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Secretary General

Gas Exporting Countries Forum (GECF)

27 February 2019

The 9th IEA-IEF-OPEC Symposium on Energy Outlooks

Riyadh, The Kingdom of Saudi Arabia

Gas Exporting Countries Forum (GECF)

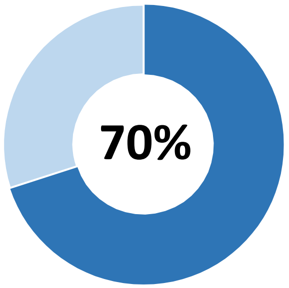
GECF

MEMBERS

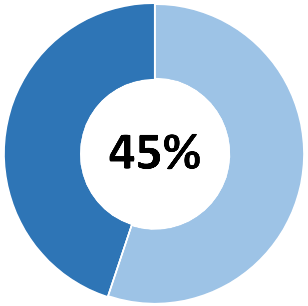
- Algeria
- Bolivia
- Egypt
- Equatorial Guinea
- Iran
- Libya
- Nigeria
- Qatar
- Russia
- Trinidad and Tobago
- United Arab Emirates
- Venezuela

OBSERVERS

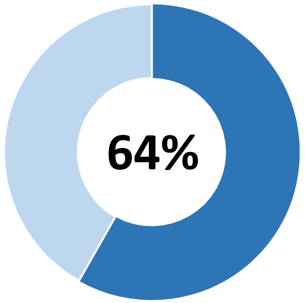
- Azerbaijan
- Iraq
- Kazakhstan
- Norway
- Oman
- Peru



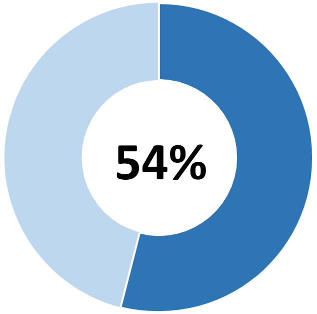
Gas Reserves (144 Tcm)



Gas Production (1,650 Bcm)

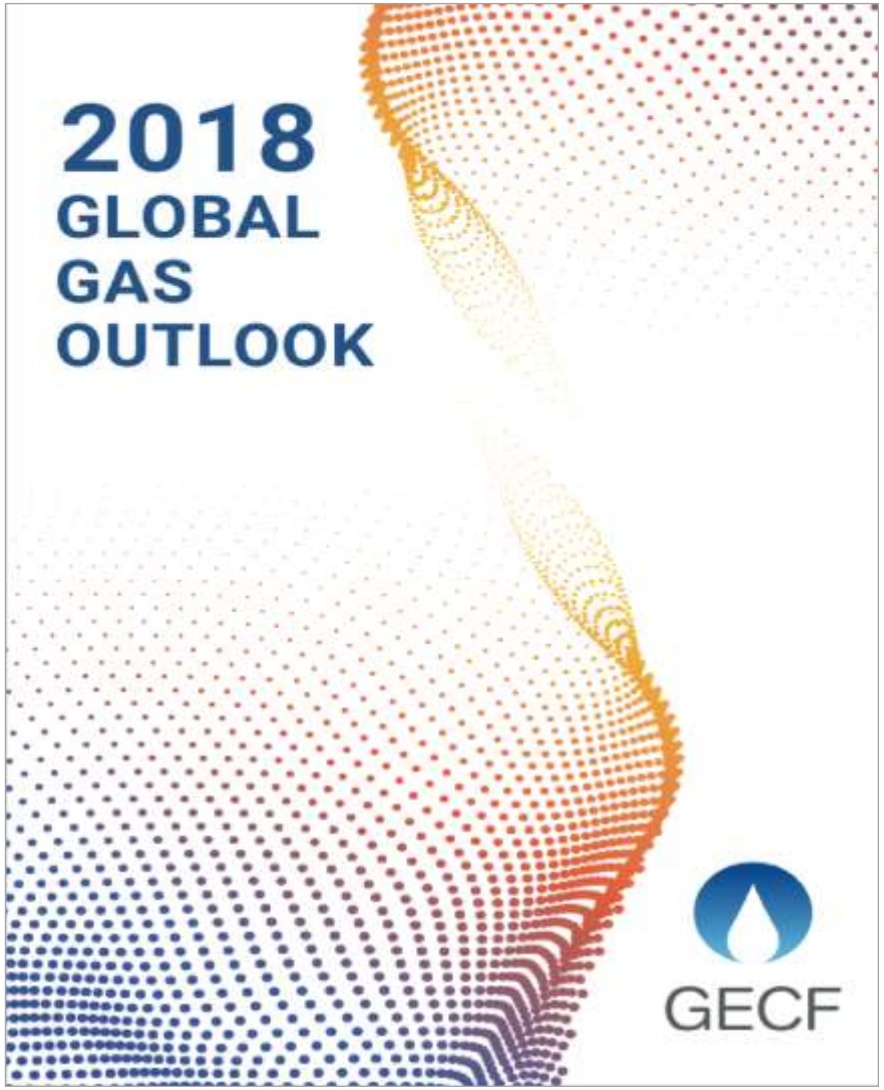


Pipeline Gas Exports (447 Bcm)



