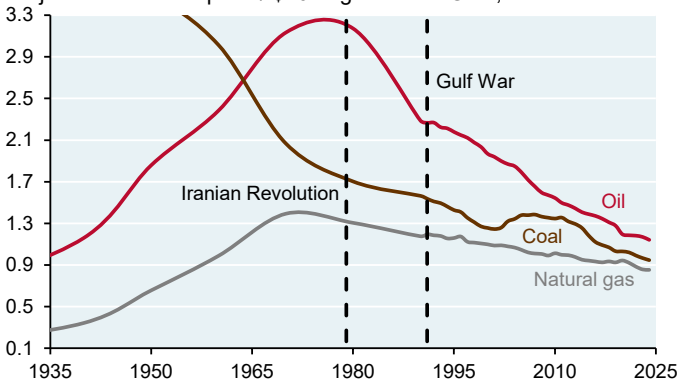
## Pandora's Bog: the global energy shock of 2026

First the good news, to the extent there is any on the energy front. As discussed in our energy paper, the oil intensity of global GDP has plummeted since its 1970's peak and is only half the level it was at the time of the Gulf War in 1990. Even the natural gas intensity of GDP has declined since 1980 despite natural gas consumption tripling since then. The primary drivers of these declines are shown on the right: substantial improvements in energy efficiency, a shift from coal to more efficient combined cycle gas turbines and renewable energy used for industrial power needs, building HVAC and transport via EVs and biofuels. As we discuss later, the benefit of reduced oil intensity is that the impact of oil shocks on GDP and S&P profits is lower than it used to be.

**Energy intensity of GDP, global**
Exajoules of consumption / $2021 global real GDP, trillions




Source: Energy Institute, IEA, OWID, Shift Energy Portal, JPMAM, 2025

| Energy efficiency measures | 1990 | Latest |
|---|---|---|
| Aviation MJ per passenger-km | 2.9 | 1.1 |
| Light duty vehicle miles per gallon | 21.2 | 28.0 |
| Oil and gas furnace fuel efficiency | 65%-70% | 80%-95% |
| Combined cycle gas turbine max efficiency | 0.5 | 0.6 |
| Refrigerator energy, kWh per year | 960.0 | 400.0 |
| Air conditioner Seasonal Energy Efficiency | 8.0 | 15.0 |
| Window air leakage, cu feet per minute per sf | 0.3 - 0.5 | 0.1 - 0.3 |
| Standard lighting, lumens per watt | 8 - 10 | 80 - 100 |
| Limited progress: Class 8 trucks and containerships | | |
| **Energy mix shifts, World ex-China** | **1990** | **Latest** |
| Renewable share of useful final energy | 5% | 10% |
| Nuclear share of useful final energy | 4% | 3% |
| Oil share of useful final energy | 36% | 30% |
| Coal share of useful final energy | 25% | 18% |
| Nat gas share of useful final energy | 30% | 38% |

Source: JPMAM, 2025

**Another silver lining: Gulf LNG exports only represent 3% of global natural gas consumption.** The problem is that commodity prices are often set on the margin, and the loss of this supply is enough to drive LNG and pipeline import prices higher in Europe and Asia as the largest recipients of Gulf LNG (China, Korea, India and Pakistan) seek replacement supplies on the spot market.

**However: there's a limit to energy efficiency benefits when a large global energy shock occurs, one which is worsening by the day with attacks on energy infrastructure.** Infrastructure takes a long time to build and a short time to destroy. After a June 2022 fire at Freeport LNG's facility in Texas, it took 8 months for the facility to become operational again but it didn't reach full operational capacity until three years later[1]. The latest news:

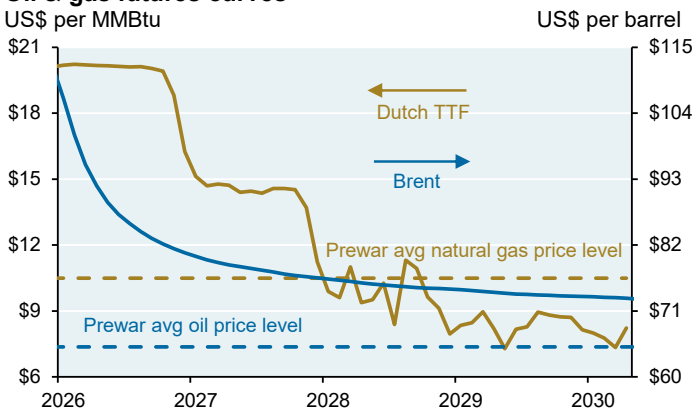
- Qatar Energy's CEO reports[2] that 2 of 14 LNG trains and one of its two gas-to-liquids facilities have been damaged; 12.8 mm tonnes of LNG could be lost for 3-5 years, which is 17% of Qatari output; Qatar expects to declare Force Majeure on LNG contracts to Italy, Belgium, Korea and China; and will experience substantial declines in the export of naphtha, sulfur and helium
- Even undamaged parts of Qatar's LNG facilities will take 3-4 months to reach full loading once the war ends; Qatar was also planning to expand production by ~30 MT per year, which is now delayed/halted
- Asian economies are already seeing an oil shock comparable to the 1970's with fuel and product rationing starting to spread across many countries
- Inventories of oil, oil products, natural gas and manufactured products are typically only a few weeks or months. If the Strait of Hormuz remains mostly closed for another 3 to 4 weeks, physical shortages may intensify and start curtailing economic activity and global trade, starting in Asia first
- 3-4 mm bpd of Saudi oil is rerouted for the time being through Red Sea terminals via the Strait of Bab al Mandeb; these flows are at risk from strikes by the Houthis. Oil could be moved north through the Suez Canal but VLCCs which are used for most seaborne crude oil cannot go through Suez, the largest vessels being Suezmax vessels which are in limited supply and mostly dedicated to supply Europe
- Many countries are likely to rebuild their commodity inventories to much higher levels, resulting in higher inflation and less efficient global supply chains in the short term

[1] *"Freeport Back at Full Capacity Three Years After Explosion",* Natural Gas Intelligence, May 23, 2025

[2] "*Iran attacks wipe out 17% of Qatar's LNG capacity for up to five years*", Reuters, March 19, 2026

- Futures markets are expecting a large decline in oil prices this year compared to a slower decline in European natural gas futures prices (both pipeline and LNG)

**Oil & gas futures curves**




Source: Bloomberg, JPMAM, March 20, 2026

**Pandora's Box**

**This note summarizes our evolving analysis of the aftershocks of the war for investors**. Topics include the latest developments in commodity markets, the magnitude of the oil shock vs history, the impact of such shocks on equity markets, the negligible benefit of the global SPR release, the differentiated reaction of regional gas markets and the impact on agriculture and petrochemicals. We also include our oil & gas sensitivity heat map by country, measures which have been roughly tracking changes in country equity markets since the invasion. We conclude with data on the pace of US munitions depletion relative to production schedules.

**Iran holds a peculiar place in parts of the American psyche**. An article in the *National Interest*[3] by a historian and 25-year Army veteran listed the five worst events in US military history. The failed Iranian hostage rescue mission of 1980 was ranked #1. Remarkably, the 1975 Fall of Saigon didn't even make the list.

