



# **Fifth IEF KAPSARC Thought Leaders' Roundtable**

**The role of efficiency and innovation  
in investment challenges**

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# Gas Exporting Countries Forum (GECF)

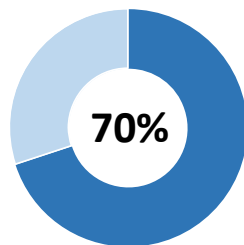


## MEMBERS

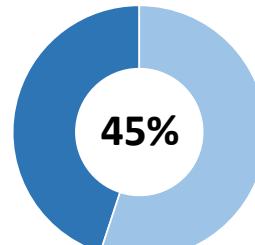
- Algeria
- Bolivia
- Egypt
- Equatorial Guinea
- Iran
- Libya
- Nigeria
- Qatar
- Russia
- Trinidad and Tobago
- United Arab Emirates
- Venezuela

## OBSERVERS

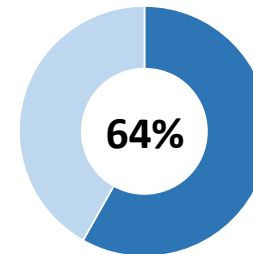
- Azerbaijan
- Iraq
- Kazakhstan
- Norway
- Oman
- Peru



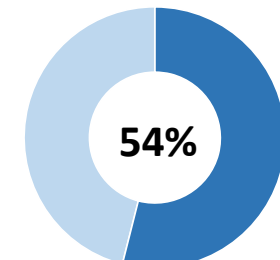
Gas Reserves  
(144 Tcm)



Gas Production  
(1,650 Bcm)



Pipeline Gas Exports  
(447 Bcm)



LNG Exports  
(156 Mt)

# Mode of natural gas exports and the new business models

## Options for monetizing gas reserves

	Domestic market	Pipeline exports	LNG exports
Starting investment	Depends on domestic infrastructure in place	High	High
Liquidity	Varies	Zero, except Europe	Maximum
Geopolitical hurdles	Absent	Very likely	Unlikely
Margin	Low and regulated	Market price, premium to domestic market	Market price, premium to domestic market

New approaches to financing

- Offtakers provide equity financing for the project, or the project goes for equity participation and caters to market undedicated volumes afterwards.
- A different pricing model is used, as the LNG and feed gas providers are not integrated.
- Offtakers are portfolio players that sign up for the undedicated volume, intending to market it as part of their global portfolio

# Challenges for investments in the gas industry

## Security concerns stemming from unclear policies

- EU: continued change of gas market rules and design in the context of European liberalization and security of supply policies
- South Korea, Japan and France: policy uncertainty on the future role of nuclear
- India: still support to coal despite announced target to increase gas in the energy mix
- China and EU: uncertainties on the future role of carbon markets

## Lack of visibility in gas revenues

- Emergence of new gas transactions approaches with increasing pressure on long-term contracts and oil based indexation
- New gas pricing approaches expose gas project developers to large market fluctuations

## Funding issues

- Difficulties to secure funding for capital intensive gas projects due to high market risks (e.g. visibility on gas revenues, increasing complexity of projects in some areas)
- Financial institutions are moving away from funding oil and gas projects (e.g. World Bank)

## Geopolitics and sanctions

- Geopolitical tensions in key supply regions
- Increasing sanctions constrain sponsors from accessing markets and investing in valuable gas opportunities

# Investing in operational efficiency and innovation is key to deal with investment challenges



Developing more efficient and diversified gas supply chains

- Application of enhanced recovery techniques to increase gas production
- Implementation of best practices (e.g. digitalization) to optimize gas operations
- Developing strong partnerships to enhance operational efficiency and unlock gas resource potential
- Investing in diversification of gas supply routes (e.g. through an efficient LNG supply chain)

Improving competitiveness of natural gas

- Exploiting the potential synergies between various gas assets (e.g. synergies in terms of logistics and procurement)
- Improving energy efficiency of equipment and application of energy management standards
- Improving the economics of gas projects by integrating cost reductions at the conception and realization stages
- Considering monetization of gas in potential industrial sectors

