



# SEIZING OPPORTUNITIES IN THE CHANGING GLOBAL GAS MARKET

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## **A surge in investment in gas production assets could benefit players throughout the value chain**

**Rising prices and a re-organization of international gas flows are shaking up the global gas market. In Europe, Russian gas will mainly be replaced by liquefied natural gas from North America and the Middle East. This is leading to a surge in investment in gas production assets. From engineering firms to service providers, organizations throughout the gas value chain could benefit by adapting their strategies, exploring partnerships and prioritizing sustainability.**

These are turbulent times for the global gas market. The European Union's ban on Russian gas imports has led to a dramatic surge in prices and is reshaping natural gas flows as well as the liquefied natural gas (LNG) sector. Instead of importing gas from Russia, much of Europe is now turning its attention to LNG from the Middle East and North America.

This reorganization is leading to a wave of investment in new gas and LNG production assets. We expect more than USD 50 billion worth of financial investment decisions (FIDs) to be sanctioned every year by 2028. Much of this will be in North America and the Middle East, and almost half will target LNG assets. Members of the entire value chain will be affected: engineering, procurement and construction (EPC) firms; project developers; infrastructure investors; equipment suppliers; and service providers.

"Investment in LNG projects will see strong growth through 2028, with almost USD 40 billion worth of projects set for sanction each year."



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Principal

In this article, we outline the major changes expected in the coming decade and explain how industry players can benefit from this investment boom, from reassessing their positioning in the value chain to capitalizing on the growing importance of decarbonization.

### • Before the storm: natural gas pre-2022

The production of natural gas is primarily driven by macroeconomic factors such as GDP, demography and industrialization rates, which influence energy demands. Less carbon-intensive than coal or petrol during combustion, it is widely considered a transitional solution in the move to renewables. As a result, the recent push for greater sustainability has largely curbed growth in natural gas markets. Regulation and incentives, like the EU's 'Fit for 55' package, as well as investment have increasingly favored renewables.

With this in mind, in 2021, the International Energy Agency expected natural gas production to grow by 1.3% each year until 2030 and by 0.8% each year through 2050.

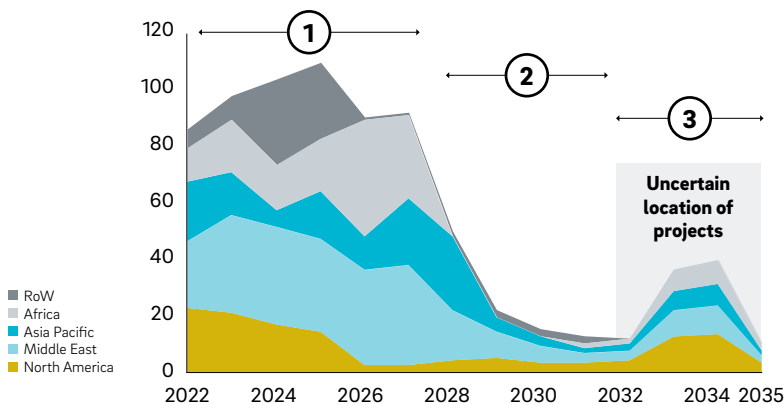
### • 2022 and its impact on natural gas

Russia's invasion of Ukraine in February 2022, together with an acceleration in climate awareness, have had a serious impact on the global natural gas market.

The European ban on Russian gas imports has triggered a reorientation of international gas flows and increased energy prices, particularly in Europe. This has led to a push for greater energy efficiency and independence, and further accelerated investment in renewables. In August 2022, for instance, the US introduced its Inflation Reduction Act, which offers improved incentives for low-carbon hydrogen and carbon capture technologies.

## Investment in gas projects will slow as production assets come online

Gas<sup>1</sup> investment market forecast<sup>2</sup> by geography [USD bn]



- ① High level of FIDs for gas projects, mainly in gas-rich regions (Middle East, North America, Africa) due to rising overall gas demand and the impacts of Russian conflict.
- ② FIDs expected to slow in 2027-28 as gas/LNG assets become operational.
- ③ New phase of FIDs, mainly to replace aging assets or develop new gas reserves in gas-rich locations.

