May 2025

Greenwheel Insights

Natural gas: standing firm in a deflating opportunity space

Paul Drummond

Climate and Environment Lead, Greenwheel

Executive Summary

- **Natural gas is used across the economy** – it is energy dense, easily stored, and used as an energy carrier and chemical feedstock. It is also **a relatively clean fossil fuel, leading to discussion over its potential as a 'transition' fuel.**

- **Around 70% of gas produced is consumed domestically**, mainly in North America, China, the Middle East and Russia. **The remainder is exported through pipelines or shipped as liquified natural gas (LNG)**.

- **LNG demand is likely to continue growing in near-term**, while medium-term **projections for total global gas demand vary from slow decline to significant increase**.

- **LNG export capacity is rapidly expanding in the USA and Qatar** which is likely to move the market to significant oversupply. **LNG demand will be decided by the recently major import markets of Europe and China, and potential growth markets of India and Southeast Asia.**

- **Gas demand is driven by three primary factors**: **demand for the services natural gas provides**, the **ability to substitute** or be substituted by alternatives, and the **incentive to substitute**. **These factors vary across sectors, geographies and time, and some can change quickly**.

- **Currently, these factors point to a persistent but shrinking opportunity space for natural gas** - **particularly for LNG** with its relatively high cost, import dependency and supply concentration.

- **Renewables increasingly dominate global power demand growth**. Coal is the main victim, but **the role for gas is being slowly squeezed as low-carbon alternatives become increasingly attractive**, and conditions for new gas-power – particularly LNG-to-power – remain difficult.

- **Demand for gas for high temperature heat and as a chemical feedstock in industry is set to remain strong**, with limited viable alternatives.

- **Electrification is gaining ground in building heating & cooking** where gas is dominant or growing, but practical constraints remain.

- **LNG trucks in China** are booming, but **growth may be about to stall and is difficult to emulate.** Emissions regulations are driving **LNG in shipping beyond LNG carriers, but this is likely to be temporary**, as regulations tighten.

CONTACT US

Please contact us if you would like to learn more about our strategies.

invest@redwheel.com | www.redwheel.com

Preface: The Investor Need

*"**The pace at which fossil fuels are replaced in a transitioning energy system is highly uncertain**, influenced by future policy, technology, population, and economic growth. While fuels like natural gas and LNG will have a role to play, its extent is unclear.*

***As investors, we must assess both the potential returns and the climate impact of our investments. We must carefully assess the strategic decisions made today and the underlying assumptions**, despite the significant uncertainty - **that is our job**."*

John Teahan

Portfolio Manager, UK & Global Climate Engagement Strategies

Natural Gas: A brief primer

Natural gas is naturally occurring, odourless, colourless, and comprised mainly of methane (CH_4). **It is relatively easily transported and stored, has a high energy density by weight, and produces relatively few CO_2 and other forms of emissions when combusted** (Table 1). In many cases, it is also relatively cheap to extract and supply.

	Natural gas	Liquefied natural gas (LNG)	Oil	Coal
Energy density (Mass)	53.6 MJ/Kg		41.9 MJ/Kg	29 MJ/Kg
Energy density (volume)	0.04 MJ/L	22.2 MJ/L	37 MJ/L	29 MJ/L
CO_2 intensity (combustion only)	51 gCO_2/GJ		73 gCO_2/GJ	92 gCO_2/GJ

Table 1 - Fossil fuel characteristics. Data source: JRC (2001). Note: CO_2 intensity does not reflect lifecycle emissions. Graphic crated by Greenwheel.

For these reasons**, natural gas is used as an energy carrier and feedstock across the economy** – particularly in power generation, industrial sectors (e.g. manufacturing and chemicals), and for space and water heating in buildings (Figure 1). It accounts for a quarter of global primary energy consumption and GHG emissions from the energy system.[i,ii]

Ten countries account for nearly two-thirds of global natural gas consumption, with just four – the USA, Russia, China and Iran – accounting for half (Figure 1). **However, considered as one, the EU would be the fourth-largest consumer**, at 8% of global demand. Just thirteen other countries individually account for more than 1% of global demand.

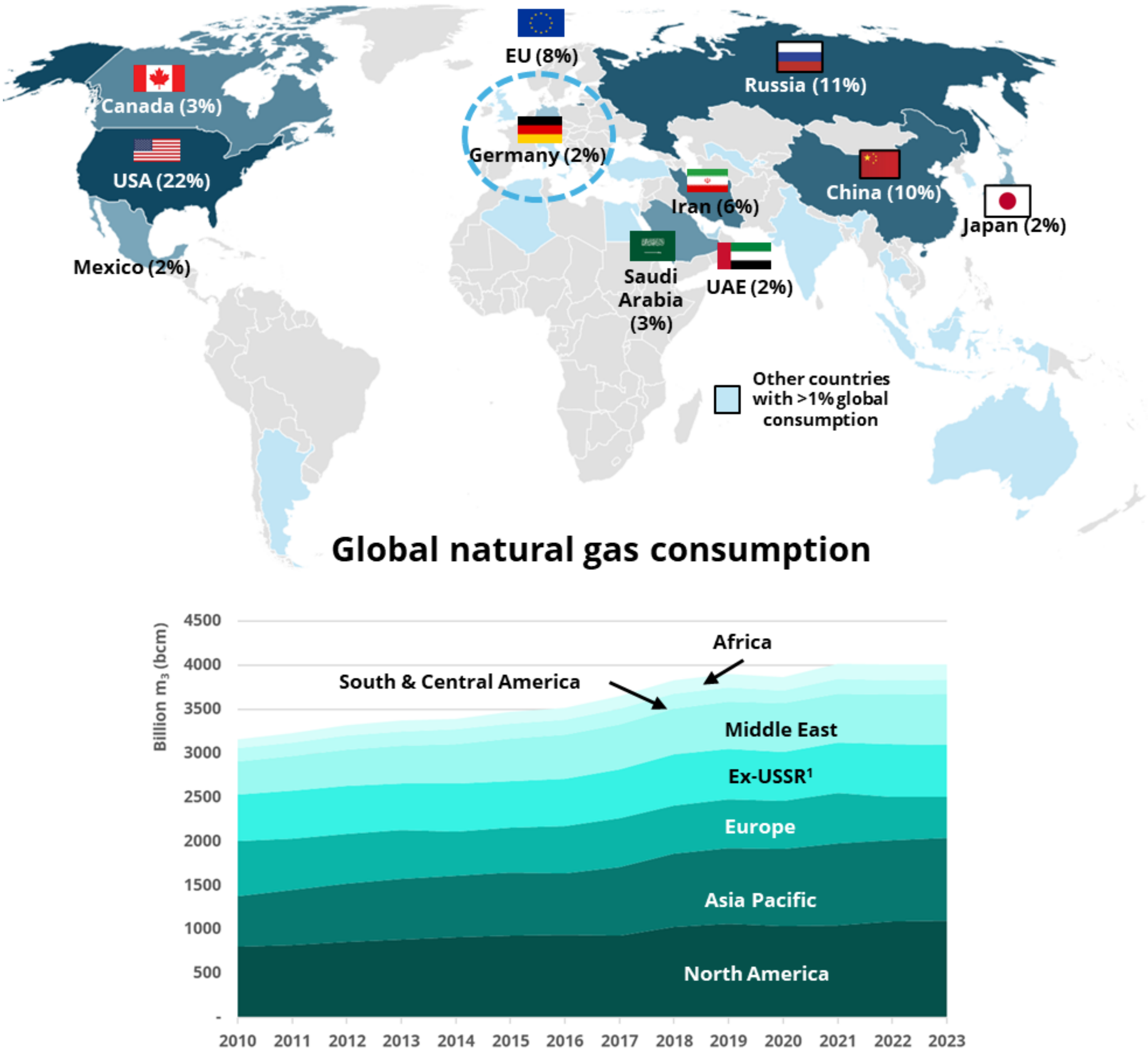


Figure 1 – Global natural gas consumption by country and region. [Energy Institute (2024)] Graphic created by Greenwheel.

Natural gas production is more concentrated, with the top ten producers accounting for nearly three-quarters of the total. Just nine other countries hold more than a 1% share (Figure 2)

There is significant overlap in the top ten producing and consuming countries – **around 70% of produced gas is consumed domestically**.[iii] **The USA alone is responsible for around a quarter of both global gas production and consumption**.

The remainder is internationally traded. In 2023 around half was traded via pipeline, and half was shipped as liquified natural gas (LNG).[iii] Pipelines allow gas to be traded within regions, while LNG – in which natural gas is liquified, transported by ship and re-gasified at its destination (Figure 6) – allows gas to be traded between regions.

The EU accounted for around 40% of all pipeline imports in 2023[1], and was supplied largely by Norway, the UK, Russia, Azerbaijan and Algeria.[iii] **In 2021, Russia supplied 40%**

[1] Excluding inter-EU trade.

of the EU's pipeline imports, but following the conflict in Ukraine this dropped to around 11% in 2024,[iv] **and to negligible levels at the beginning of 2025**. Around 12% of international pipeline trade flowed from Canada to the USA, while the USA exported around the same volume, split between Canada and Mexico.[iii]

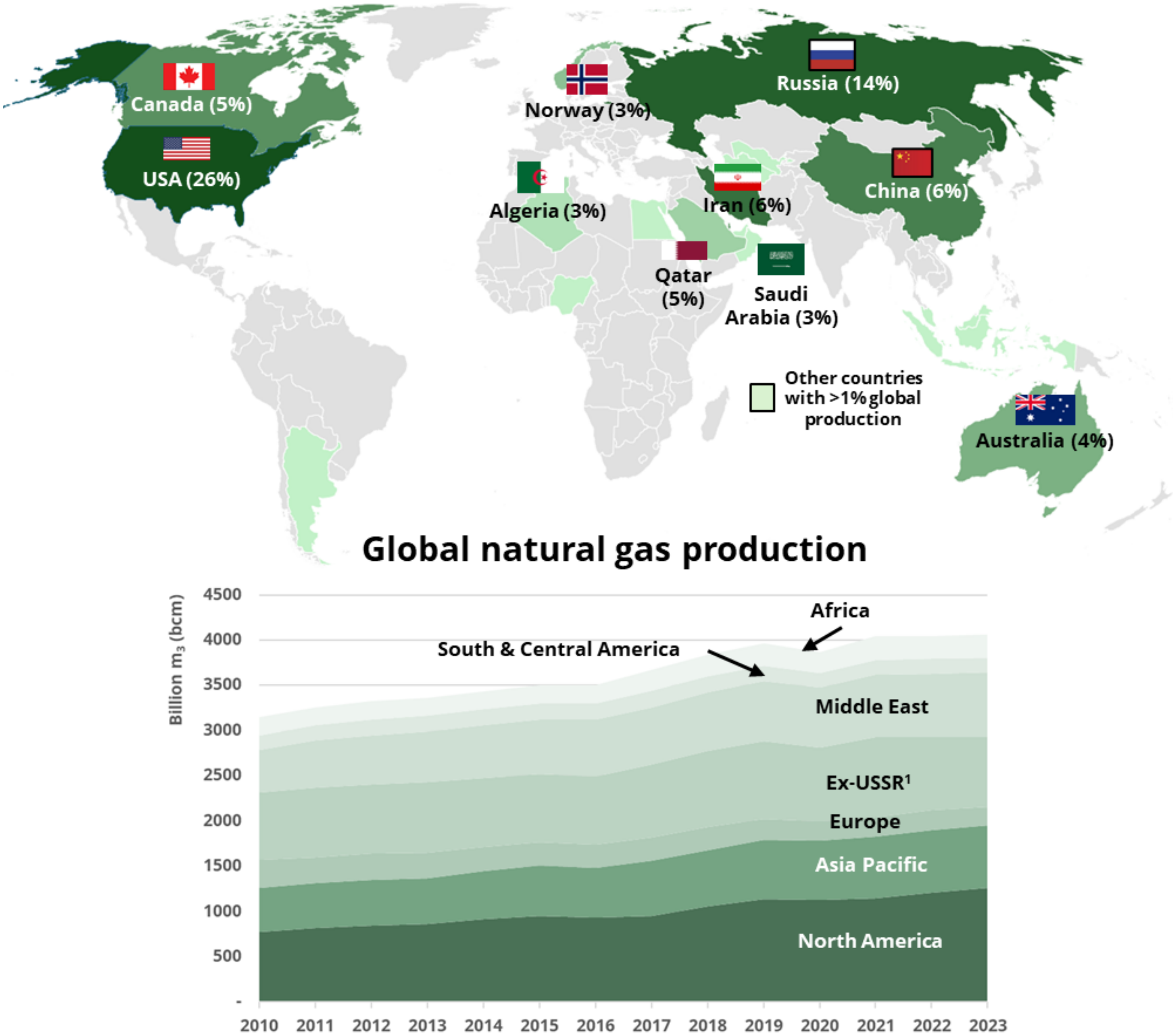


Figure 2 - Global natural gas production by country and region. [Energy Institute (2024)]. Graphic created by Greenwheel.

