



**GECF**

## **Introductory Keynote: Perspective on gas supply, demand, and investment**

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Gas Exporting Countries Forum (GECF)

Wednesday 19 February 2020

IEF Headquarters

Riyadh, Saudi Arabia

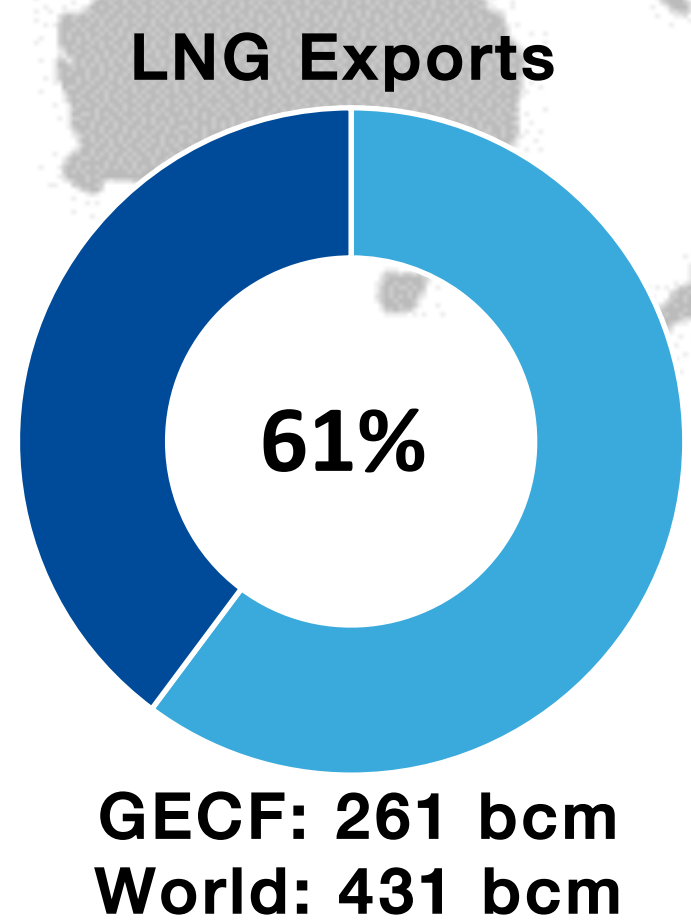
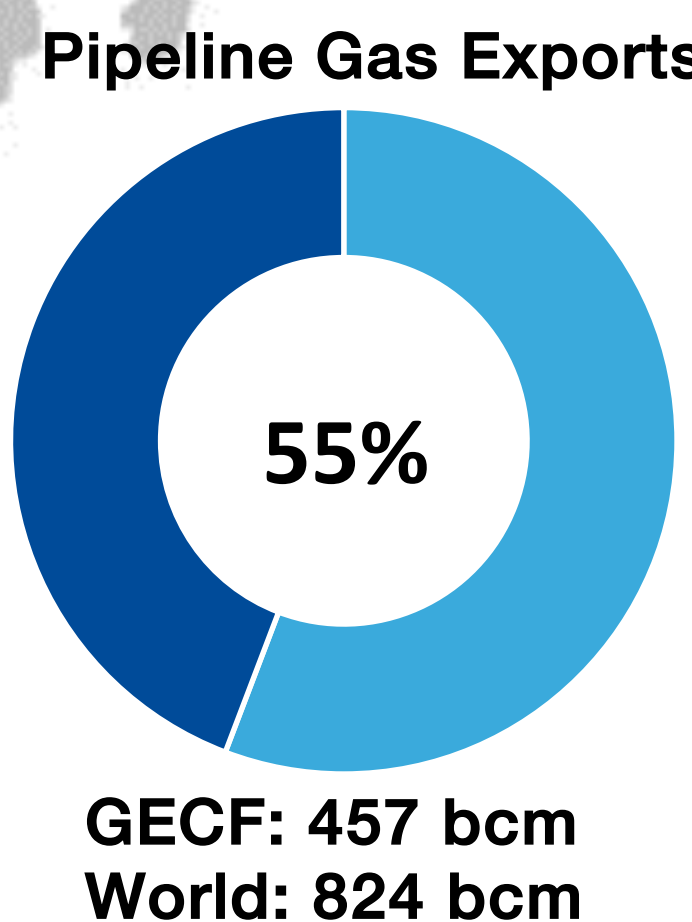
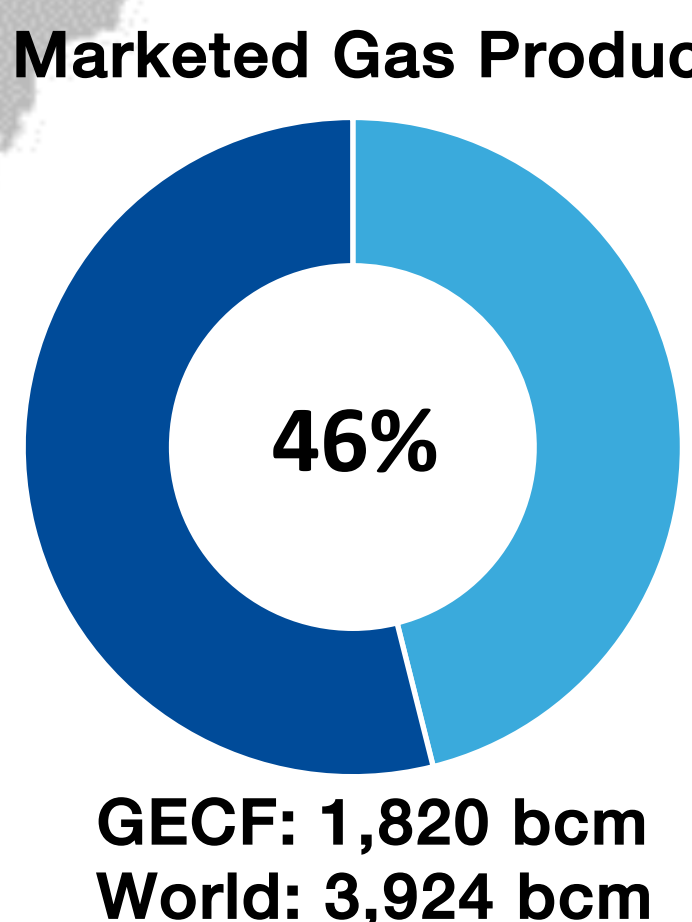
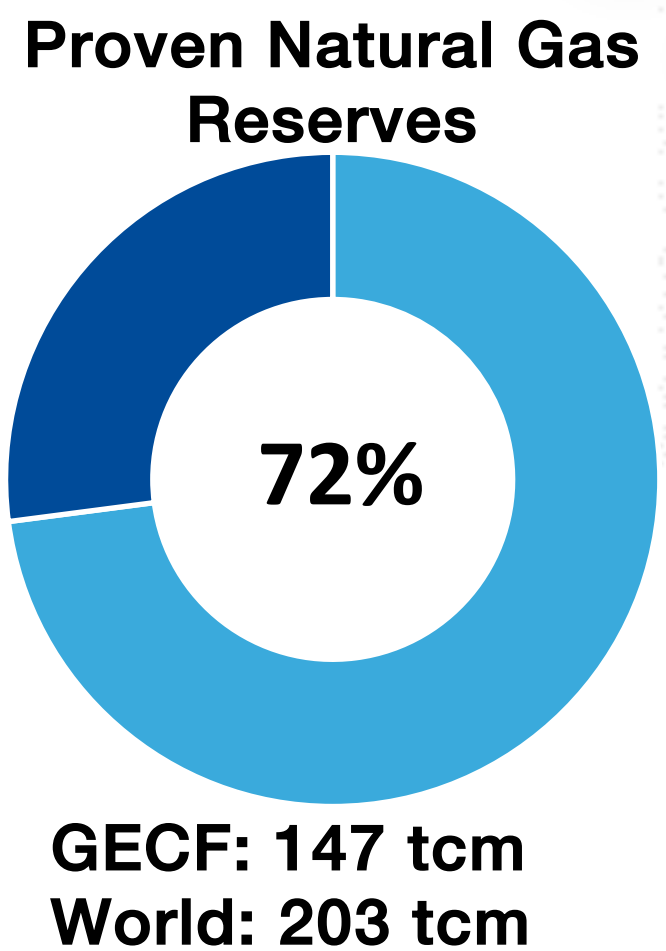
# Gas Exporting Countries Forum

## MEMBERS

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

## OBSERVERS

-  Angola
-  Azerbaijan
-  Iraq
-  Kazakhstan
-  Malaysia
-  Norway
-  Oman
-  Peru
-  UAE



Source: GECF Secretariat based on data from the GECF GGM



# Declaration of Malabo

## Fifth Summit of Heads of State and Government of the GECF Member Countries

### Natural Gas: Energy for Sustainable Development

“ ... The essential role of natural gas in the attainment of UN Sustainable Development Goals, in particular Goal 7, as an environmentally friendly, affordable, reliable, accessible and flexible natural resource for ensuring economic development and social progress.

Determination to strengthen global energy security as reliable suppliers of natural gas to meet the world’s growing energy demand.

