

#### **BUY (Initiation)**

Target Price (IDR) 650
Potential Upside (%) 35.4

Company Data	
Cons. Target Price (IDR)	564
SSI vs. Cons (%)	115.2

Stock Information	
Last Price (IDR)	480
Market Cap. (IDR bn)	12,478
52-Weeks High/Low (IDR)	492/148
3M Avg. Daily Value (IDR bn)	71.4
Shareholders (%):	
PT Trimegah Sekuritas Tbk	23.33
PT Shima Global Kapital	18.15
Public	58.52

Stock Performance					
(%)	YTD	1M	3M	12M	
Absolute	110.4	44.9	176.6	114.2	
JCI Return	2.9	2.5	13.2	(0.5)	
Relative	107.5	42.4	163.4	114.6	



#### **Company Background**

Founded in 2001 and listed on IDX in 2004, ENRG, with 13 asset blocks including Japan and Mozambique, is an independent oil and gas exploration and production company. Domestically, most of its assets are located in North Sumatra with other regional exposures in South Sulawesi and East Java.

Juan Harahap +62 21 2854 8346 juan.harahap@samuel.co.id

Fadhlan Banny +62 21 2854 8100 fadhlan.banny@samuel.co.id

#### **Black Over Green**

**22% 2026-31F CAGR backed by aggressive expansions with Japanese partner.** Through strategic acquisitions across Indonesia, ENRG's active expansions in its oil and gas portfolio with 2020-2024 CAGR of 21.2% for oil and 10.8% for gas,

oil and gas portfolio with 2020-2024 CAGR of 21.2% for oil and 10.8% for gas, has established a strong foundation towards future growth. In addition, ENRG has signed SPA with JAPEX, one of Japan's most established and forward-looking energy companies, to acquire the remaining 25% stake in East Java's Kangean Block (now 100% owned by ENRG) while divesting 50% of Gebang in North Sumatra. Kangean, ENRG's second-largest contributor, is set to raise production nearly eight-folds by 2031 (to 324 MMSCFD) through 15 new drillings. Meanwhile, Gebang's divestment unlocks capital efficiency while retaining exposure to 874 BCF in reserves, with initial gas production expected in 2027 and three-fold hike in 2035 output. We project ENRG's (weighted) oil and gas production to reach 2026-31F CAGR of +2.9% and +24.8% respectively, boosting revenue and net profit CAGR to +18% and +22% over the same period.

NPR to strengthen capital structure and unlock value from largest oil asset. Following its EGM on June 26<sup>th</sup>, ENRG, in the next 12 months, will issue up to 2.5bn new shares through Non Pre-emptive Rights Issue (NPR) offering, with potential proceeds of IDR 595.7bn (estimated at 240/sh). This NPR is expected to unlock greater value from the Malacca Strait (ENRG's largest oil asset) while preserving ENRG's financial health amid high capex cycle driven by expansion plans for Kangean and Gebang blocks. 70% of proceeds will be allocated to PT Imbang Tata Alam (ITA), which holds 100% interest in Malacca Strait Block, to finance drilling activities aimed at boosting production and reserves. On the balance sheet side, ENRG will see improvement as reflected in decrease 2025F net gearing ratio to 48.2% (vs pre-NPR: 59.3%).

BUY with IDR 650 TP (+35.4% upside) on diminishing green ambition. We are of the view that oil & gas companies like ENRG will see better supported fundamentals (Page 17<sup>th</sup>), helped by fossil fuels increased usage over longer periods as renewables face challenges ahead. This coupled with Middle-East sentiment could result in oil prices reaching beyond USD 100/bbl mark. Based on our sensitivity analysis, every 1% higher global oil prices, ENRG's 2025F earnings will be 1.8% greater. Thus, we initiate coverage on ENRG with BUY rating and DCF-based TP of IDR 650, implying +35.4% potential upside. We derive our valuation by employing DCF-FCFF approach with 9.7% WACC, factoring in compelling earnings growth over the next 10 years driven by Gebang and Kangean expansions. This translates to EV of IDR17.3tn and reflects FY26F EV/EBITDA of 4.6x, 7.0% premium to industry average. Key risks: execution delays on its expansion projects, lower-than-expected oil prices, and faster-than-expected green/renewable projects progress.

Forecasts and Valuat	Forecasts and Valuations (at closing price IDR 480 per share)							
Y/E Dec	22A	23A	24A	25F	26F	27F		
Revenue (USD mn)	452	421	467	509	515	596		
Net Profit (USD mn)	67	68	73	82	94	129		
EPS (IDR)	40	42	48	54	60	83		
EPS Growth (%)	70.1	5.1	14.4	13.2	10.9	37.3		
P/E Ratio (x)	12.0	11.4	10.0	8.8	7.9	5.8		
EV/EBITDA (x)	2.9	3.6	3.9	3.7	3.7	2.9		
P/BV (x)	1.4	1.2	1.0	0.9	0.8	0.7		
ROAE (%)	13.0	11.7	11.1	10.5	10.8	12.8		
ROAIC (%)	9.7	7.9	7.0	6.8	6.9	9.2		
Interest Coverage (x)	8.4	5.4	3.2	4.3	4.5	6.7		
Net Gearing (%)	24.9	32.5	50.7	48.2	50.8	34.6		
DER (%)	33.9	46.6	58.9	54.0	55.7	40.2		

www.samuel.co.id Page 1 of 39

Oil & Gas Sector 21 July 2025

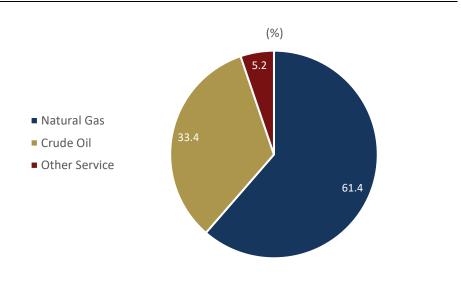
JCI Index 7,379

# **Company Profile**

Powering a bold path in Asia's oil and gas assets. Founded in 2001 and listed on the Indonesia Stock Exchange (IDX) in 2004, ENRG is aN independent oil and gas exploration and production company headquartered in Bakrie Tower, Jakarta. The company operates through its subsidiaries across key regions in Indonesia—including Aceh, North Sumatra, Riau, East Java, South Sulawesi, and North Sulawesi—as well as internationally in Japan and Mozambique. ENRG's core business activities focus on the exploration and production of oil and gas assets, with significant operations in East Java's Kangean Block; multiple blocks across Sumatra Island such as Malacca Strait, Bentu, Korinci Baru, Siak, Kampar, Tonga, Gebang, "B", South CPP, and Bireun Sigli; South Sulawesi's Sengkang Block; and Mozambique's Buzi Block. The company's vision is to become a leading independent oil and gas exploration and production company in Asia, underscoring its ambition to expand its footprint and operational scale within the region. In 1Q25, the majority of revenues came from the natural gas segment (61.4%) and the crude oil business (34.4%).

Headquartered in Jakarta, ENRG operates in Indonesia, Japan, and Mozambique

Figure 1. Revenue Breakdown, 1Q25



As ENRG's revenue mostly came from natural gas, accounting for 61.4% in 1Q25, the company's profitability is more resilient and sustainable, helped by capped pricing by the government

Sources: Company, SSI Research

Supplying Indonesia's energy and industrial needs. ENRG's upstream oil and gas portfolio serves a diverse group of buyers, including major state-owned enterprises and industrial players. PLN (Indonesia's state electricity company) stands out as a key offtaker across nearly all production sharing contracts (PSCs), including Bentu, Kangean, Malacca Strait, Korinci Baru, and Sengkang. Other prominent buyers include Pertamina and its subsidiaries, such as Pertamina Kilang Internasional and Pertagas Niaga, which source supply from Bentu, Malacca Strait, and 'B' PSCs. The portfolio also caters to industrial clients like Petrokimia Gresik and PT Riau Andalan Pulp & Paper (APRIL), highlighting ENRG's role in supporting both energy infrastructure and the manufacturing sector.

ENRG supplies Indonesia's energy and industrial needs to key buyers such as...

www.samuel.co.id Page 2 of 39

Oil & Gas Sector 21 July 2025

JCI Index 7,379



Figure 2. Oil & Gas Buyers based on Upstream Portfolio



...PLN, Pertamina, and industrial clients like Petrokimia Gresik and PT Riau Andalan Pulp & Paper

Sources: Company, SSI Research

ENRG's expansions through aggressive asset acquisitions. Since 2020, ENRG has actively expanded its oil and gas portfolio through strategic acquisitions across Indonesia and beyond. In 2020, the company increased its stake in the Malacca Strait Block from 60.49% to full ownership. This was followed in 2021 by further consolidation of upstream assets, including raising its ownership in the Kangean Block from 50% to 75%, acquiring 100% of the South CPP Block, and a 48% stake in the 'B' PSC. In 2022, ENRG acquired a 49% interest in the Sengkang Block. Expansion continued in 2023 with a 64% stake purchase in the Bireun Sigli Block and full ownership of PT Sulawesi Regas Satu, strengthening its gas infrastructure capabilities. In 2024, ENRG secured a 90% stake in the Siak and Kampar Blocks and further enhanced its midstream presence through the acquisition of two regasification assets: the Floating Storage & Regasification Unit (EDN-1) and the Floating Storage & Offloading Unit (Gandini). Additionally, the company increased its stake in the Sengkang Block by another 51%, reinforcing its commitment to upstream gas development.

To ensure long term trajectory, ENRG aggressively acquired new assets in the past 5 years...

Figure 3. Timeline of Asset Acquisitions



...including increasing participating interests of various blocks

Sources: Company, SSI Research

www.samuel.co.id Page 3 of 39



Oil & Gas Sector
21 July 2025
JCI Index 7,379

**ENRG's upstream oil and gas portfolio.** ENRG has established a diversified and strategic portfolio of oil and gas assets, operating 13 working areas across key regions in Indonesia and globally. The company's upstream activities are spread across both onshore and offshore blocks, with a robust mix of exploration, development, and production projects. ENRG continues to focus on maximizing production through enhanced recovery techniques, workovers, and exploration activities, while also targeting new reserves to support long-term growth.

**1. Malacca Strait (Riau):** 7,031.3 km<sup>2</sup> PSC under a Gross Split scheme, with main fields Melibur, Kurau, and TB. Ongoing exploration and production enhancement activities maintain production levels.

