Atradius
Managing risk, enabling trade

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Atradius Energy Outlook

Hydrocarbon states resilient to shifting energy mix

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Executive summary

1. Energy mix: a new sense of realism

- In this outlook we observe that the energy transition is facing considerable headwinds, while climate change continues to impose itself, with another record year of global temperatures in 2024.
- The COP29 in Baku failed to come up with convincing results regarding financing of the energy transition in the emerging and developing countries. The US has withdrawn from the Paris Agreement. Moreover, the global focus is shifting towards geopolitics rather than climate. This happens against the backdrop of an energy transition that badly needs a boost.
- We have grown more sceptical as to the likelihood of achieving the 1.5 degrees global warming Paris objective and have therefore opted to focus on the IEA scenario that is based on current climate policies. Not all is lost, but a more realistic approach is needed.

2. Oil market outlook: steady as she goes

- Under this more conservative outlook for climate-related policy, the decline in demand for oil beyond the peak this decade will be much more gradual. Slowing global demand will continue to be met by increased production in the Americas, especially South America in the forecast period.
- Some supply overhang and weaker economic conditions will put downward pressure on oil prices in the short term, but oil prices will likely stay around current levels in real terms as demand steadies and supply is sufficient. While the risk of supply disruptions persists which would cause short-run spikes, we believe the risk of downward price pressure is increasing. This is especially the case if government policy ramps up to achieve net zero emissions by 2050 which would halve the oil price by 2035.

3. Gas market outlook: fragile equilibrium

- Three years after Russia's invasion of Ukraine, global gas markets have regained a fragile equilibrium.
- In our baseline scenario demand reaches a maximum level around 2030 and then declines very slightly through to 2050. Under more ambitious climate targets, demand is assumed to have already peaked and shows an even faster decline.
- Asia (especially China and India) and the Middle East remain the main sources of demand growth in the coming decades, while Europe, Japan and the United States see a contraction of demand.
- The baseline scenario sees an increase of gas production between 2024 and 2035. The United States maintains its position as the world's largest natural gas producing country through to 2050. The Middle East sees the largest growth in supply, while Russian gas production struggles to make a significant recovery from its low point in 2023. We now anticipate a surplus of liquefied natural gas in the medium term that will contribute to a faster decline in gas prices.

4. Country risk implications: hydrocarbon exporters resilient to shifting energy mix

- Over the medium term to 2034, the majority of fossil fuel exporting emerging market economies will be able to cope with the energy transition. While they remain largely dependent on hydrocarbon revenues, they generally have enough financial space to absorb the mild decline in oil and gas prices that we expect in our baseline scenario.
- However, several hydrocarbon states – such as Iraq, Algeria and Gabon – that already have wide budget deficits at the current oil price and have shown little appetite for fiscal reform are on a slippery slope. This emphasizes the importance for countries not only to continue to make progress in export diversification, but also to reduce the still heavy reliance of their public finances on hydrocarbon revenues.
- Only in the longer term, in a net zero scenario wherein oil prices are ultra-low, will more fossil fuel exporting emerging market economies find themselves in trouble. The best positioned to become the last remaining oil and gas suppliers in the market are those that not only have a strong financial position, but also large oil and/or gas reserves, can produce at low cost and with low carbon intensity, and are investing in economic diversification. Some GCC countries, in particular the UAE and Saudi Arabia, seem to fit this picture.

1. Energy mix: a new sense of realism

1.1 Another record year

In our last Energy Outlook in April 2024, we started with a report on the record-breaking temperatures and extreme weather events during 2023. It was meant to highlight the severity of climate change, named an existential threat. The average temperature, highest on record, hit 1.48˚C above pre-industrial average. Other undeniable signals included extreme droughts, peak temperatures above 50˚C, extensive wildfires, severe precipitations and record low Antarctic Sea ice extent. CO_2 emissions continued to rise.

As if this was not already sufficient, 2024 brutally reinforced the message. It was the first year that the average temperature exceeded 1.55˚C above pre-industrial level, capping 10 subsequent years of record warms. Again, extreme weather events abounded, counting at least 151 according to the UN World Meteorological Organization. They are exemplified by the severe storm Boris in Europe leading to floods and record-breaking rainfall, floods in California and East Spain (Valencia), heatwaves and droughts such as in the Amazon basin and extensive wildfires in Bolivia, Venezuela and Canada. The Antarctic ice extent was second record low. CO_2 emissions were record high.

Climate sceptics may want to point at the El Niño weather event, whose impact dominated 2023 and only slowly withdrew in 2024. This was compounded by the unusually high global sea surface temperatures observed in both years. Other factors such as the Hunga Tonga-Hunga Ha'apai volcanic eruption in 2022, lower sulphur dioxide emissions from shipping, reduced clouds, solar cycle maximum and temperature-water feedbacks kick in as well. But these cannot explain the recent record warmth comprehensively. Indeed, in its annual assessment of global climate the UN's World Meteorological Organization says that signs of human-induced climate change have "reached new heights".[1]

1.2 Realism, expectations and hope

In such a setting, one would expect that the world would be doubling down on already lagging efforts to limit climate change and accelerate the energy transition. We are afraid this is not what we are observing. The UN Climate Change Conference in Baku (COP29) failed to resolve big question marks over a number of critical issues, such as the phasing out of fossil fuels and reducing methane emissions. The agreement to support emerging and developing countries with USD 300 billion left many disappointed. The second Trump administration withdrew the US from the Paris Agreement aimed at limiting global warming to 1.5˚C. Rapidly evolving geopolitical shifts force European countries to focus on defence rather than energy transition. By February 2025, only four countries had updated their so-called nationally determined contributions.[2] Much is left for the upcoming Belem COP30.

With these developments in mind, we have grown more sceptical. Not so much as towards climate change. But rather towards our expectation, or perhaps hope, expressed in previous outlooks that the energy transition is on track or at least would come on track towards the Paris objective of 1.5˚C warming or close to it. This outlook, therefore, is less based on such expectations or hopes. Not that all hope is lost, but the current environment requires a new sense of realism.

This implies that we focus in this outlook on discussing the so-called Stated Policies Scenario (STEPS) of the IEA which provides a sense of the prevailing direction of the energy system, based on detailed assessment, including adequate provisions for implementation, of current energy, climate and industrial policy settings. It leads to 2.4˚C warming. The alternative scenarios used by the IEA, the Announced Policy Scenario (APS) and Net Zero Emissions by 2050 (NZE) scenario, are used to provide perspective.[3] Or, phrased in the words used above, expectations and hopes for coming much closer to the Paris Agreement warming (1.7 and 1.5˚C respectively). We think this reflects the current state of affairs most accurately.

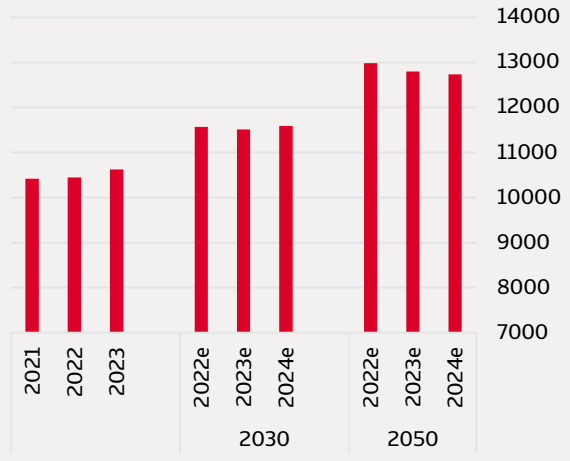
As in our previous outlook, the reference year for the scenario is 2050, with a focus on the period until 2030-2035. This is done to cover a period which is crucial for a successful energy transition to 2050. The energy transition is a race against time, with a limited CO_2 budget left to limit global warming. On the other hand, investments in infrastructure and technological development for the energy transition take time. 2030 is a milestone year in that regard, requiring CO_2

1 See https://public.wmo.int/publication-series/state-of-global-climate-2024.

2 These notably included the US, a last spasm of the Biden administration.

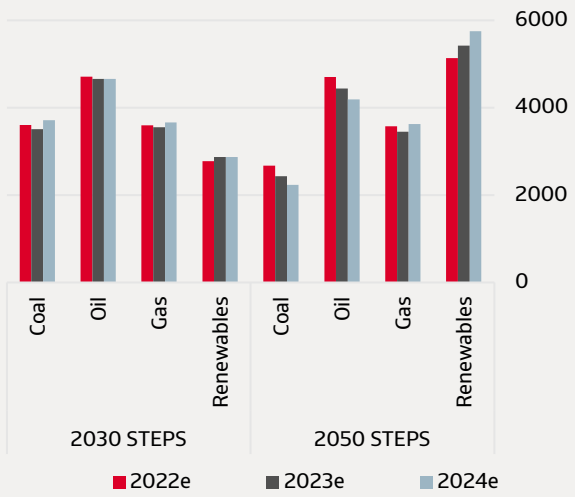
3 The APS outlines a scenario of the energy sector if all national energy and climate pledges, including long term net zero emissions goals, are met on time and in full. Net Zero is a pathway in which the energy sector achieves net zero CO2 emissions globally by 2050, along with achieving universal energy access by 2030 and air quality objectives.

Figure 1.1 Energy demand in 2030 marginally up



Source: IEA WEO, Atradius

Figure 1.2 More fossil fuels in STEPS 2024 until 2030



emissions to get down and investments and technology to be sufficiently geared up. This is why we emphasise it.