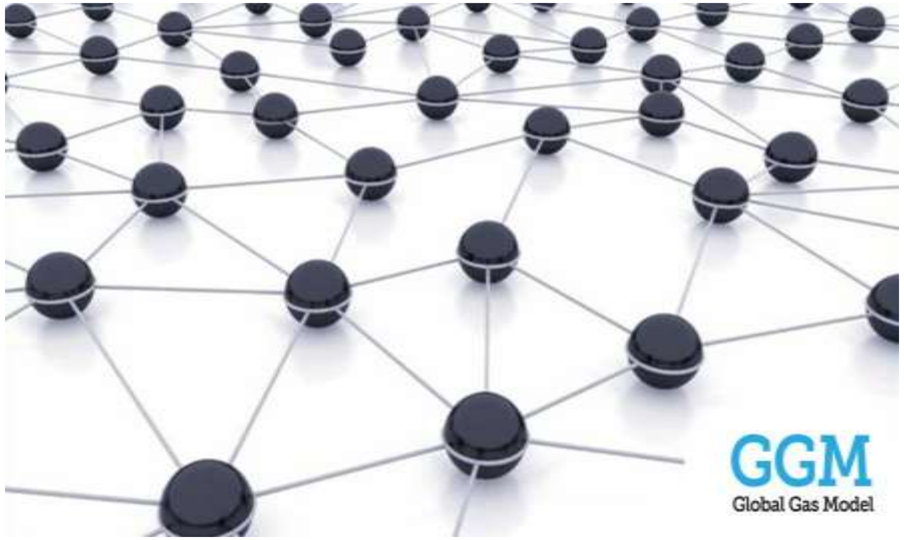
LNG Exports (156 Mt)

GECF Global Gas Outlook



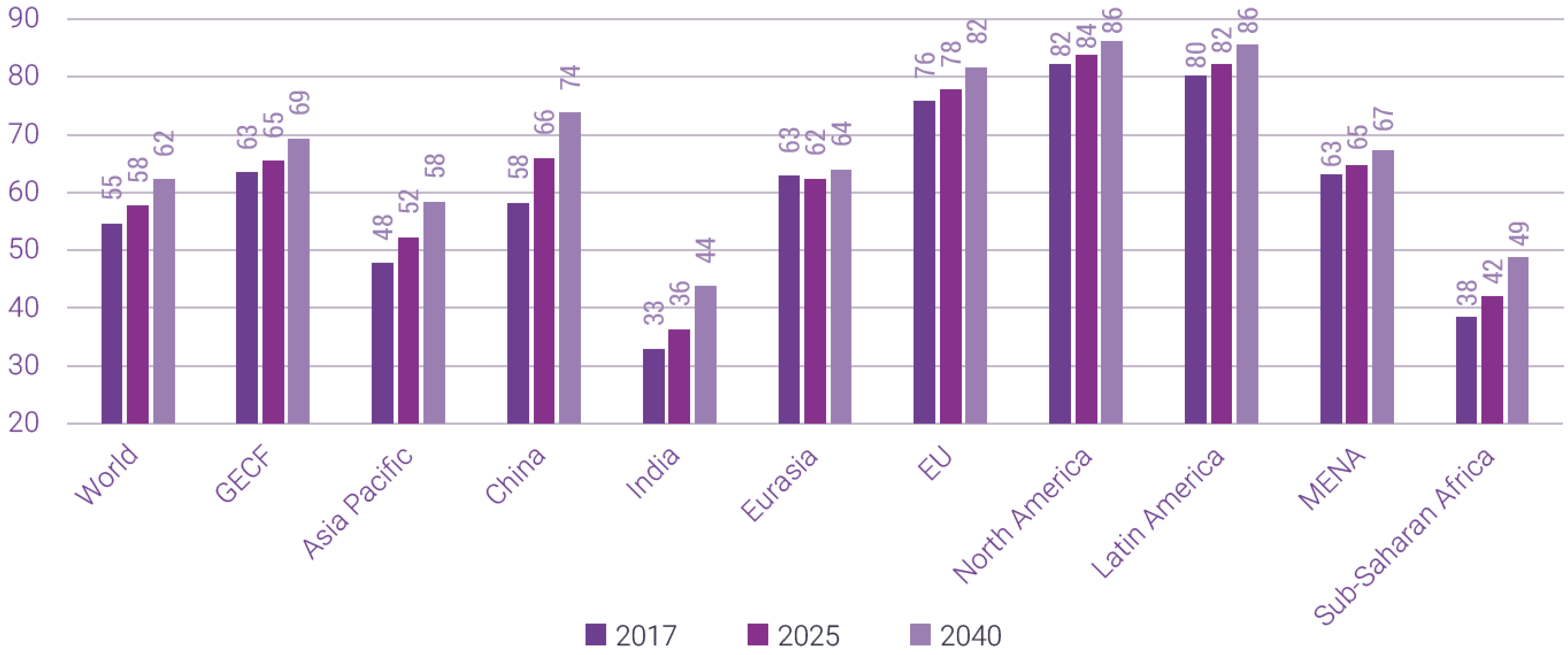
- Global economic and energy price prospects
- Energy policy developments and emissions trends
- Energy and natural gas demand outlook
- Natural gas supply outlook
- Gas trade and investment
- Alternative scenarios

