



Global Oil & Gas Outlook 2025–2030:

Strategic Insights and
Optimal Steel Solutions

Build the Future with Steel +

A faded, light gray background illustration of an industrial facility, including various towers, pipes, and structures, spanning the bottom half of the page.

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Introduction

Purpose of the Report

This report integrates **market intelligence** with **engineering insight** to guide operators, EPC contractors, and suppliers in understanding global oil and gas trends and selecting optimal steel solutions. It provides **application-based recommendations** for offshore platforms, FPSOs, pipelines, and OCTG systems. By combining **technical expertise** with **strategic foresight**, the report demonstrates how advanced steel can improve reliability, cost efficiency, and sustainability across the energy value chain.

Key Insights

The global oil and gas industry is entering a period of **stable yet regionally polarized growth**. Over the next five years, global demand and production are projected to rise moderately, with **Asia driving consumption** and **the Middle East and North America expanding supply**. **CUMIC's exclusive data and forecast models indicate that between 2025 and 2030, global oil demand** will maintain gradual growth, while **natural gas**—supported by industrial use and LNG expansion—will see stronger momentum.

At the same time, the **Middle East's steel demand** for energy projects continues to accelerate, led by large-scale investments in exploration, pipeline construction, and downstream capacity. **China** remains a **key supplier of high-quality steel**.

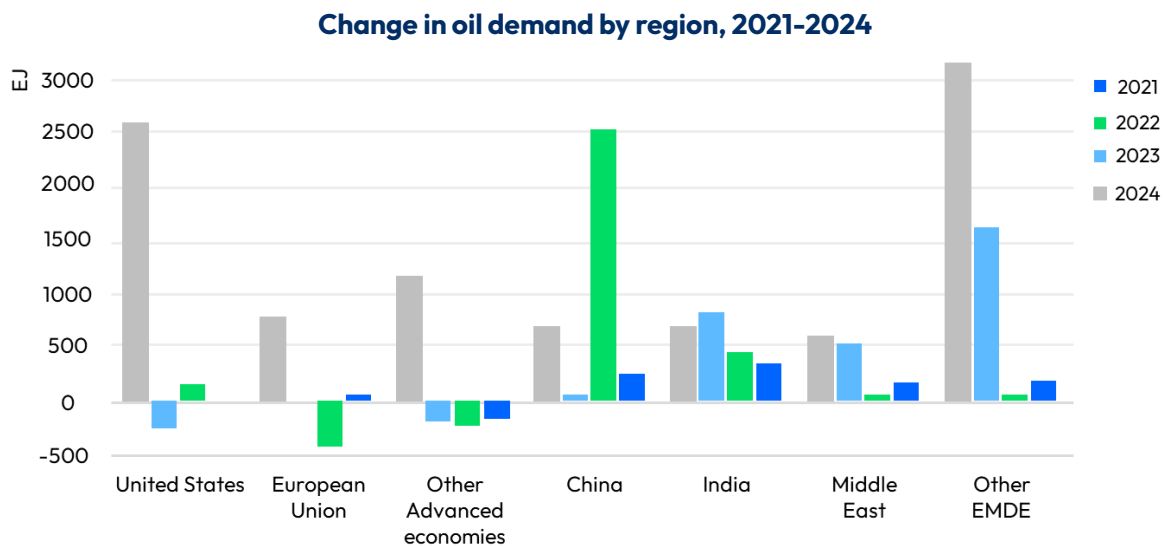
1. Global Oil & Gas Market Insights 2025

1.1 Oil in Transition: Drivers and Growth Patterns

Global oil demand growth slowed to 0.8% in 2024, marking one of the weakest increases in recent years. For the first time, oil’s share in the global energy mix fell below 30%, signaling a structural shift toward diversified energy sources.

Demand patterns reveal concentrated growth with regional divergence. Petrochemicals and aviation fuel accounted for over 90% of total demand growth – with chemicals and plastics contributing around 70%, and jet fuel rising by 5.5% as air travel rebounded. Road transport fuel remained stable overall, while developed economies saw slight declines driven by EV adoption and efficiency improvements. Biofuels and non-transport uses posted moderate gains, led by supportive policies in Brazil, India, and the U.S.

Overall, oil consumption is gradually shifting from energy-intensive use toward higher-value industrial and chemical applications, marking a transition from quantitative growth to qualitative growth.



