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GREEN GOLD SPECIAL · GUAR GUM × CRUDE OIL · 13 NOV 2026

Green Gold, Black Gold, Yellow Gold

Guar Gum Doubles in a Year – How American Shale Meets Rajasthan's Rainfed Crop

Yellow gold rallied first, black gold doubled during the Middle East war – and now green gold, the guar bean of Rajasthan, is up 108% from its November 2025 low. This deck explains the link between US fracking, Indian exports and guar prices – with data, facts and charts.



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Yellow gold peaked in January, black gold doubled by spring – and green gold has doubled over the year

YELLOW GOLD
Bullion – the monetary metal

Spot gold peaked at $5,595/oz in January 2026 and was quoted at $3,948.82 on 12 November: a 29.4% drawdown as the dollar and Fed-hike bets rallied.

−29.4%

Jan peak to 12 Nov

BLACK GOLD
Brent crude – the energy input

From roughly $60/b at the start of 2026, Brent spiked to $119.25 during the Middle East war – almost double – before retreating to $93.36 on 12 November.

+99%

Early-2026 level to 2026 peak

GREEN GOLD
Guar gum – the fracking bean

NCDEX guar gum rose from a November 2025 trough of ₹8,251/qtl to ₹17,193 on 12 November 2026 – a gain of 108%; the latest close of ₹16,983 is still +106%.

+108%

Nov-25 low to 12 Nov high

KEY INSIGHT

Three golds, three different cycles: bullion is correcting, crude has given back half its war premium – only green gold is still at its highs.

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NCDEX guar gum: from ₹8,251 in November 2025 to ₹17,193 – a 108% rise, with every pullback bought



+108%

Nov-25 low ₹8,251 to the 12 Nov high of ₹17,193 (derived)

₹16,983

Close on 12 Nov 2026 – above the 50-day (₹14,512) and 200-day (₹11,966) averages

200% / 261.8%

Fibonacci extensions at ₹16,509 cleared; next projection ₹19,061

KEY INSIGHT

Guar has moved in three legs – December, August and October – and each consolidation held above the previous breakout level.

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Guar is a rainfed kharif bean – India grows 80% of the world's crop and exports 90% of the gum it processes

Sown
July – early Aug

Grown
14–16 weeks, rainfed

Harvested
Late Oct – early Nov

Processed
Seed → splits → gum powder

Exported
~90% of processed gum

80%
India's share of world guar production (APEDA)

72%
Of India's guar comes from Rajasthan – one state, one monsoon

~90%
Of exported guar gum goes to oil and shale-gas extraction (APEDA)

4.75 lakh t
FY25 guar gum exports worth $550 million (DGCIS) – a record volume

KEY INSIGHT

One crop, one state, one monsoon and one customer industry – that concentration is why guar can double when American demand meets a weak Rajasthan harvest.

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Guar thickens the water that carries sand into a shale fracture – no viscosity, no proppant placement

Water
Millions of gallons per horizontal well

+ Guar gel
16–20 gal/1,000 gal light gel; cross-linked for strength

Viscosity
100–500 cP for gel vs 2–5 cP for slickwater

+ Proppant
Sand stays suspended and is carried deep into the fracture

Hydrocarbons flow
Sand props the fracture open after the gel breaks

Guar is the additive, sand is the proppant

Guar-derived polymers thicken water-based fracturing fluid so it can transport sand into the fracture; the sand – not the guar – keeps the rock open. More completions mean more fluid and more guar, if the fluid design still uses it.

Why oilfields prefer guar

It is the most efficient natural gel per unit of viscosity, works in fresh, saline and produced water, and does not need the 50–120 barrel-per-minute pump rates that low-viscosity slickwater relies on to move sand.

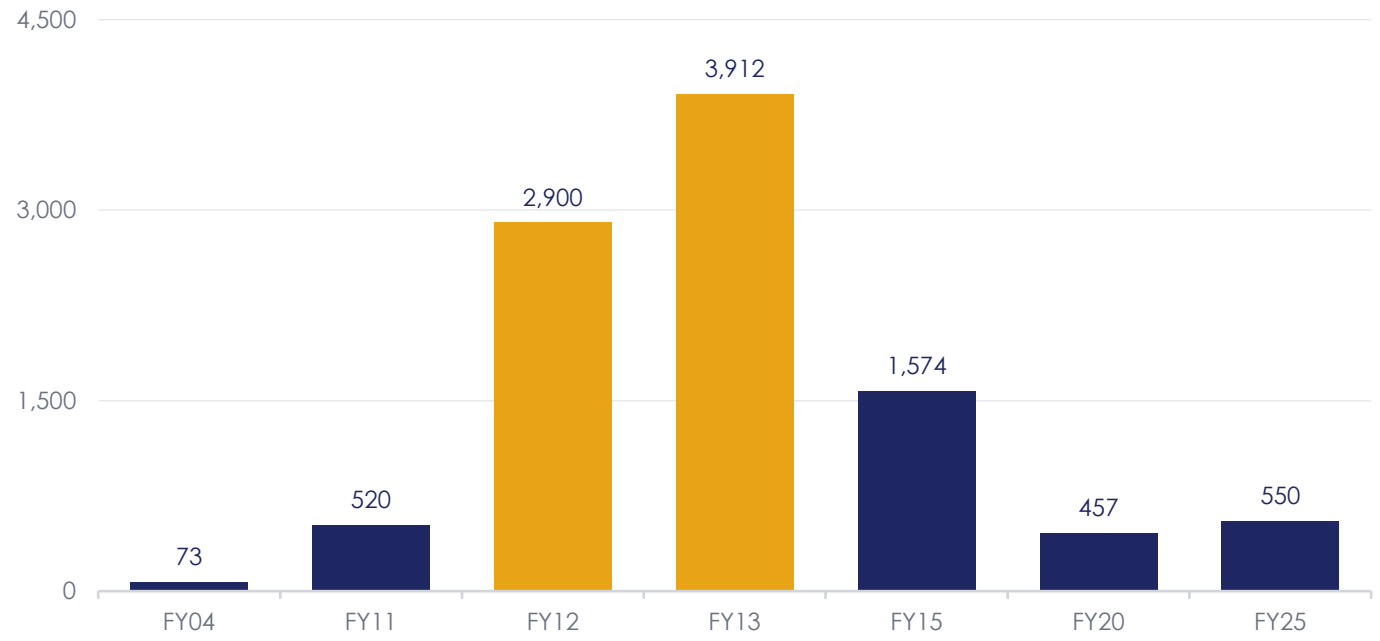
KEY INSIGHT

Every fracked well is a chemistry order – and for gelled and hybrid fluid designs, that order still starts with a bean grown in Rajasthan.

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The first shale boom took guar to ₹95,920 a quintal and made it India's largest agricultural export

India guar gum exports by financial year (US$ million)



₹95,920

NCDEX guar gum peak, March 2012 – today's ₹17,193 is still 82% below it

60% / 81%

US share of FY13 guar gum export volume / value – the shale customer

22–27 Mar 2012

FMC banned fresh positions and forced close-out of guar contracts

KEY INSIGHT

2012 was shale demand plus an Indian drought scare plus precautionary stockpiling by US buyers – the same three ingredients the market is watching now.

