

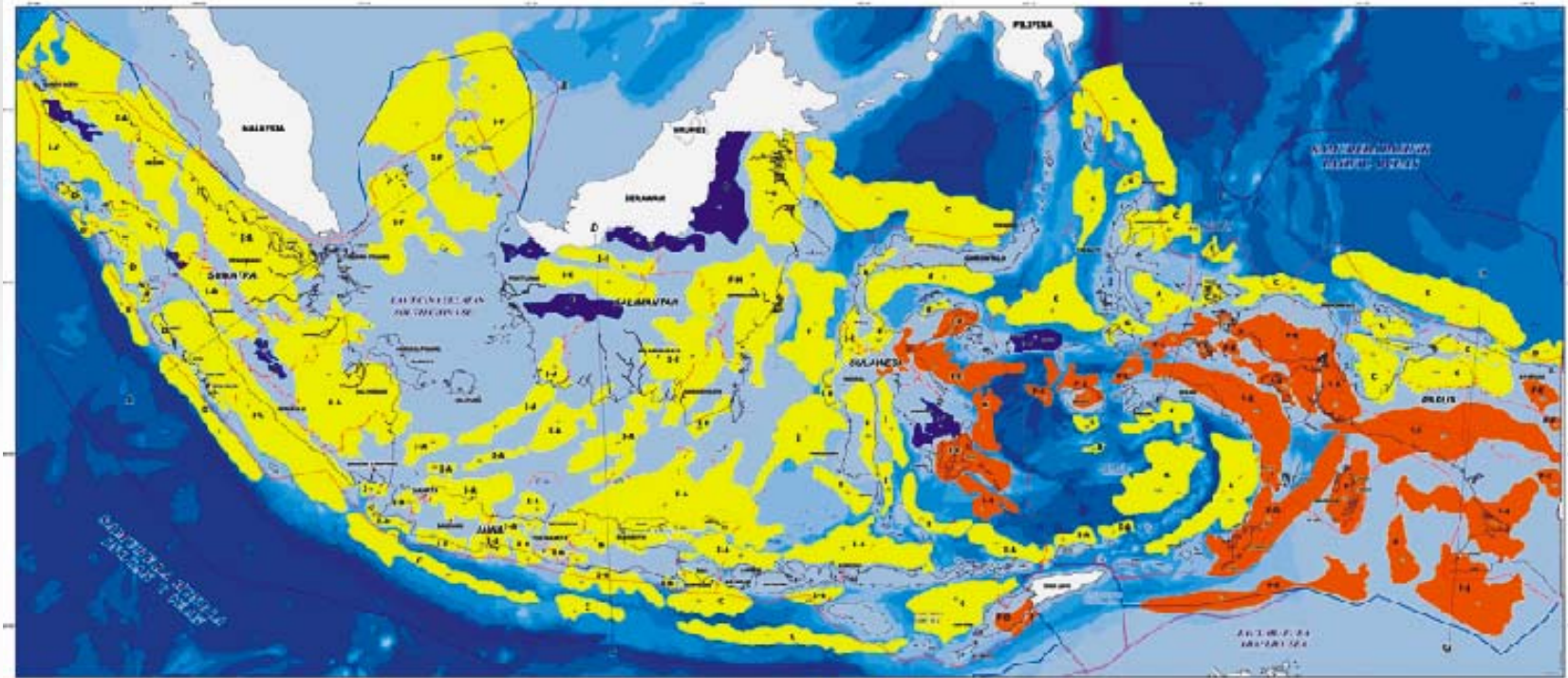
Major Challenges and Opportunities Experienced: A Perspective From Research Organization

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Sedimentary Map of Indonesia

