Global Energy Monitor

BRIEFING: MAY 2024

Oil pipeline buildout continues unchecked

New data in the Global Oil Infrastructure Tracker show the continuing global expansion of crude oil transmission pipelines. Asian and African countries lead the buildout, particularly in the Middle East, though the U.S. is developing key projects to maintain its foothold as one of the top exporters.

The buildout of oil pipelines continues at a global scale, according to the May 2024 Global Oil Infrastructure Tracker (GOIT) data release from Global Energy Monitor. In total, the world is constructing nearly 11,000 kilometers (km) of crude oil transmission pipelines — about the length of the Earth's diameter — with an additional 22,700 km proposed. Compared to the same time last year, this represents an 8% increase in total km in development.

The infrastructure currently under construction is estimated to cost US$25.5 billion in capital expenditure, and the additional proposed km would add US$106.2 billion more. The lion's share of costs will fall on Africa and Asia, who lead the buildout.

Africa and Asia will have the most expensive buildout, if all projects are completed

Estimated capital expenditure of crude oil transmission pipelines, in US$ billion, by region and subregion

Region	Subregion	Proposed	Construction	Proposed + Construction
Africa		$24.5 bn	$7.3 bn	$31.8 bn
	Northern Africa	$0.2 bn	$0.3 bn	$0.5 bn
	Sub-Saharan Africa	$24.3 bn	$7 bn	$31.3 bn
Americas		$8.4 bn	$1.8 bn	$10.2 bn
	Latin America and the Caribbean	$4.2 bn	$1.2 bn	$5.4 bn
	Northern America	$4.2 bn	$0.6 bn	$4.8 bn
Asia		$62 bn	$12.4 bn	$74.5 bn
	Central Asia			
	Eastern Asia	$12.4 bn	$1.3 bn	$13.6 bn
	South-eastern Asia	$0.3 bn		$0.3 bn
	Southern Asia	$0.1 bn	$10.7 bn	$10.8 bn
	Western Asia	$49.3 bn	$0.5 bn	$49.7 bn
Europe		$11.2 bn	$4 bn	$15.2 bn
	Eastern Europe	$10.2 bn	$4 bn	$14.2 bn
	Northern Europe			
	Southern Europe	$0.6 bn		$0.6 bn
	Western Europe	$0.4 bn		$0.4 bn
Oceania				
	Australia and New Zealand			
	Melanesia			
	Micronesia			
	Polynesia			
Total		$106.2 bn	$25.5 bn	$131.7 bn