Just like the other scenarios, STEPS is adjusted annually based on incoming data and policies. The 2024 STEPS shows that total energy consumption is marginally up until 2030 compared to the previous estimates, and afterwards lower (figure 1.1). Projected electricity demand is higher though, particularly in China. The latter comes largely from the rise in clean technology manufacturing, as well as the rise of EVs, more data centres and electrification of industrial processes. With renewables until 2030 unable to satisfy the increase in demand, coal and natural gas (of which the LNG capacity has increased) will have to be used. Economic growth in India is another source of higher coal demand. After 2030 with additional renewables coming on stream, coal is especially less in demand (figure 1.2). In the APS a similar pattern is observed, with levels of fossil a lot lower and, conversely, renewables a lot higher. In the NZE scenario this is even more pronounced.

1.3 Lower energy intensity

The energy transition is unrolling through three channels: energy efficiency, electrification and the move away from fossil energy. This is generally driven by three factors: government intervention, public and private investments and technological progress in combination with economies of scale. Let us take stock of where the energy transition currently stands.[4]

Energy intensity, which measures the use of energy related to economic activity, declined by 1% in 2023, below the 2% improvement seen in 2022. Progress was relatively slow in emerging and developing economies, while the EU and US saw significant progress helped by mild weather, high energy prices and reduced industrial activity. Investment in efficiency measures were above USD 390 billion globally, compared to USD 300 billion in 2022.

Legislative and policy initiatives such as the Energy Directive in the EU and the Perform, Achieve and Trade scheme in India are set to deliver further gains in the future. In STEPS, this leads to an average annual intensity improvement of 2.3% until 2030, a figure that goes up to 3% in APS and 4% in the NZE scenario. While improvements in both advanced and emerging market economies (EMEs) are similar, levels are different. Advanced economies are about 35% less energy intensive than EMEs.

4 Data availability is generally limited to 2023, with some exceptions as indicated in the text.

Energy intensity developments are mainly driven by technical improvements such as building retrofits and vehicle fuel advances. Large contributions also come from switching to renewables from (energy leaking) fossil fuels in electricity generation and the fact that renewables are more efficient as such. Other factors include behavioural changes, mode shifting and enhanced recycling.

Energy intensity decline is a necessity for the energy transition to limit the demand for energy as the economy grows. In 2023 demand grew with another 1.7%. Main users are the industrial sector (38%), buildings (28%) and transport (27%). In STEPS demand for energy is to increase at an average annual rate of 1.3% to 2030, after which a decline sets in to 0.5%. This picture has hardly changed from last Outlook (figure 1.1). Growth is far above these averages in the emerging and developing economies, especially in Asia Pacific, Middle East and Africa. In the advanced economies energy demand stabilises and then shrinks (Figure 2). In the APS more efficiency gains are achieved, leading to modest growth to 2030 and decline afterwards. The NZE scenario is even more pronounced with declines until 2030 and significant declines afterwards.

1.4 Electrification taking off

The electricity sector is the largest emitting sector today, accounting for 36% of CO2 emissions globally. The sector grew twice as large as energy demand over the last decade, suggesting electrification has taken off.

Demand for power grew by more than 2.5% in 2023, similar to the average of last decade. Two-third of the increase came from China, due to industrial electrification, cooling and appliances. Rapid demand increase can also be observed in the Middle East, India and other parts of Southeast Asia. Strong expansion in buildings have played a major role in the demand surge in these regions.

In the STEPS, annual average electricity demand accelerates to 3.3% until 2030, with levels in APS and Net Zero even higher at 3.5% and 4.5% respectively. In all scenarios growth levels decline after 2030. With their economies growing, emerging and developing economies account for 70% of additional demand. China contributes 45% of the increase until 2030 and afterwards 25%. India's demand for electricity grows fast as well and becomes the third largest electricity consumer in 2050. Its electricity demand grows 4% on average. Advanced economies growth is much lower at 1.8% on average in STEPS. Ambitious policies supporting EVs contributes 40% to the demand increase, with heath pumps, appliances and power demand from AI and datacentres helping as well. In the APS it is the electrification in the industry driving the additional electricity growth. In NZE, rapid electrification of light industries and hydrogen production of steel and chemical accentuate this effect.

With the renewables energy transition underway, coal remains the largest electrical power source with fossil fuels in total covering 60% of supply. Renewables, which apart from solar and wind include hydro, now account for 30%, with the rest coming from nuclear.

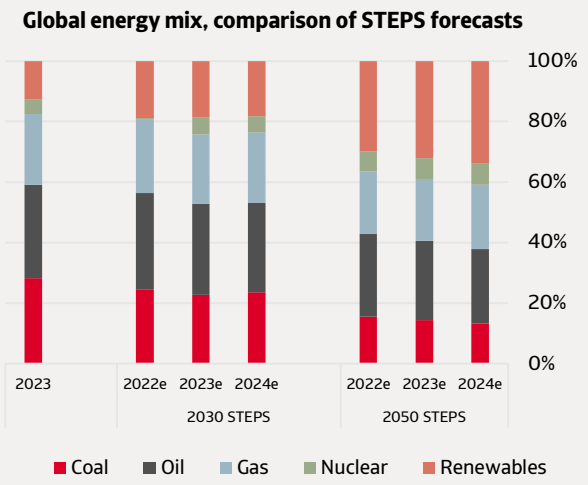
Renewables, led by solar and wind, are set to play a much larger role in power provisioning. In STEPS, solar PV and wind nearly triples up to 2030 to generate nearly 40% of demand later in that decade. Under this scenario, coal levels peak around 2025 and then steadily decline, while natural gas peaks in the late 2020s and then stabilises. Hydro varies, with a slow trend growth as nuclear increases. In the APS the expansion of solar PV and wind is much faster than in STEPS, complemented by other renewables such as biofuels and nuclear, significantly further reducing the share of coal and natural gas. Full decarbonisation of electricity supply is achieved in the NZE scenario as carbon capture technologies and low emission hydrogen grow strongly, coal is phased out and natural gas reduced by 80%.

This picture is subject to regional disparity. In STEPS many countries, including the EU, US and China, solar PV and wind are able to cover all electricity demand needs and even displace fossil fuel. Such is not the case in India and other emerging and developing economies. These countries see an increase in coal and gas use, while still making significant gains with renewables. In the APS and NZE scenario matters are different, especially in those countries. Early retirement of coal-fired plants accelerates, supported by energy storage capacity and system flexibility. This helps accelerate the move to clean power.

1.5 Phasing out fossil energy

Fossil fuels met 80% of global energy demand in 2023, a share that has very gradually fallen since 2011 when it stood at 83%. Fossil fuel demand broadly continued to follow economic activity. But matters are changing. GDP growth in advanced economies rose 20% over the past ten years, while their demand for fossil fuels has contracted by nearly 10%. Fossil energy was replaced by clean energy, renewables and nuclear, while energy efficiency and a rising share of services in the economy also played a role. Growth in fossil fuel use comes from EMEs, where 50% economic growth was accompanied by 25% fossil fuel demand over the same period. Even in STEPS this loosening of the correlation between fossil demand and economic growth becomes dominant, leading to a share of fossil of 75% by 2030 and 58% in 2050 (figure 1.3). In the APS and NZE scenario this change in the energy mix would be much more pronounced.

Figure 1.3 Energy mix improves after 2030



Source: IEA WEO, Atradius

While renewables continue to grow, their share in the energy mix under STEPS increases only gradually from today. In 2023, growth of renewables increased 5% year-on-year, providing 12% of the energy supply.[5] This remarkable growth is partly driven by the 20% increase in global investment in renewables, which we will explain more in depth in the next section.

1.6 Government, investments and technology

The progress of the energy transition is driven by three determining factors: government intervention, investments and price developments in technology. Let us now consider these, largely interrelated factors before we move on to an assessment of where we stand in the energy transition.

Firstly, government intervention. These interventions play a pivotal role in enabling and de-risking the early adoption of new clean energy technologies, such as was the case for solar PV, wind and EVs. This is done by way of, for example, promoting standardisation, helping fund research and development and facilitating access to knowledge. It should be done to underpin the competition with traditional technologies, especially to reach economies of scale and therefore price reductions of clean energy.

Since our previous Outlook, many new energy transition initiatives, investments and regulations have been announced, but the scope is not as ambitious as expected. They included the EU adopting a methane regulation and reduction directive and the start of the carbon border adjustment mechanism,[6] the US addressing regulation on greenhouse gas standards and guidelines as well as China adopting targets to reduce particulate emissions and severe pollution incidents.[7] There were limited policy changes addressing climate pledges (related to 3% of CO_2 emissions), but much more related to government spending (42%) and regulations (60%). Overall government support for the energy transition reached USD 2 trillion by mid-2024, largely coming from the US Inflation Reduction Act (IRA) and the EU Net Zero Industry Act. But the new US administration's executive order to freeze IRA funding has led to a number of clean energy projects to pause. Uncertainty surrounding the outlook for disbursements and tax incentives increases risks to the outlook but the renewable energy sector in the US is much more entrenched now. This ensures ongoing, albeit slower, development of the US's clean energy sector.

