Long term oil demand outlook

February 2026

Vitol

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Long term oil demand outlook

Updated February 2026

As a physical trader of energy, Vitol has long monitored and forecast demand for crude oil and products, and in February 2025, for the first time, we published our views on the long term outlook for oil demand.

In the 12 months since, we have seen significant shifts in policy and some economic fundamentals. This report presents our updated outlook.

Key changes include:

- **Demand level shifts higher:** Global oil demand is now expected to be higher than previously anticipated by the end of 2040.
- **Electric vehicle (EV)[1] adoption assumptions are revised:** Slower near-term passenger car EV uptake in the United States and certain Asian countries[2] has led us to broadly align the base case with last year's low-EV-adoption scenario.
- **Peak demand is pushed back to the mid-2030s,** mostly due to demand from the road transport sector, other sectors remain broadly unchanged.
- This contrasts with our February 2025 outlook, which projected demand would continue rising into the early 2030s and then decline, leaving 2040 demand roughly in line with 2024 levels

[1] Electric vehicles refer to units powered entirely by batteries

[2] Japan, Taiwan and Hong Kong

Executive summary

This report outlines our view on future oil demand and the factors that may affect it. We take into account current sectoral trends including factors we think are likely to influence the availability and adoption of sustainable solutions. Our aim is to present a realistic view based on the data available without inherent bias.

We look over a 15-year horizon to 2040 because this ties in roughly with technological cycles and broadly matches vehicle fleet turnover patterns. Beyond 15 years, it is harder to anticipate how influencing factors will evolve, leading to higher levels of uncertainty.

Demand in 2040 is expected to be 5 million bpd higher than today. Minimal decline during the latter part of the next decade does not reverse the continued year-on-year increase in oil use over the next few years.

Gasoline and gasoil demand begins to moderate and is anticipated to fall as the electrification of road transport continues and gasoil use in other sectors declines.

Road transport fuels - representing roughly half of the barrel today - remain the primary determinant of the global oil demand trajectory. Slower near-term passenger car EV uptake in the US and parts of Asia is only partly counterbalanced by faster adoption in emerging markets and a more constructive outlook for electric heavy commercial vehicles (eHCVs). This has moderated the expected decline in demand versus last year's base case and underpins our February 2026 outlook.

In the absence of any disruptive technologies over the forecast horizon, jet fuel and liquified petroleum gas (LPG) demand (for residential and commercial use and petrochemical feedstocks) are expected to continue to rise.

Our caveat remains that, if EV adoption stalls and policy targets continue to be deferred, road transport fuel demand in 2040 could exceed current projections. Similar sensitivities apply across the barrel: outcomes may be higher or lower depending on policy implementation, the pace of technology adoption, regional macroeconomic performance, and the balance between supply additions and demand growth. Overall, the upside forecast risk is greater for oil road demand, while oil burn and petrochemical derivatives face a greater downside risk.

1. Outlook to 2040

Over the past year, decarbonisation policies have become a less decisive driver of efforts to curb oil consumption and reduce CO_2 emissions. Policy priorities have increasingly been reframed around economic competitiveness and geopolitical strategy.

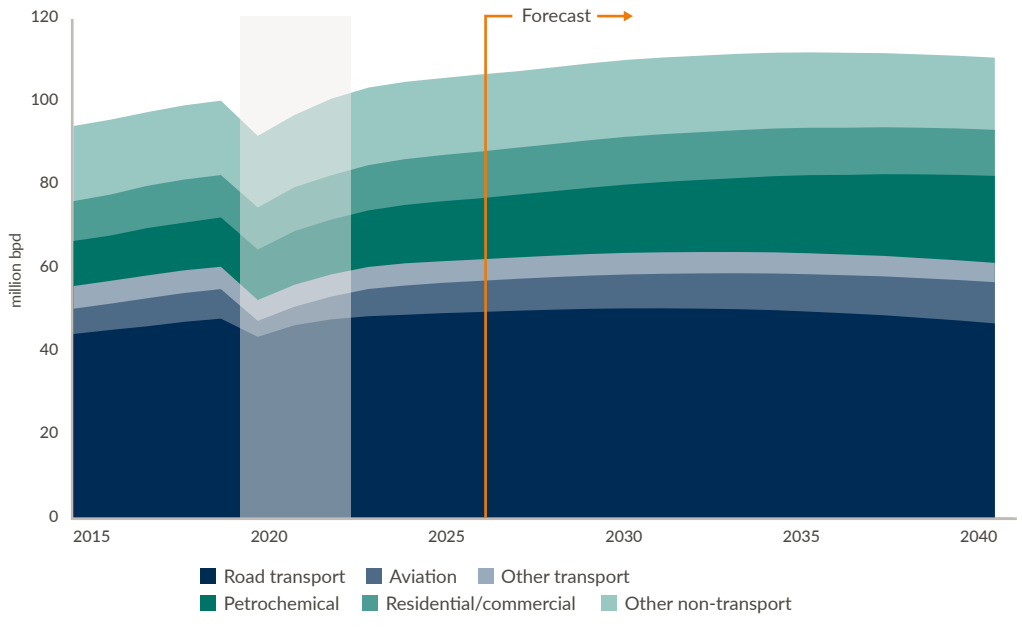
At the same time, technological progress and China's strategic ambitions - supported by industrial scale and cost reductions - have lowered the cost of Chinese EVs and clean technologies, accelerating their deployment across most markets.

Population growth, rising incomes, and continued urbanisation are sustaining underlying demand for mobility, plastics, chemicals, and energy - and, by extension, oil. This dynamic is reinforced in several regions by a stronger industrial policy orientation, with a greater emphasis on domestic competitiveness and security of supply.

Looking ahead, the trajectory of decarbonisation over the next 15 years will be determined less by stated targets and more by the availability, scalability, and affordability of practical alternatives. This is alongside the cost and feasibility of adoption.

Demand change by sector over outlook

Road transport fuels are in decline whilst other sectors continue to increase



Shaded section indicates timing of COVID-19 pandemic

Global oil demand will likely continue to rise. At its height - expected in the mid-2030s - demand could reach around 112 million bpd, and is likely to remain close to this level with only minimal decline by the end of the forecast - expected to be 5 million bpd higher than today.

The profile of the barrel is expected to change; the dominance of road transport fuels is anticipated to decline, whilst demand growth is expected to be driven by petroleum products used in the production of plastics and aviation.

Oil fuels for road transport – principally gasoline and diesel – dominate demand at 46% of the global barrel and the outlook for these fuels underpins the overall forecast. The adoption of EVs – primarily passenger cars – represents the main decarbonisation solution at tailpipe and available at a scale that could moderate oil demand.

