



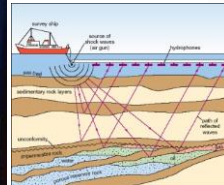
Indonesia Investment Opportunity

Singapore, 6 – 10 Maret 2023



Ministry of Energy and Mineral Resources: Organizing Government Affairs, Establishing Policies, and Supervising Compliance with Applicable Regulations.

DITJEN MIGAS



Direct Tender
Direct Proposal
Open Tender

SKK MIGAS:

Supervising and Controlling the Implementation PSC Contracts.

Contractors:

Implement Contracts



CONTRACT YEARS	DESCRIPTION	ACTIVITY		BUDGET	
		UNIT	AMOUNT	UNIT	AMOUNT
First	G and G			US \$	500,000
	Seismic 2D			US \$	2,000,000
	Acquisition and processing	KM	60		
	Seismic 3D			US \$	
Second	Acquisition and processing	KM ²		US \$	
	Exploratory well	Well		US \$	
	G and G			US \$	500,000
	Seismic 2D			US \$	
Third	Acquisition and processing	KM		US \$	
	Seismic 3D			US \$	
	Acquisition and processing	KM ²		US \$	
	Exploratory well	Well		US \$	
Fourth	G and G			US \$	500,000
	Seismic 2D			US \$	
	Acquisition and processing	KM		US \$	
	Seismic 3D			US \$	
Fifth	Acquisition and processing	KM ²		US \$	
	Exploratory well	Well	1	US \$	21,000,000
	G and G			US \$	500,000
	Seismic 2D			US \$	
Sixth	Acquisition and processing	KM		US \$	
	Seismic 3D			US \$	
	Acquisition and processing	KM ²		US \$	
	Exploratory well	Well		US \$	

BPHMIGAS:

Supervise the implementation of the supply and distribution of fuel and transportation of natural gas through pipes



PERTAMINA:

Providing and distributing subsidized fuel



SPEC
SURVEY
+
PREPARE
BLOCKS

BLOCK
OFFERINGS,
TENDER,
AWARD

CONTRACT
SIGNING

EXPLORATION

EXPLOITATION

LIFTING

O&G SALES

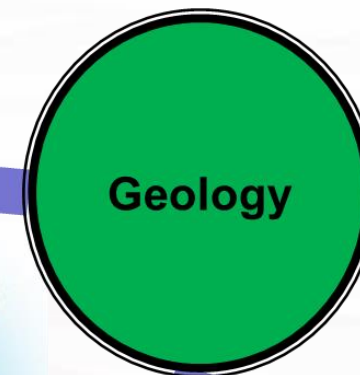
FUEL SUPPLY

Other
Downstream

UPSTREAM

DOWNSTREAM

- One Door Service Policy



- Prospectivity Readiness
- DRO/AOI
- More New Data
- Project File Ready

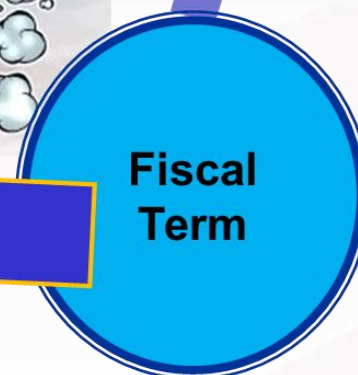


- POD or POP
- Win-Win solution to make asset become producing



Encourage investment, flexible and dynamic terms

Soeryowibowo, IPA-2017

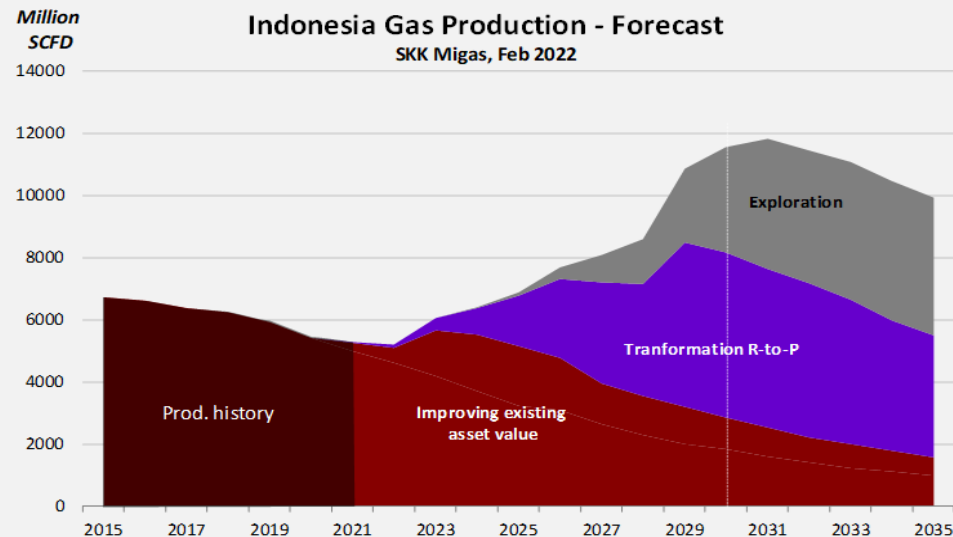
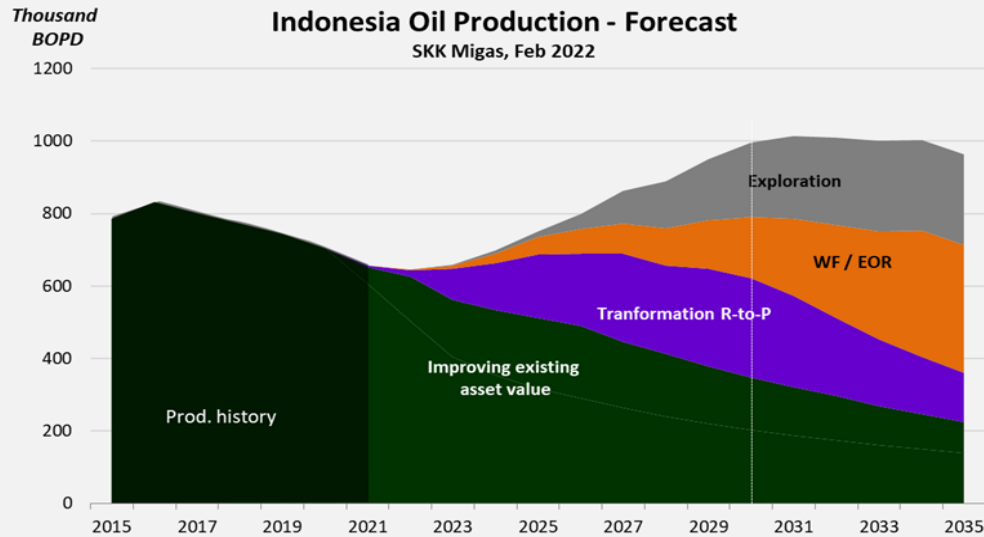


- Flexible Cost Rec/Gross Split
- Exploration Tax exemption
- New Split Regime

1 Million BOPD & 12 BCFGPD at 2030

Shifting Paradigm

From Revenue Generator to production for generate a multiplier effect in supporting national economic growth.