<sup>1</sup> Covers 4 types of offering or asset: FLNG, LNG, FPSO-gas and gas production & processing

<sup>2</sup> Forecast based on existing pipelines of projects (based on Rystad, GlobalData), adjusted and aligned with Roland Berger gas supply forecast by 2050. Standard estimate taken for FID: 3 years earlier than start-up date for LNG and gas processing, 5 years earlier than start-up date for FLNG and FPSO-gas. Estimates taken for projects without start-up years.

Source: IGU, Global Data, Rystad, Roland Berger

Between now and 2028, we expect global investments in natural gas production and the sanctioning of new projects to grow, running at an average of nearly USD 100 billion per year. This growth will be dominated by four regions: North America, the Middle East, Africa, and Asia-Pacific. Longer term prospects for investments in new gas assets are less rosy due to rising pressure on fossil-based energy and the continuous growth of renewables. Based on current policy statements (similar to the IEA's STEPS scenario), Roland Berger expects gas production to grow by 0.6% per year until 2030 and by 0.3% per year until 2050.

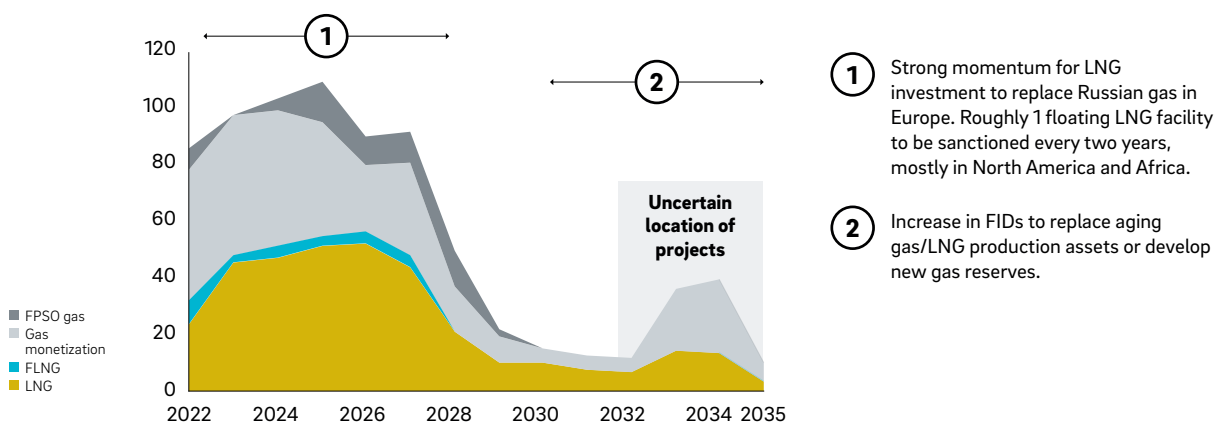
- **Strong growth for liquefied natural gas**

European countries are looking to replace Russian gas imports from a variety of sources. Chief among these is liquefied natural gas from North America and the Middle East, but this will be supplemented by European biogas, increased electrification and reduced energy demand.

This will have a major impact on the LNG production market and associated investments. LNG is expected to increase its share of overall gas production, growing from 10% in 2020 to 15% in 2030. Production rates in North America and the Middle East are each forecast to rise by more than 6% per year in this timeframe. Meanwhile, investment in LNG projects will see strong growth through 2028, with a pipeline of almost USD 40 billion worth of projects set for sanction each year. Ultimately, this will lead to convergence between the European and Asian gas price indexes, with both served by LNG from North America and Middle East.

## LNG projects set for strong short-term investment

Gas<sup>1</sup> investment market forecast<sup>2</sup> by asset type [USD bn]



<sup>1</sup> Covers 4 types of offering or asset: FLNG, LNG, FPSO-gas and gas production & processing

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Source IGU, Global Data, Rystad, Roland Berger



"Project owners and/or developers will need to implement solutions to lower a plant's CO<sub>2</sub> emissions, typically through carbon capture or increased electrification."



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## • What this means for the natural gas market

Greater investment in LNG, and in gas production more generally, should appeal to market participants with strong gas management capabilities. These include EPC firms, project developers, suppliers of equipment like compressors, turbines and tanks, and service providers in areas such as operations, maintenance and digital solutions.

These businesses can benefit from this momentum by considering the following five factors in LNG production projects.