Declining gasoil demand within the residential sector – as consumers adopt sustainable heating solutions – is also expected to contribute to falling consumption. By 2040, total gasoline and gasoil demand (in all categories) is anticipated to fall to represent just under half of the barrel.

The expected outlook for most of the remainder of the barrel is one of rising demand and no disruptive technologies at present that could reasonably reduce reliance on oil products at scale.

Rising populations, incomes, and urbanisation is increasing demand globally for plastics, and in developing economies for fuels used in residential and small-scale commercial activities. It is anticipated that naphtha and LPG will consequently increase in relative importance over the outlook – facilitated by the supply of natural gas liquids (NGLs) - to represent over a quarter of the demand barrel by 2040 – up from a fifth today.

As people become wealthier and fly more, jet fuel demand is expected to increase to represent 9% of the demand barrel by 2040, from 7% today. The adoption of sustainable aviation fuel (SAF) will likely increase over the forecast period as mandates come into effect, but is unlikely to be high enough to change a rising trend for petroleum-derived jet fuel consumption.

Report aims and considerations

Structured by sector, each section sets out the outlook, and highlights the influencing factors that could shape product demand, as well as potential risks to these projections.

Policy will be crucial in shaping behaviour and business decisions. The cost – both monetary and non-monetary – will be determined by policies, incentives, and subsidies to reduce oil consumption. These are expected to heavily influence the pace of transition and give rise to regional disparities.

We highlight that decarbonisation solutions also come with a cost and will require investments in technology, labour, and infrastructure.

Key assumptions

As the drivers shaping our outlook have evolved, so too have the underlying assumptions:

- Trade and industrial policy - rather than environmental goals - will be the primary determinants of investment decisions, as policymakers prioritise support for domestic markets and cost.
- Environmental policy will increasingly be shaped by industrial objectives, reinforcing a broader trend towards protectionism.
- Certain countries will still value economic growth over environmental benefits but where feasible will adopt leapfrog technologies.
- Electrification of transportation and heating, combined with efficiency improvements are the key decarbonisation solutions. We do not see any additional, disruptive, commercially viable technologies that impact oil demand within the 2040 forecast horizon.

2. Road transport

Road transport fuels drive much of today's oil demand, accounting for just over 46% of the barrel. They will remain a large portion of consumption, but their share is anticipated to decline to around 40% of the barrel by 2040.

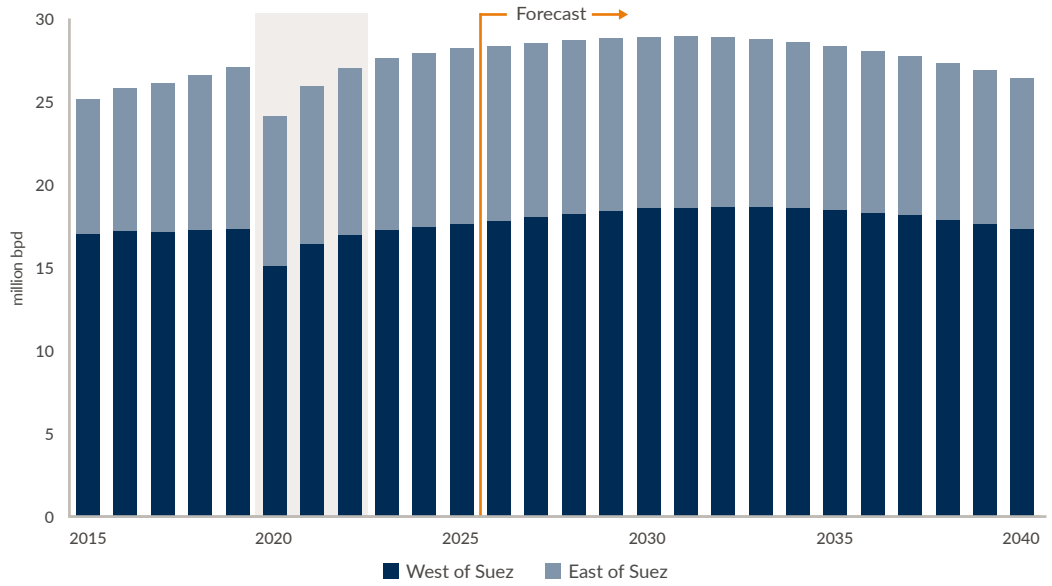
Key to this shift is the increasing availability of EVs which will support the expansion of road transport mobility, without a corresponding rise in the demand for petroleum fuels.

Our current base case has aligned with last year's low-EV-adoption scenario; as the near-term passenger EV outlook in the US and certain Asian countries slows and is only partially offset by increasing rates of adoption in emerging markets and a more optimistic outlook for eHCVs.

2.1. Gasoline

Global gasoline demand

Demand is expected to peak as electrification and efficiency improvements cap overall fuel use



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Gasoline includes ethanol

The pace of global gasoline demand growth is expected to slow over the coming years before peaking in the early 2030s, as electrification and efficiency improvements cap overall fuel use. From the mid-2030s onwards, the loss in gasoline consumption accelerates with net demand projected to be around 1.8 million bpd lower than current levels by 2040.

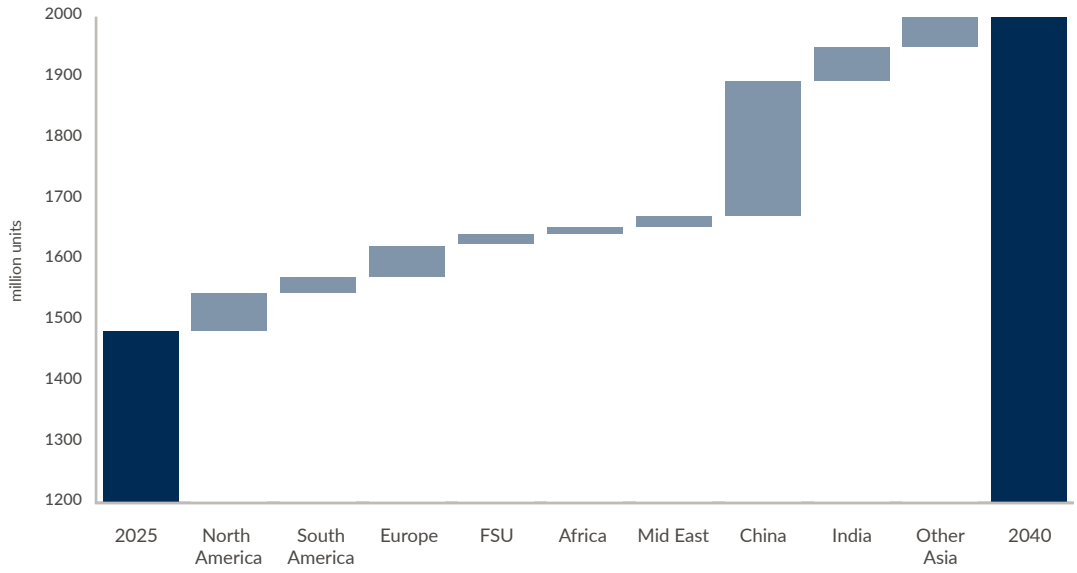
At present, the US, China and Europe represent over half of current global gasoline consumption. Demand in all three regions is expected to fall over the outlook period, with the biggest decline forecast in China where gasoline use has already peaked and is projected to more than halve by 2040 compared to 2025 levels.