The USA, Qatar and Australia together accounted for nearly two-thirds of LNG exports in 2023, **with Asia-Pacific (APAC) and Europe accounting for almost all demand** (Figure 3). **Around half of LNG demand in Europe was supplied by the USA in 2023**, with most of the rest coming from Russia, Qatar and Algeria in roughly equal measures. Around **half of demand in APAC is supplied by Australia and Qatar**, with a third supplied by the USA, Russia, and other APAC nations (particularly Malaysia).[iii]

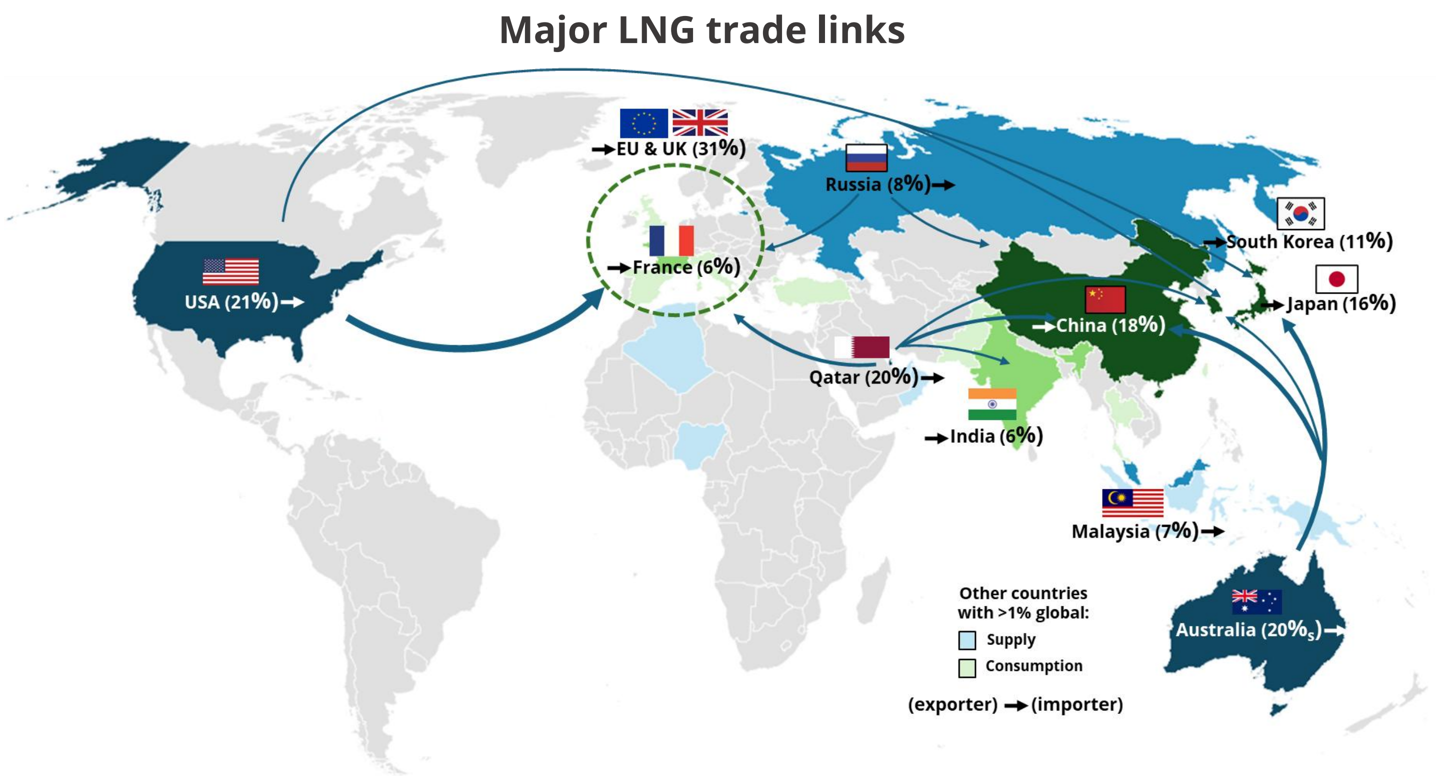


Figure 3 - Major global LNG trade links in 2023. Data Source: [Energy Institute (2024)](). Graphic created by Greenwheel.

Given the scale of GHG emissions from natural gas production and use, **under scenarios where global GHG emissions significantly decline, so must the use of natural gas**.

Under its Net Zero by 2050 scenario (NZE), **the IEA project global natural gas demand to reduce by around 15% by 2030, and nearly 80% by 2050**. Projected demand under the IEA's current policies (STEPS) and announced policies scenarios are not aligned to this, particularly in 2050 (Figure 4).

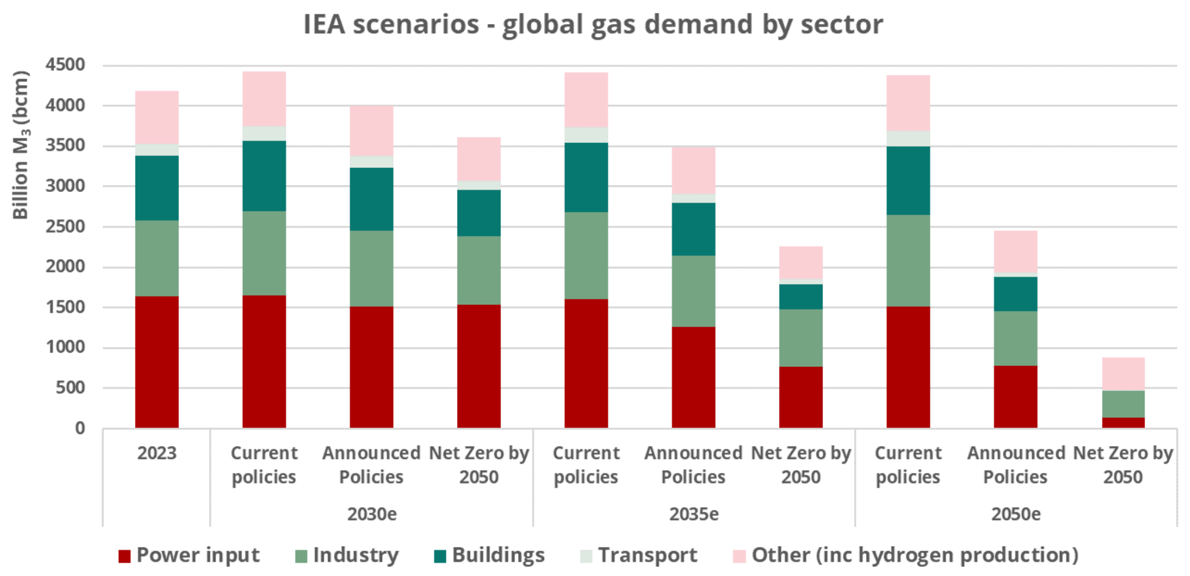


Figure 4 - Global gas demand by sector under IEA scenarios (Source: [IEA, 2024]()). Graphic created by Greenwheel Notes: 'Other' includes non-energy (e.g. chemical feedstock) use and low-carbon hydrogen production. Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so.

Prospects for natural gas production and supply

- ***Proven reserves & production costs***

Over 80% of proven reserves were in ten countries in 2020**, with 50% in just three – Russia, Iran and Qatar** (Figure 5). Despite being by far the largest producer, fewer than 14 years' of proven (economically-recoverable) reserves remained in 2020 at prevailing production rates, extraction technologies and prices – on par with Canada as the lowest rate across the world's top 10 producers.[iii]

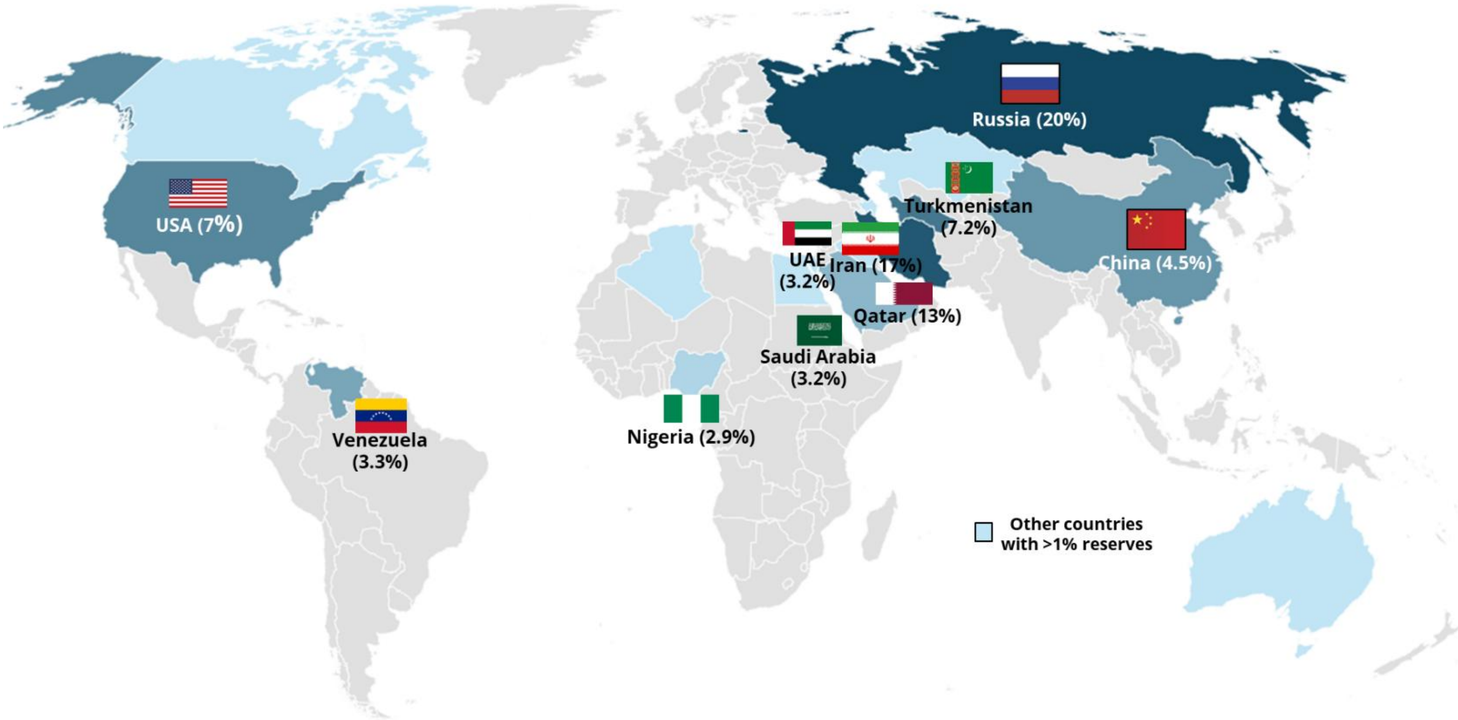


Figure 5 - Proven natural gas reserves in 2023. Data source: Energy Institute (2024). Graphic created by Greenwheel.