Exploration Layer Contribution-From Existing Blocks

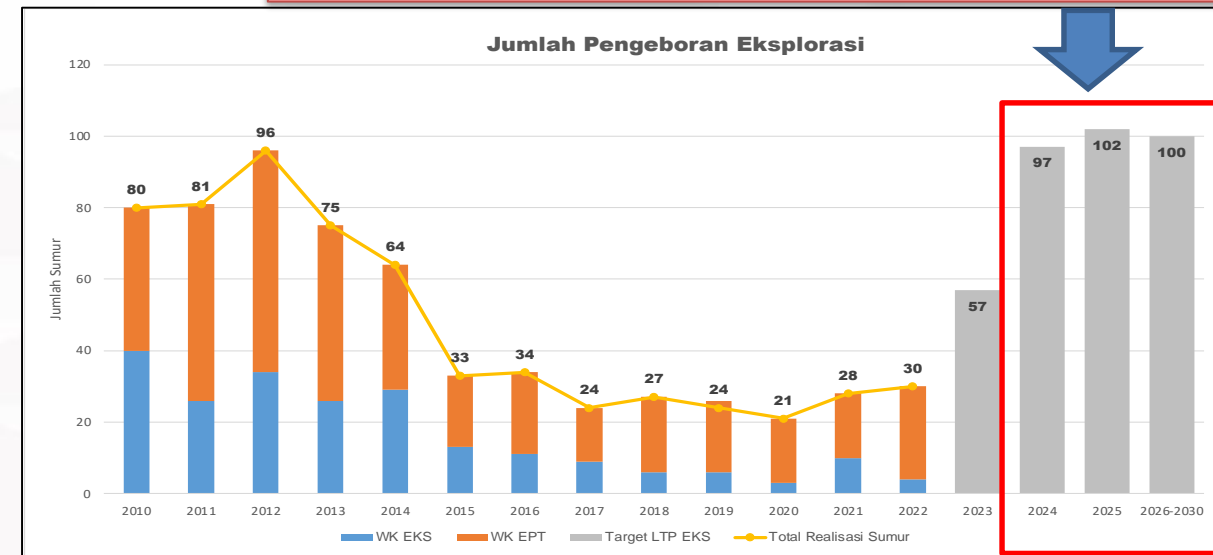
Total Structure Oil

219

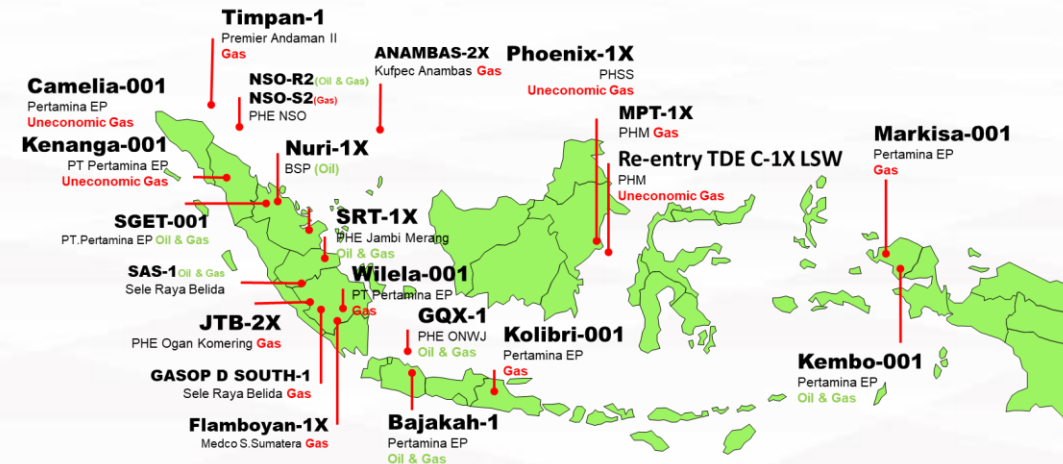
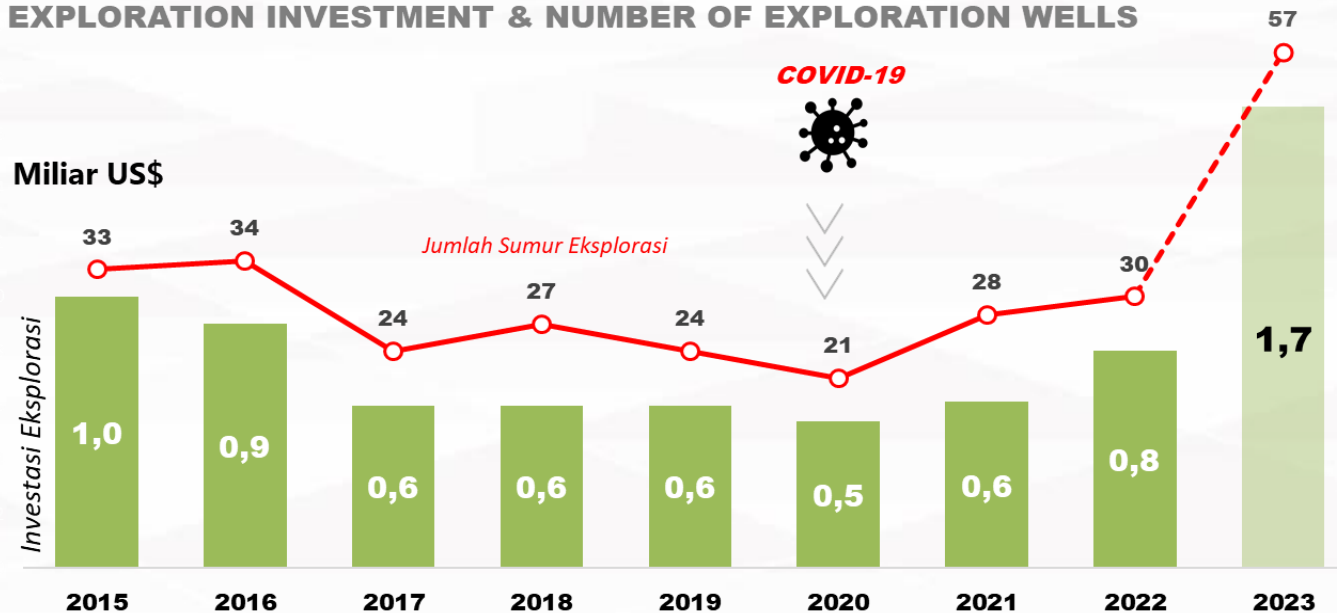
Total Structure Gas

284

Need:
Higher Exploration Investment > 3 Billion dollars
and or >20% exploration portion from total investment



