



THE
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Driving Indonesia's Oil & Gas
Global Competitiveness

INFOGRAPHIC BOOKLET



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EXECUTIVE SUMMARY

Investasi eksplorasi migas dunia selama 10 tahun terakhir mengalami pasang surut, terutama dalam tiga tahun terakhir dimana harga minyak dunia mengalami penurunan yang signifikan. Sejumlah negara mengalami tren kenaikan investasi, namun tak sedikit pula yang mengalami tren sebaliknya. Indonesia masuk dalam kelompok negara yang mengalami tren penurunan investasi yang signifikan. Jika tidak diatasi segera, kondisi tersebut dapat mengancam ketahanan energi nasional dan akan menggerus devisa negara, karena ketergantungan yang besar terhadap impor migas guna memenuhi kebutuhan domestik yang meningkat.

Serangkaian upaya memperbaiki tata kelola migas telah dilakukan Pemerintah untuk menggairahkan kembali iklim investasi di tanah air. Investor mengapresiasi usaha yang sangat baik dari Pemerintah. Usaha ini akan memberikan dampak yang signifikan dengan kejelasan peraturan pelaksana dan kepastian di awal agar investor dapat membuat keputusan sebelum berinvestasi (prinsip *in-advance notification*). Ditambah butuh terobosan-terobosan yang implementatif seperti insentif perpajakan yang kompetitif, proses perizinan yang lebih cepat dan efisien, serta adanya kepastian peraturan. Terobosan dan kepastian di awal tersebut akan meningkatkan keekonomian proyek-proyek migas sehingga pada akhirnya mendorong daya saing migas Indonesia dalam menarik minat investor untuk berinvestasi di Indonesia.

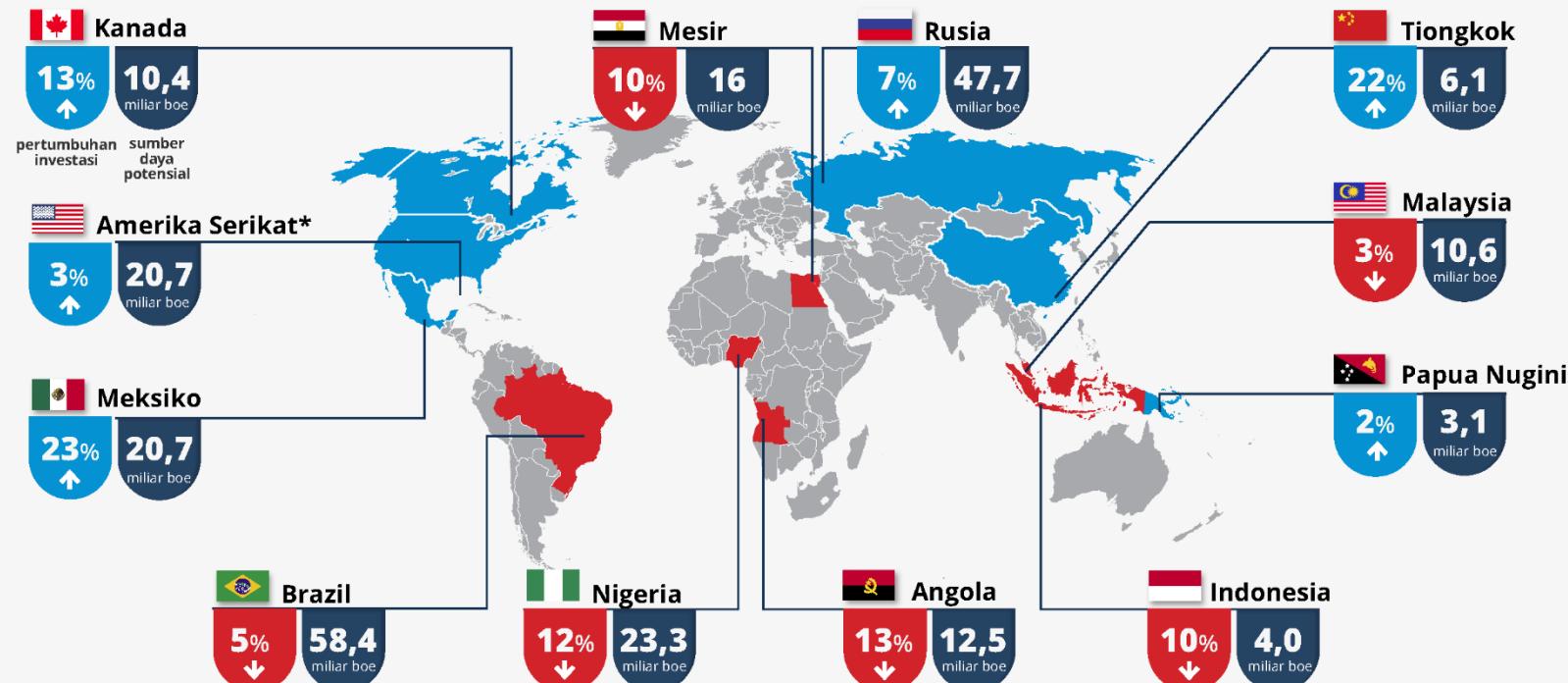
The level of global oil and gas exploration investment over the past 10 years has fluctuated significantly, particularly in the last 3 years when the crude oil price has declined significantly. A number of countries have experienced an upward trend in investment, however a few have also experienced the opposite trend. Indonesia is included in a group of countries experiencing a significant downward trend in investment. If the condition is not resolved immediately, it can threaten national energy security as well as negatively impacting on Indonesia's foreign exchange reserves due to heavy dependence on future oil and gas imports to meet rising domestic demand.

A series of efforts to improve oil and gas governance have been made by the Government to reinvigorate the investment climate in the country and investors appreciate the Government's efforts. All of these efforts will have a significant positive impact provided there is a clarity in the implementing regulations and in-advance certainty so that investors can make a firm decision before investing (the principle of *in-advance notification*). Moreover, there is also a need for breakthroughs that can be implemented immediately, such as competitive tax incentives and faster and more efficient licensing processes as well as regulatory certainty. A breakthrough and investment certainty will boost the economics of prospective oil and gas projects and ultimately boost Indonesia's oil and gas global competitiveness in attracting investors to invest in Indonesia.

PASANG SURUT INVESTASI EKSPLORASI GLOBAL

Selama 10 tahun terakhir, nilai investasi eksplorasi global mengalami pasang surut. Meski masih jadi tujuan investasi, tapi Indonesia adalah salah satu negara yang mengalami penurunan investasi cukup besar.