- #1 Desert One Hostage Mission (vs Iran, 1980)
- #2 Task Force Smith (vs North Korea, 1950)
- #3 Kasserine Pass (vs German-led Axis force, 1943)
- #4 Little Big Horn (vs Native American coalition, 1876)
- #5 The Battle of Long Island (vs British Army, 1776)

There's some irony in an America First President getting bogged down in another Gulf Pandora's Box, even temporarily. **Trump wouldn't be the first President to renege on isolationist campaign promises within a year**. Woodrow Wilson's commitment to neutrality was a central component of his 1916 campaign (slogan: "*He kept us out of war*", referring to WWI which began in 1914). Just six months later in April 1917, Wilson asked Congress for a declaration of war after Germany sank the British ship *Lusitania* and after Germany proposed financial assistance to Mexico should it wage war against the US to reclaim parts of Texas, Arizona and New Mexico.

But unlike Wilson, Trump is acting without Congress, without NATO allies and without the 30-country coalition assembled during the 1991 Gulf War. It turns out that after tariffing, mocking, belittling and threatening[4] NATO allies for the last year, they are not predisposed to help militarily open the Strait of Hormuz. Higher oil and gas prices might change that, but for now the latest Gulf Pandora's Box is one the President appears to have opened mostly on his own.

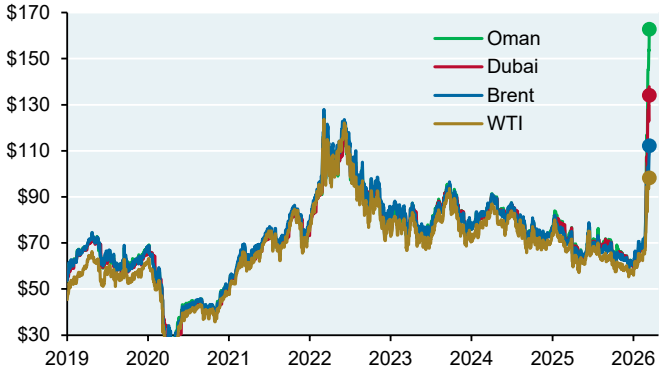
Michael Cembalest, JP Morgan Asset Management

[3] "*The US Military's 5 Worst Defeats Ever*", National Interest, James Jay Carafano (Heritage), July 2017

[4] Denmark took Trump's comments to take Greenland "the hard way" very seriously. When Danish soldiers flew to Greenland in January, they brought explosives to blow up and disable airport runways. They also brought blood from Danish blood banks to prepare for the possibility of wounded citizens and Danish soldiers. See "*Denmark prepared for possible US attack*", Danish Broadcasting Corporation, March 19, 2026

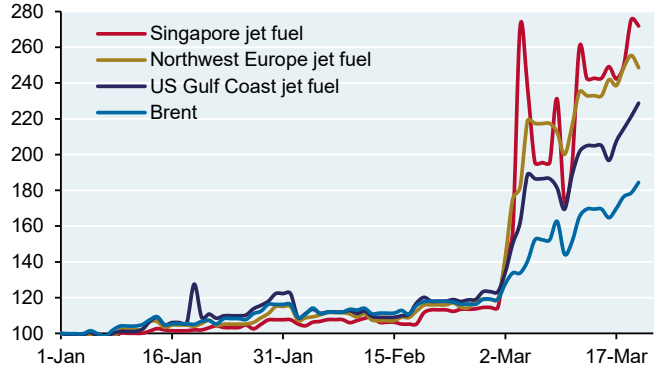
**Oil and refined products update**. Oil prices are soaring, particularly grades sourced near the Gulf; although part of the gap is due to Oman and Dubai contracts being priced for immediate delivery while Brent and WTI contracts are not. Jet fuel, shipping fuel and gasoline prices have risen faster than crude prices, which is common during an energy shock. Lastly, note how the US is only modestly shielded from the oil shock despite being an oil exporter for the first time in 40 years[5]; that's the result of crude oil being a global market.