EXPLORATION INVESTMENT & NUMBER OF EXPLORATION WELLS

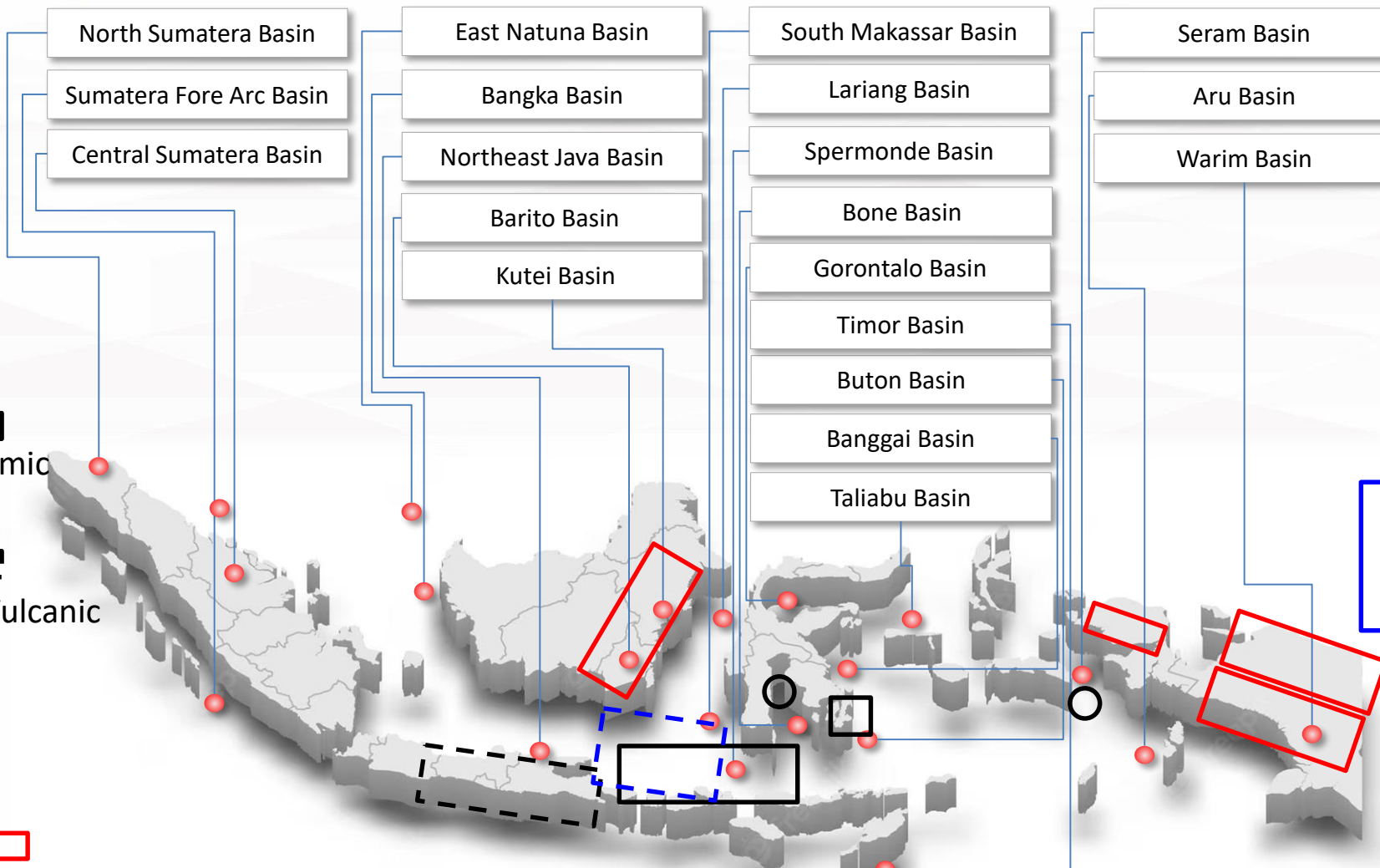


27 Exploration wells, with Success Ratio
81%

Contingent Resources

> 500 MMBOE

Mature Basin still give an exciting result



11

Regional study performed since 2019 - today

20

Basin re-evaluate since 2019 - today

30

More than 30 giant prospects opportunity have been identified

32K

2D Regional Seismic

1K

2D Vibroseis in Volcanic

1,9K

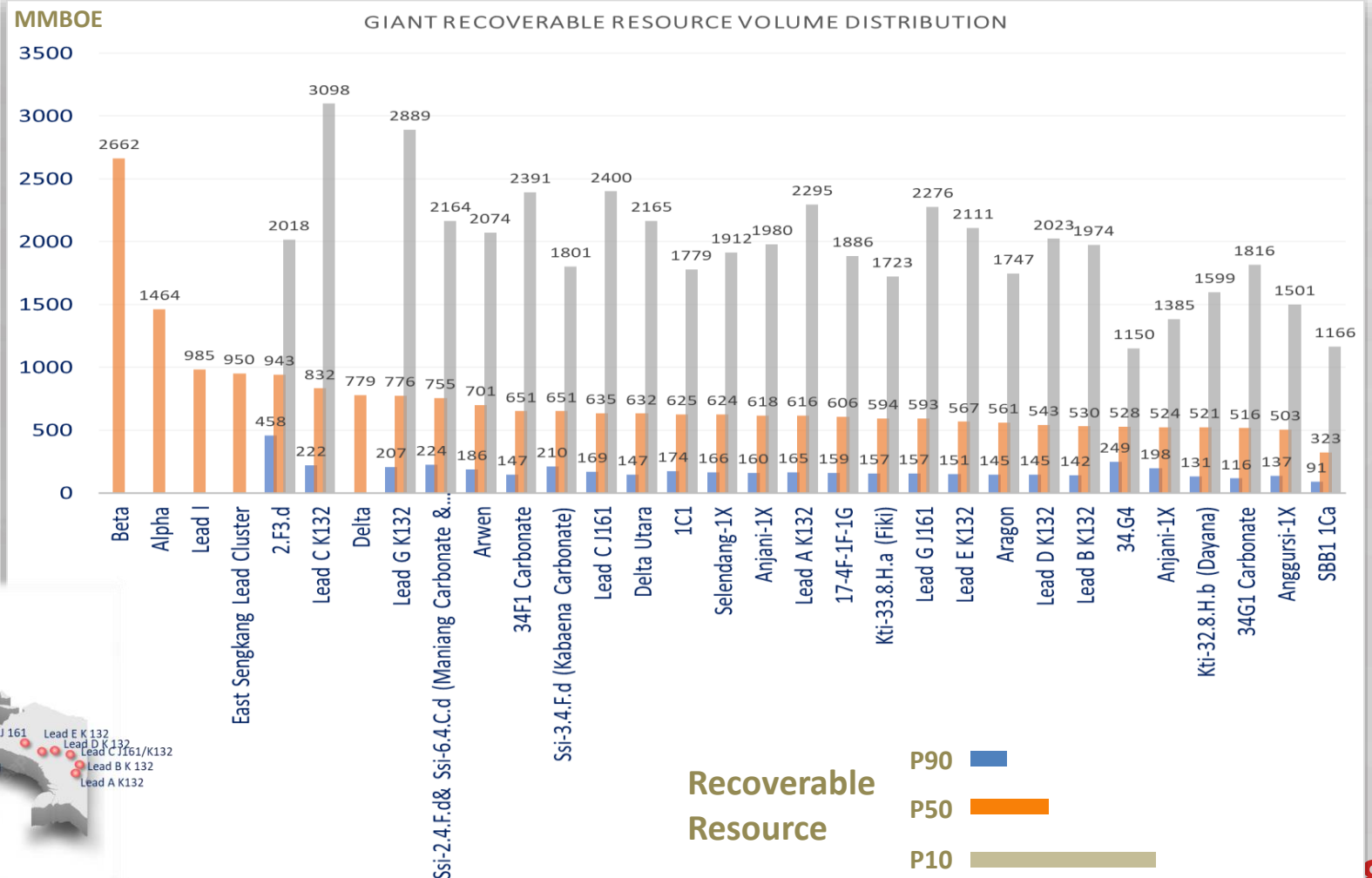
3D Seismic

250K

FTG Survey in Frontier (Km2)

170K Km²

2D Cube



Improvement T&C on Bidding Round

Aspect	Explanation
Profit Sharing	Split of profit sharing up to 50:50 for very high-risk Work Area
FTP	Reduced to 10% (shareable)
Signature Bonus	Open bid (No Minimum Bonus)
PSC Scheme	Flexible, Cost Recovery or Gross Split
DMO Price	100% ICP during the contract period
Area Relinquishment	0% for the first 3 year
Cost Recovery	No cost ceiling
Data Access	Free, pay if announced as winner or apply for MDR membership
Tax Facilities	In Exploration and Exploitation period (GR Num. 27/2017 and GR Num. 53/2017)
Other Incentives	Investment credit, accelerated depreciation
Commercialization	Block basis



Risk	Profit Sharing	
	Oil	Gas
Very Low	80:20	75:25
Low	75:25	70:30
Moderate	70:30	60:40
High	60:40	55:45
Very High	55:45	50:50

RISK: GCF (50%), Total Resources (30%), Production Facilities (20%)

Open Area

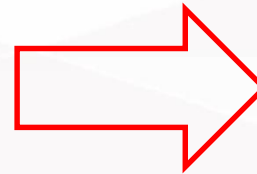
- New Block by regular processes (JS & Direct Proposal & Bid Round)

Farm In/Farm Out in Existing

- 14 Exploration Blocks
- 6 POD Blocks
- 9 Production Blocks

Strategic Alliance for Idle Wells

- >10,000 Idle Wells



Proven Petroleum Basins – just wait for explorer to find the pool

WARIM AREA

Basin: Iwur, Akimeugah, Sahul
Prospect/Lead: 9 (with Jura & Cret)
Resources (P50)
OOIP/RR : 25,968 MMBO/ 3,656 MMBO
OGIP/RR : 47,276 BCFG/ 21,339 BCFG
Recom : Drill exploration/stratigraphic wells proving PNG Play and Foreland play

ARU-ARAFURA AREA

Basin: Laut Timor, Aru-Tanimbar, Wokam, Arafura Barat, Arafura
Prospect/Lead: 10 (sec 1) & 12 (Sec 3)
Resources (P50)
OOIP/RR : 6,795 MMBO/ 2,250 MMBO
OGIP/RR : 50,175 BCFG/ 34,540 BCFG
Recom : 3D survey Seismik within AOI
18000 Km² – imaging Basin Floor Fan Play