However, **proven reserves fluctuate over time with price, innovation, new discoveries, and co-production with other products** (e.g. oil). A combination of these factors meant US reserves grew by nearly half over 2020-2022, Although this only boosted the reserves-to-production ratio to around 17 years.[v]

Middle Eastern counties have the largest production-to-reserves ratios of the major global producers by far, with very low production costs in some countries (e.g. Qatar) driven by a combination of vast resources, favourable geology, co-production with oil, mature infrastructure and low-cost operational conditions.[vi]

Production costs elsewhere vary significantly, often within countries. In the USA, production costs are typically lowest from shale formations that are now easily worked, where gas reserves are significant, and with co-produced oil (e.g. parts of the Permian basin in Texas, where production costs can also be very low due to oil co-production).[vii] Mature infrastructure, large reserves and favourable geology lead to low-cost production at around $0.5-1/mmbtu in Russia's Yamlo-Nenets region, while new production in East

Siberia may cost double.[viii] In Australia, new coal seam gas fracking fields replacing cheaper but depleting fields have production costs of around $8/mmtbu, due primarily to difficult geology and rapid decline rates.[ix]

- ***Pipeline gas vs liquified natural gas (LNG)***

Total delivered cost depends on whether gas is distributed locally, or exported over distance via pipeline or shipped as LNG. Each has different technical, cost and emissions implications. Figure 6 illustrates key differences between long-distance pipeline and LNG transport.

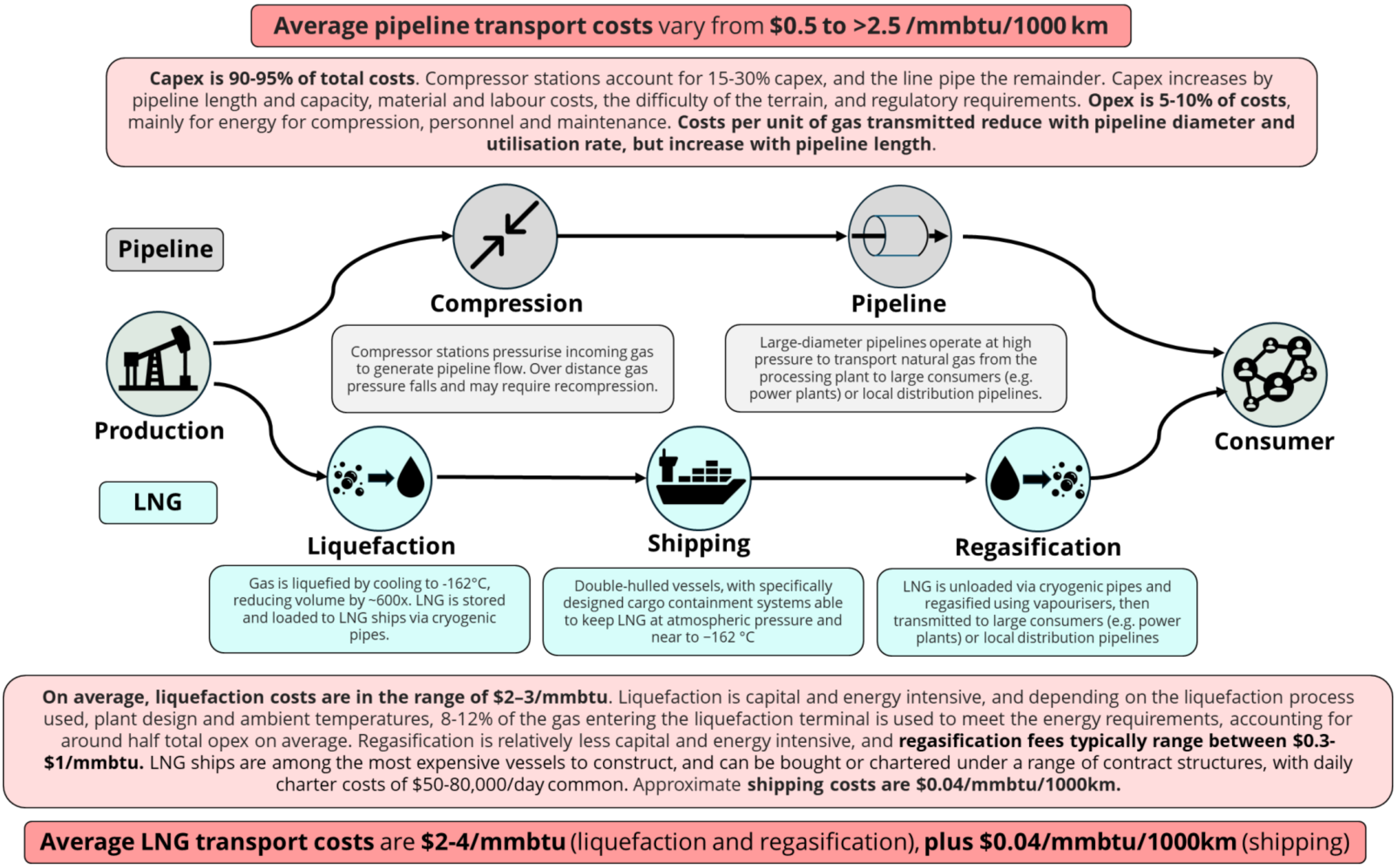


Figure 6 – Natural gas transport processes & costs: pipelines vs LNG. Information source: Molnar (2022). Graphic created by Greenwheel.

Assuming comparable production costs, **LNG is much more expensive than pipeline transport,** with LNG only becoming competitive with pipelines at about 3,000km on average.[x] **However, costs can vary significantly, with LNG production costs in Qatar as low as $0.3/mmbtu** by some estimates. Although producing LNG in Qatar can cost $2-3/mmbtu, profits from associated liquid production which pay for liquification capital costs alongside very low energy opex may bring breakeven costs for liquefaction and transport to near zero.[xi] **On average, delivered costs of LNG are around $4.5/mmbtu,**[xii] while tight supply means **average spot prices are currently $8.5-10/mmbtu.**[xiii]

Although combusting natural gas produces fewer GHG emissions per unit of energy than oil or coal (Table 1), **estimates for lifecycle emissions – particularly for LNG - vary massively**, **ranging from 33% greater than the lifecycle emissions of coal**,[xiv] **to less than half** for LNG and coal exported from the USA.[xv]

LNG lifecycle emissions include those associated with liquefaction, primarily from the gas combusted to generate process energy, and **which are equivalent to around 10% of final combustion emissions** on average. **Pipeline gas and most other forms of energy don't have a comparable process**. Liquefaction and transport energy needs mean that **10-15% of LNG supply is consumed in its production and transport**.

The most significant driver of differences in lifecycle emissions are assumptions around methane leakage from the extraction stage. For example, one of the higher lifecycle emissions estimates assumes US LNG is produced from the Permian basin, which has high methane leakage rates. The estimate also fully allocates these emissions to the gas extracted, excluding the co-produced oil.[xiv,xvi]

However, most US LNG is produced from basins with significantly lower leakage rates.[xv] The global warming potential (GWP) of methane is over 80 times that of CO_2 over a 20-year period, but less than 30 over 100 years. This means **a relatively small change in upstream leakage rates can produce very different lifecycle emissions,** particularly over shorter time horizons. **Methane leakage rates in Qatar are estimated to be much lower than in the USA**.[xvii] **With low methane leakage rates, LNG-for-power will typically have lower lifecycle emissions than coal**.[xv]

There is very little new international gas pipeline capacity under construction. Two-thirds of new capacity is to link production in Turkmenistan to demand in India, with most of the remainder from Iran to Pakistan and Azerbeijan, and from Israel to Egypt**.** Further **proposed pipelines would increase global capacity by a quarter**. **Nearly a third of this is new inter-European capacity, while a quarter would supply Russian gas to China**.[xix] The largest potential new Russia-to-China pipeline - Power of Siberia 2 - could offset around half the reduction in Russian gas supply to Europe, but it faces various challenges.[xviii] The IEA assume that the pipeline does not go ahead in their scenarios.[xii]

Global LNG export capacity is at near full utilisation, although global import capacity is over twice as large**.**[xix] Capacity is largely distributed as per the major LNG trade flows indicated in Figure 4. Around 300 bcm/yr in both new export and import capacity is under construction. **Two-thirds of new export capacity under construction is in the USA and Qatar alone, and which would nearly double capacity in both countries (**Figure 7).[xix] A third of further proposed export capacity is in the USA, while another third is from Russia, which could significantly increase its role as a global LNG supplier. However, again, further Russian capacity is uncertain, partly due to ongoing international sanctions (the EU plans to end all Russian gas imports, including LNG, by end of 2027).

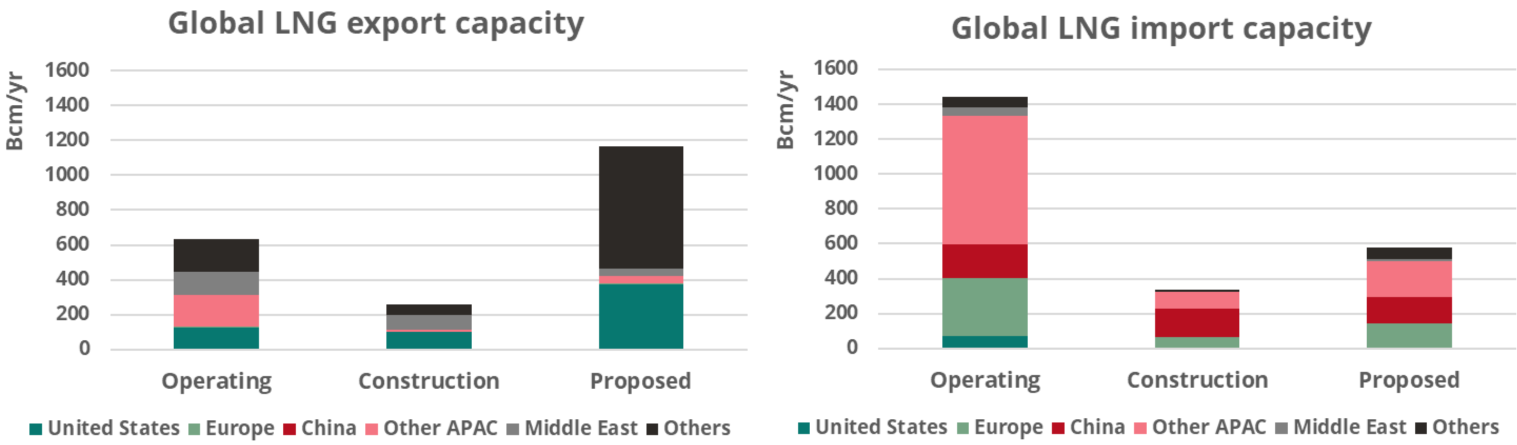


Figure 7 - Global LNG import and export capacity. Data Source: [Global Energy Monitor (2025)](). Graphic Created by Greenwheel.

Around half of new LNG import capacity under construction is China, which is on track to double its capacity.[xix] If all proposed capacity is constructed, it would treble. The remaining import capacity under construction is focused in Europe and other APAC countries (mainly India, South Korea, Taiwan, the Philippines and Vietnam), where the relative growth is much smaller.[xix]

The IEA projects the share of international gas supply to be traded rather than domestically consumed to grow to 2030, mainly through LNG trade. Pipeline trade remains largely stable to 2030 and subsequently declines in all scenarios. They also project **LNG demand to grow 25% to 2030 and 50% to 2050 levels under current policies**. Under the APS and NZE scenarios, LNG demand in 2035 is comparable to or less than today, and significantly lower by 2050 (Figure 8).