- **2. Sengkang (South Sulawesi):** 2,925 km<sup>2</sup> PSC under a Gross Split scheme, with a main field at Kampung Baru producing 40 MMSCFD. Efforts to commercialize Wasambo POD are underway.
- **3. Bentu & Korinci Baru (Riau):** Two contiguous PSCs, covering 1,300 km<sup>2</sup>. Produces 80 MMSCFD, serving clients like PLN and RAPP. Development plans focus on CEN discovery and further exploration.
- **4. Kangean (East Java):** 3,470 km<sup>2</sup> PSC with multiple commercial gas fields. Production began in 1994, with EMP increasing its stake to 75% in 2021.
- **5. Block 'B' (Aceh):** A cost recovery PSC with a focus on Arun gas field production. Plans to develop Rayeu and AOB fields to increase reserves and production.
- **6. Kampar (Riau):** An onshore block with multiple producing fields. Recent transfer of ownership to EMP Energi Riau, with exploration activities underway to unlock new potential.
- **7. Tonga (North Sumatra):** 2037-expiring PSC with recent field reactivation. Future exploration to identify new reserves.
- **8. Siak (Riau):** 2,287 km² PSC with Batang, Lindai, and Menggala South fields. Plans to maximize production through drilling and production enhancement.
- **9. Gebang (North Sumatra):** An onshore and offshore PSC of 879.61 km<sup>2</sup>, including the Angor and Secanggang fields. Drilling is planned for 2025, aiming to commercialize gas by 2027.
- **10. South CPP (Riau).** An exploration area spanning 5,447 km<sup>2</sup> with significant hydrocarbon potential. Exploration drilling and seismic surveys are in progress.
- **11. Bireun Sigli (Aceh).** 4,845.02 km<sup>2</sup> PSC with exploration drilling and seismic studies underway to unlock new prospects.
- **12. Buzi (Mozambique).** 75% owned exploration block with 7,653 km², aiming to commercialize the Buzi field to an Independent Power Producer. Seismic surveys and exploration drilling continue with 11.6 TCF resources.

ENRG operates 13 working areas across key regions in Indonesia and overseas

www.samuel.co.id Page 4 of 39

Oil & Gas Sector 21 July 2025 **JCI Index 7,379** 

Figure 4. Map of Upstream Oil & Gas Assets



Sources: Company, SSI Research

Figure 5. Portfolio of Upstream Oil & Gas Assets					
Assets	Type of Contract	Area (km2)	Expiry	Operator/Partner/Participating Interests/Share Ownership	Status
Malacca Strait PSC	PSC (gross split)	7,031.30	2040	PT Imbang Tata Alam (100%) (Operator)	Production
Bentu PSC	PSC	1,039.02	2041	EMP Bentu Limited (100%) (Operator)	Production
Korinci Baru PSC	PSC	252.5	2027	EMP Korinci Baru Limited (100%) (Operator)	Production
Sengkang PSC	PSC (gross split)	2925.23	2042	<ul><li>Energy Equity Epic Sengkang (51%) (Operator)</li><li>PT Energi Maju Abadi (49%)</li></ul>	Production
Kangean PSC	PSC	3470.58	2030	<ul> <li>Kangean Energy Indonesia Ltd. (60%) (Operator)</li> <li>EMP Inc (100%)</li> <li>EMP Exploration (Kangean) Ltd. (40%)</li> <li>EMP Inc (100%)</li> <li>*EMP Inc: EMP 73%, JAPEX 25%</li> </ul>	Production
'B' PSC	PSC	1326.62	2041	<ul> <li>PT Perma Global Energi (90%) (Operator)</li> <li>PT Pembangunan Aceh (51%)</li> <li>PT Pembangunan Lhokseumawe (1%)</li> <li>PT EMP Energi Aceh (48%)</li> <li>PT Pase Energi NSB (10%)</li> </ul>	Production
Siak PSC	PSC	2541.91	2034	<ul><li>PT EMP Energi Gandewa (90%) (Operator)</li><li>PT Riau Petroleum Siak (BUMD) (10%)</li></ul>	Production

www.samuel.co.id Page **5** of **39** 



Oil & Gas Sector 21 July 2025

**JCI Index 7,379** 

Assets	Type of Contract	Area (km2)	Expiry	Operator/Partner/Participating Interests/Share Ownership	Status
Kampar PSC	PSC	421.91	2035	• PT EMP Energi Riau (90%) (Operator)	Production
Kallipai PSC	FSC	421.91	2033	• PT Riau Petroleum Kampar (10%)	
Tonga PSC	PSC	521.44	2037	<ul> <li>PT EMP Tonga (95%) (Operator)</li> <li>EMP (99%)</li> <li>Rahina Deyawani (1%)</li> <li>PT Pettross EP (5%)</li> </ul>	Production
Gebang CPP	PSC	879.61	2035	EMP Gebang Limited (100%) (Operator)	Exploration
South CPP PSC	PSC	5,447.14	2051	EMP Tunas Energi (100%) (Operator)	Exploration
Bireun Sigli PSC	PSC	4845.02	2053	<ul> <li>PT Aceh Energy (100%) (Operator)</li> <li>PT Tunas Harapan Perkasa (64%)</li> <li>PT Pembangunan Aceh (20%)</li> <li>PT Khazanah Inti Petroleum (16%)</li> </ul>	Exploration
Buzi EPCC	EPCC	7653.43	NA	Buzi Hydrocarbon Pte.Ltd (BHPL – subsidiary of EMP)     (75%) (Operator)     Empresa Nacional de Hidrocarbonetos EP (ENH) (25%)	Exploration

Sources: Company, SSI Research

Robust reserve base with long production life. ENRG boasts a substantial and diversified reserve base totaling 431 MMBOE, comprising 212 MMBOE of proved and probable reserves (2P) and 219 MMBOE of contingent resources (2C) as of 1Q25. This sizeable reserve portfolio supports a long production life of approximately 26 years at current output levels. The company maintains commercial production across 9 of its 13 contract areas, underscoring the breadth of its upstream operations. This reserve scale and geographic diversity position ENRG well for sustained growth and resource monetization over the long term.

Figure 6. Reserve and Resource Portion, 1Q25



Sources: Company, SSI Research

As of 1Q25, ENRG holds 431 MMBOE in reserves, comprising 212 MMBOE of 2P and 219 MMBOE of 2C...

...reflecting long production life of 26 years

www.samuel.co.id Page 6 of 39



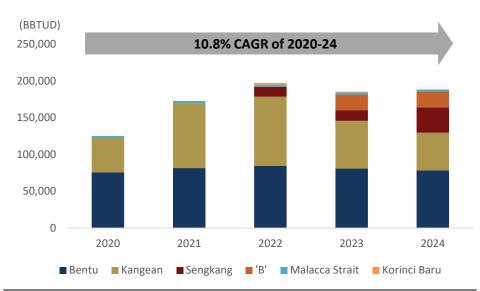


JCI Index 7,379

Gas-focused portfolio ensures earnings stability amid oil price volatility. ENRG is well-positioned to deliver sustainable long-term growth despite ongoing volatility in global oil prices, driven by its strategic portfolio mix where gas accounts for 61.4% of total revenue—above crude oil business of 33.4% as of 1Q25. This gas dominance not only offers lower earnings volatility due to its typically stable pricing on the back of government intervention and long-term contract nature, but also reduces exposure to oil prices swings, creating more sustainable earnings profile. As such, ENRG presents a compelling risk-adjusted investment proposition with lower downside risk, particularly appealing in a sector often exposed to commodity price shocks amidst recent market uncertainties.

As a gas-dominant player, ENRG will be less expose from oil price volatilities ahead

Figure 7. Gas Assets Breakdown by Block, 2020-2024



Aggressive gas expansions during 2020-24 with 10.8% CAGR

Sources: Company, SSI Research

Divested 50% Gebang Block to optimize Kangean & remaining Gebang values. To fully unlock two keys of growth trajectory assets, both Kangean and Gebang, ENRG signed a Sale and Purchase Agreement (SPA) with JAPEX on 22 May 2025 to acquire the remaining 25% participating interest in the Kangean block, raising its total ownership to 100% via its subsidiaries. Concurrently, ENRG divested 50% of its participating interest in the Gebang block to JAPEX. This move significantly strengthens ENRG's upstream asset base by allowing full control over Kangean—its secoond-largest portfolio contributor—while optimizing capital allocation. Additionally, Kangean Block, specifically West Kangean, is set to has stellar pipeline, with gas production to jump almost 8x in 2031 to 324 MMSCFD (2025F-2030F: 43-53 MMSCFD) on the back of additional of 15 drillings (including exploration and development) for their onshore & offshore facilities.

The company partnered with JAPEX to gain 25% more in the Kangean Block and divested 50% of the Gebang Block

www.samuel.co.id Page 7 of 39

Oil & Gas Sector 21 July 2025

**JCI Index 7,379** 

Gebang divestment allows for strategic partnership & unlocks capital efficiency.

While the partial divestment of Gebang asset might appear dilutive at first glance, it represents a strategic capital-light approach that preserves upside potential. Gebang remains in its early exploration phase, and the 50% divestment allows ENRG to reduce upfront capital commitments totaling c.USD 283mn capex (2025-2030) while maintaining meaningful exposure to its 874 BCF gas potential—over nine times the size of Kangean's current reserve base, 94BCF. Gebang Block is targeting first gas by 2027 with gas production of 40 MMSCFD and is expected to more than double its output by 2030, reaching approximately 99 MMSCFD before hitting range of 136-140 MMSCFD over 2031 until 2035, as the Secanggang Project enters its 2<sup>nd</sup> phase with 3 development wells (1<sup>st</sup> phase: 2 wells). As the field matures, Gebang is poised to become a cornerstone of ENRG's gas portfolio, aligning with the company's strategy to grow in high-margin gas assets.

Gebang Block is targeting first gas by 2027

NPR to strengthen capital structure and realize asset value on largest oil asset. To enhance its balance sheet flexibility and support asset monetization, ENRG plans to issue up to 2.5bn new shares through NPR offering, representing a maximum of 10% of its APIC. The private placement will result dilution of up to 9.09% for existing shareholders. The capital injection—potentially reaching IDR 595.7 billion (assuming 90% of the last 25 trading days at IDR 240/share)—is expected to unlock further value from the Malacca Strait while preserving ENRG's financial health amid the high capex cycle driven by the Kangean and Gebang block expansion plans, 70% of NPR proceeds will be allocated for PT Imbang Tata Alam (ITA), which holds a 100% interest in the Malacca Strait Block—ENRG's largest oil asset. The funds will be used to finance drilling activities aimed at boosting production and reserves. The remaining 30% of proceeds will support ITA's working capital needs, covering procurement of goods and services not directly tied to drilling.

corporate action strenghen ENRG's financial health amid high capex cycle driven by Kangean and Gebang block expansion plans

**Dominated by local investors.** ENRG's ownership structure is heavily dominated by local investors, who collectively hold 94.0% of the company's total shares outstanding. Among these, individual investors constitute the largest group, with 36,089 shareholders owning 12.45% of the total shares. Pension funds and foundations, although representing a much smaller portion, still contribute to the local investor base with holdings of 0.37% and a negligible percentage, respectively. This strong local participation reflects significant retail and institutional interest within Indonesia. Foreign investors hold a smaller but meaningful stake of 6.07%, primarily through limited liability companies, totaling 1.5 billion shares across 91 investors. This foreign ownership presence provides ENRG with access to international capital and strategic partnerships, albeit on a modest scale compared to domestic holdings.