TIMOR AREA

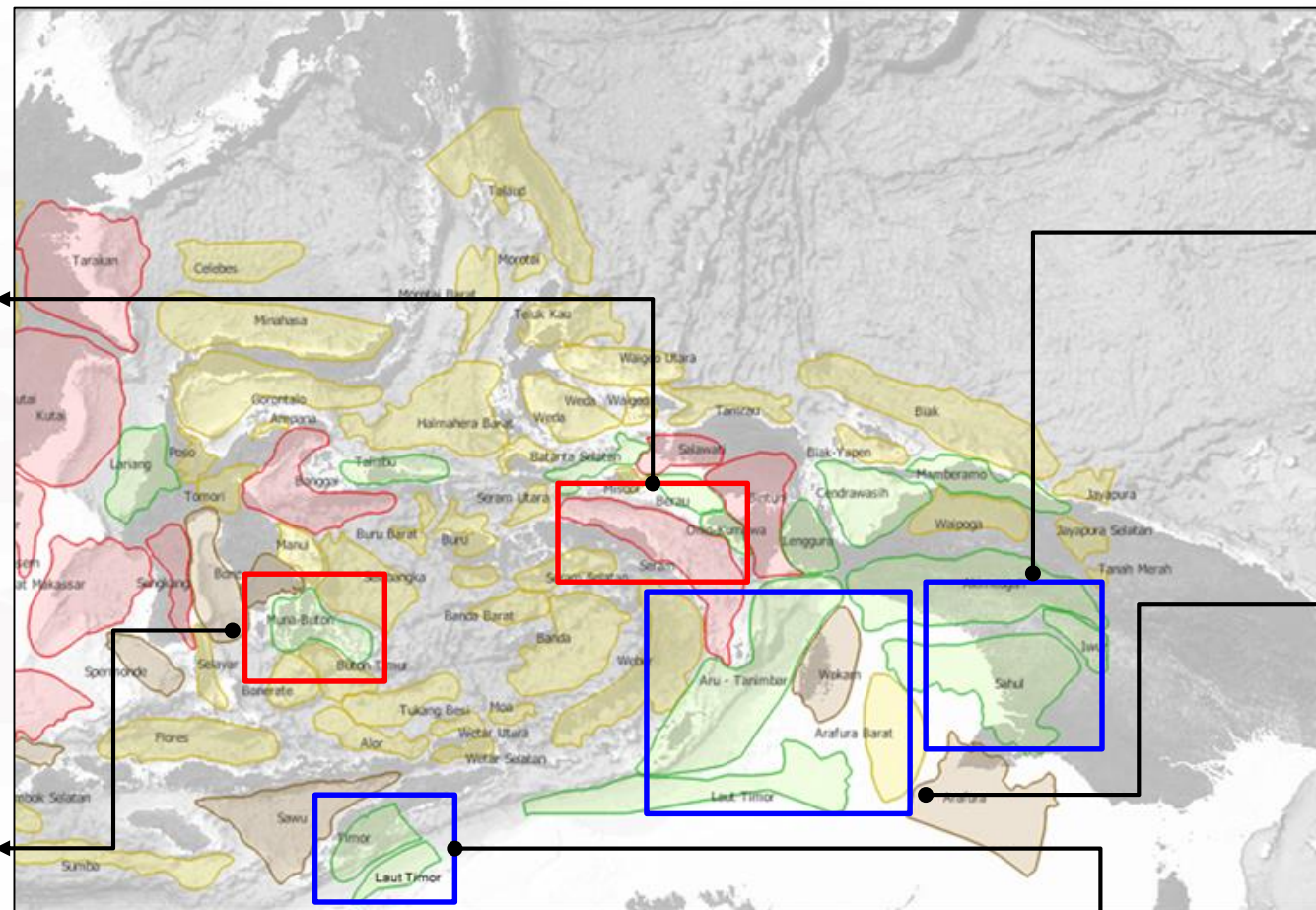
Basin: Timor dan Laut Timor
Prospect/Lead: 9 P/L
Resources (P50)
OOIP/RR : 4,946 MMBO/ 1,484 MMBO
OGIP/RR : 29,675 BCFG/ 20,813 BCFG
Recom : 2D Onshore Vibroseismic 400-1000 Km

SERAM AREA

Basin : Seram, Onin-Kumawa
Prospect/Lead: 9
Resources (P50)
OOIP/RR : 7,596 MMBO/ 1.123 MMBO
OGIP/RR : 11,520 BCFG/ 8,050 BCFG
Recom: 3D seismic Survey in SE Seram area (700 – 1000 Km²)

BUTON AREA

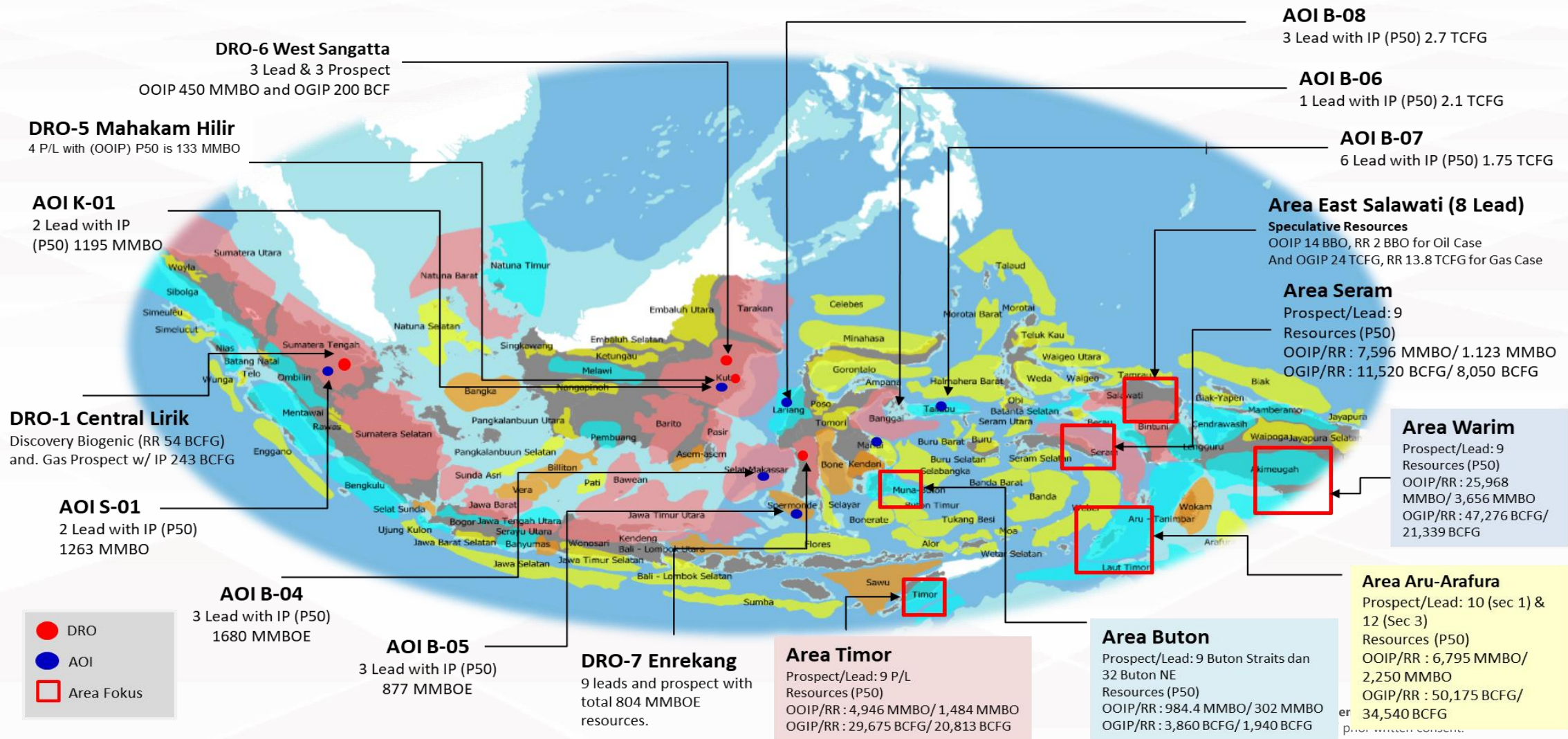
Basin: Muna-Buton
Prospect/Lead: 9 Buton Straits dan 32 Buton NE
Resources (P50)
OOIP/RR : 984.4 MMBO/ 302 MMBO
OGIP/RR : 3,860 BCFG/ 1,940 BCFG
Recom : 2D Seismic Survey (200-500 Km)



In Total covered:
12 Basin
92 Prospect/Lead
OOIP/ RR: 46,289 MMBO/ 8,815
OGIP/ RR: 142,506 BCFG/ 86,682 BCFG

4 DRO= Discoveries Resources Opportunity
7 AOI= Area of Interest for Exploration
6 Regional Area

What's new?.. We will include The Economics parameter such as NPV, IRR
Exploration





See you in Nusa Dua Bali

**4th International Convention on Indonesia Upstream
Oil and Gas (IOGC) 2023**

20-22 September 2023

Contact:
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谢谢

TERIMA KASIH

고맙습니다

Grazie

THANK YOU

شكراً لك

Merci

Спасибо

Obrigada

Рақмет сізге

ขอขอบคุณ

ありがとう

For more information:

SKK Migas Publication: <https://memoir.skkmigas.go.id/>

Indonesia Oil & Gas Data Repository (MDR): <https://datamigas.esdm.go.id/>

Indonesia Bidding Round Website: <https://www.esdm.go.id/wkmigas/>

Contact:

investor@skkmigas.go.id

Gas Commercialization Strategy

Pull Strategy

"Built" demand near Gas Supply

Petrochemical Industry,
especially in the Eastern Part
of Indonesia



DME (Dimethyl Ether) Production
to reduce LPG Import



Gas to Liquid (GTL) and
Smelter Development



Push Strategy

Develop infrastructure to "bring" gas to the demand.



