



Consider This

Schrödinger's Straits



STRATEGIST VIEWS

Kim CatechisSenior Investment Strategist
Franklin Templeton Institute**How to think about 'Schrödinger's Straits' (open and closed at the same time)**

As global investors, we are constantly assessing and monitoring the relative attractiveness of countries as investment destinations. We are used to dealing with unexpected events, and are relatively good at quantifying the impacts, when these occur. In this situation, we are trapped in no-man's land, with clarity on the importance of the Persian Gulf as a meaningful supplier to the world economy, but no visibility on the timing of the potential resolution of the Iran war. Consequently, shipping companies have no confidence in regional freedom of navigation, and the world economy is prejudiced as a result. We consider the conundrum in terms of Schrödinger's thought experiment by focusing on two elements: energy (*oil, liquefied natural gas [LNG], petrochemicals and fertilisers*) and geoeconomics.

Energy

The **energy exporters** outside the Middle East are beneficiaries of high oil prices, even if their geographic location implies higher shipping and insurance costs to reach their end clients. In this group, the **United States, Brazil and Canada** can all modestly increase their production and could underpin high prices by redirecting existing exports to highest paying clients in the meantime. However, each exporter has specific issues that get in

the way of a straightforward windfall. And of course, rising global oil prices hurt the citizens and businesses in the exporting countries, as higher oil prices feed through into inflation and prejudice those least able to afford it. For people with limited savings, even a 10% increase in gasoline/petrol prices is material, especially if they need to drive to work every day.

The big beneficiary in the short term of course is **Russia**, for whom sanctions are suspended to soften the supply shock in the oil markets. Russia has benefitted, even if effective drone attacks by the Ukrainian Armed Forces have constrained the volumes of oil that have reached the export markets.

Brazil is an energy exporter but relies on diesel imports (25%-30%²) because it lacks enough refining capacity, so the government has applied an export tax on crude oil and diesel exports to cushion the pain caused to its crucial agricultural³ lobby. **Canada** lacks the pipeline infrastructure to materially increase its export volumes. **Russia** has been struggling to protect its refineries, its 'shadow fleet' of illegal oil tankers and its export terminals from Ukrainian drone attacks.

The **United States** imports around seven million barrels of oil per day in normal times, despite its status as the largest producer in the world and a net exporter of energy. The reasons? Geography, and the Jones Act. **Geography** dictates that American oil comes mainly from the Permian and the Gulf of Mexico, which is where 55%⁴ of refinery capacity is located. **The Jones Act**⁵ dictates that only US-built, US-owned and US-crewed ships can provide domestic US shipping services. This results in a situation where it is cheaper to import oil from Europe than ship it from the US state of Texas to Massachusetts on the East Coast. In 2025, **8%**⁶ of the US oil imports came from the Persian Gulf, mainly from Saudi Arabia.

1. Erwin Schrödinger is considered one of the founders of Quantum Mechanics. But he is best known for the thought experiment called 'Schrödinger's Cat'. It takes a cat and places it in a closed box with a device that has a 50% chance of killing the cat in the next hour. At the end of the hour, logically the cat is either alive or dead, but Schrödinger suggested that until the box is opened, the cat can be considered both alive and dead at the same time, since the chances of survival are 50%.
2. Source: 'Brazil faces diesel supply risk as imports become unviable'. Valor. 25 March 2026.
3. Diesel is critical for farming around the world. Beyond tractors, diesel powers vital infrastructure including irrigation pumps, onsite generators for remote power, and heating systems for livestock and greenhouses. Historically, the preference for diesel has been driven by a combination of cost effectiveness and versatility.
4. Source: EIA Refinery Capacity Report. June 2025.
5. The Jones Act is Section 27 of the Merchant Marine Act of 1920. However, the terms 'Jones Act' and 'Merchant Marine Act of 1920' are commonly used interchangeably, including by the US Maritime Administration (MARAD). See, for example, 'The Maritime Administration's First 100 Years: 1916-2016'. US Department of Transportation, US Maritime Administration.
6. Source: EIA In Brief Analysis. 6 April 2026. Source: EIA Petroleum & Other Liquids, Spot Prices Database.

The Jones Act retains a powerful influence on US trade. One example is the US crude oil imports in 2025.

