Cautionary note

The companies in which Shell plc directly and indirectly owns investments are separate legal entities. In this LNG Outlook “Shell”, “Shell Group” and “Group” are sometimes used for convenience where references are made to Shell plc and its subsidiaries in general. Likewise, the words “we”, “us” and “our” are also used to refer to Shell plc and its subsidiaries or to those who work for them. These terms are also used where no useful purpose is served by identifying the particular entity or entities. “Subsidiaries”, “Shell subsidiaries” and “Shell companies” as used in this LNG Outlook refer to entities over which Shell plc either directly or indirectly has control. Entities and unincorporated arrangements over which Shell has joint control are generally referred to as “joint ventures” and “joint operations”, respectively. “Joint ventures” and “joint operations” are collectively referred to as “joint arrangements”. Entities over which Shell has significant influence but neither control nor joint control are referred to as “associates”. The term “Shell interest” is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in an entity or unincorporated joint arrangement, after exclusion of all third-party interest.

Forward-Looking Statements

This LNG Outlook contains forward-looking statements (within the meaning of the U.S. Private Securities Litigation Reform Act of 1995) concerning the financial condition, results of operations and businesses of Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management’s current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Shell to market risks and statements expressing management’s expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as “aim”, “anticipate”, “believe”, “could”, “estimate”, “expect”, “goals”, “intend”, “may”, “milestones”, “objectives”, “outlook”, “plan”, “probable”, “project”, “risks”, “schedule”, “seek”, “should”, “target”, “will” and similar terms and phrases. There are a number of factors that could affect the future operations of Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this Outlook, including [without limitation]: (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell’s products; (c) currency fluctuations; (d) drilling and production results; (e) reserve estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets; and, successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, judicial, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; (m) risks associated with the impact of pandemics, such as the COVID-19 (coronavirus) outbreak, regional conflicts, such as Russia’s invasion of Ukraine, and a significant cybersecurity breach; and (n) changes in trading conditions. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this LNG Outlook are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Shell plc’s Form 20-F for the year ended December 31, 2022 (available at www.shell.com/investors/nnr192890) and other information filed with the SEC. We may have used certain terms, such as resources, in this LNG Outlook that the United States Securities and Exchange Commission (SEC) strictly prohibits us from including in our filings with the SEC. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website www.sec.gov.

Shell’s net carbon intensity

Also, in this LNG Outlook we may refer to Shell’s “Net Carbon Intensity”, which includes Shell’s carbon emissions from the production of our energy products, our suppliers’ carbon emissions in supplying energy for that production and our customers’ carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions. The use of the term Shell’s “Net Carbon Intensity” is for convenience only and not intended to suggest these emissions are those of Shell plc or its subsidiaries.

Shell’s net-zero Emissions Target

Shell’s operating plan, outlook and budgets are forecasted for a ten-year period and are updated every year. They reflect the current economic environment and what we can reasonably expect to see over the next ten years. Accordingly, they reflect our Scope 1, Scope 2 and Net Carbon Intensity (NCI) targets over the next ten years. However, Shell’s operating plan and budgets do not undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this LNG Outlook.

Shell expects to publish its 2024 Energy Transition Strategy on March 14, 2024, which will include an update on Shell’s energy transition strategy and set out Shell’s climate targets and ambitions for the future.

Forward-Looking Non-GAAP measures

This LNG Outlook may contain certain forward-looking non-GAAP measures such as “cash capital expenditure” and “divestments”. We are unable to provide a reconciliation of these forward-looking Non-GAAP measures to the most comparable GAAP financial measures because certain information needed to reconcile those Non-GAAP measures to the most comparable GAAP financial measures is dependent on future events some of which are outside the control of Shell, such as oil and gas prices, interest rates and exchange rates. Moreover, estimating such GAAP measures with the required precision necessary to provide a meaningful reconciliation is extremely difficult and could not be accomplished without unreasonable effort. Non-GAAP measures in respect of future periods which cannot be reconciled to the most comparable GAAP financial measure are calculated in a manner which is consistent with the accounting policies applied in Shell plc’s consolidated financial statements.