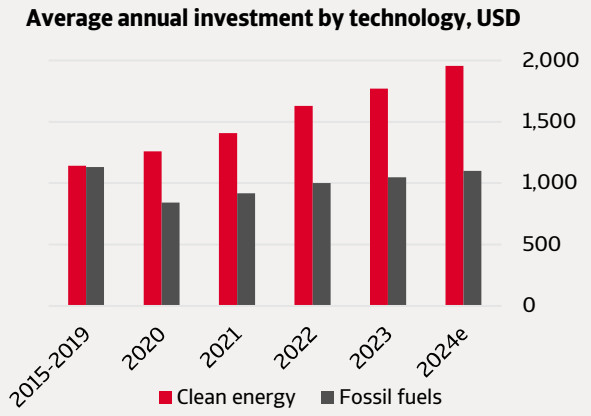
Second, investments. These have reached USD 2.9 trillion in 2023 and are likely to have exceeded USD 3 trillion in 2024. More importantly, of this amount USD 2 trillion is allocated to clean energy. This 2:1 clean-fossil allocation is way above the 1:1 observed prior to the pandemic (see figure 1.4). It was supported by emission reduction goals, but also by compelling economics of clean energy and considerations of energy security after the Ukraine war broke in 2022. Investments in clean energy were unevenly distributed, with 85% of recent increases in the advanced economies and China. The relatively small part for other EMEs is attributed to the lack of affordable long-term financing opportunities, a major issue during COP29 as we saw.

5 The remaining energy supply comes from nuclear and biomass.

6 The carbon border adjustment is a carbon tariff putting a price on carbon emissions related to the import of certain goods into the EU, with the aim to create a level playing field.

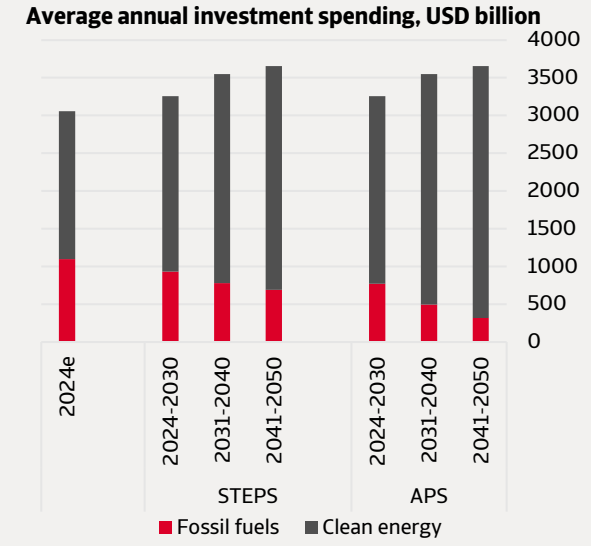
7 Particulate (small parts) emissions come for example from burning fossil fuels and industrial processes.

Figure 1.4 Investment clean energy doubles fossil



Source: IEA WEO, Atradius

Figure 1.5 More clean energy continues in STEPS



In STEPS the trend of more investments in clean energy and decline in fossil fuel investments continues moving the allocation of 2:1 only gradually to reach about 4:1 by 2050 (figure 1.5). The APS and NZE scenario mark a significant difference with STEPS by addressing what is called the investment gap between advanced economies plus China and emerging and developing countries. Indeed, in these scenarios, and especially the NZE scenario, the gap is closed as investment in clean energy grows sixfold in emerging and developing countries versus twofold in the advanced economies. This implies that in these scenarios the financing issue for emerging and developing countries is resolved – a serious challenge considering the outcome of the latest COP.

Third, price developments in technologies, such as solar PV modules, wind turbines and lithium-ion batteries for EVs and battery storage. The idea of the energy transition is that, ultimately, the business case for clean energy outcompetes the one for fossil energy, driven by price reductions. But these reductions do not follow a linear process. Supply chain issues and higher critical material prices pushed up cost for clean technologies during the pandemic, and then only eased later in 2023 after which they started to fall back.

Solar PV module prices fell by 30% in 2023, battery pack prices by 14% to a record low as battery critical mineral prices fell and battery cell production capacity rose. In contrast, wind turbine manufacturing cost rose in 2023 as steel and freight cost went up, with Chinese manufacturers able to produce at a much lower cost than European. Offshore wind developers struggled even more. High interest costs, inflation and supply chain issues added to the woes of higher upfront cost. Oil and gas costs faced a similar pattern. As their cost fell less, the case for clean energy started to improve again.

This process is set to continue in STEPS and be even more pronounced in the APS and NZE scenario, as lower energy demand, more electrification and higher employment of clean energy take charge over fossil fuels. The result is lower demand for fossil fuels, even in STEPS. It leads to lower prices of fuels, in STEPS and even more accentuated in the APS and NZE scenario. These price declines however just reflect the remaining demand and supply for fuels and do not hamper the energy transition.

1.7 Not all lost, sense of realism needed

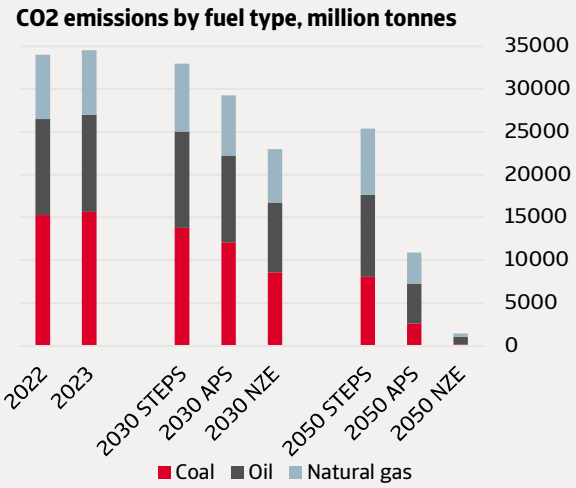
Energy-related CO_2 emissions rose 1.3% in 2023, to a record high.[8] The increase was mostly attributable to coal. While the emissions have yet to peak, the energy transition is bearing fruit: without the expanding use of deployment of clean energy the increase since 2019 would have been three times higher. Emissions are set to peak before 2030 in all scenarios, most modestly in STEPS, led by China. The differences between the scenarios are stark: emissions fall by only 1% annually after 2030 in STEPS, by 4% in APS and even by 15% in the NZE scenario (figure 1.6).

The outlook for emissions reduction under the APS and NZE scenario, and perhaps even the STEPS, appears ambitious. Several arguments underpin this. Firstly, from the above description of the developments in the energy transition the

8 Energy use contributes to about 85% of the CO2 emissions, with the rest coming from industrial processes, agriculture, waste and deforestation.

picture of a movement in the right direction arises. That holds for all the elements that we have detected, the lower energy intensity, electrification and phasing out of fossil fuels. The point is that the process seems to be going at too slow a pace.

Figure 1.6 Modest emissions reductions in STEPS



Source: IEA WEO, Atradius

It is clear that we have moved away from the optimism that came as a side effect of the energy crisis after the Ukraine war broke. Secondly, the Baku COP29 was exemplary in this context. The amount of financing agreed for the energy transition in EMEs was far lower than what seems to be needed, and a lot of implementation issues remain. Third, and perhaps most compelling are the current geopolitical developments. While the US and China teamed up during for example the COP28 to drive agreements, this odd couple is now separated as the US has withdrawn from the Paris Agreement entirely, opting for focus on oil & gas. Fourth, apart from an ignorance of climate issues, the US is shaking up the post-WWII geopolitical setting in a manner that is shifting the focus of the rest of the world away from the energy transition towards national security. Indeed, it is telling that only four countries have come up with their updated NDCs at the February 2025 deadline.

It is precisely this picture that makes us hesitant to adopt any scenario that goes beyond STEPS. Not all is lost, as indeed by the end of the year a critical number of countries may have updated their NDCs, and matters take a change for the better. But until that, a sense of realism prevails.

2. Oil market outlook: steady as she goes

The global oil market remains remarkably stable after years of volatility. While geopolitical risks heightened, record oil production – next to increasing availability of renewable energy – helped avoid significant upward shocks. As the energy transition becomes more entrenched and macroeconomic conditions more uncertain, peak demand remains in view this decade. Additional demand growth will continue to be met by the Americas as OPEC+ output remains stable. This will ensure only gradually declining prices to 2035 under the STEPS but the sharp reduction in demand in the NZE scenario would send the price of oil plummeting.

2.1 Spare capacity helps keep markets resilient

Oil demand exceeded its pre-pandemic peak in 2023 and in 2024, grew further to an estimated all-time high of 102.9 mb/d[9]. 75% of demand growth comes from China, mainly for use as a petrochemical feedstock in its clean technology manufacturing sector. But the pace of demand growth is slowing sharply since Q4 2024, especially as trade tensions escalate macroeconomic risks.

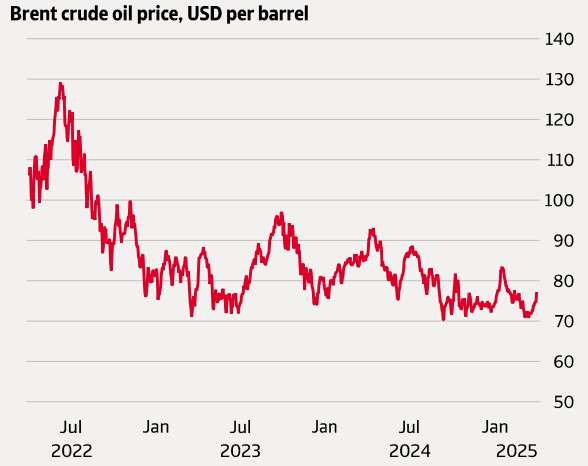
As demand for oil continues to reach new highs, oil supplies have sufficiently kept pace. All additional growth has been met by non-OPEC sources, especially the US. The US has become the world's largest oil producer with the highest annual output from any country ever. Over 40% of US production comes from tight oil plays and the number of active oil rigs continues to decrease (currently below 500, less than one-third below 2014 peak). So the increase in output is sustained by improving efficiency in the US shale sector.