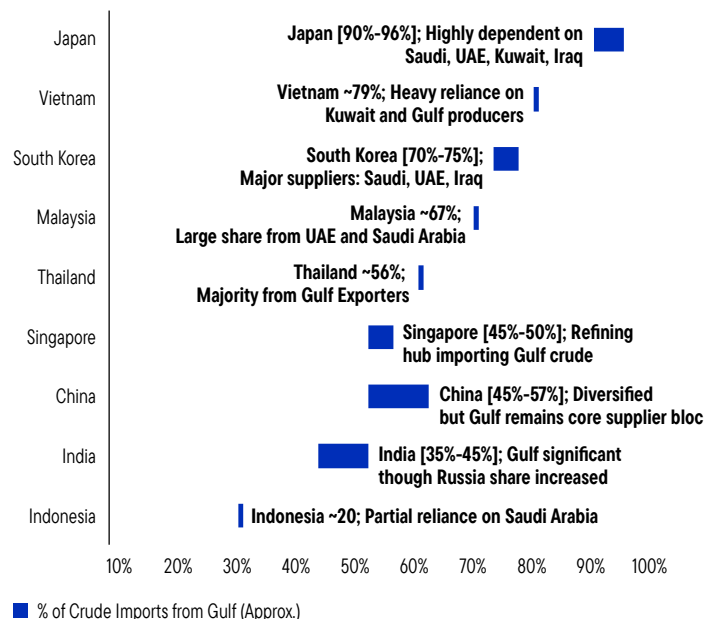
According to the US Energy Information Administration (EIA),⁷ average spot prices in 2025 for West Texas Intermediate and Brent crude oil were US\$65.39 and US\$69.14 per barrel, respectively. Jones Act day rates for tankers were stable between US\$86,000/day and US\$91,000/day.⁸ This is significantly more expensive than the average day rate of around US\$9,000/day for internationally flagged tankers, leading to buyers on the US East Coast to import from Europe or the Gulf, in spite of their longer journeys.

What is the main reason for this situation? Analysts cite the Merchant Marine Act of 1920. Commonly known as the Jones Act, it was originally put forward as a plan to guarantee shipbuilding and crewing capacity for wartime or in national emergencies. It does so by restricting domestic US shipping services to ships that are US-built, US-owned and US-crewed. Today, 106 years later, it is easy to see that it has failed in its central objective. America's decline in commercial shipbuilding has been catastrophic. In 1975, US shipyards produced 70 vessels per year, while in 2024, they produced five. Meanwhile, China produced 1,000.⁹ For every 359 large container ships built by China, the United States is building one.¹⁰

The **energy importers** are typically tethered to specific exporters for reasons of historical convenience, good relations and distance, because shipping costs are relevant. A side effect has been the construction of refinery capacity that specialises in the processing of Persian Gulf crude, which is high quality. This means that Japan (95%), South Korea (75%), Vietnam (79%), Malaysia (67%) and Thailand (56%) are the most exposed to Gulf oil imports.¹¹ Of these, Japan and South Korea have complex refineries that can process oil of different grades, and that provides them with higher flexibility. The others are less well positioned (can quickly switch around half their volumes to lower-grade crude) and the least flexible is Vietnam, which could struggle to switch 20% to 40% of its throughput.¹² India imports 88% of its oil consumption but it has complex refineries which can process even poor API grade crude. Around 45% of its oil imports came from the Persian Gulf before this war.

Longer term, it seems prudent to infer that Japan and South Korea will not return to such an extreme position of dependency on Gulf oil but choose instead to diversify their sourcing. The importers will accelerate their diversification of supply sources and prioritise non-fossil fuel alternatives.

Exhibit 1: Countries Most Dependent on Oil from the Gulf



Sources: FT Institute, WITS Energy Institute Statistical Review of World Energy 2024. Notes: Crude vs. refined vs. gas classification is by HS6 commodity lines (2709, 2710, 2711) where available. In several Gulf states, HS2711 'gas' exports include LPG and LNG together; Qatar stands out for having world-scale LNG export volumes. Exact HS6 breakdowns for all countries require direct WITS/OEC product queries or dataset downloads; the above blends publicly cited figures with best-inferred splits where direct HS6 export breakdowns aren't available. Exports exclude services, and countries like UAE have substantial re-exports which dilute apparent hydrocarbon dependence.

7. Source: EIA Petroleum & Other Liquids, Spot Prices Database.

8. Source: 'Jones Act Rates Unaffected by Trump ship talk', Argus Media. 6 June 2025.

9. Source: 'China far outpacing US in military, commercial ship numbers'. VOA news. 9 March 2025.

10. Source: 'Select Committee on CCP Holds Hearing – From High Tech to Heavy Steel: Combatting the PRC's Strategy to Dominate Semiconductors, Shipbuilding and Drones'. House Select Committee on the CCP. 26 June 2024.

11. Sources: FT Institute, WITS Energy Institute Statistical Review of World Energy 2024.

12. Sources: EIA, Offshore Technology, Company websites.

China

The global demand side of the oil equation is changing. China, the world's largest importer of oil, is now forecast to reach peak oil demand in 2027, according to state refiner Sinopec and the International Energy Agency (IEA).¹³ China's growing adoption of electric vehicles (EVs) will likely replace around 582,000 barrels per day of oil consumption this year. In Europe, crude oil demand peaked in 2022. India's demand remains an exception and is likely to grow until 2030 by around a million barrels per day.¹⁴

Chinese importers are heavily exposed to the Middle East across crude oil and related products. Roughly half of China's crude comes from the region alongside one-third of its LNG. While officially China does not import any oil from Iran, Kpler data points to 0.84 mb/d of imports in 2025, down from 1.2 mb/d in 2024. When taking Iranian volumes into account, in 2025, China imported half of its crude from the Middle East. It also relied on the Middle East for 40% of its naphtha imports and 45% of its LPG.