The contents of websites referred to in this report do not form part of the LNG Outlook 2024.

We may have used certain terms, such as resources, in this LNG Outlook that the United States Securities and Exchange Commission (SEC) strictly prohibits us from including in our filings with the SEC. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website www.sec.gov.
Summary

Industry, heating and emerging Asia to drive LNG demand growth

- Demand for natural gas has peaked in some regions and globally is set to peak after 2040.

- The global LNG market will continue growing into the 2040s, mostly driven by China’s industrial decarbonisation and strengthening demand in other Asian countries.

Gas prices more stable in 2023 but volatility lingered in a tight market

- Global trade in LNG expanded slightly in 2023, with tight supplies constraining growth and prices staying above historic averages.

- A milder winter, high gas storage levels, modest economic recovery in China and lower demand in Europe helped balance the global gas market during 2023.

Rising global demand for LNG expected to keep pace with new supply

- In the medium term, latent demand for LNG – especially in Asia – is set to consume new supply that is expected to come onto the market in the second half of the 2020s.

- To offset falling domestic gas production in South-east Asia, significant infrastructure investment will be needed to access the LNG that these countries need for their economic development.
Industry, heating and emerging Asia to drive LNG demand growth
Gas use peaks in some markets, continues to grow globally
LNG to play increasingly important role in global gas supply

Peak gas demand by decade

<table>
<thead>
<tr>
<th>Regions</th>
<th>2010s</th>
<th>2020s</th>
<th>2030s</th>
<th>2040s+</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
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<tr>
<td>Japan</td>
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<tr>
<td>China</td>
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<td></td>
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<tr>
<td>Nigeria</td>
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<td></td>
<td>2030s</td>
<td>2040s+</td>
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<tr>
<td>Argentina</td>
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<tr>
<td>South Africa</td>
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<tr>
<td>India</td>
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<tr>
<td>Indonesia</td>
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</tr>
</tbody>
</table>

Gas demand by sector

- Electricity
- Buildings
- Industry
- Transport
- Other

Natural gas supply source

- LNG
- Pipeline imports
- Domestic production

Source: Shell interpretation of Wood Mackenzie data
CAGR: Compound annual growth rate
Industry, buildings to be key demand drivers in emerging Asia
LNG expected to meet more than 75% of this growth

Emerging Asia natural gas demand

Emerging Asia gas supply source

Source: Shell interpretation of Wood Mackenzie data
Industry must address CO\textsubscript{2} emissions
Gases expected to play an important role in reducing sector emissions

Comparative emissions
Mt CO\textsubscript{2}/yr.

- China steel sector
- Top 3 European emitters
- Japan
- Aviation
- International shipping

![Comparative emissions chart]

Source: Shell interpretation of Wood Mackenzie, IEA data, Net Zero Roadmap for China’s steel industry study for Global Efficiency Intelligence & Lawrence Berkeley National Laboratory 2023

China exposure to EU CBAM
2022

- 5.3 $bn (Iron and steel)
- 17.3 $bn (Other)
- 0.4 $bn (Fertiliser)

Ways to decarbonise Chinese steel
%

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

- Gas-driven
- Gas-supported
- Other

Source: Shell interpretation of Wood Mackenzie, IEA data, Net Zero Roadmap for China’s steel industry study for Global Efficiency Intelligence & Lawrence Berkeley National Laboratory 2023

CBAM: Carbon Border Adjustment Mechanism. Value of Chinese exports to EU that will be covered by CBAM at implementation. CCUS: carbon capture, utilisation and storage (includes bio-energy CCUS). Three largest European emitters: Germany, UK, Turkey
Policy and investment continues for gas projects with environmental and emissions benefits

