

COMMEMTARY

# IT'S NOT ONLY THE OIL, STUPID

## The Helium Game

Who wins, who loses — and why the question 'Cui bono?' explains everything in the end



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# CLEAN ENERGY MAGAZINE

COMMENTARY / EDITOR-IN-CHIEF

OPINION · GEOPOLITICS · RESOURCE STRATEGY

## The Helium Game:

***Who wins, who loses — and why the question 'Cui bono?' explains everything in the end***

*Juergen Wieshoff, Editor-in-Chief | Clean Energy Magazine | March 20, 2026*

*There is a resource without which not a single chip smaller than 7 nanometres can be produced anywhere in the world. A gas that cannot be substituted, cannot be synthesised, and that almost nobody has heard of. It is not silicon. It is not neodymium. It is helium. And since March 18, 2026, one third of the global supply has vanished from the market for up to five years — as the consequence of a cascade of military decisions whose beneficiaries are emerging with remarkable precision.*

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### Helium — the nervous system of chip production

Helium is the second lightest element in the universe and a non-renewable resource on Earth. It forms through the radioactive decay of uranium and thorium in the Earth's crust, accumulates in natural gas formations, and is recovered as a by-product during the liquefaction of natural gas. Once released into the atmosphere it is irretrievably lost — too light to be held by Earth's gravity.

In semiconductor manufacturing, helium is indispensable at no fewer than four critical process steps — and at each of them there is no substitute:

- ▶ EUV lithography: Helium is the only gas that is transparent to extreme ultraviolet radiation, chemically inert and thermally stable. Without a helium purge in the optical path of ASML machines, ambient air absorbs EUV radiation entirely. No helium — no EUV. No EUV — no chips below 7 nanometres.
- ▶ Plasma etching and deposition: Helium serves as carrier and cooling gas in the nanometre-precision structuring of chip layers.
- ▶ Cryogenic cooling: Superconducting magnets in MRI systems and quantum computing infrastructure require temperatures near absolute zero — achievable only with liquid helium.
- ▶ Cleanroom atmosphere and leak detection: Helium diffuses through the smallest gaps, making it the ideal test gas for high-vacuum systems.

**"A lot of the world doesn't run without semiconductors — and you can't make semiconductors without helium, period."**

Rich Gottwald, CEO, Compressed Gas Association, March 2026

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## Who produces helium — and who does not

Global helium production is extremely concentrated. According to the USGS Mineral Commodity Summaries 2026, annual production amounts to approximately 190 million cubic metres. Two countries dominate:

Country / Producer	Production 2025	World Share	Status
USA	81 million m <sup>3</sup>	42.6%	Stable — Hormuz-immune
<b>Qatar — Ras Laffan</b>	63 million m <sup>3</sup>	33.2%	<b>⚠ OFFLINE — up to 5 years</b>
Russia (Amur GPP)	~15 million m <sup>3</sup>	~7.9%	Ramp-up ongoing
Algeria	10 million m <sup>3</sup>	5.3%	Stable
Canada	~5 million m <sup>3</sup>	~2.6%	Growing
China	~3 million m <sup>3</sup>	~1.6%	Expanding, slowly
Others	~13 million m <sup>3</sup>	~6.8%	Diversified

The United States and Qatar alone account for approximately 76 percent of global production. Reserves stand at 20.6 billion m<sup>3</sup> in the United States and 10.1 billion m<sup>3</sup> in Qatar — with Qatar's North Dome field being geologically continuous with Iran's South Pars field. That geological fact is decisive for everything that follows.

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## The war and its cascade — the complete chronology

To understand what happened on March 18, one must know the full arc of events. It does not begin with helium. It ends with helium.

Date	Event
Feb 28, 2026	The United States and Israel launch a joint military offensive against Iran. Ayatollah Khamenei is killed. Iran immediately announces retaliation.
Mar 2, 2026	Iran strikes energy infrastructure across the Gulf region with drones. Ras Laffan Industrial City in Qatar — the world's largest LNG export complex and most important helium production centre — is hit. QatarEnergy immediately halts all LNG and helium output.
Mar 4, 2026	QatarEnergy declares force majeure on all affected contracts. Helium spot prices rise 70–100% within days.
Mar 4–17	The Strait of Hormuz remains largely closed to commercial shipping. Around 33% of global helium is not merely unproduced — it cannot exit the Gulf. Even existing inventories sit stranded in blocked tanks.
<b>Mar 18, 2026</b>	<b>Israel strikes South Pars — the Iranian counterpart to Qatar's North Dome, geologically the same field. Target: gas processing facilities at Asaluyeh. Trump publicly states the United States knew nothing about the strike. Netanyahu: 'Israel acted alone.'</b>
<b>Mar 18–19</b>	<b>Iran retaliates within hours. Ras Laffan is struck again, this time by missiles. QatarEnergy reports 'extensive structural damage.' Multiple LNG facilities ablaze. Brent crude surpasses \$119/barrel — over 60% above pre-war levels.</b>
<b>Mar 19, 2026</b>	<b>QatarEnergy CEO: repairs could take up three to five years. Qatar expels the Iranian military attaché. Trump on Truth Social threatens to 'massively blow up the entire South Pars gas field' if Iran strikes Qatar again.</b>
Mar 20, 2026	Hormuz remains closed. ~33% of global helium offline. No restart horizon. Conflict ongoing.