Source: Global Oil Infrastructure Tracker, Global Energy Monitor

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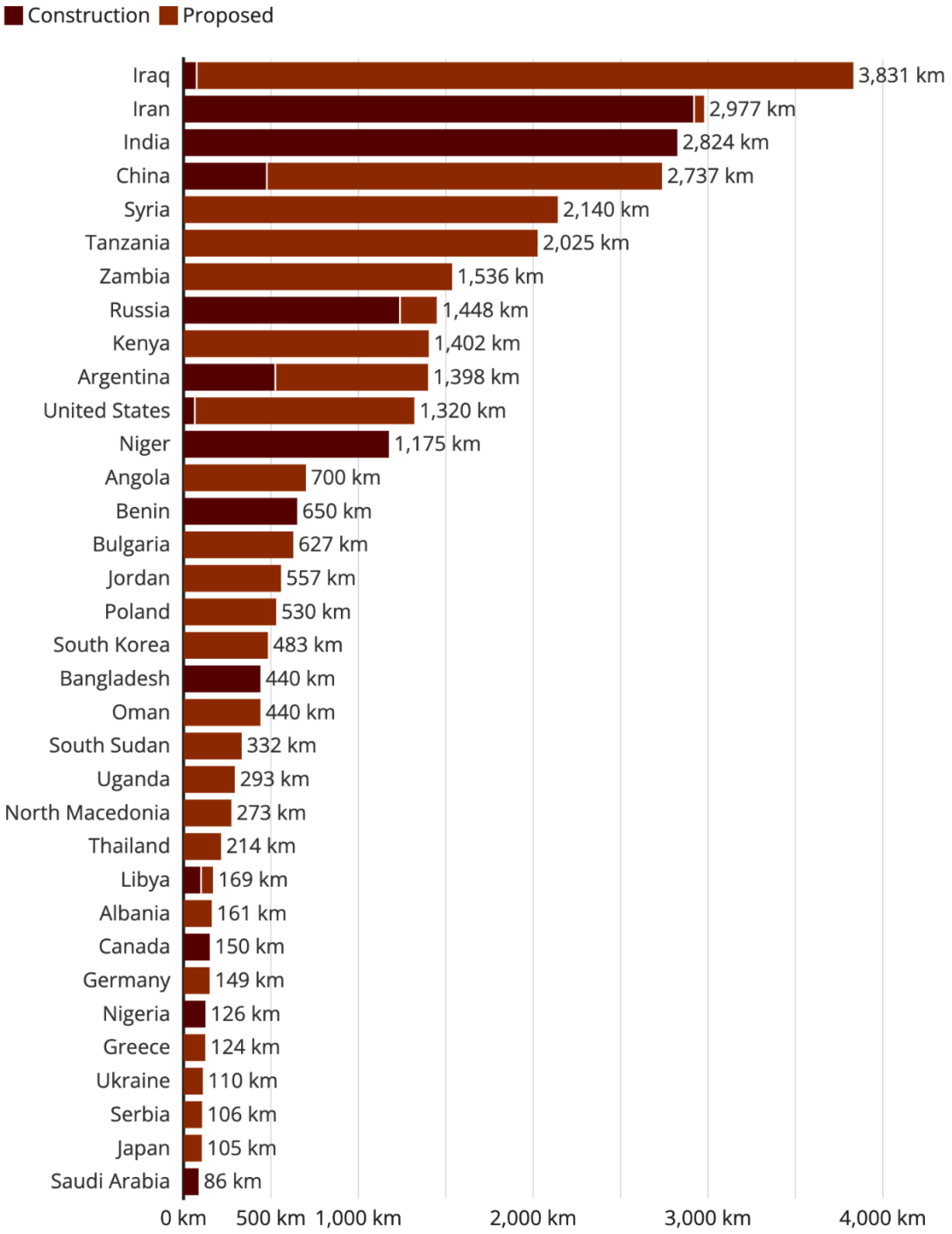
Crude oil pipeline expansion is happening everywhere, but most across Asia and Africa

Aggregrate kilometers (km) of crude oil transmission pipelines in development within each country's borders



Source: Global Oil Infrastructure Tracker, Global Energy Monitor

Note: Excludes countries with fewer than 50 km in development (construction + proposed): Hungary, Bahrain, Laos, Sri Lanka, Czech Republic, and Türkiye.

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Some regions are building pipelines with the goal of becoming exporters, like coastal sub-Saharan Africa countries. Elsewhere, major importers like India and China are adding pipelines to existing networks to serve refineries and petrochemical complexes. But some of the more consequential buildouts are happening in traditional oil production regions like the Persian Gulf in Western Asia, and the U.S. and Canada in North America, who are expanding to maintain their foothold as global oil exporters. Many of these pipeline buildouts are led by state-owned companies, though others like France's TotalEnergies and the U.S.'s ConocoPhillips are in the mix.

Companies building the most pipelines are largely state-owned and have investments beyond their borders

Owner companies building crude oil transmission pipelines, shown with the countries where these pipelines are getting developed, the kilometers (km) in development, and the number of distinct projects in development