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The global center of oil consumption is shifting back toward fast-growing, high-population economies. Meanwhile, these same markets are also becoming the front line of the clean-energy transition, where rising demand and decarbonization pressures increasingly converge.

Regional oil demand trend

Country /Region	2024 Demand Change	vs. 2019	Main Drivers / Constraints
China	+0.8% ↑	Flat	EV boom, HSR, NG trucks, real estate slowdown
India	+3.4% ↑	+11.6%	Urbanization, vehicle ownership, economic growth
U.S.	Flat	-4.3%	EVs, remote work reduce gasoline; petrochemicals grow
EU	Flat	-7.0%	Weak industry, high efficiency, rapid EV uptake
Japan	-4.4% ↓	-11.8%	Aging population, structural decline, efficiency tech
Southeast Asia	+2.6% ↑	Growing	Industrialization, transport demand, fuel mix
Africa	Negative ↓	Volatile	High prices, FX pressures, subsidy cuts
Latin America	Slight growth ↑	Mixed	Brazil leads with biofuel policy; others lag

1.2 The Return of Natural Gas: Driving Global Growth for 2025

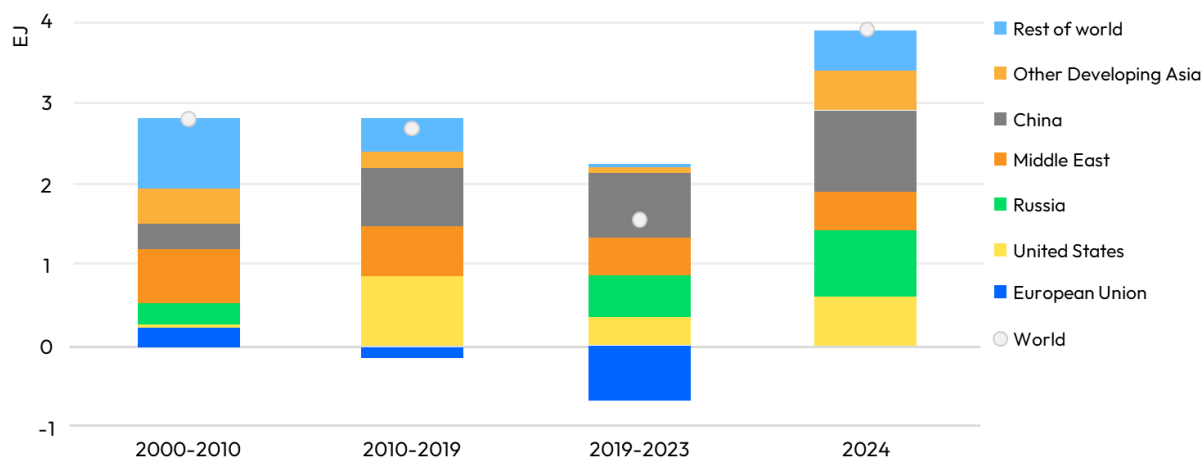
The global natural gas market rebounded strongly in 2024, with demand up by 2.7%—the fastest growth in years and well above the post-pandemic average of ~1% (2019–2023). This marks a structural recovery from the volatility caused by the Russia–Ukraine conflict.

Growth was led by industrial consumption and power generation, together contributing around 75% of the increase. Gas-fired power demand rose 2.8% YoY, supported by warmer weather and lower prices, particularly in North America and Asia. Industrial demand expanded across Asia, while Europe showed early signs of recovery as prices eased.

Transport-related gas use increased as well, driven by China’s LNG truck fleet and the global uptake of LNG marine fuel. The shift from oil to gas continued to accelerate, especially in the Middle East, where gas-based power generation and policy-driven fuel switching gained momentum.

Overall, natural gas is evolving from a single-purpose power fuel into a diversified, multi-sector energy source, reinforcing its role in the global energy transition.