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Brent doubled to $119 on Middle East shut-ins – and has corrected to $93 as the war premium unwinds



$119.25

2026 Brent high – nearly double the ~$60 start-of-year level; close $93.36 on 12 Nov

10.9 → 2.5 mb/d

Middle East production shut-ins: May peak vs October (EIA Nov STEO)

409.8 mb

US commercial crude stocks, 30 Oct – lowest end-October since 2014

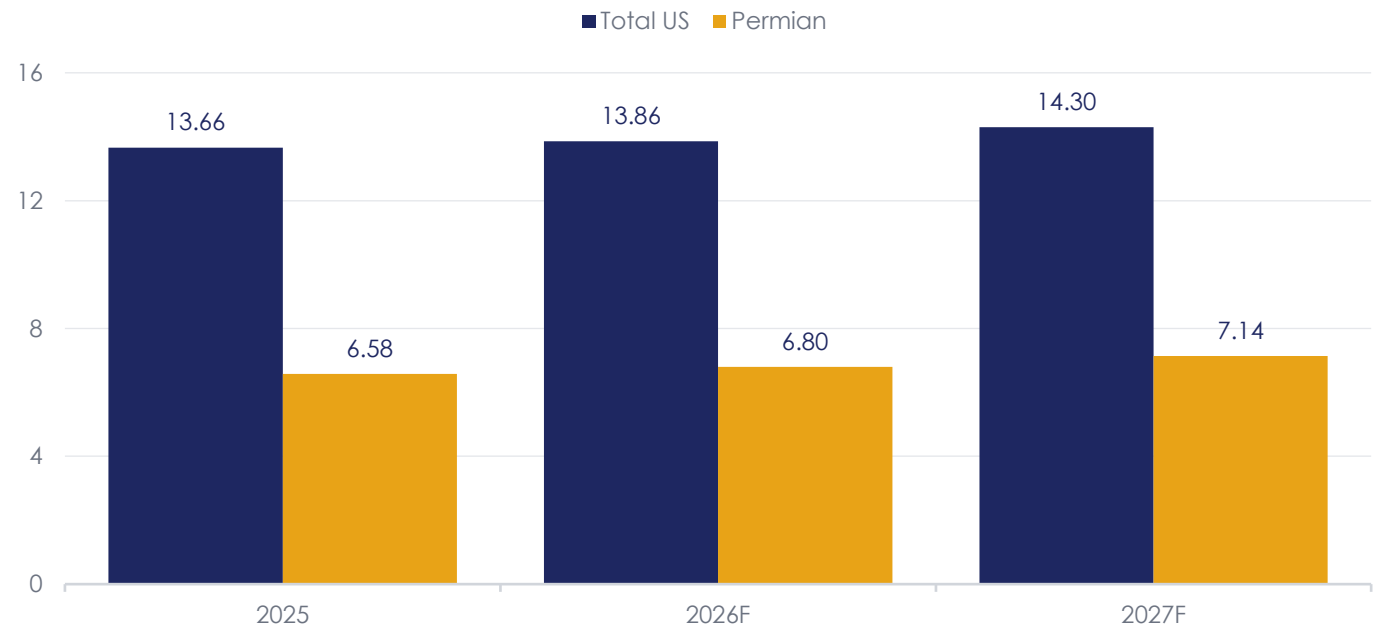
KEY INSIGHT

Oil at $90–120 for most of 2026 is the strongest incentive American shale has had since 2022 – that is what fills the guar order book with a lag.

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US crude output is at a record 13.9 mb/d and the EIA sees 14.3 mb/d in 2027 – led by the Permian

US crude oil production (million b/d) – EIA forecast, November 2026 STEO



13.97 mb/d

US crude production, August 2026 – +130 kb/d year on year (EIA/OPEC)

+1.5% / +3.2%

EIA growth forecast for 2026 and 2027 (derived from STEO Table 4a)

7.14 mb/d

Permian output in 2027F – +5% on 2026, half of all US crude

KEY INSIGHT

The United States is the world's largest crude producer and almost every incremental barrel comes from fracked shale – that is the addressable market for guar.

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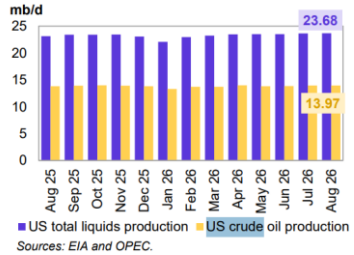
Two-thirds of US crude is tight oil – 9.4 mb/d that only flows because it was fracked

US tight oil	2025	Change 2025/24	2026*	Change 2026/25	2027*	Change 2027/26
Permian tight	5.97	0.25	6.12	0.15	6.16	0.04
Bakken shale	1.20	-0.02	1.17	-0.03	1.16	-0.01
Eagle Ford shale	1.02	0.01	0.98	-0.04	0.97	-0.01
Niobrara shale	0.47	-0.01	0.45	-0.02	0.45	0.00
Other tight plays	0.69	0.03	0.68	-0.02	0.67	-0.01
Total	**9.35**	**0.26**	**9.40**	**0.05**	**9.41**	**0.01**

*Note: * 2026 and 2027 = Forecast.*

Sources: EIA and OPEC.

Graph 5 - 5: US monthly crude oil and total liquids production



Sources: EIA and OPEC.

Table 5 - 3: US crude oil production by selected state and region, tb/d

State	Aug 25	Jul 26	Aug 26	Change m-o-m	Change y-o-y
Texas	5,836	5,768	5,710	-58	-126
New Mexico	2,243	2,424	2,442	18	199
Gulf of Mexico (GoM)	2,025	2,043	2,075	32	50
North Dakota	1,175	1,157	1,164	7	-11
Colorado	477	442	454	12	-23
Alaska	387	421	427	6	40
Oklahoma	393	393	386	-7	-7
Total	13,835	13,946	13,965	19	130

Sources: EIA and OPEC.

68%

Tight oil share of US crude in 2026: 9.40 of 13.86 mb/d (derived)

6.12 mb/d

Permian tight oil 2026F – +150 kb/d; Bakken, Eagle Ford and Niobrara flat to lower

New Mexico +199 kb/d

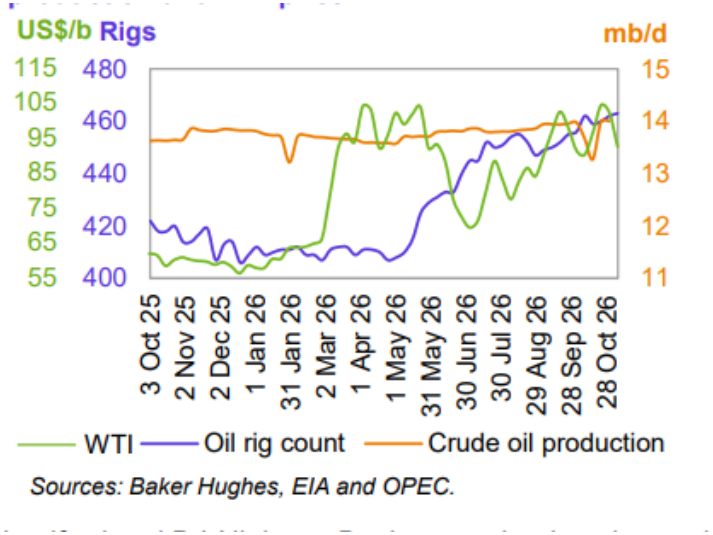
Largest year-on-year gain by state (Aug 26) – Delaware Basin drilling