**Crude oil prices**
US$ per barrel



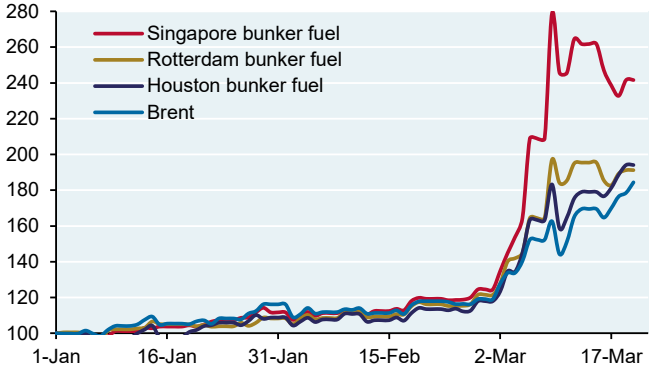

Source: Bloomberg, JPMAM, March 20, 2026

**Jet fuel prices by region**
Index (100 = January 1, 2026)



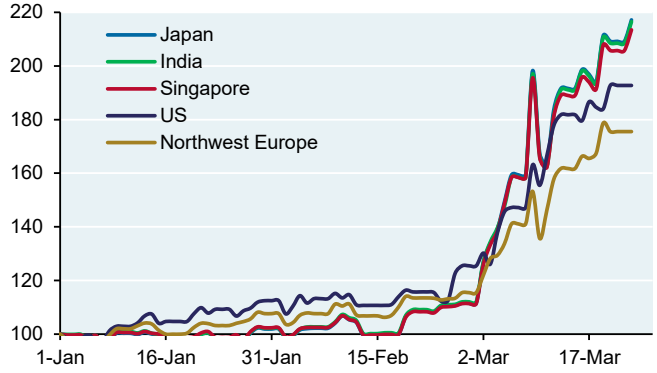

Source: Bloomberg, JPMAM, March 20, 2026

**Shipping fuel prices by region**
Index (100 = January 1, 2026)



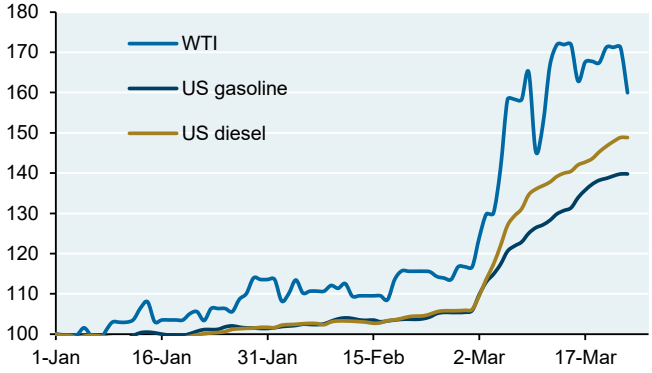

Source: Bloomberg, JPMAM, March 20, 2026

**Wholesale gasoline prices by region**
Index (100 = January 1, 2026)



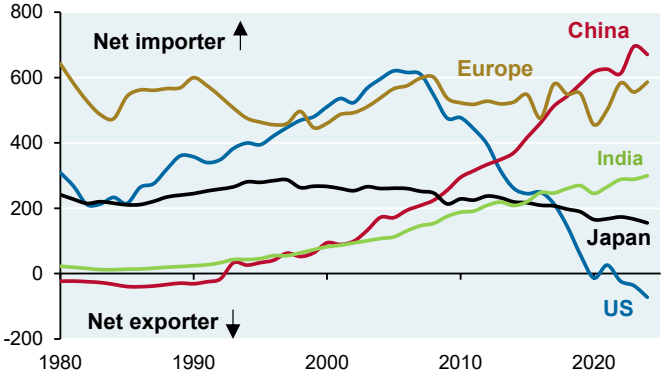

Source: Bloomberg, JPMAM, March 23, 2026

**Retail gasoline vs diesel prices**
Index (100 = January 1, 2026)




Source: Bloomberg, JPMAM, March 23, 2026

**Oil dependence and independence**
Net imports in million tonnes




Source: Energy Institute, JPMAM, 2025

[5] US measures adopted or considered in addition to the SPR release: increasing the ethanol blend from 10% to 15%; a vapor pressure waiver to allow winter gasoline sales during summer; a ban on refined product exports which are 30% of US production; a temporary Jones Act suspension; a waiver of Federal taxes on oil & gas

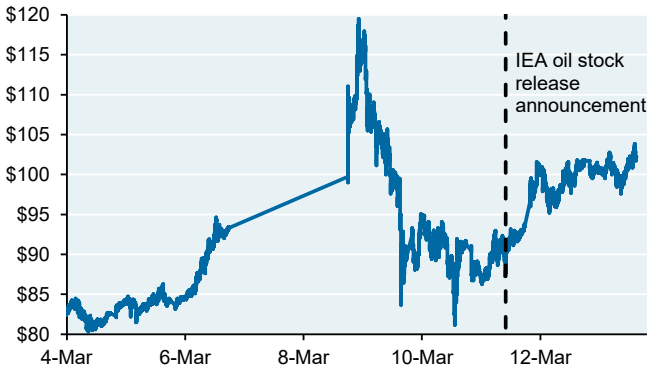
**Most estimates of the impact of the war show 20% of global oil markets disrupted; our figures are in the same zip code**[6]. If so, it would be the largest disruption in terms of barrels and % of spare capacity since WWII. The IEA coordinated the release of strategic and private emergency reserves but oil markets **basically ignored it**, rising almost immediately after the announcement. One reason for the market response: 400 million barrels of crude and products can only be released at ~2 mm bpd, it only represents 45 days of import coverage for IEA members and represents 20% of the entire global SPR inventory. The market response to the SPR release was quite different during the 1991 Gulf War when Brent and WTI oil prices fell by 40%.

**Approximate oil disruptions and global spare capacity**

| Crisis | Supply disrupted (% of world) | Available spare capacity (% of world) |
|---|---|---|
| Suez Crisis (1956-57) | 10% | 35% |
| Six Day War (1967) | 5% | 14% |
| Arab Oil Embargo (1973) | 7% | 8% |
| Iranian Revolution (1978-79) | 5% | 5% |
| Iran-Iraq War (1980-88) | 5% | 10% |
| Gulf War I (1990-91) | 9% | 4% |
| Gulf War II (2003-11) | 7% | 1% |
| Abqaiq (2019) | 5% | 1% |
| Gulf War III (2026-present) | 20% | 0% |

Source: Rapidan Energy Group, EIA, BP, St. Louis Fed, US Senate, March 9, 2026

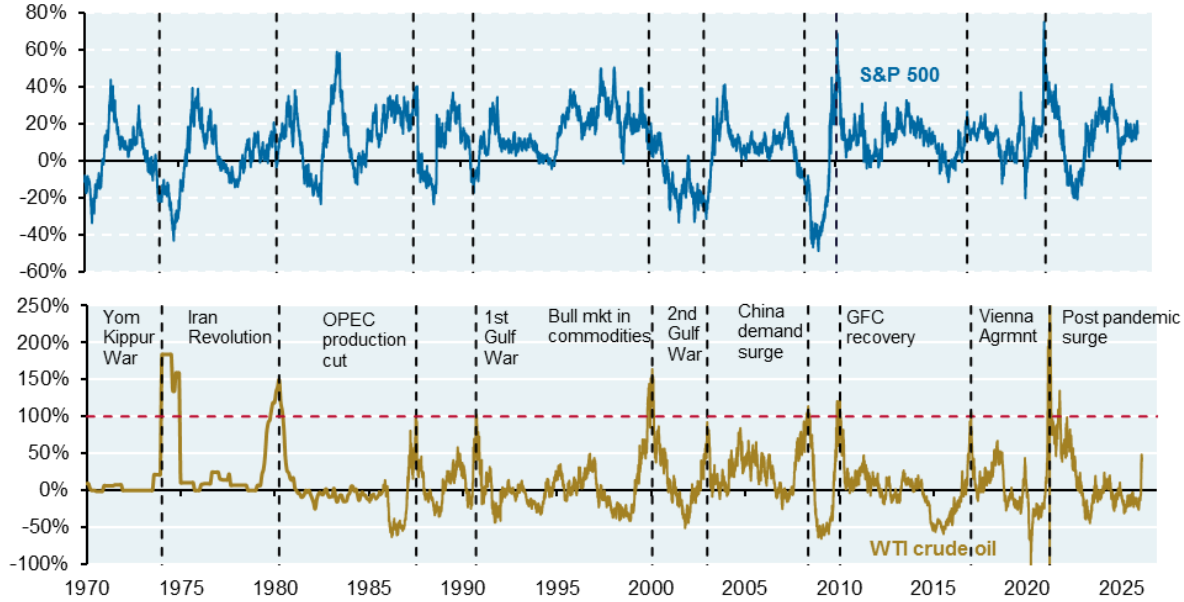
**Brent crude oil intraday prices**
US$ per barrel




Source: Bloomberg, JPMAM, March 13, 2026

**When oil prices rise more than 100%, the S&P 500 index typically suffers substantial corrections.** While WTI prices have risen 50% so far, other non-US grades shown earlier have risen by 100% or more. According to JP Morgan Equity Strategy & Quantitative Research, if $120 oil were sustained for 6 months, annual S&P 500 EPS estimates would decline by $12.7 or 4% of consensus EPS of $317 per share.