OPEC+ continues to prioritise supply management to ensure a floor to prices. The group of oil exporting countries has imposed production cuts equal to about 5.7% of global supply since 2022 and has extended these to end-2026 as the market remains well balanced. Adhesion to the cuts has been inconsistent though and some countries have exceeded quotas, increasing tensions within the group. OPEC+ has also announced that they will begin gradually unwinding additional voluntary cuts from April 2025.

The price of oil has been relatively stable over the past year as supply has more than met rising demand. A barrel of Brent crude oil averaged USD 81 in 2024, nearly flat with USD 82 in 2023. At the time of writing, a barrel fetches USD 78. While the trend is horizontal, there has been some notable volatility, generally caused by geopolitical factors. Tensions between Israel and Iran sent the price over USD 90 per barrel in April 2024 while concerns about tougher US sanctions on Russia pushed it back above EUR 80 per barrel in January 2025.

Fossil fuel investments have increased 30% since the energy crisis started in 2021. This has helped build spare capacity, which the IEA estimates now stands at 6 mb/d, compared to less than 3 mb/d in 2019. Ample spare capacity offers a buffer to any potential supply disruptions. With demand easing amid more uncertain economic conditions, markets are moving relatively steady in the face of ongoing geopolitical volatility.

Figure 2.1 Oil markets resilient



Source: Macrobond

2.2 Demand for oil to peak and plateau in coming decade

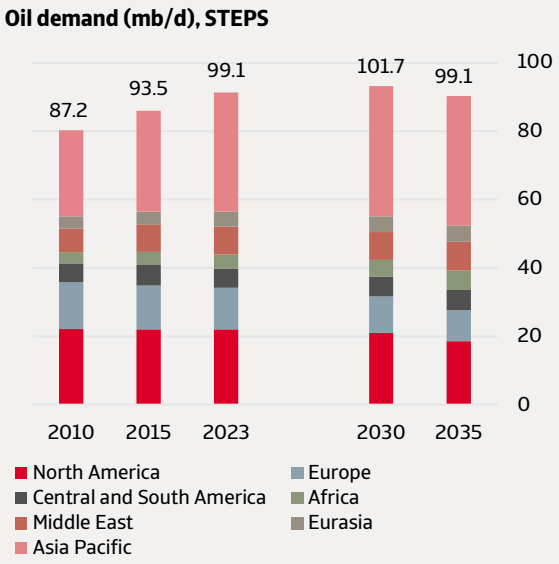
As the energy transition becomes further entrenched, we move closer to the historic peak in global oil demand. Peak oil is still expected before 2030, but as seen in section 2.2, we're not there just yet. The IEA forecasts oil demand to grow another 1 mb/d this year to 103.9 mb/d. Almost 60% of demand growth will come from Asia, led by China (only its petrochemical feedstocks sector). Demand for refined fuels plateaus. Weaker macroeconomic conditions will drag on the pace of demand growth.

Peak oil is still in the cards before 2030 though, even though we've adopted the more conservative STEPS as a baseline scenario compared to the APS of last year. By the end of this decade, based on current policies in place, we're confident that economic growth, even in EMEs, can be sustained without needing additional oil thanks to increasing electrification and higher efficiency. The decline from the peak will be much more gradual than we previously expected though, easing to 101.7

9 Regional breakdowns of 2024 data not yet available, so left out of figures.

mb/d in 2030 and to 99.1 mb/d in 2035. This brings 2035 levels in line with 2023.

Figure 2.2 China's declining oil demand offset by increases in other EMEs



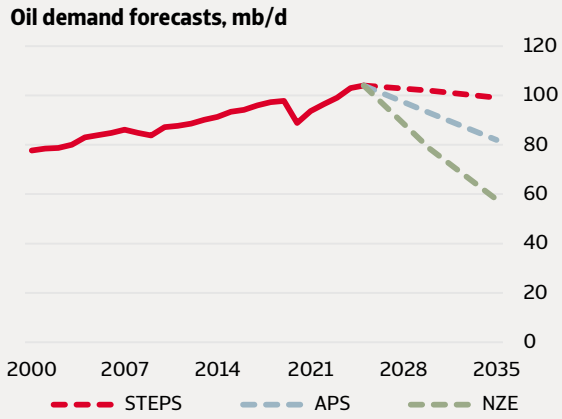
Source: IEA WEO 2024, Atradius

The key reason demand will gradually decline is China, which has been the main driver of oil market growth in recent decades. Its petrochemical feedstock sector will continue to need oil to make plastics for the energy transition, but the broader economy's electrification, especially of the vehicle fleet, will increasingly offset this. India will take over the baton from China as the main source of growth of oil demand. As Asia-Pacific's aggregate demand continues to grow, its share of global consumption is set to rise to 38% by 2035, from 35% now (figure 2.2).

Overall, EMEs will continue to see demand for oil increase slightly while demand from advanced economies decreases. Like Asia-Pacific, other EME regions will continue to see demand rise as their populations, economic output and industry expand. But the increase is marginal, with no more than 0.5 mb/d added by 2035 in Africa, Central and South America, the Middle East or Eurasia. The structural decline in oil demand in advanced economies, observed since 2008, will continue over the forecast period. Demand from Europe is set to fall 3.1 mb/d by 2035, compensating for the increase in Asia-Pacific, while North America sees a 3.3 mb/d fall over the same period.

The demand outlook is significantly lower under the APS and especially the NZE scenario compared to the very gradual decline in the coming decade expected under STEPS. Higher EV adoption and efficiency gains curbing petrochemical demand growth would decrease oil demand by 17% by 2035 in the APS. Reaching the NZE climate goals would entail a 40% decline in oil demand by 2035, driven by more aggressive, demand-targeting policy mandates. The precipitous drop in oil demand is mostly driven by the road transport sector, where nearly 100% of new car sales would be EVs.

Figure 2.3 Demand for oil tapers off only gradually



Source: IEA WEO 2024, Atradius

2.3 Oil supply is robust

The short-term oil supply outlook remains robust, with supply constraints being less of a concern than in previous years. The IEA highlights a 'new energy market context' characterised by an overhang of oil supply coming into view in the remainder of this decade. This surplus provides a buffer against further market disruptions but also implies downward pressure on prices and increased competition among suppliers.

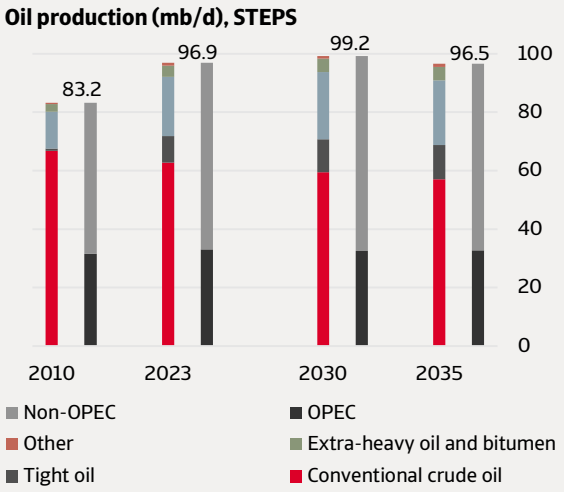
The limited increase in demand left in the global economy will continue to be met primarily by the Americas. US production continues to grow in the STEPS by an average 1.5% per year to 2030. Thereafter US production contracts by 1% annually to 2035. The US will remain a major world oil producer, offering a buffer to any supply shocks, but its role as a swing producer is receding. South America will lead growth through the coming decade, with Brazil, Argentina and Guyana expanding current fields and bringing new discoveries online[10].

The significant supply from the Americas in particular is putting pressure on the market management strategies of

10 Brazil joined OPEC+ in February 2025, with no binding obligations to the production cuts and no participation in decision-making.

OPEC+, reducing the group's ability to influence global oil prices. From about 33 mb/d currently, OPEC production is forecast to stay relatively steady, declining by only 0.4 mb/d gradually to 2035. In terms of market share, OPEC will lose ground to non-OPEC producers to 2030 but recover its 34% market share by 2035 and grow its share thereafter.

Figure 2.4 Non-OPEC production fluctuates with demand



Source: IEA WEO 2024, Atradius

With ample crude spare capacity, the risk of supply disruptions has receded but not disappeared. Dependence on imports of oil, especially in China (75%), remains high. Disruptions to major shipping lanes like the Strait of Hormuz or Strait of Malacca can be very dangerous. Extreme weather events are also a rising risk for the supply outlook. It's also not a given that this extra buffer will be sustained over the forecast period. That requires ongoing investments in oil production and trade.

The risk of underinvestment flagged in previous outlooks has receded substantially thanks to high investments since 2021 and the spare capacity it helped build. The outlook for investments has moderated significantly due to the expected supply overshoot in the coming years. In order to sustain production that meets demand, the level of annual investments in 2035 would be about USD 392 billion, 20% lower than 2024.

Under both the APS and NZE scenario, production from all regions falls over the coming decade as the demand for fossil fuels drops. Especially beyond 2030, the rapid decline in demand would cause a number of higher cost projects to close before they reach the end of their technical lifetimes and some may fail to recover their upfront costs.

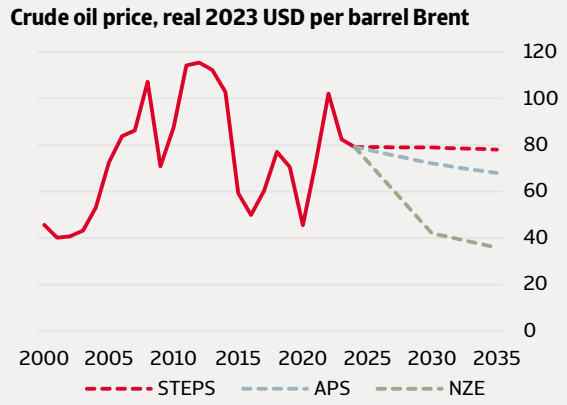
But still, investments in the oil sector will be needed to ensure a smooth energy transition – just much lower levels than under the STEPS. The level of oil & gas investment in 2035 would be USD 250 billion, 70% lower than 2024. Investments would be concentrated in existing fields as opposed to more expensive exploration or unconventional sources. The role of OPEC members in the Middle East would increase again. Minimal investment is needed there to sustain output from the large reserves and slow decline rates in their existing fields.