PERTUMBUHAN INVESTASI EKSPLORASI (2007-2016)



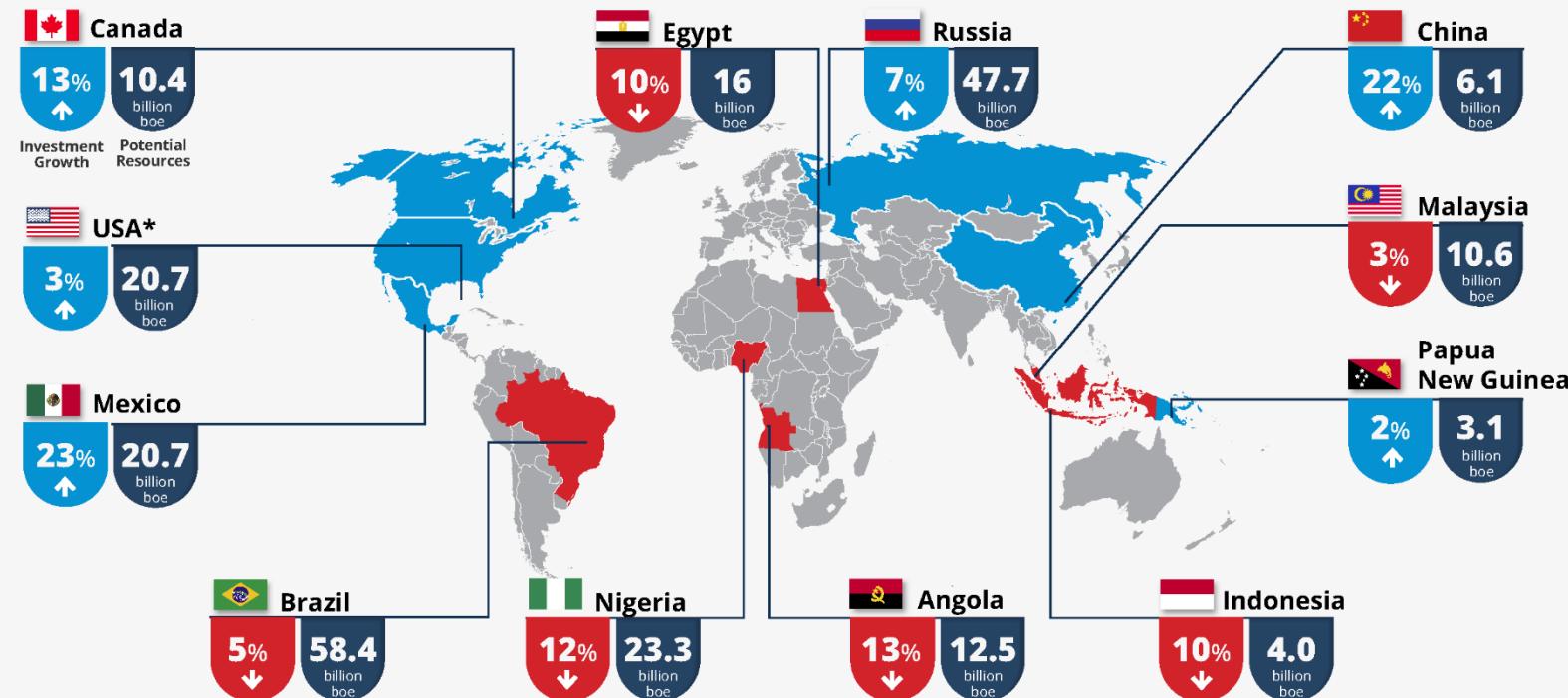
boe: barrel oil equivalent
*) Gulf of Mexico

SUMBER: WOOD MACKENZIE

IN GLOBAL EXPLORATION INVESTMENT

Over the last 10 years, the investment value of global oil and gas exploration has experienced fluctuations. Although Indonesia is still an investment destination, it is one of the countries that is experiencing significant investment decline.

GROWTH IN EXPLORATION INVESTMENT (2007-2016)



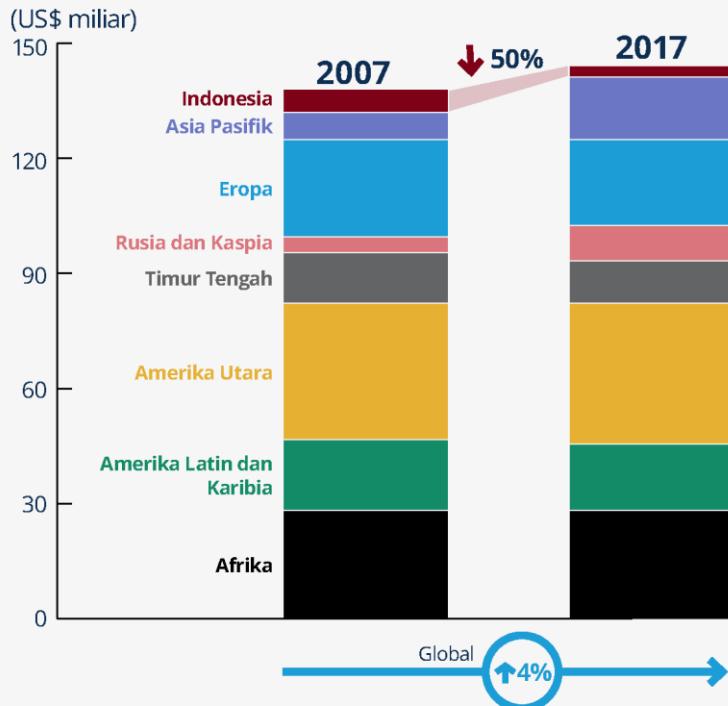
boe: barrel oil equivalent
*) Gulf of Mexico

SOURCE: WOOD MACKENZIE

IKLIM INVESTASI GLOBAL DI MATA MAJOR IOC

Selama satu dekade terakhir, investasi migas oleh *major IOC* di Indonesia mengalami penurunan namun secara global meningkat 4%. Investor mempertimbangkan beberapa indikator sebelum mengambil keputusan untuk berinvestasi di suatu negara. Indonesia dianjurkan untuk membenahi 7 dari 16 indikator investasi berdasarkan survei Fraser Institute pada 2017.

INVESTASI HULU MIGAS PER WILAYAH - MAJOR IOC*



IKLIM INVESTASI INDONESIA

16 Indikator Penilaian Fraser Institute (%)

Skala 1-100 : semakin tinggi mengindikasikan keadaan kurang menarik untuk investasi

Proses Sistem Hukum	93
Fiskal	85
Perpajakan Umum	85
Hambatan Perdagangan	85
Tumpang Tindih dan Inkonsistensi Regulasi	85
Ketidakpastian Administrasi, Interpretasi dan Penegakan Regulasi	83
Klaim Sengketa Tanah	80
Kualitas Infrastruktur	68
Data Geologi	68
Stabilitas Politik	68
Keamanan	68
Regulasi Lingkungan	65
Biaya Kepatuhan Aturan	65
Regulasi Buruh dan Perjanjian Tenaga Kerja	65
Ketidakpastian Kawasan Lindung	50
Ketersediaan Buruh dan Tenaga Terlatih	28

“Butuh stimulus yang signifikan dan tepat, tidak hanya di permukaan tapi juga menyentuh inti permasalahan.”