**S&P 500 vs WTI crude oil price: 100% oil price spikes usually coincide with equity market declines,** Percent, y/y

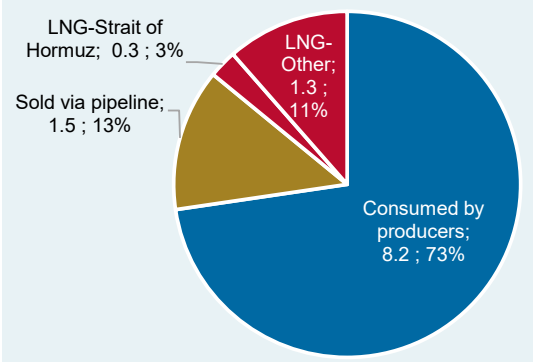



Source: Bloomberg, Macrotrends, JPMAM, March 20, 2026

[6] Before the war, crude plus refined product volumes via the Strait of Hormuz were ~21 mbd. Roughly 1.8 mbd from Iran is still flowing, and 4-5 mbd has been rerouted via Red Sea and Fujairah terminals. So, out of 21 mbd, 6-7 mbd has found its way to the market leaving total volumes currently stranded at 14-15 mbd. In addition, ~5 mbd of petrochemical feedstocks (LPG and ethane) were also moving through Hormuz and are now largely stranded. This brings the total liquids disruption to 19-20 mbd which is ~18% of global liquids supply

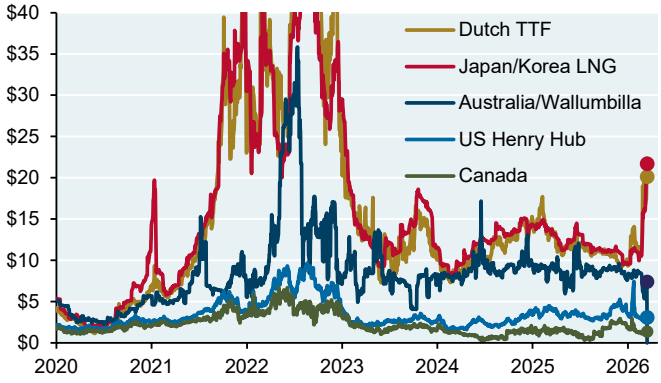
**Unlike oil markets, natural gas pricing is more localized, a reflection of a more fragmented market which is illustrated in the pie chart.** While LNG sold through the Strait of Hormuz is ~20% of global LNG markets, it is only ~3% of total global natural gas production since the majority of natural gas is consumed by countries that produce it. As per the second chart, European pipeline/LNG prices are spiking and so are Asian LNG import prices, although both are still a fraction of the 2022 surge. In contrast, US Henry Hub natural gas prices have barely budged so far; the same is true in Australia and Canada which also produce a lot of gas. This distinction is a critical driver of how different countries are exposed to the energy shock; the greatest risks revolve around oil consumption and consumption of imported gas, either by pipeline or LNG markets (see pages 8-10).

**Global natural gas production**
Billion cubic meters per day




Source: Energy Institute, EIA, IEA, IEEFA, OEC, Vortexa, JPMAM, 2025

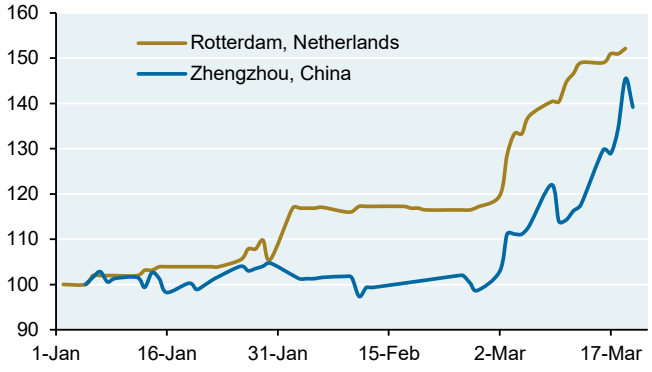
**Natural gas prices by region**
US$ per MMBtu




Source: Bloomberg, JPMAM, March 20, 2026

**Petrochemicals made from oil & natural gas** provide the building blocks for over 95% of all manufactured goods including plastics, fertilizers, pharmaceuticals and synthetic fibers, and are critical inputs in construction, automotive and healthcare industries. **One example is methanol; 40% of the world's methanol supply comes from the Gulf Region and is now stranded.** Methanol is a key input for plastics (packaging, plastic films and bottles), detergents, alcohols, coolants, wire coatings, carpet fiber and adhesives. As shown in the chart, methanol prices have risen by ~50%. On the right: **year-to-date price changes by region for the major primary petrochemicals** along with their shares of global petrochemical consumption. When people refer to this war as resulting in a global commodity price shock, this is what they mean.

**Methanol price index by region**
Index (100 = January 1, 2026)




Source: Bloomberg, JPMAM, Mar 20, 2026

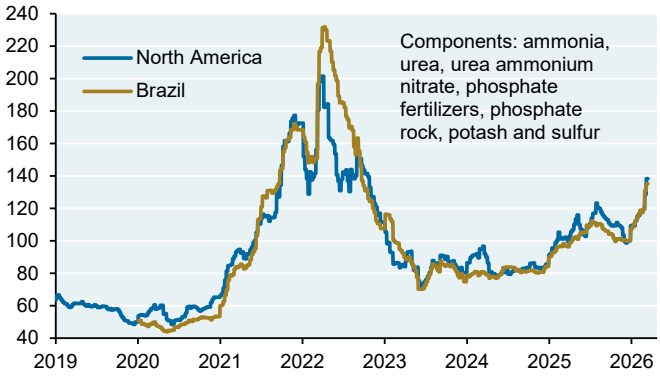
**Primary petrochemical YTD price changes by region**

| | Share of global consump | YTD price change by region | | | | |
|---|---|---|---|---|---|---|
| | | US | Eur | Jpn | Kor | India |
| Propylene | 21% | 64% | 78% | 53% | 56% | na |
| Ethylene | 31% | 42% | 59% | 63% | 63% | na |
| Butadiene | 3% | na | na | na | 118% | na |
| Toluene | 7% | 30% | 50% | na | 70% | na |
| Benzene | 11% | 35% | 45% | 60% | 60% | 60% |
| Xylenes | 13% | 32% | 52% | na | na | na |
| Methanol | 15% | 27% | 53% | 60% | 60% | 59% |

Source: Bloomberg, JPMAM, March 13, 2026

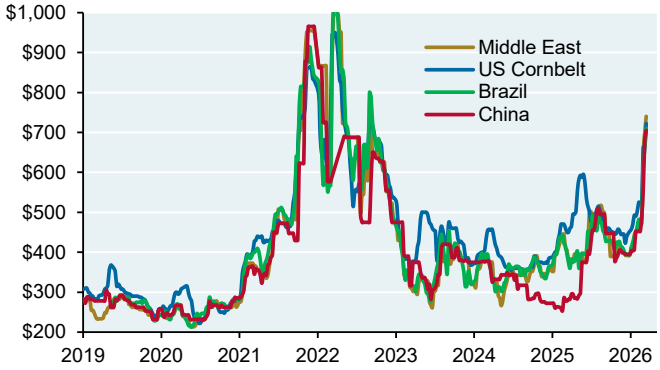
**Agriculture.** The Gulf region is also a major hub for agricultural exports: in 2024, it accounted for 43% of global urea, 44% of global sulfur and 27% of global ammonia supply. Urea and ammonia are critical components of nitrogen fertilizers and sulfuric acid is an essential input for producing phosphate fertilizers**.** The Hormuz crisis comes at a time when global fertilizer supply chains are already running with limited flexibility: European nitrogen production has operated at 75% capacity since 2022, and Russia's ammonia exports fell by ~85% after the Togliatti-Odesa ammonia pipeline was idled in 2022 and physically destroyed in 2023.