Asia Infrastructure Investment Bank energy project funding 2016 - 2023

Energy demand and air quality in Beijing

Sources: Shell interpretation of Asia Infrastructure Investment Bank data, Beijing Municipal Bureau of Statistics and Air Quality Index data
Unhealthy days: defined as an Air Quality index with PM 2.5 greater than 150 µg/m³
Gas currently plays key role in meeting heating demand
Electrification will need investment, supply chain and buildings improvements

**Gas currently plays key role in meeting heating demand**
**Electrification will need investment, supply chain and buildings improvements**

### England and Wales buildings: gas* and total electricity demand

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Gas*</td>
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<tr>
<td>Electric**</td>
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</tr>
</tbody>
</table>

Sources: Shell interpretation of UK National Grid ESO and UK National Gas data 2023, Wood MacKenzie data 2023

*Local Distribution Zones (low-pressure gas supplied to buildings) in England and Wales

**Total electricity demand for England and Wales

### Buildings gas demand

BCM (2022)

- UK
- Mainland China
- European Union
- USA

33

Shell plc
Renewables, supported by gas, erodes coal’s role in Asia

Source: Shell interpretation of Wood Mackenzie data
Gas provides grid stability, enabling a higher share of renewables in generation

**Variable hourly power generation in Spain**
GWh/h

**Variable daily power generation in the Netherlands**
GWh/d

Source: Shell interpretation of European Network of Transmission System Operators data 2023
Spanish figures calculated from 15-minute intervals
Other includes biomass, other renewables and coal
Marine sector continues to reduce emissions through LNG
Liquefied gases can combine with technologies to help reduce emissions

Vessel order book (2023)
(Gross tonnage)

**LNG-fuelled vessels in operation**
- Conventional
- Hydrogen & derivatives
- LNG
- Other

**LNG-fuelled vessels on order**
- 537

**LNG-fuelled vessels in operation**
- 469

Projected LNG bunkering to 2028
('000 tonnes)

Pathways to CO_2_e reduction

Lower-emission fuels
- LNG
- BioLNG
- LSG

Net Zero

Efficient tech
- Low methane slip engines – air lubrication – hull coatings
- Digitalisation – shaft power generation – methane slip mitigation / elimination

Future tech
- Onboard CCS – co-feeding H2 engines – fuel cell for main engine

Combined with new technologies

Source: Shell interpretation of Clarksons Research, DNV


February 2024
LNG decarbonisation pathways need to be explored together
To address emissions today and progress zero emission options

Carbon compensated LNG

BioLNG

Technologies and efficiencies

Liquefied synthetic gas (LSG)

Carbon capture and storage (CCS)

Carbon credits can be used to compensate for CO₂ lifecycle emissions of LNG cargoes

Depending upon percentage of bio blending

For example, using renewable electricity in liquefaction processes can help reduce emissions by 8%

When produced from renewable electricity & using bio-CO₂

CO₂ emissions removal with CCS in LNG liquefaction

Source: Shell interpretation of UK Department for Environment, Food and Rural Affairs (DEFRA) GHG conversation factors 2022, JEC Well-to-Tank report v5, Wood Mackenzie announcement
A common goal: reducing methane emissions to ‘near zero’

**Driven by government, institutions and policy**

- **156 countries** now part of Global Methane Pledge, covering 86% of LNG importing countries*

Groundbreaking methane regulation for oil and gas, including imports of gas and LNG into the EU

Agreement of EU, Japan, South Korea, USA and Australia to harmonised MRV

$255 mln mobilised for World Bank methane and flaring fund

Source: Oil & Gas Methane Partnership (OGMP), public announcements, Methane Intelligence (MiQ) announcements, *including EU, **Announcement by Daphne Technologies (SlipPure™)

**Driven by industry**

- **Over 80%** of LNG flows covered by more than 120 companies and 70 countries have joined OGMP 2.0