Company	Where pipelines are getting developed	Proposed (km)	Construction (km)	Proposed + Construction (km)	Project numbers
Iraq Ministry of Oil	Jordan, Iraq, Syria	4,053	75	4,128	11.00
Iran Ministry of Petroleum	Iran	57	2,463	2,520	19.00
China National Petroleum Corporation	Benin, Nigeria, Niger		1,950	1,950	3.00
National Petroleum and Natural Gas Pipeline Network Group Co., Ltd.	China	1,725		1,725	7.00
Numaligarh Refinery Limited	India		1,630	1,630	1.00
TotalEnergies	South Sudan, Kenya, Tanzania, Uganda	1,377		1,377	5.00
Indian Oil Corporation	India		1,194	1,194	1.00
Government of Zambia	Zambia, Tanzania	1,141		1,141	2.00
Hongrun Petrochemical Co., Ltd.	Japan, China, South Korea	987		987	3.00
Tullow Oil	South Sudan, Kenya	964		964	3.00
YPF	Argentina	748	194	942	3.00
AMBO Pipeline Limited	North Macedonia, Albania, Bulgaria	912		912	3.00
Rosneft	Bulgaria, Greece, Türkiye, Russia	0	655	655	4.00
Transneft	Bulgaria, Greece, Türkiye, Russia	395	248	643	6.00
ConocoPhillips	United States	620		620	1.00
Government of Tanzania	Zambia, Tanzania	569		569	2.00
Africa Oil	South Sudan, Kenya	482		482	3.00
Oman Oil Company	Oman	440		440	1.00
Bangladesh Petroleum Corporation	Bangladesh		440	440	2.00
Liaoning Zhenhua Petroleum Pipeline Storage and Transportation Co., Ltd.	China	360		360	3.00

Source: Global Oil Infrastructure Tracker, Global Energy Monitor

Note: Table lists only companies building more than 500 km of crude oil transmission pipelines; flag corresponds to a company's headquarters country.

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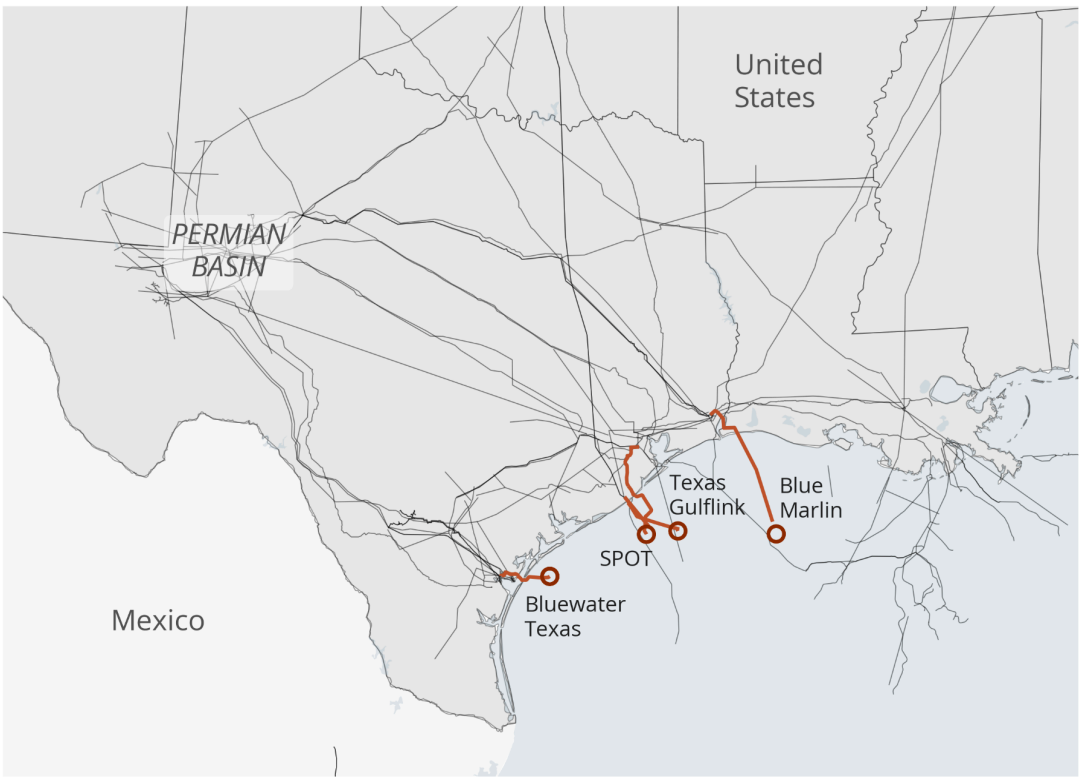
The fervor for oil exports is exemplified by developments in North America, in particular along the U.S. Gulf Coast. While the U.S. isn't leading the global buildout by km or costs, these shorelines are already a major global export hub, with terminals and refineries processing crude oil and other liquids from the Permian basin and the Cushing, Oklahoma storage hub to send them abroad.