**Fertilizer prices by region**
Index (100 = January 1, 2026)




Source: Bloomberg, JPMAM, March 20, 2026

**Urea prices (most widely used nitrogen fertilizer)**
US$ per metric tonne




Source: Bloomberg, JPMAM, March 20, 2026

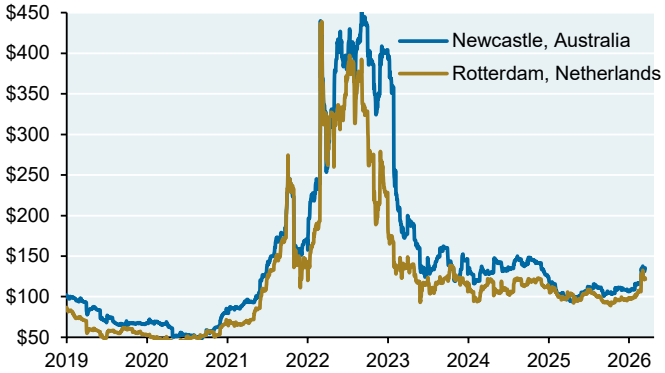
**Disruptions: Sulfuric acid and Helium**

- Sulfuric acid is used for phosphate fertilizers and also for extracting copper and cobalt from low grade ores; these metals are critical for replenishing and repairing US military equipment such as the two major radar systems destroyed in Bahrain/Qatar
- Helium is a byproduct of natural gas processing and is used in semiconductors and medical imaging. Qatar accounts for 34% of global supply; spot prices have risen by 100% since the war began

**Coal prices** have ticked up due to some fuel switching in Asia, but the scope for potential increases is generally seen as much lower than in 2022 when there were bans on Russian coal exports and weather-related disruptions in Australia. Europe has also closed 40 GW of coal and lignite plants since 2022, further reducing the scope for fuel switching in that region.

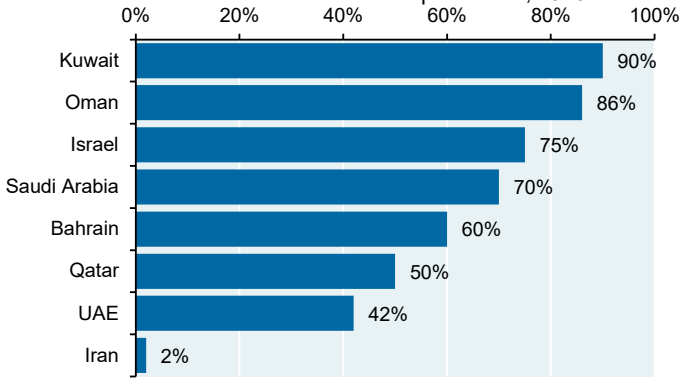
**The last chart shows the risk of one of the war's worst byproducts: possible damage to desalination plants.**

**Coal futures prices by region**
US$ per metric ton




Source: Bloomberg, JPMAM, March 21, 2026

**Freshwater dependency on desalination**
Desalination as a share of domestic water production, 2026

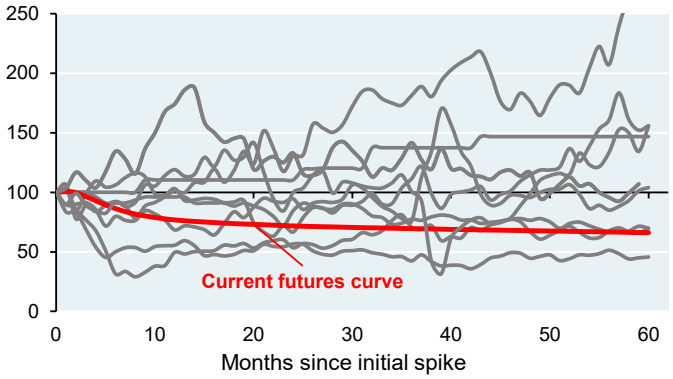



Source: Global Water Intelligence, MENA Desalination Reports, 2026

## Wrapping up

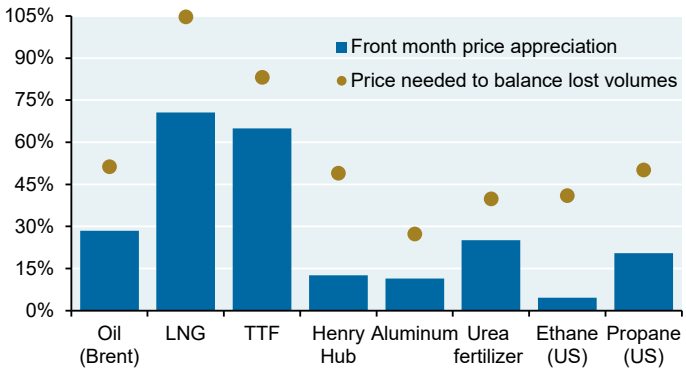
Where do we go from here? Oil futures markets are pricing in a rapid decline in oil prices over the next few months. The chart on the left shows the history of what happened to oil prices from peak levels after 100% y/y spikes; it's a mixed bag with only 4 episodes out of 10 showing quick reversals to lower prices. If the situation in the Strait of Hormuz is not resolved soon, prices across the entire commodity spectrum might need to remain high to adequately destroy demand or elicit new supply, bringing commodity markets back into balance. I think it's premature to assume the worst; while a multiparty agreement to end hostilities and reopen the Strait seems remote, stranger things have happened. The challenge for markets: Iranian missile and drone activity is higher now than it was ten days ago, and Iran still effectively controls safe passage through the Strait. According to a WSJ article[7], demands from Iran for reopening the Strait after the war could include a requirement for every ship to pay a fee to Iran for the privilege, as if it were the Panama Canal; and removal of US bases from the Gulf.

**WTI crude oil prices following price spikes since 1970 & today's futures curve,** Index (100 = initial price spike)




Source: Bloomberg, Macrotrends, JPMAM, March 20, 2026

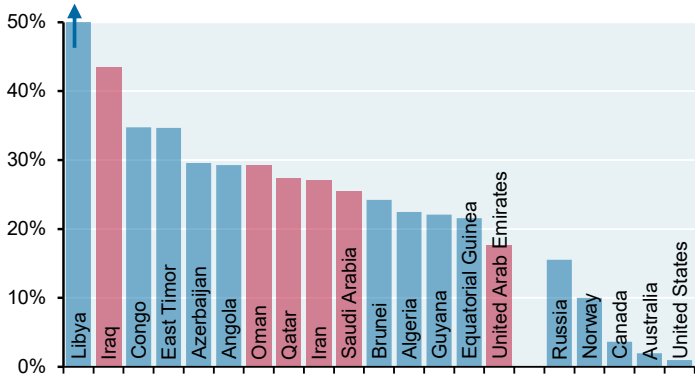
**Realized price increases vs price needed to balance lost volumes from Middle East supply disruption,** Percent




Source: Bridgewater, March 10, 2026

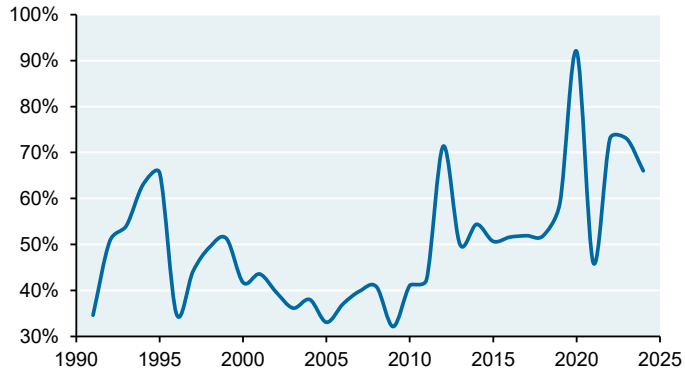
**What about the future of the Gulf states? Many are among the countries with the greatest value added from oil & gas.** Long Strait of Hormuz shutdowns and damaged oil & gas infrastructure could weigh heavily on their economies and populations. Whatever the US is planning after the war ends (to the extent that such a plan exists), I can imagine that Gulf countries are either hoping for a much greater reduction in the military threat from Iran, or a concrete mercantile relationship with Iran that essentially involves payment for the right of undisturbed passage in the Strait. As things stand, that outcome is unclear. The only outcomes that seem certain: like the 1970's, there will be a global push for greater energy efficiency and less reliance on geopolitically risky fossil fuel imports; and that Iran's gov't will continue to have enormous tolerance for economic misery.