### 1 *Client profile*

The characteristics and economics of LNG projects are driven by these players. Their priorities and expectations will differ geographically and depending on their company profiles as briefly outlined below:

- **International oil companies:** Mainly dominant in Africa and Asia-Pacific, with an international reach and extensive knowledge of gas management. They typically focus on large-scale projects and (co)own gas reserves.
- **National oil companies:** Often involved at a local or regional level, usually in the Middle East or Asia-Pacific to leverage national gas reserves. They generally invest alone or alongside international oil companies.
- **Developers:** Mainly in North America. Rather than own gas reserves, developers aim to leverage gas flows to capture value.
- **Gas specialists/midstream players:** These companies have a regional reach and generally don't own gas reserves. In LNG projects they look to leverage gas flows and create value for assets such as import terminals and pipelines.
- **Large power producers:** Emerging in regions like Asia-Pacific, they often look to diversify their primary energy sources with gas-to-power facilities.

### 2 *Liquefaction train size*

This is a key factor in the economics of LNG production projects. Based on existing plans for LNG projects, several trends are likely:

- Large trains – those with more than 3 million tons per annum (MTPA) of liquefaction capacity – are expected to dominate the market in North America and Asia-Pacific.
- Mid-scale trains (1-3 MTPA) are not expected to be the dominant choices, but they appear in at least one LNG project in all key regions.
- Very large trains are only relevant for giant gas fields – mostly in Qatar and the US – and represent a fairly narrow market.
- Small trains are expected to remain a niche market focused on landfill/waste or biogas production.

### 3 *Construction methods*

The location of LNG production is, of course, dependent on the location of gas reserves. Accessibility to the location itself as well as access to adequate local services, capabilities and manpower also strongly affect which players are likely to be involved in each LNG project. There are two main construction methods: Modular construction uses standardized liquefaction modules and is most relevant for LNG plants in remote areas. Modules are pre-assembled and then shipped to the site to decrease costs, lower

complexity and shorten construction timeframes. Meanwhile, for sites that are more accessible and with greater local capabilities, or too large for modular construction, a stick-built approach will see most elements constructed on site.

**4 Decarbonization of LNG plants**

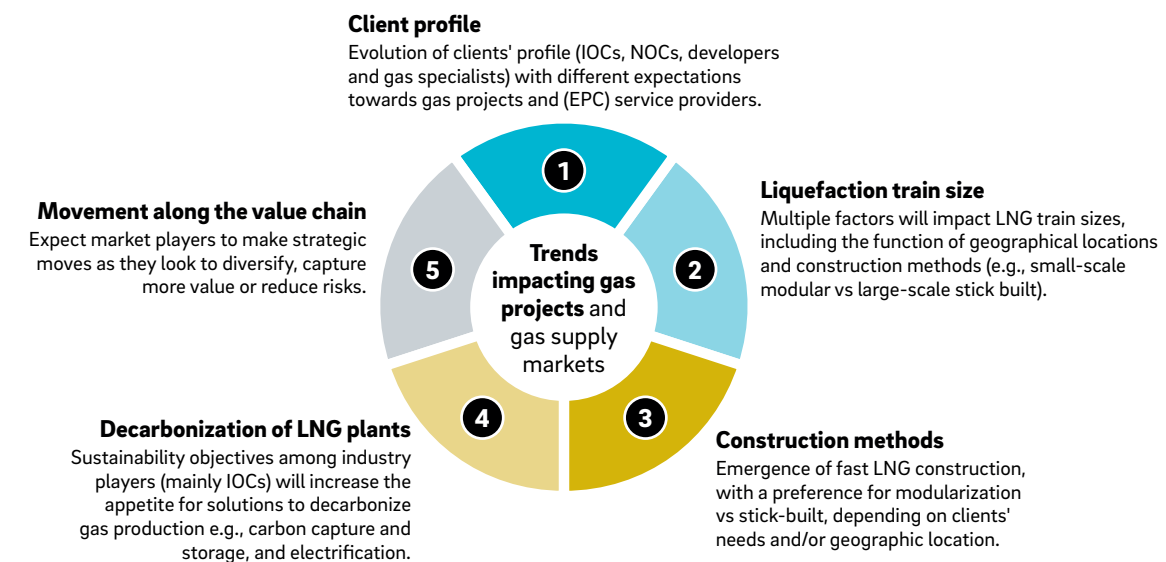
An increasingly important factor in new LNG projects, especially in countries with strict carbon-neutral commitments. Project owners and/or developers will need to implement solutions to lower a plant's CO2 emissions, typically through carbon capture or increased electrification.