Gas transmission pipeline



Small and medium scale -
LNG Plant



New regasification terminal



COLLABORATION AND INTEGRATION IS THE KEY

Collaboration between Upstream, Midstream, Downstream, and all stakeholders will optimize the utilization of Indonesian natural gas in supporting the achievement of SKK Migas' Long Term Vision

Farm In Opportunity in Indonesia

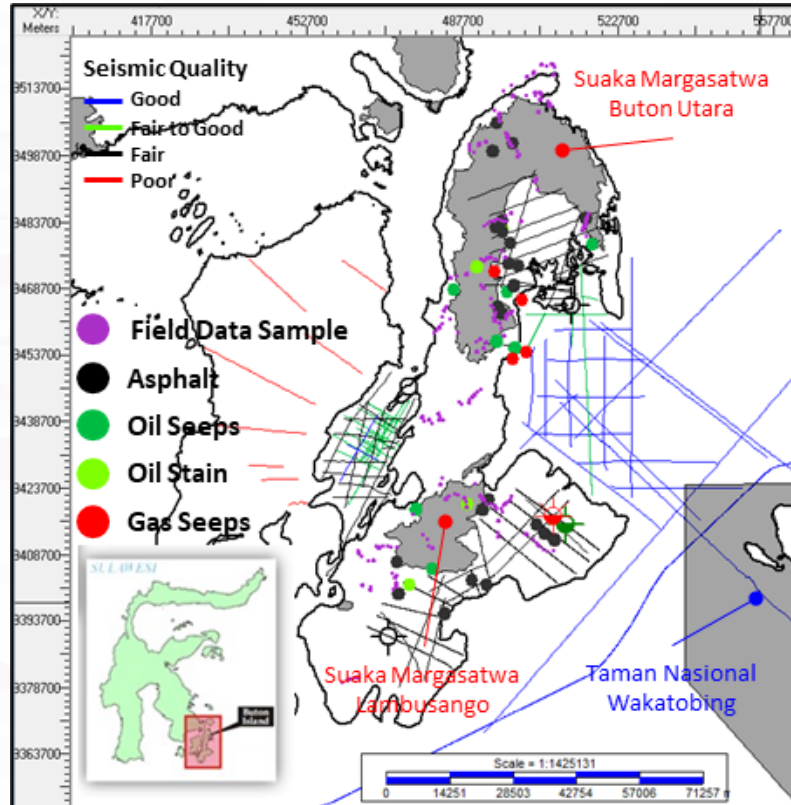
9 Production Assets ●

6 Development Assets ●

14 Exploration Assets ●



Area of Evaluation



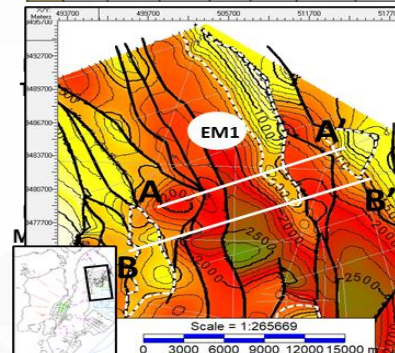
Buton has long been known to have large asphalt deposits. This asphalt deposit is an oil field that was uplifted due to collision deformation so that its cap rock was eroded and the oil was degraded into asphalt. In addition, there are also many oil and gas seeps which indicate that there are active petroleum systems in Buton, and therefore oil and gas fields potentials are high.

Data Availability

- 5 Wells
- 125 Multi vintage seismic line
- Gravity Data
- Field Samples
- DEMNAS, GEBCO, TGS Nopec
- **3 Play Concepts** are established; Paleo-structure play, FTB play, Strike slip play.
- **Multiple sub basins.**
- Evidence of **multiple source rock.**
- Over **9000 MMBOe (P01 Unrisked)** potential.

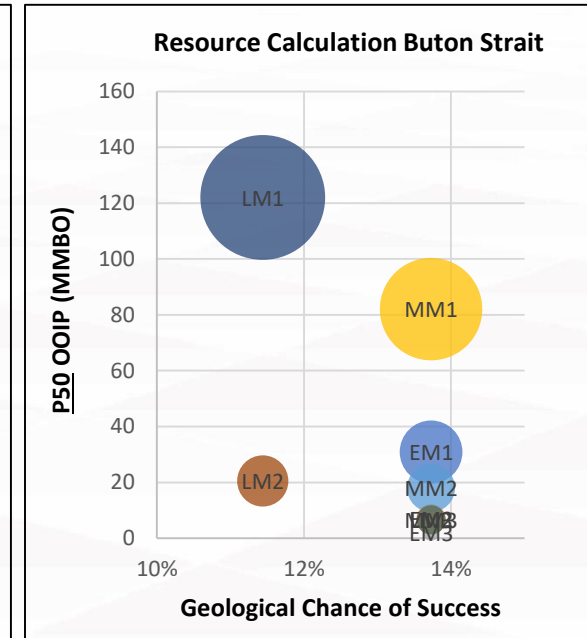
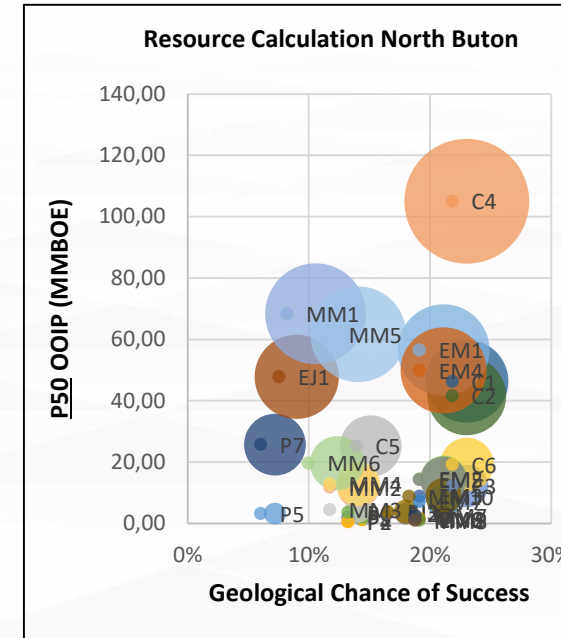
Resources Calculation

ONSHORE NORTH BUTON VOLUMETRIC CALCULATION														
Prospect Name	Area (km ²)	GRV (km ³)	Net (km ³)	Pore (km ³)	HC Pore (km ³)	Top Closure (m)	LCC (m)	Oil In Place (MMBO)			Gas In Place (TCF)			
								P10	P50	P90	P10	P50	P90	
Double Target	EM1	36.5	14.23	3.273	0.392	0.098	400	1500	287	56.5	11.9	1.61	0.32	0.06
	CR1	20.3	4.18	3.3	0.4	0.08	1440	2200	228.8	46.3	9.7	1.28	0.26	0.05

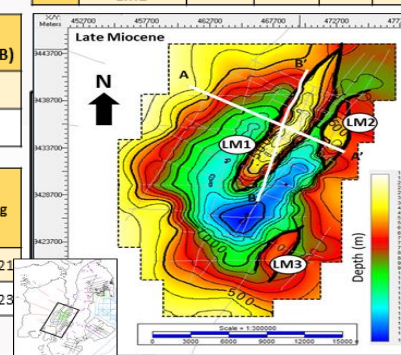


Prospect Name	NTG (frac.)	PHIE (frac.)	SW (frac.)	Bo (bbl/STB)
Double Target				
EM1	0.23	0.12	0.75	1.1
CR1	0.8	0.12	0.8	1.2

Prospect Name	Geological Chance Factor					Pg
	Source Rock	Migration	Reservoir	Trap	Seal	
Double Target						
EM1	1	0.8	0.55	0.8	0.6	0.21
CR1	1	0.8	0.6	0.8	0.6	0.23



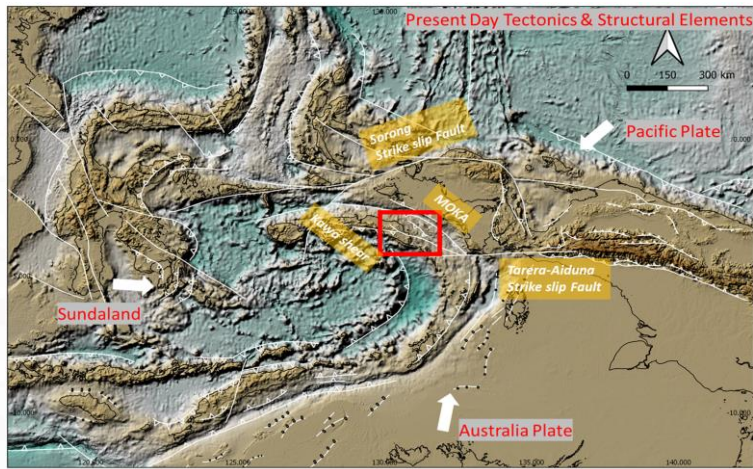
BUTON STRAIT VOLUMETRIC CALCULATION												
Prospect Name		Area (km²)	GRV (km³)	Net (km³)	Pore (km³)	HC Pore (km³)	Top Closure (m)	LCC (m)	Original Oil In Place (MMBO)			
									P10	P50	P90	
7 4	Multi-Target	EM1	15.39	3.37	1.04	0.098	0.074	1170	1550	94.792	30.921	7.759
		MM1	25	8.8	2.57	0.25	0.19	519	1200	425.0	82.0	18.0
		LM1	37.41	12.62	3.913	0.391	0.297	198	960	617	122	26