KEY INSIGHT

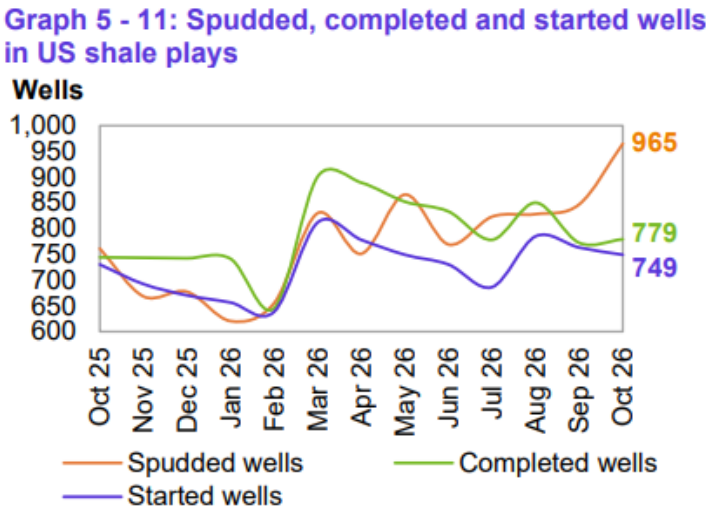
Shale is not a side-show in America – it is two-thirds of the barrel, and keeping it flat requires thousands of new frac jobs every year because shale wells decline fast.

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Rig count up 10% in a year, completions up 12% – it is completions, not rigs, that pump guar



Sources: Baker Hughes, EIA and OPEC.



Note: Sep 26-Oct 26 = Preliminary data.
Sources: Rystad Energy and OPEC.

604 rigs

US active rigs, 6 Nov 2026 – +56 year on year (+10.2%); 529 horizontal

779 completed

Horizontal wells completed in October (prelim.) – September up ~12% y/y

965 spudded

Wells spudded in October – the pipeline of future frac jobs (Rystad)

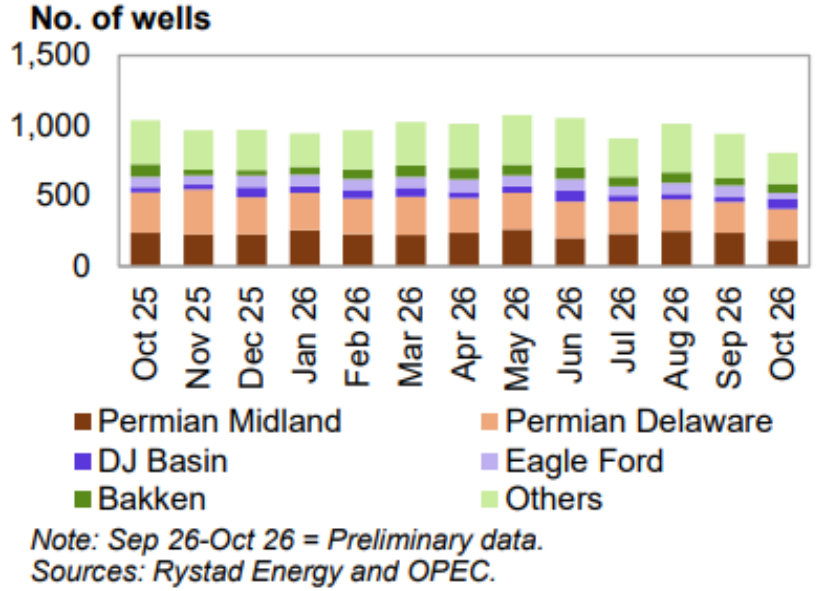
KEY INSIGHT

Drilling makes a well, fracturing makes it produce – guar is bought at the completion stage, so watch completed wells and started fracs, not just the rig count.

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Around 800–1,000 frac jobs start every month – the Permian is nearly half of them

Graph 5 - 12: Started fracs per month by region

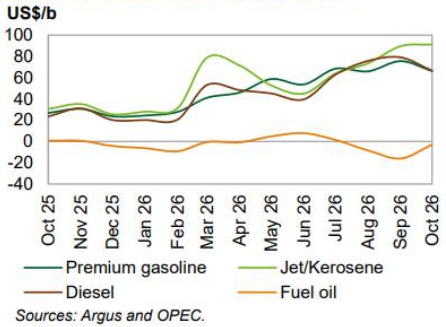


Note: Sep 26-Oct 26 = Preliminary data.
Sources: Rystad Energy and OPEC.

Rig Count Overview & Summary Count

Area	Last Count	Count	Change from Prior Count	Date of Prior Count	Change from Last Year	Date of Last Year's Count
U.S.	06 Nov 2026	604	+1	30 Oct 2026	+56	06 Nov 2025
Canada	06 Nov 2026	223	-3	30 Oct 2026	+32	06 Nov 2025
International	Oct 2026	1111	-11	Sept 2026	+52	Oct 2025

Graph 6 - 3: US Gulf crack spread vs. WTI



Sources: Argus and OPEC.

1,014 / 944 / 806

Wells that began fracking in Aug / Sep / Oct 2026 (satellite data, prelim.)