In contrast, European gasoline demand will continue to increase into the early 2030s before entering an initial shallow decline, with regional demand in 2040 anticipated to be broadly similar to current levels. Despite having the most stringent EV adoption targets, European gasoline demand will continue to benefit from the ongoing shift from diesel to gasoline engines in the passenger car fleet.

The peak in US demand is projected to be slightly earlier, with subsequent larger annual declines post-2035. The US will remain the biggest gasoline market with demand projected to be around 0.8 million bpd lower by the end of the outlook.

Increase in total car fleet by region over forecast period

The global car fleet is expected to grow, supporting passenger road fuel demand over the forecast period



Former Soviet Union (FSU)

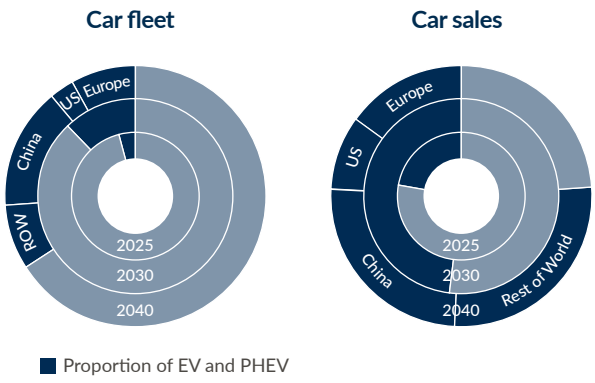
Gasoline demand in other regions has varying outlooks.

Elsewhere, gasoline demand is expected to continue to rise into the next decade, increasing by almost 1.5 million bpd by 2040 as car fleets grow. At this point, these regions could represent around 60% of global gasoline consumption, up from just under half today. African and Middle East demand is expected to peak after 2040.

Despite continued growth in global road transportation, the increasing availability of EVs and plug-in hybrid electric vehicles (PHEVs) for individual and commercial use is transforming the road transport market.

By 2040, the total global car fleet is expected to increase by around 500 million units to nearly 2 billion. Even with continued growth in sales, EVs and PHEVs are still likely to represent around a third[3] of the total fleet. This underlines the structural challenge of reducing the share of internal combustion engine (ICE) vehicles in the global fleet within typical vehicle turnover cycles.

EV and PHEV adoption: sales and proportion of total fleet
EVs and PHEVs are likely to represent around a third of the total fleet in 2040



With a global fleet of around 1.3 billion ICE cars by 2040, liquid fuels are likely to remain material to road transport demand. While a fleet of around 690 million EVs and PHEVs on the road by 2040 could deliver a meaningful reduction in gasoline demand, the scale of displacement will depend on the real-world usage of PHEVs (i.e. the proportion of kilometres driven on battery versus gasoline), as well as regional differences in driving patterns and average vehicle efficiency.

[3] Forecast based on regulation, consumer behaviour, technology improvements and stated ambitions by Original Equipment Manufacturers (OEMs)

Could range extenders be an effective transitional technology between ICE and slower EV adoption in certain markets?

Automakers are evaluating range-extender electric vehicles (REEVs) as a response to persistent range anxiety. REEVs use a small petrol engine solely as a generator to recharge the traction battery, combining electric drive with the security of on-board fuel backup.

This configuration is particularly relevant for larger, high-load vehicles and for rural users where charging coverage remains limited. Depending on the model, combined driving range between refuelling can exceed 1,000km [4] (manufacturer-claimed).

The medium-term relevance of REEVs is, however, uncertain. After rapid growth in China - exceeding 10% of new domestic car sales in 2024 - adoption has begun to plateau as the relative advantages over EV charge distance narrows. Recent developments include longer-range next-generation batteries (circa 650km per charge), rapid expansion of public charging infrastructure, and higher charging power that reduces total charging time. Given China's lead in EV adoption, similar dynamics may emerge in Europe and the US.

In Europe and the US, many new EVs already deliver approximately 450km of range, with an increasing number approaching or exceeding 600km. Continued improvements, including solid-state battery development, are expected to further increase range and materially reduce charging times, potentially limiting the need for petrol-based backup for most use cases over time.

Policy also remains a key determinant of adoption. As such, the withdrawal of incentives and the softening or deferral of regulatory targets in some regions has slowed near-term growth. Nevertheless, the global direction of travel continues, underpinned by two factors:

1. **Improving cost and capability at the mass-market level**

   EVs are increasingly able to deliver comparable functionality at close to the cost of an ICE vehicle, a trend expected to accelerate as technology improves and manufacturing efficiencies scale. This is coupled with the roll out of increasingly powerful chargers, significantly reducing charging times.

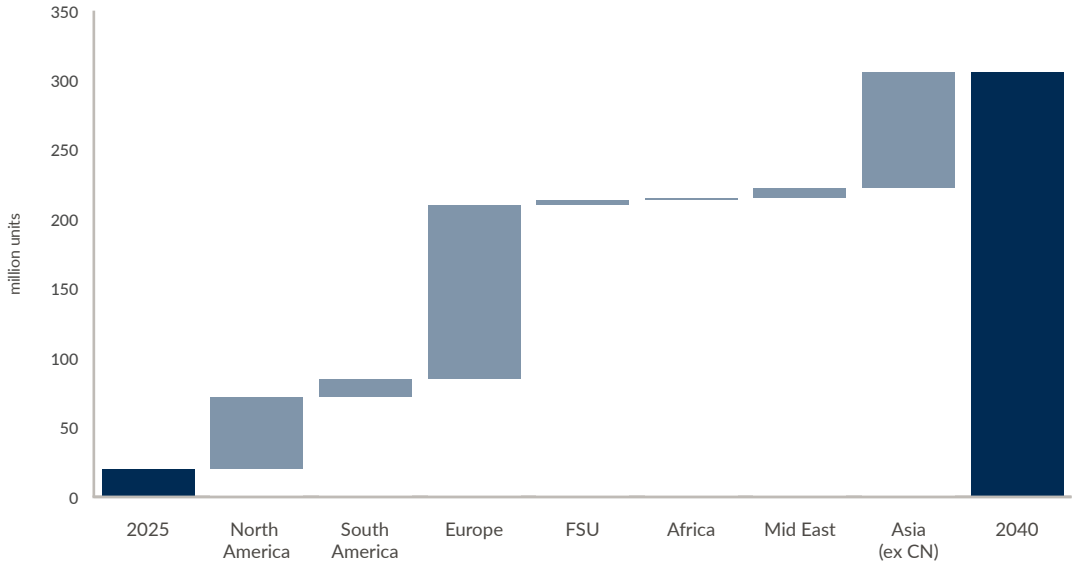
2. **Rising exports from China into emerging markets**

   With China's domestic market at around 50% EV/PHEV sales, Chinese Original Equipment Manufacturers (OEMs) are increasingly exporting surplus supply into price-sensitive markets, supporting faster uptake than previously anticipated in emerging markets. This is particularly the case in Central and South America and Asia (excluding China) where the combined EV passenger car fleet is expected to increase by nearly 100 million units by 2040.