Change in natural gas demand by region, 2000-2024



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Regional natural gas demand trend

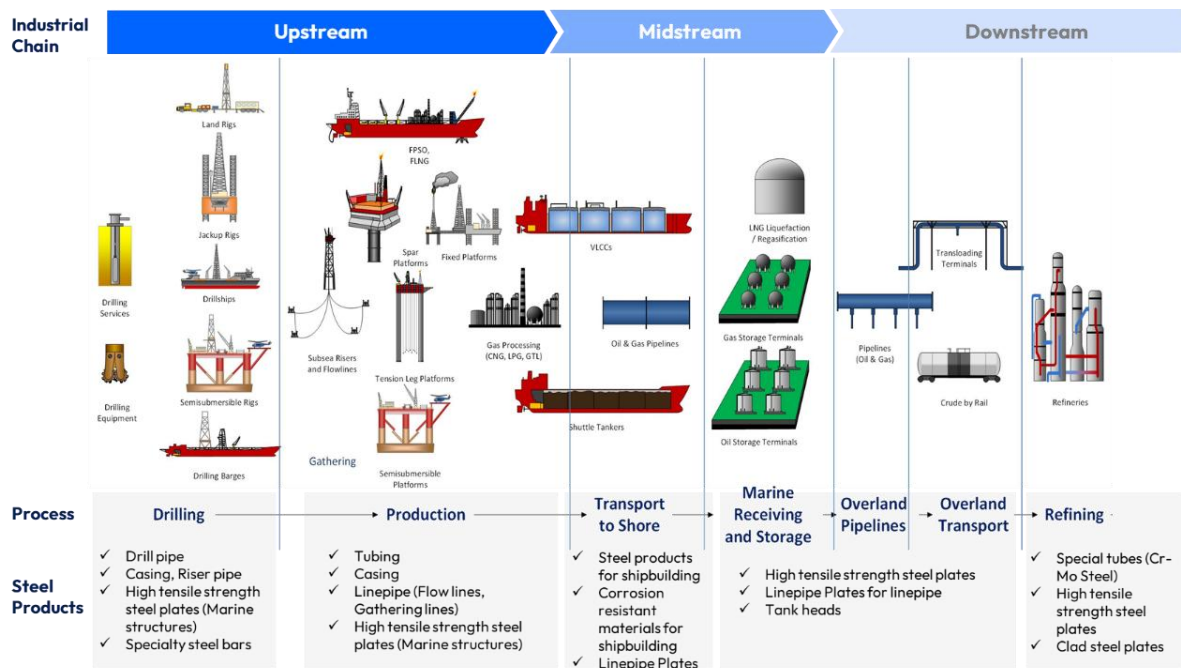
Country /Region	2024 Demand Change	Trend vs. Baseline	Key Drivers
China	+7% ↑	Strong expansion	Lower LNG prices, hot summer, power/industrial demand
India	+10% ↑	High growth	Economic boom, power needs, network buildout
U.S.	+1.9% ↑	Steady growth	Power sector leads; industry stable
EU	+1% ↑	Low recovery	Industry rebounds; gas power declines
Latin America	+1.6% ↑	Uneven	Brazil/Colombia shift from hydro to gas
Middle East	+2% ↑	Stable growth	Power + industrial demand; oil-to-gas strategy
Africa	<+1% ↑	Constrained	Upstream underinvestment limits supply

2. Optimal Steel Solutions for Oil & Gas

Steel remains the backbone of the oil and gas industry, supporting everything from upstream drilling, midstream transport and storage to downstream refining. Each stage demands specific properties—high strength, corrosion resistance, and heat tolerance—to ensure long-term safety, reliability, and performance in extreme environments.

Global steel demand in the oil and gas sectors is rising steadily, with the Middle East capturing an increasing share of global consumption. In 2024, GCC countries imported around 3.85 Mt of pipes, 2.0 Mt of heavy plate of alloy round bars to support drilling, storage, and transport projects. At the same time, end users are shifting toward low-carbon materials such as EAF-based steel and hydrogen-ready pipelines to meet ESG goals. As the world’s largest steel supplier, China underpins this growth with strong capacity, advanced processes, and reliable supply—exporting about 7.52 Mt of pipes, 6.97 Mt of heavy plate, and 2.61 Mt of alloy bars in 2024. Overall, GCC demand is expanding, and Chinese mills are well positioned to deliver essential oil and gas steels efficiently and at scale.

Overview of steel applications across the Oil & Gas value chain



2.1 Offshore Platforms & FPSO for Harsh Marine Conditions

Offshore platforms and FPSOs operate under extreme marine conditions—constant salt exposure, high corrosion, wave impact, and complex dynamic loads. The right steel ensures structural integrity, fatigue resistance, and corrosion protection over decades of operation.