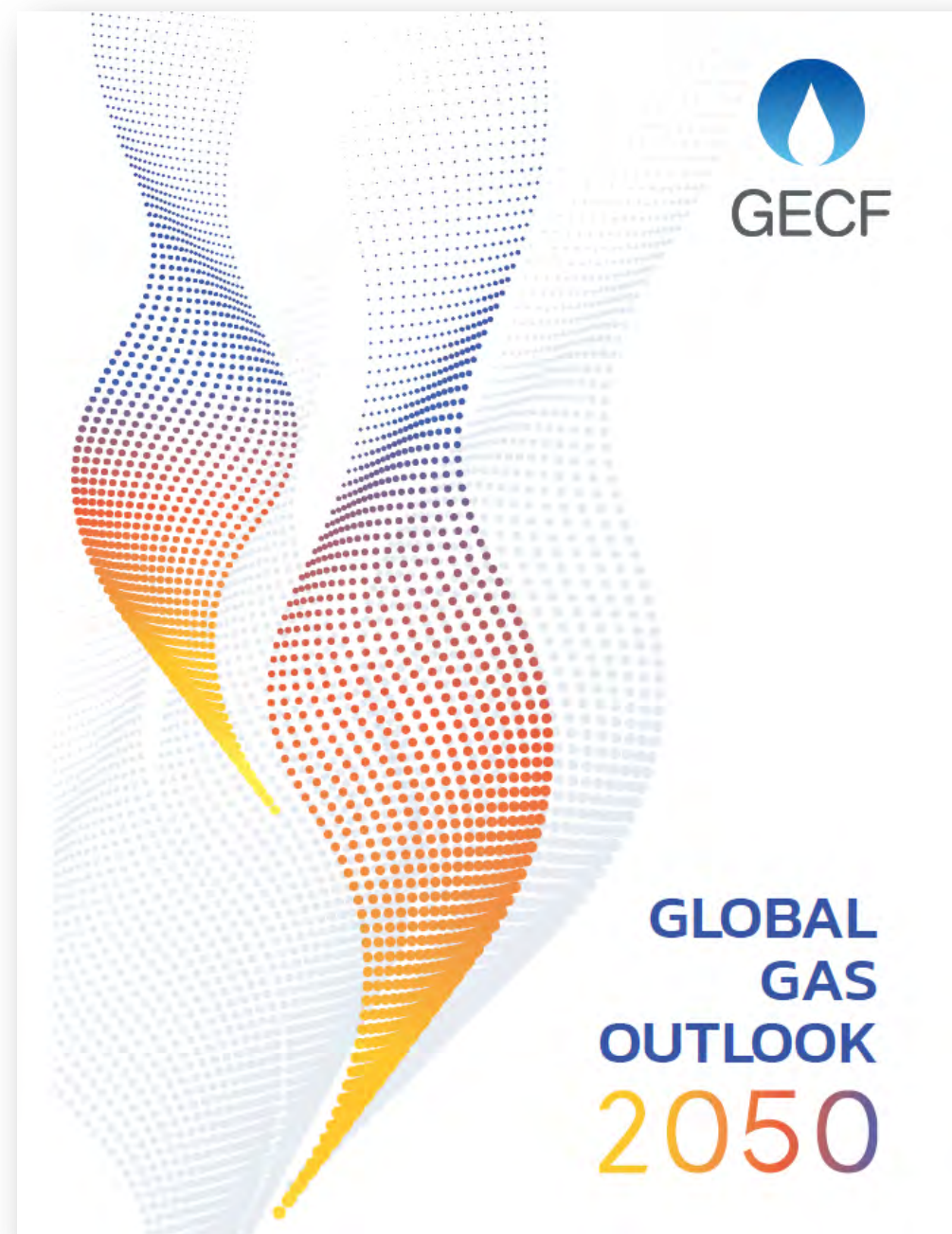
The importance of fair value for natural gas in order to ensure sufficient investments through the entire gas value chain and the necessity for equitable risk sharing among all gas market stakeholders to sustain the security of demand and supply of natural gas.

The importance of coordination and cooperation among GECF Member Countries and fostering dialogue between gas producing and consuming countries to ensure unimpeded functioning and stability of the gas markets.

The strategic role of the development, deployment and transfer of advanced technologies for more effective production and use of natural gas to enhance its economic and environmental benefits ...”



# GECF Global Gas Outlook 2050: updates and focus points



- Full Global Gas Model update
- Regional prioritization has extended to Asia, Africa and Latin America, given the pace of emerging markets and new opportunities for Member Countries' participation
- 134 Country level forecasts (113 detailed break downs and 21 simplified) with over 60 regional aggregates
- Complete energy balance estimates, covering 33 sectors and 35 fuels annually, from 1990 to 2050
- Accelerated energy transition scenario
- Greater attention was paid to the transportation sector for NGVs
- Ongoing consideration of climate policies and technologies for emissions mitigation

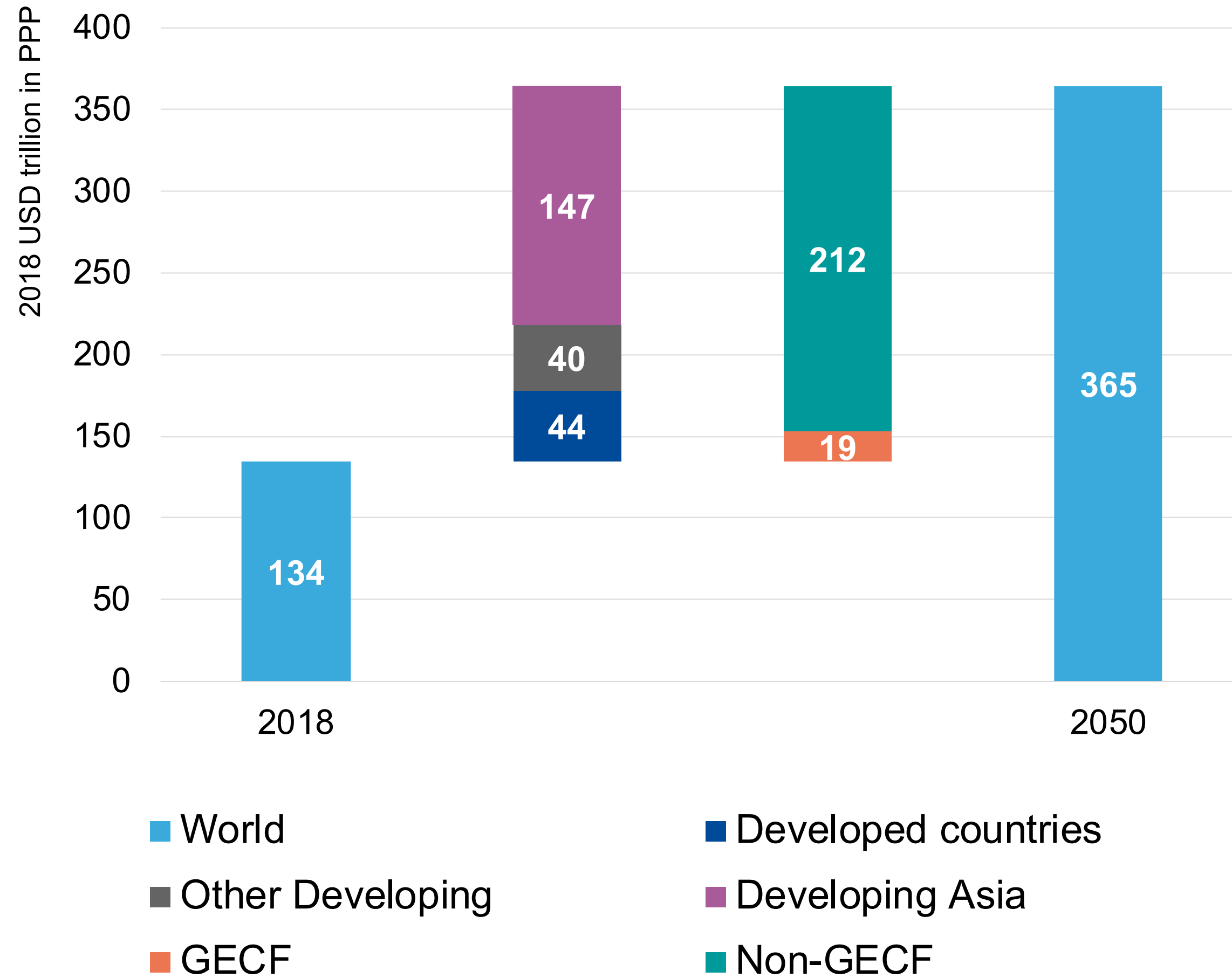
Full-version book for the GECF Member Countries