Although the import exposure numbers are high, when framed in the broader context of China's energy system, the reliance is slightly more limited. For example, Middle Eastern crude imports are 50% of supplies. While a very high proportion, it is limited when compared to Japan, India or Korea. What is more as a share of refining needs, the Middle East accounts for a third of crude demand, when considering domestic production and non-Middle Eastern grades.

- **This is an opportunity for regions and countries outside the Middle East with significant resources**, including Argentina, East Africa and the Eastern Mediterranean (gas), Guyana, Brazil, Venezuela, the United States and Canada (oil). In terms of time to market and volume of potential supply, the most attractive deposits outside the Middle East are listed below.
- The United States could develop Alaskan oil, but it would be at least 24 months to market, and volume would only be enough to cap prices.
- Brazil pre-salt oil is similarly two or three years away from coming to market but potentially brings a high impact by 2030. This is probably the best non-OPEC option for the world.
- Canadian tar sands oil¹⁵ is enormous. It is a proven resource of 163 billion barrels. While probably two years to market, it should build to a significant market impact after five years.

- Venezuelan oil could be five years to market, but assuming the right capital expenditure is invested in the appropriate infrastructure, volume could be significant after 2032.
- Eastern Mediterranean gas (Cyprus, Greece, Egypt, Israel, Turkey, Lebanon) could be on the market in 2028, building to significant volumes after 2032. Disputes prevail over ownership rights, so expect tensions to rise as we approach production.
- East Africa gas, specifically Mozambique, could reach the market in 2032, probably with medium impact to the global market.

LNG

Tighter LNG supply due to the Iran war has already affected India and other Asian countries, with some industries reporting shortages of specific gases such as propane; it will almost certainly also lead to fertilizer shortages in Pakistan and India. The United States is the biggest exporter of LNG in the world, but it has minimal spare capacity at its liquefaction plants, so it cannot export more short term.

Europe is now at the end of its winter heating demand and Asia has not yet begun its summer air conditioning demand, so we have a narrow window if the war ends quickly. Typically, Europe starts buying to rebuild inventories in March/April, but that might be delayed because of current high prices. The big issue with LNG is that it takes time to build liquefaction (export) capacity although Europe has plenty of gasification (import) capacity.

Europe's gas infrastructure—transmission networks, LNG regasification terminals and storage—is structurally sufficient and not a constraint on security of supply, provided it remains fully operational. These components function as an integrated system: LNG terminals provide access to global supply and optionality, networks enable cross-regional flows, and storage ensures high deliverability, flexibility, and resilience against shocks such as cold spells, low renewable output, or supply disruptions.

As of 1 April 2026, EU gas storage was about 28% full (≈ 314 TWh / 29 bcm),¹⁶ well below the past three years and closer to pre-crisis levels. Qatari LNG accounted for around 8% of imports in 2025, although Italy and France are more exposed because they had long term supply contracts with Qatar. For the others, the market remains highly exposed to global price dynamics and competition for cargoes, particularly with Asia. As a result, reduced LNG availability is driving higher TTF¹⁷ prices, increasing volatility, and potentially complicating storage refilling ahead of winter. Inventory levels are low—28% across the EU as of 1 April 2026 (close to pre-crisis levels).

13. Source: 'Sinopec Makes Overseas Debut with Global Energy Forecast: Global Energy Outlook 2060 Report Released'. Sinopec. 21 April 2025.

14. 'Oil 2025 - Analysis and forecast to 2030'. Source: IEA. June 2025. There is no assurance that any estimate, forecast or projection will be realised.

15. Source: IEA Canada Country Analysis Brief. 30 May 2024.

16. European Network of Transmission System Operators for Gas, Summer Outlook 2026. Published in April 2026.

17. Title Transfer Facility (TTF) is the benchmark for European gas. Prices are usually quoted in Euros per Megawatt-hour (€/MWh).

According to the ENTSOG¹⁸ Summer Outlook 2026, to replenish gas storage in preparation for the upcoming winter, Europe will require higher LNG imports than previously observed, combined with increased utilisation of gas infrastructure. This would require approximately 943 TWh/~86 bcm of LNG to reach the 90% storage level while satisfying the EU gas demand and exports, from 1 April to 30 September 2026.