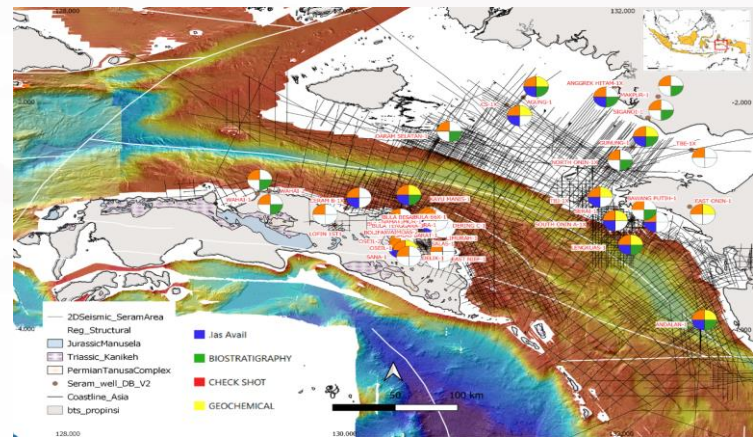
Prospect Name	NTG (frac.)	PHIE (frac.)	SW (frac.)	Bo (bbl/STB)
Multi-Target				
EM1	0.31	0.094	0.24	1.3
MM1	0.31	0.094	0.24	1.3
LM1	0.31	0.1	0.24	1.3

Prospect Name	Geological Chance Factor					Pg
	Source Rock	Migration	Reservoir	Trap	Seal	
Multi-Target						
EM1	0.65	0.8	0.55	0.8	0.6	0.14
MM1	0.65	0.8	0.55	0.8	0.6	0.14
LM1	0.65	0.8	0.55	0.8	0.5	0.11

Figure 2. Regencies in which nearby planned and existing smelters are located



Data Availability



Database

- Seismic (± 1295 2D lines various vintages ~549220.2 KM)
- Wells (Employed 18 Key Wells)
- Gradient Geothermal Map
- HC Seeps

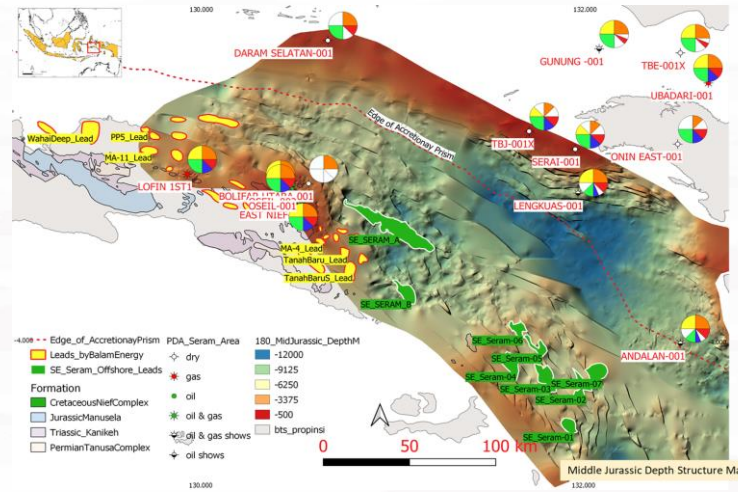
Figure 2. Regencies in which nearby planned and existing smelters are located

- Located at triple junction
- Convergent of three major plates; Eurasia, Australia and Pacific Plates
- Closely related to tectonic evolution of northern Australian Margin and Pacific system (Oblique Convergent)
- Water depth in the Seram Offshore Area is around 500m -2000m at the deepest, whereas onshore Seram (Island) is mainly hilly

Resources Calculation

No.	Lead Name	Water Depth (m)	Area (acre)	Oil Case (P50) / MMMBOE		Gas Case (P50) / BSCFG		GCF Total	Possibility of Success	Risk
				In Place	Recoverable	In Place	Recoverable			
1	SE Seram A	700	90,934.70	2708	400.17	4539.7	3179.4	0.27	0.9	Low
2	SE Seram B	750	21,992.40	1,753	257.571	2,932.69	2,046.29	0.27	0.9	Low
3	SE Seram 001	800	14,356.80	900.22	137.58	464.7	323.6	0.16	0.7	Medium
4	SE Seram 002	1250	19,768.40	1,149	169.312	1,923.65	1,337.57	0.16	0.7	Medium
5	SE Seram 003	1500	26,440.20	109.27	14.472	143.61	106.17	0.16	0.7	Medium
6	SE Seram 004	1350	17,544.40	182.16	27.002	306.98	213.6	0.16	0.8	Low
7	SE Seram 005	1350	13,961.50	210.01	30.96	355.10	248.93	0.16	0.7	Medium
8	SE Seram 006	1500	13,714.30	307.57	45.51	522.69	363.68	0.16	0.7	Medium
9	SE Seram 007	1650	14,949.90	276.24	40.62	331.91	235.69	0.16	0.5	Medium

Prospectivity



Opportunities

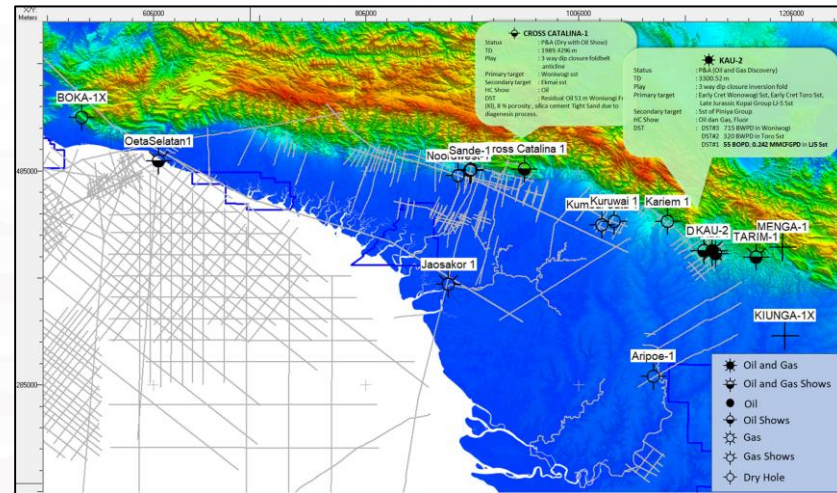
- In Seram (onshore), Oseil oil field and Lofin giant gas discovery demonstrated Jurassic Manusela carbonate play is proven. Many leads were identified within the onshore area.
- Several wells (supported by seismic data) indicate that the permo-Triassic section is thickening to the west (Seram trough) which is potential SR.
- Several seismic shows carbonate features exist in offshore areas, which are supported by residual gravity and magnetic data.

Challenges

Offshore leads located at water depths around 1000m

Rock Properties (Parameter)			
	P10	P50	P90
Net/Gross (NTG)	0.25	0.19	0.15
Porosity (Φ)	0.09	0.08	0.07
Water Saturation	0.71	0.6	0.5
Oil Volume Factor (B_o)	1.3	1.2	1.1
Oil Recovery Factor (ORF)	0.2	0.14	0.1
Gas Volume Factor (B_g)	300	245	200
Gas Recovery Factor (GRF)	0.8	0.69	0.6