Synopsis version for general public

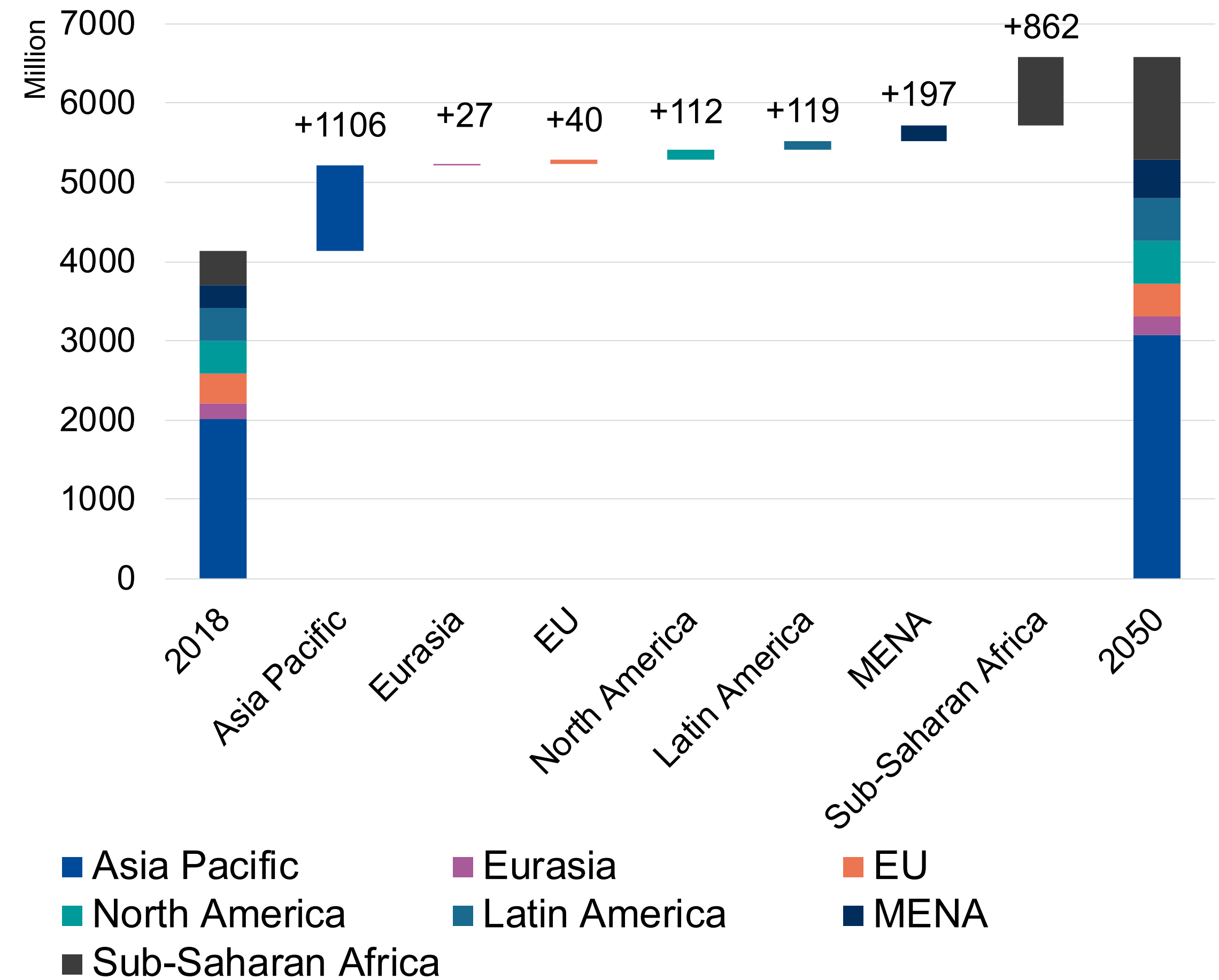
\* GECF takes a responsible approach, and this year GECF Global Gas Outlook 2050 publication is based on environmentally friendly options and sustainable solutions, incl. carbon neutral status of printing, Forest Stewardship Council Chain of Custody certified paper, non-conventional solvent free inks, carbon balanced paper logo and other environmentally friendly certifications

# GDP growth and population

## World long-term global GDP growth projections to 2050

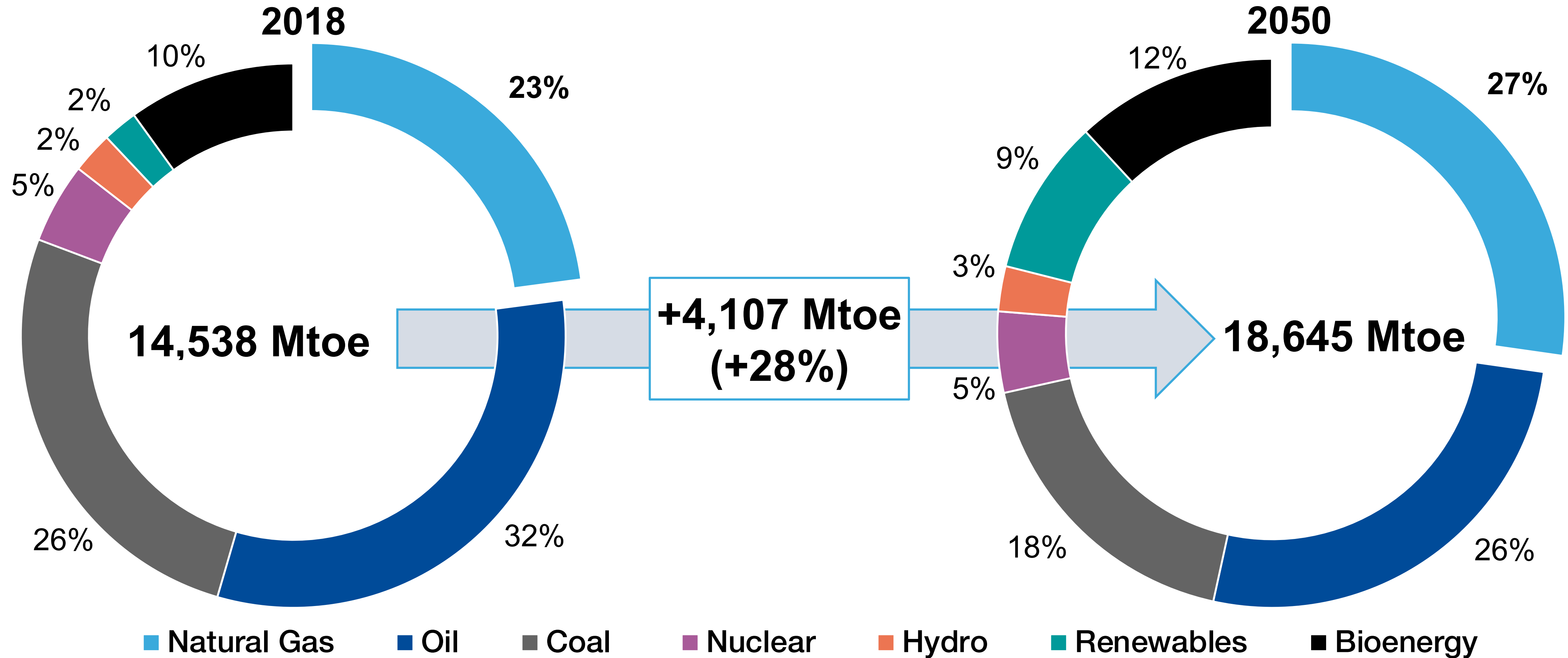


## Urban population



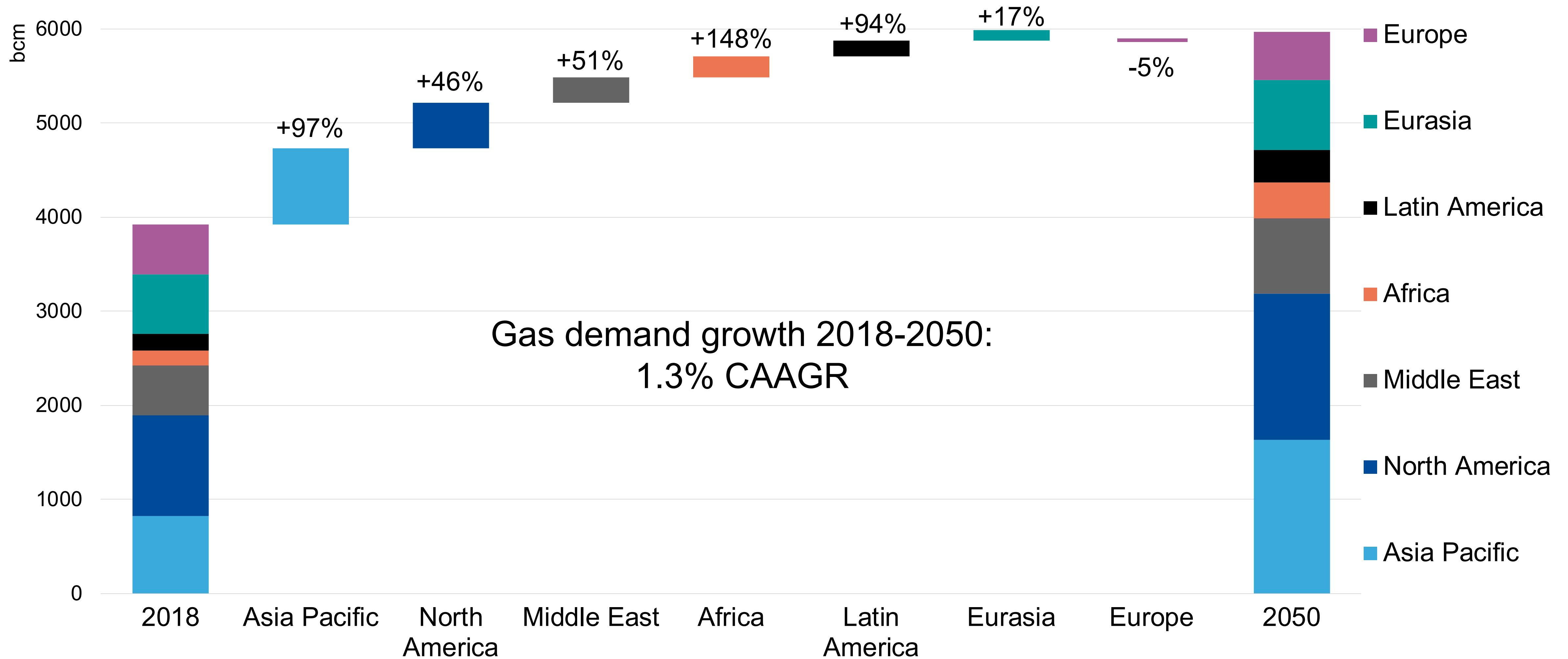
**The expanding urban population is expected to be a primary energy demand driver**