Implementing innovative technologies

- Supporting gas-based technologies in the transport and petrochemical sectors (e.g. reforming of methane)
- Reinforcing complementarity between natural gas and renewables (e.g. hybrid gas-solar technologies)

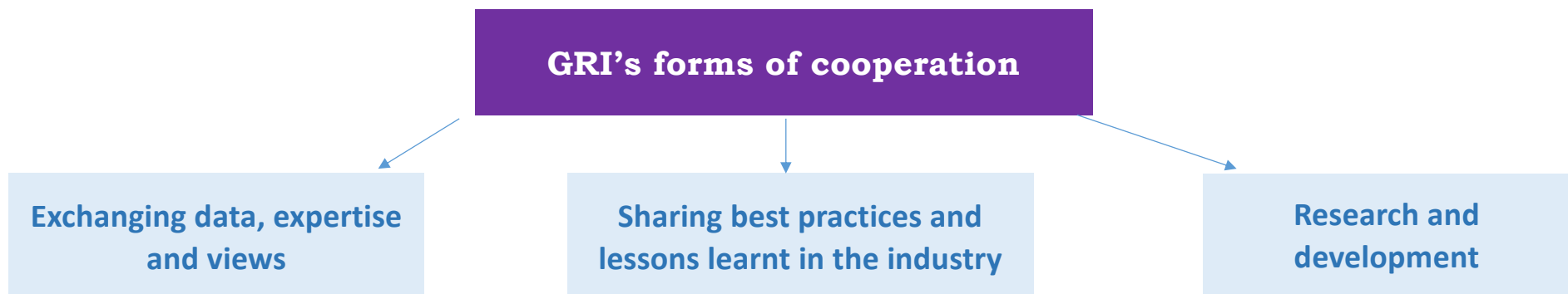
Dealing with environmental concerns

- Applying best practices to reduce methane leakages and gas flaring
- Implementation of CCS projects

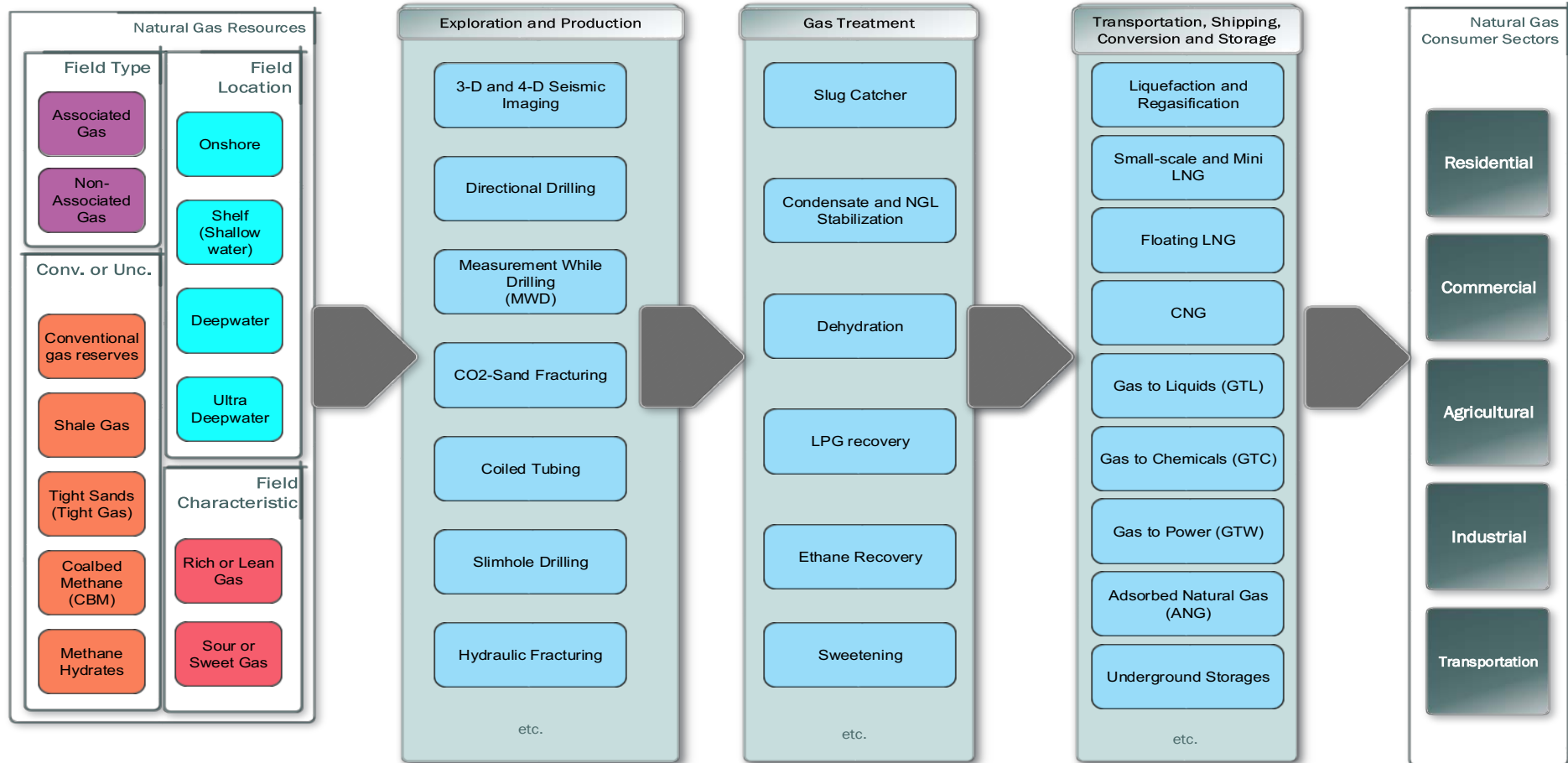
# Gas Research Institute: unlocking the full potential of gas through technological innovation