Each platform and vessel type—from shallow-water jackets to deepwater FPSOs—has

distinct structural and environmental requirements.

Steel selection for offshore platforms

Type	Designation	Steel Grades	Application Notes
Fixed Platforms	Shallow-water / Deep-water jacket platform (F-P / BSP)	E36 (355 MPa), EH36, S355G10+N	High strength and weldability; large-structure fabrication efficiency.
Mobile Platforms	Jack-up platform	E/F550, E/F690, EH36	High strength and thickness; fatigue-resistant.
	Semi-submersible platform (Semi)	E36, EH36, S355G10+N	Stable structure, suitable for deepwater operations.
	Tension leg / Spar platform	E36 / E550	High fatigue endurance; limited domestic production.
	FPSO	E36, EH36, S355G10+N	Strength upgraded; marine corrosion protection required.
Oil & Gas / Storage Vessels	Very Large Crude Carrier (VLCC)	D32, A/B 36, EH36	Requires excellent corrosion resistance.
	Liquefied Natural Gas (LNG) carrier	E36, 9Ni, Invar, EH36	Low-temperature steel; mostly imported.
	Chemical tanker	E36, A/B 36, EH36, 2205 Duplex SS	High corrosion resistance; for chemical cargo.
	Pressure Vessel	SA516	For high-pressure storage and processing.

2.2 Pipeline Applications

In the oil and gas sector, selecting the right pipeline steel requires a balanced assessment of transported medium, pressure class, pipeline length, and service environment. Manufacturing processes define key differences in pipe size range, mechanical integrity, and cost efficiency.

Steel selection for Oil & Gas pipelines

Pipe Type	Size	Raw Material	Manufacturing Process	Steel Grades	Pressure Condition	Application Notes
LSAW	16"-50"	Steel Plates	Submerged Arc Welding	X52-X80	High	Long-distance oil & gas pipelines; high reliability
HSAW	18"-120"	HRC	Spiral Welding	X42-X70	Medium	Water, sanitation, and low-pressure pipelines
ERW	0.5"-22"	HRC	Resistance Welding	X42-X65	Low	Urban gas, airport, and metro distribution lines
Seaml	0.5"-14"	Steel	Hot rolling +	X52-X80	High	Upstream drilling,

ess		Billets	piercing billets			refineries, boilers
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2.3 OCTG for Complex Well Conditions

Oil Country Tubular Goods (OCTG)—casing, tubing, and drill pipe—operate under high temperatures, high pressures, and corrosive environments containing H₂S and CO₂. Failures can have major safety and economic consequences.

Material selection must balance strength, toughness, corrosion resistance, and service life. Most OCTG products comply with API SPEC 5CT; acidic or complex wells require materials meeting API Spec 5CRA. Common solutions include carbon steel, alloy steel, martensitic stainless steel, duplex stainless steel, and nickel-based alloys—each optimized for specific well conditions and operational demands.

Steel selection for OCTG

Well Conditions	Temperature	Recommended Material Category	Typical Grades / Alloys (Equivalent Designations)
H ₂ S > 0.01 MPa	≤232°C	Nickel-based Alloy	Hastelloy C-276 (UNS N10276)
	≤204°C	Nickel-based Alloy	Hastelloy C-22 (UNS N06022)
	≤177°C	High-Strength Nickel Alloy	Inconel 625 (UNS N06625)
	≤149°C	Nickel-based Alloy	Incoloy 825 (UNS N08825), Alloy 28 (UNS N08028)
H ₂ S ≤ 0.01 MPa, CO ₂ present	≤250 °C	Super Duplex Stainless Steel	25Cr Super Duplex (UNS S32750, S32760)
	≤200 °C	Duplex Stainless Steel	22Cr Duplex (UNS S32205, S31803)
H ₂ S ≤ 0.01 MPa, CO ₂ ≤ 3.0 kPa	≤200 °C	Super 13Cr Martensitic Stainless Steel	TP95-13Cr, TP110-13Cr, Super 13Cr (UNS S41426 series)
	≤180 °C	Super 13Cr Martensitic Stainless Steel	TP95-13Cr, TP110-13Cr, Super 13Cr
H ₂ S ≤ 0.3 kPa	≤180 °C	13Cr Martensitic Stainless Steel	L80-13Cr, C95-13Cr (Modified UNS S42000)
	≤150 °C	13Cr Martensitic Stainless Steel	L80-13Cr
API 5CT Standard	/	Carbon / Alloy Steel	H40, J55, K55, N80, L80-1, C90S, T95S, P110, Q125

3. 2025-2030 Global Oil & Gas Outlook

3.1 Oil: Production & Demand Outlook by Region

The global oil market is expected to grow moderately during 2024–2030. Overall, the landscape is set to evolve toward an “Asia-led demand center” and a “Middle East & North America supply center,” with trade flows increasingly concentrated between major producers and fast-growing consumer markets.

