan standard yang tinggi.
3. Beberapa negara lain yang memiliki industri pertambangan sebagai bagian dari kekuatan ekonominya telah memiliki acuan dalam pembuatan laporan untuk para pemangku kepentingan berkaitan dengan hasil eksplorasi, pernyataan sumberdaya dan cadangan mineral dan batubara.
4. Indonesia perlu mengembangkan kode pelaporan hasil eksplorasi, sumberdaya dan cadangan mineral dan batubara sendiri yang akan dipakai oleh semua pihak yang berkepentingan dengan pengusahaan mineral dan batubara, dimana IAGI (Ikatan Ahli Geologi Indonesia) dan Perhapi (Perhimpunan Ahli Pertambangan Indonesia) telah menyusun Kode KCMI (Komite Cadangan Mineral Indonesia) sebagai standard pelaporan hasil eksplorasi, sumberdaya dan cadangan mineral dan batubara Indonesia.
5. Diperlukan sistem untuk melaksanakan, mengembangkan, menerapkan dan menegakkan pemakaian Kode KCMI sebagai standard yang ditetapkan.

Mengingat:

1. Undang-Undang No. 4 Tahun 2009 tentang Pertambangan Mineral dan Batubara.
2. Pedoman Organisasi MGEI dan Anggaran Dasar/ Anggaran Rumah Tangga IAGI
3. Surat Keputusan Bersama (SKB) IAGI dan Perhapi Nomor: Kpts/001/IX/ext-2009 – SK.020/SK/K/PHP/XI/2009, tentang Pembentukan Komite Bersama Pengembangan Sistem "Competent Person" dan Pelaporan Hasil Eksplorasi, Sumberdaya dan Cadangan Mineral Indonesia
4. Surat Keputusan Pengurus Pusat (PP) IAGI No.Kpts/20/V/In-2011 tentang Penunjukan dan Penugasan MGEI pada Implementasi Sistem "Competent Person" dan Kode Pelaporan Hasil Eksplorasi, Sumberdaya dan Cadangan Mineral Indonesia
5. Surat Keputusan Bersama (SKB) IAGI (Kpts/002/XII/ext-2012) dan PERHAPI (SK.005/SK/K/PHP/XII/2012) tentang Perpanjangan Komite Bersama Cadangan Mineral Indonesia (KCMI)

CPI CLASSIFICATION related with MINING FEASIBILITY DEFINITION PROCESS

Exploration

Legal Aspect Assessment

Data Collection and Quality Control

1. Exploration Technical Method
2. Sampling Method
3. Drilling
4. Laboratory Analysis
5. Interpretation and Geological Model

REPORT ON EXPLORATION RESULT

Resource

Legal Aspect Assessment

Data Validation and Resource Estimation

1. Geological Data and Information Validation
2. Geological Modeling
3. Resource Estimation

REPORT ON RESOURCE ESTIMATION

Reserve

Legal Aspect Assessment

Data Validation and Assessment

1. Marketing Aspect
2. Mining Aspect
3. Processing and Transportation Aspect
4. Environment and Social Aspect
5. Economy Aspect
6. Investment Return Criterion
7. Reserve Estimation