2.4 Steady baseline price outlook

The oil market is more securely balanced than in years' past. There is ample supply and global demand growth is slowing. In the short run, some oversupply will put downward pressure on prices. The US EIA forecasts the price of a barrel Brent to average USD 68 in 2025 and USD 61 in 2026. This is roughly in line with the market futures curve which shows investor expectations for the (nominal) price to bottom out around USD 62 in the coming years.

Under the STEPS, this short-run imbalance will ease in the medium term and the equilibrium price in real terms should be in line with today's level by 2030. As demand declines very gradually from the late 2020s onwards, the price of oil will decline to USD 78 by 2035. This stable outlook is in stark contrast to the NZE scenario where the price of oil quickly moves closer to the marginal cost of production. Since production would increasingly concentrate in traditional, less expensive sources to serve declining demand, the price of a barrel of oil would be USD 36, less than half that of the STEPS.

Figure 2.5 Gradual oil price decline



Source: IEA WEO 2024, Atradius

3. Gas market outlook: fragile equilibrium

In our baseline scenario, the share of gas in the energy mix is expected to decline as renewables gain market share, but less so than oil. In the STEPS, global gas demand is expected to peak in 2030. After 2030, gas demand enters a period of gradual decline, but in 2050 it remains slightly higher than today. The supply increases that we see up to 2030 are mainly coming from the Middle East. In the more ambitious APS and NZE scenario, gas demand and supply are showing much sharper reductions as renewable energy accelerates.

3.1 Relative stabilisation of gas prices

Three years after Russia's invasion of Ukraine, global gas markets have regained a fragile equilibrium. Gas prices in Europe rose to record highs in 2022 as a result of dramatically reduced Russian supply. Asian spot liquefied natural gas (LNG) prices also showed strong increases in 2022. This was partly because both regions compete for LNG, and the high demand in Europe had a knock-on effect on Asian prices. In 2023 and 2024, natural gas markets gradually stabilised due to timely policy measures addressing the global energy crisis, increased global LNG exports, and favourable weather conditions. Natural gas demand in the European Union in 2023 was 20% below its level in 2021, with the US now being its second-largest supplier after Norway.

The TTF gas price in Europe began 2024 on a lower note, dropping below USD 9 per million British thermal unit (MMBtu) in February and March, supported by mild weather and ample storage carried over from 2023. But as the year progressed, a combination of factors drove prices upward, including limited LNG supply growth, geopolitical tensions and uncertainty around Russian piped gas deliveries. In February 2025, the TTF gas price in Europe was USD 15 per MMBtu.

The gas price in Japan remained relatively stable in 2024, moving between USD 12 and USD 14 per MMBtu. Japan's gas price remains significantly below early 2023 levels, driven by milder weather and increased LNG supply from the US and Qatar. In 2024, the Henry Hub (US) gas price stabilized, often ranging between USD 2 and USD 3.50 MMBtu, thanks to high production and ample inventories.

Despite the relative stabilisation of gas prices in 2024, volatility in prices is occasionally high due to tight supply fundamentals and geopolitical tensions. Gas prices are also still well above their historical averages, both in Asia and Europe. The 2016-2021 average price in Europe was USD 7.0 per MMBtu, while the average LNG price in Japan was USD 9.4. LNG is now playing the role of marginal supply to Europe. Any news of a tightening of the global LNG market is bound to impact European prices.

3.2 Gas demand peaks around 2030

For this study, we use the Stated Policies Scenario (STEPS) to predict future gas supply and demand. STEPS provides a sense of the energy sector's direction of travel today, based on the latest market data, technology costs and prevailing policy in countries. We also show outcomes for the more ambitious alternative paths: the Net Zero Emissions by 2050 (NZE) Scenario, with the Announced Pledges Scenario (APS) which falls in between.

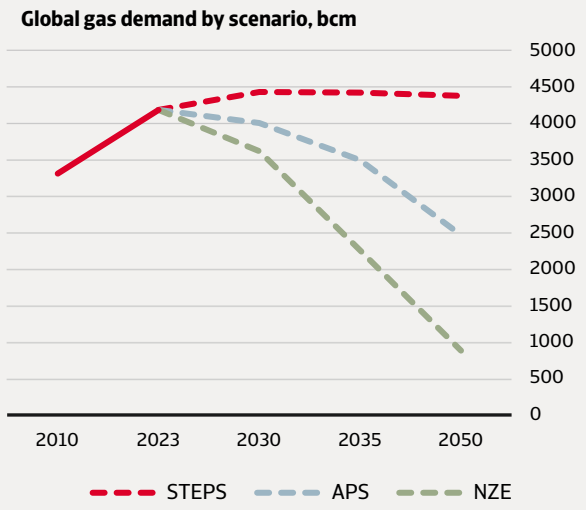
Gas demand has been revised upwards in all three scenarios compared with our Outlook from 2024, reflecting stronger anticipated demand for gas to meet growth in electricity demand in China as well as additional demand in the Middle East, where policies to shift away from oil in electricity generation to gas, among others, have been reaffirmed.

While a growing global population and higher incomes increase the need for energy services, energy demand growth slows to 0.5% per year from 2023 to 2035 in the STEPS, half the rate of the past decade. Demand for gas is set to peak by 2030, though demand remains robust in emerging market and developing economies.

In the STEPS, gas demand growth averages 0.5% per year in the 2023-2035 period, compared with a 2% average annual rate in the 2010-2023 period. Demand reaches a maximum level around 2030 and then declines very slightly through to 2050. This trajectory is largely a consequence of accelerating deployment of renewables, efficiency gains and the electrification of end-uses. Asia (especially China and India) and the Middle East remain the main sources of demand growth in the coming decades, while Europe, Japan and the United States see a contraction of demand.

In the APS, demand begins to decline in the second half of the 2020s. It declines at an average annual rate of 1.5% between 2023 and 2035. Demand drops even faster in the NZE scenario, at an annual rate of 5% between 2023 and 2035. Figure 3.1 shows the expected trajectory of demand under the different scenarios.

Figure 3.1 Gas demand is expected to flatten in STEPS



Source: IEA WEO 2024, Atradius

A significant amount of coal-to-gas switching has been taking place in the power sector in the United States between 2013 and 2022. Rapid advances in renewables and efficiency gains in the coming decades leaves little space for further coal-to-gas switching. Growth in electricity demand opens some space for natural gas use in the power sector in emerging market and developing economies, where it increases by 190 billion cubic metres (bcm) between 2023 and 2035 in the STEPS. However, this is more than offset by a reduction of 230 bcm in natural gas use in the power sector in advanced economies over the same period.

Industry is the second-largest source of demand growth in emerging market and developing economies, recording a 150 bcm gain over the same period. This is only slightly offset by a 5 bcm contraction in natural gas use in industry in advanced markets.

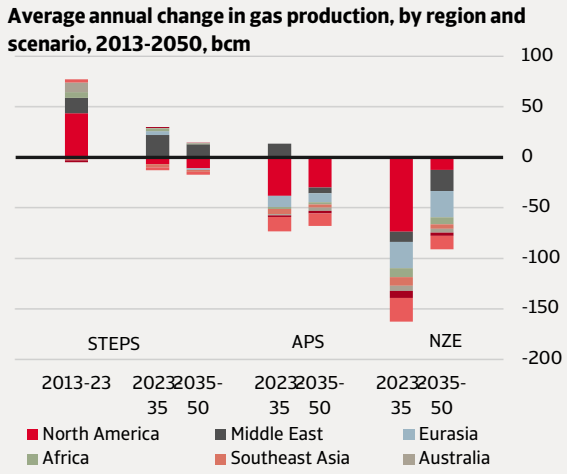
3.3 Supply: Middle East expands its position

The STEPS sees a net increase of 200 bcm of gas production between 2023 and 2035, translating into an annual increase of 0.4%.

Even though its production peaks around 2030, the United States maintains its position as the world's largest natural gas producing country through to 2050. The Middle East as a whole – led by Qatar, Saudi Arabia and Iran – sees the largest growth in supply in the STEPS: its market share rises from 17% in 2023 to almost 30% in 2050. Russian gas production has struggled to make a significant recovery from its low point in 2023. Sanctions exacerbate the difficulty to diversify export outlets after the loss of the European market and the absence of a material increase in domestic demand. In STEPS, this means that Russian gas production in 2035 remains around 20% below pre-Ukraine invasion levels. In the APS and NZE scenario, export outlets dry up further, and Russian gas production in 2035 falls to an average of 30-50% below pre-invasion levels.

Argentina is poised to sharply increase its natural gas production due to the development of the Vaca Muerta shale formation. Its gas production is set to rise by 35 bcm between today and 2035, which is an 80% increase from current production levels. Gas production also rises modestly in Brazil, but it declines in other countries in Central and South America in the STEPS. For the region, there is a 10 bcm increase in gas production between 2023 and 2035. In the APS and NZE scenario, gas production in the region fails to materialise due to declining demand. In both the APS and NZE scenario, there is a decline in production up to 2035.