Lab tests of new shipping technology shows methane reduced to low levels**

52 signatories to oil and gas decarbonisation charter launched at COP 28

**Driven by customers**

First GIIGNL’s MRV and GHG Neutral aligned cargo delivered in Taiwan

Increasing customer led demand for transparency and third-party verification

February 2024 14
Gas prices more stable in 2023 but volatility lingered in tight market
Despite structural tightness prices moderated in 2023
JKM prices fell but remained above historical norms

Global gas trade change (2019 vs 2023) BCM

-150 -100 -50 0 50 100

Mild winter temperatures
High gas & LNG inventories in Europe & Asia
Strong nuclear generation in France, Japan & South Korea
Modest Chinese economic recovery
Weak European demand & energy savings

2023 demand factors

Average monthly JKM prices $/MMBtu

Source: Shell interpretation of Intercontinental Exchange (ICE) and Wood Mackenzie data
JKM: Japan Korea Marker
*Pipeline exports exclude North America pipeline trade
Supply security concerns sparked periods of volatility
Global events impacted market even with record-high inventories

European gas inventories

% full

Event-driven volatility

1. Prolonged Norwegian maintenance
2. Australian industrial action concern
3. Israel-Hamas conflict

Dutch TTF traded volume vs price

MW

EUR/MWh

Source: Shell interpretation of Commodity Essentials and ICE data
Europe includes UK, Germany, Belgium, France, Denmark, Netherlands, Spain, Italy, Austria, Slovakia, Czech Republic and Switzerland
TTF: Title Transfer Facility
USA became the largest LNG exporter
Panama Canal constraints shifted trade patterns

Top exporters in 2023 (MT)

US exports to Asia (MT)

Source: Shell interpretation of Kpler data
*Others: Cape of Good Hope
New infrastructure helps redistribute European LNG imports
China retook top importer spot, emerging Asia shows growth potential

Change in LNG imports 2023 (YoY)

<table>
<thead>
<tr>
<th>Country</th>
<th>MT</th>
<th>Change 2023 (YoY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainland China</td>
<td>7.9</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
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<tr>
<td>Thailand</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Bangladesh</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Colombia</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Jamaica</td>
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<tr>
<td>Belgium</td>
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<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>-0.5</td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>-0.6</td>
<td></td>
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<tr>
<td>Turkey</td>
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<tr>
<td>Greece</td>
<td>-0.7</td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td>-1.1</td>
<td></td>
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<tr>
<td>Brazil</td>
<td>-1.7</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>-2.8</td>
<td></td>
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<tr>
<td>Spain</td>
<td>-3.5</td>
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</tr>
<tr>
<td>France</td>
<td>-4.3</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>-4.3</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>-6.0</td>
<td></td>
</tr>
</tbody>
</table>

Total LNG trade: 404 MT

Source: Shell interpretation of Kpler data
European gas demand fell in 2023
Demand destruction continued due to lower supplies and elevated prices

Change in European gas balance

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>LNG</th>
<th>Exports</th>
<th>Other piped</th>
<th>Russian piped</th>
<th>Net storage change</th>
<th>2023</th>
<th>Industrial</th>
<th>R&amp;C</th>
<th>Other piped</th>
<th>Power</th>
<th>2022</th>
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<tr>
<td>2022</td>
<td>330</td>
<td>310</td>
<td>300</td>
<td>290</td>
<td>280</td>
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</table>

Gas-power demand in Europe

<table>
<thead>
<tr>
<th>Year</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>0</td>
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Industrial gas demand in Europe

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<th>Apr</th>
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<th>Jul</th>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Shell interpretation of Commodity Essentials data
European demand includes UK, Germany, Belgium, France, Denmark, Netherlands, Spain, Italy, Austria, Slovakia, Czech Republic and Switzerland
R&C: Residential and commercial
China gas demand outpaced moderate economic growth
Robust domestic supply, piped imports and term LNG limited spot buying