[4] 1000km – approximately 600 miles

Increase in EV car fleet by region over forecast period

Chinese OEM exports are supporting faster uptake than previously anticipated in emerging markets

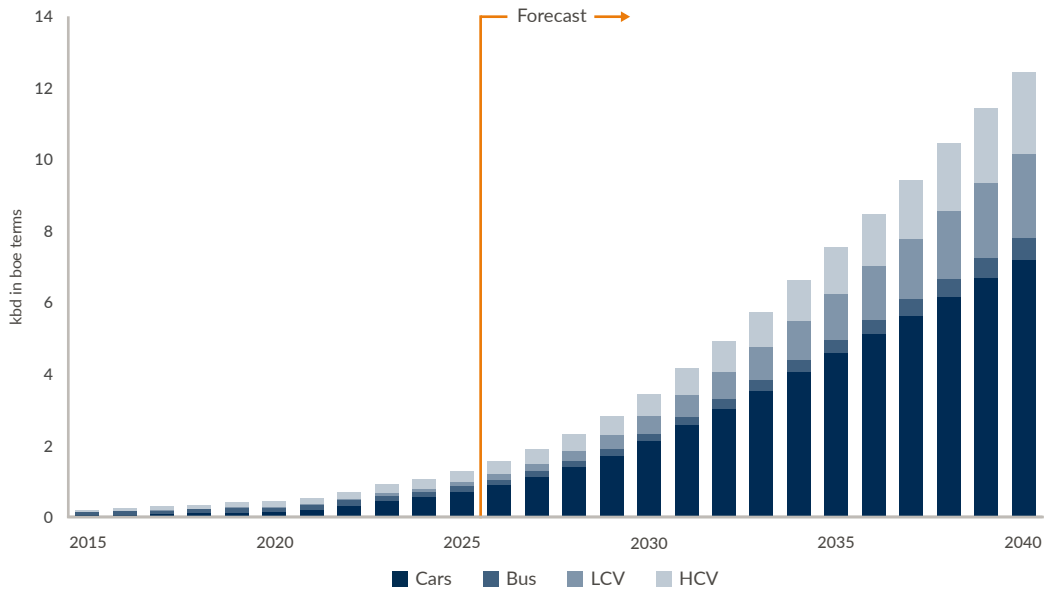


Former Soviet Union (FSU)

Battery-swapping is a charging innovation particularly for two- and three-wheeled vehicles. In emerging economies where this segment predominates, it could accelerate the electrification of road transport still further. It offers a lower lifetime cost per vehicle, a charging solution where infrastructure or home charging is lacking, and improved time efficiency. Widespread access could also lower the day-to-day running costs of these vehicles against petroleum alternatives, further spurring adoption.

The impact of new energy vehicles (NEVs)[5] on road fuel

As NEVs increase across the transport mix, both gasoline and diesel are displaced



NEV use in barrel of oil equivalent

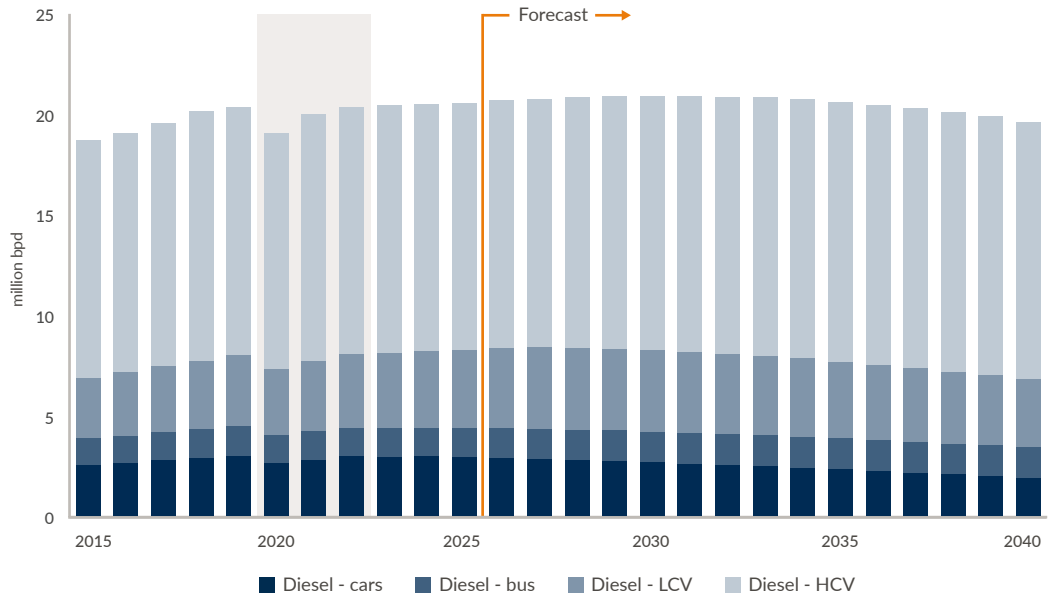
Rising NEV penetration progressively reduces the addressable market for gasoline and, over time, diesel. The effect is cumulative and shifts the demand growth trajectory lower, because even as overall mobility demand continues to rise, a growing share of kilometres travelled is served by alternative transport fuels.

[5] NEVs in this instance comprise EV, Fuel Cell Vehicles (FCV) and LNG vehicles

2.2. Diesel

Diesel demand by road transport type

As the use of other fuels by commercial vehicles increases, diesel is expected to stagnate before declines begin to gather pace from 2035



Shaded section indicates timing of COVID-19 pandemic

Diesel demand from the transport sector is anticipated to increase marginally over the coming years before plateauing and reversing by the early 2030s. The initial pace of decline is expected to be slow compared to gasoline, but begins to gather pace from 2035 onwards, with global consumption falling by 0.9 million bpd to 19.6 million bpd by 2040.