Survei PWC terhadap investor industri hulu migas Indonesia

*) BP, CHEVRON, ENI, EXXONMOBIL, SHELL, STATOIL, TOTAL

IOC : INTERNATIONAL OIL COMPANY

SUMBER: FRASER INSTITUTE, PWC, WOOD MACKENZIE

CATATAN

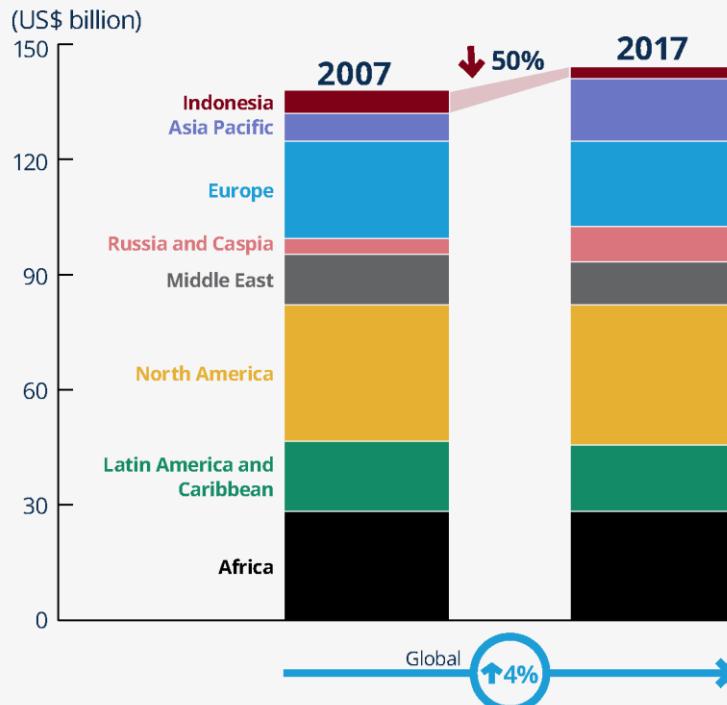
Pengambilan data Global Petroleum Survey 2017 yang dirilis oleh Fraser Institute pada 28 November 2017 dilakukan pada periode 23 Mei hingga 28 Juli 2017. Pada waktu yang sama, Pemerintah Indonesia sedang mengerjakan aturan mengenai perpajakan skema *gross split*.



GLOBAL INVESTMENT CLIMATE IN THE MAJOR IOC'S VIEW

Over the past decade, oil and gas investment by the major IOC's in Indonesia has been declining, but globally it has not. Investors consider several indicators before making a decision to invest in a country. Based on a survey conducted by the Fraser Institute in 2017, Indonesia is advised to improve 7 of its 16 key investment indicators.

UPSTREAM OIL AND GAS INVESTMENT BY REGION - MAJOR IOC*



*) BP, CHEVRON, ENI, EXXONMOBIL, SHELL, STATOIL, TOTAL

IOC : INTERNATIONAL OIL COMPANY

SOURCE: FRASER INSTITUTE, PWC, WOOD MACKENZIE

INDONESIA'S INVESTMENT CLIMATE

16 Indicators of the Fraser Institute's Assessment (%)

Scale 1-100: the higher scale indicates less favorable conditions for investment.

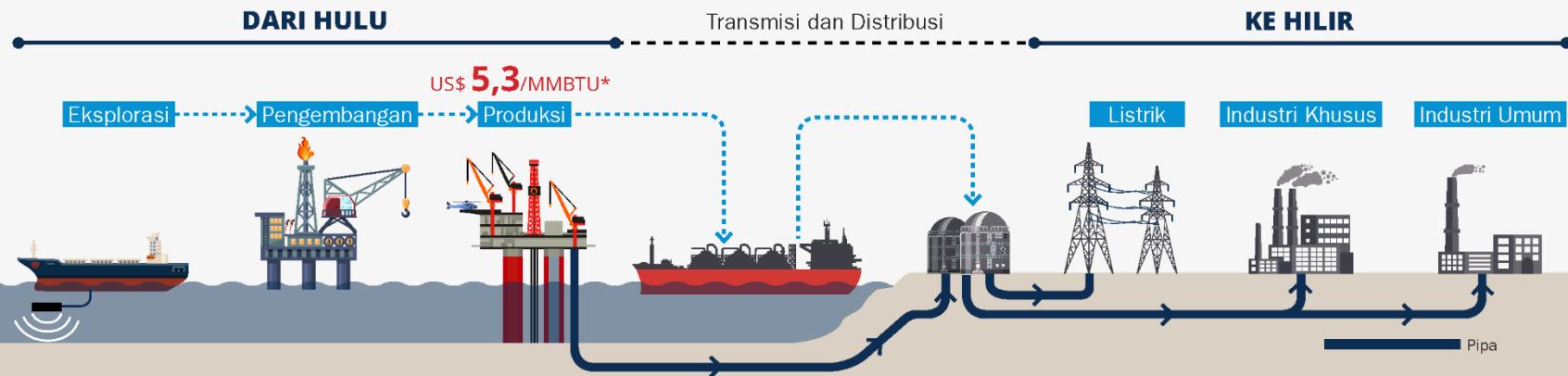
Legal System Processes	93
Fiscal Terms	85
Taxation in General	85
Trade Barriers	85
Regulatory Duplication and Inconsistencies	85
Uncertainty Concerning the Administration, Interpretation, and Enforcement of Regulations	83
Disputed Land Claims	80
Quality of Infrastructure	68
Geological Database	68
Political Stability	68
Security	68
Environmental Regulations	65
Cost of Regulatory Compliance	65
Labour Regulations and Employment Agreements	65
Uncertainty Regarding Protected Areas	50
Labour Availability and Skills	28

“Need a significant and meaningful stimulus, not only optical which don't touch the bottomline.”

PWC survey on upstream oil and gas industry investors in Indonesia

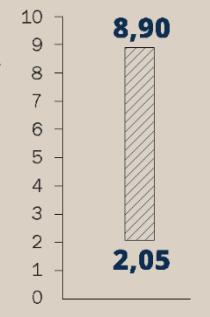
KEEKONOMIAN HULU GAS BERGANTUNG KARAKTER LAPANGAN

Harga gas hulu di Indonesia secara umum kompetitif di Asia Tenggara. Nilai keekonomiannya bergantung pada sejumlah karakteristik lapangan. Sedangkan harga gas di pengguna akhir masih banyak bergantung pada faktor-faktor lainnya.



Kisaran Harga Berbagai Lapangan dan Karakteristik :

- Volume kandungan gas
- Kedalaman laut
- Skala lapangan
- Lokasi



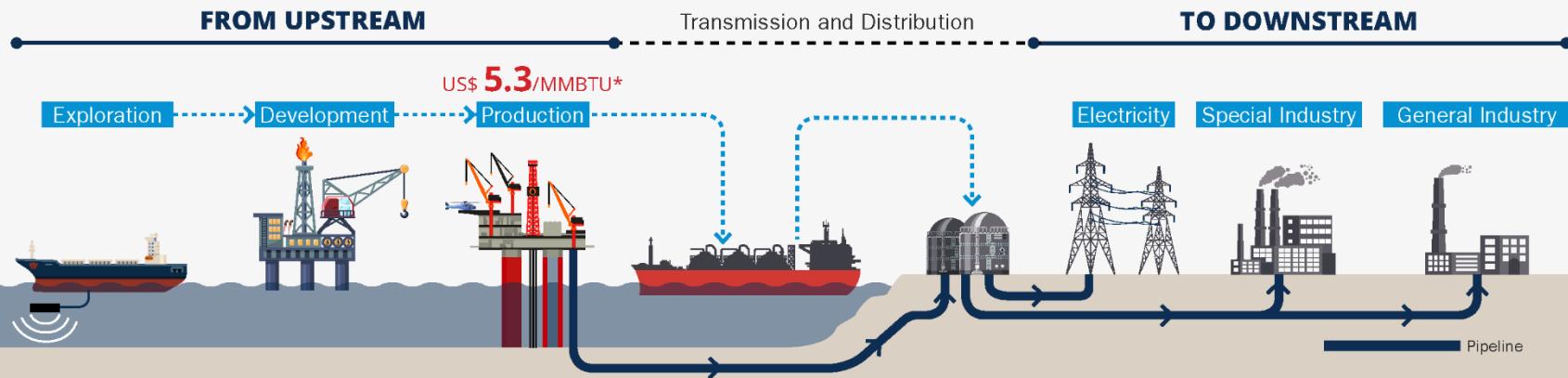
PERBEDAAN RATA-RATA HARGA GAS HULU DI ASIA TENGGARA 2016 (US\$/MMBTU)



*) Harga terendah - tertinggi gas hulu

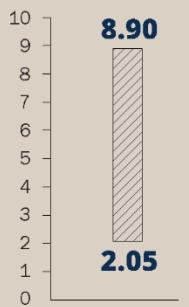
THE ECONOMY OF UPSTREAM GAS DEPENDS ON THE FIELD CHARACTERISTICS

The price of upstream gas in Indonesia is generally competitive in Southeast Asia. Its economic value depends on a number of field characteristics, while the gas price for the end user is still highly dependent on other factors.