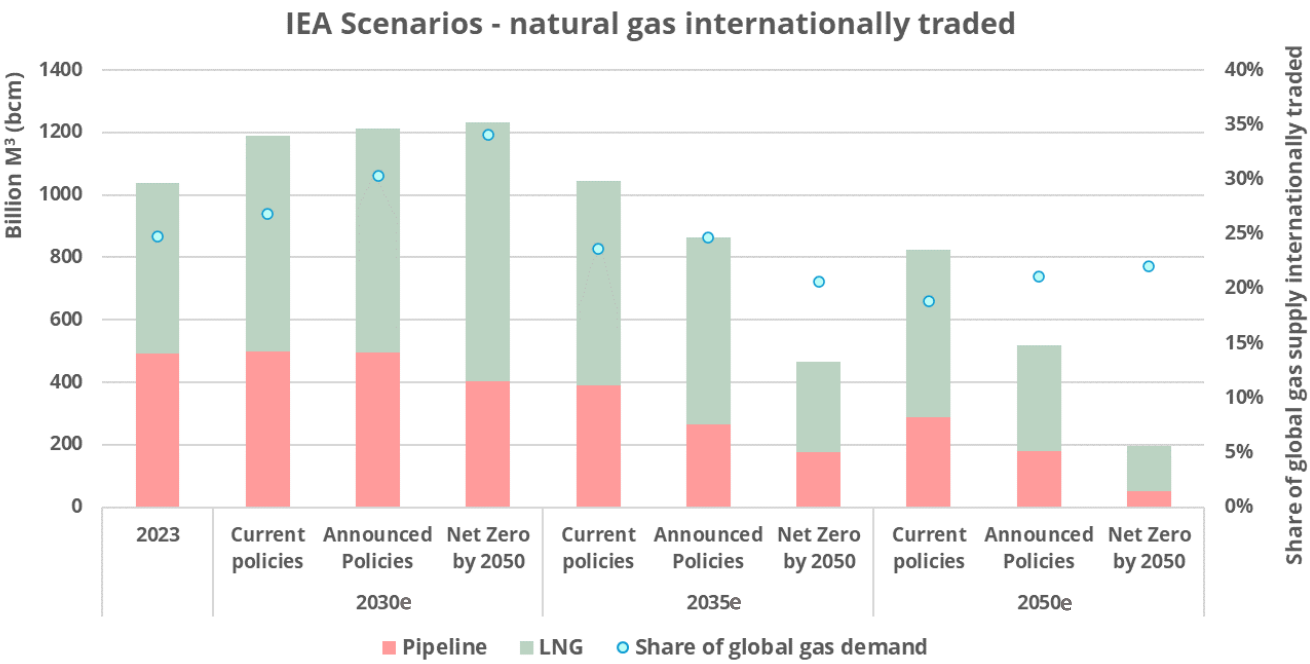


Figure 8 - Projected pipeline and LNG trade under IEA Scenarios. Data Source: [IEA (2024)](). Graphic created by Greenwheel. Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so.

The USA and Qatar are set to continue dominating an increasingly concentrated LNG supply, but with export capacity likely to significantly exceed demand by 2030.[xii] Oversupply would extend if additional supply capacity is constructed, or if pipeline gas supply grows (e.g. if the Power of Siberia 2 project between Russia and China is realised). This may place downward pressure on LNG prices, although delivered costs would need to remain at current levels for most new export projects to cover their investments and operation,[xii] meaning that **LNG prices may not decline in response to oversupply.**

Future LNG demand will be decided by the recently major import markets of Europe and China, and potential growth markets of India and Southeast Asia. Until 2018 Japan and South Korea accounted for over 40% of global LNG impots, falling to less than 30% by 2023.[iii] LNG demand in Japan is declining as renewable and nuclear power generation ramps up and displaces gas power.[xx] However, the Japanese government is instructing companies to procure future LNG volumes in line with a 'high demand' scenario, which they may resell if future demand declined in line with expectations.[xxi] LNG imports to South Korea remained largely stable, but are set to decline significantly by the mid-2030s as the government targets growth in renewables and nuclear.[xxii]

Prospects for natural gas demand

Over the decade to 2021, global gas demand grew 20%, driven by North America and APAC (Figure 2)**.** Demand was largely flat over 2021-2023. **The IEA and BNEF both project global gas demand to remain largely flat to 2030 under current conditions, but projections then diverge significantly**, from a continuing plateau to 2050 (IEA)[xii], to a more than 20% growth (BNEF).[xxiii]

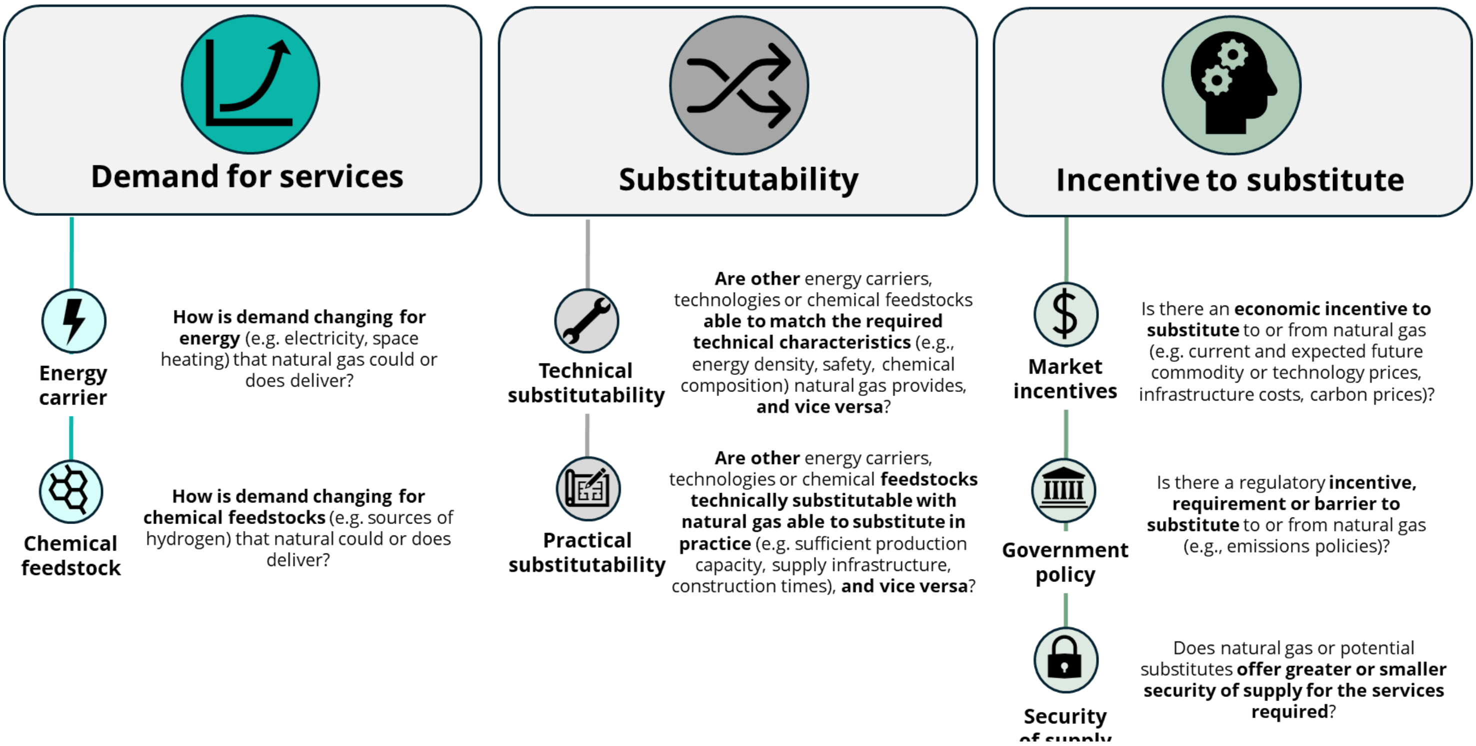


Figure 9 – Natural gas demand factors and sensitivities. Graphic created by Greeenwheel.

Future natural gas demand will be driven by the evolution of three primary factors – demand for the services natural gas provides or could provide, the ability for natural gas to substitute or be substituted by other fuels, feedstocks or technologies, and the incentive for this substitution to occur. Each factor comprises key subfactors (Figure 9).

Gas demand projections - sensitivities & influences

Economic activity

High economic growth could support demand for gas, particularly in countries/regions with significant gas-fired electricity and energy-intensive industry, **while sluggish economic growth could reduce it**.

Electrification rates

High electricity demand growth from new sources, such as electric vehicles and data centres, **could support demand for gas power**, particularly in countries/regions with significant gas-fired electricity and relatively low cost and secure supplies, **while sluggish electrification, except in gas-intensive industry, could reduce it**

Climate disruption

In warmer climates, unusually high summer temperatures, or in cooler climates, unusually low winter temperatures could increase cooling and heating demand respectively, which **could support gas demand in countries/regions with significant gas fired electricity or gas-based heating, respectively.** Inversely, **cooler summers in warmer climates and warmer winters in cooler climates could reduce it.**

Competing technologies

Low rates of innovation for potential gas substitutes or substitutes for gas-intensive products (including energy and material efficiency), reflecting technology maturity and cost, **could support demand for gas, as could high rates of innovation in technologies producing and using natural gas.** Inversely, **high rates of innovation for potential substitutes, or low rates of innovation in gas producing and using technologies, could reduce it**.

Supply shocks

Natural gas supply disruptions could reduce consumption both in the short-term through unavailability or high prices, and in the longer-term through a shift to potentially more secure/diversified sources. This may be particularly the case if the disrupted supply is non-domestic and the result of intentional and repeatable action. Inversely, **supply disruptions to potential natural gas substitutes, such as hydro or nuclear electricity shutdowns, or renewable or electrification technologies, may support demand**.

Political shifts

Political shifts that deprioritise decarbonisation and emphasise energy security may support natural gas demand in countries with significant gas consumption and a secure, low-cost supply, but reduce it in countries that do not. However, **countries that shift to support decarbonisation and/or energy diversification, but which do not currently use significant volumes of natural gas, may support demand** where they have access to a secure, low-cost supply.

Current global tendencies

Conflict and trade disruptions has significantly reduced near-term global growth forecasts. Growth may be further dented by other, including unpredictable 'black swan' events.

?

Tendencies are operating in different directions. For example, substituting gas in building & industrial heat remains challenging and low-carbon hydrogen demand is stalling, while EV adoption may slow in regions with significant gas power (e.g. USA; Europe) and data centre efficiencies may grow significantly and/or face barriers to rapid build-out.

Extreme weather in 2024 drove an increase in gas use for both heating and power generation in a number of regions countries (e.g. USA, India, China)

The deployment of renewables, particularly solar, has consistently outpaced projections. If this continues, the space for gas power generation – including coal-to-gas switching – may decline. BNEF project installed capacity of solar to be 20% higher than the IEA's current policies scenario, and to exceed the APS scenario.

The conflict in Ukraine significantly and abruptly reduced gas supply to Europe with global gas price implications, inducing potentially permanently lower demand. **Supply shocks are inherently unpredictable and are not directly considered in projections.** Their effects also tend to be more immediate and severe than for infrastructure supply chains.

Changing policy has increased projections for US gas, while a renewed energy security focus decreased them in Europe. **Supply shocks may grow support to move away from gas in countries that import it**, particularly if alternative, low-carbon options become increasingly attractive.

Figure 10 – Sensitivities and influences on gas demand projections and current global tendencies. Information sources include: IEA (2024); Kilic et al (2025); BNEF (2025) Graphic created by Greenwheel.

These factors are subject to sensitivities, which may vary by geography and over time, and interact with each other. Key sensitivities, and an assessment of their current tendencies on average at the global level, illustrated in Figure 10 - although **the nature of some sensitivities may rapidly change**.

The following sections examine the key factors and sensitivities acting across the main gas-consuming sectors in the most relevant economies, and how they may change.

- ***Outlook in the power sector***

The share of natural gas in the global power mix was 22% in 2024, **reducing from a peak of around 24% in 2020**.[xxiv] Gas satisfied one tenth of the 19% growth in global power demand over this period. This is a significant reduction on 2010-2020, when gas met a third of growth in global power demand. **The role of renewables and other forms of clean power in meeting growth rose from 30% in 2010 to 80% in 2024** as these technologies matured and scaled, and costs reduced (Figure 11).