**ENRG** share ownership dominated by locals...

Page 8 of 39 www.samuel.co.id



Oil & Gas Sector
21 July 2025 JCI Index 7,379

Figure 8. Share Ownership Status, 2024

	Total		
Owner Status	Investors	Total Shares	%
Local Investors			
Individuals	36,089	3,091,129,479	12.45
Limited Liability Companies	226	19,789,202,329	79.73
Pension Funds	25	93,770,891	0.37
Mutual Funds	41	285,384,654	1.15
Foundations	4	1,075,580	0.00
Cooperatives	2	187,558	0.00
<b>Sub Total Local Investors</b>	36,387	23,260,750,491	94.00
Foreign Investors			
Individuals	141	53,703,736	0.21
Limited Liability Companies	91	1,506,776,023	6.07
<b>Sub Total Foreign Investors</b>	232	1,560,479,759	6.00
TOTAL	36,619	24,821,230,250	100.00

Sources: Company, SSI Research

...who collectively hold 94.0% of company's total shares outstanding as of 2024

www.samuel.co.id Page 9 of 39



Oil & Gas Sector 21 July 2025 **JCI Index 7,379** 

Figure 9. Managen	nent Profile			
Board of Commis	sioners	Position	Years of Experience	Shareholding Composition
	Utaryo Suwanto (80 years old) earned his Bachelor Degree in Geology from Institut Teknologi Bandung. He has been serving as President Commissioner of PT Energi Mega Persada Tbk since June 2024 and currently holds no concurrent positions.	President Commissioner	57	-
	Suyitno Patmosukismo (87 years old) obtained his Bachelor Degree in Geology from Institut Teknologi Bandung in 1963, Master Degree in Law from Universitas Padjajaran in 2006, and Doctoral Degree in Law from Universitas Padjajaran in 2011. He has been serving as Commissioner of PT Energi Mega Persada Tbk since June 2024 and currently holds no concurrent positions.	Commissioner	60	-
	Gita R. Sjahrir (43 years old) received her Bachelor of Arts in Political Science from University of Chicago in 2004 and MBA from Wharton School, University of Pennsylvania in 2010. He has been serving as Independent Commissioner of PT Energi Mega Persada Tbk since June 2024 and is Head of Operation & Co-Founder of RIDE (non-public company).	Independent Commissioner	20	-
	Rudianto Rimbono (61 years old) received his Bachelor Degree in Geology and Master of Science in Geophysics from Institut Teknologi Bandung in 1988 and 1994 respectively, and Doctor of Geophysics from Texas A&M University in 2001. He has been serving as Independent Commissioner of PT Energi Mega Persada Tbk since June 2024 and holds no concurrent positions.	Commissioner	35	-

Page **10** of **39** www.samuel.co.id



Oil & Gas Sector 21 July 2025

**JCI Index 7,379** 

Board of Commis	ssioners	Position	Years of Experience	Shareholding Composition
	Syamsu Alam (60 years old) received his Bachelor Degree in Communication from Universitas Gadjah Mada in 1990, Master of Arts and Ph.D. in Comparative Politics from Ohio State University (1994 and 2000). He has been serving as Independent Commissioner of PT Energi Mega Persada Tbk since June 2024 and also serves as Commissioner of PT Telkom Indonesia and Executive Director of Freedom Institute.	Independent Comissioner	+30	-
	Rizal Malarangeng (60 years old) received his Bachelor Degree in Communication from Universitas Gadjah Mada, and Master and Ph.D. degrees from Ohio State University. He has been serving as Commissioner of PT Energi Mega Persada Tbk since June 2024 and currently holds concurrent positions at PT Telkom Indonesia and Freedom Institute.	Comissioner	+30	-

www.samuel.co.id Page 11 of 39



Oil & Gas Sector 21 July 2025

JCI Index 7,379

Board of Director	s	Board of Directors	Years of Experience	Shareholding Composition
	Syailendra S. Bakrie (44 years old) earned his Bachelor Degree from Babson College, Boston in 2003. He has been serving as President Director of PT Energi Mega Persada Tbk since June 2024 and currently holds no concurrent positions.	President Director	21	-
	Edoardus Ardianto (45 years old) secured his Bachelor Degree in Accounting from Universitas Katolik Atma Jaya in 2005. He has been serving as Vice President Director of PT Energi Mega Persada Tbk since June 2024 and currently holds no concurrent positions.	Vice President Director	19	-
	Edi Sutriono (56 years old) earned his Bachelor Degree in Petroleum Engineering from Institut Teknologi Bandung in 1991. He has been serving as Director of PT Energi Mega Persada Tbk since June 2024 and currently holds no concurrent positions.	Director	33	-
	Tri Firmanto (45 years old) obtained his Bachelor Degree in Chemical Engineering from Universitas Indonesia in 2002 and Master of Petroleum Engineering from Universitas Trisakti in 2018. He has been serving as Director of PT Energi Mega Persada Tbk since June 2024 and currently holds no concurrent positions.	Director	21	-
	Kelik R. Suharya (41 years old) recieved his Bachelor Degree in Electrical Engineering from Universitas Gadjah Mada in 2008 and Master Degree in Petroleum Engineering from Universitas Trisakti in 2015. He has been serving as Director of PT Energi Mega Persada Tbk since June 2024 and currently holds no concurrent positions.	Director	15	-

www.samuel.co.id Page 12 of 39



Oil & Gas Sector 21 July 2025

**JCI Index 7,379** 

Board (	of Directors	Board of Directors	Years of Experience	Shareholding Composition
	Riri H. Harahap (57 years old) recieved her Bachelor Degree in Law from Universitas Indonesia in 1991. He has been serving as Director of PT Energi Mega Persada Tbk since June 2024 and currently holds no concurrent positions.	Director	32	-

Source: Company, SSI Research

www.samuel.co.id Page **13** of **39** 

Oil & Gas Sector 21 July 2025

JCI Index 7,379



#### **Financial Overview**

In 2025F, ENRG is projected to see revenues increase of +8.8% YoY, reaching USD 508.7mn, driven by fully unlock value on Kangean assets – second-largest gas asset – as the participating interest increase to 100%. In addition, ENRG will see further earnings growth ahead, especially in 2027, supported by Gebang's commencement, which will contribute 10.6% of total gas production. On the return-metrics front – ROE, ROA, and ROIC – will see steady improvement over the next years. ROE is expected to reach 10.5% in 2025F and remain relatively stable at c.10% level in 2026F, while ROIC is projected to slightly improve from 6.8% in 2025F to 6.9% in 2026F.

In 2025F, ENRG's revenues are set to reach USD 504.5mn (+7.9% YoY)...

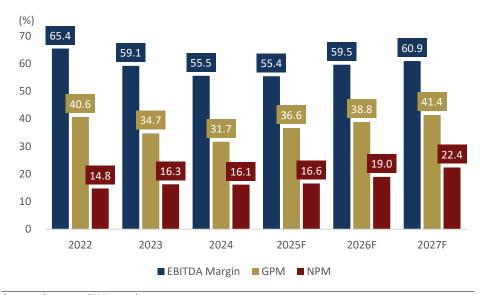
Figure 10. Revenue Growth



...and will further increase in 2027, supported by Gebang's commencement

Sources: Company, SSI Research

Figure 11. Profitability Margins



In line with robust operational growth and higher oil price expectations, ENRG will see profitability margins improve in 2025–2027

Sources: Company, SSI Research

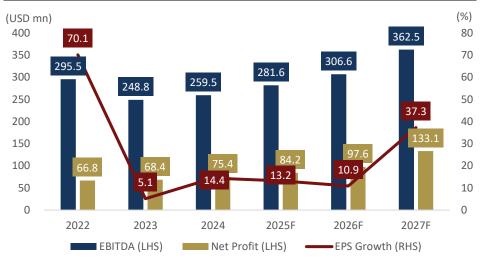
www.samuel.co.id Page 14 of 39

Oil & Gas Sector 21 July 2025

JCI Index 7,379

SAMUEL SEKURITAS INDONESIA

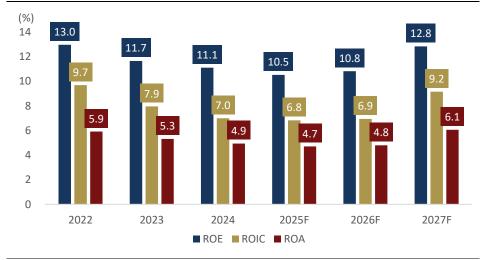
Figure 12. EBITDA and Net Profit Growth



...bringing net profit 2025-27F to USD 84.1mn (+13.2% YoY) and USD 133.1mn (+37.3% YoY)

Sources: Company, SSI Research

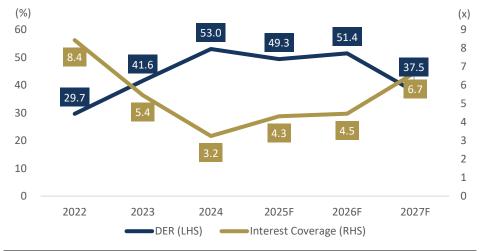
Figure 13. Profitability Metrics



ROE is expected to reach 12.8% in 2027F

Sources: Company, SSI Research

Figure 14. Leverage Metrics



Sources: Company, SSI Research

We forecast the ICR to improve in the coming years, driven by the unlocking of value from the Kangean and Gebang assets

www.samuel.co.id Page **15** of **39** 



Oil & Gas Sector 21 July 2025

**JCI Index 7,379** 

Figure 15. Peer Comparables

Company	Company	Mkt. Cap	EPS Gwt 26F	P/E 26F	EV/EBITDA	ROE	Net Gearing
Ticker	Name	(USD mn)	(%)	(x)	(x)	(%)	(%)
PGAS IJ	Perusahaan Gas Negara Tbk PT	2,430	7.7	7.7	3.3	10.3	NC
MEDC IJ	Medco Energi Internasional Tbk PT	2,003	29.6	6.6	4.2	12.2	102.6
ENRG IJ	Energi Mega Persada Tbk PT	765	13.2	7.9	3.7	10.8	50.8
RAJA IJ	Rukun Raharja Tbk PT	663	(16.0)	33.7	8.6	8.2	167.8
Domestic		5,861	13.2	10.3	4.3	10.8	60.7
883 HK	CNOOC Ltd	115,881	(1.5)	6.1	2.7	15.2	NC
PTTEP TB	PTT Exploration & Production PCL	14,398	(4.2)	7.6	2.1	10.9	NC
OINL IN	Oil India Ltd	8,456	26.3	7.6	7.5	16.6	28.5
SOC US	Sable Offshore Corp	3,148	NM	8.4	6.1	48.4	127.3
ENOG LN	Energean PLC	2,354	5.1	5.1	3.6	41.7	457.6
POU CN	Paramount Resources Ltd	2,254	(83.0)	13.2	4.6	6.4	NC
CRGY US	Crescent Energy Co	2,228	(0.7)	5.3	3.0	4.7	66.8
ATH CN	Athabasca Oil Corp	2,038	(20.3)	12.9	5.0	16.0	NC
NVA CN	NuVista Energy Ltd	2,030	25.3	6.4	3.5	22.1	12.1
BPT AU	Beach Energy Ltd	2,028	(2.5)	7.0	2.8	11.9	11.2
BKV US	BKV Corp	1,875	132.8	9.8	4.6	16.1	8.6
IPCO SS	International Petroleum Corp	1,871	35.3	26.7	8.6	8.5	6.1
SEPL LN	SEPLAT Energy PLC	1,820	58.6	13.4	2.5	9.4	34.6
SEPL LN	SEPLAT Energy PLC	1,820	58.6	13.4	2.5	9.4	34.6
1662 JP	Japan Petroleum Exploration Co Ltd	1,801	(18.7)	10.1	2.6	4.6	NC
MNR US	Mach Natural Resources LP	1,740	14.1	6.3	2.5	21.7	54.4
Global		165,742	2.1	7.0	3.1	15.5	13.1