Area of Evaluation



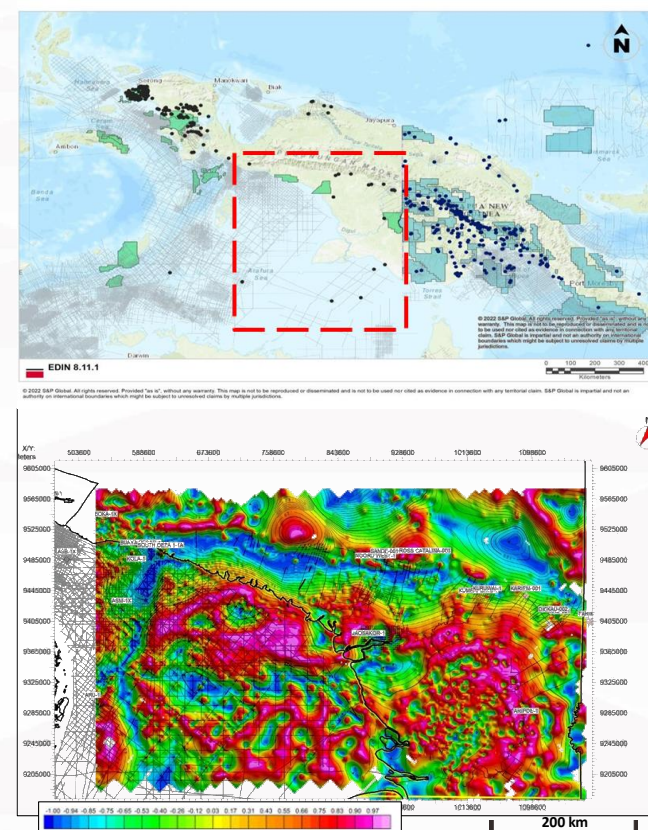
1. Warim Area is situated on a foreland and margin of fold-thrust belt basin trend, one of the world class basin type that is also similar geological setting with PNG area to the east
2. West Papua including Warim area is under explored area compare to the PNG area to the east. Limited data both well and seismic including others and need additional data to improve confidence level for exploration
3. The current study concludes that the Warim area is promising and has high potential for hydrocarbon accumulations but has some challenges to conduct the exploration such as remote area, difficult geographic conditions (high and rugged mountainous to the north and swampy to the south) and no infra structure.

Data Availability

24 Well Data

SEISMIC DATA with Various Vintage

- 190 lines *onshore*
 - 8 lines across onshore to *offshore*
 - 216 lines *offshore*
- FTG (KKPJM) 2020



Resources Calculation

No	Lead	Horizon Age	STOEIOP (mmboe)			Oil Equivalent Recoverable Resources (mmboe)			Pg (%)	Remarks	Seismic 2D Coverage
			P90	P50	P10	P90	P50	P10			
1	Lead Kau J161	Late Jurassic	159	593	2,246	42	149	546	12.10%	Medium Risk	9
2	Lead A J161	Late Jurassic	469	1,871	7,475	125	470	1,805	6.91%	High Risk	3
3	Lead B J161	Late Jurassic	404	1,613	6,442	107	405	1,555	8.64%	High Risk	3
4	Lead C J161	Late Jurassic	634	2,530	10,108	169	635	2,440	4.61%	High Risk	1
5	Lead D J161	Late Jurassic	414	1,652	6,599	110	415	1,593	5.76%	High Risk	1
6	Lead E J161	Late Jurassic	432	1,724	6,887	115	433	1,663	6.91%	High Risk	1
7	Lead F J161	Late Jurassic	246	983	3,928	66	247	948	6.91%	High Risk	2
8	Lead G J161	Late Jurassic	591	2,360	9,427	157	593	2,276	7.20%	High Risk	7
9	Lead H J161	Late Jurassic	356	1,422	5,682	95	357	1,372	7.20%	High Risk	6
10	Lead Kau K132	Early Cretaceous	208	772	2,898	55	194	697	12.10%	Medium Risk	9
11	Lead A K132	Early Cretaceous	618	2,427	9,663	165	616	2,295	8.06%	High Risk	3
12	Lead B K132	Early Cretaceous	532	2,087	8,312	142	530	1,974	10.08%	High Risk	3
13	Lead C K132	Early Cretaceous	834	3,275	13,042	222	832	3,098	6.91%	High Risk	1
14	Lead D K132	Early Cretaceous	545	2,138	8,514	145	543	2,023	6.91%	High Risk	1
15	Lead E K132	Early Cretaceous	568	2,231	8,886	151	567	2,111	8.06%	High Risk	1
16	Lead F K132	Early Cretaceous	324	1,273	5,068	86	323	1,204	6.91%	High Risk	2
17	Lead G K132	Early Cretaceous	778	3,055	12,164	207	776	2,889	7.20%	High Risk	7
18	Lead H K132	Early Cretaceous	150	728	2,960	125	468	1,742	7.20%	High Risk	6
TOTAL			8,262	32,734	130,302	2,285	8,551	32,231			

Resource Calculation Summary of Warim Area

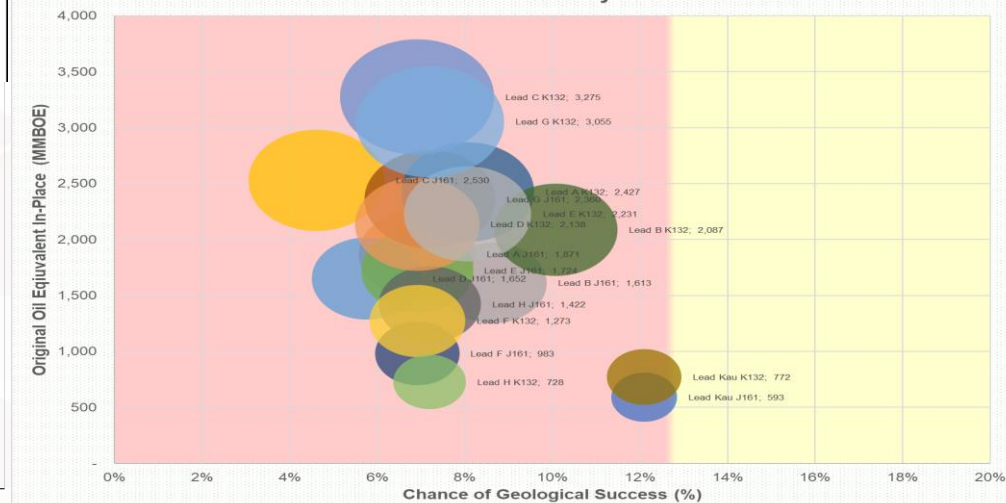
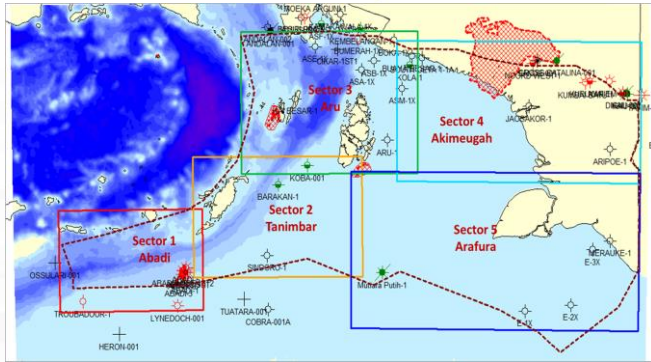
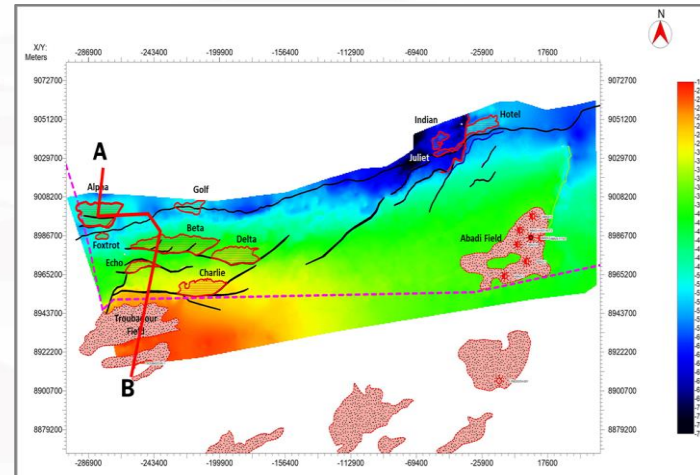


Figure 2. Regencies in which nearby planned and existing smelters are located

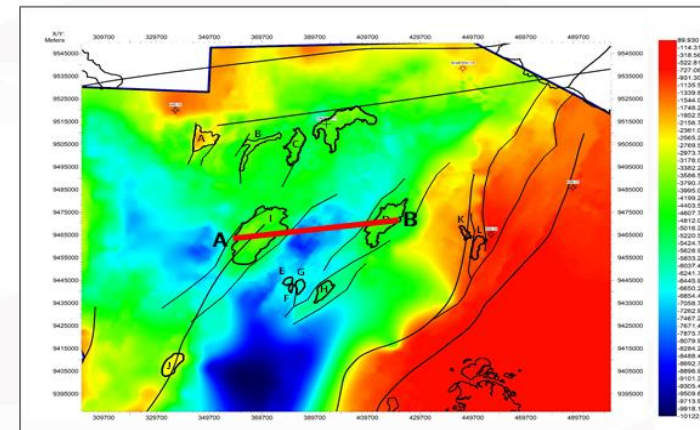


Arafura area is under-explored. Exploration potential exists along the shelf margin at west and north sides of the Arafura Platform across Sector 1, 2, 3 and 4 with variety of plays in following areas.