Production forecast (by region, mb/d)

Region	2024	2025 e	2026 e	2027 e	2028 e	2029 e	2030 e
Africa	7.2	7.4	7.4	7.5	7.5	7.4	7.3
Latin America	7.4	7.7	7.9	8.0	8.4	8.5	8.3
North America	28.3	28.9	29.0	29.3	29.3	29.2	29.2
China	4.3	4.4	4.4	4.4	4.3	4.3	4.2
Other Asia	3.1	3.0	3.0	2.9	2.9	2.8	2.8
Europe	3.3	3.4	3.4	3.2	3.1	3.0	2.8
Eurasia	13.5	13.6	13.7	13.7	13.6	13.5	13.5
Middle East	30.2	30.6	31.1	31.6	32.1	32.4	32.7
World	97.3	99.0	99.9	100.5	101.2	101.1	100.6

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Demand forecast (by region, mb/d)

Region	2022	2023	2024	2025 e	2026 e	2030 e
North America	24.3	24.6	24.5	24.6	24.5	24.0
Central & South America	6.6	6.7	6.8	6.9	7.0	7.4
Europe	14.9	14.8	14.9	14.9	14.8	14.1
Africa	4.5	4.6	4.6	4.8	4.9	5.4
Middle East	9.1	9.2	9.2	9.4	9.5	9.2
Eurasia	4.4	4.4	4.3	4.4	4.4	4.6
Asia Pacific	36.3	38.0	38.0	38.9	39.4	40.7
World	100.0	102.2	103.0	103.8	104.5	105.5

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3.2 Natural Gas: Production & Demand Outlook by Region

Over the next decade, the global natural gas market is expected to maintain steady growth with Asia-led demand expansion and supply growth concentrated in North America and the Middle East. The market is trending toward greater regional specialization, and LNG’s share of global gas trade will continue to rise.

Production forecast (by region, bcm)

Region	2022	2023	2024	2025 e	2026 e	2030 e
Africa	250	255	245	244	245	~270
Asia Pacific	660	675	694	700	710	~760
– of which China	218	230	245	255	265	~290
Central & South America	149	147	147	151	150	~165
Eurasia	865	830	860	867	880	~900
– of which Russia	672	638	685	690	708	~725
Europe	230	215	218	212	215	~200
Middle East	715	725	736	755	780	~850
North America	1,240	1,285	1,280	1,320	1,370	~1,450
– of which United States	1,021	1,061	1,060	1,090	1,115	~1,180
World	4,109	4,132	4,180	4,249	4,350	~4,605

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Demand forecast (by region, bcm)

Region	2022	2023	2024	2025 e	2026 e	2030 e
Africa	170	177	175	179	182	~200
Asia Pacific	877	906	957	963	1,005	~1,090
– of which China	364	393	424	428	454	~540
Central & South America	148	147	150	152	151	~165
Eurasia	622	631	656	659	674	~690
– of which Russia	487	495	517	518	530	~545
Europe	524	488	490	506	496	~470
Middle East	580	592	604	617	642	~700
North America	1,144	1,157	1,178	1,191	1,199	~1,270
– of which United States	919	928	946	956	961	~1,020
World	4,065	4,098	4,210	4,267	4,349	~4,585

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ABOUT CUMIC

CUMIC STEEL LIMITED (CUMIC), established in 2006 with headquarters in Shanghai and Hong Kong, is a global steel solution provider. With projects spanning over 70 countries, CUMIC delivers reliable and value-driven steel solutions tailored for energy, construction, infrastructure, and industrial applications. Our experienced team combines deep industry knowledge with a professional, customer-focused approach, enabling us to support partners in building sustainable and high-performance projects worldwide.



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