What initially appeared to be a manageable disruption — a temporary production halt that could be cushioned by inventories and alternative sources — became, after March 18, a structural realignment of the global helium market for the foreseeable future. Five years is not a quarterly risk. Five years is a reordering of supply chains.

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## The gas field — geologically one, politically divided

South Pars and Qatar's North Dome are the same gas field. It lies beneath the Persian Gulf, divided by the maritime boundary between Iran and Qatar — but reservoir geology recognises no political borders. Reservoir pressure, extraction dynamics and long-term production capacity on both sides are interconnected.

When Israel struck South Pars on March 18, Qatar's Foreign Ministry immediately stated: 'Iran's South Pars gas field is an extension of Qatar's North Field.' That is not a diplomatic formulation. It is a geological fact. If the Iranian reservoir has been structurally compromised — and that possibility has not been publicly ruled out — it will have direct consequences for Qatar's long-term production capacity. The five-year estimate for repairing Ras Laffan's surface infrastructure may prove optimistic.

### Geological context: North Dome / South Pars

The North Dome (Qatar) / South Pars (Iran) field is the world's largest known natural gas reservoir. It contains an estimated 51 trillion cubic metres of natural gas — enough for approximately 13 years of global consumption. Qatar has recovered helium as a by-product of LNG processing since 2005. Three helium production facilities at Ras Laffan — Helium-1 (2005), Helium-2 (2013), Helium-3 (2021) — delivered approximately 63 million cubic metres of helium per year until March 2, 2026: roughly one third of global supply.

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## The winners and losers scorecard

A crisis of this magnitude does not distribute pain and advantage equally. The question of who suffers and who profits is not speculative — it can be derived with precision from production data, import dependencies and industrial policy decisions.

Actor	Helium Position	Strategic Reality after March 18
us USA	42.6% of world production, Hormuz-immune	Triple advantage locked in for years: commodity prices rise on home supply. New US chip fabs — TSMC Arizona, Micron, Intel Ohio — receive priority allocation. Linde and Air Products: +14–15% YTD in a market that is down 3%.
cn China	Import-dependent; not economically extractable domestically	Double stranglehold, now structural: no EUV access via US export controls (since 2023), no helium from the Gulf. Five-year Qatar outage eliminates the 'build stockpiles and wait' strategy entirely. Chip catch-up trajectory structurally interrupted.
tw Taiwan	Majority of imports from Qatar/GCC;	Strength becomes multi-year vulnerability: TSMC produces 90% of the world's most

	97% energy imports	advanced chips — and sources most of its helium from a field offline for up to five years. 11 days of LNG reserves. Every week of vulnerability intensifies US pressure to relocate capacity.
<b>KR South Korea</b>	64.7% Qatar dependency (Fitch)	Samsung and SK Hynix face a structural sourcing crisis. HBM price rises provide partial offset — insufficient over this time horizon.
<b>JP Japan</b>	~50% US helium, more diversified	Iwatani buffer holds short-term. Five-year outage will exhaust even diversified inventories without new supply agreements.
<b>EU Europe</b>	No domestic production, Qatar-exposed	EU Chips Act builds fabs without a raw materials strategy. Helium not on the EU Critical Raw Materials list. The five-year horizon makes this existential — not merely inconvenient.
<b>RU Russia</b>	Amur GPP ramping up (~15 million m <sup>3</sup> )	Major indirect beneficiary: the only remaining large-scale alternative producer. Geopolitically toxic, commercially irresistible. Western buyers face an acute dilemma.
<b>Linde / Air Products</b>	Diversified Western sources, global logistics	Multi-year structural windfall: price elevation × entire customer base × five years = not a quarterly trade, but a new margin foundation.