Sector I



Sector III



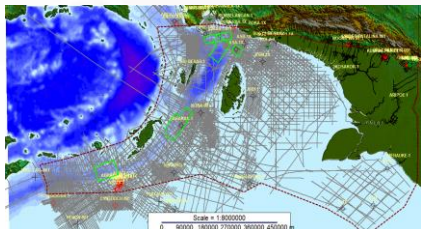
Summary Area Aru-Arafura

SECTOR I (ABADI)							
No	Lead	Water Depth (m)	Area (sq.Km)	OGIP (BCFG)	RR (BCFG)	Chance of Success	Risk
1	Alpha	2700	279	11640	7700	10-15%	High
2	Beta	2000	374	20190	14000	15-20%	High
3	Charlie	700	198	3430	2400	15-20%	High
4	Delta	1050	207	5870	4100	15-20%	High
5	Echo	1650	64	2000	1400	15-20%	High
6	Foxtrot	3300	22	370	260	<10%	Very High
7	Golf	2900	23	1440	1010	<10%	Very High
8	Hotel	1050	120	3480	2440	<10%	Very High
9	Indian	1500	56	1230	860	<10%	Very High
10	Juliet	1800	33	525	370	<10%	Very High
TOTAL				50175	34540		

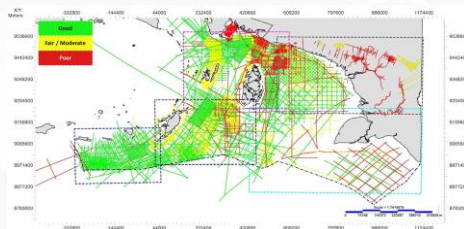
SECTOR III (ARU)							
No	Lead	Water Depth (m)	Area (sq.Km)	OOIP (MMBOE)	RR (MMBOE)	Chance of Success	Risk
1	A	900	55	400	130	10-15%	High
2	B	1500	45	230	80	10-15%	High
3	C	1600	61	520	170	10-15%	High
4	D	1800	132	1270	420	10-15%	High
5	E	3000	9	80	25	<10%	Very High
6	F	3000	4	75	25	<10%	Very High
7	G	2900	14	180	60	<10%	Very High
8	H	2750	34	170	55	<10%	Very High
9	I	1500	281	2960	985	10-15%	High
10	J	650	48	700	230	10-15%	High
11	K	100	10	50	15	10-15%	High
12	L	90	28	160	55	10-15%	High
TOTAL				6795	2250		

- Mid-Jurassic sandstone play exists along the shelf margin along Sector 1, 2 and 4
- Cretaceous turbidite and basin-floor fan play around the Sindoro Embayment extends to Babar-Selaru area
- Paleocene turbidite and basin-floor fan play around the Sindoro Embayment
- Mid-Miocene carbonate around the Aru Trough
- Available data over Sector 2 is very sparse for prospectivity mapping.
- Sector 5 is considered least prospective due to tight Palaeozoic reservoir.

Data Availability



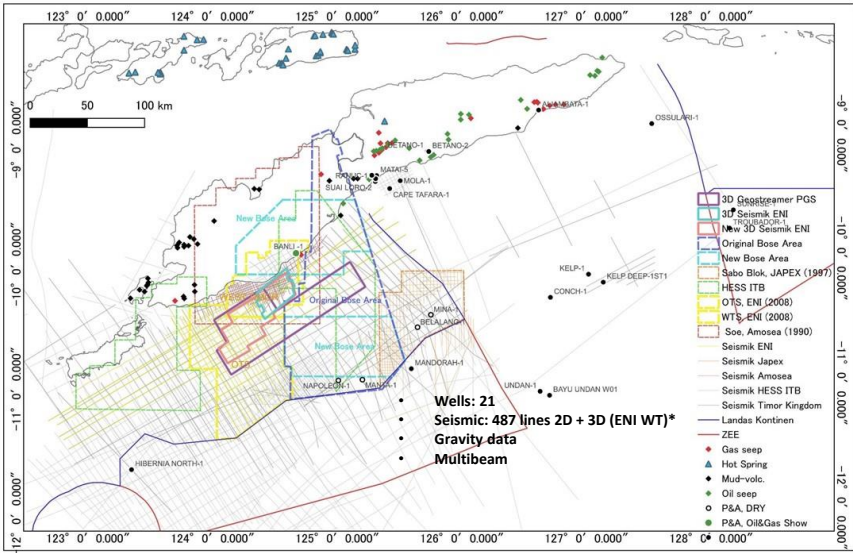
Data Quality



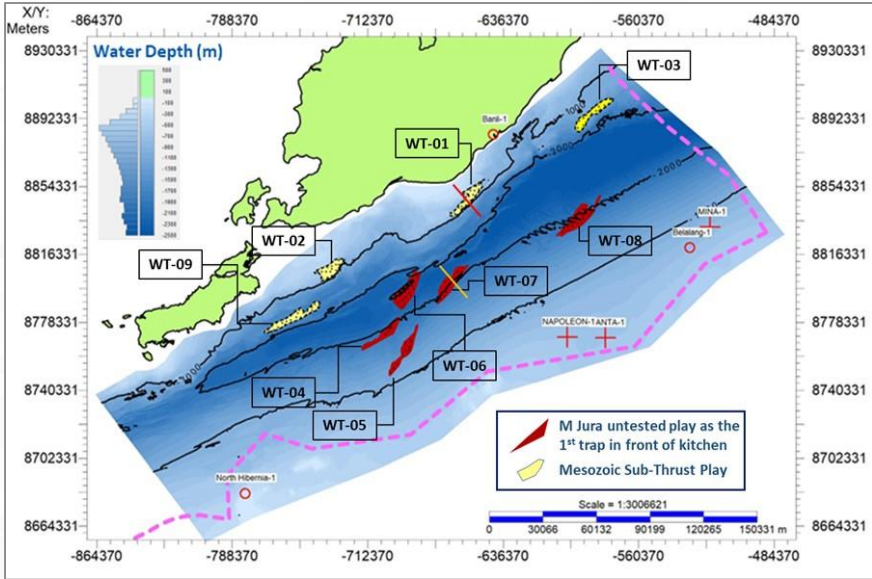
A total of over 2000 seismic 2D lines (over 150,000 km length of survey) of various vintages and quality, five 3D seismic volumes (over 20,000 sqkm survey) and 61 wells were used to support the evaluation.

Figure 2. Regencies in which nearby planned and existing smelters are located

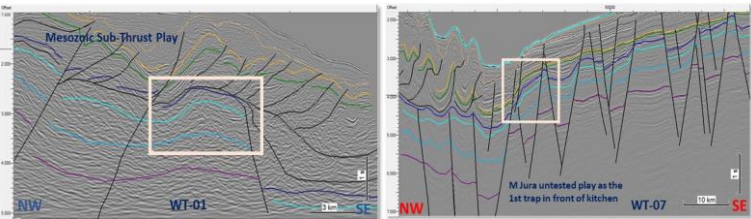
Area of Evaluation



Prospectivity



Summary Area Timor



Challenges

- Need more 3D data coverage especially along sub-thrust trend close to Bena Deep (Play type 2)
- 2D seismic data: challenging operation to acquire onshore seismic data, however worth to define The Banli sub-thrust closure

Opportunities

- Under explored Foreland and Sub-Thrust Mesozoic oil/gas play with oil prone source rock potential of Early Jurassic and Triassic Aitutu Formation (onshore outcrop).
- Under explored Neogene piggy-back similar to Onshore Timor Leste Proven Play

Resources Calculation

Lead	Location	Gas Case		Oil Case		Possibility of success (Play Chance x GCF)	Risk
		OGIP (bcf)	Recoverable (bcf)	OOIP (Mmbo)	Recoverable (MMBo)		
		P50	P50	P50	P50		
WT-01	West of Timor Through	3,932	2787	655	196.6	0,31	Low
WT-02	West of Timor Through	3,160	2210	527	158	0,26	Low
WT-03	West of Timor Through	4,479	3120	747	223.95	0,14	Moderate
WT-04	East of Timor Through	658	464	110	32.9	0,11	Moderate
WT-05	East of Timor Through	2,340	1658	390	117	0,05	High
WT-06	Timor Through	2,878	2005	480	143.9	0,14	Moderate
WT-07	Timor Through	4,118	2890	686	205.9	0,06	High
WT-08	Timor Through	4,946	3486	824	247.3	0,04	High
WT-09	West of Timor Through	3,164	2193	527	158.2	0,26	Low
TOTAL		29,675	20,813	4,946	1,484		

Figure 2. Regencies in which nearby planned and existing smelters are located