Change in China gas balance

<table>
<thead>
<tr>
<th></th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic production</td>
<td>360</td>
<td>380</td>
<td>380</td>
</tr>
<tr>
<td>Piped imports</td>
<td>20</td>
<td>40</td>
<td>60</td>
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<tr>
<td>Power</td>
<td>80</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>R&amp;C</td>
<td>40</td>
<td>60</td>
<td>80</td>
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<tr>
<td>Industrial</td>
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<tr>
<td>Transport</td>
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</table>

8% gas demand growth

China term vs spot LNG imports

<table>
<thead>
<tr>
<th>Year</th>
<th>Term</th>
<th>Implied spot</th>
<th>Total LNG imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>30</td>
<td>10</td>
<td>40</td>
</tr>
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<td>2022</td>
<td>60</td>
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<td>100</td>
</tr>
<tr>
<td>2023</td>
<td>70</td>
<td>50</td>
<td>120</td>
</tr>
</tbody>
</table>

Japan gas demand declines as more nuclear plants restart
Heatwaves drove up imports briefly

Nuclear availability vs LNG imports

- TWh: Nuclear generation
- MT: LNG imports

Gas-fired power demand vs LNG imports

- MT: LNG imports

Source: Shell interpretation of Japan Ministry of Economy, Trade and Industry (METI), Wood Mackenzie, Energy Aspects data
US supply and Asian demand to lead growth in 2024
Import infrastructure ready to meet potential demand upsides

Forecast LNG supply growth 2024
MTPA

Forecast LNG demand growth 2024
MTPA

Global regas capacity growth
MTPA

Source: Shell interpretation of Wood Mackenzie, Poten & Partners, S&P Global Commodity Insights and FGE data
All forecasts are normalised to delivered volumes
*Consultant forecast range represents the distribution of year-over-year supply and demand growth forecasts from Wood Mackenzie, Poten & Partners, S&P Global Commodity Insights and FGE

Shell plc
Rising global demand for LNG expected to keep pace with new supply
Significant LNG supply coming but start-up timings uncertain

Historical global LNG supply growth

MTPA

Source: Shell interpretation of Wood Mackenzie, Poten & Partners, S&P Global Commodity Insights and FGE data

*Consultant forecast range represents the distribution of year-over-year supply growth forecasts from Wood Mackenzie, Poten & Partners, S&P Global Commodity Insights and FGE.

Global LNG supply growth forecast range

MTPA

Source: Shell interpretation of Wood Mackenzie, Poten & Partners, S&P Global Commodity Insights and FGE data

*Consultant forecast range represents the distribution of year-over-year supply growth forecasts from Wood Mackenzie, Poten & Partners, S&P Global Commodity Insights and FGE.
LNG industry has managed large expansions before
Diverse demand sectors poised to consume new LNG supply

Three-year historical and forecast global LNG supply increases
MTPA – % increase

2009-2011

- Qatar mega-train build out
- Australia & USA first wave

2017-2019

- Qatar & USA second wave

2025-2027*

Forecast

Latent demand for LNG

- New markets
- Shipping demand
- Price sensitive buyers
- Fuel switching

Source: Shell interpretation of Wood Mackenzie, Poten & Partners, IEA, S&P Global Commodity Insights and FGE data

*2025-2027 represents the straight average of consultant forecast growth from 2025 to 2027.
New LNG liquefaction investment underpinned by demand growth in China, South Asia and Southeast Asia

Global LNG supply vs demand forecast range

Source: Shell interpretation of Wood Mackenzie, Poten & Partners, IEA, S&P Global Commodity Insights and FGE data


Security-driven: Japan, South Korea and Europe. Emerging growth: South Asia, South-east Asia and other demand
Europe will still need LNG despite declining gas demand
Increased term contracting in 2022-2023 is not enough