# World primary energy demand



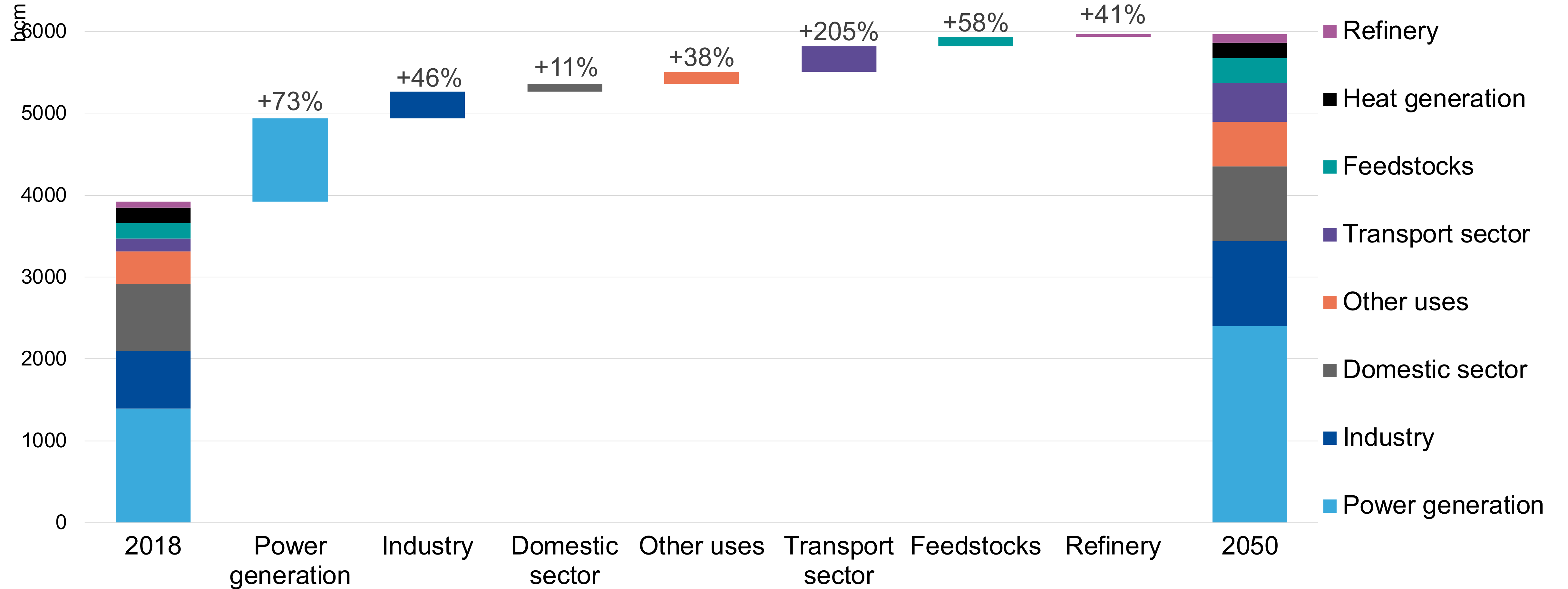
Natural gas is an essential element of the global primary energy mix:  
from 23% today to 27% in 2050

# Natural gas demand growth by region



**Global natural gas demand is expected to increase by about 52%, from 3,924 bcm in 2018 to 5,966 bcm in 2050**

# Natural gas demand growth by sectors

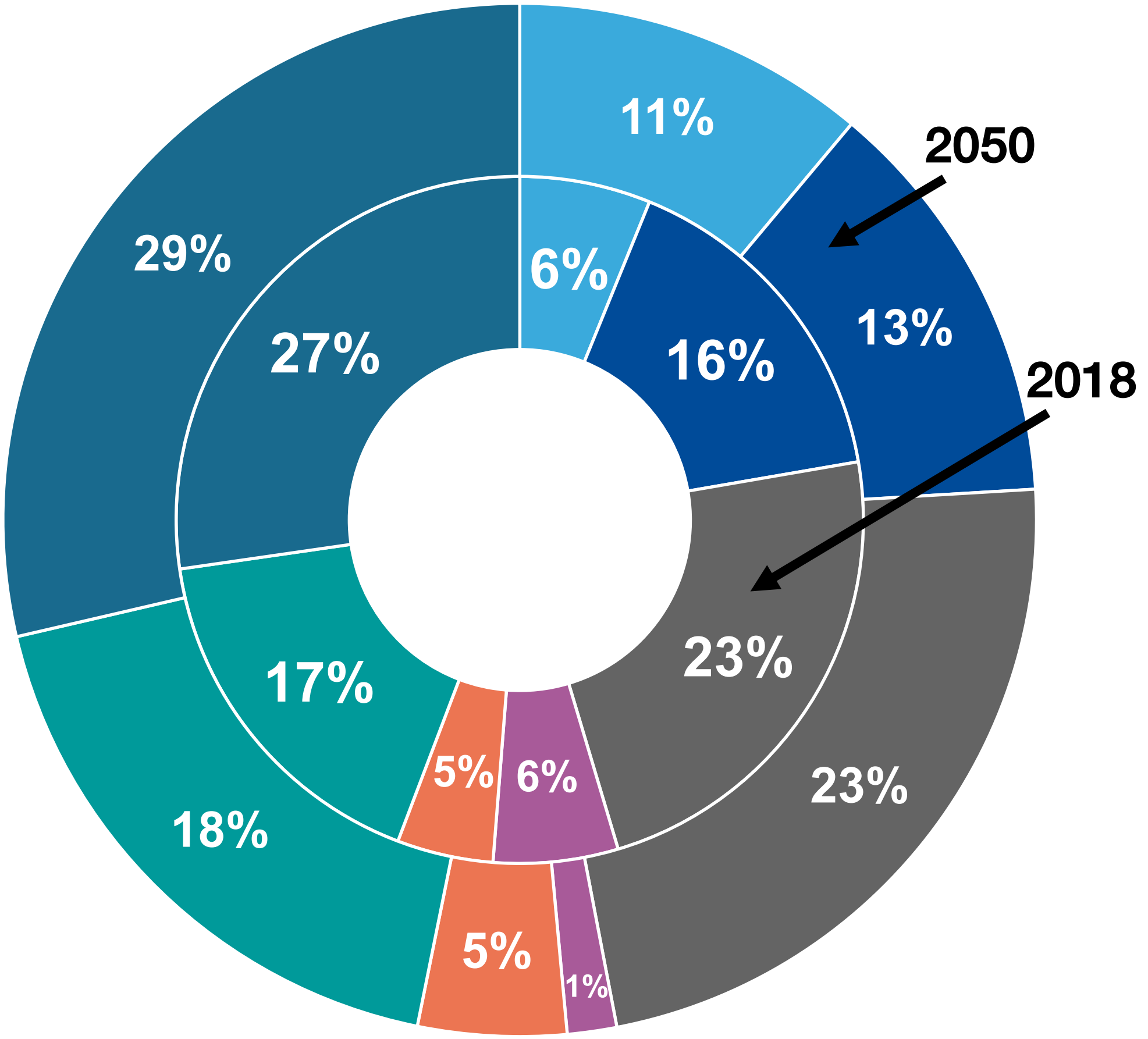
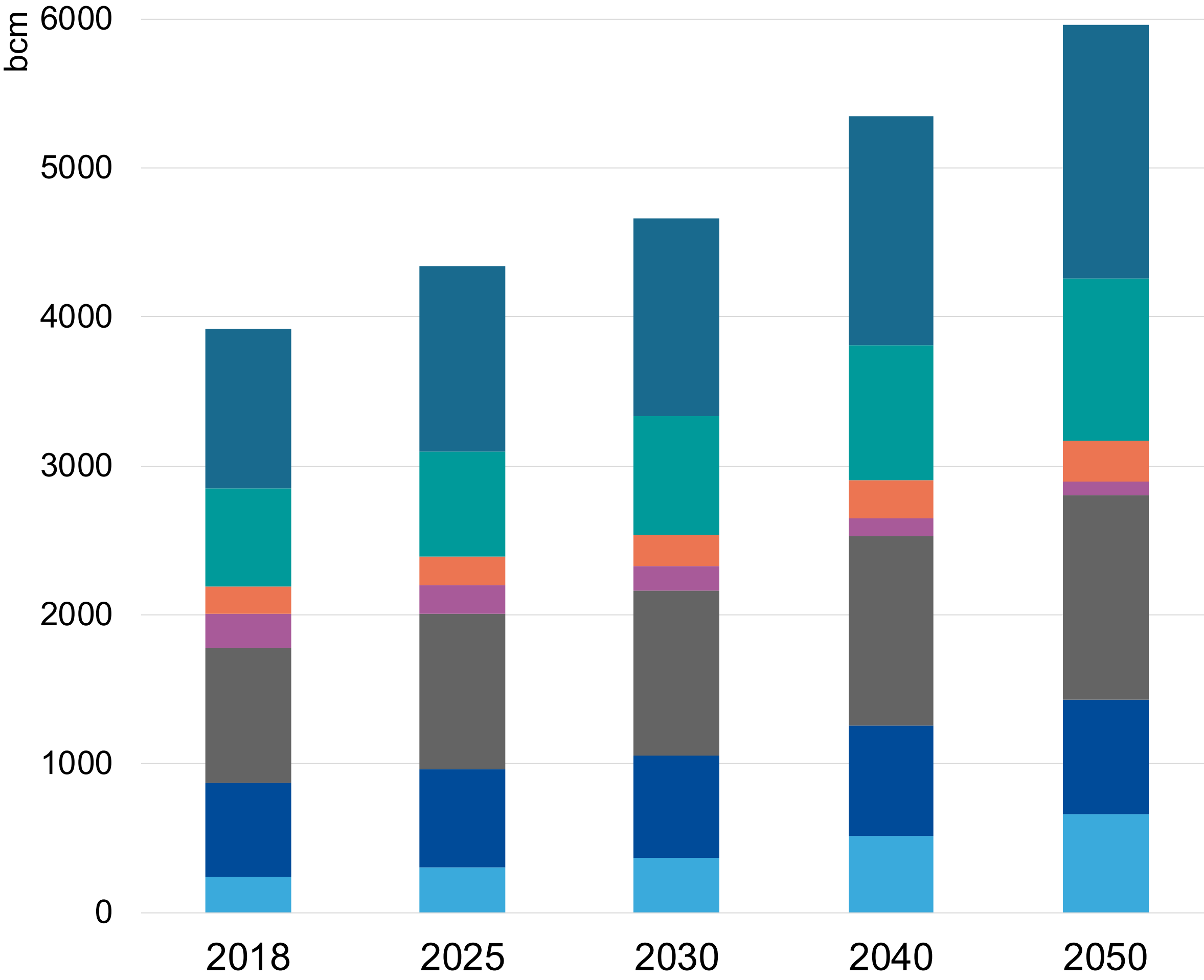