In the United States, the following major liquefaction projects are under construction or entering commissioning; meaning, new capacity totalling several billion cubic feet per day of liquefaction capability is expected to be added over the next two years, but will not be enough to replace lost Qatari production:

- **Plaquemines LNG (Phase 2)** – Expansion of existing terminal capacity
- **Corpus Christi 3** – Additional trains that significantly boost throughput
- **Golden Pass LNG** – Large new facility with phased ramp-up
- **Rio Grande LNG, Port Arthur LNG, Woodside Louisiana LNG, CP2** – Projects at various stages of construction with expected commissioning in 2026–2027 timeframe

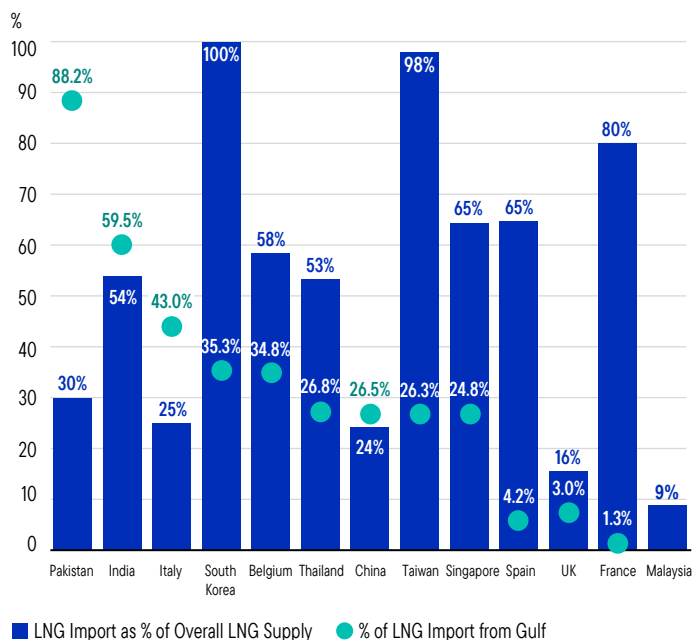
Regions or countries that have built significant LNG import terminal capacity will be the main beneficiaries: Europe, Japan, India, Taiwan and South Korea.

Qatar is the second-largest **LNG exporter** in the world, and has shut down its production because of the war. At this point it seems damage to the LNG terminals would impact 17%¹⁹ of its prewar production, according to Qatar Energy.

Among its mainly Asian clients, Pakistan is the most dependent on LNG, which represents 45% of its primary energy. It imports around 90% of its LNG from Qatar. It is exposed because LNG prices have soared (Pakistan relies on imports for nearly 30% of its LNG demand) and prices are likely to stay elevated for some time after the pacification of the region.²⁰

In Europe, gas consumption has been decreasing, with the IEA forecasting an 8%-10%²¹ reduction to 2030. The evidence so far is that around half the industrial demand lost since 2022 is not coming back.²² The two countries with long-term supply contracts with Qatar are France and Italy.

Exhibit 2: Dependence on LNG Imports from the Persian Gulf



Sources: FT Institute, WITS Energy Institute Statistical Review of World Energy 2025. Notes: Sorted as per import from Gulf. In several Gulf states, HS2711 'gas' exports include LPG and LNG together; Qatar stands out for having world-scale LNG export volumes. Exact HS6 breakdowns for all countries require direct WITS/OEC product queries or dataset downloads; the above blends publicly cited figures with best-inferred splits where direct HS6 export breakdowns aren't available. Exports exclude services, and countries like UAE have substantial re-exports which dilute apparent hydrocarbon dependence. Taiwan's data is sourced from OEC.

Petrochemicals

Petrochemicals are feedstocks for polymers such as:

- Polyethylene (PE), used in packaging, films, pipes
- Polypropylene (PP) – automotive parts, textiles, medical devices
- PVC – construction materials, wiring insulation
- Polystyrene – insulation, consumer goods
- PET – beverage bottles, synthetic fibres

18. European Network of Transmission System Operators for Gas, Summer Outlook 2026. Published in April 2026.

19. Source: Qatar Energy Press Release: 'H.E. Minister Saad Sherida Al-Kaabi: The missile attacks reduced Qatar's LNG export capacity by 17% and caused an estimated loss of \$20 billion in annual revenue'. 19 March 2026.

20. Sources: FT Institute, WITS Energy Institute Statistical Review of World Energy 2025. Notes: Sorted as per import from the Persian Gulf. In several Gulf states, HS2711 'gas' exports include LPG and LNG combined; Qatar stands out for having world-scale LNG export volumes. Exact HS6 breakdowns for all countries require direct WITS/OEC product queries or dataset downloads; the above blends publicly cited figures with best-inferred splits where direct HS6 export breakdowns aren't available. Exports exclude services, and countries like UAE have substantial re-exports which dilute apparent hydrocarbon dependence. Taiwan's data is sourced from OEC.

21. Source: 'Gas 2025 - Analysis and forecast to 2030.' International Energy Agency (IEA). October 2025.

22. Source: 'OECD European gas demand forecast to fall up to 10% from 2024-2030: IEA'. S&P Global. 27 October 2025.

Production cuts are spreading across the Asian petrochemical industry because naphtha supplies from the Middle East have dropped sharply and prices have surged. According to Argus²³ and ICIS,²⁴ several Asian petrochemical companies have reduced their operating rates at crackers or declared force majeure recently. This is largely due to concerns that oil and naphtha shipments from the Middle East—Asia's main supplier—could decline further if the Strait of Hormuz remains closed for a longer period.