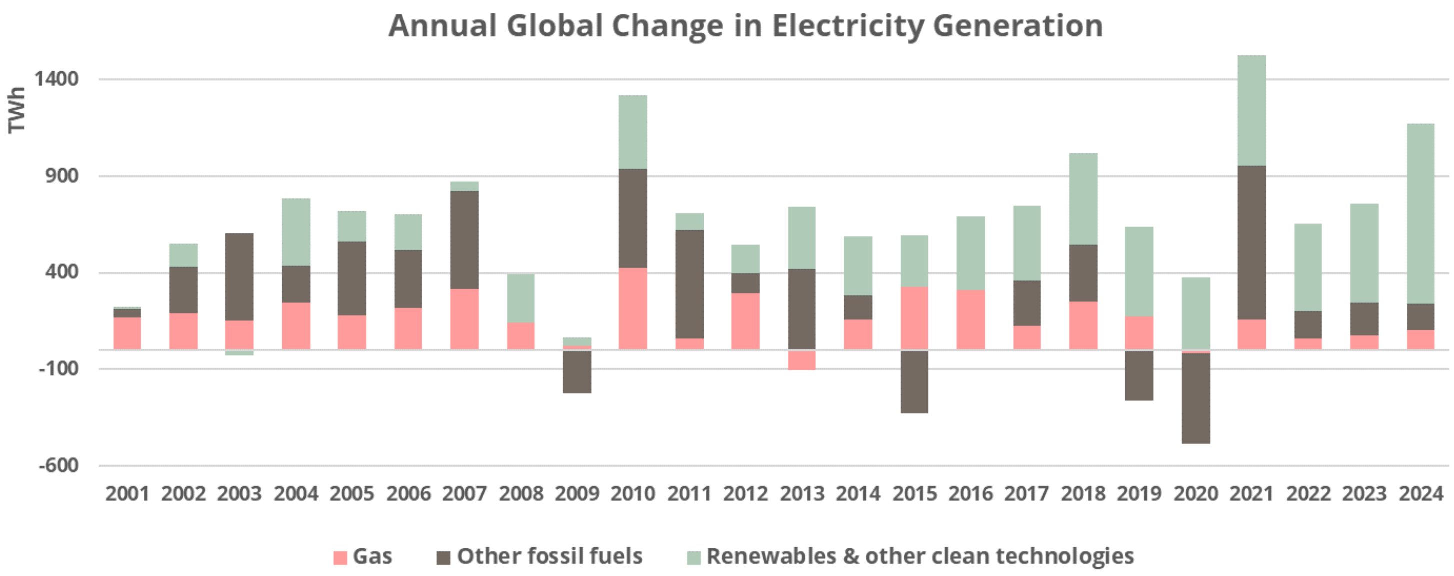


Figure 11 - Annual global change in electricity generation. Data source: [Ember (2025)](). Graphic created by Greenwheel. information shown above is for illustrative purposes only and is not intended to be, and should not be interpreted as, recommendations or advice.

The IEA **projects global gas power generation to plateau to 2030**, **even as electricity demand grows rapidly** under all scenarios. This plateau extends to 2050 under current policies, but gas declines under the APS and NZE scenarios. **The IEA project clean generation to meet all net growth in electricity demand from 2030, under all scenarios** (Figure 11)[xii] – although regional variations will be significant.

Global gas power capacity is growing, although around a third of capacity under construction is offset by plants scheduled to retire by 2030 (Figure 13). New capacity will on average be significantly more efficient than retiring capacity, producing less gas demand at the same utilisation rates.

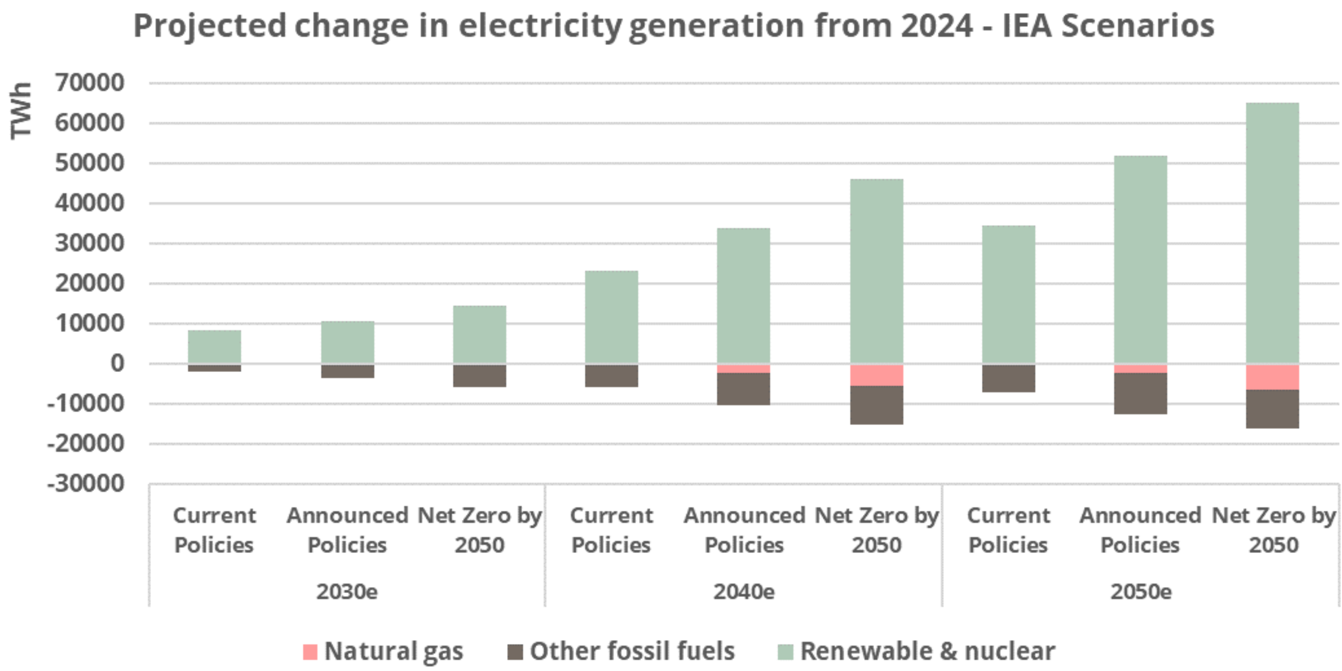


Figure 13 - Change in electricity generation from 2024 under IEA scenarios. Data Source: [IEA (2024)](). Graphic created by Greenwheel. Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so.

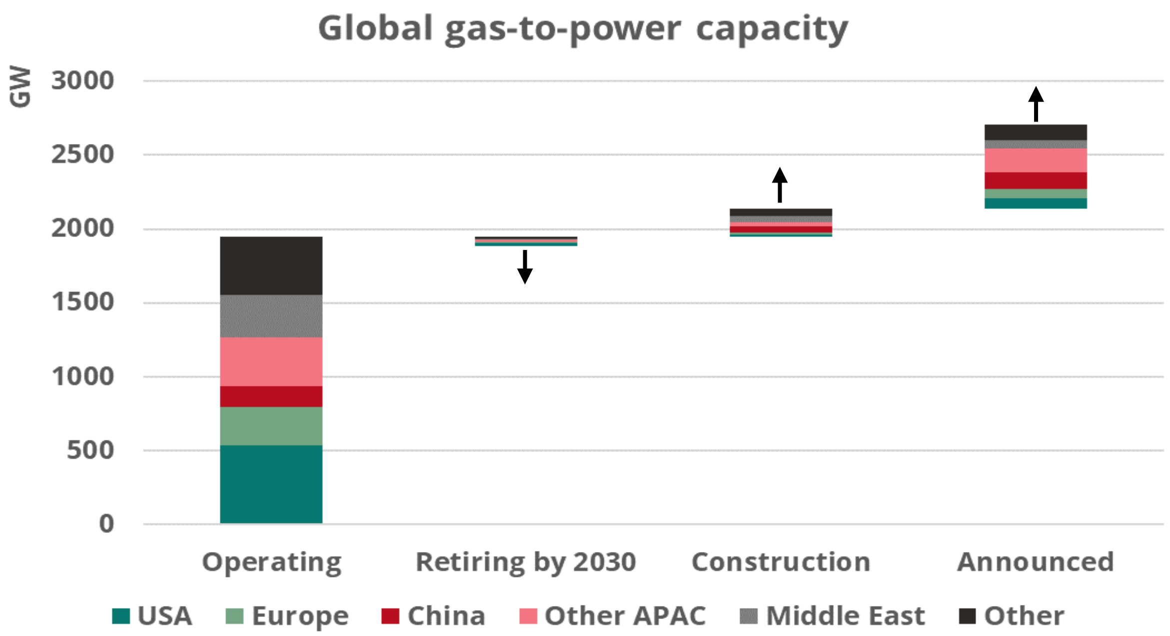


Figure 12 - Global gas power capacity. Data Source: [Global Energy Monitor (2025)](). Graphic created by Greenwheel.

However, dynamics differ substantially between regions. For current and future gas-to-power demand, the most influential regions are emerging APAC economies, the Middle East, Europe, and the United States.

Emerging Asia-Pacific Economies

- Rapid population growth, economic expansion and electrification may continue to underpin **significant electricity demand growth in emerging APAC economies**. Under current policies, electricity demand in the region may grow by a third by 2030 and nearly double by 2050 under current policies, **driven by China, India and Southeast Asia (ASEAN).**[xii,xxv] **accounting for two-thirds of global electricity demand growth to 2030.**[xii]

- **China's electricity demand nearly doubled over the last decade, while electricity demand in India and the ASEAN region grew 50%.** Together, these countries accounted for nearly half global electricity demand in 2024.[xxiv] **Gas generation made an almost negligible contribution to this growth** (Figure 13).[xxiv]

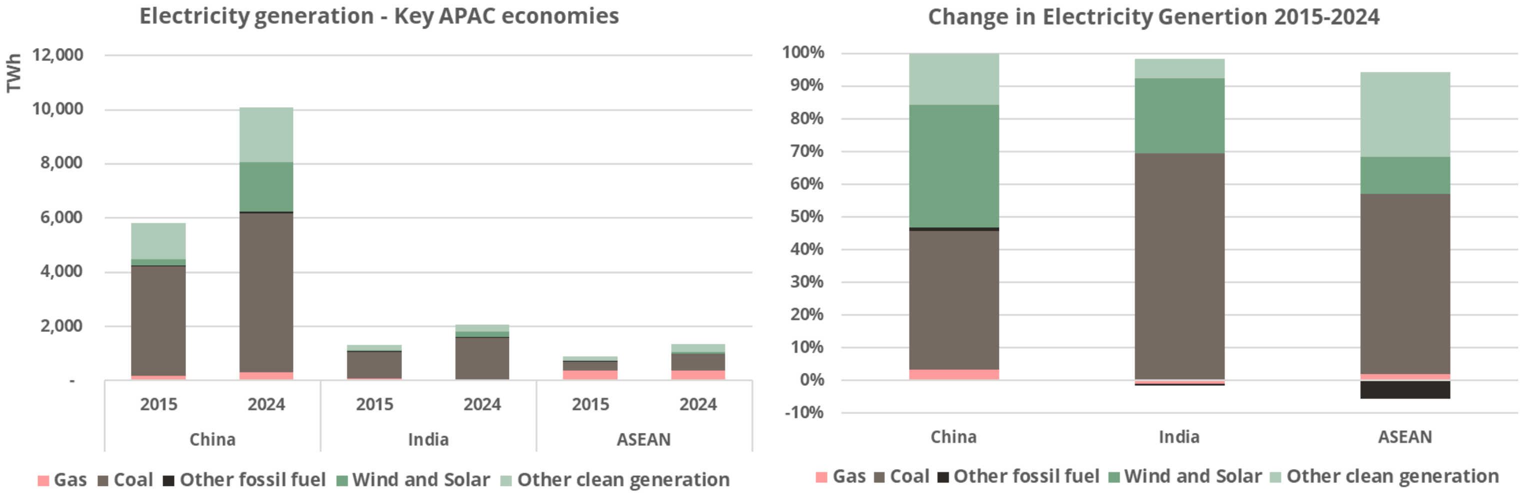


Figure 14 - Electricity generation in APAC. Data source: [Ember (2025)](). Graphic created by Greenwheel.