Last year, the U.S. hit record oil production and export numbers, and this year, the trend is expected to continue, with recent forecasts of even higher production. But the Permian's takeaway capacity — the volume of oil and gas it can export now with existing pipeline infrastructure — is near its limit and may be maxed out by the end of 2024. Thus, each new pipeline and expansion project adds only marginal takeaway capacity that producers bank on. Currently, seven major projects are in development to reduce that constraint, four of which connect directly to proposed oil export terminals.

The U.S. is developing massive crude oil export capacity along the Gulf Coast

Four proposed deepwater oil export terminals, and related pipelines, will increase the Permian basin's access to international markets



Note: Proposed projects are shown in shades of orange or brown, and operating pipelines are shown in gray.

Source: Global Oil Infrastructure Tracker, Global Energy Monitor

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There are four crude oil export terminals currently in development off the Texas and Louisiana coasts, each of which would be able to dock giant crude carriers and export up to two billion barrels of oil per day. The most imminent is Sea Port Oil Terminal (SPOT), which in April 2024 was issued a deepwater port license by the U.S. Maritime Administration (MARAD).

Proposed offshore U.S. export terminals by the numbers

Planned export capacity in barrels per day (bpd)

Oil terminal	Export capacity	Owner(s)	Start year
Sea Port Oil Terminal (SPOT)	2,000,000 bpd	Enbridge, Enterprise Products Partners	2027
Bluewater Texas (BWTX) Terminal	1,920,000 bpd	Phillips 66, Trafigura	2026-2027
Blue Marlin Offshore Port	1,900,000 bpd	Energy Transfer	2027
Texas GulfLink Deepwater Port	1,100,000 bpd	Sentinel Midstream	2026-2027

Source: Global Oil Infrastructure Tracker, Global Energy Monitor

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In the U.S., the development of pipelines and export terminals will continue to move in tandem. Additional export capacity will spur further oil production, and the oil production will be accompanied by increased gas production, as the majority of gas produced in the Permian is associated gas (meaning it is found with petroleum deposits and comes out of the ground alongside oil). The recent pause on liquefied natural gas (LNG) export approvals by the Biden administration has been a temporary obstacle in the global LNG export race. But because much of Permian gas is associated, approving and building oil export terminals could erode any case for further pausing or rejecting LNG export capacity. The oil and gas have to go somewhere.

At a time when scientists agree any additional fossil fuel extraction will cause unsafe levels of climate warming — and in a geopolitical context where additional fossil fuel exports out of the U.S. decrease energy security everywhere by increasing energy price volatility at home and abroad — expansions like this are climate-damaging bets on an uncertain future.

About the Global Oil Infrastructure Tracker

The Global Oil Infrastructure Tracker (GOIT) is an information resource on crude oil and natural gas liquids (NGL) transmission pipeline projects and their development. Currently, GOIT attempts to include all global crude oil and NGL transmission pipelines of any status, though availability on this infrastructure varies across countries and regions, and some are researched more completely than others.

Background on Global Energy Monitor

Global Energy Monitor (GEM) develops and shares information in support of the worldwide movement for clean energy. By studying the evolving international energy landscape, creating databases, reports, and interactive tools that enhance understanding, GEM seeks to build an open guide to the world's energy system. Follow us at www.globalenergymonitor.org and on Twitter @GlobalEnergyMon

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