Argus estimates that Asia-Pacific countries sourced ~60% of their naphtha imports from the Middle East in 2025, with China's exposure to Middle Eastern naphtha estimated to be ~40% of total imports. Some naphtha cargoes from the Middle East have already bypassed the Strait of Hormuz and are on the way to Asia/China, though with deliveries expected to be down month-on-month; however, but future loadings out of the Middle East will likely be disrupted. In case of an extended disruption of Middle Eastern supply of crude and naphtha to Asia, there is a possibility for some production facilities to switch to ethane as fuel instead of naphtha, but the scope of this may be limited and would not offset the extent of the supply shortage.

Helium

Helium used to be a byproduct of LNG in fields with a relatively high concentration, but it is now a strategic input in critical applications, with constrained production even before the US-Israeli war on Iran. There are no substitutes for Helium, and no reserves. Around 80%²⁵ of global production is in the United States and Qatar, with small volumes in Algeria and Russia.

Helium is used as a cooling medium for the Large Hadron Collider (LHC), and the superconducting magnets in MRI scanners and NMR spectrometers. It is also used to keep satellite instruments cool and was used to cool the liquid oxygen and hydrogen that powered the Apollo space vehicles.

Because it is very unreactive, helium is used to provide an inert protective atmosphere for making fibre optics and semiconductors, and for arc welding. Helium is also used to detect leaks, such as in car air-conditioning systems. And because it diffuses quickly, it is also used to inflate car airbags after impact.

Applications for helium are growing exponentially. It is estimated that roughly a third of the consumption is from the health care sector, with medical imaging (MRI) the most dependent use-case.

More recently, the biggest source of demand growth has come from the tech sector, specifically semiconductor fabrication, which is estimated to represent around a quarter of global demand but is growing exponentially. Other significant users are the space industry, consumer electronics, quantum computing and advanced physics research. Marginal production cost drives pricing, with the Asian semiconductor companies the most aggressive bidders.

Geoeconomics drives the electrostates

For global investors, two assumptions have been undermined: The assumption of safety and stability of the GCC countries and the ability of the United States to impose its terms on the Iranian regime. The result is the application of a new threshold country risk premium for investment in the region. Unfortunately, it is highly unlikely that the leadership in Tehran becomes pacifist, and they now have evidence that blocking the world economy might be more powerful a weapon than a nuclear warhead. Their proximity to Hormuz, their dispersal of command and of relatively cheap drones and missiles amplifies their ability to hold out for a considerable time. They have prepared for decades and learned from the Taliban's 20-year struggle, and from Russian technology and satellite intelligence help. They are ready for a long conflict.

The Islamic Revolutionary Guard Corps. (IRGC) seems to have cemented leadership control. Its objective (other than survival) is to impose a cost on the United States and Israel, and this is viewed as a structural deterrence strategy. The IRGC thinks its forces can outlast US President Trump and must demonstrate that they control the Hormuz Strait. To do this, the price of oil must be kept high. The mechanism to accomplish that aim is to maintain the threat of attacks on shipping, which restricts traffic through Hormuz.

23. Source: 'LPG view of the markets amid the Iran War'. Argus Media. 22 March 2026.

24. Source: 'Supply tightness continues to bite Asian petrochemicals amid Mideast conflict'. ICIS, INSIGHT. 18 March 2026.

25. Sources: US Geological Survey, Mineral Commodity Summaries, January 2024; Qatar National Vision 2030.

The GCC countries will restock their interceptors and munitions and invest in infrastructure to improve their resilience with alacrity, probably providing significant investment opportunities in the future. They will likely have to downgrade their investment in sports, entertainment and tourism as well as their bigger technology and chemical ambitions, at least for a time. They are going to review their investment priorities after this war, as well as their outward investment plans.

The UAE has been particularly vocal about its dissatisfaction with the level of support received from certain countries, particularly where it has historically made significant investments. Egypt is in this category, and Pakistan has clearly upset Abu Dhabi by signing a mutual defence treaty²⁶ with Saudi Arabia in September 2025. The level of upset was made public as the UAE demanded the return of US\$3.5 billion of deposits made to the Central Bank of Pakistan after the defence pact was announced.

Saudi Arabia will likely prevail economically, and its mutual defence pact with nuclear armed Pakistan will be projected as a guarantee of future protection to international businesses with a regional base in the UAE. Riyadh's plans for economic diversification will most likely have to be tapered to allow for a maximisation of oil export revenues in the short term, as a significant increase in investment in defence and resilience will come at the expense of foreign direct investment for now. Like the UAE, Riyadh will probably review its partnerships in the light of behaviours witnessed during this war and Ukraine might come out better placed, given Kyiv's support in drone defence for all the Gulf countries. The result, where these countries' defence industries become closely linked with Ukraine's, is an example of how international relations can change in a short space of time.