- **In all three economies, growth was instead met almost entirely by coal and clean power.** Coal was the leading contributor in India and ASEAN, while solar, wind, hydropower and nuclear together met just over half demand growth in China. There is a clear, continual decline in the already small contribution from gas to electricity demand growth in China over the decade, sinking to <1% of demand growth in 2024. At the same time, the share met by wind and solar alone grew to 57%.[xxiv]

- **This may continue, with clean power taking increasing shares** China aims to peak its emissions by 2030 (which may be achieved in 2025) and achieve carbon neutrality by 2060.[xxvii] The scale of China's pipeline for new wind, solar, hydropower and nuclear capacity means that **clean sources may soon meet all of China's growth in electricity demand**, and potentially exceed it, reducing existing fossil fuel generation.[xxvi]

- **Natural gas can be a key source of flexible generation, able to respond quickly to changes in renewable output**. However, **China aims to rely on pumped**

hydropower and battery storage, alongside retrofitted coal plants to deliver flexibility. Retrofits aim to reduce the CO_2 intensity of coal generation, through improved efficiencies and the potential to co-fire with biomass and attach CCS technology.[xxvii] It is also investigating the potential role for nuclear to be used as a flexible source of generation.[xxviii]

- **Despite this, China encourages some construction of new gas capacity to manage variability, but requires gas supplies to be affordable and secure**.[xxix] Despite a minimal intended role, due to its size and rate of demand growth, China accounts for 20% of global gas power capacity under construction.[xix]

- **China is growing domestic gas production, but it is likely to remain highly dependent imported LNG**. **Electricity from LNG currently costs around double that from domestic coal** and is likely to remain uncompetitive. Power generation using pipeline gas from Russia and elsewhere may be cheaper but remain more expensive than coal generation.[xxix] Security of LNG supply may also remain a hurdle, particularly with increasing supplier concentration.

- **Dynamics in India are similar**, **with coal and increasingly renewables likely to meet most demand growth, with flexibility delivered mainly by batteries and pumped hydropower**. India aims to reach 500 GW of non-fossil capacity by 2030 and is supporting significant roll-out of batteries and new pumped hydropower projects. There is also significant new coal capacity under construction.[xxx]

- **India has no plans to build new gas power capacity, and most of its existing plants are sitting idle**.[xxx,xxxi] Most of India's domestic gas production is used for cooking and fertiliser production, meaning its gas power capacity is highly dependent on imports – primarily LNG.[xxxi] Even if LNG prices decline, it would again remain **significantly more expensive to generate power from imported LNG than domestic coal**.[xxxii]

- **Other major emerging ASEAN economies may see greater gas power growth, but significant uncertainties remain**. Vietnam, the Philippines, Indonesia, Thailand, Malaysia and Singapore hold almost all the region's existing gas power capacity, which could double if all announced projects are built. However, only 13% of announced new capacity is under construction.[xix]

- **Most potential new gas power capacity is in Vietnam and the Philippines**. Both countries aim to significantly reduce coal and substantially increase renewable generation, but both view natural gas as a source of transitional generation.[xxxiii,xxxiv] **Declining domestic production means almost all new gas power in Vietnam must be fuelled by imported LNG, and all gas generation in the Philippines** from the late 2020s due to imminent depletion of its domestic reserves[xix]

- **Relatively high and volatile LNG prices remains a key obstacle**. New fossil fuel generators in both countries are heavily reliant on long-term Power Purchase Agreements (PPAs) to secure financing. Concerns around rigid contract structures that may expose generators and investors to significant LNG price risk that they may not be able to pass on to consumers is a key hurdle to developing new capacity. [xxxv,xxxvi]

- **Both countries intend renewables and energy storage to dominate in the long-term, but they may play a greater role in the medium term**, due to their relatively low cost and price volatility, construction time, and positive role in energy security.[xxxvii] This is reflected in Vietnam's updated 8th Power Development Plan published in April 2025, which reduced targeted LNG power capacity and significantly increased targets for solar, wind and storage by 2030[xxxviii] – although this also faces infrastructural barriers.

Middle East

- **Electricity demand in the Middle East grew by a third over the last decade, with 80% of this growth satisfied by gas power** (Figure 14). The region accounted for just 6% electricity demand growth in this period but **drove nearly a third of the global growth in gas generation**.

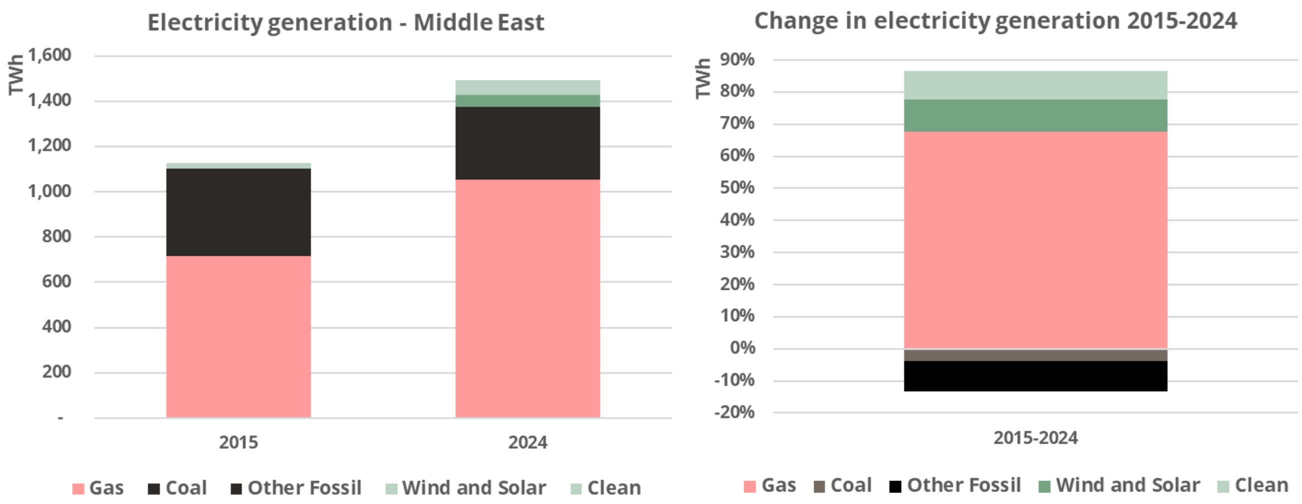


Figure 15 - Electricity generation in APAC. Data source: [Ember (2025)](). Graphic created by Greenwheel.

- The IEA project **electricity demand in the Middle East to grow by a third again to 2030**, and to be **the most significant source of growth in global gas generation demand,** driven by electricity demand growth and oil-to-gas switching.[xii]

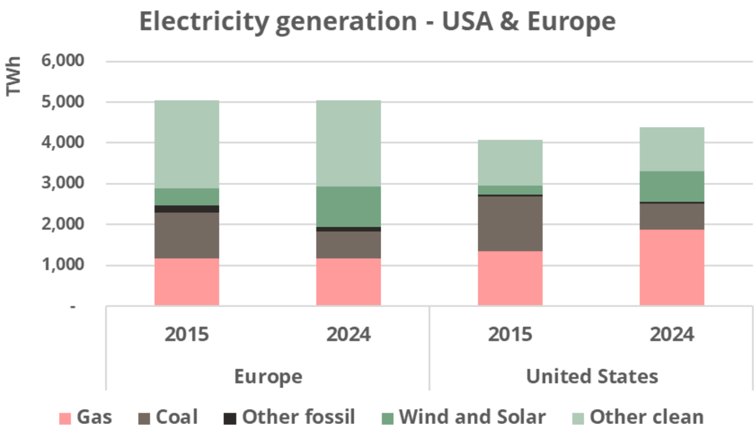
- **Saudi Arabia and Iran account for nearly 60% of electricity demand in the region**, with the UAE and Iraq together accounting for 20%. All have reduced the dominance of domestic oil for power generation and significantly increased the use of domestic gas resources to diversify supplies, increase flexibility and reduce emissions.[xxiv]

- **Saudi Arabia aims to reach 50/50 renewables and gas power by 2030** – eliminating oil for power generation.[xxxix] Although this would reduce its current share, increasing electricity demand leaves **space for absolute growth in gas generation**. **This is particularly the case if the country's ambitious renewables' goal proves too difficult to meet** renewables are currently ~1% of generation).[xl] The Middle East has 40 GW of gas power capacity under construction – a fifth of the global total.[xix]

- **Iran has no concrete plans to transition its electricity profile and is likely to remain dependent on gas power**,[xli] largely from domestic resources, with 12 GW of new capacity under construction.[xix]

United States and Europe

- **Electricity demand and gas generation in Europe remained flat over the last decade**, with significant growth in renewables displacing coal generation (Figure 15) **Modest demand growth in the US was met by gas and renewables**, offsetting another steep drop in coal generation. **The US accounted for over 40% of global gas power growth across the last decade**. It now accounts for around 30% of global gas power generation, and Europe around 10%.



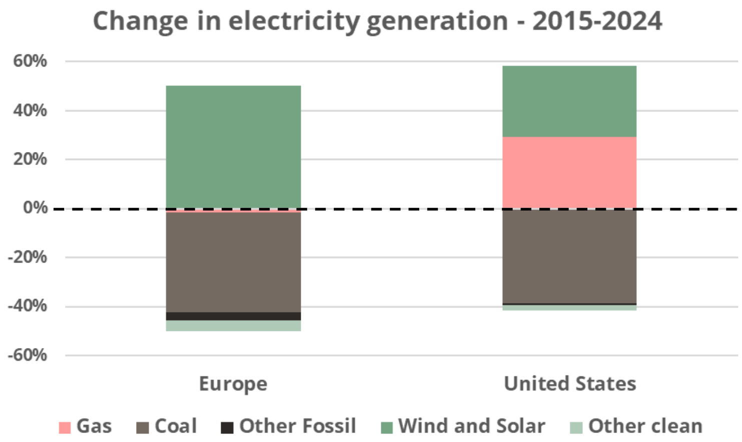


Figure 16 - Electricity generation in Europe and the USA. Data Source: Ember (2025). Graphic created by Greenwheel.

- **Electricity demand in both economies is set to accelerate as new sources of demand come online**, such as electric vehicles and new data centres. **In the short-term, most of this demand growth is set to be met by clean power**.[xlii]

- The improving fundamental economics of renewable capacity, coupled with incentives under the Inflation Reduction Act (IRA) and other State and Federal support, **significantly increased renewable and battery capacity under development in the USA over the last 2-3 years**. By the end of 2023, solar, wind and battery storage capacity in grid connection queues in the US was nearly double total US installed power generation capacity, although most projects are not likely to go ahead.[xliii]

- The significant coal-to-gas switch in the USA over the last decade was driven primarily by newly available cheap and abundant domestic gas.[xliv] **The US has around 14 GW of new gas capacity under construction** (around 7% of the global total), **but this is more than offset by existing capacity currently planned to retire by 2030**[xix] – although some retirements will be delayed. Growing costs and component delays mean **there are significant bottlenecks for constructing additional gas power capacity before the early 2030s**.[xlv]

- **If electricity demand in the US grows significantly in the longer-term, gas power may jump – particularly if this demand is driven by data centres**.[xxiii] Data centres require high volumes of firm power, which solar and wind cannot provide alone. Additionally, government policies may slow or halt cost reductions and policy support offered to renewables and battery storage in recent years, or otherwise curb growth. At the same time, domestic gas supply may remain relatively cheap, and supply chain constraints and costs are likely to ease. Gas capacity announced but yet to start construction is nearly 3x capacity being built,[xix] with most of this announced in 2024 in response to projected demand from data centres.[xlvi]

- **However, there are significant uncertainties around the pace and scale of electricity demand growth US, and the role of gas in meeting it**. Projections for US data centre electricity demand by the end of the decade vary by as much as the entire electricity demand of Australia,[xlvii] with a range of barriers to rapid build out (including access to electricity). Despite policy-related barriers, which may reduce in future, renewables are likely to remain attractive. When configured with battery storage and access to the grid or existing gas capacity to manage intermittency, they may increasingly provide economically viable firm power that is quick to install.[xlviii,xlix,l]

- **The EU's policy framework has been instrumental in significantly growing solar and wind power to displace its coal generation over the last decade**. Total gas demand in the EU dropped by 20% over the last five years, with the power sector responsible for a third of this.[li]

- **The REPowerEU Plan is a package of measures that aims to reduce the EU's dependence on Russian fossil fuels** in response to the gas price and supply shock initiated by the Ukraine conflict.[lii] It aims to reach 72% of power from renewables by 2030 from 47% in 2024. Although member state plans would fall short of this, they collectively aim to achieve two-thirds of power from renewables by 2030.[liii]

- **Only around 15% of the EU's power came from natural gas in 2024**.[xxiv] **This is likely to remain stable to 2030** as coal power continues to be the main victim of the growth in renewables. **Beyond 2030 gas power in the EU is likely to decline significantly, but the pace and scale is uncertain**.