**Economic profits from oil & gas extraction**
% of GDP




Source: OWID, World Bank, JPMAM, 2025

**Iran Misery Index,** Year end inflation rate + bank lending rates + unemployment rate - actual % change in GDP per capita




Source: Steve Hanke (Johns Hopkins), Cato Institute, 2024

[7] "*Iran believes it's winning and wants a steep price to end the war*", WSJ, March 20, 2026

**The Oil & Gas Shock Heat Map**

The next two pages show measures we're tracking regarding the oil & gas shock by country. The countries shown are the 52 largest consumers of useful final energy and represent 82% of global energy consumption. In the table, we exclude countries like Iran, Qatar, Russia and the UAE that are major oil & gas producers which subsidize domestic consumption. The table focuses on oil & gas sensitivity and mitigants to an oil & gas shock: domestic gas production, domestic coal production, renewables and nuclear. We conclude with measures exploring the potential impact of further decarbonization, either via EV adoption or wind/solar displacement of natural gas for power generation.

Note how insulated China is in the heat map: heavy reliance on coal and its own gas production makes it much less exposed than you might think. Among the most exposed countries: Italy, Taiwan, Japan, Korea, Singapore, Spain, the Netherlands, Belgium, Greece, Hungary, Portugal, Hong Kong and Ireland[8].

**Useful final energy (EJ).** Exajoules of use final energy consumption (primary energy net of combustion waste heat and energy used for extraction and distribution; see energy paper for more details)

**Share of global UFE.** Note how the 15th largest energy user is less than 1% of global consumption; it's the big countries that matter

**Strait of Hormuz oil & gas imports as a % of primary energy consumption.** We focus on countries importing directly from the Strait but other measures are equally important given the global nature of energy markets

**Oil import share of primary energy.** Oil importers are impacted even if they do not import from the Gulf

**Gas import share of primary energy.** Gas importers are impacted even if they do not import from the Gulf

**Oil consumption & imported gas share of primary energy.** Since oil is a global market, overall consumption matters as much as imports

**Oil consumption & imported gas (TJ) per $2022 GDP, bn.** Similar to prior measure but expressed as a share of GDP to capture energy efficiency

**Domestic gas share of useful final energy.** Quite a few countries produce a large share of their own natural gas consumption

**Domestic coal share of useful final energy.** Countries like China, India, Indonesia, South Africa, Vietnam and the Philippines benefit from substantial domestic coal production during an oil & gas shock

**Nuclear share of useful final energy.** France, Sweden, Finland, Switzerland, Bulgaria, Hungary, Slovakia and the Czech Republic are the standouts in this category with more than 10% of UFE from nuclear

**Renewable share of useful final energy.** Countries with more than 30% from renewables (biofuel, hydro, wind, solar, biomass): Brazil, Sweden, Austria, Finland, Switzerland, Portugal, New Zealand and Denmark

**Total insulation factor (domestic gas + domestic coal + nuclear + renewables**). There are 12 countries out of 52 with more than 60% oil & gas insulation, including the US and China

**Oil used for road transport as a share of primary energy.** The easiest path to lowering oil exposure is via EV adoption, propelled perhaps by a flood of cheap Chinese imports. This measure estimates how much of each country's primary energy is oil used for passenger car and road freight. Countries with fewer vehicles per capita and greater industrial oil use will see less of an impact here

**Gas used for power as a share of primary energy.** The easiest path to lowering gas exposure is via solar paired with batteries, infrastructure which also dominated by China

[8] While Mexico shows up with high risk factors on the heat map, this is due in part to heavy reliance on imported gas. But unlike pipeline gas from Norway to Northern Europe which is priced similarly to imported European LNG, Mexico imports gas from the US at prices similar to Henry Hub levels