However, the reality is that the goods and commodities exported from the region will in future carry a higher risk premium that will take a long time to shed. The fact that Hormuz has been effectively closed demonstrates that it is a structural risk that does not exist in other geographies. So, the shipping rates and the insurance rates will be higher and the countries that grew to depend on imports from this region will diversify away, challenging the attractiveness of the Gulf to outside investors for a time.

Another area of concern for third countries is the risk of remittances drying up. The UAE, for example, has a significant tourism industry which is underpinned by foreign workers, predominantly from Asia. If the tourists stay away for 3-4 years, these workers will probably be sent home. There are an estimated 9 million²⁷ Indian citizens working in the Gulf, sending around US\$50 billion home each year, equal to 1.25% of Indian GDP.²⁸

Longer term, it seems likely that Japan and South Korea will not return to such an extreme position of dependency on Persian Gulf oil but choose instead to diversify their sourcing. Both countries have significant lobbies in favour of nuclear energy, and they are both going to accelerate their electrification efforts, along with many others.

It's worth remembering that the South Asian emerging markets until very recently were widely considered the last hotspots of oil demand growth, especially thanks to fast-growing cars running on combustion engines (i.e. burning gasoline and diesel). The argument went that power grids in these regions couldn't support strong EV growth and that there would be insufficient charging infrastructure.

As it turns out, it's easier, faster and cheaper to build electrification (especially renewables and storage systems), and that also helps reduce import dependencies relatively quickly.

Conventional generation plants still provide most system flexibility, but large-scale batteries are playing an increasing role in supply security, especially in high-renewables markets such as California, Germany, South Australia, Texas and the United Kingdom. Falling costs are improving competitiveness, though reducing market barriers and integration challenges remains key to scaling their impact.

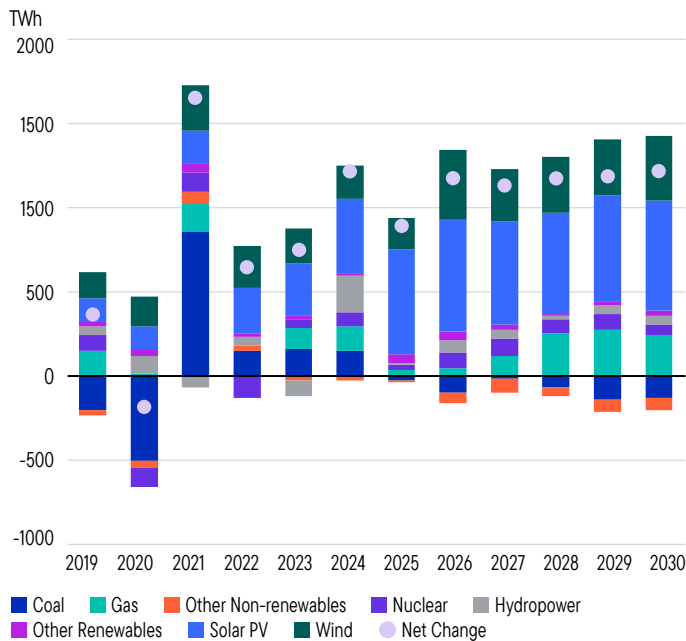
26. Source: 'Joint Statement on the State Visit of Prime Minister of the Islamic Republic of Pakistan, Muhammad Shehbaz Sharif, to the Kingdom of Saudi Arabia'. Government of Pakistan, Ministry of Foreign Affairs. 17 September 2025.

27. Source: 'Over 50% of GCC's population are expats, with Indians leading with 9.1 million'. Times of India. 25 March 2026.

28. Source: The World Bank, Global Economy – Remittances. As of 2024.

Exhibit 3: Year-on-Year Global Change in Global Electricity Generation by Source

2019–2030



Note: Other non-renewables include oil, waste and other non-renewable energy sources. Data for 2025 are preliminary. Data for 2026 and 2030 are forecast values.

Source: International Energy Agency Electricity 2026: Analysis and Forecast to 2030. 30 January 2026.

Renewable generation is overtaking coal, in line with IEA forecasts. Driven by record solar photovoltaics output, renewables surged in 2025 to nearly match coal, despite weaker hydropower and low wind speeds in some regions. Output is projected to grow by ~1,000 TWh annually through 2030, with solar contributing over 600 TWh, implying ~8% annual growth.²⁹ By 2030, renewables and nuclear together are expected to supply about half of global electricity.

These forecasts could prove to be too conservative if the Iran war drives more capital investment into non-fossil-fuel-driven energy

projects. The world is being split into two broad groups: the petrostates which are doubling down on fossil fuels, and the electrostates which are trying to reduce their dependence on oil and gas, mainly for national security reasons. The first group is composed of countries that are rich in oil and gas, such as Russia, Iran, Saudi Arabia, Qatar, Kuwait, UAE and the United States. China and the European Union (EU) lead the second group—two continental-sized economies with incentives to avoid energy imports for their own security.