456

Permian Midland + Delaware fracs started in September – 48% of the total

$66–91/b

USGC gasoline / jet crack spreads in Oct – refiners still paying up for crude

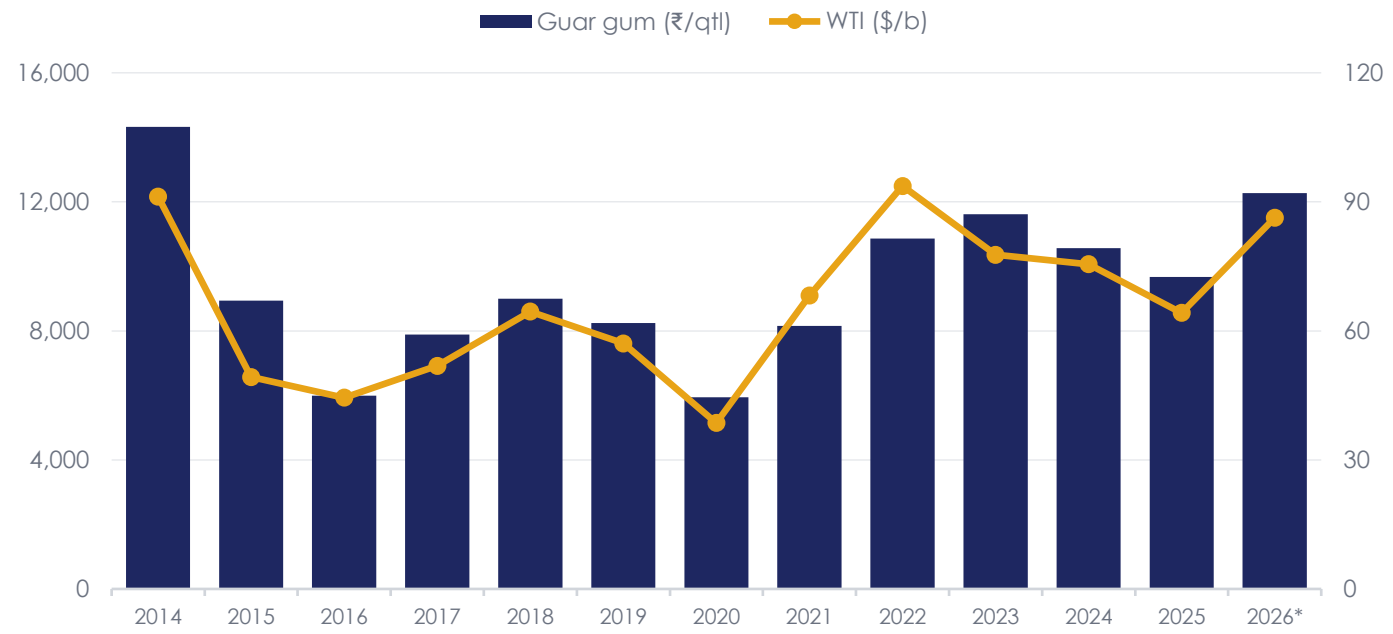
KEY INSIGHT

A thousand frac jobs a month, each pumping millions of gallons of fluid – the October dip is seasonal budget exhaustion, not a change of trend.

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Thirteen years of data: guar gum and WTI move together – a 0.77 correlation in price levels

Annual average price – NCDEX guar gum (₹/qtl, bars) vs NYMEX WTI ($/b, line); *2026 to 12 Nov



0.77

Correlation of monthly price levels, guar gum vs WTI, May 2013 – Nov 2026 (163 months)

0.64

Correlation of year-on-year % changes – the trend link is strong

0.21

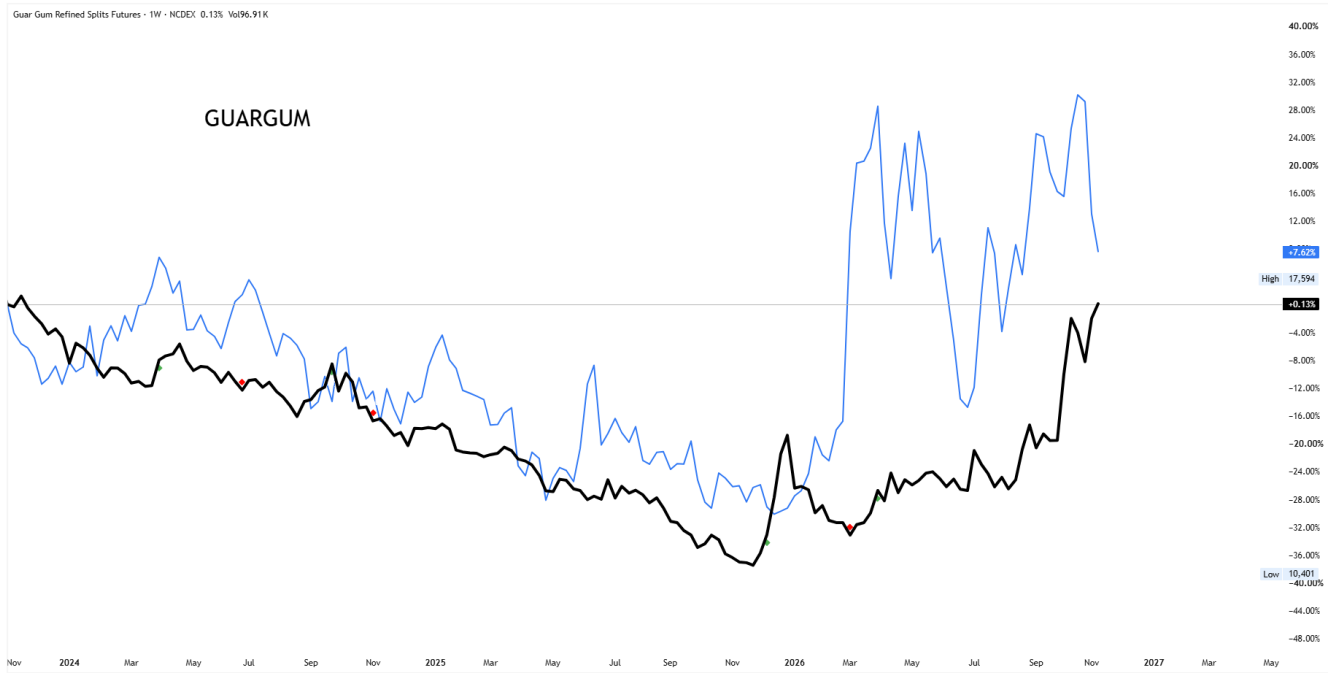
Correlation of month-to-month returns – the short-term link is weak

KEY INSIGHT

Guar follows crude's cycle, not its daily ticks: the 2015–16 and 2020 oil busts and the 2022 and 2026 booms all show up in the guar average a few months later.

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The weekly overlay: crude led in March, guar caught up through the autumn – and has kept rising as oil corrected



Mar 2026

WTI jumped to $101 on the war; guar's first breakout came five months later, in August

+31% vs +0%

WTI (blue) vs guar (black) two-year change at the September peak – the gap has since closed

Divergence now

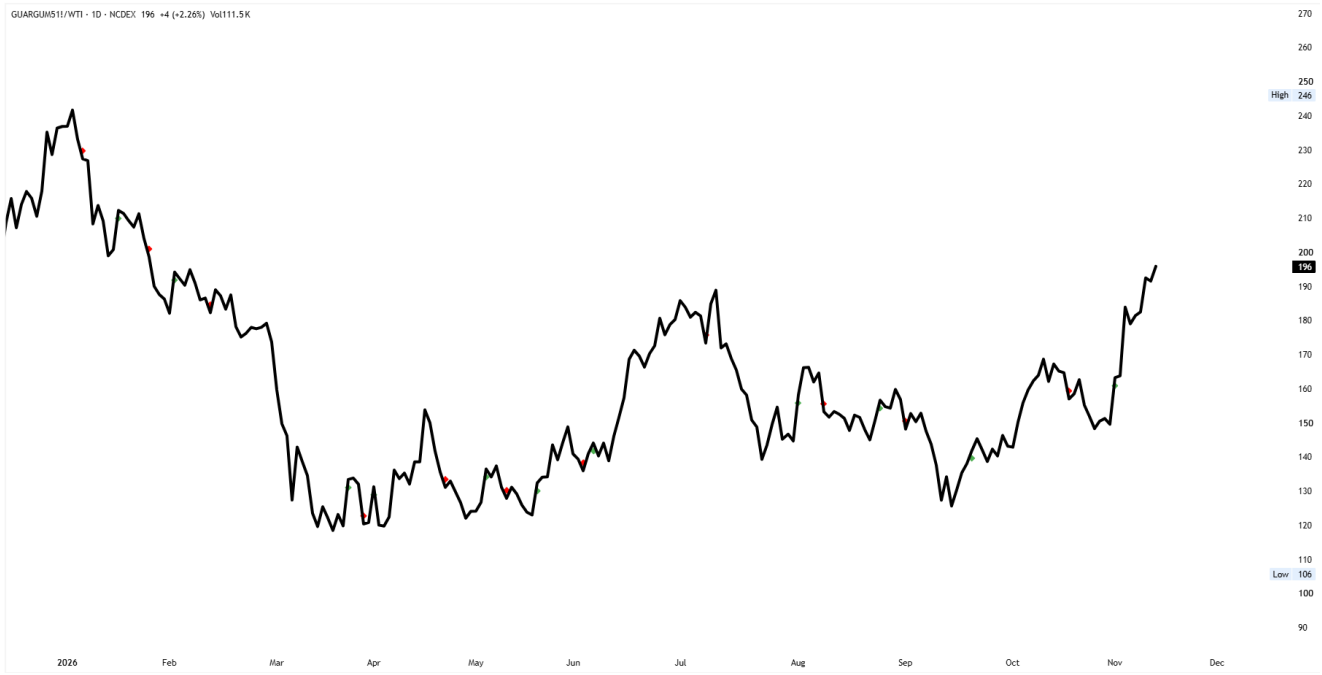
WTI has given back half its gain; guar is at new highs on the Rajasthan crop and thin stocks