*Note: Domestic sector includes residential, commercial and agricultural segments  
 Other uses include natural gas demand for hydrogen production and energy industry own use  
 Gas demand in the heat generation sector is expected to remain flat*

**The power generation, industrial and transport sectors will be the largest contributors to incremental gas demand**



# Natural gas production by regions

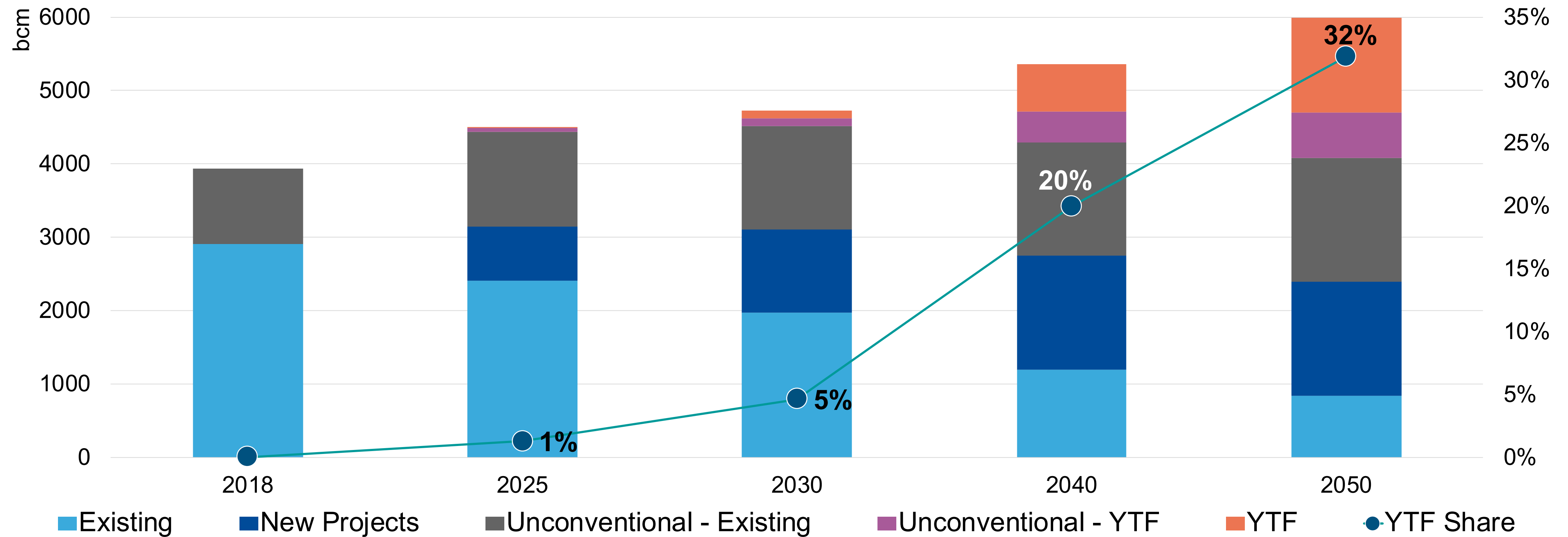
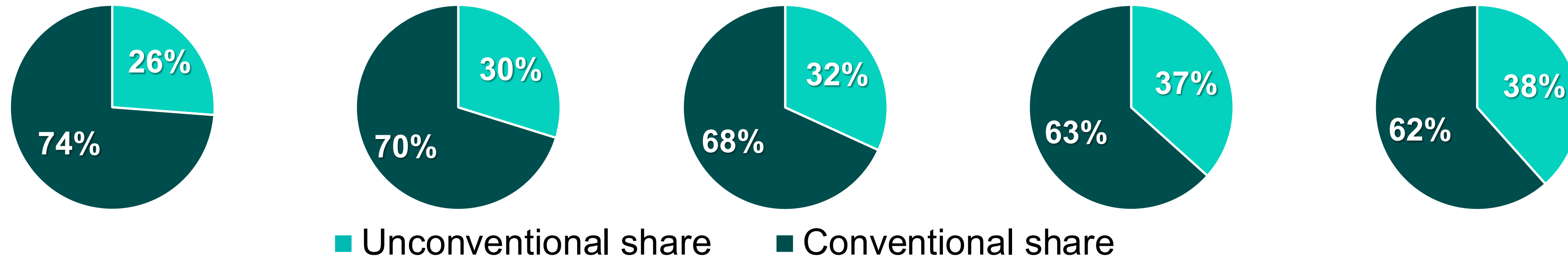


■ Africa   
 ■ Asia Pacific   
 ■ Eurasia   
 ■ Europe   
 ■ Latin America   
 ■ Middle East   
 ■ North America