The EU currently relies on a combination of 'green' power (solar, wind, hydro and bioenergy) and nuclear for 71%³⁰ of its electricity generation.

Although its demand for fossil fuels is still rising, China is also the leading force in clean energy, expanding renewable capacity at an unmatched rate and dominating key supply chains. Beijing's non-fossil fuel electricity generation is now just below 42%,³¹ as of December 2025.

India appears set to experience the fastest growth in energy demand of any country over the next three decades, driven by rapid industrialisation, urbanisation, and rising incomes. Energy demand in Southeast Asia has also been increasing quickly, highlighting the region's dual challenge of ensuring energy security while shifting to more sustainable sources. For now, it continues to depend on coal, which still provides 70% of its electricity; non-fossil fuels represent 27%³² of generation as of December 2025.

Meanwhile, Japan and South Korea—major industrial economies that have long depended on imported fuels—are developing strategies to decarbonise while maintaining reliable energy supplies. They remain dependent on fossil fuels but have reached 33% and 40%³³ respectively in renewables generation. Of the big players in technology, Taiwan is the laggard, especially as it has been reducing its use of nuclear power. The country's renewables contribution is at 13.5%³⁴ at the end of 2025. They are all incentivised to join the electrostates at pace, for the same reasons as China and the EU.

29. Source: International Energy Agency Electricity 2026 - Analysis and Forecast to 2030. 6 February 2026.

30. Source: EMBER, Electricity Data Explorer. Data as at end December 2025.

31. Ibid.

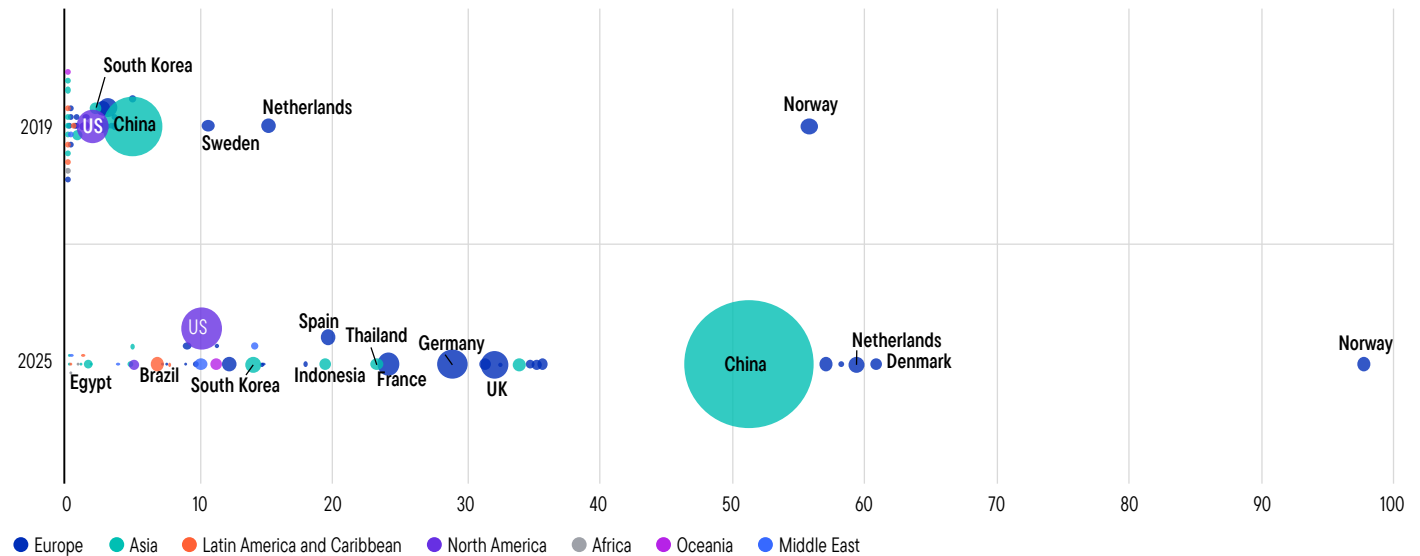
32. Ibid.

33. Ibid.

34. Ibid.

Exhibit 4: EV Penetration as % of Total Auto Sales by Country

2019 vs. 2025 (Bubble sizes are relative to total EV Sales)



Note: EVs include battery electric vehicles, plug-in hybrid electric vehicles and fuel cell electric vehicles. Sources: Bloomberg, MarkLines, Franklin Templeton Institute.

The highly visible automobile market

By around 2030, several big countries are expected to sit where Norway is today, at nearly 100% of EV sales market share. Top contenders: China, Vietnam, Thailand, some EU members, and some Latin American nations. Also, watch countries in Africa—some may simply leapfrog straight to solar and wind power.