Range of Prices from Various Fields & Characteristics :

- Volume of gas content
- Water depth
- Scale of the field
- Location



DIFFERENCE IN UPSTREAM GAS PRICES IN SOUTHEAST ASIA (US\$/MMBTU)



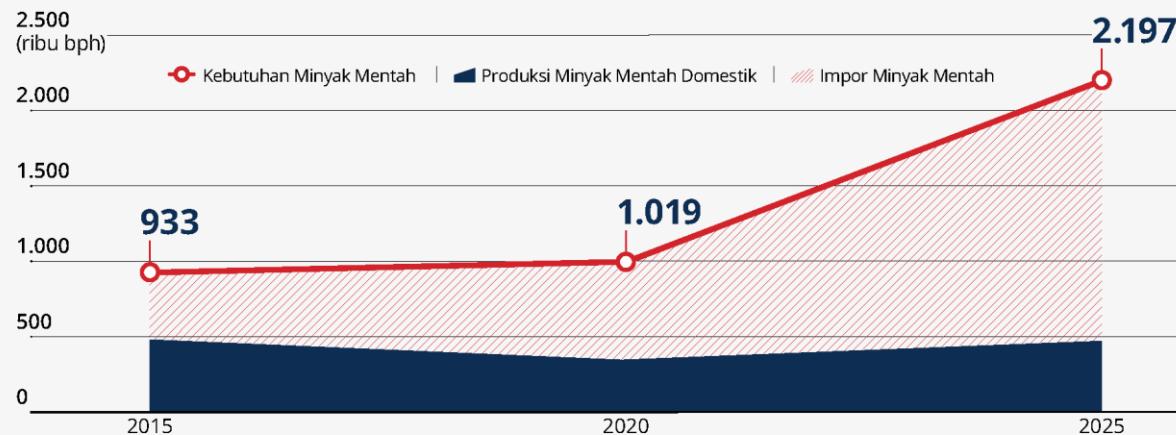
*) Min-max upstream gas prices

SOURCE: REFORMINER INSTITUTE

KETAHANAN ENERGI NASIONAL BUTUH INVESTASI BESAR

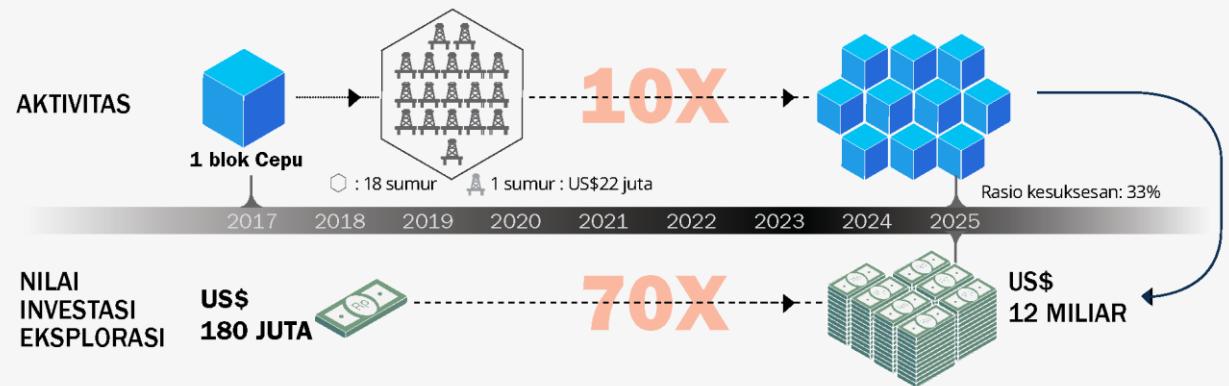
Rencana Umum Energi Nasional (RUEN) memproyeksikan kebutuhan minyak pada 2025 mencapai 2 juta barel per hari (bph). Untuk mencapai target ini dibutuhkan penemuan cadangan baru sebanyak 10 kali Lapangan Cepu atau setara dengan 70 kali nilai investasi eksplorasi tahun 2017.

PROYEKSI KEBUTUHAN MINYAK DALAM RUEN



ASUMSI UNTUK MENCAPAI KETAHANAN ENERGI NASIONAL

Dengan asumsi rasio kesuksesan eksplorasi 33% maka dibutuhkan minimal 3 kali upaya eksplorasi setara Lapangan Cepu untuk memiliki potensi penemuan cadangan sekelas Cepu. Sehingga butuh investasi sebesar US\$ 12 miliar menuju tahun 2025.