While the adoption of electric light commercial vehicles (LCVs) has underperformed versus our previous assumptions, this has been offset by an increasingly optimistic outlook for eHCVs. China is providing proof of concept[6] initially with a reliance on battery swapping to support scale. The likelihood is that the technology is exported to other markets.

This is significant as the HCV sector currently accounts for 60% of road diesel consumption, with the fleet expected to increase by over 12% to 65 million units by 2040.

This could also apply to other segments like long range coach fleets.

While the bus segment is a small sector for global diesel demand, there will likely be further success in the electrification of urban bus systems – expedited due to the centralised nature of government decision-making. Given that the cost of electric buses compared to ICE equivalents is often lower, this is likely to occur even in locations where low-carbon transport solutions have not been prioritised.

[6] As of December 2025, 5% of all truck journeys in China were electric powered

CASE STUDY

VGMobility

Accelerating electrification of transport fleets across the Americas

A Vitol-owned company, VGMobility provides e-mobility solutions across the Americas, including electric fleet provision, charging infrastructure, depot design and construction, and asset management.

It is optimally placed to support municipal transport providers with their decarbonisation goals and enable the wholesale shift to electromobility. Currently VGMobility's portfolio includes projects across Latin America with over 2,700 buses, transporting more than 30 million passengers, and saving over 1,835 tons of CO_2 each month.

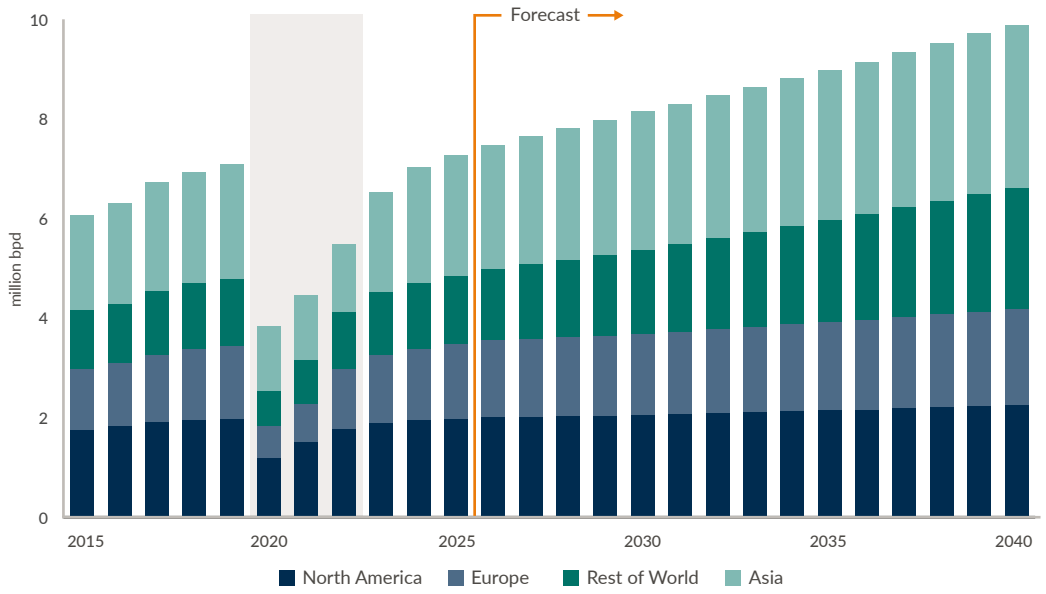
3. Aviation

Rising incomes and investment in the aviation industry are expected to drive continued expansion of the sector.

Hydrogen-powered and electric planes are technologies unlikely to be available on a commercial basis for decades. In contrast, sustainable aviation fuel (SAF) – fuel made from non-petroleum sources – is already available within the industry and represents a technology that has the long-term potential to partially replace demand for petroleum-derived jet fuel.

Jet fuel demand

Jet fuel demand is expected to continue to grow to 2040



Rest of World includes South America, Africa, Former Soviet Union (FSU) and Middle East
Shaded section indicates timing of COVID-19 pandemic - air travel and capacity was particularly impacted by COVID-19, with effects dragging into at least 2025
Includes all jet fuels

Jet fuel represents almost 7% of overall refined product demand today, but both absolute levels of demand, and the proportion of the barrel it represents, is anticipated to continue to increase to 2040. Peak demand for petroleum-derived jet fuel, even as SAF usage gains prominence from its very low base, is not expected before 2040.

By the end of the forecast period, annual jet fuel consumption is expected to increase by around 2.6 million bpd from current levels due to an approximate doubling of global passenger numbers. This is as a result of demand recovery from the impact of the COVID-19 pandemic and continued growth in international travel. The proportion of jet fuel within the barrel will likely rise to 9%, with demand for petroleum-based jet fuel moderated in North America and Europe where SAF adoption will also be highest over the next 15 years.

Mandates to increase the adoption of SAF as a solution to decarbonise the sector will likely raise the cost of international travel. If adopted in emerging economies, this could disproportionately impact aviation activity, where consumers may be less able to absorb higher prices.

In 2025, SAF represented just 0.6% of total jet fuel for the aviation sector.[7] SAF made primarily from crop and plant feedstocks (bio-SAF) and waste cooking oil dominate the nascent SAF market today, whilst researchers continue to explore the viability of ethanol-to-jet and synthetic/e-fuels.

SAF has been adopted at low levels by commercial airlines to improve green credentials, but constrained supply and resulting high cost – roughly three times that of petroleum jet fuel[8] – is limiting greater adoption. Hence the EU ReFuelEU legislation to mandate SAF adoption within the aviation sector. Since 2025, SAF has had to represent 2% of fuel supplied, increasing to 6% in 2030, 20% in 2035 and then 70% by 2050.[9] However, not all regions will be willing to mandate high levels of SAF adoption when the likely outcome is increased costs which limit international travel and negatively impact aviation industries. And even if other regions were to set high targets, constraints on feedstocks and conversion capacity globally would likely limit the supply of SAF to not more than 15% of total jet demand by 2040.

For SAF to play a significant role in the decarbonisation of the aviation sector, three things need to happen; legally binding mandates which ensure an investment market for SAF, the use of retired refinery infrastructure repurposed for SAF production, and the upscaling of crop and plant feedstocks and supply from waste cooking oils.