Sources: Bloomberg, SSI Research

www.samuel.co.id Page **16** of **39** 

Oil & Gas Sector 21 July 2025

JCI Index 7,379



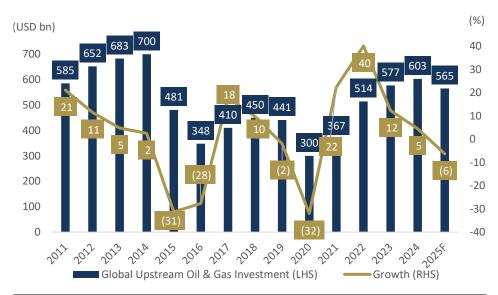
#### **Industry Overview**

#### **Bitter Truth Behind World's Green Ambition**

Under-investment in fossil fuel... A key driver of the recurring threat of energy crises in the clean power era is chronic under-investment—both in conventional fossil fuel supply and in the infrastructure required to unlock the full potential of renewable energy. Since 2015, global capital expenditure in upstream oil and gas exploration and production has sharply declined, primarily due to: 1) 2014-2015 oil price collapse, which prompted widespread capital discipline and costcutting, 2) growing ESG pressures and shareholder activism demanding lower emissions and higher return to investors. According to IEA, global upstream oil & gas investment fell from about USD 700bn in 2014 to average level per annum of USD 450bn by 2015-2025F.

Potential for energy crises looms due to...

Figure 16. Global Upstream Oil & Gas Investment, 2011-2025F



...under-investment in fossil fuels, averaging at USD 450bn per annum in the past 12 years,...

Sources: IEA, SSI Research

...on renewable energy pivot. At the same time, countries around the world have been rapidly increasing their investments in renewable energy, with 2015-2023 CAGR of 9.8%, reaching USD 619bn in 2023. The shift in preference towards renewables has triggered structural tightening of spare production capacity and declining rates for new reserves. Based on our channel check, mature fields face natural annual decline rates of 5% without sufficient capex for reinvestment, resulting in difficulties for global supply to keep up with resilient demand.

...as global-focus shifts to green energy

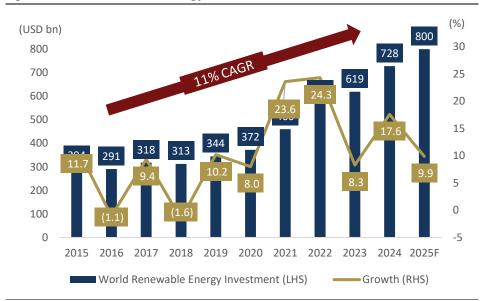
www.samuel.co.id Page 17 of 39

Oil & Gas Sector 21 July 2025

JCI Index 7,379



Figure 17. World Renewable Energy Investment, 2015-2025F



World renewable energy has been growing at 11% 2015-25F CAGR

Sources: BloombergNEF, REN21, SSI Research

Ongoing supply shortfalls of oil... The Russia—Ukraine war has significantly disrupted global oil supply, as sanctions on Russia—one of the world's largest crude producers, responsible for around 10% of global output—resulted in a supply deficit of approximately -1.8 mbopd in 2021. While the market has made some adjustments, the deficit has remained persistent, hovering around -0.1 mbopd over the past three years. Continued tensions in the Middle East could prolong or even exacerbate this supply deficit in 2025F.

Energy security risks are evident, as demonstrated by...

Figure 18. Global Crude Oil Supply and Demand, 2014-2024



...0.1 mbopd annual supply shortfall over the last three years

Sources: Bloomberg, SSI Research

www.samuel.co.id Page 18 of 39

Oil & Gas Sector 21 July 2025

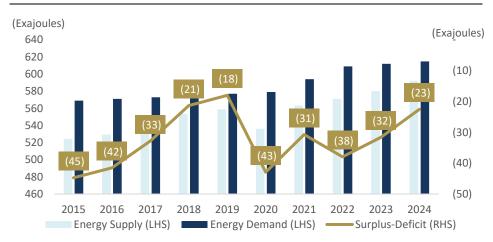
**JCI Index 7,379** 



...and energy around the world. In the broader context, global energy market faced a significant supply-demand deficit of -43 exajoules in 2020, a sharp increase from the -18 exajoules level seen in pre-pandemic period (2019). Despite gradual recovery efforts, this gap has proven difficult to close. In our view, the persistent shortfall in both crude oil and overall energy supply is primarily driven by years of underinvestment in upstream oil and gas development.

Global energy market is facing significant supply-demand deficit

Figure 19. World Energy Supply and Demand, 2015-2024



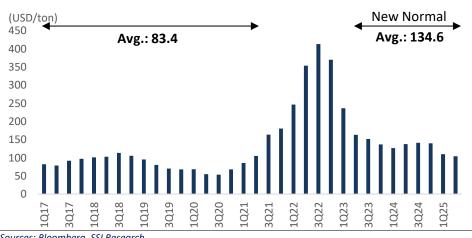
Despite gradual recovery efforts on recent years, the gap has struggled to close

Sources: Energy Institute, SSI Research

**Elevated energy prices.** As a result of persistent fossil fuel supply shortfall, energy prices have continued to rise, with coal and crude oil now trading at premiums of 61.4% and 34.1%, respectively, compared to pre-pandemic levels. These elevated price levels reflect not only the growing demand that has outpaced the energy sector's transition efforts, but also the structural supply constraints caused by years of underinvestment in upstream fossil fuel development. The situation is further exacerbated by rising geopolitical instability, which introduces additional uncertainty into an already tight market and reinforces the upward pressure on global energy prices.

Energy prices are now trading at premiums compared prepandemic levels, with...

Figure 20. World Coal Prices, 1Q17-2Q25



...coal prices 61.4% higher...

Sources: Bloomberg, SSI Research

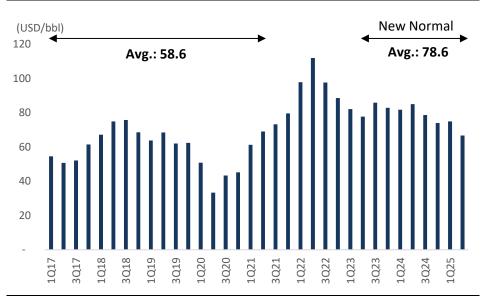
Page 19 of 39 www.samuel.co.id

Oil & Gas Sector 21 July 2025

JCI Index 7,379

SAMUEL SEKURITAS INDONESIA

Figure 21. World Crude Oil Prices, 1Q17-2Q25



Sources: Bloomberg, SSI Research

Oil production becomes more intense. In response to growing energy security risks, Both U.S. shale producers and OPEC+ are stepping up efforts to boost output. OPEC+ has announced plans to increase production by 548,000 barrels per day (bpd) in August and 550,000 bpd in September 2025. Meanwhile, U.S. shale output is projected to reach a record high of 14 million bpd by 2027, supporting a 5% increase in global oil supply. These production hikes are intended to help offset the supply risks driven by ongoing geopolitical tensions and tightening market conditions.

#### Low level of grid and storage investment creating green energy inefficiencies.

The transition to clean energy demands substantial parallel investment, especially in transmission, distribution, and storage infrastructure to scale effectively. However, grid expansion and modernization are capital-intensive and often face delays due to complex land acquisition, regulatory hurdles, and local opposition. While renewable energy investment has grown at a strong 11% CAGR from 2015 to 2025F, investment in grid and storage infrastructure has lagged, growing at just 4% CAGR over the same period. Moreover, our research shows that grid and storage investment per capacity has declined steadily, reaching USD 10.8 billion per GWh in 2024, and is projected to fall further to USD 9.7 billion per GWh by 2025F.

...and global oil prices 34.1% greater

Amid rising energy security risks, OPEC+ and U.S. shale producers are ramping up output to stabilize supply, in our view

To scale effectively, transition to clean energy demands substantial parallel investment, especially in transmission, distribution, and storage infrastructure

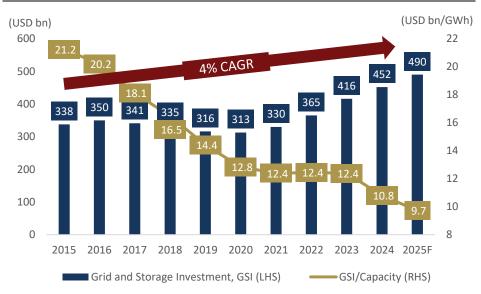
www.samuel.co.id Page **20** of **39** 

Oil & Gas Sector 21 July 2025

JCI Index 7,379

SAMUEL SEKURITAS INDONESIA

Figure 22. Grid and Storage Investment, 2015-2015F



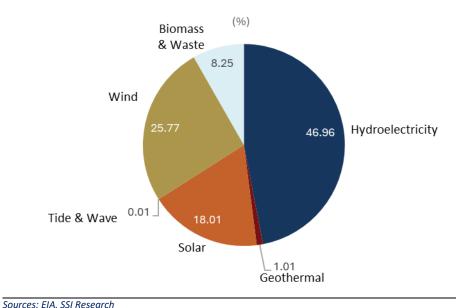
Investment in grid and storage infrastructure has lagged behind and continues to decline, as many countries focus on increasing generation capacity, leading to lower capacity factors and inefficiencies in renewbale electricity generation

Sources: EIA, SSI Research

Lack of readiness on renewable infrastructure,... Recent renewable energy investments have largely concentrated on increasing generation capacity, while grid and storage infrastructure remain underdeveloped. The most widely used renewable energy sources—hydropower (46.96%), wind (25.77%), and solar (18.01%)—collectively account for 90.73% of total renewable energy generation. However, these sources suffer from low capacity factors, which limit their energy output relative to the investment made. Notably, these renewable energy sources have capacity factors significantly lower than fossil fuels, which stand at 42.7%. Solar and wind, in particular, lag far behind, with capacity factors of just 13.1% and 26.1%, respectively.