- **A range of factors point to rapid gas power decline post-2030**. 11 EU member are aiming for predominantly decarbonised grids by 2035 (including Germany, France and Italy).[liii] The European Commission's proposed economy-wide 90% emissions reduction target for 2040 (on the way to net zero by 2050) would require rapid reduction in fossil fuel power.[liv] The current push for greater energy storage and grid interconnection would reduce aggregate demand for dispatchable generation, while growing dependence on relatively high cost LNG may conflict with economic and energy security objectives. Although significant gas capacity may remain (10GW is under construction; double the capacity retiring by 2030),[xix] utilisation may be much lower.

- **But some factors may produce headwinds to this decline**. For example, the 2040 goal is not yet finalised, and may be weakened.[lv] Delays in reducing barriers to grid build-out and interconnection may raise the real or perceived risk of instability in renewable-dominated systems (as indicated by concerns around the cause of widespread blackouts on the Iberian Peninsula in May 2025) - particularly if electricity demand grows more quickly than expected.

- ***Outlook for demand in the industrial sector***

Demand for natural gas

- **Natural gas is used as an energy source for process heat in industry, and a feedstock for the chemicals industry**. Around 70% of global industrial energy demand is in emerging markets.[xii] Industry is by far the largest natural gas consumer in China, at around 40% of its total demand.[lvi]

- **Energy-intensive industries** (e.g. cement, chemics, steel) **account for three-quarters of industrial energy demand globally**, primarily for process heat**.** In turn, **around three quarters of this demand is for temperatures above 400°C**.[xii] **This is currently difficult to deliver without fossil fuels,** particularly natural gas, alongside coal in some industrial sectors.

- **In the chemicals industry, natural gas is used as a source of both hydrogen and carbon to produce basic chemicals such as ethylene, propylene and ammonia** – a crucial component of fertilisers.[lvii] Around two-thirds of India's LNG imports are for the industrial sector with half of this for fertiliser production.[lviii] **Fertiliser production using LNG is heavily subsidised to maintain affordability in India, at significant cost to the Indian government**.[lix]

Substitutability

- **Most process heat requirements in non-energy-intensive industrial sectors are sub-200°C (with half sub-100°C), meaning electrification options** (e.g. via heat pumps) **are already mature**[lx] and may already be competitive in many instances.[xii]

- However, **electrification may be able to satisfy a large majority of even high process heat demand in industry**, mostly using technologies that that are already available but are still improving (e.g. technologies that deliver heat up to ~1,000°C, such as electric boilers, heat pumps, resistance heating), but also drawing on those that remain in early stages of development or adoption but which could hold substantial potential by the mid-2030s (such as those potentially able to deliver very high heat – above ~1,000°C – such as plasma torches, shockwave heating).[lx,lxi,lxii]

- Assets in heavy industrial sectors are often capital intensive and have lifetimes measured in decades, making significant changes to their configuration difficult. However, **many of the technologies able to deliver heat up to ~1,000°C – around half of industrial process heat demand – may be installed without substantial changes** to the process design or wider site.[lxi]

- **Hydrogen may also be able to deliver heat across a range of temperature profiles. At lower temperatures, changes to industrial process design may be more limited than electrification** if substituting directly for natural gas but may require more changes for very high heat. Hydrogen may also require wider infrastructural changes, such as the installation of storage tanks and supply pipelines adapted to hydrogen, alongside a sufficient source of low-carbon hydrogen.[lx] Low-carbon hydrogen can be produced either via electrolysis of water using renewable electricity ('green' hydrogen) or extracted from natural gas by stripping away the carbon using Steam Methane Reforming (SMR).

- **Few alternatives to natural gas as a chemical feedstock are currently attractive or available at scale.** It is for this reason that gas use declines much less significantly than in other sectors under the IEA's NZE scenario.[xii] Biogas produced from biomass has the same chemical composition as natural gas and may be directly substituted, but sustainable supply is limited.[lxiii] CO_2 captured from the power sector, other industrial processes or directly from the atmosphere using carbon capture techniques, may also be used. is either limited or expensive, and is likely to remain so for the foreseeable future.

Incentive to substitute

- **Policy support is likely to be a key determinant of a shift away from natural gas for process heating in industry.** Incentivising **electrification requires low electricity prices** relative to natural gas.

- **In countries and regions where electricity prices are driven by natural gas prices,** such as much of Europe,[lxiv] **this is structurally difficult,** particularly for very high process heat. Targeted policy measures may be required, such as robust carbon pricing or generous subsidies, but for sectors significantly exposed to international competition or where public budgets are constrained this may not be practical. **In**

countries where electricity and natural gas prices are less connected, or electricity prices for industry are otherwise controlled or managed, sufficient price differentials may emerge.

- **Hydrogen prices will always be higher than underlying electricity or natural gas prices, placing low-carbon hydrogen at a structural disadvantage** to both natural gas and electrification - unless the hydrogen is produced using gas or electricity at prices significantly lower than those available to the end user of the hydrogen.

- **Under current policies, key scenarios forecast a modest global growth in industrial natural gas demand to 2030 and beyond**, as both an energy source and chemical feedstock, due to demand for industrial sector output driven by slower population and economic growth, and slowly increasing electrification.[xii,xxiii]

- ***Outlook for demand in the buildings sector***

Space and water heating

- **Natural gas is the largest source of building space and water heating globally**, primarily in homes, followed by electricity and oil at around 15% each (Figure 17). **Gas heating is particularly prevalent in North America and Europe** due to its relatively clean combustion and historically significant, low cost and secure gas supplies. **Together, they account for nearly two-thirds of global gas demand in buildings**.

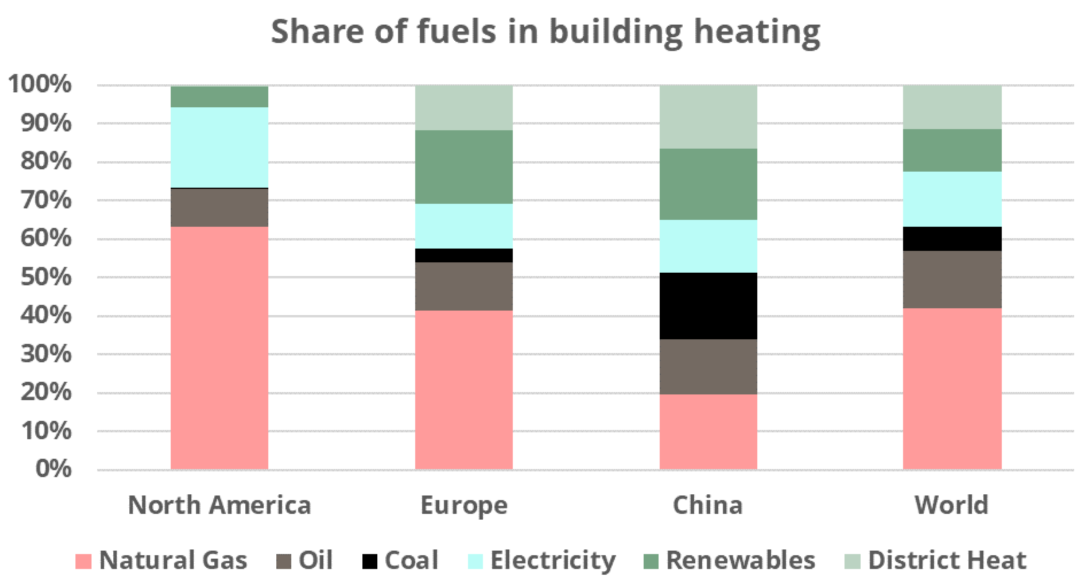


Figure 17 – Share of fuels in building heating. Date Source: IEA (2024). Notes: Includes both space and water heating; district heating may be driven by any of the other fuels described. Graphic created by Greenwheel.

- **Alternative low-carbon fuels and technologies include electricity** (primarily through heat pumps or resistive heating), **renewables** (modern biomass, geothermal and solar thermal), **and district heating** (which may be driven by fossil fuels, electricity or renewables).

- **Gas for heating in Europe was stable over the decade to 2022**,[lxv] while the share of low-carbon alternatives grew from 20% to 30%, largely at the expense of oil heating.[lxvi] **The conflict in Ukraine and implications for gas prices** and supply has **accelerated EU efforts to reduce gas demand in heating, with targets to nearly quadruple the number of heat pumps installed in homes, which may alone reduce total EU gas demand by a quarter**.[lxvii] **Further measures**, such as a binding target to improve the energy efficiency of European homes by at least 20% by 2035 from 2020 levels,[lxviii] **may reduce gas demand further.**

- **However, these targets are ambitious and face significant implementation challenges**. For example, heat pumps in much of Europe have higher up-front costs than gas boilers, face high electricity prices relative to gas that may not make them any cheaper to run, may involve changes to the wider heating system, lack sufficiently skilled installers, and face consumer suspicion around their efficacy.[lxix] Significantly improving the efficiency of homes would require a rapid increase in renovation rates, which faces economic, technical and behavioural barriers.

- **Gas demand in US homes has been stable since the early 1990s**,[lxx] with low-carbon alternatives slowly growing to over 10% in 2022.[lxvi] Sales of heat pumps – particularly air-source units which can also provide cooling - have grown since the early 2010s and began to outsell gas furnaces in 2022, reaching 57% of space heating equipment sales in 2024. Electric water heaters have also seen rapid and sustained growth since 2018 and now outsell gas-fired equivalents.[lxxi] Several States have set targets and offer support for their deployment.[lxxii] Together, this means **US gas demand for building heating may remain stable or slowly decline in the medium term.**

- **Gas demand for building heating in China tripled over the last decade**, particularly in the north of the country, following a policy drive to move away from coal-fired heating to reduce air pollution.[lvi] **China now accounts for 10% of global gas demand for buildings, and buildings account for around a quarter of China's gas demand**.[lxxiii]

- **Growth in residential gas demand in China may slow**[lxxiv] with tightening energy efficiency standards, and if the 15th Five Year Plan policy more explicitly focuses on electricity and renewable energies to avoid growing reliance on imported, relatively high-cost LNG, to avoid previous supply shortages and to further reduce emissions of air pollutants and greenhouse gases (as now mandated in public buildings in Beijing).[lxxv,lxxvi]. The share of heat pumps, for example, is expected to grow significantly to 2030, although technical and economic barriers to large scale deployment remain.[lxxvi]

Cooking

- **Cooking accounts for around a third of global gas demand for buildings**,[lxxvii] with around 60% of the global population using gaseous fuel for cooking – either natural gas directly, liquefied petroleum gas (LPG), which may derive either from natural gas or crude oil, or biogas.[lxxviii] **Direct use of natural gas is most prevalent in advanced economies, including the US, Europe, Japan and South Korea, but also China**.[lxxix]

- However, **in the USA and Europe, cooking with electricity is now more common, and may continue to take a growing share**, particularly due to concerns over indoor air pollution from cooking with gas and policies to control it – particularly in Europe.[lxxx]

- **India's drive to clean cooking has seen rapid expansion of piped natural gas**, particularly in urban areas, **and rapid growth in LPG connections** in more rural areas. However, **high prices due to import dependency has kept utilisation relatively low**, even following government subsidy, with around 40% of households still primarily reliant on solid fuels.[lxxxi] **If prices remain high, demand may remain subdued**, particularly for LPG – **although if prices fall significantly and persistently, demand for LPG could rise**, **but only to a limited degree for piped natural gas**, which still covers just a few percent of households.[lxxxii]

- **The Indian government is refocusing its clean cooking campaign toward electric cooking**, with lower use costs reducing the ongoing potential subsidy burden, limited waste heat and no air pollution, and drawing on near-universal electricity access – although reliable electricity supplies in some regions remains a challenge.[lxxxiii] **The government is also supporting biogas blending into the gas grid**, moving from 1% in 2025 to 5% by 2028/29,[lxxxiv], which achieved would also reduce the opportunity space for imported LNG.