Conclusion

Regardless of the duration of the conflict around the Strait of Hormuz, the long-term impact will likely be measured in a radical prioritisation of security, resilience and a recalibration of supply chains worldwide. Along with an effort to accelerate non-fossil fuel power generation among the 'electrostates' and a review of existing oil and gas resource portfolios in the petrostates, this war should trigger a massive reallocation of capital. We will probably see a lot of bad decisions and hopefully a number of good ones, which will create great investment opportunities.

WHAT ARE THE RISKS?

All investments involve risks, including possible loss of principal.

Equity securities are subject to price fluctuation and possible loss of principal.

Fixed income securities involve interest rate, credit, inflation and reinvestment risks, and possible loss of principal. As interest rates rise, the value of fixed income securities falls.

International investments are subject to special risks, including currency fluctuations and social, economic and political uncertainties, which could increase volatility. These risks are magnified in **emerging markets**.

Commodity-related investments are subject to additional risks such as commodity index volatility, investor speculation, interest rates, weather, tax and regulatory developments.

Companies in the infrastructure industry may be subject to a variety of factors, including high interest costs, high degrees of leverage, effects of economic slowdowns, increased competition, and impact resulting from government and regulatory policies and practices.

IMPORTANT LEGAL INFORMATION

This material is provided for general informational purposes only and should not be considered individualized investment advice, a recommendation or a solicitation to adopt any investment strategy. It does not constitute legal or tax advice. Franklin Templeton accepts no liability for losses arising from use of this material.

The views expressed are those of the investment manager as of the publication date and may change without notice. These opinions and analyses are based on certain assumptions, including market conditions that may change. They may differ from those of other portfolio managers or from the firm as a whole.

This material is not intended to provide a complete analysis of all material facts regarding any country, region or market. No assurance can be given that any forecast, projection or prediction regarding economies or financial markets will be realized. References to specific securities are for illustrative purposes only and should not be interpreted as recommendations or a solicitation to buy, sell, or hold any security.

Any research or analysis in this material has been prepared by Franklin Templeton for its own purposes and is provided incidentally. While the information included is believed to be reliable, its accuracy and completeness cannot be guaranteed, and it is subject to change without notice.

Past performance does not guarantee future results, or any profit or gain. All investments involve risks, including possible loss of principal.

Franklin Templeton offers environmental, social and governance (ESG) capabilities, though not all strategies or products incorporate ESG as part of the investment process.

Investment strategies and services may not be available in all jurisdictions. Please consult your financial professional or Franklin Templeton contact for further information.

Brazil: Issued by Franklin Templeton Brasil Ltda. **Canada:** Issued by Franklin Templeton Investments Corp. **Offshore Americas:** In the United States, this publication is made available by Franklin Templeton. **United States:** Issued by Franklin Templeton. **Investments are not FDIC insured; may lose value; and are not bank guaranteed.**

Europe: Issued by Franklin Templeton International Services S.à r.l., 8A, rue Albert Borschette, L-1246 Luxembourg. **Poland:** Issued by Templeton Asset Management (Poland) TFI S.A.; Rondo ONZ 1; 00-124 Warsaw. **Saudi Arabia:** Issued by Franklin Templeton Financial Company, 13512 Riyadh, Saudi Arabia. Regulated by CMA. License no. 23265-22. **South Africa:** Issued by Franklin Templeton Investments SA (PTY) Limited, which is authorised by the FSCA as a Financial Service Provider (No.44475). **Switzerland:** Issued by Franklin Templeton Switzerland Ltd, Talstrasse 41, CH-8001 Zurich. **Middle East & Africa (ex South Africa):** Issued by Franklin Templeton Investments (ME) Limited, which is regulated by the Dubai Financial Services Authority. Address: Franklin Templeton, The Gate, East Wing, Level 2, Dubai International Financial Centre, P.O. Box 506613, Dubai, U.A.E. Tel: +971(04) 428 4100. **United Kingdom:** Issued by Franklin Templeton Investment Management Limited (FTIML), registered office: Cannon Place, 78 Cannon Street, London EC4N 6HL.

Australia: Issued by Franklin Templeton Australia Limited (ABN 76 004 835 849) (Australian Financial Services License Holder No. 240827), Level 47, 120 Collins Street, Melbourne, Victoria 3000. **Hong Kong:** Issued by Franklin Templeton Investments (Asia) Limited. **Japan:** Issued by Franklin Templeton Japan Co., Ltd. **South Korea:** Issued by Franklin Templeton Investment Advisors Korea Co., Ltd. **Malaysia:** Issued by Franklin Templeton Asset Management (Malaysia) Sdn. Bhd. & Franklin Templeton GSC Asset Management Sdn. Bhd. **Singapore:** Issued by Templeton Asset Management Ltd. (UEN) 199205211E.

Access your local website at www.franklinresources.com/all-sites.