Renewable energy investments have predominantly concentrated on expanding generation capacity, often neglecting critical development of grid infrastructure and energy storage solutions

Figure 23. World Renewable Energy, by Source



Sources: EIA, SSI Research

Most widely used renewable sources: hydropower (46.96%), wind (25.77%), and solar (18.01%), collectively accounting for 90.73% of total renewables generation...

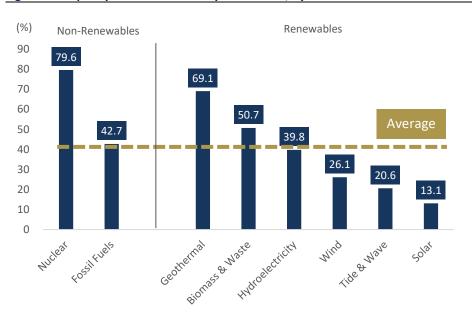
www.samuel.co.id Page 21 of 39

Oil & Gas Sector 21 July 2025

JCI Index 7,379



Figure 24. Capacity Factor of Electricity Generation, by Source



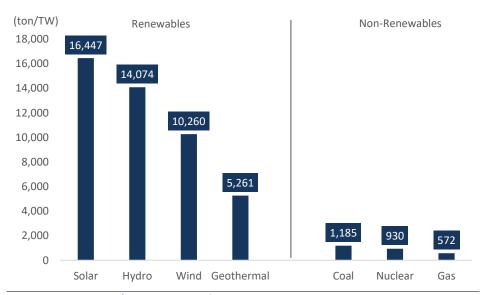
...suffer from low-capacity factors (generation per capacity of electricity),...

Sources: EIA, SSI Research

...resulting in inefficiencies of renewable investments. Renewable energy sources continue to struggle with inefficiencies in converting investment into a consistent energy supply, primarily due to operational limitations. In addition, renewable energy technologies lag behind fossil fuels in terms of energy density and efficiency. Fossil fuels require only around 500–1,100 tons of material to generate 1 terawatt (TW) of power, while solar, wind, hydro, and geothermal require significantly more—ranging from 5,000 to 16,500 tons. This disparity underscores the challenge that generating less than 1 TW of electricity from renewable sources demands 4 to 14 times more land and materials compared to fossil-based energy sources.

...resulting in inefficient energy production, requiring up to 4 to 14 times more base material input compared to fossil-based energy sources

Figure 25. Base-Material input per 1TW Power Generation



Sources: US Department of Energy, SSI Research

~5,000–16,500 tons are required to generate 1TW of power, compared to fossils fuel's ~500–1,100 tons

www.samuel.co.id Page 22 of 39

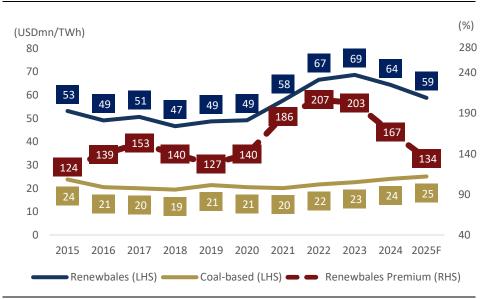


Oil & Gas Sector
21 July 2025
JCI Index 7,379

Renewables are significantly more expensive than fossil fuels. Over the past decade, despite multi-billion-dollar investments in renewable energy, there has been little improvement in investment efficiency relative to electricity generation. As of 2024, renewable energy remains at a premium, costing approximately 167% more than fossil-fuel investments. These trends indicate that fossil fuels continue to outperform renewables in terms of energy efficiency. Furthermore, renewables are less efficient in terms of upfront investment required to generate 1 TW of electricity. Solar requires around USD 66mn, wind USD 23mn, hydroelectricity USD 5mn, and geothermal USD 10.7mn, while coal, by comparison, requires only USD 1.8mn.

Renewables costing 167% more than fossil-fuel investments

Figure 26. World Investment per Electricity Generation, 2015-2025F



As of 2024, renewable energy investments come at 167% premium compared to fossil fuel investments

Sources: BloombergNEF, REN21, IEA, SSI Research

www.samuel.co.id Page 23 of 39

Oil & Gas Sector 21 July 2025

JCI Index 7,379

Figure 27. Cost of Power Plant by Energy and Base-Material

Energy Base	Base-Material Input (ton/TW Generation)	USD/ton	Proportion of Weight (%)	Weighted Material Input (ton)	Total Cost (USD'000)
Solar					
Glass		500	40	6,579	3,289
Aluminum	16,447	2,500	30	4,934	12,335
Copper	10,447	11,000	25	4,112	45,229
Silicon+Silver+Plastic		6,333	5	822	5,208
Total			100		66,062
Hydroelectricity					
Concrete		75	90	12,667	950
Steel	14,074	900	8	1,126	1,013
Copper		11000	2	281	3,096
Total			100		5,060
Wind					
Steel		900	60	6,156	5,540
Blades	10,260	3000	20	2,052	6,156
Concrete	10,200	75	10	1,026	77
Copper		11000	10	1,026	11,286
Total			100		23,059
Geothermal					
Concrete		75	70	3,683	276
Steel	5,261	900	20	1,052	947
Copper	5,201	11000	5	263	2,894
Special Alloys		25000	5	263	6,576
Total			100		10,693
Coal					
Concrete		75	65	770	58
Steel	1,185	900	25	296	267
Copper	1,105	11000	5	59	652
Nickel		14000	5	59	830
Total			100		1,806

Sources: Various Sources, SSI Research

www.samuel.co.id Page **24** of **39** 

Oil & Gas Sector 21 July 2025

JCI Index 7,379

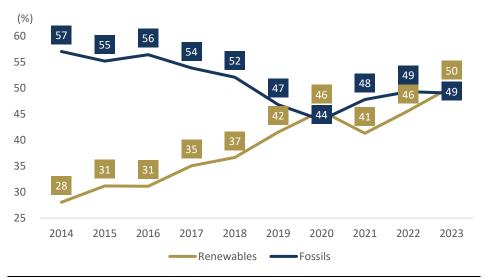


Renewable-related concerns in major countries. Given the current energy risk environment, exacerbated by Russia-Ukraine war and potential escalation of the Iran-Israel conflict, coupled with economic slowdown triggered by Trump's tariffs, fossil fuels remain critical for the near-to-medium term. Our analysis of three major countries, China, India, and Germany that have delayed renewable energy projects and postponed coal power plant phase-outs reveals continued dependence on fossil fuels, despite efforts to reduce their share. These countries - account for almost 50% of global electricity demand and represent both developed and developing economies - had previously made aggressive annual reductions of 100-200 bps in fossil fuel consumption, have recently scaled back their fossil phase-outs. We attribute this shift to rapid increase in electricity demand, driven by the rise of digital economy, particularly the demand from AI data centers, which now accounts for up to 2% of electricity consumption in these countries. A notable example is Germany-one of Europe's leading countries in renewable efforts—, which after an energy crisis in 2021 and +3.6% YoY growth in demand, opted to revert to fossil-based electricity generation. This could serve as a leading indicator for other countries advancing their renewable energy agendas. The trend is also evident in China and India, where electricity demand growth in the last three years has outpaced prepandemic levels. In conclusion, despite ambitious renewable energy goals, the increasing reliance on fossil fuels is a practical response to rising energy demand, particularly from the rapidly expanding digital and Al-driven sectors.

that have delayed renewable energy projects and postponed coal power plant phase-outs; our analysis shows that these countries will continue to depend on fossil fuels, despite efforts to reduce their reliance

We highlight three major countries

Figure 28. Germany's Proportion of Renewables vs Fossil Power, 2014-2023



Sources: EIA, SSI Research

Germany, a leading country in renewable energy initiatives, has been increasing its proportion of fossil fuel usage since 2021, a year when electricity demand rebounded after consecutive declines. This shift could serve as a leading indicator for other countries progressing in their renewable energy agendas such as...

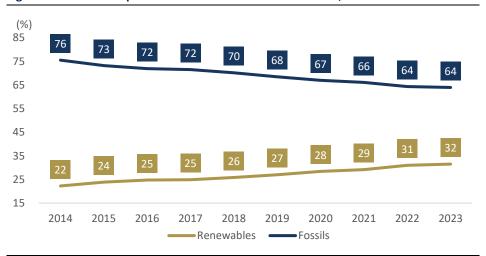
www.samuel.co.id Page 25 of 39

Oil & Gas Sector 21 July 2025

JCI Index 7,379



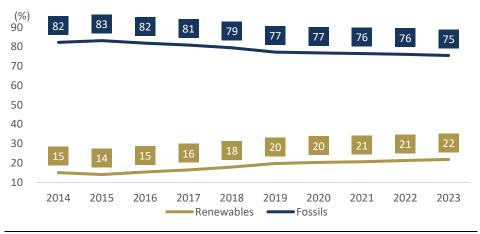
Figure 29. China's Proportion of Renewables vs Fossil Power, 2014-2023



... China, which for the first time, saw its proportion of fossil fuels stabilize at the same level in 2023, reversing the consistent decline from 2014 to 2021, as well as...

Sources: EIA, SSI Research

Figure 30. India's Proportion of Renewables vs Fossil Power, 2014-2023



...India, which has been slowing down its efforts to reduce fossil fuelbased energy in recent years

Sources: EIA, SSI Research

Figure 31. Germany's Electricity Demand and Fossil Growth, 2015-2023



Sources: EIA, SSI Research

Germany had consistently been reducing its electricity consumption over the years; however, when there was a spike in demand in 2021, driven by economic recovery and other factors, fossil fuel-based energy sources had to step in to meet the shortfall

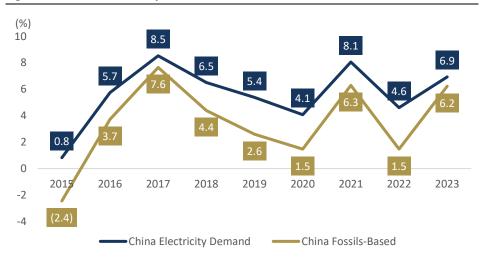
www.samuel.co.id Page **26** of **39** 

Oil & Gas Sector 21 July 2025

JCI Index 7,379



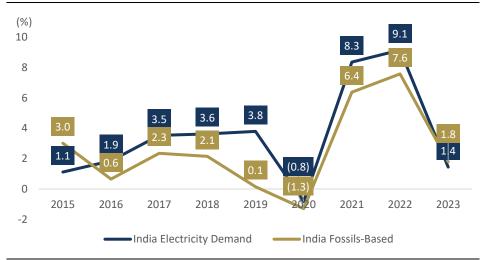
Figure 32. China's Electricity Demand and Fossil Growth, 2015-2023



China's electricity supply continues to rely heavily on fossil fuels, which have consistently played a key role in meeting the country's energy demand during periods of three major surges