**Natural gas production will expand to almost 6 tcm per year**



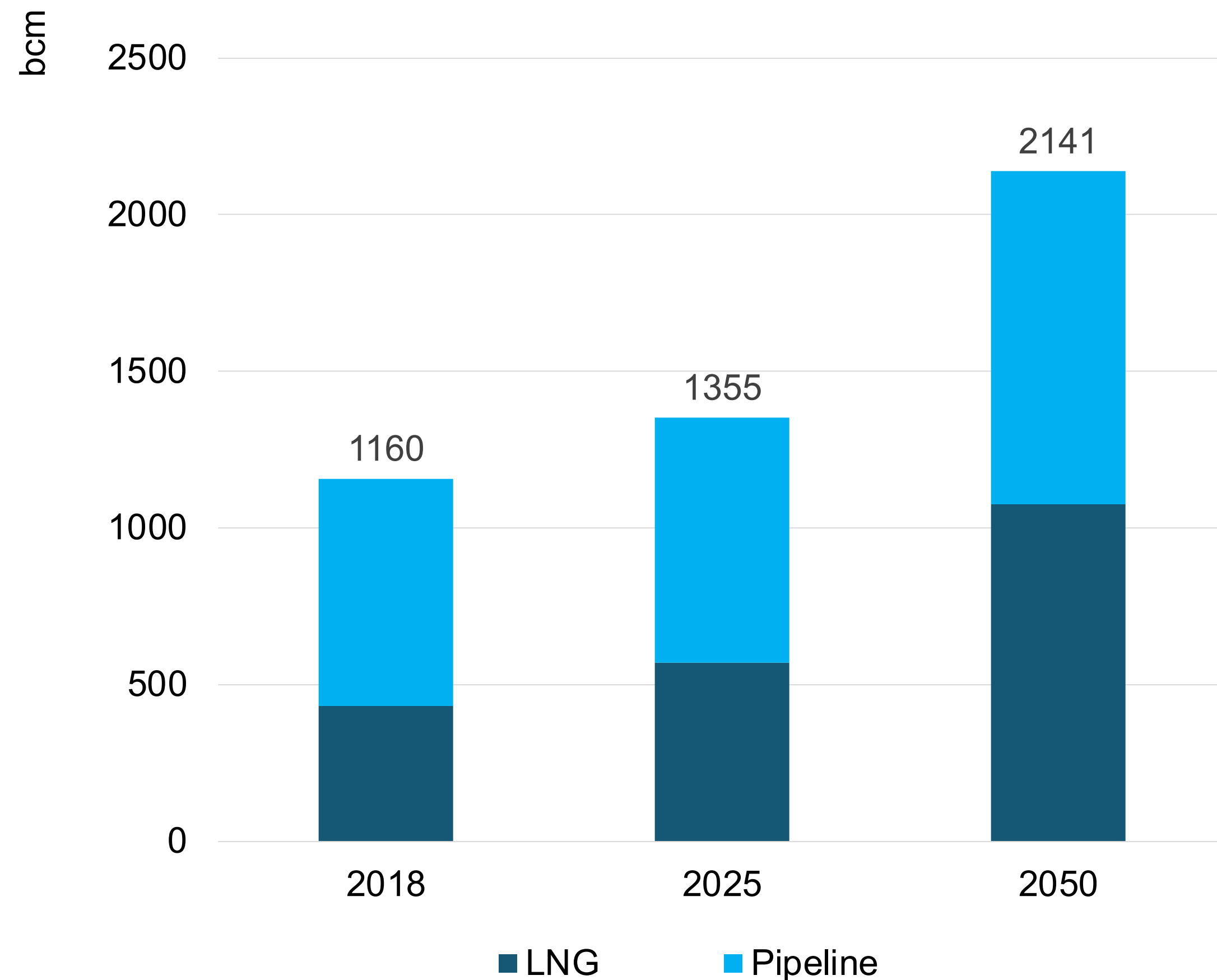
# Natural gas production by source



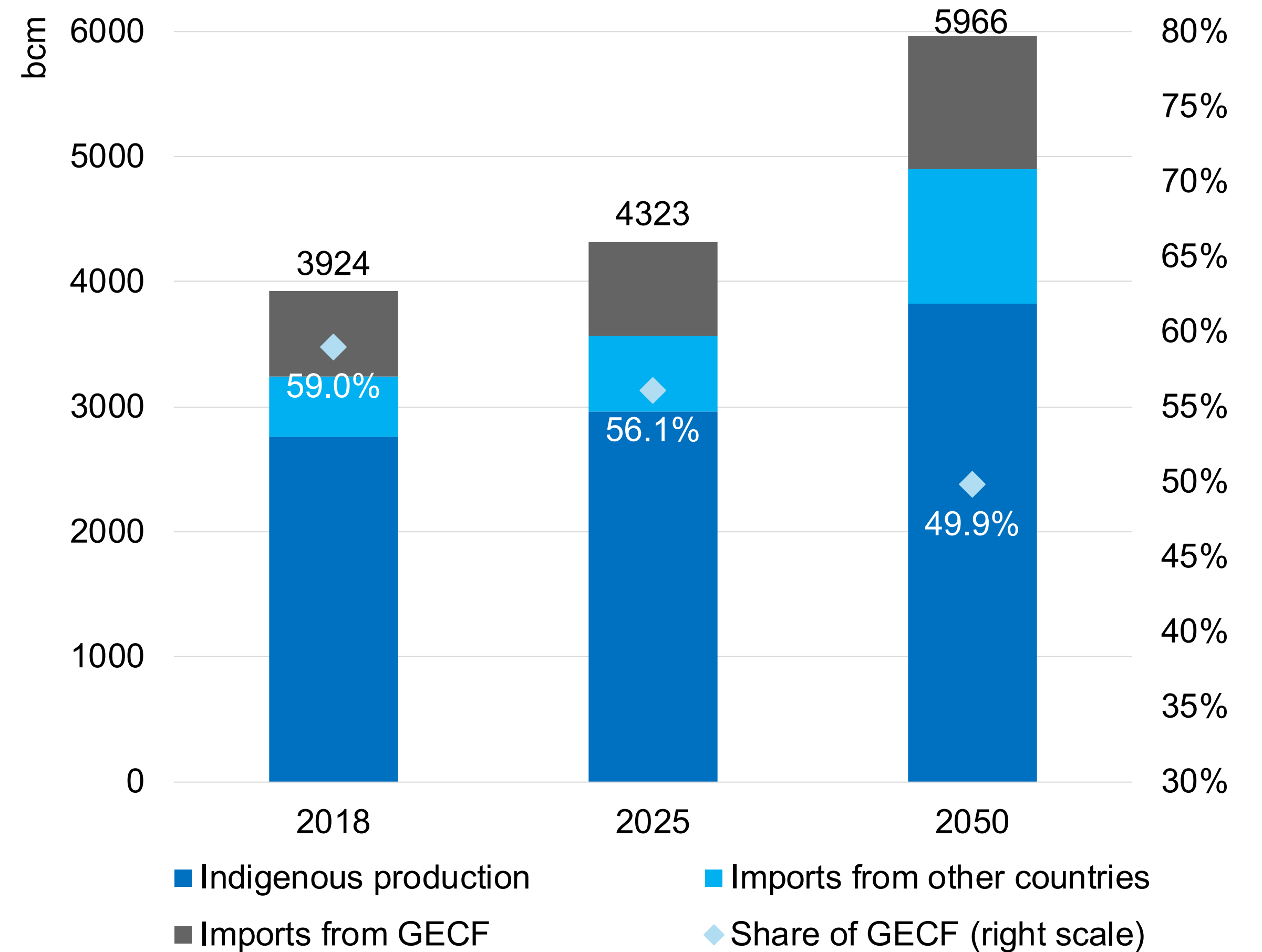
**Almost one third of global gas production will be from YTF resources by 2050, and unconventional resources will contribute to 38%**