## Oil & Gas Sensitivity Heat Map

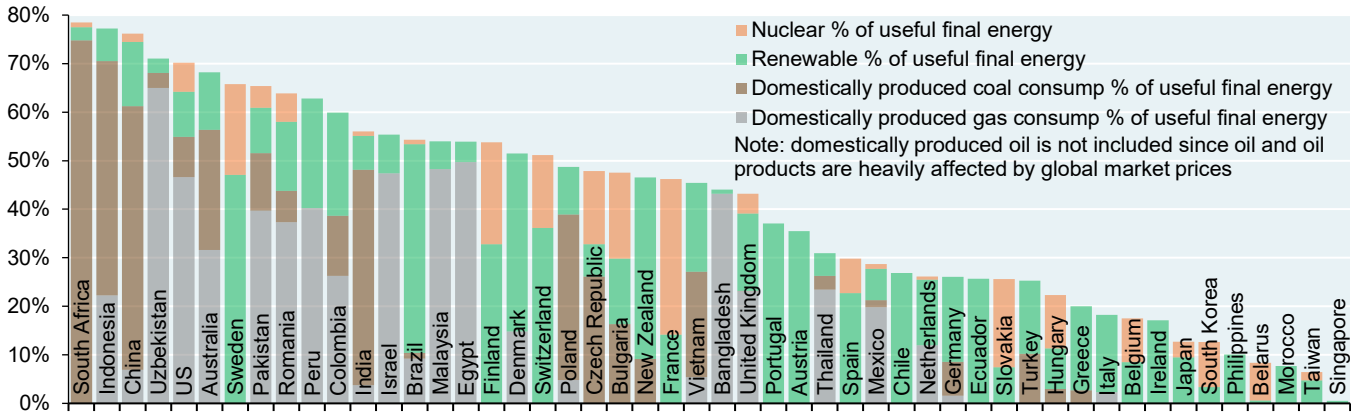
| | | | Sensitivity to spikes in oil & gas prices | | | | | Oil & Gas crisis insulation factors | | | | | Future Tran. Opportunity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Useful final energy (EJ) | Share of global UFE | Strait of Hormuz oil & gas imports % of primary energy | Oil import share of primary energy | Gas import share of primary energy | Oil consumption & imported gas share of primary energy | Oil consumption & imported gas (TJ) per $2022 GDP, bn | Domestically produced gas consump % of useful final energy | Domestically produced coal consump % of useful final energy | Nuclear % of useful final energy | Renewable % of useful final energy | Total insulation factor | Oil used for road transport as a share of primary energy | Gas used for power as a share of primary energy | Equity market return since conflict start |
| 1 China | 87.7 | 29.2% | 7% | 13% | 4% | 22% | 1.1 | 7% | 54% | 2% | 13% | 76% | 6% | 2% | -1% |
| 2 US | 44.5 | 14.8% | 1% | -2% | -5% | 38% | 1.3 | 47% | 8% | 6% | 9% | 70% | 20% | 14% | -4% |
| 3 India | 20.0 | 6.7% | 13% | 23% | 3% | 30% | 0.9 | 4% | 44% | 1% | 7% | 56% | 9% | 1% | -7% |
| 4 Japan | 8.5 | 2.8% | 21% | 36% | 19% | 56% | 1.5 | 0% | 0% | 3% | 9% | 13% | 13% | 13% | -4% |
| 5 South Korea | 6.6 | 2.2% | 33% | 40% | 18% | 60% | 2.6 | 0% | 0% | 9% | 3% | 13% | 12% | 9% | -6% |
| 6 Brazil | 5.7 | 1.9% | na | -19% | 2% | 39% | 1.3 | 9% | 1% | 1% | 43% | 54% | 17% | 3% | -6% |
| 7 Germany | 5.7 | 1.9% | na | 35% | 23% | 60% | 1.2 | 2% | 7% | 0% | 17% | 26% | 15% | 6% | -7% |
| 8 Indonesia | 5.2 | 1.7% | 1% | 16% | -8% | 29% | 0.7 | 22% | 48% | 0% | 7% | 77% | 15% | 5% | -15% |
| 9 Mexico | 4.0 | 1.3% | na | -6% | 28% | 71% | 1.8 | 20% | 1% | 1% | 6% | 29% | 21% | 25% | -10% |
| 10 France | 3.9 | 1.3% | na | 30% | 13% | 43% | 1.0 | 0% | 0% | 32% | 14% | 46% | 15% | 2% | -7% |
| 11 Turkey | 3.7 | 1.2% | na | 31% | 24% | 56% | 1.1 | 0% | 10% | 0% | 15% | 25% | 16% | 6% | -4% |
| 12 United Kingdom | 3.3 | 1.1% | 0% | 19% | 16% | 54% | 1.0 | 23% | 0% | 4% | 16% | 43% | 22% | 10% | -5% |
| 13 Italy | 2.9 | 1.0% | 9% | 38% | 33% | 75% | 1.4 | 2% | 0% | 0% | 16% | 18% | 20% | 13% | -6% |
| 14 Australia | 2.9 | 1.0% | na | 25% | -68% | 37% | 1.3 | 32% | 25% | 0% | 12% | 68% | 18% | 7% | -5% |
| 15 Thailand | 2.6 | 0.9% | 27% | 34% | 14% | 60% | 1.9 | 23% | 3% | 0% | 5% | 31% | 18% | 21% | -7% |
| 16 Spain | 2.5 | 0.8% | 1% | 45% | 17% | 63% | 1.5 | 0% | 0% | 7% | 23% | 30% | 24% | 7% | -6% |
| 17 South Africa | 2.5 | 0.8% | na | 19% | 4% | 23% | 1.1 | 0% | 75% | 1% | 3% | 79% | 9% | 0% | -12% |
| 18 Vietnam | 2.4 | 0.8% | na | 19% | 0% | 26% | 0.9 | 5% | 22% | 0% | 18% | 45% | 13% | 3% | -10% |
| 19 Malaysia | 2.4 | 0.8% | 12% | 14% | -25% | 36% | 1.4 | 48% | 0% | 0% | 6% | 54% | 20% | 10% | -1% |
| 20 Taiwan | 2.3 | 0.8% | 27% | 34% | 24% | 59% | 1.5 | 0% | 0% | 2% | 5% | 6% | 11% | 18% | -4% |
| 21 Egypt | 2.1 | 0.7% | na | 5% | 11% | 50% | 0.9 | 50% | 0% | 0% | 4% | 54% | 15% | 28% | -5% |
| 22 Poland | 1.9 | 0.6% | 24% | 34% | 15% | 50% | 1.2 | 5% | 34% | 0% | 10% | 49% | 19% | 4% | -3% |
| 23 Netherlands | 1.6 | 0.5% | 14% | 44% | 20% | 66% | 1.7 | 12% | 0% | 1% | 13% | 26% | 20% | 9% | -4% |
| 24 Pakistan | 1.6 | 0.5% | 25% | 25% | 12% | 38% | 0.7 | 40% | 12% | 5% | 9% | 65% | 13% | 10% | -10% |
| 25 Uzbekistan | 1.5 | 0.5% | na | 6% | 18% | 27% | 1.8 | 65% | 3% | 0% | 3% | 71% | 4% | 20% | na |
| 26 Singapore | 1.4 | 0.5% | 26% | 86% | 12% | 99% | 4.8 | 0% | 0% | 0% | 1% | 1% | 51% | 10% | -2% |
| 27 Ukraine | 1.2 | 0.4% | na | 18% | 3% | 21% | 0.9 | 39% | 21% | 15% | 6% | 81% | 9% | 8% | na |
| 28 Belgium | 1.1 | 0.4% | 5% | 49% | 21% | 71% | 2.1 | 0% | 0% | 9% | 8% | 18% | 22% | 4% | -6% |
| 29 Colombia | 1.0 | 0.3% | na | -38% | 4% | 45% | 1.0 | 26% | 12% | 0% | 21% | 60% | 21% | 6% | -4% |
| 30 Bangladesh | 1.0 | 0.3% | 11% | 30% | 14% | 45% | 0.5 | 43% | 0% | 0% | 1% | 44% | 8% | 29% | -4% |
| 31 Philippines | 1.0 | 0.3% | 10% | 39% | 5% | 46% | 0.8 | 0% | 0% | 0% | 10% | 10% | 20% | 5% | -9% |
| 32 Sweden | 0.9 | 0.3% | na | 21% | 2% | 24% | 0.7 | 0% | 0% | 19% | 47% | 66% | 8% | 0% | -5% |
| 33 Chile | 0.8 | 0.3% | na | 45% | 14% | 60% | 1.8 | 0% | 0% | 0% | 27% | 27% | 18% | 7% | -9% |
| 34 Austria | 0.7 | 0.2% | na | 31% | 17% | 49% | 1.2 | 0% | 0% | 0% | 35% | 35% | 16% | 3% | -4% |
| 35 Belarus | 0.7 | 0.2% | na | 29% | 54% | 83% | 4.2 | 0% | 0% | 8% | 1% | 8% | 10% | 14% | na |