Sources: EIA, SSI Research

Figure 33. India's Electricity Demand and Fossil Growth, 2015-2023



In India, the largest developing country, fossil energy played a pivotal role in meeting the surge in demand, with growth rates of 8.3% in 2021 and 9.1% in 2022—marking the highest levels in the past decade

Sources: EIA, SSI Research

www.samuel.co.id Page **27** of **39** 

Oil & Gas Sector



21 July 2025 **JCI Index 7,379** 

Figure 34. Electricity Breakdown of 3 Chosen Countries

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	CAGR (%
China											
Electricity Demand	5,465	5,510	5,826	6,323	6,734	7,097	7,386	7,982	8,349	8,928	5.6
Growth (%)		0.8	<i>5.7</i>	8.5	6.5	5.4	4.1	8.1	4.6	6.9	
Total Electricity Generation	5,786	5,821	6,145	6,656	7,085	7,446	7,727	8,321	8,669	9,267	5.4
Growth (%)		0.6	5.6	8.3	6.4	5.1	3.8	7.7	4.2	6.9	
Electricity Renewable-Based	1,287	1,391	1,520	1,658	1,832	2,010	2,198	2,428	2,684	2,920	9.5
Growth (%)		8.1	9.2	9.1	10.5	9.7	9.3	10.5	10.5	8.8	
Electricity Fossils-Based	4,371	4,264	4,423	4,761	4,970	5,099	5,174	5,499	5,580	5,928	3.4
Growth (%)		(2.4)	<i>3.7</i>	7.6	4.4	2.6	1.5	6.3	1.5	6.2	
India											
Electricity Demand	1,100	1,112	1,133	1,173	1,215	1,261	1,251	1,355	1,479	1,500	3.5
Growth (%)		1.1	1.9	3.5	3.6	3.8	(0.8)	8.3	9.1	1.4	
Total Electricity Generation	1,327	1,353	1,383	1,434	1,489	1,535	1,523	1,628	1,760	1,805	3.5
Growth (%)		1.9	2.2	3.7	3.9	3.1	(0.8)	6.9	8.2	2.5	
Electricity Renewable-Based	199	190	213	236	268	303	310	336	375	394	7.9
Growth (%)		(4.4)	11.7	11.1	13.2	13.2	2.3	8.3	11.7	5.0	
Electricity Fossils-Based	1,092	1,125	1,132	1,159	1,184	1,185	1,170	1,245	1,339	1,363	2.5
Growth (%)		3.0	0.6	2.3	2.1	0.1	(1.3)	6.4	7.6	1.8	
Germany											
Electricity Demand	543	548	551	552	542	527	511	530	512	520	(0.5)
Growth (%)		1.0	0.5	0.2	(1.8)	(2.7)	(3.1)	3.6	(3.3)	1.5	
Total Electricity Generation	601	622	627	631	617	587	557	575	566	536	(1.2)
Growth (%)		3.5	0.8	0.7	(2.3)	(4.8)	(5.2)	3.2	(1.6)	(5.1)	
Electricity Renewable-Based	169	194	195	221	226	244	254	237	258	269	5.4
Growth (%)		15.1	0.6	13.5	2.1	7.8	4.2	(6.6)	8.6	4.5	
Electricity Fossils-Based	342	343	354	340	321	275	244	275	279	263	(2.9)
Growth (%)		0.2	3.1	(3.8)	(5.5)	(14.4)	(11.1)	12.4	1.5	(5.6)	
% to electricity generated											
China											
Renewable	22	24	25	25	26	27	28	29	31	32	
Fossils	76	73	72	72	70	68	67	66	64	64	
India											
Renewable	15	14	15	16	18	20	20	21	21	22	
Fossils	82	83	82	81	79	77	77	76	76	75	
Germany											
Renewable	28	31	31	35	37	42	46	41	46	50	
Fossils	57	55	56	54	52	47	44	48	49	49	

Sources: EIA, SSI Research

Page **28** of **39** www.samuel.co.id

Oil & Gas Sector 21 July 2025

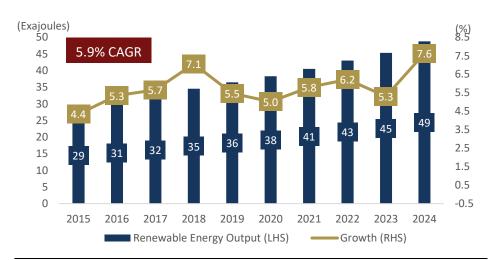
JCI Index 7,379



CO<sub>2</sub> emissions remain a challenge despite multi-billion investments. Despite decades of ambitious climate pledges and multi-billion dollar investments, the reality remains that renewable energy has yet to make a decisive impact on the world's overwhelming reliance on fossil fuels, particularly in terms of reducing CO<sub>2</sub> emissions from energy. Data from the Energy Institute indicates that while renewable energy output has been rising rapidly, with a 2015-2024 CAGR of 5.9%, reaching 49 exajoules in 2024, there has been no corresponding decline in energy's CO<sub>2</sub> emissions over the past decade. In fact, CO<sub>2</sub> emissions have continued to grow steadily by 1.3-1.7% annually in the last three years.

Even after billions of dollars invested in renewable energy,...

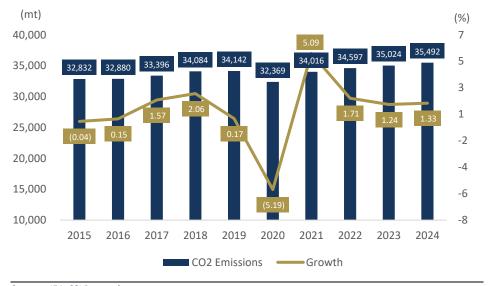
Figure 35. Global Renewable Energy Output, 2015-2024



...bringing rapid renewable energy at 2015-2024 CAGR of 5.9%,...

Sources: Energy Institute, SSI Research

Figure 36. World CO2 Emissions from Energy, 2015-2014



...CO2 emissions remain stubbornly high

Sources: IEA, SSI Research

www.samuel.co.id Page 29 of 39

Oil & Gas Sector 21 July 2025 INDONESIA

**JCI Index 7,379** 

**Net-zero paradox: lose some, gain some.** Driven by the strong growth in energy-related  $CO_2$  emissions, our research underscores that the global push for green energy is increasingly straining mineral refineries worldwide. This challenge is largely attributed to the rising demand for fossil energy, which remains crucial to meet the ongoing surge in energy consumption. Simultaneously, efforts to replace coal power plants with renewable energy sources can paradoxically lead to higher  $CO_2$  emissions. Our estimates show that constructing new power plants with 1 TW capacity would result in the following  $CO_2$  emissions: approximately 71,898 tons of  $CO_2$ e for solar, 7,417 tons for hydroelectricity, 2,668 tons for wind, and 6,576 tons for geothermal. These figures reflect the carbon footprint associated with the refinement and construction of materials required for these renewable energy projects.

A new power plant with 1 TW capacity would emit approximately 71,898 tons of CO2e for solar, 7,417 tons for hydroelectricity, 2,668 tons for wind, and 6,576 tons for geothermal

Figure 37. Total CO<sub>2</sub>e Generation by Power Plant Developments

Energy Base	Base-Material Input, BMI (ton/TW)	CO2e/BMI (kg)	Proportion of Weight (%)	Weighted Material Input (ton)	Total CO2e (ton)
Solar					
Glass		1,437	40	6,579	9,454
Aluminum	16,447	9,100	30	4,934	44,900
Copper	10,447	2,600	25	4,112	10,691
Silicon+Silver+Plastic		8,333	5	822	6,853
Total			100		71,898
Hydroelectricity					
Concrete		350	90	12,667	4,433
Steel	14,074	2000	8	1,126	2,252
Copper		2600	2	281	732
Total			100		7,417
Wind					
Steel		2000	60	6,156	12,312
Blades	10,260	2100	20	2,052	4,309
Concrete	10,200	350	10	1,026	359
Copper		2600	10	1,026	2,668
Total			100		19,648
Geothermal					
Concrete		350	70	3,683	1,289
Steel	5,261	2000	20	1,052	2,104
Copper	J,201	2600	5	263	684
Special Alloys		9500	5	263	2,499
Total			100		6,576

Sources: Various Sources, SSI Research

www.samuel.co.id Page **30** of **39** 



Oil & Gas Sector
21 July 2025
JCI Index 7,379

Unrealistic scenarios to achieve net zero emission. The world has committed to achieving net-zero emissions by 2050. To reach this ambitious goal, renewable energy in electricity generation must grow at 14.5% CAGR until 2030 and 7.9% CAGR until 2050. This necessitates trillions of dollars in investments in renewable energy, with USD 619bn invested in 2023 alone, and significant reduction in dependence on fossil-based energy, which currently accounts for around 60% of total electricity generation. Simultaneously, in the net-zero-by-2050 scenario, the IEA assumes global GDP will grow at 2.7% CAGR over the same period, accompanied by solid expansion in industrial and transportation sectors. This scenario envisions a world where, despite energy security risks posed by ongoing geopolitical tensions—such as Russia-Ukraine conflict, Iran-Israel crisis, and recent U.S.-China tensions—as well as five years of policy uncertainty during Trump's presidency, the world continues to make consistent investments in renewable energy. In addition, economic and activity indicators, including industrial and transportation growth, must remain on upward trajectory.

The world may require trillions of dollars in investments in renewable energy each year to achieve its "Green Dream"

Figure 38. Net Zero Emission Scenarios

				Net Zero Emissions by 2050 Assumptions				CAGR (%) 2023 to:	
	2010	2022	2023	2030	2035	2040	2050	2030	2050
Total CO₂ (mt)	32,805	34,597	35,024	25,112	13,485	6,221	-	(4.6)	n.a.
Total Electricity Generation (TWh)	21,511	29,204	29,963	39,783	50,084	61,965	80,194	4.1	3.7
Renewables-based (TWh)	4,209	8,590	9,020	23,337	39,128	52,821	70,963	14.5	7.9
Fossils-based (TWh)	14,458	17,412	17,498	11,951	4,502	1,258	206	(5.3)	(15.2)
World Economic and Activity Indicators									
Indicators									
Population (million)	6,966	7,948	8,018	8,518	8,851	9,160	9,680	0.9	0.7
World GDP (USD 2023 bn, PPP)	118,823	170,644	175,981	217,526	250,591	284,660	357,510	3.1	2.7
GDP per Capita (USD 2023, PPP)	17,057	21,471	21,948	25,537	28,312	31,078	36,931	2.2	1.9
Industrial Production (mt)									
Primary chemicals	510	721	736	826	855	860	823	1.7	0.4
Steel	1,435	1,890	1,892	1,950	1,954	1,928	1,925	0.4	0.1
Cement	3,280	4,156	4,072	3,984	3,969	3,904	3,812	(0.3)	(0.2)
Aluminium	60	104	108	126	136	143	151	2.2	1.2
Transport									
Passenger cars (billion pkm)	16,889	24,181	25,381	28,634	31,485	36,204	45,487	1.7	2.2
Heavy-duty trucks (billion tkm)	24,022	32,017	32,792	41,241	47,686	53,764	65,387	3.3	2.6
Aviation (billion pkm)	4,923	5,977	8,182	10,867	11,499	12,915	16,433	4.1	2.6
Shipping (billion tkm)	80,335	109,679	111,106	107,747	106,338	106,743	118,663	(0.4)	0.2

Sources: IEA, SSI Research

www.samuel.co.id Page **31** of **39** 

Oil & Gas Sector 21 July 2025

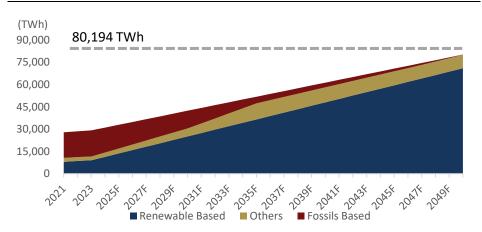
JCI Index 7,379



As demand is set to keep increasing.... With the currently available sources, the world's target of achieving net-zero emissions by optimizing renewable energy to generate 70,963 TWh while reducing fossil-based generation to 206 TWh appears overly optimistic. By 2050, global electricity generation is projected to reach 80,194 TWh to meet growing demand, with total capacity expected to reach 218,886 TWh.