**5 Movement along the value chain**

Because of their size, LNG projects typically involve myriad market participants. There is likely to be some movement among members throughout the value chain as they look to capture greater value, increase margins or decrease risk exposure.

## Five key trends for LNG market participants

Main trends impacting gas projects and gas supply markets



Source Roland Berger



• **Main gas production regions in focus**

**North America:** Gas production and investment in new LNG projects are expected to rise, with USD 10-20 billion of new projects expected each year until 2025. However, reaching FIDs in new LNG export projects still requires sufficient long-term offtake commitments for at least 10 years. This has been a sticking point for many proposed projects as buyers are less willing to make long-term commitments in an uncertain global gas market. The emergence of LNG trading hubs in areas such as Rotterdam, the US Gulf Coast or Singapore would reduce financing risk as alternative demand would be easier to find. However, this will take time.

Both Western Canada and Mexico are expected to enter the LNG market in the next five years. At least one LNG export project in British Columbia is proceeding with development, while one or two pre-FID projects on the northwest coast of Mexico would export gas produced in the US southwest to Asia.

We expect LNG trading routes to change, with eastern US exports serving Europe, and exports from Australia and the Middle East serving South and East Asia. By 2027, around a quarter of US gas is forecast to be exported as LNG – a major increase given it is typically used to meet local demand.

**Middle East:** The region will see USD 10-20 billion of FIDs for gas production and LNG projects each year through 2028. However, the current pipeline of announced projects seems insufficient to meet forecast production levels in the area. With that in mind, new project announcements are expected. Many of these will be in Qatar, the Middle East's main gas exporter. After a long moratorium, it is now expanding LNG production in the world's largest non-associated gas field, with Qatar Energy already awarding contracts for new trains.

Elsewhere in the region, Saudi Arabia and the United Arab Emirates, which produce somewhat sour gas, are also moving ahead with expansion plans. These supplies will mostly be used to meet growing demand among local industries. And sustainability is becoming increasingly important for national oil companies in the Middle East, particularly in terms of CO<sub>2</sub> emissions and methane leakage. Expectations and regulations in the region are now largely in line with those in the US, EU or Asia.

**Asia-Pacific:** Demand for gas and LNG is expected to rise for three main reasons: the continued switch from coal to gas; local growth in energy-intensive manufacturing; and increased demand in China after Covid lockdowns. Nevertheless, overall gas production levels in the region are expected to remain largely unchanged. As a result, LNG imports from the Middle East and Africa are likely to rise significantly.

## • **Five steps to seize upcoming opportunities**

Companies throughout the value chain can benefit from increased investment in gas and LNG markets. Individual project characteristics will vary, but by taking the following five steps, the likes of engineering firms, EPC companies, project developers, infrastructure investors, equipment suppliers and service providers can seize upcoming opportunities.

### **1 (Re)assess strategy and positioning:**

Consider the entire project value chain and investigate potential expansion or contraction of roles to capture market share, increase margins or better control delivery risk.

### **2 Revisit commercial offerings:**

This can help to address different market segments depending on geography or project size.

**3 Investigate partnerships, investments and divestments:**

Any or all of these may support changes in strategy or commercial offerings.

**4 Adjust the operating model:**

Any changes made in line with points 1-3 above should be reflected throughout the operating model to ensure effective delivery of activities.

**5 Consider new decarbonization markets**

Some emerging areas in the energy sector, such as blue hydrogen (produced using natural gas) and carbon capture, leverage similar capabilities to gas management and are expected to boom in the coming decade.

***Further reading***

- ➔ [BOLD ACTION NEEDED TO DRIVE GLOBAL ENERGY TRANSITION](#)
- ➔ [EUROPE ENERGY TRANSITION READINESS INDEX](#)
- ➔ [EV CHARGING INDEX: GEOPOLITICAL TURMOIL AND ECONOMIC DOWNTURN FAIL TO DAMPEN EV MARKETS](#)

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