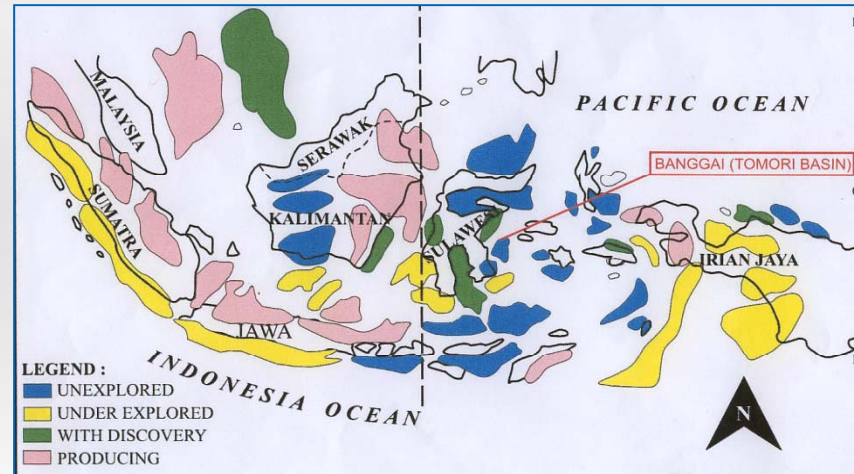


Source: Geological Agency, 2009

Sites Selection and Storage Capacity Estimates

Criterion	Increasing CO ₂ Storage Potential				
	Classes				
	1	2	3	4	5
1 Seismicity (tectonic setting)	Very high (e.g. subduction)	High (e.g. syn-rift, strike-slip)	Intermediate (e.g. foreland)	Low (e.g. passive margin)	Very low (e.g. orogenic)
2 Size	Very small (<1000 km ²)	Small (1000–5000 km ²)	Medium (5000–25000 km ²)	Large (25000–50000 km ²)	Very large (>50000 km ²)
3 Depth	Very shallow (<300 m)	Shallow (300–800 m)		Deep (>3500 m)	Intermediate (800–3500 m)
4 Faulting intensity	Extensive		Moderate		Limited
5 Hydrogeology	Shallow, short flow systems, or compaction flow		Intermediate flow systems		Regional, long-range flow systems; topography or erosional flow
6 Geothermal	Warm basin (>40°C/km)		Moderate (30–40°C/km)		Cold basin (<30°C/km)
7 Reservoir-seal pairs	Poor		Intermediate		Excellent
8 Coal seams	None	Very shallow (<300 m)		Deep (>800 m)	Shallow (300–800 m)
9 Coal rank	Anthracite	Lignite		Sub-bituminous	Bituminous
10 Evaporites	None		Domes		Beds
11 Hydrocarbon potential	None	Small	Medium	Large	Giant
12 Maturity	Unexplored	Exploration	Developing	Mature	Super-mature
13 Onshore/offshore	Deep offshore		Shallow offshore		Onshore
14 Climate	Arctic	Sub-arctic	Desert	Tropical	Temperate
15 Accessibility	Inaccessible	Difficult		Acceptable	Easy
16 Infrastructure	None	Minor		Moderate	Extensive

Table: CO2CRC & Bachu



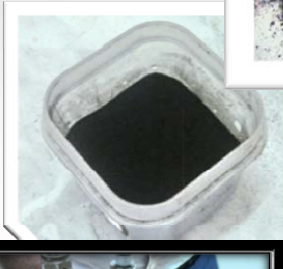
- Depleted Oil and Gas Reservoirs
- Screening and ranking of sedimentary basins in Indonesia regions
- Developing screening criteria based on Indonesia geological characteristics
- Storage capacity estimates approach:
 - Production based volume

Inventory of CO₂ Emission and Possibility of CO₂ Storage in East Kalimantan

- Total CO₂ sources in East Kalimantan is circa 28 Mt CO₂/year
- Identified physical trapping is a combination of stratigraphic and structural trap which is potential for CO₂ storage
- The estimate storage capacity from four depleted gas reservoirs and four saline aquifers is approximately 3.5 Mt CO₂
- Well integrity and completion are important criteria on CO₂ storage

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CO₂ Sequestration in Coal Seams-South Sumatera



Sorption Apparatus

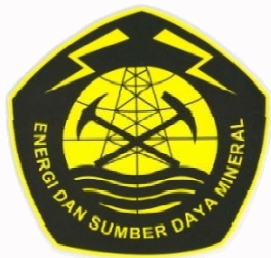


- Determining storage capacity in coal seams
- Investigating storage capacity due to the following effects:
 - Moisture
 - Ash content
 - Coal rank
 - Seams depth
- Laboratory study using sorption apparatus

Major Challenges and Opportunities Experienced

- Lack of fundings for research
- Public reluctance for supporting this technology
- Extensive research area in CCS chain activity
- Integrated working group between government institution and industry need more intensively and seriously
- Collaboration with international institutions
 - IEA
 - GCCSI
 - RITE
- Capacity building through seminars or workshops
 - Carbon Capture and Storage Forum: Opportunities of CCS development in Indonesia
 - Carbon Capture and Storage (CCS) Workshop: From Research to Reality
 - Workshop on Mapping of Potential Reservoir for CCS & Selection Criteria

Thank You



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