Figure 3.2 Gas production slows in most regions compared to previous decade



Source: IEA WEO 2024, Atradius

Despite significant natural gas reserves, almost 9% of the world total, Africa continues to experience weak production growth, primarily due to insufficient investment in the sector. Mature fields and slow upstream investment activity in North Africa bring overall natural gas production down by 15 bcm by 2035 in the STEPS. The story is different in Sub-Saharan Africa where there are robust increases in production in emerging producers such as Mauritania, Senegal and Mozambique, as well as in established producers such as Nigeria. In aggregate, Africa increases production to 15%

above 2023 levels in the STEPS by 2035. In the APS, this falls by 8% compared with 2023.

3.4 Gas trade: LNG making further inroads

Global natural gas trade increasingly pivots toward emerging markets in Asia. Most of the increase comes in the form of LNG: the share of imports met by long-distance pipeline trade falls from almost 50% in 2023 to 40% by 2035 in the STEPS scenario and falls further in APS and the NZE scenario. The largest growth market for gas imports is China, which imports an additional 80 bcm in 2035 in the STEPS compared with today: 40% of this additional growth is met by pipeline, and the remainder by LNG. India is the second-largest source of incremental import demand.

Natural gas demand in Europe falls by 100 bcm between 2023 and 2035, which is a one third reduction compared to the situation before Russia's invasion of Ukraine. Europe's imports drop from a peak of 370 bcm in 2021 to below 250 bcm by 2035 in the STEPS. Japan's gas imports fall by 40% between 2023 and 2035 as a consequence of nuclear restarts and renewables growth.

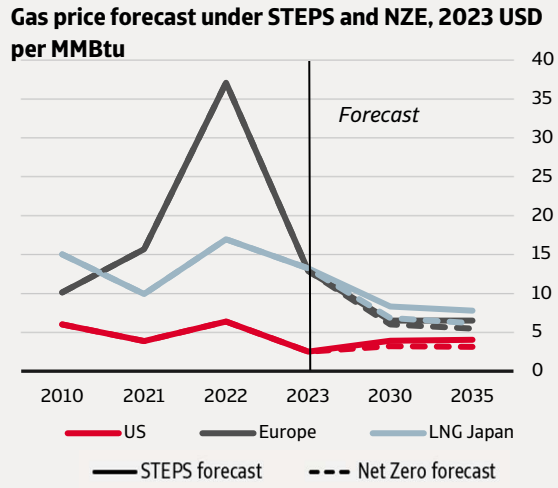
In the STEPS, LNG demand grows by over 2.5% annually from 2023 to 2035, which is faster than overall natural gas demand but less rapid than the 6% growth per year that LNG achieved in the previous decade. Due to an upward adjustment to projected natural gas demand growth to 2030, LNG demand growth in the STEPS is higher than in our 2024 Outlook. However, this pace of growth does not keep pace with export capacity additions. As a result, an LNG surplus arises by 2030, bringing prices down in key importing regions like the EU, China and Japan. Around 270 bcm of new LNG supply is currently under construction, and this will lead to a near-doubling of capacity in the United States and Qatar, which are set to dominate supply in 2035, together accounting for around 50% of global LNG trade.

The LNG surplus is expected to be gradually absorbed in the 2030s, and a supply shortage emerges in 2040. By 2050, around 175 bcm of additional LNG export capacity is required in the STEPS to cover both demand growth and retiring capacity. This additional supply mainly comes from the Middle East, East Africa and North America.

3.5 Gas prices decline amid strong LNG growth

Figure 3.3 shows the gas price forecast under the STEPS and NZE scenario. The IEA scenarios model an energy system in equilibrium, in which energy prices follow a relatively smooth trajectory to balance supply and demand.

Figure 3.3 European and Japanese LNG price to show further decline up to 2035 due to stronger LNG supply



Source: IEA WEO 2024, Atradius

In the STEPS, US natural gas prices rise through 2030 to maintain a steady balance among domestic supply, demand, and exports. At the same time, global gas trade increasingly shifts toward LNG, with portfolio players serving as key intermediaries between supply and demand.

A wave of new liquefaction facilities, including Qatar's North Field expansion and US Gulf Coast terminals, creates supply capacity that exceeds global LNG demand over the period leading up to 2030. As a result, prices in Europe and Japan in 2030 drop to levels well below those recorded in 2023, driven by subdued demand growth as renewables and electrification increasingly displace gas in power generation and heating. The price spread between Japan LNG and US gas is reduced in the period up to 2030 as LNG trade takes up a more prominent role.

After 2030, natural gas prices gradually rise worldwide as the surplus LNG capacity is absorbed. In the APS and NZE scenarios, projects currently under constructions (APS) or projects existing today (NZE) are sufficient to meet demand. This has a profound effect on gas prices in importing regions, which fall to around USD 5 MMBtu by 2030.

4. Country risk: hydrocarbon states resilient to shifting energy mix

Having assessed how the global energy transition is progressing, the key challenge from a country risk perspective is to assess the impact on hydrocarbon states. The permanent decline in fossil fuel demand, expected to start before 2030, will put these countries under increasing financial and economic pressure. In the long-term net zero outcome, oil and gas prices will fall to ultra-low levels. The ultimate way for hydrocarbon states to mitigate this is economic diversification. While progress in this area has been slow, the same can be said about the global energy transition. But we are interested in the medium term. How would hydrocarbon states fare in the medium term in our base case scenario of a mild and gradual decline in oil and gas demand?

Our approach is as follows. First, we identify the countries that are most dependent on oil and gas revenues and are as such vulnerable to the energy transition. And we show that this vulnerability has not decreased significantly over time and that the shift towards other (non-oil) sources of income is slow. Our focus is on emerging market economies (EMEs).[11] As some fuel revenue-dependent EMEs are more resilient to the declines in oil and gas prices associated with the energy transition than others, our second step is to analyse relevant economic and financial indicators that make the difference here. Third, we conduct a scenario analysis in which we impose the oil and gas price paths envisaged in the IEA's baseline scenario (STEPS) on the Oxford Economics Global Economic Model to see how the different financial vulnerabilities evolve over the medium term. Our forecast horizon extends until 2034. Fourth, we look at several other (non-financial) conditions – such as the costs and carbon footprint of oil production – that are needed to stay in the hydrocarbon market for the long-haul.

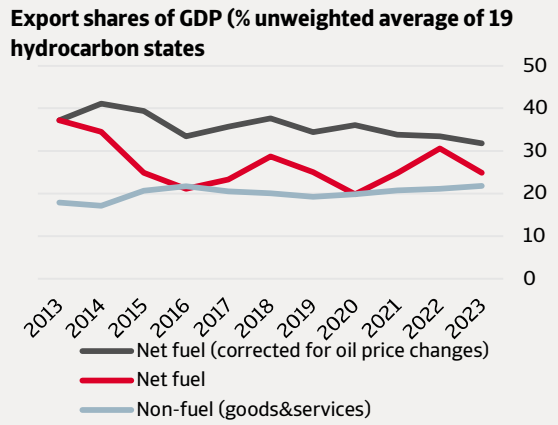
4.1 Fuel dependency hydrocarbon states is gradually declining

For a number of emerging market economies (EMEs), oil and gas revenues are still a key income source. In 2023, net fuel exports from about 20 EMEs amounted to 10% of GDP or more, with the top half having shares between 25% and 55% of GDP. Guyana, followed by Iraq, Equatorial Guinea, Azerbaijan and Angola top the list by this metric. Guyana has seen the largest increase by far, as it is a new oil producer that has been ramping up production.

Although most countries have reduced their dependence on fossil fuel export revenues over the past 10 years – by an average of almost 10% of GDP (figure 4.1) – this decline is not primarily driven by a deliberate shift from hydrocarbons to other industries. About half is simply the result of oil price fluctuations. When we correct for oil price developments, it turns out that the remaining decline in the net fuel-to-GDP ratio is mainly due to growth in the non-oil economy, which increases the denominator of this ratio, rather than an actual decline in net fuel exports.

There are considerable differences between countries, however, and a number of them (including Nigeria, Angola, Gabon, Equatorial Guinea, Kuwait, Brunei, Trinidad & Tobago and Ecuador) did see their net fuel-to-GDP ratio decline more significantly and for a large part due to lower net fuel exports volumes. But even in these cases, this is not so much the result of countries actively scaling back their oil and gas activities. Instead, it is the consequence of ageing fields, production issues, depleting oil and gas reserves, underinvestment and temporary production cuts imposed by OPEC+. In fact, unlike in advanced economies, investment in fossil fuel supply has not yet peaked in a number of EMEs, according to the IEA. Angola, Nigeria and Kuwait will therefore likely reverse the downward trend in their net fuel exports to some extent in the coming years.

Figure 4.1 No clear shift away from hydrocarbon exports



Source: UNCTAD

Moreover, export diversification is successful only if the tradable component of non-oil GDP increases as well. To make hydrocarbon states more resilient to external (oil price) shocks, newly developed non-oil sectors need to contribute to export revenues, so that they can gradually replace lost foreign exchange earnings when the hydrocarbon market goes into decline. This is generally not the case. Exports of non-fuel goods and services as a percentage of GDP have increased

11 Countries that are in turmoil and/or have data limitations, such as Libya, Yemen, Iran, Syria, Chad, Russia and Venezuela, are not included.

only marginally in our sample of hydrocarbon states over the past decade (figure 4.1).