**Tehran Declaration** (the 3<sup>rd</sup> Gas Summit of The Heads of State and Government of GECF Member Countries, November 23, 2015, Tehran, Iran): To “enhance and strengthen cooperation, coordination and exchange of views among Member Countries and all stakeholders in the industry to achieve the GECF objectives, inter alia through the creation of a **GECF Gas Research Institute**, subject to satisfactory feasibility study result, recalling that the location of the Institute shall be in Algeria, as well as cooperation in the fields of technology, logistics, management and development of human resources in order to promote efficiency, innovation, technology transfer and international best practices”.

**Declaration of Santa Cruz de la Sierra** (the 4<sup>th</sup> Gas Summit of The Heads of State and Government of GECF Member Countries, November 24, 2017, Santa Cruz de la Sierra, Bolivia): To “strengthen and improve the analysis, technology transfer, training, research and development of the gas industry, through cooperation and coordination among GECF Member Countries, in particular through the **Gas Research Institute** in Algeria”.



# GECF Reference Natural Gas Technology Map



# Sanctions impair sustainable gas supply and investment: the response is advanced mechanisms of cooperation

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**Unilateral economic sanctions imposed outside UN mechanisms are a political problem with economic consequences consumers, including global disruptions of sustainable gas supply chain:**

- Restriction of funding for the investment projects by sanctioned entities – market-based consumer-producer cooperation is needed to avoid funding bottlenecks.
- Access restrictions to technological imports and engineering expertise. The GECF is developing the Gas Research Institute in Algeria to share best practices in technology and innovation.
- Continued change of gas market rules and design in the context of European liberalization and security of supply policies.

**GECF Members** possess more than adequate technological and financial potential that could be used for the common good. Advanced mechanisms of cooperation between GECF Members can significantly smooth the negative effect of sanctions both on producers and consumers.



## Conclusion

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- Natural gas faces important investment challenges that hinder the development of sustainable supply
- Gas reserves are ample and there is capacity to meet growing global energy needs
- The GECF is working with our Member Countries to improve innovation in natural gas technologies through the establishment of the GECF Gas Research Institute (GRI) in Algeria, as well as through the development of alternative scenarios for forecasting technological developments along the natural gas supply chain
- To overcome investment challenges, GECF is strongly promoting cooperation and dialogue between gas producers and consumers

Thank You!