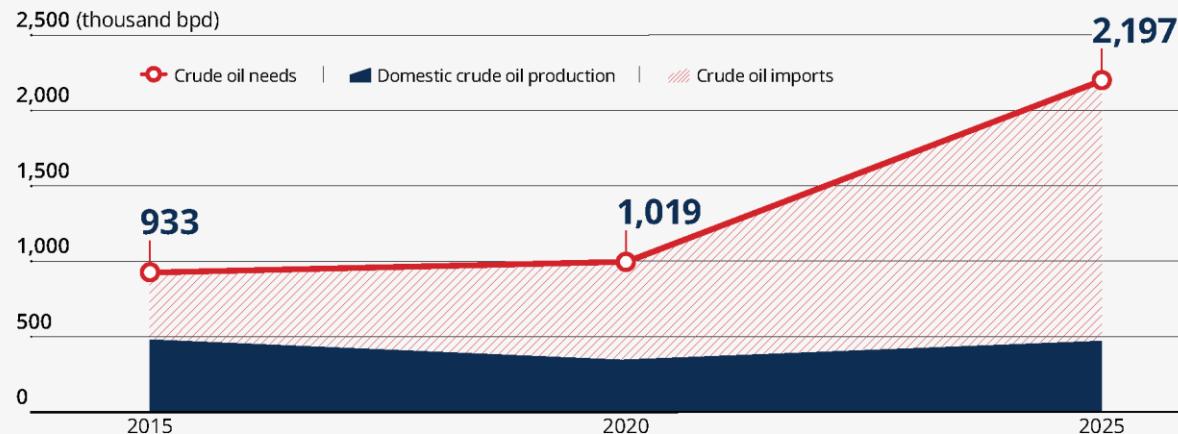


SUMBER: PERPRES NO. 22/2017

NATIONAL ENERGY SECURITY NEEDS BIG INVESTMENT

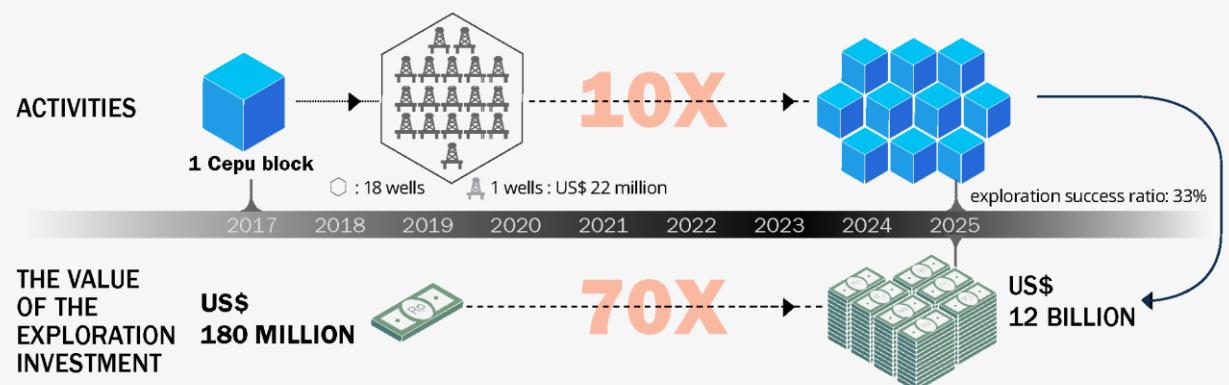
The General Plan of National Energy (RUEN) forecasts that oil demand in 2025 will reach 2 million barrels per day (bpd). In order to achieve this target, it is necessary to discover new reserves of 10-times the Cepu Field or equivalent to 70 times the value of exploration investment in 2017.

RUEN OIL DEMAND PROJECTION



ASSUMPTIONS TO ACHIEVE NATIONAL ENERGY SECURITY

Assuming a 33% exploration success ratio, it takes at least 3 more times of exploratory attempts such as Cepu Field to result in potential reserves with the same quality as Cepu. Therefore, it will require an investment of US\$ 12 billion to reach 2025 target.



SOURCE: PRESIDENTIAL DECREE NO. 22/2017

PERBAIKAN TATA KELOLA DORONG INVESTASI

Banyaknya jenis izin dan waktu yang dibutuhkan oleh KKKS membuat keekonomian proyek migas di Indonesia sulit bersaing. Upaya pemerintah memperbaiki tata kelola perizinan patut diapresiasi meski sinergi antar Kementerian dan Lembaga serta Pemda masih perlu ditingkatkan.

PENYEDERHANAAN PERIZINAN



PENGADAAN TANAH (UU NO. 2/2012)

Pengadaan tanah untuk kepentingan umum kini dijamin negara dan diberi kepastian waktu dan biaya.

Waktu

 Tanpa Gugatan
Maks. **90** hari

 Dengan Gugatan
Maks. **358** hari

Harga

 Dilakukan oleh KJPP

- Dihitung dengan Nilai Penggantian Wajar (NPW)

SERTIFIKASI PERALATAN (PERMEN ESDM RI NO. 18/2018)

Ditjen Migas Kementerian ESDM RI kini hanya mengeluarkan Izin Persetujuan Layak Operasi (PLO) bagi kontraktor migas (KKKS).

Sebelum

Ditjen Migas mengurus 7 izin
hingga aspek teknis

Saat Ini

Fungsi Ditjen Migas hanya sebagai pengawas.
Sedangkan kewenangan aspek teknis (6 izin) dilakukan oleh KKKS

IMPROVEMENT OF LICENSING GOVERNANCE TO ENCOURAGE INVESTMENT

The large number of permits and time needed by contractors of cooperation contracts make the economics of oil and gas projects in Indonesia difficult to compete on a regional or global scale. Government efforts to improve licensing governance should be appreciated even though synergies between Ministries and Institutions as well as Regional Government still need improvement.

LICENSING SIMPLIFICATION



LAND PROCUREMENT (LAW NO. 2/2012)

Land procurement for public interest is now guaranteed by the state and given certainty of time and cost.

Time

 **Without claims**
90 days at the max

 **With claims**
358 days at the max

Price

 Performed by the Office of Public Appraisal Services (KJPP)

- Calculated by fair market reimbursement value

EQUIPMENT CERTIFICATION (REGULATION OF MINISTER OF ENERGY AND MINERAL RESOURCES NO. 18/2018)

The Directorate General of Oil and Gas at the Ministry of Energy and Mineral Resources now only issues an Approval License for Operation (PLO) for oil and gas contractors (Contractor Cooperation Contracts - KKKS)

Previous Condition

The Directorate General of Oil and Gas takes care of 7 permits up to the technical aspects

Current Condition

Directorate General of Oil and Gas functions only as the supervisor
While the authority for technical aspects (6 permits) is determined by KKKS

REFORMASI INDUSTRI MIGAS BELAJAR DARI NEGARA LAIN

Di tengah pelemahan harga minyak, perusahaan migas lebih selektif dalam berinvestasi.

Oleh karenanya berbagai negara berusaha memperbaiki tata kelola industri migas domestiknya. Brazil, Meksiko, dan Mesir adalah contoh negara yang berhasil melakukannya.



BRAZIL

- BUMN migas gandeng perusahaan besar kembangkan lapangan sulit
- Variasi royalti sesuai risiko geologi, proyeksi produksi, dan faktor lain
- Fleksibilitas penerapan konten lokal
- Pembebasan pajak



MEKSIKO

- Liberalisasi pengelolaan migas
- Fleksibilitas insentif dalam kontrak wilayah kerja
- Kepastian regulasi
- Tingkat pengembalian IRR (*Internal Rate of Return*) menarik



MESIR

- Kinerja pemerintah yang praktikal dan efektif
- Proyek besar Zohr (\pm 30 TCF) hanya butuh waktu 30 bulan dari penemuan hingga produksi dan *on budget*
- IRR proyek besar (West Nile Delta dan Zohr) menarik, mencapai kisaran 20%

Komitmen Investasi (2017)

US\$ **1,2** miliar

Komitmen Investasi (2017)

US\$ **1,2** miliar

Komitmen Investasi (2017)

US\$ **10** miliar

Sumber Daya Migas Potensial

58,4
miliar boe

20,7
miliar boe

16,0
miliar boe

boe: barrel oil equivalent

SUMBER: ANP, CNH, DAILY NEWS EGYPT, WOOD MACKENZIE

OIL AND GAS INDUSTRY REFORM LEARNING FROM OTHER COUNTRIES

In the midst of weakening oil prices, oil and gas companies are more selective in making investments. Therefore, various countries have been seeking to improve the governance of their domestic oil and gas industry. Brazil, Mexico, and Egypt are examples of successful countries who have improved their governance model.