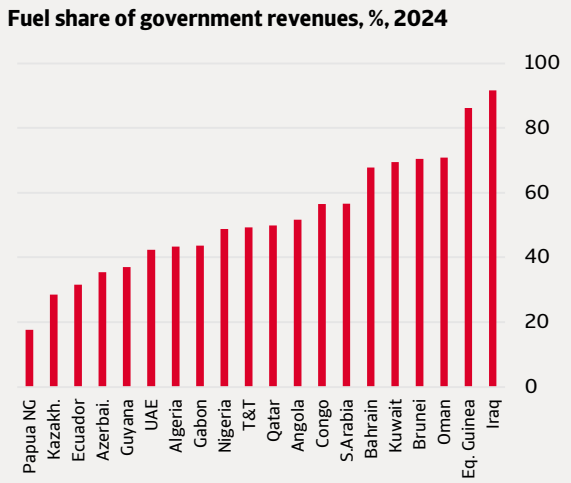
This means a fundamental shift away from oil and gas is unlikely in the medium term. While this may make sense from the perspective of hydrocarbon producers, it is one of the reasons why we currently consider it not very likely that the global net zero target will be met in 2050. At best, the energy transition for fuel exporting EMEs will develop along two tracks, with alternative revenue resources being developed alongside the continuation and expansion of the hydrocarbon industry. The UAE is the ultimate example of how successful this strategy can be. While its net fuel exports as a percentage of GDP have remained one of the highest among peers, its non-fuel exports are three times as large and are rising steadily. Other Gulf Cooperation Council (GCC) countries are also showing some progress in this area, suggesting that their comprehensive economic diversification strategies are paying off.

4.2 Diversification of fiscal revenues is the biggest challenge

Diversification of the economy should also translate into diversification of government revenues. This has proven to be quite a challenge for a wider range of fuel-exporting EMEs. Although we have a shorter time series to measure this, the share of hydrocarbon revenues in total government revenues has generally not declined since 2016, averaging almost half. For Iraq and Equatorial Guinea, no less than 90% of government revenues are still based on oil and gas income (figure 4.2).

And even where economies are relatively diversified and the fossil fuel industry represents less than 10% of GDP – such as Ecuador, Trinidad & Tobago, Nigeria and Bahrain – they still rely heavily on hydrocarbons for between a third and a half of government revenues. This leaves a number of fuel-exporting EMEs vulnerable to the energy transition via the fiscal channel and proves that it is not enough to just develop non-oil sectors. The tax base must also be broadened. Because this is politically sensitive and can lead to popular resistance, this is often not (successfully) pursued. GCC countries, where social unrest is generally low, have succeeded, albeit to a limited extent. Most of them introduced VAT between 2018 and 2021, and Bahrain, the UAE and Kuwait have also recently introduced new corporate taxes.

Figure 4.2 Persistently high fiscal reliance on fossil fuels



Source: IMF, IIF

4.3 Financial weaknesses make some countries vulnerable to oil and gas price shocks

Oil and gas price shocks will have the greatest impact on countries that are most dependent on fossil fuel revenues. However, some hydrocarbon states are better able to absorb such external shocks than others, depending on their financial strength. The fact that current accounts are mostly in surplus or slightly in deficit shows that external positions are generally not at risk at the current oil price level. However, only a few countries – the UAE, Qatar, Brunei, Guyana and Kuwait – have solid current account surpluses. This means that oil and gas price declines could potentially threaten to erode external positions. This vulnerability was exposed during the most recent oil crisis in 2020, where Iraq, Oman, Bahrain and Algeria recorded (nearly) double-digit current account deficits.

High financial buffers and low external debt levels make a positive difference in this regard. IMF research shows that for commodity exporters with a fixed exchange rate regime, international reserves should provide a buffer of at least 6 and up to 9 months of imports. Only a handful of fuel revenue dependent countries exceed this threshold, including Kuwait, Iraq, Saudi Arabia and Turkmenistan. However, quite a number of them have sovereign wealth funds (SWFs) that are bulging

with excess petrodollars saved over the years. If we also take those SWFs into account, many more are in good shape in terms of financial buffers.

Gabon, Congo (Brazzaville) and Equatorial Guinea are among the few countries with weak buffers (figure 4.3). Although their membership of the CFA franc zone ensures the convertibility of the CFA franc into euros, their space to absorb shocks is limited. In a similar vein, Ecuador is a dollarised economy, requiring fewer foreign reserves. Guyana's low reserves are excused by the fact that it is a newcomer to the industry that requires a high import bill for investment. At the same time, the country is rapidly accumulating foreign assets in its newly established SWF. This leaves Bahrain, Papua New Guinea, Nigeria and Angola that have financial buffers around the threshold of 9 months import cover. Although the latter three have managed to improve their buffers a bit over the past few years, they are still facing foreign exchange shortages.

Figure 4.3 Low shock absorption capacity for some countries

Country	Financial buffer (reserves + SWF in months of import)	FX regime (de facto)	Credit rating (Fitch or S&P)	External debt (% GDP)
Trinidad & Tobago	14	Stabilised	BBB-	95
Angola	10	Managed	B-	58
Nigeria	9	Crawl-like	B-	43
Bahrain	8	Dollar peg	B+	214
Papua New Guinea	7	Stabilised	B-	55
Equatorial Guinea	6	CFA franc	NR	13
Guyana	3	Stabilised	NR	7
Gabon	3	CFA franc	CCC	46
Ecuador	2	Dollarised	CCC+	40
Congo	2	CFA franc	CCC+	48

Source: EIU, Oxford Economics, IMF, Fitch, S&P and national sources

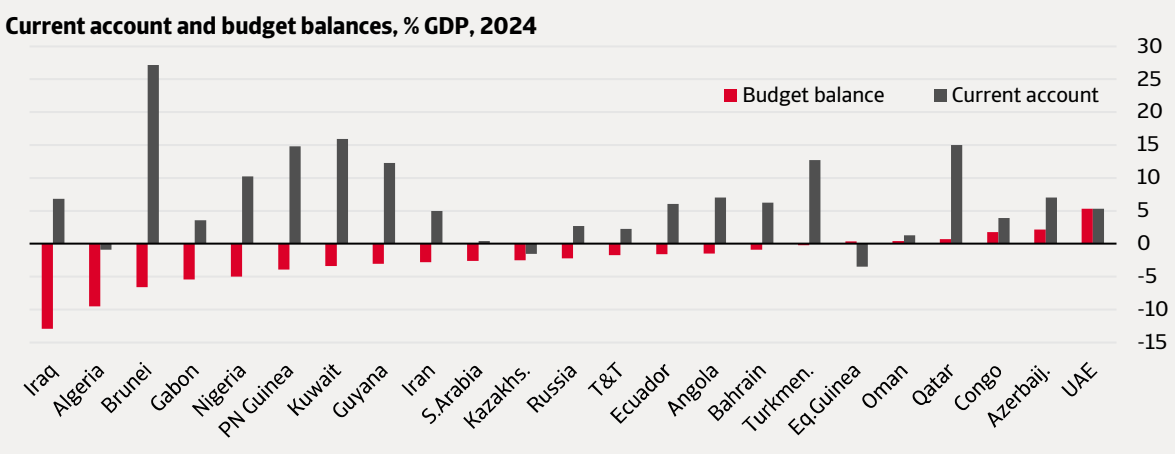
Bahrain and Trinidad & Tobago are the only countries that, in addition to limited medium-sized financial buffers, also have high external debt levels. However, Bahrain has always received financial support from Saudi Arabia when needed, and we believe that this will continue to be the case, including in the event of liquidity stress. External debt is mostly a constraint on shock absorption for countries like Gabon, Congo, Papua New Guinea, Ecuador and Angola. Despite medium-high external debt levels, these countries face relatively high external debt service payments and refinancing risk, due to the way debt is structured and their limited access to the international capital market.

Fiscal vulnerability to falling oil prices is a concern for a wider range of fuel-exporting EMEs, many of which were already running budget deficits at an average oil price around USD 80 per barrel in 2024 (figure 4.4). Iraq, Algeria, Brunei, Gabon and Nigeria showed the highest deficits, above 5% of GDP. A mitigating factor for the medium term is that, with the exception of Congo, Bahrain, and Gabon, most countries have low to medium-high public debt levels, which should provide some fiscal space to absorb shocks.

4.4 Limited country risk impact in STEPS

How do the vulnerabilities of hydrocarbon states to oil and gas price fluctuations outlined above play out in the medium run? A scenario analysis that imposes different sets of oil and gas price paths envisioned by the IEA on the Global Economic Model of Oxford Economics suggests that only a few countries will be potentially heavily impacted. In the medium term, we believe a gradual decline in oil prices is most likely, which corresponds to the IEA's most conservative energy transition scenario (STEPS). Even in the somewhat more ambitious Announced Pledges Scenario (APS), which assumes the

Figure 4.4 Current fiscal weakness is a concern



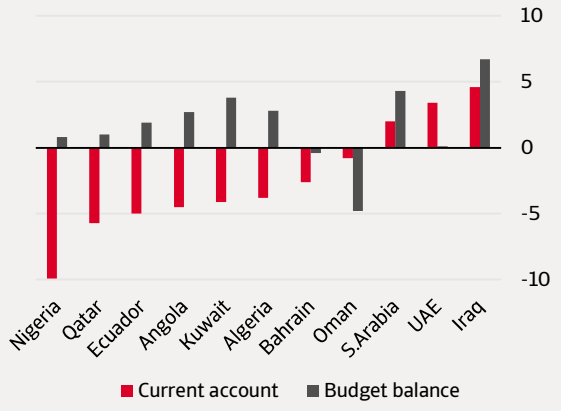
Source: Oxford Economicsv bfc

realisation of all pledged policies, oil prices do not fall sharply until 2034, the end of our forecast horizon. The decline in European and Japanese gas prices in the medium term is sharper in both STEPS and APS, but this is due to a larger additional LNG supply. And as demand for gas increases more strongly at the same time, the negative impact on gas revenues will be limited. Moreover, some countries, notably Qatar, will be partly shielded from gas price fluctuations as they have long-term contracts for their gas exports.