We believe fossil-based energy may be relied upon longer than expected to ensure energy security,...

Figure 39. Projection of Electricity, by Source, 2021-2050F



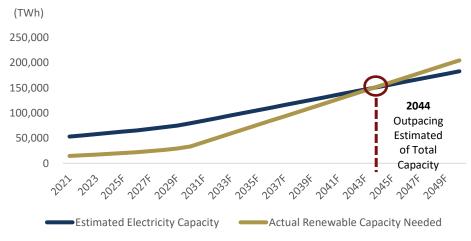
...given that electricity generation is projected to reach 160,388 TWh in 2050F and...

Sources: EIA, IEA, SSI Research

...fossil power is required for longer-than-expected periods. It's essential to note that electricity capacity must exceed actual generation by 2.7x to account for unexpected demand spikes, equipment failures, and maintenance needs. Using a similar multiplier based on current renewable energy capabilities, we estimate that renewable energy will be unable to fully accommodate future demand and compensate for the loss of electricity from fossil-based sources, particularly in 2044F due to low capacity factors and inefficiencies. Consequently, we believe that fossil-based energy may be relied upon longer than anticipated to ensure energy security, given the current limitations in renewable energy technologies and their inability to consistently meet demand.

...assuming similar multiplier based on current capabilities of renewable energy,...

Figure 40. Capacities of Total Electricity and Renewables, 2021-2050F



...current trajectory of renewable capacity is insufficient to meet future demand, specifically on 2044, based on our estimates

Sources: EIA, IEA, SSI Research

www.samuel.co.id Page **32** of **39** 

Oil & Gas Sector 21 July 2025

JCI Index 7,379

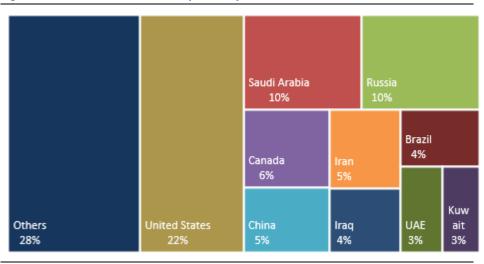


#### **Geopolitical Tension Benefit**

Multiple geopolitical tensions may support higher oil prices. Over the past few years, global oil prices have been significantly impacted by various conflicts. During the peak of the Russia-Ukraine war, oil prices surged by approximately 50% due to supply disruptions from Russia, which accounts for 10% of global crude production. Following this, oil prices saw another 16% increase amid escalating Iran-Israel tensions, particularly as Iran threatened to close the Strait of Hormuz, a crucial passage responsible for 25% of global oil flows. Collectively, these tensions affect 35% of global oil supply. Additionally, the ongoing U.S.-China tensions over Taiwan further heighten the risks, with the combined geopolitical threats potentially impacting up to 62% of global oil supply, providing strong support for crude oil prices in the foreseeable future.

Potentially stronger oil prices on the back of geopolitical tensions created by Iran-Israel, Russia-Ukraine, and US.-China which account for 62% of (gross) global oil supply

Figure 41. Crude Oil Production, by Country



Strait of Hormuz contributes 25% to gross oil global supply

Sources: Statista, SSI Research

Potential stronger-than-expected global oil prices on Mid-East tension... This crucial chokepoint, located between Iran to the north and Oman and the UAE to the south, accounts for nearly 25% of the world's oil supply and a substantial portion of its LNG supply. With only 2-km-wide shipping lanes in a 33-km-wide passage, this strait becomes one of the busiest sea routes for international trade. Despite these threats, vessel tracking indicates that traffic through the strait continues. Marine Traffic data showed no systemic stoppage. Yet, shipping groups reported a moderate drop in vessel movements—6 tankers have reversed course, and overall transits dipped temporarily.

Global oil prices may rebound on the back of supply disruption on Strait of Hormuz

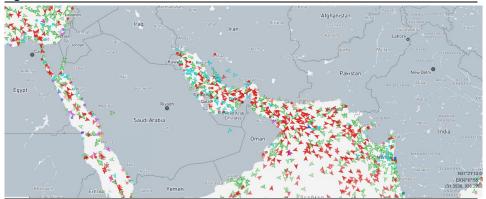
www.samuel.co.id Page 33 of 39

Oil & Gas Sector 21 July 2025

JCI Index 7,379



Figure 42. Vessels Tracker



Marine traffic data showed no systemic stoppage

Sources: Marine Traffic, SSI Research

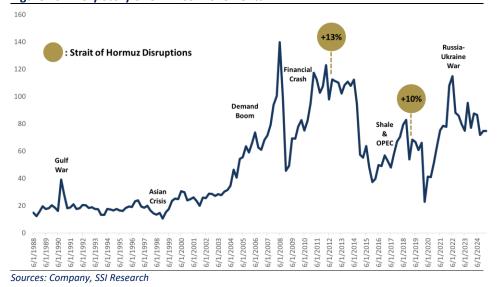
...caused by political uncertainties ahead. On 23–24 June 2025, U.S. brokered a tentative ceasefire between the two nations, announced by Trump and reportedly accepted by Israel's PM Netanyahu, although Tehran denied formal agreement. Shortly after the ceasefire declaration, Israel's prime minister's office alleged that Iran launched missiles into Israeli territory—charges Iran has denied. These backand-forth accusations underscore the very fragile nature of the pause. Israeli ministers have signaled readiness to retaliate against any future breaches.

Stil difficult to see where the Iran-Israel war will end

Learn from the past: global oil prices movement. When reviewing the past three decades, we found that geopolitical disruptions on Strait of Hormuz have historically led to global oil price increases of 10%–13%. However, it is important to note that these price jumps were primarily driven by threats rather than actual closures, as Iran has never fully committed to shutting the Strait of Hormuz. Therefore, we expect an even higher premium on oil prices if the Strait of Hormuz is officially closed. For context, the Russia-Ukraine War in 2022 was the most recent conflict to cause a significant price spike, pushing oil prices to approximately USD 120/bbl, a surge of over 50%, due to disruptions in Russian oil supply, which accounts for 10% of global oil production.

We found that geopolitical disruptions on Strait of Hormuz have historically led to global oil price increases of...

Figure 43. Every Story of Oil Price Movements



...10%-13%

www.samuel.co.id Page **34** of **39** 





**JCI Index 7,379** 

The Strait of Hormuz could potentially lead to USD 126/bbl oil price. Our analysis suggests that a hypothetical closure of the Strait of Hormuz, considering the weighted impact of key oil-producing nations—Saudi Arabia, Iran, Iraq, and Kuwait—could drive oil prices as high as USD 126/bbl, assuming a 16.4% disruption impact on global oil supply chains which based on production contribution and the strait's dependency rate of the related-countries. During the Russia-Ukraine war, oil prices surged by over 50%, with Russia contributing 10% to global oil supply. By applying a similar premium for a potential Strait of Hormuz disruption and using a baseline oil price of USD 80/bbl—the level consistent with softer oil prices observed after the Russia-Ukraine conflict eased and before OPEC+ boosted production in 2025—we estimate an 82% price sensitivity to a worst-case scenario in the ongoing Iran-Israel tension, leading global oil prices to USD 126/bbl. Additionally, our forecast includes a 25% discount to account for the pressure on crude oil prices, which have declined by over 25% YTD 2025 due to OPEC+'s production boost.

We believe disruption on Strait of Hormuz could drive global oil prices to USD 126/bbl...

Figure 44. Strait of Hormuz Sensitivity

Countries	Bypass Option	Production Contribution to the World	Export Dependency via Strait of Hormuz	Weighted-Impact on World Supply Chain
Iran	None	5%	100%	5.0%
Iraq	Kirkuk-Ceyhan	4%	88%	3.5%
Saudi Arabia	East-West pipeline to Red Sea	10%	30%	3.0%
UAE	Habshan-Fujairah pipeline	3%	65%	2.1%
Kuwait	None	3%	100%	2.8%
Total		25%		16.4%

Russia Production 10%

Oil Prices Spike 50%

Oil Prices Base USD 80/bbl

Strait of Hormuz Weight 16.4%

Premium Sensitivity 82%

OPEC+ Boost Discount (25%)

Premium Level of Brent 126

Sources: Various Sources, SSI Research

...assuming 82% risk premium

www.samuel.co.id Page **35** of **39** 





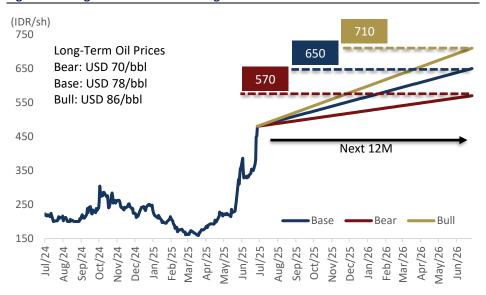
**JCI Index 7,379** 

Figure 45. Oil Prices Sensitivity to ENRG's 2025F Earnings

(in USD mn)	Bearcase (Oil Prices -1%)	Base Case	Bullcase (Oil Prices +1%)
Revenue	507.2	508.7	510.2
EBIT	158.9	160.4	161.9
Net Profit	82.7	84.2	85.7
Variance (%)			
Revenue	(0.3)	-	0.3
EBIT	(0.9)	-	0.9
Net Profit	(1.8)	-	1.8

Sources: SSI Research

Figure 46. Long-Term Oil Prices to Target Price Scenarios



Sources: SSI Research

Amid on going market uncertainties, we view ENRG as having more stable earnings (oil only makes up of 35% revenues), with every ±1.0% change in oil prices resulting in only ±1.8% impact on earnings, compared to MEDC which has higher sensitivity of ±4.8% as oil mixed up the lion's share of c.60% oil & gas sales

ENRG's gas-concentrated asset base limits downside risk, even if long-term oil prices decline to USD 70/bbl

www.samuel.co.id Page **36** of **39** 

Oil & Gas Sector 21 July 2025 .......