Europe LNG SPAs
MTPA

Europe gas balance
BCM

Source: Shell interpretation of Wood Mackenzie data
LNG contracts include LNG SPAs and secondary contracts. Europe comprises EU, UK, Norway, Turkey and Ukraine. Flexible LNG supply: supply that can be diverted. Firm LNG supply: supply contracted for delivery to the buyer.
Gas demand - Net Zero Scenario is Wood Mackenzie’s net-zero forecast, which represents the European Commission’s Fit for 55 decarbonisation policy.
China’s gas infrastructure development accelerates
Growth in scale and connectivity enables China to balance the LNG market

Source: Shell interpretation of Wood Mackenzie, UK Department for Energy Security and Net Zero and Gastank data
Capacity growth considers projects that are operational and under construction.

February 2024  29
China’s long-term gas and LNG demand outlook is strong
Supply diversification is a key characteristic of China’s growth

Source: Shell interpretation of Wood Mackenzie data

February 2024
South, South-east Asia emerging as major LNG import regions
Vietnam, Philippines started importing LNG to backfill domestic gas declines

Source: Shell interpretation of Wood Mackenzie data
MTPAe: billion cubic metre equivalent in million tonnes per annum of LNG
*Total regas capacity includes projects that are operational and under construction for the four countries referenced (Vietnam, Thailand, Philippines & Bangladesh).
Global gas market increasingly exposed to US risks

Global liquefaction investment* 
MTPA capacity

North American LNG supply 
MTPA

2030 North American LNG supply as % of:

Global gas demand ~5%
Global LNG demand ~30%
North American gas demand ~20%

Major North American gas basins
Proven reserves ** (Tcf)

Montney
Appalachia
Permian
Haynesville

Source: Shell interpretation of Wood Mackenzie data
* Global liquefaction investment considers projects that have taken a Final Investment Decision (FID)
** Proven reserves: represent 2P commercial reserves as defined by Wood Mackenzie. Bubbles are not exact geographical representations of the shale basins. Appalachia includes Marcellus and Utica plays.
Qatar and USA deals dominate long-term contracting
Brent and Henry Hub indexation underscores three commercial structures

Global LNG market trade
% total

Source: Shell interpretation of Wood Mackenzie and S&P Global Commodity Insights data
SPA: Sales and purchase agreement
N. America represents USA, Canada and Mexico
Buyers pursue long-term supply for energy security
Three-year upswing in contracting shows industry’s commitment to LNG

Source: Shell interpretation of Wood Mackenzie and S&P Global Commodity Insights data
Industry, heating and emerging Asia to drive LNG demand growth

Demand for natural gas has already **peaked** in some regions

**2040**

But demand for LNG is set to continue growing **beyond** 2040

China to drive demand for LNG this decade to meet industry needs and decarbonisation goals

LNG continues to **lower emissions** in the marine sector

LNG-fuelled vessels in operation set to double over the coming years

Gas provides **flexibility** to balance intermittent solar and wind generation

Gas and LNG prices stabilised during 2023

But limited new LNG supply has kept gas prices above historic averages

Gas prices more stable in 2023 but volatility lingered in tight market

USA became **largest LNG exporter** in 2023, shipping 86 million tonnes

Chinese gas demand grew 8% despite modest economic recovery

Overtakes Japan to become largest LNG importer again

European gas use fell due to continued elevated prices

LNG continued to play a vital **energy security** role with Europe importing more than 120 million tonnes

Global trade in LNG reached 404 million tonnes in 2023, an **increase** of 7 million tonnes compared to 2022

Latent LNG demand to keep pace with new supply but dependent on regas infrastructure investment

China’s gas demand expected to rise by more than 50% by 2040

+50%

North America expected to meet ~30% of **total global LNG demand**. But reliance on four basins could create midstream constraints

Declining domestic gas and growing power markets set to drive South and South-east Asia LNG imports

Dependent on **investment** in regasification infrastructure

Global LNG supply expansion coming this decade but startup timings uncertain

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