Not many hydrocarbon states will experience a significant deterioration in their budget balances under our base case nor in APS. In fact, most will show improvements (figure 4.5).[12] The drop in fossil fuel prices is apparently so small that the impact on hydrocarbon revenues can be (more than) offset by austerity measures. It also helps that, despite an oil-driven economic slowdown, growth in hydrocarbon states remains fairly robust, supported by steady growth of non-oil activities. Current account balances will deteriorate for the majority of countries, but this will not turn their surpluses into deficits by 2034, except for a few countries like Algeria. While we do not have model output to confirm this, it also suggests that financial buffers will remain largely intact. External debt ratios will also remain roughly unchanged and even decline for most countries. Countries with low buffers and little capacity to issue more external debt could still be hit in the event of temporary oil price shocks, which can be expected in any scenario of the energy transition.

Figure 4.5 Budget deficits improve in STEPS

Current account and budget balance changes between 2024 and 2034 in STEPS, % GDP



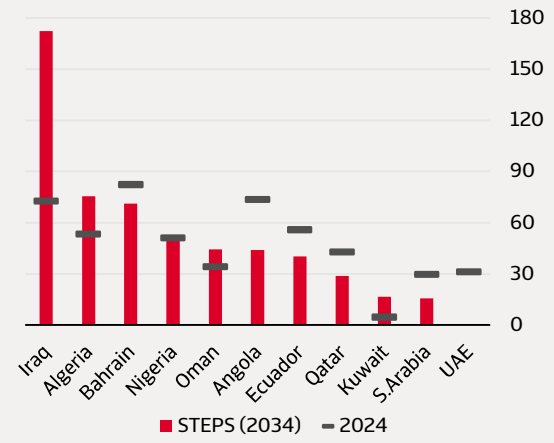
Source: Oxford Economics, Atradius

Only for Iraq and Algeria, which already had high budget deficits to begin with, will public debt increase to alarming levels in the STEPS (figure 4.6). This conclusion also applies to APS. Fiscal pressure will also erode the financial buffers of Iraq and Algeria, for example via monetary financing that puts pressure on the currency (Iraq) or directly by tapping the SWF to pay for budget deficits (Algeria). The IMF predicts that the reserve coverage of both will become inadequate by the end of this decade. Bahrain's public debt level will also remain too high, despite some deleveraging. Countries that are not available in our model but do meet the profile of substantial initial budget deficits, high government dependence on fuel revenues and limited financial buffers could potentially suffer a similar fate. In this respect we are most concerned about Gabon, also given its already high public debt level and the limited prospects for fiscal reform.

In the most extreme NZE scenario, which assumes a sharp drop in oil and gas prices in the medium term, risks are more pronounced and involve a wider range of countries (figure 4.7). This is more or less also true in case of sudden oil price shocks. Of the countries that are available in our model, the GCC countries – in particular Kuwait – as well as Angola will then also see spikes in public debt levels. Current accounts of more countries, including Nigeria, will turn into deficit and their external debt levels will increase (figure 4.7). While for the GCC countries their large financial buffers would still mitigate debt sustainability risk, Angola and possibly Nigeria and Ecuador would join Iraq, Algeria and Gabon as countries that experience financial problems.

Figure 4.6 Few countries attain alarming public debt ratios

Public debt ratio, % GDP



Source: Oxford Economics, Atradius

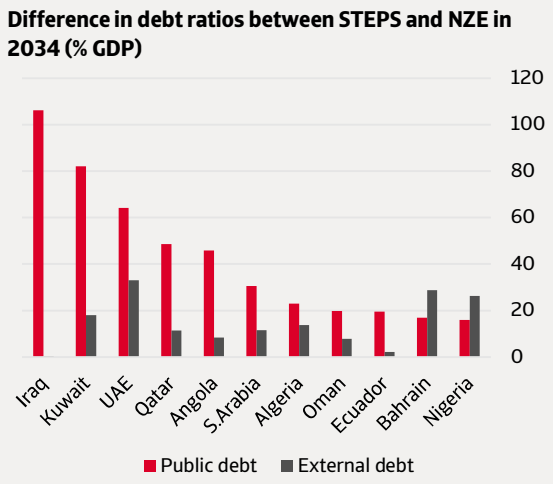
12 Oman is the only country in the model for which the budget balance is expected to deteriorate significantly, while currently operating a balanced budget. However, this is due to country specific factors embedded in the model such as higher future investment outlays.

4.5 Fossil fuel suppliers of last resort

Apart from their financial and economic situation, which is important for resilience to energy price shocks, some hydrocarbon states are well positioned to remain as a last-ditch supplier in the oil and gas market for other reasons.

The global economy will most likely still require energy from fossil fuels on a large scale for decades to come. A necessary condition for staying in the hydrocarbon market for the long-haul is sufficient hydrocarbon reserves. More than a dozen countries have enough oil and/or gas reserves to continue producing at least until 2050, the year in which the world ideally reaches net zero. Turkmenistan, Qatar, Kuwait, Iraq, the UAE and Saudi Arabia are the best-endowed with oil and gas resources, good for more than fifty years of production. Only two countries with high dependency on fuel income – Oman and Trinidad & Tobago – have a hydrocarbon reserves-to-production ratio of just above 10 years, which is the medium-term risk horizon we use in this study.[13]

Figure 4.7 In NZE debt risks are more pronounced

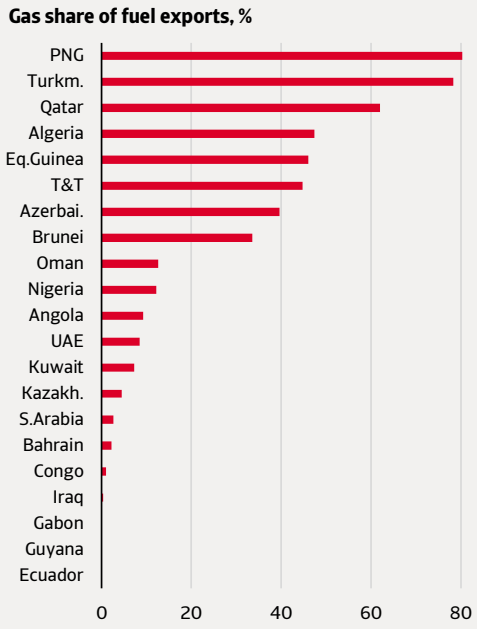


Source: Oxford Economics, Atradius

There are two other conditions that make it possible for oil-producing countries to continue operating during the energy transition. One is low oil production costs, which ensures profitability when oil prices fall. The other is low carbon intensity of oil production, which helps to forestall growing criticism from an environmental perspective. Countries with both low oil production costs and relatively low CO_2 emissions from oil production include GCC countries such as Saudi Arabia, Kuwait and the UAE. To extend the life of traditional oil and gas production in a world where its environmental impact is under scrutiny, several GCC countries, including gas producer Qatar, are looking to further reduce emissions by implementing carbon capture utilisation and storage projects. African oil states such as Angola, Nigeria and (to a lesser extent) Algeria have considerably higher production costs. When oil prices drop and global oil demand shrinks, these countries could eventually be priced out of the market.

Finally, it can be argued that gas producers have an advantage over oil producers, because gas is less polluting and therefore has better prospects as a transition fuel than oil. Global demand for gas will also peak later than for oil. Hydrocarbon countries with a significant share (more than a third) of fuel exports from gas are Brunei, Azerbaijan, Trinidad and Tobago, Equatorial Guinea, Algeria, Qatar, Turkmenistan and Papua New Guinea (figure 4.8). But recently, traditional oil producers have also shifted their focus to gas. Here too, the GCC states are leading the way. Whether it is the right strategy remains to be seen. The role of gas as a transition fuel does not seem to be as great as initially expected due to progress with renewables. There is a risk of LNG oversupply in the medium term, even in STEPS.

Figure 4.8 Exporters of transition fuel gas are better positioned



Source: UNCTAD

13 While Bahrain's gas reserves are nearly exhausted, making the country soon becoming an importer of that fuel, Bahrain's main export is oil and it has enough of it in a shared field with Saudi Arabia.

4.6 Conclusion

Over the medium term to 2034, the majority of fossil fuel exporting emerging market economies will be able to cope with the energy transition. While they remain largely dependent on hydrocarbon revenues, they generally have enough financial space to absorb the (mild) decline in oil and gas prices that we expect in our baseline scenario. Most fuel-exporting emerging market economies have current account surpluses and moderate external debt levels and will maintain these, despite some weakening. This also means that, absent major shocks, the financial buffers that for most countries are sufficient will remain largely intact. However, several countries – such as Iraq, Algeria and Gabon – that already have wide budget deficits at the current oil price and have shown little appetite for fiscal reform are on a slippery slope. This emphasizes the importance for countries not only to continue to make progress in export diversification, but also to reduce the still heavy reliance of their public finances on hydrocarbon revenues.

Only in the longer term, with permanently ultra-low oil prices in the NZE scenario, will more countries find themselves in trouble if they fail to diversify their economies. The best positioned countries to become the last remaining oil and gas suppliers in the market are those that not only have a strong financial position, but also large oil and/or gas reserves, that can produce at low cost and with low carbon intensity, and are investing in economic diversification. Some GCC countries, in particular the UAE and Saudi Arabia, seem to fit this picture.

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