**JCI Index 7,379** 

**Financial Highlights** 

Profit and Loss						
Y/E Dec (USD mn)	22A	23A	24A	25F	26F	27F
Revenue	452	421	467	509	515	596
Cost of Goods Sold	(268)	(275)	(319)	(322)	(315)	(349)
<b>Gross Profit</b>	184	146	148	186	200	246
Operating Expenses	(16)	(24)	(24)	(26)	(26)	(30)
Operating Profit	168	122	124	160	174	216
EBITDA	295	249	259	282	307	362
Other Income (Expense)	(7)	2	9	-	-	-
Net Interest Income	(20)	(22)	(38)	(37)	(39)	(32)
Pre-tax profit	140	101	95	124	135	184
Income Tax	(74)	(33)	(22)	(42)	(40)	(55)
<b>Profit for Period</b>	67	68	73	82	94	129
Minority Interest	0	0	2	3	3	4
Net Profit	67	68	75	84	98	133

In 2027F, ENRG's revenue is set to jump to USD 596mn on the back of Gebang Block entering production phase

Balance Sheet						
Y/E Dec (USD mn)	22A	23A	24A	25F	26F	27F
Cash & equivalents	46	82	54	45	43	57
Receivables	91	110	139	136	137	159
Inventories	37	38	44	42	41	45
Others	6	12	19	29	29	30
<b>Total Current Assets</b>	180	242	256	251	250	291
O&G Properties	504	551	742	950	1,099	1,343
Other Non-Current Assets	511	575	585	686	707	561
Total Assets	1,194	1,369	1,583	1,887	2,056	2,194
ST. Bank loan	57	77	96	111	129	107
Payables	91	92	87	97	95	105
Other current Liability	190	195	251	378	381	425
<b>Total Current Liability</b>	338	364	435	586	605	638
LT. Debt	118	195	291	307	357	296
Other LT Liabilities	224	225	200	218	221	255
Total Liabilities	679	784	926	1,112	1,183	1,190
Minority Interest	(73)	(71)	(73)	(73)	(73)	(73)
Total Equity	515	585	657	776	873	1,004

Cash levels may decline in 2025-26F due to increased explorations to develop the Gebang Block, targeted to start production in 2027F

www.samuel.co.id Page **37** of **39** 



Oil & Gas Sector 21 July 2025

**JCI Index 7,379** 

Cash Flow						
Y/E Dec (USD mn)	22A	23A	24A	25F	26F	27F
Net Profit	67	68	75	84	98	133
D&A	128	163	116	122	134	148
Changes in Working Capital	50	(36)	81	113	(2)	1
<b>Operating Cash Flow</b>	244	195	272	319	230	282
Capital Expenditure	(247)	(253)	(355)	(407)	(302)	(205)
Others	(10)	(4)	(14)	(4)	-	-
Investing Cash Flow	(257)	(257)	(369)	(411)	(302)	(205)
Net - Borrowing	(17)	98	114	32	68	(83)
Dividend Paid	-	-	-	-	-	-
Other Financing	43	(1)	(46)	51	1	20
Financing Cash Flow	26	98	68	83	69	(63)
Net - Cash Flow	13	36	(29)	(9)	(2)	14
Cash at beginning	33	46	82	54	45	43
Cash at ending	46	82	54	45	43	57

Capex in 2027F is expected to decline compared to historical levels as Gebang Block is no longer in exploration

Key Ratios						
Y/E Dec	22A	23A	24A	25F	26F	27F
Gross Profit Margin (%)	40.6	34.7	31.7	36.6	38.8	41.4
Operating Margin (%)	37.1	29.0	26.6	31.5	33.7	36.3
EBITDA Margin (%)	65.4	59.1	55.5	55.4	59.5	60.9
Pre-Tax Margin (%)	31.1	24.1	20.3	24.3	26.2	30.9
Net Profit Margin (%)	14.8	16.3	16.1	16.6	19.0	22.4
Debt to Equity (%)	29.7	41.6	53.0	49.3	51.4	37.5
Net Gearing (%)	24.9	32.5	50.7	48.2	50.8	34.6

Profitability margins is set to improve on the back of Malacca Strait Asset being fully-unlocked

Major Assumption						
Y/E Dec	22A	23A	24A	25F	26F	27F
Global Oil Prices (USD/bbl)	99.1	82.2	79.4	70.0	72.0	75.0
Global Gas Prices (USD/mmbtu)		6.2	6.6	6.6	7.2	7.2
Gas Production (bbtud)	243	245	229	213	198	240
Oil Production (mbopd)	5.4	6.6	8.1	8.5	9.1	9.8
Cash Cost (boe)	9	10	12	14	15	13

We conservatively assume global oil prices trajectory, largely driven by OPEC+ production boost

www.samuel.co.id Page **38** of **39** 

**SEO Specialist** 

**Team Support** 



+6221 2854 8100

+6221 2854 8100

Oil & Gas Sector 21 July 2025

Raflyyan Rizaldy

Ahmad Zupri Ihsyan

**JCI Index 7,379** 

Research Team			
Harry Su	Managing Director of Research & Digital Production	harry.su@samuel.co.id	+6221 2854 8100
Prasetya Gunadi	Head of Equity Research, Strategy, Banking	prasetya.gunadi@samuel.co.id	+6221 2854 8320
Fithra Faisal Hastiadi, Ph.D	Senior Chief Economist	fithra.hastiadi@samuel.co.id	+6221 2854 8100
Jonathan Guyadi	Consumer, Retail, Healthcare, Cigarettes, Telco	jonathan.guyadi@samuel.co.id	+6221 2854 8846
Juan Harahap	Coal, Metals, Mining Contracting, Oil & Gas	juan.oktavianus@samuel.co.id	+6221 2854 8392
Ahnaf Yassar	Research Associate; Property	ahnaf.yassar@samuel.co.id	+6221 2854 8392
Ashalia Fitri Yuliana	Research Associate; Macro Economics	ashalia.fitri@samuel.co.id	+6221 2854 8389
Brandon Boedhiman	Research Associate; Banking, Strategy	brandon.boedhiman@samuel.co.id	+6221 2854 8392
Fadhlan Banny	Research Associate; Cement, Media, Oil & Gas, Plantations, Poultry, Technology	fadhlan.banny@samuel.co.id	+6221 2854 8325
Jason Sebastian	Research Associate; Automotive, Telco, Tower	jason.sebastian@samuel.co.id	+6221 2854 8392
Kenzie Keane	Research Associate; Cigarettes, Consumer, Healthcare, Retail	kenzie.keane@samuel.co.id	+6221 2854 8325
Adolf Richardo	Research & Digital Production Editor	adolf.richardo@samuel.co.id	+6221 2864 8397
Disited Due desetion Toom			
Digital Production Team Sylvanny Martin	Creative Production Lead & Graphic Designer	sylvanny.martin@samuel.co.id	+6221 2854 8100
M. Indra Wahyu Pratama	Video Editor & Videographer	muhammad.indra@samuel.co.id	+6221 2854 8100
M. Rifaldi	Video Editor	m.rifaldi@samuel.co.id	+6221 2854 8100

Equity Institutional Team			
Widya Meidrianto	Head of Institutional Equity Sales	widya.meidrianto@samuel.co.id	+6221 2854 8317
Muhamad Alfatih, CSA, CTA, CFTe	Institutional Technical Analyst	m.alfatih@samuel.co.id	+6221 2854 8139
Ronny Ardianto	Institutional Equity Sales	ronny.ardianto@samuel.co.id	+6221 2854 8399
Fachruly Fiater	Institutional Sales Trader	fachruly.fiater@samuel.co.id	+6221 2854 8325
Lucia Irawati	Institutional Sales Trader	lucia.irawati@samuel.co.id	+6221 2854 8173
Alexander Tayus	Institutional Equity Dealer	alexander.tayus@samuel.co.id	+6221 2854 8319
Leonardo Christian	Institutional Equity Dealer	leonardo christian@samuel.co.id	+6221 2854 8147

raflyyan.rizaldy@samuel.co.id

ahmad.zupri@samuel.co.id

Equity Retail Team			
Joseph Soegandhi	Director of Equity	joseph.soegandhi@samuel.co.id	+6221 2854 8872
Damargumilang	Head of Equity Retail	damargumilang@samuel.co.id	+6221 2854 8309
Anthony Yunus	Head of Equity Sales	anthony.yunus@samuel.co.id	+6221 2854 8314
Clarice Wijana	Head of Equity Sales Support	clarice.wijana@samuel.co.id	+6221 2854 8395
Denzel Obaja	Equity Retail Chartist	denzel.obaja@samuel.co.id	+6221 2854 8342
Gitta Wahyu Retnani	Equity Sales & Trainer	gitta.wahyu@samuel.co.id	+6221 2854 8365
Vincentius Darren	Equity Sales	darren@samuel.co.id	+6221 2854 8348
Sylviawati	Equity Sales Support	sylviawati@samuel.co.id	+6221 2854 8113
Handa Sandiawan	Equity Sales Support	handa.sandiawan@samuel.co.id	+6221 2854 8302
Michael Alexander	Equity Dealer	michael.alexander@samuel.co.id	+6221 2854 8369
Yonathan	Equity Dealer	yonathan@samuel.co.id	+6221 2854 8347
Reza Fahlevi	Equity Dealer	reza.fahlevi@samuel.co.id	+6221 2854 8359

Fixed Income Sales Team			
R. Virine Tresna Sundari	Head of Fixed Income	virine.sundari@samuel.co.id	+6221 2854 8170
Sany Rizal Keliobas	Fixed Income Sales	sany.rizal@samuel.co.id	+6221 2854 8337
Khairanni	Fixed Income Sales	khairanni@samuel.co.id	+6221 2854 8104
Dina Afrilia	Fixed Income Sales	dina.afrilia@samuel.co.id	+6221 2854 8100
Muhammad Alfizar	Fixed Income Sales	Muhammad.alfizar@samuel.co.id	+6221 2854 8305

**DISCLAIMER:** Analyst Certification: The views expressed in this research accurately reflect the personal views of the analyst(s) about the subject securities or issuers and no part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations or views in this research. The analyst(s) principally responsible for the preparation of this research has taken reasonable care to achieve and maintain independence and objectivity in making any recommendations. This document is for information only and for the use of the recipient. It is not to be reproduced or copied or made available to others. Under no circumstances is it to be considered as an offer to sell or solicitation to buy any security. Any recommendation contained in this report may not be suitable for all investors. Moreover, although the information contained herein has been obtained from sources believed to be reliable, its accuracy, completeness and reliability cannot be guaranteed. All rights reserved by PT Samuel Sekuritas Indonesia.

www.samuel.co.id Page **39** of **39**