BRAZIL

- State-owned oil and gas enterprise cooperates with large companies to develop difficult fields
- The royalty varies according to geological risks, production projection and other factors
- Flexibility in local content implementation
- Tax exemption



MEXICO

- Liberalization of oil and gas management
- Flexibility of incentives in work area contracts
- Certainty of regulation
- Attractive IRR return rate



EGYPT

- Practical and effective government performance
- The large Zohr project (\pm 30 TCF) takes only 30 months from discovery to production and was on budget
- Attractive IRR for large projects (West Nile Delta and Zohr), reaching around 20%

Investment Commitment (2017)

US\$ **1.2** billion

Potential oil and gas resources

58.4
billion boe

Investment Commitment (2017)

US\$ **1.2** billion

20.7
billion boe

Investment Commitment (2017)

US\$ **10** billion

16.0
billion boe

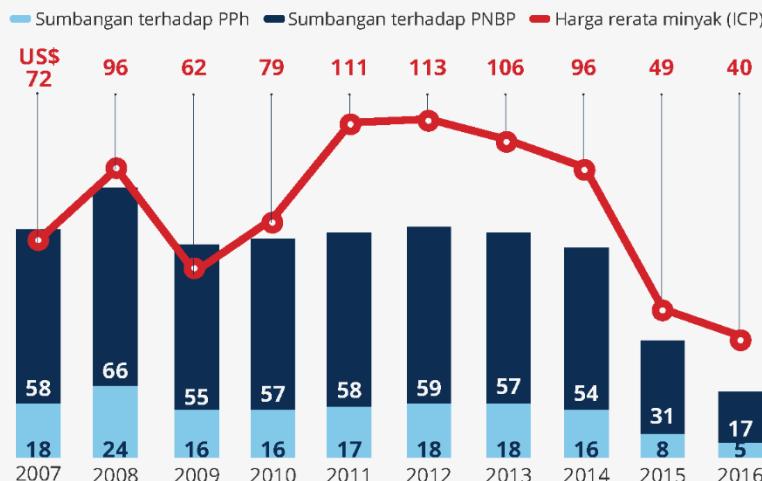
boe: barrel oil equivalent

SOURCE: ANP, CNH, DAILY NEWS EGYPT, WOOD MACKENZIE

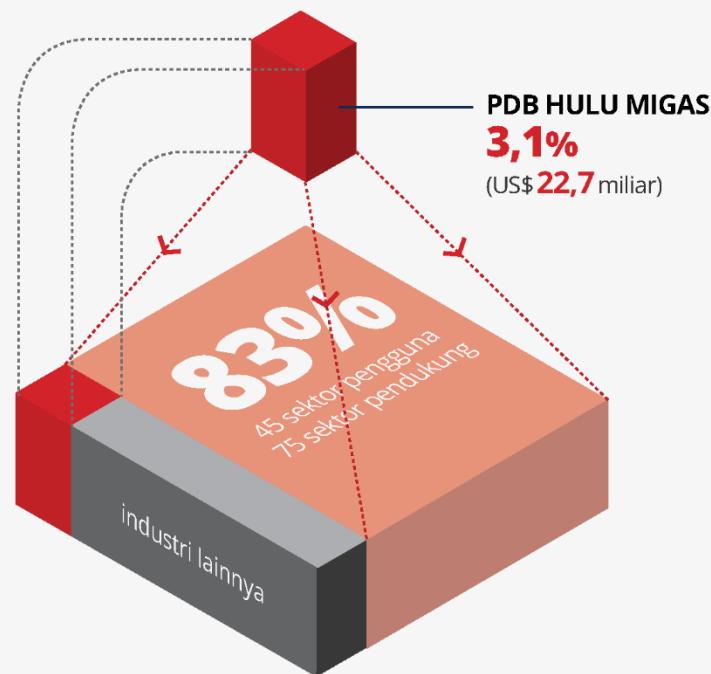
KONTRIBUSI INDUSTRI MIGAS UNTUK INDONESIA

Industri migas memiliki peran penting dalam menggerakkan perekonomian nasional. Sektor ini mempengaruhi 83% Produk Domestik Bruto (PDB) nasional. Kegiatan operasinya menciptakan lapangan kerja, meningkatkan investasi dan pendapatan pajak bagi negara.

KONTRIBUSI TERHADAP APBN (%)



KONTRIBUSI TERHADAP PDB NASIONAL

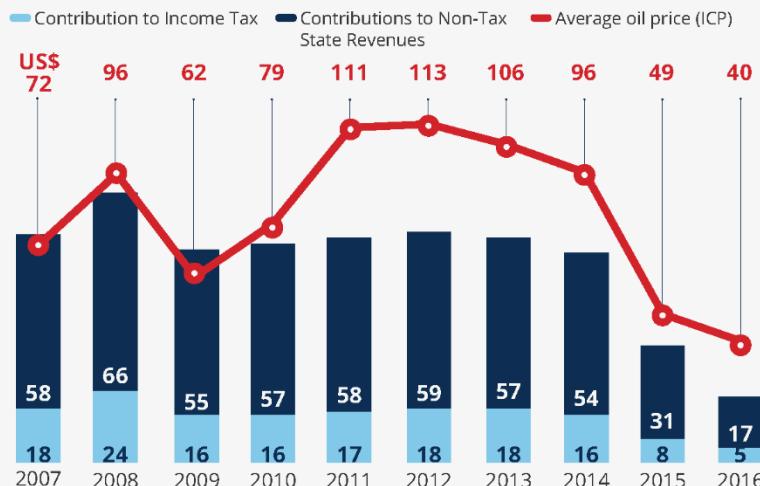


SUMBER: BANK INDONESIA, KEMENTERIAN ESDM RI, REFORMINER INSTITUTE

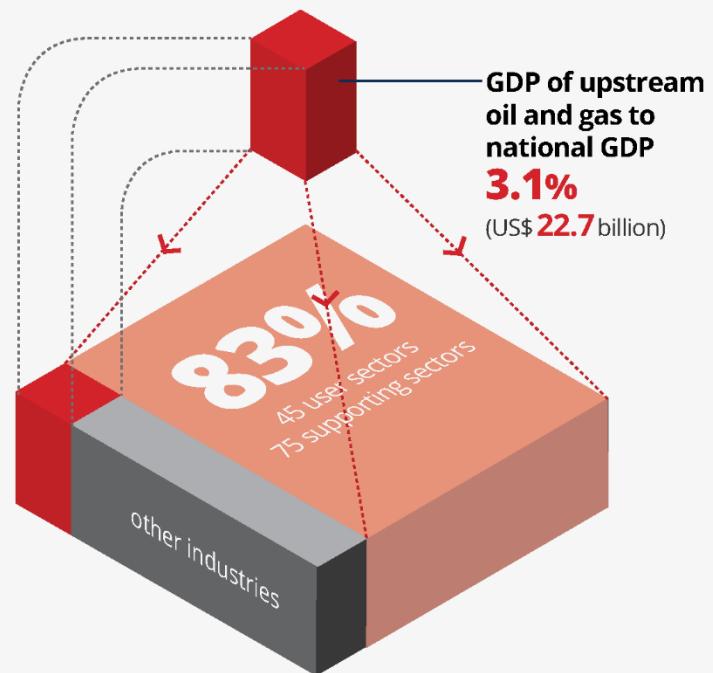
CONTRIBUTION OF OIL AND GAS INDUSTRY TO INDONESIA

The oil and gas industry has an important role in contributing to the national economy growth. This sector affects 83% of national Gross Domestic Product (GDP). Its operational activities creates jobs and increases investment and tax revenues for the state.