KEY INSIGHT

Crude explains the opportunity, Rajasthan explains the timing – the autumn catch-up is the energy signal arriving on top of a short crop.

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Guar is now expensive relative to crude: the guar/WTI ratio has climbed from 106 to 196



196

Guar gum (₹/qtl) ÷ WTI ($/b) on 12 Nov 2026 – up from 106 at the March low

246

Ratio high of the year, in January – when guar was firm and crude still cheap

Crude-neutral

A ratio above 190 means guar is pricing its own supply story, not just oil

KEY INSIGHT

When the ratio was 106 guar was cheap against crude and had room to catch up; at 196 the catch-up is done – from here the crop and completions must do the work.

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From a barrel to a bean: the demand chain has seven links and a lag of several months

Oil price
$80–120 WTI improves well economics

Budgets
Operators approve drilling and completion programmes

Completions
Frac crews pump fluid – gel, hybrid or slickwater

Service cos.
Halliburton, SLB and others order gelling agents

Importers
US chemical suppliers buy processed guar

Exporters
Indian gum exporters – Jodhpur, Ahmedabad, Siwan

Farmers
Rajasthan seed arrivals and mandi prices

Why the lag

Budgets, crews, contracts and completion schedules sit between an oil-price jump and a chemical order – typically a quarter or more.

Why stocking amplifies

Buyers who fear a short Indian crop order ahead – as in 2012 – so demand arrives in a bunch, not a trickle.

Why it can reverse

A crude slump, a budget cut or a switch to slickwater can empty the order book just as fast.

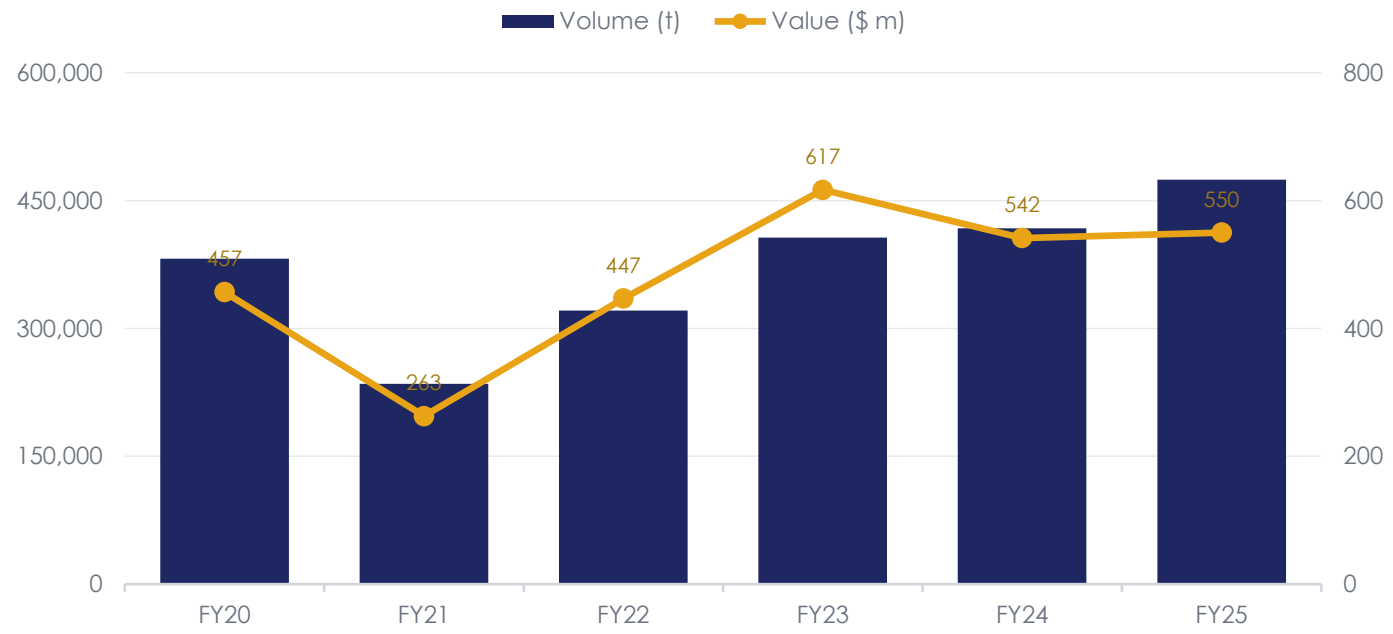
KEY INSIGHT

This chain is why guar lagged crude by five months in 2026 – and why it can keep rising after oil's first correction while the orders already placed are still being filled.

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Guar gum exports hit a record 4.75 lakh tonnes in FY25 – volumes have doubled since the FY21 Covid trough

India guar gum exports – volume (tonnes, bars) and value (US$ million, line)



+102%

FY25 volume vs FY21: 4,74,519 t vs 2,35,000 t (derived)

$1,159/t

FY25 average realisation ($550 m ÷ 4.75 lakh t) – a fraction of 2012's $5,000–12,000