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7 IATA (2025)

8 Based on 2023-2025 average ratio of Argus SAF FOB ARA Range (Class II) against Platt Jet ARA CIF CGS

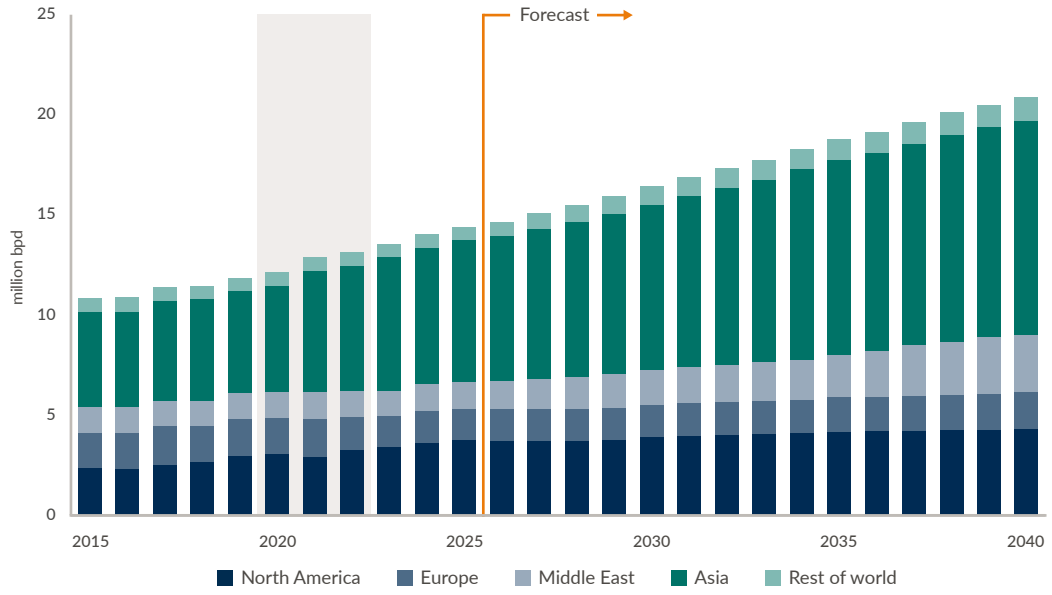
9 Regulation (EU) 2023/2405

4. Petrochemical

Petroleum feedstock demand for the petrochemical sector is expected to increase to 2040. Rising populations and incomes in developing economies are driving ever greater demand for plastics, but there is limited scope for sustainable technologies to play a role in the market for the foreseeable future.

Petrochemical feedstock demand by region

Petrochemical feedstock demand is expected to continue to grow and will become an increasingly important part of the barrel



Rest of World includes South America, Africa and FSU
Shaded section indicates timing of COVID-19 pandemic
Petrochemical feedstock includes ethane, propane, butane and other liquids. Coal and methanol are not included.

By 2040, petrochemical feedstock demand is expected to represent a fifth of the demand barrel, rising by around 6 million bpd from current levels.

It is anticipated that petrochemical feedstock demand will rise significantly in Asia by over 3 million bpd to account for 50% of global feedstock consumption. It is also expected to rise in North America and the Middle East, with 2 million bpd of additional demand from these regions by 2040. New investment for petrochemical facilities has been highest in these three regions with projects strategically located to capture cheap feedstock and market share. Asia in particular has various large projects soon to come online which will increase overall capacity significantly.

The use of plastics is embedded in almost every aspect of modern life; it has transformed consumption and supported economic activity; playing a key role in progress, from advances in communication technology through to medical innovation. The drive to reduce consumption of this useful and ubiquitous material is based largely on the desire to limit its environmental impact, both the emissions that arise as a result of its production – requiring high temperatures to crack and upgrade the molecules - and also the challenge of its disposal.

Progress in recycling technology is expected to increase capacity, but not to the scale required to materially impact petrochemical feedstock demand before 2040. This is further reinforced by policy uncertainty, with negotiations on the UN plastics treaty currently stalled, limiting near-term regulatory impetus for a faster shift in demand. As a result, recycled plastics are likely to continue to represent a relatively small share of total plastic use by 2040, at an expected 14% of the market.

The market for bio-based plastics is expected to continue to lag behind; although supply has increased, they still represented less than 1% of plastics produced in 2025.[10] Higher costs of production, quality concerns, challenges in the supply of biological feedstocks, and timeframes to upscale production are likely to limit their adoption over the forecast horizon. Despite the biodegradability of certain bio-based plastics, most present the same disposal challenge as conventional plastics. Somewhat counterintuitively, the adoption of bio-based plastics increases the complexity and cost of sorting which could negatively impact recycling.

Small, higher-income consumers choosing sustainable substitutes may drive some reduction in demand for petroleum-derived plastics. However, health concerns, particularly as the effects of microplastics are better understood, could result in a global consumer shift, especially within the food and drink industry.

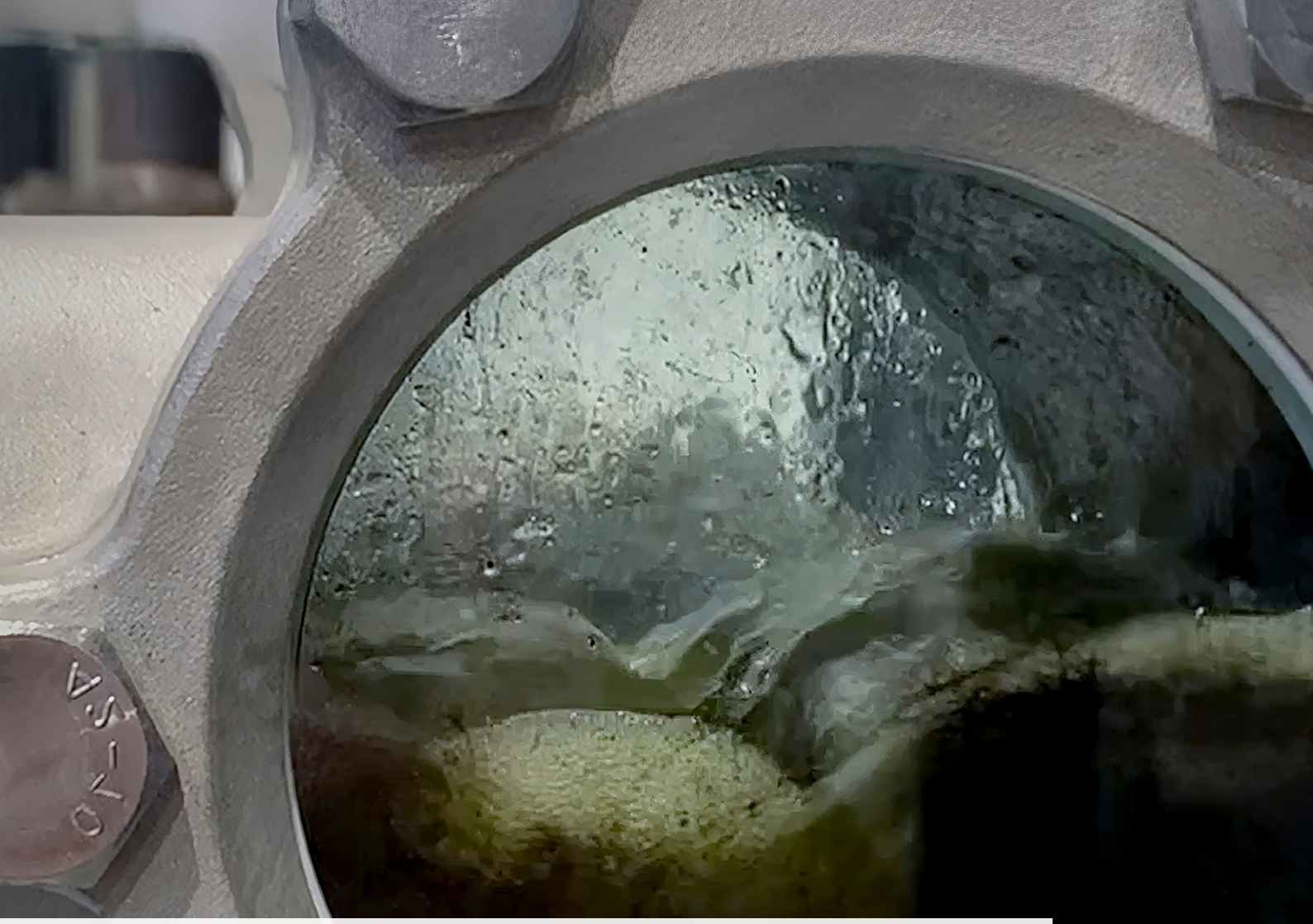
The overriding trend within the petrochemical sector is anticipated to be increasing demand from developing economies. Rising incomes will support a growing market for goods and services that improve living standards, and for technology that promotes economic opportunity. Consumers in these regions are expected to largely prioritise cost over sustainability; only when alternative solutions are available at cost parity and at scale, is adoption likely to accelerate.