CONTRIBUTIONS TO STATE BUDGET (%)



CONTRIBUTION TO THE NATIONAL GDP

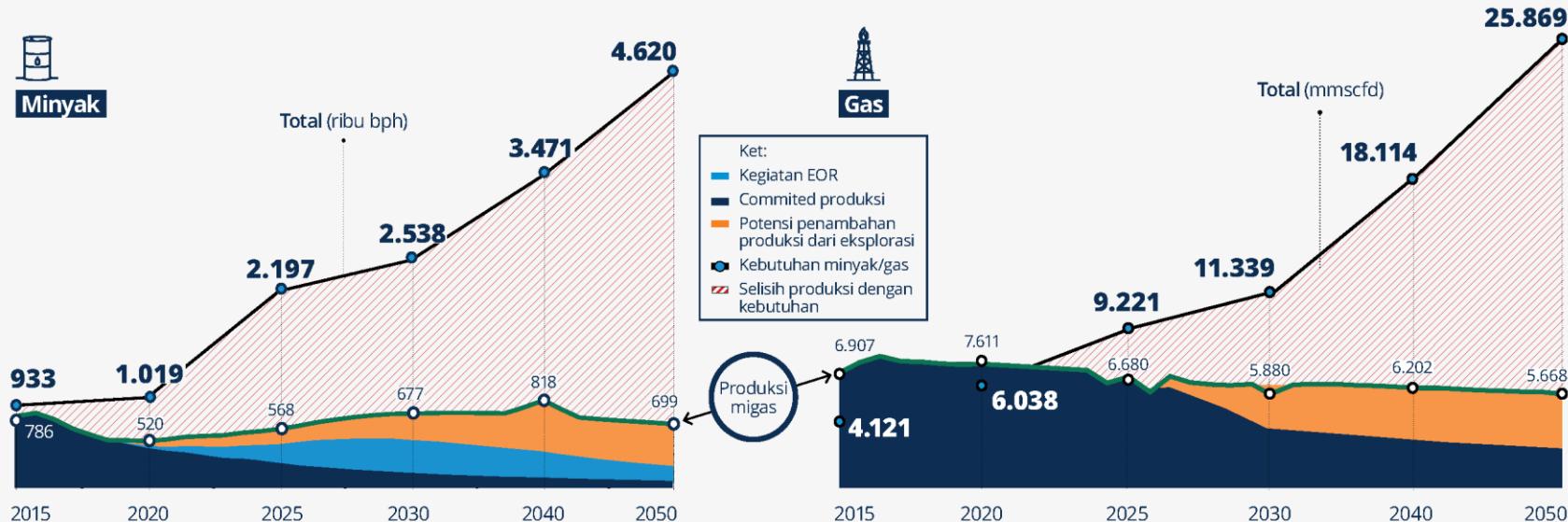


SOURCE: BANK INDONESIA, MEMR, REFORMINER INSTITUTE

TANTANGAN BERAT SEKTOR MIGAS INDONESIA

Dalam Rencana Umum Energi Nasional (RUEN), kebutuhan minyak dan gas bumi (migas) hingga 2050 sangat mengandalkan impor. Padahal Indonesia mampu meningkatkan produksi dari potensi ladang migas dalam negeri, tapi dibutuhkan kerja keras dan adanya tingkat pengembalian investasi yang kompetitif secara global.

PROFIL PRODUKSI DAN KEBUTUHAN MIGAS RUEN



Asumsi Tambahan Produksi Minyak

- RRR meningkat dari 60% (2016) menjadi 100% (2025)
- Dalam waktu 5 tahun, 6,4% dari setiap penemuan cadangan baru dapat diproduksi (dengan tingkat penurunan 10%)
- Kegiatan EOR dimulai 2020 dengan cadangan yang bisa dipulihkan 2,5 miliar barel sampai 2050 (asumsi penurunan produksi 10%)

Asumsi Peningkatan Produksi Gas

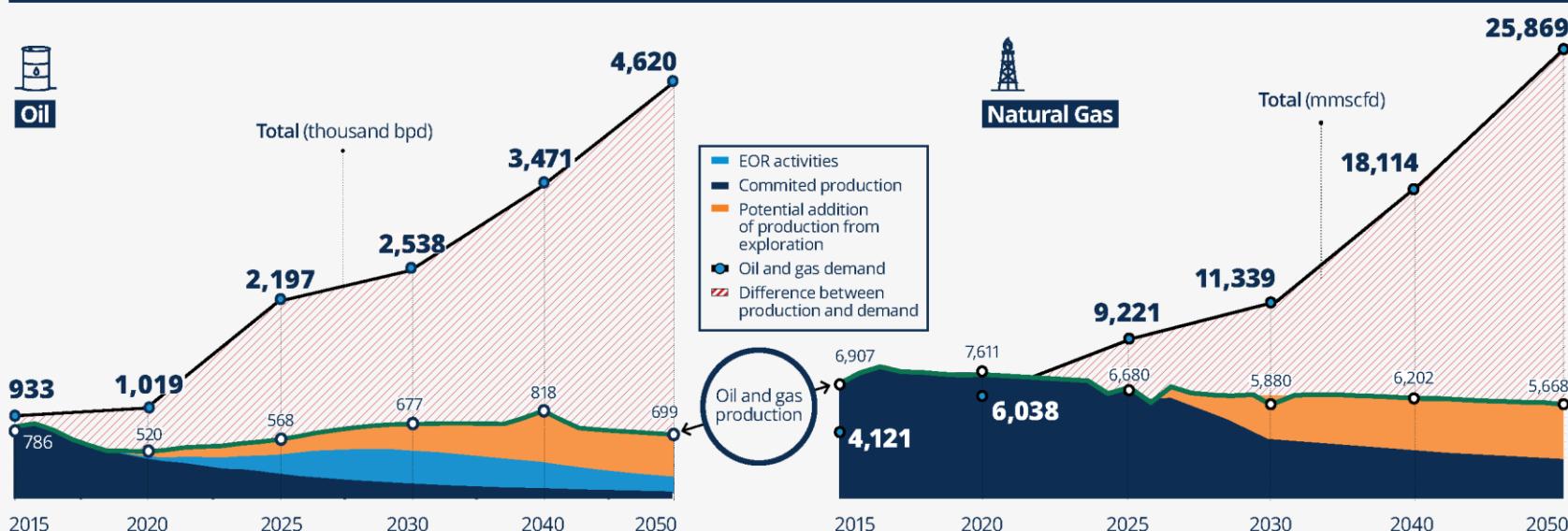
- Menaikkan rasio pemulihan cadangan hingga 100% lewat peningkatan kegiatan eksplorasi
- Mempercepat proyek-proyek gas bumi
- Mengendalikan impor LPG

SUMBER: PERPPES 22/2017

TOUGH CHALLENGES IN THE INDONESIAN OIL AND GAS SECTOR

In the General Plan of National Energy (RUEN), the needs of oil and gas until 2050 rely heavily on imports. Though Indonesia will be able to increase production from the potential of its domestic oil and gas fields, it will take hard work and a globally competitive rate of return on investment.

RUEN PRODUCTION AND DEMAND PROFILE



Supplemental Assumption of Oil Production

- RRR increases from 60% (2016) to 100% (2025)
- Within 5 years, 6.4% of each new reserve discovery can be produced (with a 10% drop rate)
- The EOR activity will start in 2020 with recoverable reserves of 2.5 billion barrels through 2050 (assuming a 10% production decline)

Assumption of Increased Gas Production

- Raising the reserve recovery ratio by 100% through increased exploration activities
- Accelerating the natural gas projects
- Controlling LPG imports

SOURCE: PRESIDENTIAL DECREE NO. 22/2017

EFEK BERGANDA PROYEK STRATEGIS NASIONAL

Proyek Strategis Nasional (PSN) memberi dampak sangat besar terhadap penerimaan negara dan penciptaan lapangan kerja baru di Indonesia. Dari 5 PSN migas yang telah dicanangkan Presiden, masih ada 2 yang belum tereksekusi.