The Asian semiconductor hubs carry the heaviest burden. South Korea sourced approximately 64.7 percent of its helium from Qatar in 2025 (Fitch). Taiwan was similarly exposed. Japan is somewhat better diversified with roughly 50 percent US helium — Iwatani maintains buffers in both the US and Japan — but even that does not hold over five years. Only those who can source helium from US fields, Canadian deposits or the emerging African primary sources in Tanzania and Zambia will have structural security.

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## The arithmetic of coincidence — Cui bono?

We now arrive at what separates this story from an ordinary commodity crisis.

On March 18, 2026, Israel strikes South Pars. The sequence of statements that follows is documented and public. Donald Trump: "The United States knew nothing about this particular attack." Benjamin Netanyahu: "Israel acted alone." Days later, CNN sources report US coordination and prior approval of the strike. Trump, addressing Netanyahu shortly after the attack: "I asked you to hold off on future attacks, and you're holding off."

Those are the facts. Now follows the arithmetic.

The Semiconductor Industry Association warned in 2023 explicitly about exactly this disruption scenario. The US Department of Defense lists helium as a critical mineral. Qatar's North Dome

— the geological mirror image of South Pars — was documented, mapped and modelled as the source of approximately one third of global helium supply. The decision to strike South Pars was made by people who had access to precisely that analysis.

Whether the up-to-five-year outage of Qatar's helium infrastructure was an intended outcome, a consciously accepted collateral effect or a genuine miscalculation — we do not know. What we do know: Every measurable consequence in the semiconductor and critical materials domain benefits the United States.

***"Honi soit qui mal y pense. But only a fool thinks nothing at all."***

Wieshoff Consulting Research Lab, March 20, 2026

Helium is the nervous system of chip production. Whoever controls the nerves controls the muscles. For the next five years, that control belongs overwhelmingly to a single nation — the one that started the war on February 28, that 'knew nothing' about the strike on March 18, and whose helium fields were never once in danger.

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## **What Europe must do now — deadline, not debate**

Europe is watching. The EU Chips Act is investing billions in fab capacity across Germany, Austria and the Czech Republic. Not a single chapter addresses raw material security for process gases such as helium. Helium does not appear on the EU Critical Raw Materials list — despite the EU and Canada having classified it as a strategic material.

With Qatar's infrastructure offline for up to five years, this is no longer a structural blind spot. It is an active threat to every European fab currently in planning or under construction. The agenda is clear:

- ▶ Helium must be added to the EU Critical Raw Materials list immediately — with binding diversification targets and national supply obligations.
- ▶ Strategic helium reserves must be established — modelled on the petroleum reserve framework — and made operational within 18 months.
- ▶ Helium recycling must be mandated in European fabs: leading facilities already achieve recovery rates above 90 percent. This technology exists and must be required, not merely encouraged.
- ▶ Government-level partnerships with stable producers — Canada, Tanzania, Australia — must be activated now, before their emerging capacity is fully contracted by US and Asian buyers.

The five-year window is not a crisis to be managed. It is a deadline. Every month that European policymakers spend observing is a month in which alternative supply relationships are being locked up by others. The EU Chips Act was designed to reduce semiconductor dependency. Without a helium strategy, it is building factories on sand.

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## The Editor's Take

*This commentary asks questions it cannot answer — because no one can. What it can do is arrange the facts so that the questions become unavoidable. Resources like helium are not the domain of industrial gas conferences. They are the invisible infrastructure on which visible technology policy is built. The events of March 2026 have made the invisible visible. Those who still look away are doing so deliberately.*

*Juergen Wieshoff is Editor-in-Chief of Clean Energy Magazine and Managing Director of Wieshoff Consulting. He serves as Head of Governmental & Public Affairs at Flow Batteries Europe (FBE) and advises European and international stakeholders on energy security, raw material strategy and EU regulation.*

*Sources: USGS Mineral Commodity Summaries 2026 | CNN (19.03.2026) | PBS NewsHour (19.03.2026) | Al Jazeera (19.03.2026) | Wikipedia – 2026 South Pars field attack | Middle East Council on Global Affairs (19.03.2026) | Times of Israel Liveblog (19.03.2026) | Bloomberg (16.03.2026) | SCMP / Fitch (18.03.2026) | Tom's Hardware (17.03.2026) | Data Centre Magazine (19.03.2026) | CNBC (10.03., 19.03.2026) | Scientific American (18.03.2026) | EE Times (16.03.2026) | Kornbluth Helium Consulting | Barclays Research | IndexBox Market Research, <https://www.reuters.com/business/energy/iran-attack-damage-wipes-out-17-qatars-lng-capacity-three-five-years-qatarenergy-2026-03-19>*