# The global gas trade

## Global gas trade and share of LNG trade

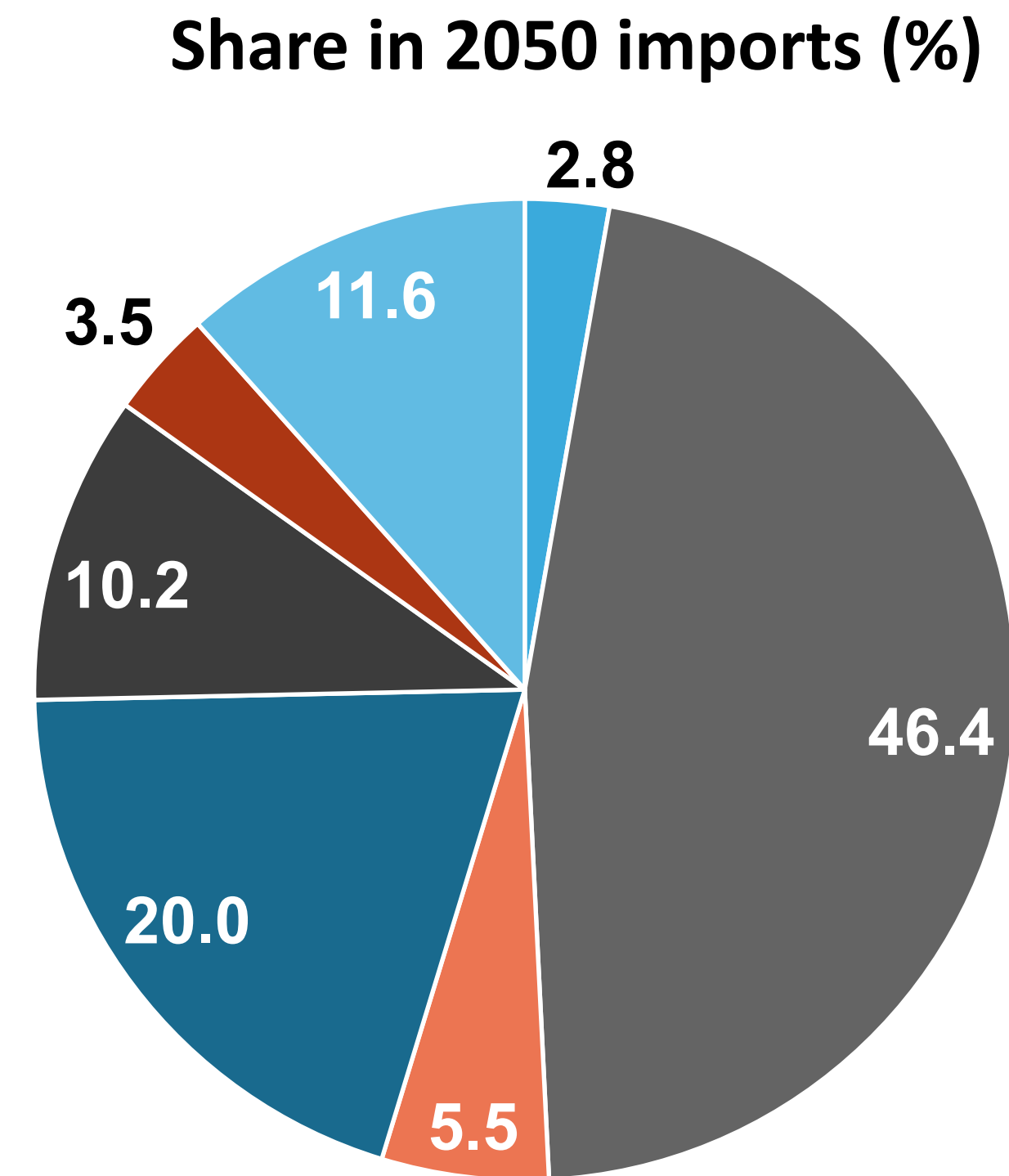
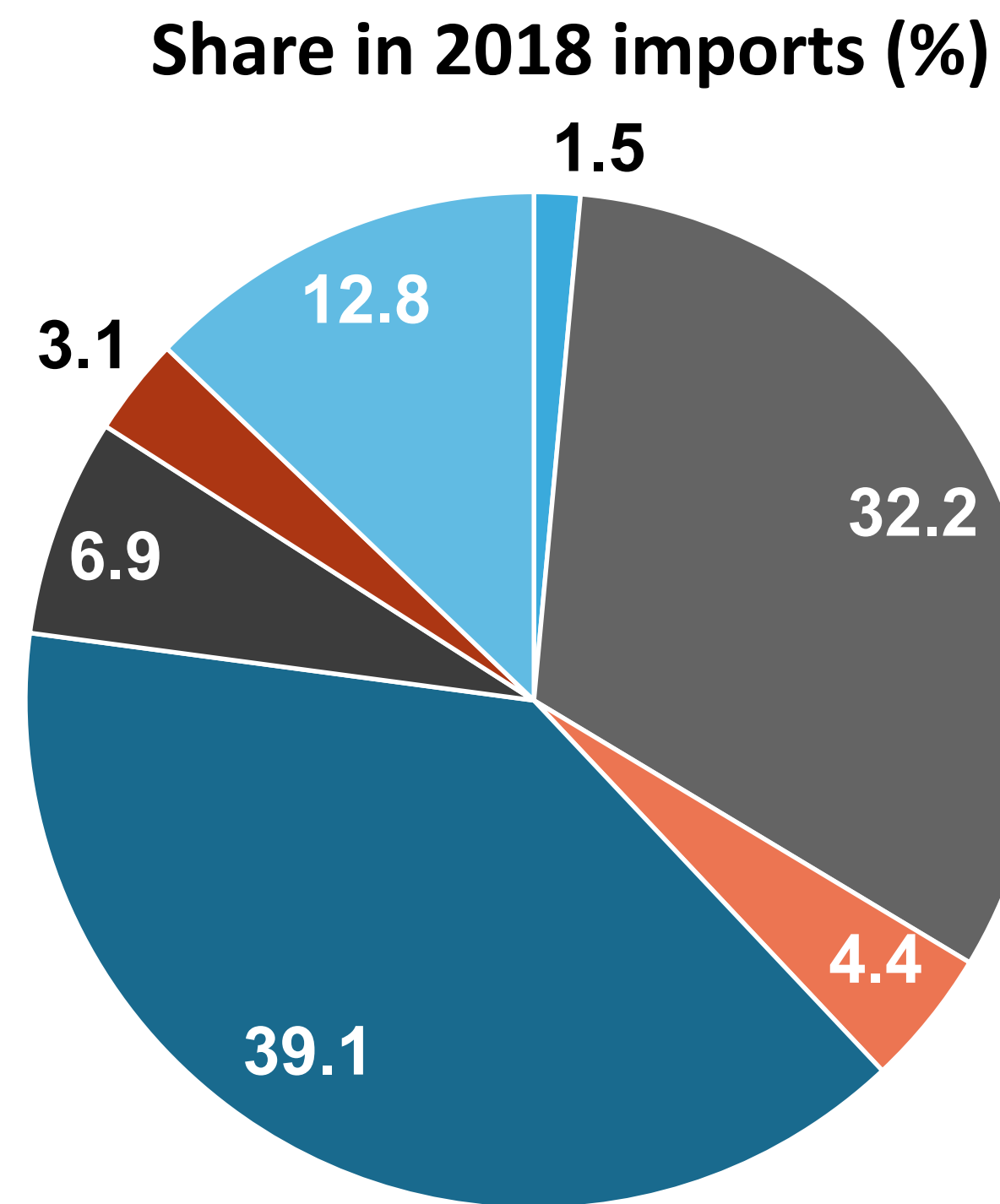