FY26 ~4.76 lakh t

Trade estimate for 2025-26 – another record, pending DGCIS confirmation

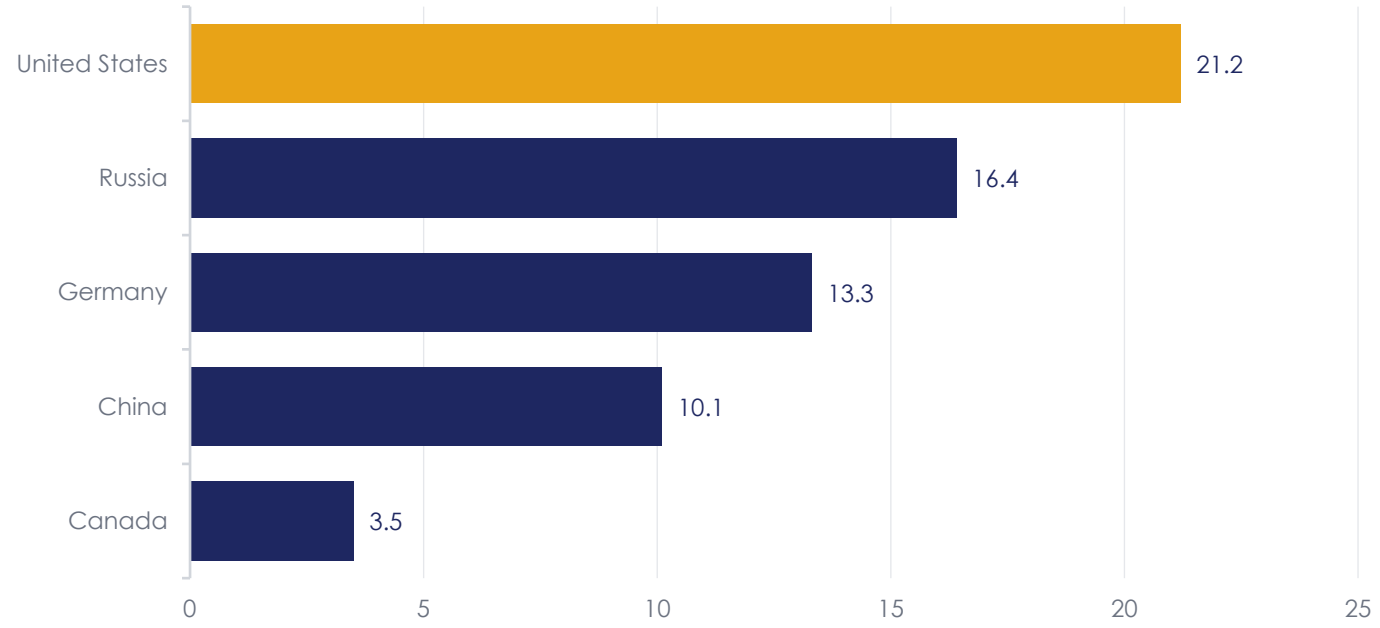
KEY INSIGHT

Volumes are back at 2012-boom levels but at one-fifth of the price – the 2026 rally is the market finally repricing a record export tonnage against a short crop.

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The United States is still the largest buyer – but its share has fallen from 60% in 2013 to 21% as fluid designs changed

India guar gum exports by destination, 2024 – share of volume (%)



21% → 23%

US share of India's 2024 guar gum exports – volume and value (UN Comtrade)

60% / 81%

US share of volume / value in FY13 – when gelled fluids dominated fracking

Russia 16%

Second buyer – Black Sea and Siberian fracking plus food use; Germany, China next

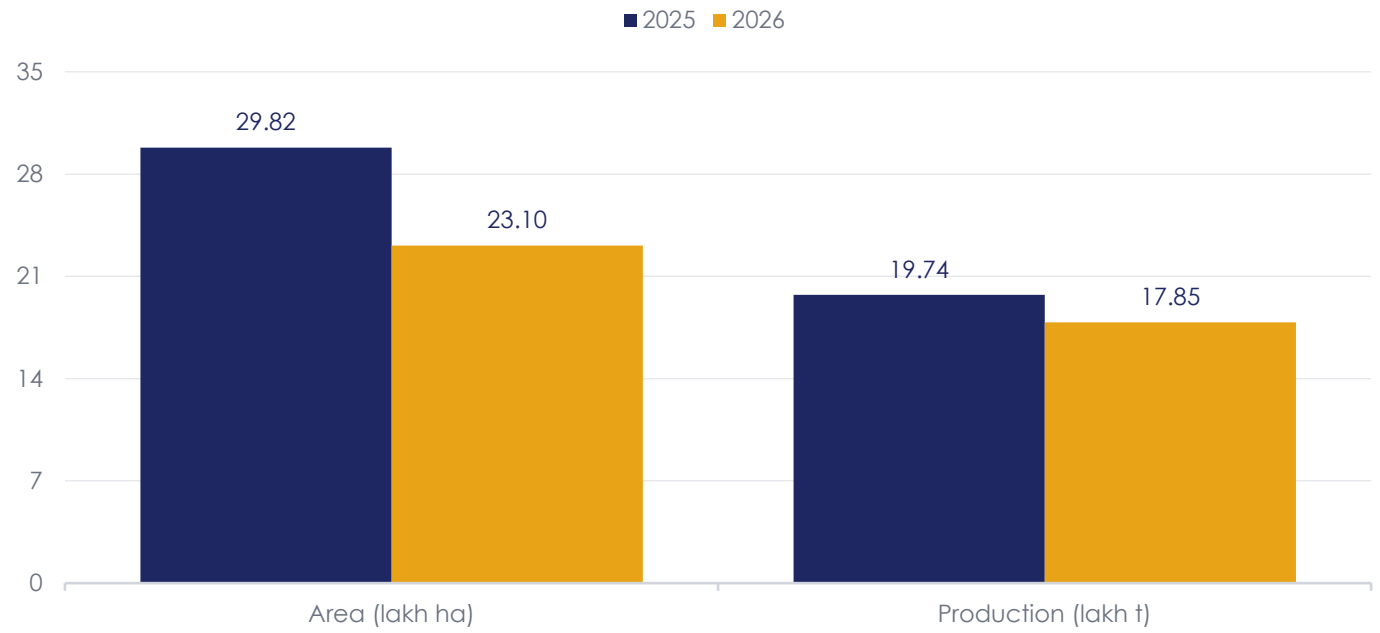
KEY INSIGHT

America is still the swing buyer – but the fall in its share shows slickwater took work from guar; the 2026 upcycle is winning some of that back at the margin, not all of it.

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Rajasthan's guar area fell 22% and output 10% in 2026 – after two years of farmers walking away from the crop

Rajasthan guar – area (lakh ha) and production (lakh tonnes), 2025 vs 2026 (provisional)



−22.5%

Area: 23.10 vs 29.82 lakh ha – 12% short of the 25.5 lakh ha target

−9.6%

Production: 17.85 vs 19.74 lakh t (state estimate, provisional)