REPORT ON RESERVE ESTIMATION

CPI-Exploration

CPI- Resource

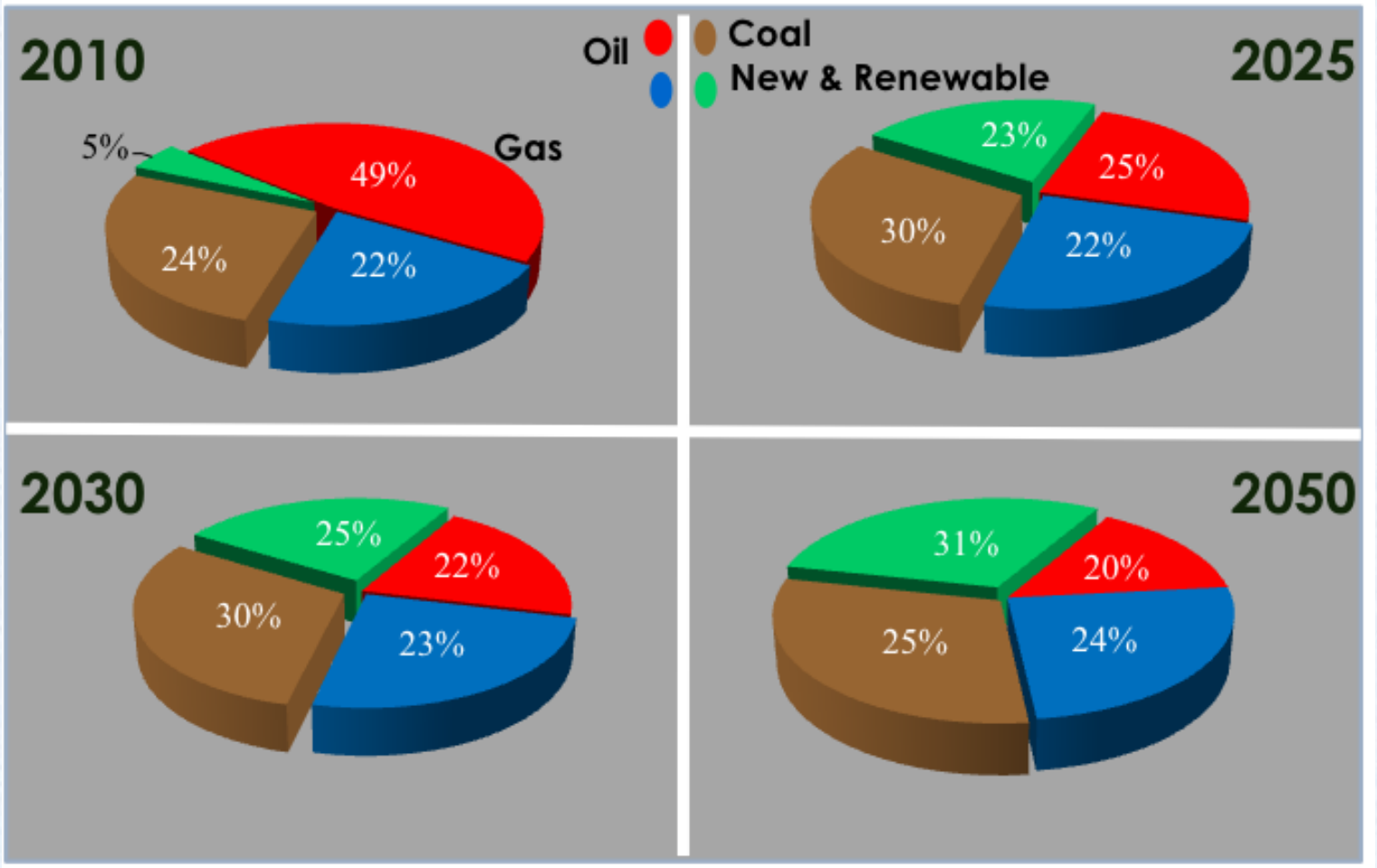
CPI Reserve

COMPETENT PERSON INDONESIA

“Certificate” of CPI is given by Dirjend Minerba KESDM RI
At Annual Convention of MGEI/ IAGI
Bali, 1 Desember 2013

National Energy Policy (2014)

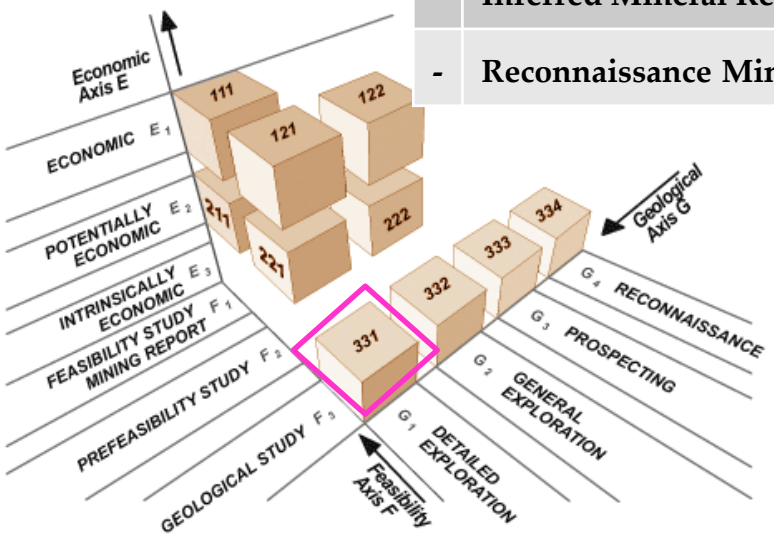
Energy Mix Projection



Note: Nuclear is categorized into the new energy

CASE STUDY ON URANIUM POTENSIAL RESOURCES

Reserves and resources mineral classification (KCMI)		UNFC - 2009
1. Mineral Reserves		
-	Proved Mineral reserves	111
-	Probable Mineral reserves	121,122
2. Mineral Resources		
-	Feasibility mineral resources	211
-	Pre-Feasibility mineral resources	221,222
-	Measured Mineral resources	331
-	Indicated Mineral Resources	332
-	Inferred Mineral Resources	333
-	Reconnaissance Mineral Resources	334



Lembah Hitam, Lemajung dan Semut sector at West Kalimantan, have UNFC = 331, indicating the status of measured resource classification and has international standard (Dynamic System)

RADIOACTIVE MINERAL OCCURENCES MAP IN INDONESIA

Closing Note

→ → → **HIGH QUALITY REPORTING**
(by CPI complied to KCMI Code)

KCMI Code and CPI System fully implemented in Indonesia and internationally recognized→

Advantage for mining industry:

- Provide and present validated data of exploration result, mineral resource and reserve
- A lot easier to make report by multinational company which needed high quality reports
- Provide more assurance to project statute, and decrease efforts and unnecessary cost of funding from several sources of fund.
- Encourage non-mining source of fund to invest in mining industry.
- Easy to compare between investment in different type of commodities (minerals and coal).
- KCMI code fully support for Indonesia energy mix development and sustainable energy supply

Detail Information about KCMI Code& CPI:

http://www.mgei-iagi.org

or email to

CP.IAGI@gmail.com
kkicp.perhapi@gmail.com

Thank You

Grasberg Underground