- ***Outlook for demand in the transport sector***

Road vehicles

- **Around a third of global gas demand in transport is for light and mid-sized vehicles fuelled with compressed natural gas (CNG)**, with the largest fleets in Iran, China, Pakistan, Argentina and Brazil, **due to a combination of lower emissions and relatively lower costs compared to diesel**, and with historic policy support. However, **some core and periphery markets**, such as Brazil and Malaysia **are planning to ban their sale** in the coming years, with CNG supply also reducing.[lxxxv,lxxxvi]

- **The fleet of heavy-duty vehicles (HDVs) fuelled by LNG in China accounts for 20% of global natural gas use in transport**. The fleet tripled since 2019, with the share of LNG vehicles in HGV sales growing to over a third in 2024, driven by emissions regulations, government subsidies, investment in infrastructure and relatively low-cost LNG relative to diesel.[lxxxvii] Sales of LNG HDVs in China are highly sensitive to the LNG to diesel price ratio with sales crashing during LNG price spikes in 2022, returning to significantly growth as prices eased.[lxxxvii]

- **However, there are headwinds to the continued growth of LNG HDVs in China**. Recent subsidy changes have begun to favour new battery HDVs over LNG vehicles, with battery vehicles reaching around 20% of sales in Q1 2025, compared to around 30% for LNG vehicles. Battery costs are projected to fall significantly in the coming years, which coupled with policy support for a network of battery-swapping stations, could see **battery electric HDVs emerge as the main alternative to diesel HDVs by the early 2030s.**[lxxxvii,lxxxviii]

- **India is seeking to replace a third of its diesel HDVs with LNG vehicles by the early 2030s**, to reduce the air pollution, greenhouse gas emissions and oil import dependency associated with its diesel fleet. Given current LNG HDV sales in India are negligible, **this target is highly ambitious, and rapidly growing sales of LNG trucks is more challenging than in China**. LNG trucks in India have a similar total cost of ownership to diesel, but they have a higher purchase cost. The government is allocating small volumes domestic gas for LNG trucks, but coupled with little domestic liquefaction capacity, this means high LNG import dependency for the sector. There is also relatively little LNG fuelling infrastructure, and very few domestic truck and component manufacturers. As such, t**he ability and incentive for significant and rapid substitution from diesel to LNG trucks in India is limited.**[xxxii,lxxxix]

Shipping

- **LNG carrier ships, which use their cargo as fuel, account for 10% of natural gas used in the transport sector.**[xc] LNG use in other forms of shipping is negligible, although **40-50% of passenger and container ships** (and 14% of all ships) **on order have 'duel fuel' engines capable of burning LNG as well as traditional oil-based fuel**. This is being driven by emissions regulations in the EU by the International Maritime Organisation (IMO).[xci] **This may drive significant growth in LNG consumption in shipping by 2030**, potentially five-fold.[xcii]

- However, the planned tightening of these regulations and focus on lifecycle emissions means that **beyond the mid-2030s, other lower-carbon fuels** (including bio- and e-LNG) **may become more cost-effective** – with **IMO regulations expected to drive adoption of fuels with a lower emissions intensity than LNG from the early 2030s**.[xciii]

Endnotes

[i] Richie & Rosado (2024)
[ii] IEA (2024a)
[iii] Energy Institute (2024)
[iv] European Council (2024)
[v] EIA (2024)
[vi] Araman (2021)
[vii] Brick (2018)
[viii] McKinsey (2018)
[ix] APPEA (2021)
[x] Molnar (2022)
[xi] Kozhanov (2024)
[xii] IEA (2024b)
[xiii] Statistia (2025)
[xiv] Howarth (2024)
[xv] Thomton et al (2025)
[xvi] Messinger (2024)
[xvii] Chen et al (2023)
[xviii] Sharifli (2025)
[xix] Global Energy Monitor (2025)
[xx] Reynolds & Doleman (2024)
[xxi] Reynolds & Doleman (2025)
[xxii] Alam et al (2024)
[xxiii] BNEF (2025)
[xxiv] Ember (2025a)
[xxv] BNEF (2024)
[xxvi] Ember (2025b)
[xxvii] CAT (2024a)
[xxviii] Howe (2024)
[xxix] Reynolds et al (2024)
[xxx] CAT (2024b)
[xxxi] Sethuraman & Khan (2025)
[xxxii] IEA (2025a)
[xxxiii] CAT (2023a)
[xxxiv] Bock (2025)
[xxxv] Tran et al (2025)
[xxxvi] Brown (2024)
[xxxvii] Ajaz et al (2024)
[xxxviii] Doan & Lorimer (2025)
[xxxix] CAT (2024c)
[xl] Schulkes (2024)
[xli] CAT (2023b)
[xlii] EIA (2025)
[xliii] Rand et al (2024)
[xliv] IEA (2023)
[xlv] Cunningham (2025)
[xlvi] Martos (2025)
[xlvii] Shehabi et al (2024)
[xlviii] Engel et al (2025)
[xlix] Baranko et al (2025)
[l] Gershuni et al (2025)
[li] Rosslow & Petrovich (2025)
[lii] EC (2025)
[liii] Rosslowe (2024)
[liv] Carbon Brief (2024)
[lv] Mathiesen (2025)
[lvi] EIA (2024)
[lvii] IEA (2025b)
[lviii] Pande (2025)

[lix] Jain (2023)
[lx] Fraunhofer ISI (2024)
[lxi] Roeklofsen et al (2020)
[lxii] Madeddu et al (2020)
[lxiii] IEA (2020)
[lxiv] Drummond (2025)
[lxv] Bagheri (2024)
[lxvi] IEA (2025d)
[lxvii] EHPA (2023)
[lxviii] EC (2025)
[lxix] IEA (2022)
[lxx] EIA (2025)
[lxxi] RMI (2025)
[lxxii] Gartman et al (2023)
[lxxiii] Downs (2024)
[lxxiv] IEA (2023)
[lxxv] Reynolds (2025)
[lxxvi] IEA (2024)
[lxxvii] IEA (2019)
[lxxviii] WHO (2025)
[lxxix] Stoner et al (2021)
[lxxx] Leach (2024)
[lxxxi] Jain (2023)
[lxxxii] Sinha (2022)
[lxxxiii] Jain (2021)
[lxxxiv] Neo et al (2023)
[lxxxv] Nair (2024)
[lxxxvi] Marinho (2024)
[lxxxvii] Doleman (2025)
[lxxxviii] Thomton et al (2024)
[lxxxix] Jain (2025)
[xc] IMO (2025)
[xci] Lloyds Register (2025)
[xcii] DNV (2025)
[xciii] Yu & Friedmann (2025)

Key Information

No investment strategy or risk management technique can guarantee returns or eliminate risks in any market environment. Past performance is not a guide to future results. The prices of investments and income from them may fall as well as rise and an investor's investment is subject to potential loss, in whole or in part. Forecasts and estimates are based upon subjective assumptions about circumstances and events that may not yet have taken place and may never do so. The statements and opinions expressed in this article are those of the author as of the date of publication, and do not necessarily represent the view of Redwheel. This article does not constitute investment advice and the information shown is for illustrative purposes only. Whilst updated figures are not available for all sources, we have performed further analysis and believe that this data has not significantly changed and is reflective for 2025.

directors, officers, employees, or representatives (including affiliates) accepts any liability whatsoever for any errors and/or omissions or for any direct, indirect, special, incidental, or consequential loss, damages, or expenses of any kind howsoever arising from the use of, or reliance on, any information contained herein. Information contained in this document should not be viewed as indicative of future results. Past performance of any Transaction is not indicative of future results. The value of investments can go down as well as up. Certain assumptions and forward looking statements may have been made either for modelling purposes, to simplify the presentation and/or calculation of any projections or estimates contained herein and Redwheel Group does not represent that that any such assumptions or statements will reflect actual future events or that all assumptions have been considered or stated. There can be no assurance that estimated returns or projections will be realised or that actual returns or performance results will not materially differ from those estimated herein. Some of the information contained in this document may be aggregated data of Transactions executed by Redwheel that has been compiled so as not to identify the underlying Transactions of any particular customer. No representations or warranties of any kind are intended or should be inferred with respect to the economic return from, or the tax consequences of, an investment in a Redwheel-managed fund. 22 This document expresses no views as to the suitability or appropriateness of the fund or any other investments described herein to the individual circumstances of any recipient. The information transmitted is intended only for the person or entity to which it has been given and may contain confidential and/or privileged material. In accepting receipt of the information transmitted you agree that you and/or your affiliates, partners, directors, officers and employees, as applicable, will keep all information strictly confidential. Any review, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information is prohibited. Any distribution or reproduction of this document is not authorised and is prohibited without the express written consent of Redwheel Group. The risks of investment are detailed in the Prospectus and should be considered in conjunction with your investment adviser. Please refer to the Prospectus, Key Investor Information Document (UCITS KIID), Key Information Document (PRIIPS KID), Summary of Investor Rights and other legal documents as well as annual and semi-annual reports before making investment decisions; these documents are available free of charge from RWC or on RWC's website: https://www.redwheel.com/ and available in local languages where required. RWC as the global distributor has the right to terminate the arrangements made for marketing Redwheel Funds in certain jurisdictions and to certain investors. Redwheel Europe is the sub-distributor of shares in Redwheel Funds in the European Economic Area ("EEA") and is regulated by the Danish Financial Supervisory Authority. This document is not a solicitation or an offer to buy or sell any fund or other investment and is issued in the UK by RWC and in the EEA by RW Europe. This document does not constitute investment, legal or tax advice and expresses no views as to the suitability or appropriateness of any investment and is provided for information purposes only. The views expressed in the commentary are those of the investment team. Funds managed by Redwheel are not, and will not be, registered under the Securities Act of 1933 (the "Securities Act") and are not available for purchase by US persons (as defined in Regulation S under the Securities Act) except to persons who are "qualified purchasers" (as defined in the Investment Company Act of 1940) and "accredited investors" (as defined in Rule 501(a) under the Securities Act). This document does not constitute an offer to sell, purchase, subscribe for or otherwise invest in units or shares of any fund managed by Redwheel. Any offering is made only pursuant to the relevant offering document and the relevant subscription application. Prospective investors should review the offering memorandum in its entirety, including the risk factors in the offering memorandum, before making a decision to invest.

CONTACT US
Please contact us if you have any questions or would like to discuss any of our strategies.
invest@redwheel.com | www.redwheel.com

Redwheel London
Verde
10 Bressenden Place
London SW1E 5DH
+4420 7227 6000

Redwheel Europe
Fondsmæglerselskab A/S,
Havnegade 39, 1058
København K, Denmark

Redwheel Miami
2640 South Bayshore Drive
Suite 201
Miami
Florida 33133
+1 305 6029501

Redwheel Singapore
80 Raffles Place
#22-23
UOB Plaza 2
Singapore 048624
+65 68129540