## Sources for global gas import



**The global gas trade by 2050 will increase by 85% to 2.1 tcm  
LNG trade would exceed pipeline trade**

# The global gas trade by region

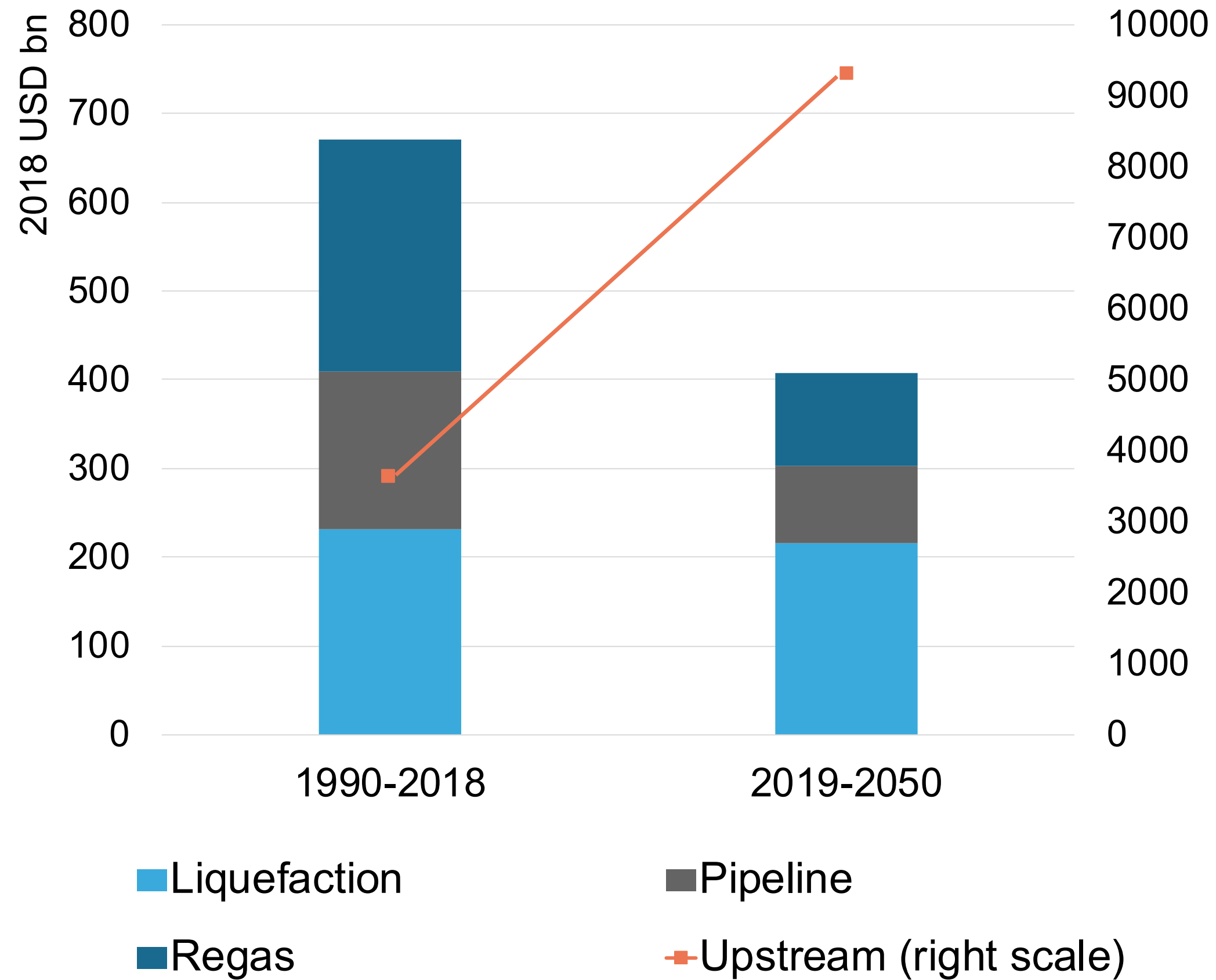


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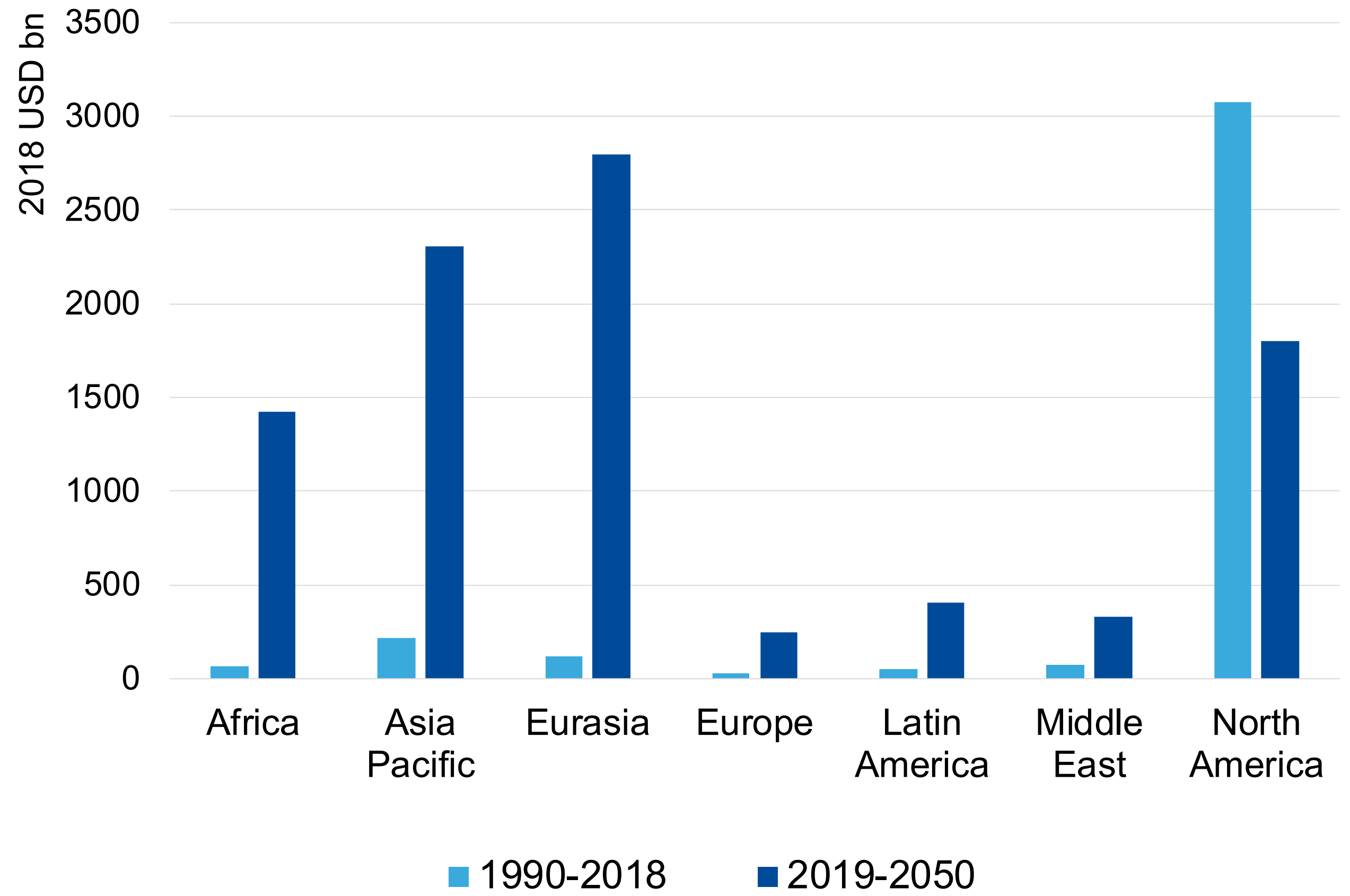
**Additional import: Asia Pacific, Latin America and Europe**

# Investments

## Global gas industry investment by purpose



## Regional structure of investment into production



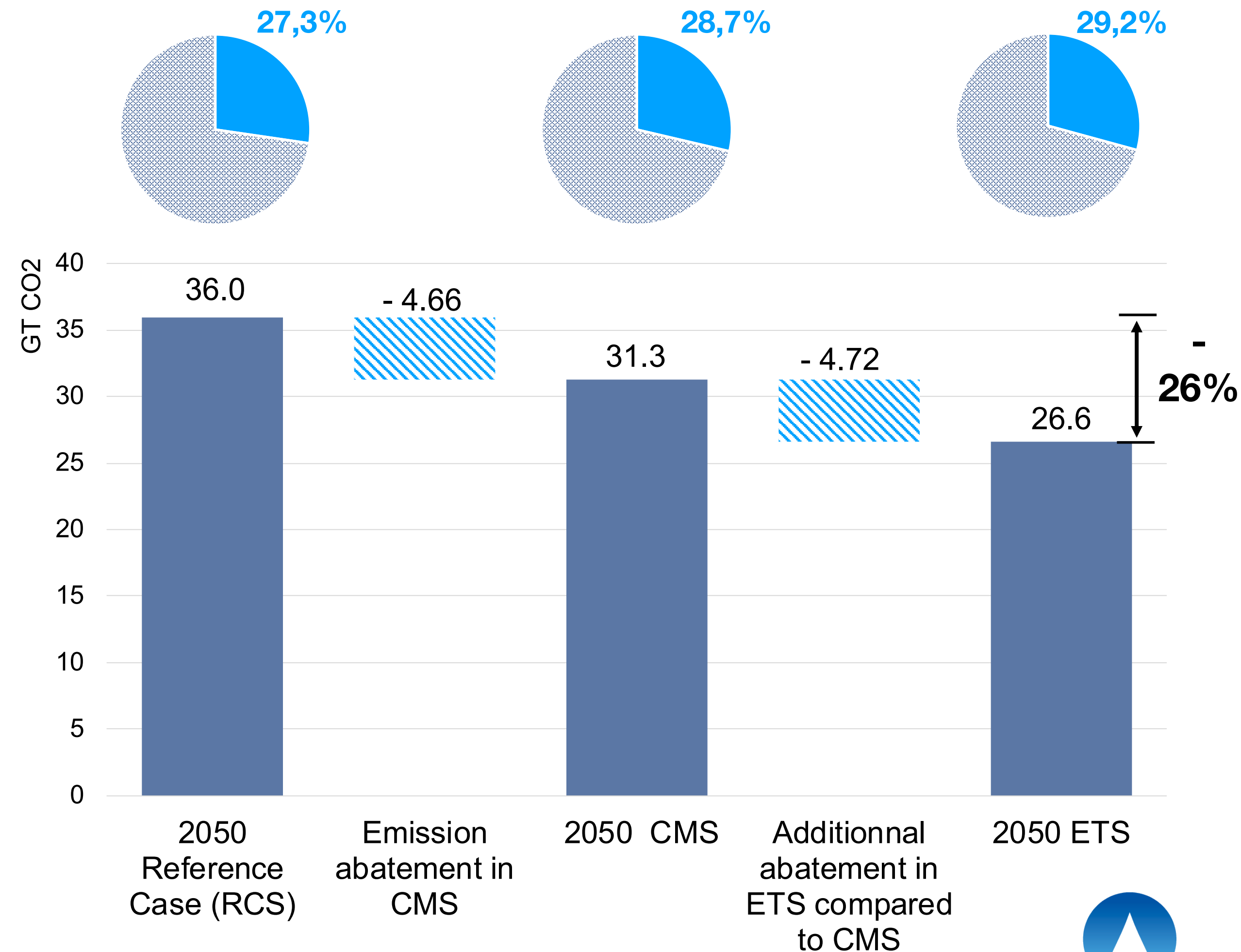
**The rise of unconventional in the upstream is a global driver for USD 9.7 trillion investment**



# GECF Alternative Scenarios: A potential of more than 26% emissions abatement in 2050, with increased role of natural gas

- The GECF recognizes the important challenges posed by the climate change.
- It investigates through alternative scenarios analysis the pragmatic and feasible carbon mitigation pathways.
- **Carbon Mitigation Scenario (CMS)** assesses the effects of strengthened carbon mitigation policies, while **Energy Transition Scenario (ETS)** builds on CMS and adds technology advancements.
- Considerable mitigation potential estimated at more than 26% reduction compared to the Reference Case, can be achieved **with increasing share of natural gas**.
- Further **decarbonization potential of gas** can be captured with larger progress of key technologies (e.g. CCUS, Hydrogen...).

2050 CO2 emissions (Gt CO2), and natural gas shares in the primary energy mix in the GECF scenarios (%)



# Conclusion

- Gas production continues to rise in almost all regions except Europe and becomes more diversified that will result in extended volume and varied type of trade
- Production from unconventional resources will become increasingly important. In addition, Yet-to-Find production will also be vital, highlighting the need for increased exploration and investment for new gas reserves
- Alternative scenarios analysis highlights a considerable carbon mitigation potential for natural gas, with reinforced policy actions and technology progress
- Outlook confirms the leading position of the GECF Member Countries, which have the largest share of natural gas resources in the world, in gas production and trade, and their willingness to develop these resources for the benefit of producers and consumers
- GECF determination to strengthen global energy security as reliable suppliers of natural gas to meet the world's growing energy demand
- The importance of fair value for natural gas in order to ensure sufficient investments through the entire gas value chain and the necessity for equitable risk sharing among all gas market stakeholders to sustain the security of demand and supply of natural gas