Source: Energy Institute, EIA, IEA, IEEFA, OEC, Vortexa, Bloomberg, JPMAM, 2025

| | | | | Sensitivity to spikes in oil & gas prices | | | | Oil & Gas crisis insulation factors | | | | | Future Tran. Opportunity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | Useful final energy (EJ) | Share of global UFE | Strait of Hormuz oil & gas imports % of primary energy | Oil import share of primary energy | Gas import share of primary energy | Oil consumption & imported gas share of primary energy | Oil consumption & imported gas (TJ) per $2022 GDP, bn | Domestically produced gas consump % of useful final energy | Domestically produced coal consump % of useful final energy | Nuclear % of useful final energy | Renewable % of useful final energy | Total insulation factor | Oil used for road transport as a share of primary energy | Gas used for power as a share of primary energy | Equity market return since conflict start |
| 36 Czech Republic | 0.6 | 0.2% | na | 28% | 17% | 46% | 1.2 | 0% | 26% | 15% | 7% | 48% | 15% | 4% | 1% |
| 37 Romania | 0.6 | 0.2% | na | 28% | 1% | 40% | 0.7 | 37% | 6% | 6% | 14% | 64% | 18% | 7% | 0% |
| 38 Peru | 0.6 | 0.2% | na | 22% | -12% | 40% | 1.0 | 40% | 0% | 0% | 23% | 63% | 22% | 18% | -15% |
| 39 Greece | 0.5 | 0.2% | 56% | 53% | 21% | 75% | 2.1 | 0% | 3% | 0% | 17% | 20% | 22% | 14% | -10% |
| 40 Finland | 0.5 | 0.2% | na | 25% | 4% | 30% | 1.1 | 0% | 0% | 21% | 33% | 54% | 8% | 1% | 1% |
| 41 Switzerland | 0.5 | 0.2% | na | 30% | 10% | 42% | 0.6 | 0% | 0% | 15% | 36% | 51% | 17% | 1% | -8% |
| 42 Hungary | 0.5 | 0.2% | na | 35% | 32% | 68% | 1.5 | 0% | 3% | 11% | 8% | 22% | 16% | 5% | -5% |
| 43 Israel | 0.5 | 0.2% | na | 40% | -40% | 41% | 0.8 | 47% | 0% | 0% | 8% | 55% | 22% | 27% | 2% |
| 44 Morocco | 0.4 | 0.1% | na | 60% | 3% | 64% | 1.6 | 0% | 0% | 0% | 8% | 8% | 23% | 3% | -5% |
| 45 Portugal | 0.4 | 0.1% | na | 44% | 14% | 59% | 1.2 | 0% | 0% | 0% | 37% | 37% | 25% | 7% | 1% |
| 46 New Zealand | 0.3 | 0.1% | na | 37% | 13% | 51% | 1.5 | 0% | 9% | 0% | 37% | 47% | 23% | 4% | -4% |
| 47 China Hong Kong | 0.3 | 0.1% | na | 65% | 20% | 86% | 1.5 | 0% | 0% | 0% | 1% | 1% | 46% | 17% | -3% |
| 48 Slovakia | 0.3 | 0.1% | na | 26% | 24% | 51% | 1.4 | 0% | 0% | 18% | 7% | 26% | 11% | 4% | na |
| 49 Ecuador | 0.3 | 0.1% | na | -61% | 3% | 73% | 2.4 | 0% | 0% | 0% | 26% | 26% | 33% | 2% | na |
| 50 Bulgaria | 0.3 | 0.1% | na | 31% | 14% | 46% | 1.4 | 0% | 16% | 18% | 13% | 48% | 16% | 5% | -18% |
| 51 Ireland | 0.3 | 0.1% | na | 45% | 27% | 74% | 1.7 | 0% | 0% | 0% | 17% | 17% | 24% | 16% | -6% |
| 52 Denmark | 0.3 | 0.1% | na | 27% | -1% | 46% | 0.7 | 15% | 0% | 0% | 37% | 51% | 23% | 2% | -1% |

Source: Energy Institute, EIA, IEA, IEEFA, OEC, Vortexa, Bloomberg, JPMAM, 2025

**Total insulation factor: shares of useful final energy less exposed to global oil & gas shocks**




Source: Energy Institute, EIA, IEA, IEEFA, OEC, Vortexa, JPMAM, 2025

## On munitions depletion and critical minerals supply chains

While it's impossible to know exactly what munitions have been expended so far, some foreign policy institutes and research centers are making some educated guesses based on satellite imagery. Note in the first table that the US may have expended in just 6 days more of certain munitions than will be produced in 2026. On the right: an estimate of the number of days that munitions could be sustained at same pace as the first 96 hours. Obviously the pace of munitions deployment has slowed since the first 96 hours, but the table is illustrative with regards to the amount of munitions expended and how the US could only sustain it for roughly a month.

**Key munitions usage in Iran War and FY 2026 deliveries**

| | Estimated expended in 6 days | Anticipated deliveries in FY 2026 |
|---|---|---|
| Tomahawk | 319 | 190 |
| Standard Missile 3 | 83 | 76 |
| Standard Missile 6 | 115 | 125 |
| Joint Air-to-Surface Standoff Missile | 786 | 0 |
| Precision Strike Missile | 86 | 70 |
| Patriot Advanced Capability 3 MSE interceptor | 139 | 172 |
| Terminal High Altitude Area Defense interceptor | 158 | 0 |

Source: Cancian and Park (CSIS), March 13, 2026

**Days of US munitions left in the Iran War**

| Weapons system | Days left at the first 96 hours burn rate |
|---|---|
| Army Tactical / Precision Strike Missile | 12 |
| GBU-57 Massive Ordnance Penetrator | 13 |
| Terminal High Altitude Area Defense interceptor | 25 |
| Patriot PAC-2 / PAC-3 interceptor | 31 |
| Navy Aegis Standard Missile 2, 3, 6 | 32 |
| Tomahawk Block IV/V | 34 |

Source: Bazilian et al, Foreign Policy Research Institute, March 16, 2026

**The byproduct of rapid munitions use is the need to replace the critical minerals embedded in them.** The next table estimated the mass of critical minerals consumed within the first 96 hours of the war. Such amounts are small shares of annual US consumption; the greater risk is that for some of them, China is the largest single critical mineral counterparty.

**Estimated critical minerals consumed by the US in first 96 hours of war with Iran**

| | | | Top 3 countries from which the US imports, as a share of US annual consumption | | | | | |
|---|---|---|---|---|---|---|---|---|
| Critical mineral | Volume consumed, kilograms | Volume consumed as a share of US annual consumption | Country | Share | Country | Share | Country | Share |
| Cobalt | 2,197 | 0.03% | Norway | 21% | Finland | 13% | Canada | 11% |
| Tungsten | 11,444 | 0.11% | China | 13% | Germany | 7% | Bolivia | 4% |
| Neodymium | 137 | 0.00% | China | 48% | Malaysia | 9% | Estonia | 3% |
| Samarium | 34 | 0.02% | China | 48% | Malaysia | 9% | Estonia | 3% |
| Dysprosium | 7 | 0.00% | China | 48% | Malaysia | 9% | Estonia | 3% |
| Gallium | 18 | 0.09% | Canada | 28% | Japan | 22% | China | 18% |
| Germanium | 2 | 0.01% | Belgium | 21% | China | 12% | Canada | 9% |
| Tantalum | 37 | 0.01% | China | 22% | Australia | 14% | Germany | 11% |
| Ammonium perchlorate | 124,040 | 0.18% | United States is a net exporter, relying on a single US supplier | | | | | |

Source: Payne Institute estimates, Foreign Policy, USGS, Atlantic Council, Market Growth Reports, Rare Earth Exchanges, GV Wire, JPMAM, March 16, 2026

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