Definitions:[11]

Bio-based plastics: plastics made entirely or partially from biological feedstocks. Not necessarily biodegradable.

[10] European Bioplastics (2025)

[11] European Commission (2022)



CASE STUDY

WPU

Creating a circular plastics system

WPU, Waste Plastic Upcycling, is a Vitol-owned company which upcycles end-of-life plastic waste into oil.

Using batch pyrolysis technology, the end product is used as a petrochemical feedstock in the production of recycled plastics. Chemical recycling is a critical pathway for the EU to achieve its circular plastics targets by 2030 and beyond. It also has the potential to be used in the road transport fuel and SAF markets.

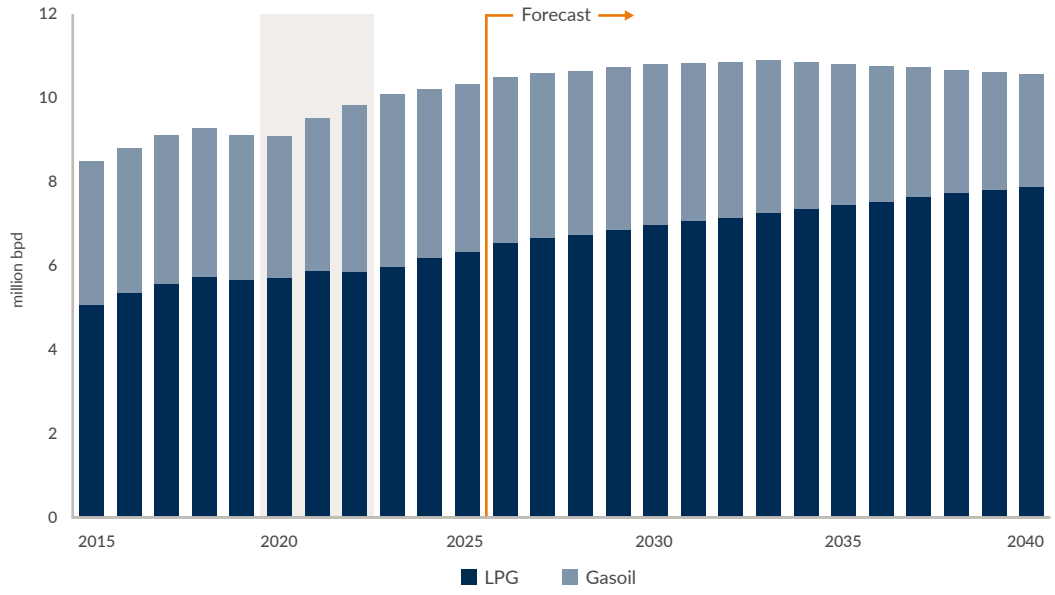
Based in Denmark, WPU has an operational commercial plant capable of recycling 25,000 tonnes of waste plastic a year – the equivalent of approximately five hundred million plastic bottles. Plans for a second plant with improved efficiency and capacity are underway.

5. Residential

Gasoil as a heating fuel is anticipated to decline in advanced economies due to the increasing availability of sustainable solutions. Whereas in developing economies, increasing use of LPG in place of solid fuels is expected to support economic activity and improved health outcomes.

Residential gasoil and LPG demand split

Growth in demand for LPG will likely offset decline in gasoil on a global basis

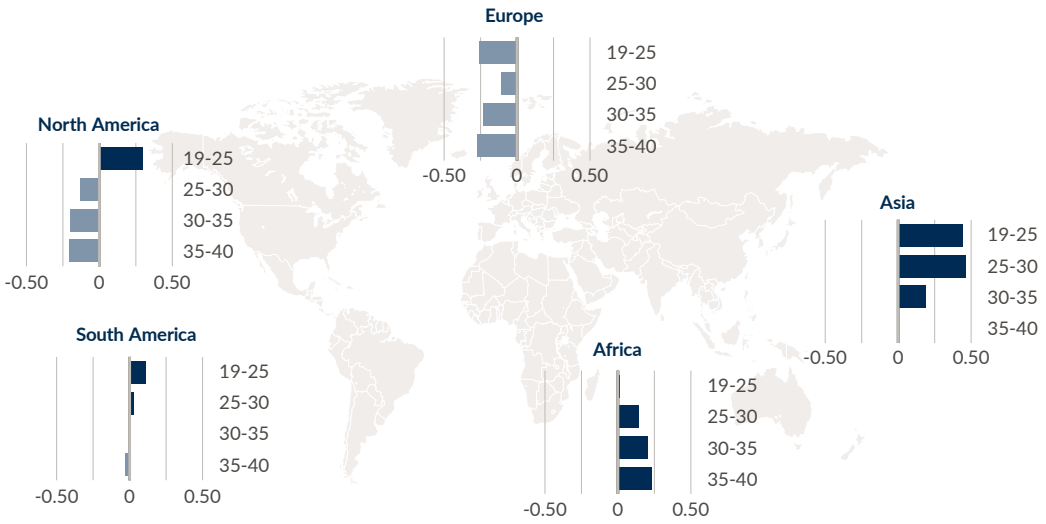


Shaded section indicates timing of COVID-19 pandemic

At the sector level, total consumption of oil products for residential and commercial use is expected to remain largely unchanged, but this masks the likelihood of growing LPG demand and declining gasoil consumption.