INDUSTRI MIGAS MENCiptakan NILAI TAMBAH (Rp)



Penciptaan nilai tambah ekonomi

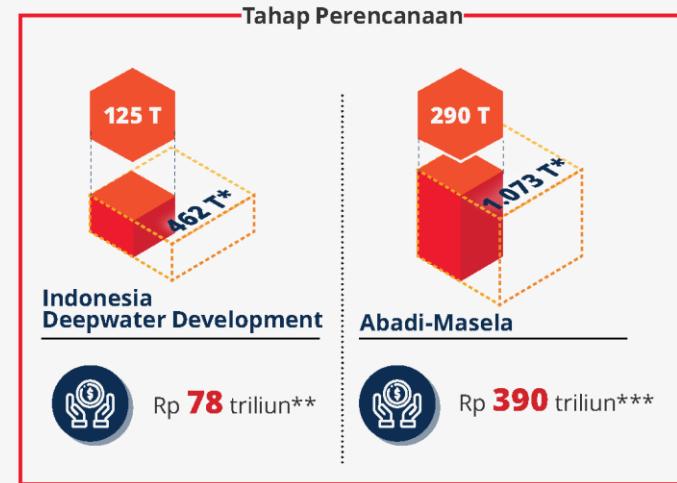


Nilai investasi

Sedang Berjalan



Tahap Perencanaan



* Asumsi berdasarkan kajian **Reforminer Institute**



Setiap transaksi Rp 1 Triliun rupiah



Menciptakan nilai tambah ekonomi ± Rp 3,7 triliun

“**Berdasarkan peraturan yang berlaku Pemerintah dapat memberikan insentif perpajakan kepada industri hulu migas.**”

Peraturan Pemerintah No. 27/2017

MULTIPLYING EFFECTS OF NATIONAL STRATEGIC PROJECTS

The National Strategic Project (NSP) has a huge impact on state revenues and the creation of new jobs in Indonesia. From the 5 oil and gas NSP's declared by the President, there are still 2 projects that have not been executed.

OIL AND GAS INDUSTRY CREATES ADDED VALUE (Rp)



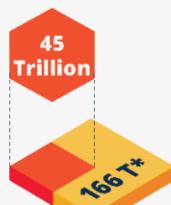
Creation of economic added value



Investment value

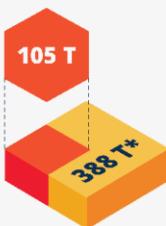
On-going

Planning stage



Potential state revenues:

Rp **56** trillion



Rp **156** trillion



Rp **81** trillion



Rp **78** trillion**



Rp **390** trillion***

* Assumptions based on review of the Reformer Institute:



Every **1** trillion →
rupiah transaction



Creates additional
economic value
± Rp **3.7** trillion

Exchange rate of US \$ 1 = Rp 13,778

**) Only Bangka Field

***) Assumption of 2.5 times of Tangguh Train-3

*“In accordance with the prevailing regulations,
the Government may provide tax incentives to
the upstream oil and gas industry.”*

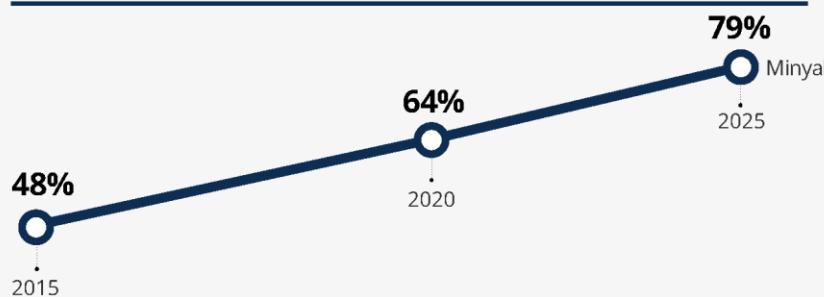
Government Regulation No. 27/2017

SOURCE: KPPPI, GR NO. 27/2017, REFORMINER INSTITUTE, SKK MIGAS

TEROBOSAN DAYA SAING INVESTASI UNTUK MENGHINDARI ANCAMAN DEVISA

Penurunan investasi di sektor hulu menyebabkan produksi migas nasional terus menurun. Hal ini mengakibatkan impor migas nasional di masa mendatang terus meningkat dan mengancam devisa negara. Perlu terobosan dan kepastian awal (prinsip *in-advance notification*) guna meningkatkan daya saing Indonesia dengan negara lain.

**PORSI IMPOR TERHADAP TOTAL KEBUTUHAN
MINYAK NASIONAL DALAM RUEN**



**DAMPAK IMPOR MINYAK
TERHADAP DEVISA NEGARA**

HARGA MINYAK	NILAI IMPOR (US\$ miliar)	DAMPAK TERHADAP CADANGAN DEVISA*
2017 US\$ 51/barel	● 22	
Asumsi dan proyeksi 2025 US\$ 70/barel	● 94	

STRATEGI MENDORONG DAYA SAING INVESTASI



Tata kelola
yang praktikal



Insentif
perpajakan



Simplifikasi proses
perizinan

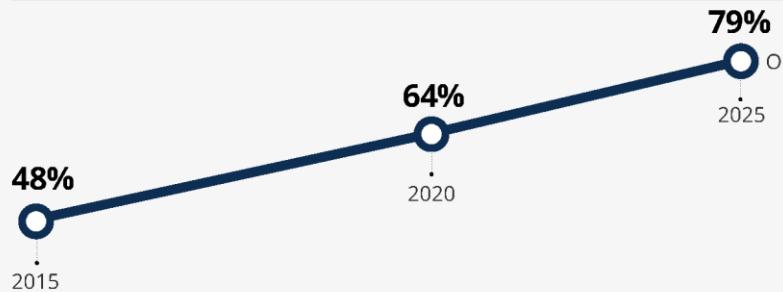
* berdasarkan nilai total cadangan devisa tahun 2017

SUMBER: BANK INDONESIA, BPS, PERPRES NO. 22/2017, REFORMINER INSTITUTE

INVESTMENT BREAKTHROUGH TO AVOID THE THREAT ON FOREIGN EXCHANGE RESERVES

The investment decline in the upstream sector has resulted in decreasing national oil and gas production. This will cause the national oil and gas imports in the future to increase and threaten the country's foreign exchange reserve. It needs a breakthrough and advance certainty (the principle of in-advance notification) to improve Indonesia's competitiveness with other countries.

THE PORTION OF IMPORTS TO THE TOTAL NATIONAL OIL DEMAND IN RUEN



IMPACT OF OIL IMPORTS TO FOREIGN EXCHANGE RESERVES

OIL PRICES	IMPORT VALUES (US\$ billion)	IMPACT ON FOREIGN EXCHANGE RESERVES*
2017 US\$ 51 /barrel	● 22	
Assumptions and projections 2025 US\$ 70 /barrel	● 94	

STRATEGIES TO ENCOURAGE INVESTMENT COMPETITIVENESS



Practical
governance



Tax
incentives



Simplification of administrative process
(Ex: permissions/licensing)

*) Based on the total value of foreign exchange reserves in 2017

SOURCE: BANK INDONESIA, BPS, PRESIDENTIAL DECREE NO. 22/2017, REFORMINER INSTITUTE



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