36–37 lakh bags

Trade estimate of the 2026 crop vs 70–72 lakh bags in a normal year – about half

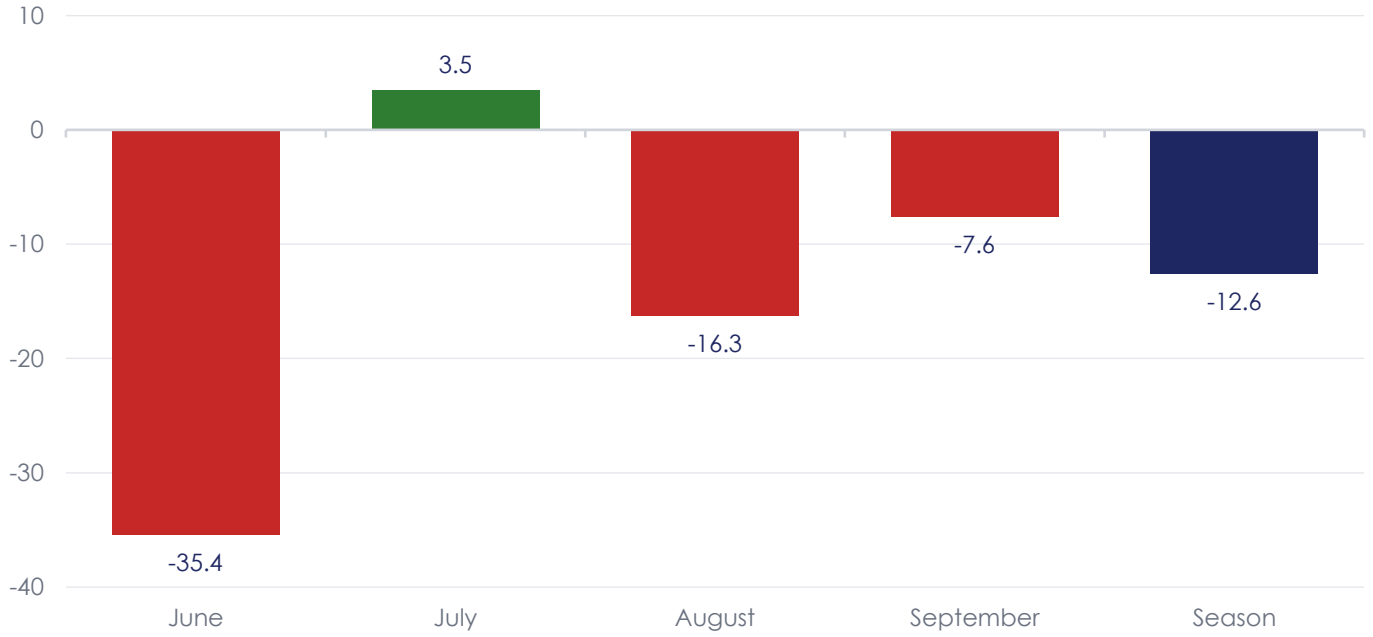
KEY INSIGHT

The official number says −10%, the trade says −50% – either way the market is pricing the smaller figure, because stocks were already lean when the crop came in.

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A 12.6% rainfall deficit with a 35% shortfall in June – and IMD calls the El Niño very strong

All-India monsoon rainfall 2026 – departure from normal by month (%)



759.4 mm

June–September 2026 all-India rainfall – 12.6% below the long-period average

–23%

Jodhpur division deficit by 21 Aug – the heart of the guar belt; Rajasthan –14%

Very strong El Niño

IMD, 31 Oct: conditions to persist through Nov–Dec; 84% odds of a weak monsoon were flagged in May

KEY INSIGHT

Guar survives drought but does not yield in it – a late and deficient monsoon in western Rajasthan is what turned a smaller area into a much smaller crop.

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Carry-over is lean, processing capacity has shrunk and the meal by-product now supports the seed price

Carry-over stocks are lean

After two small crops, visible seed stocks were described as lean even before the 2026 harvest; farmers holding for higher prices keep offered supply tighter than physical supply.

Mills have closed

A significant share of gum mills shut over the past 10–15 years; units in Haryana's Siwan belt closed in 2025-26. Capacity reactivation takes time and working capital.

Korma and churi – the feed leg

Guar korma carries ~52.7% protein (churi ~32–33%). Better meal realisations raise what processors can pay for seed – and bring more gum to market when they crush.

₹70–71/kg

All-India median guar seed mandi price, late Oct – 60–70% above a year ago

+35–40%

Guar seed export price gain Jul → Oct 2026 ($0.62 → $0.87/kg)

€4.02/kg

Organic guar gum FOB New Delhi, 24 Oct – stable while seed rallied

Hand-to-mouth

Consuming industries largely absent from spot – buyers now planning late-2026 / early-2027 needs

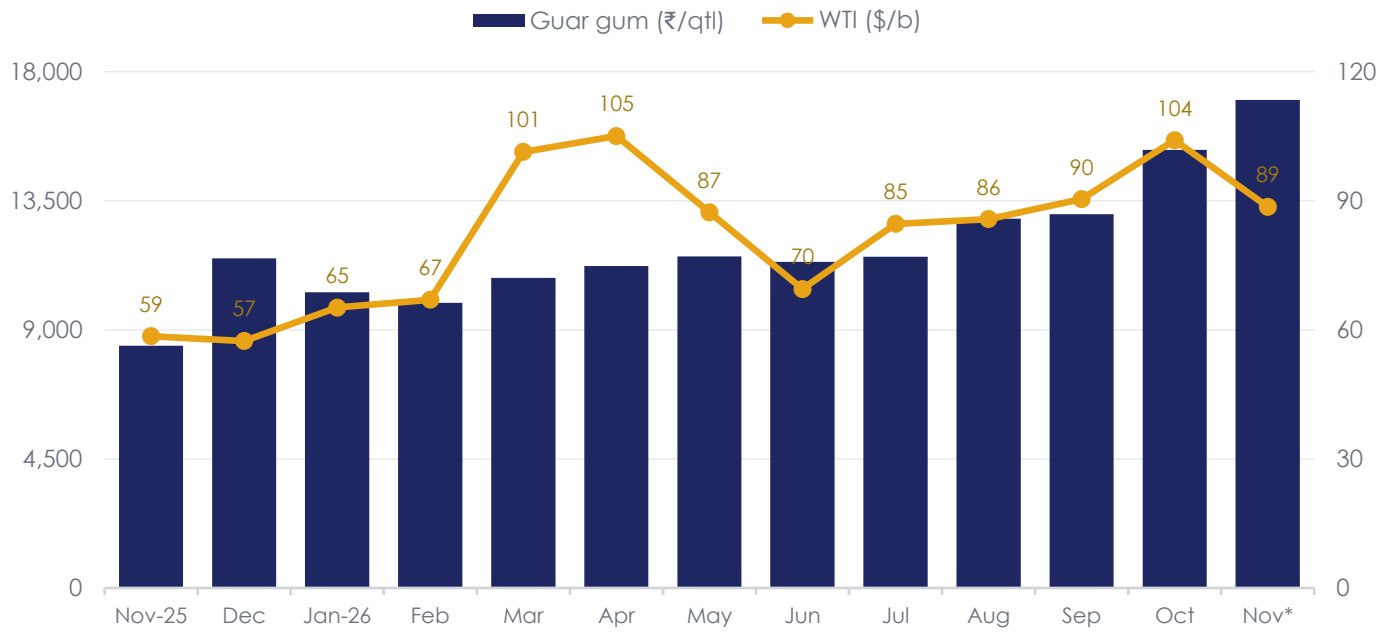
KEY INSIGHT

A price spike can reflect a shortage of purchasable stock even when total inventories are larger – watch arrivals, spot premiums and delivery behaviour, not the futures alone.