Global consumption of LPG as a fuel source could rise by 1.5 million bpd by 2040. On that basis, by the end of the outlook, LPG would represent 70% of the sector's oil product demand – up from around 50% today. Gasoil consumption, in contrast, is anticipated to fall by over 1 million bpd compared to today, with just under 3 million bpd of remaining demand by 2040.

Residential gasoil and LPG demand by region
Demand for residential fuels is expected to shift to developing economies.
Asia and Africa are anticipated to lead demand for residential and commercial use



Change in million bpd

In 2040, Asia is likely to remain the largest user of oil for residential and commercial use, representing over half of sectoral demand. Africa is expected to rise in importance – by the end of the outlook, it could double to represent 11% of global consumption.

Gasoil

Solar panels and heat pumps are now available as a viable option for domestic use. In tandem, thermal efficiency in buildings has improved with advances in insulation and building design. As a result, in advanced economies, the use of gasoil as a heating fuel is expected to decline significantly over the next fifteen years.

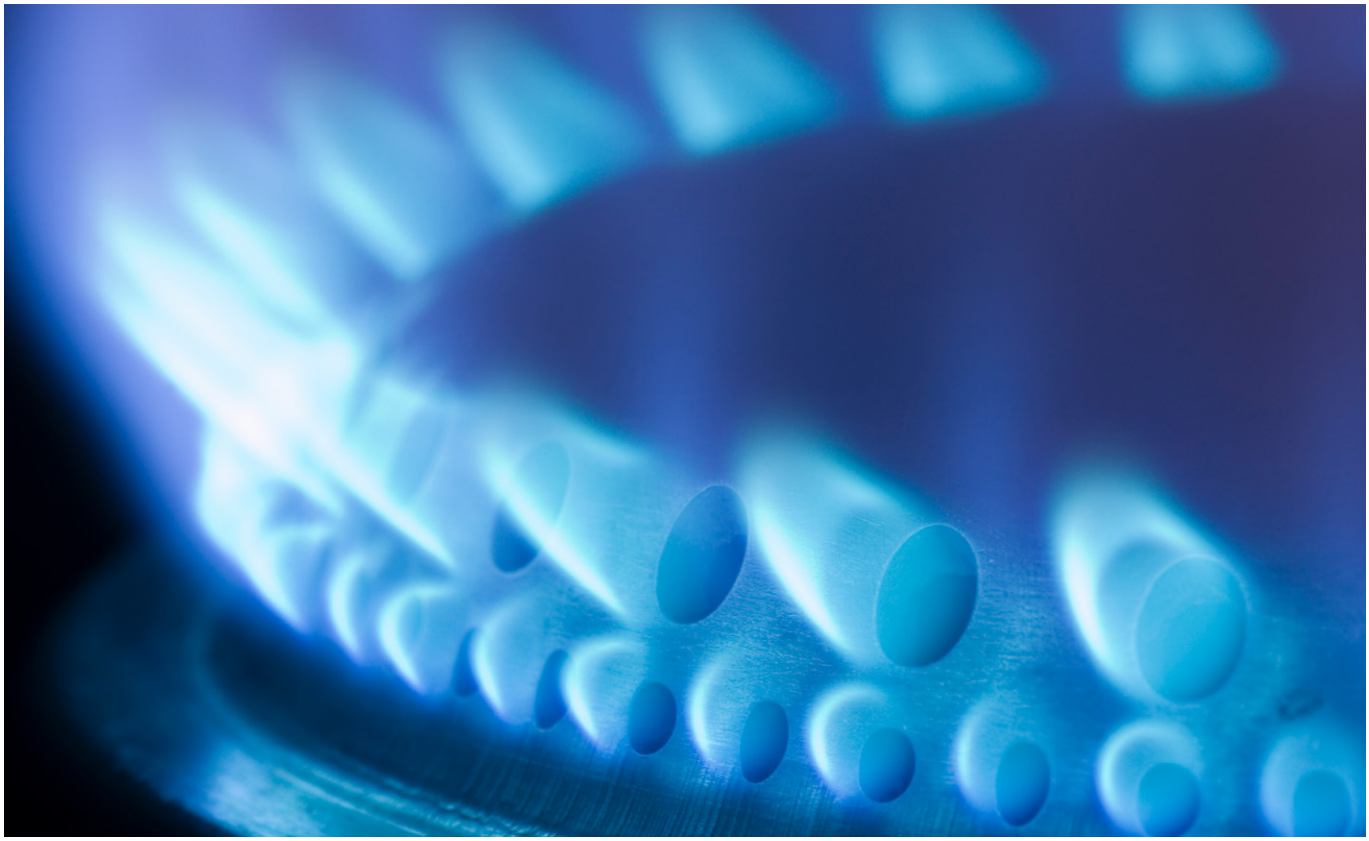
Governments could accelerate the pace of transition through more stringent building standards plus greater use of incentives and subsidies (although gains are limited by the small remaining size of the market).

LPG

In developing markets, growing rural and urban populations are increasing demand for fuel to support domestic activities. Even in urban areas, power networks are often inadequate, leading consumers to source alternative fuels. LPG provides a flexible and accessible source of fuel for domestic and small-scale commercial activities (such as lighting and cooking).

In both urban and rural areas, where LPG replaces the use of highly polluting solid fuels, it has the potential to improve health outcomes for the 2+ billion people across middle and low-income countries who continue to be exposed to household air pollution through cooking with these fuels.[12]

[12] WHO (2024)



With relatively low investment in infrastructure, LPG provides a fuel which can be efficiently and widely distributed. Investment and policies encouraging the adoption of LPG could give rise to regional divergences, with most rapid adoption occurring where investment in LPG infrastructure is greatest.

Over the next 15 years, the high cost and long timeframes involved in investment in power grid infrastructure and natural gas networks will likely mean that many urban and rural households in developing economies will remain off-grid. LPG presents the key transitional solution which can be adopted widely in developing economies today.

Even as new solutions for residential and commercial use become available, demand is expected to persist, as established LPG infrastructure will ensure it remains a competitive fuel option for many household activities.

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