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Guar vs WTI month by month: oil spiked in March, guar waited for the crop – then ran from August

Monthly close – NCDEX guar gum (₹/qtl, bars) vs WTI ($/b, line); *Nov = to 12 Nov



1

December 2025: +36%

First leg on a small 2025 crop and old-stock tightness

2

March–April: oil +51%

WTI $67 → $101 on the war; guar flat at ₹10,800–11,200 – the lag

3

Aug–Nov: guar +47%

₹11,548 → ₹17,019 as the deficient monsoon met the US order book

KEY INSIGHT

Guar gum is up 101% on a monthly-close basis since November 2025, WTI up 51% – and most of guar's gain came after oil had already peaked.

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Slickwater and synthetic polymers can frac a well with little or no guar – the relationship is conditional, not fixed

THE FORMULA

Guar demand = completions × fluid volume × guar intensity

US production and rig counts set the first two terms. Technology sets the third – and it has been falling for a decade.

16–20 gpt	1–10 gpt	0.5–1 gpt
light guar gel loading	HVFR synthetic polymer	slickwater friction reducer

The SLB case study

In Oklahoma's Osage formation an engineered viscous slickwater replaced a guar-containing hybrid fluid, raised proppant loading and improved production by 35% – with zero guar.

Already visible in trade data

The US share of India's guar gum exports fell from ~60% of volume in FY13 to 21% in 2024 even as US oil output rose 60% – intensity per barrel has dropped.

Where guar keeps its share

High-salinity produced water, hybrid designs and reservoirs needing fracture width still favour guar gels – and a short, expensive crop pushes operators the other way.

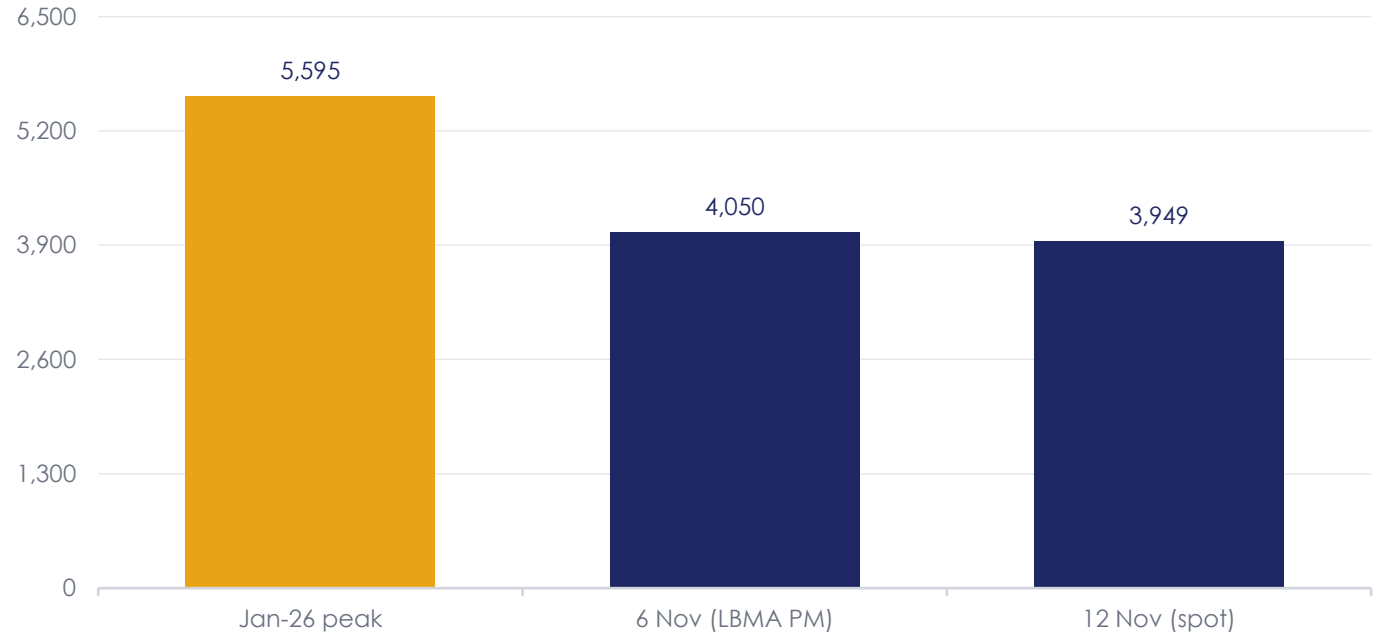
KEY INSIGHT

More American barrels enlarge guar's addressable market; technology decides how much of it guar captures – high prices today invite substitution tomorrow, exactly as in 2013.

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Gold is money, not an input – oil-led inflation lifted rate expectations and the dollar, and bullion fell 29%

Spot gold – 2026 milestones (US$/oz)



Rates and the dollar

Energy inflation lifted Fed-hike bets; a stronger dollar and higher real yields raise the cost of holding bullion.

−29% from peak, −7% YTD

A near-30% peak drawdown and a 7.3% year-to-date loss are different measures – both are true.

No rotation proven

Gold's weakness is context for guar's strength, not its cause – the two respond to different balances.

KEY INSIGHT

Oil responds to physical balances, gold to monetary conditions, guar to industrial procurement plus a rainfed crop – three golds, three different exposures.

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The checklist: what keeps green gold bid – and what would end the rally

WHAT KEEPS IT BID

US completions and started fracs

Rising completions and 900+ fracs a month keep the order book full

WTI holds $80+

Keeps 2027 drilling budgets intact; EIA sees $80 average in 2027

Rajasthan crop revisions lower

Final estimates near the trade's 36–37 lakh bags would confirm the deficit

Thin arrivals, spot premiums

Persistent difficulty sourcing gum grade would prove the squeeze is physical

WHAT WOULD END IT

Crude slump below $70

Budget cuts at US operators hit completions within a quarter

Slickwater share rising

Every well redesigned away from gel lowers guar intensity permanently

Harvest-led selling

A bigger-than-feared crop or farmer selling into ₹17,000 would lift arrivals

Export tonnage stalls

If FY26 shipments do not grow, the demand story is price, not volume

KEY INSIGHT

Judge the next leg on physical evidence – completions, arrivals, export tonnage and processor margins – not on the next tick in Brent.

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Five things to remember about green gold

1	**Three golds, one year**	Gold −29% from its January peak, Brent doubled then halved its gain, guar gum +108% – and only guar is still at its highs.
2	**Crude sets the market size**	US output at a record 13.9 mb/d, two-thirds of it fracked; rigs +10%, completions +12% – guar's addressable market is growing.
3	**The link is real but lagged**	0.77 correlation in levels, 0.64 in yearly changes, 0.21 month to month – guar follows crude's cycle, with a lag of a quarter or more.
4	**Rajasthan set the timing**	Area −22%, a 12.6% rainfall deficit, a crop the trade calls half of normal, lean stocks and shut mills – that is why 2026 doubled.
5	**2012 is the warning**	Record export tonnage at one-fifth of 2012 prices; high prices invite acreage and slickwater substitution – watch completions and arrivals, not Brent alone.

PUNCH LINE

Black gold created the incentive to invest, the monsoon set the price of securing the input – green gold's doubling is where American shale meets a rainfed Indian crop.

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