Inside the GECF Global Gas Model



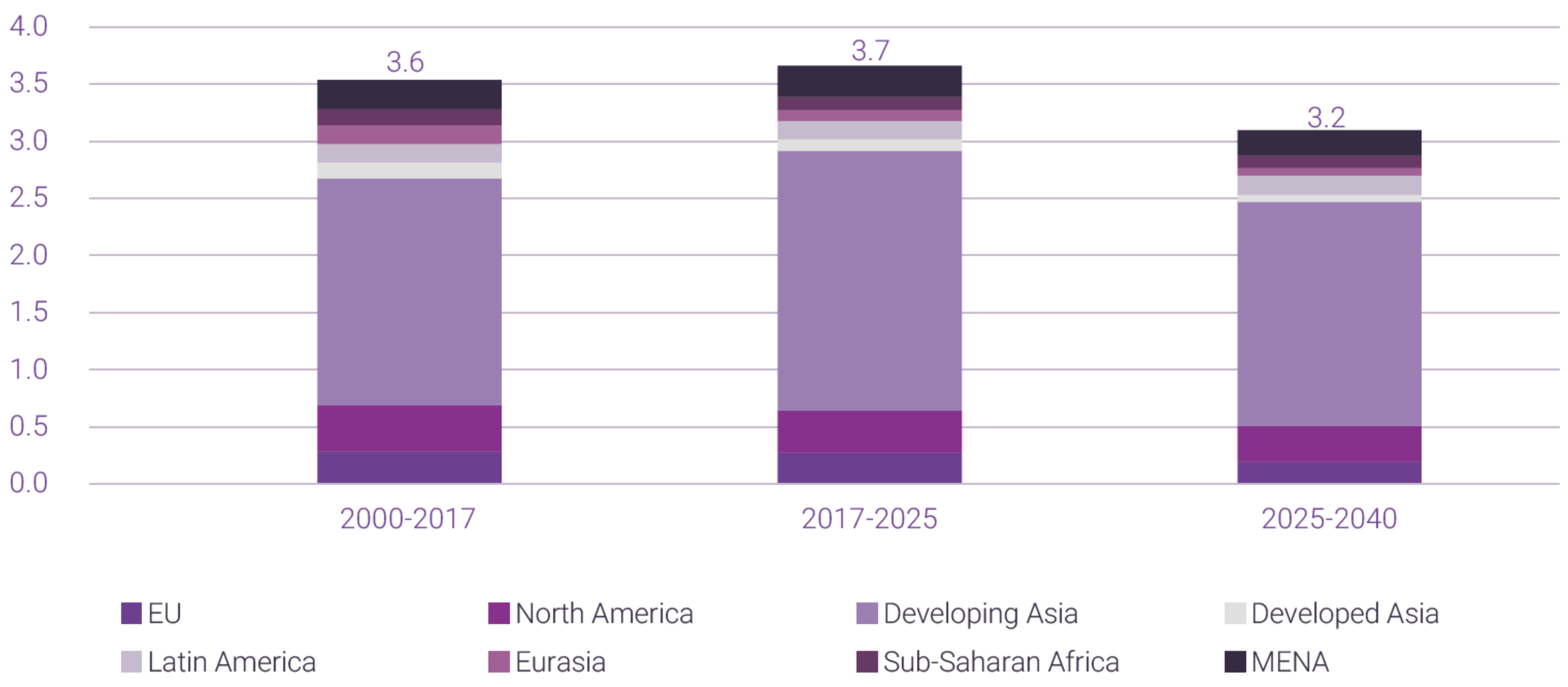
- Comprehensive and flexible energy forecasting and projection reviewing system
  - 113 Country level forecasts with 60 regional aggregates plus world
  - Full energy balances covering 29 sectors and 34 fuels, annually from 1990 to 2040
  - More than 4300 gas supply entities represent the gas supply potential globally, divided into:
    - 740 Existing production facilities that are in operation – including aggregates
    - 2,120 New projects based on existing reserves
    - 1,300 Yet- to- find based on known resource base
    - 160 Unconventionals (existing and yet- to- find) – most comprehensive database available
  - Infrastructure database containing:
    - 240 liquefaction plants/facilities
    - 400 regas plants/ facilities
    - 520 gas pipeline and shipping routes:
      - 258 LNG shipping routes
      - 262 gas pipeline links
  - Gas contracts database – Annual contracted volume and delivered volumes, including 600 contracts (country- to- country and non-dedicated) – based on more than 1,000 company- to- company contracts.
  - Gas trade history and historic pipeline- based trade data

Share of urban population (%)



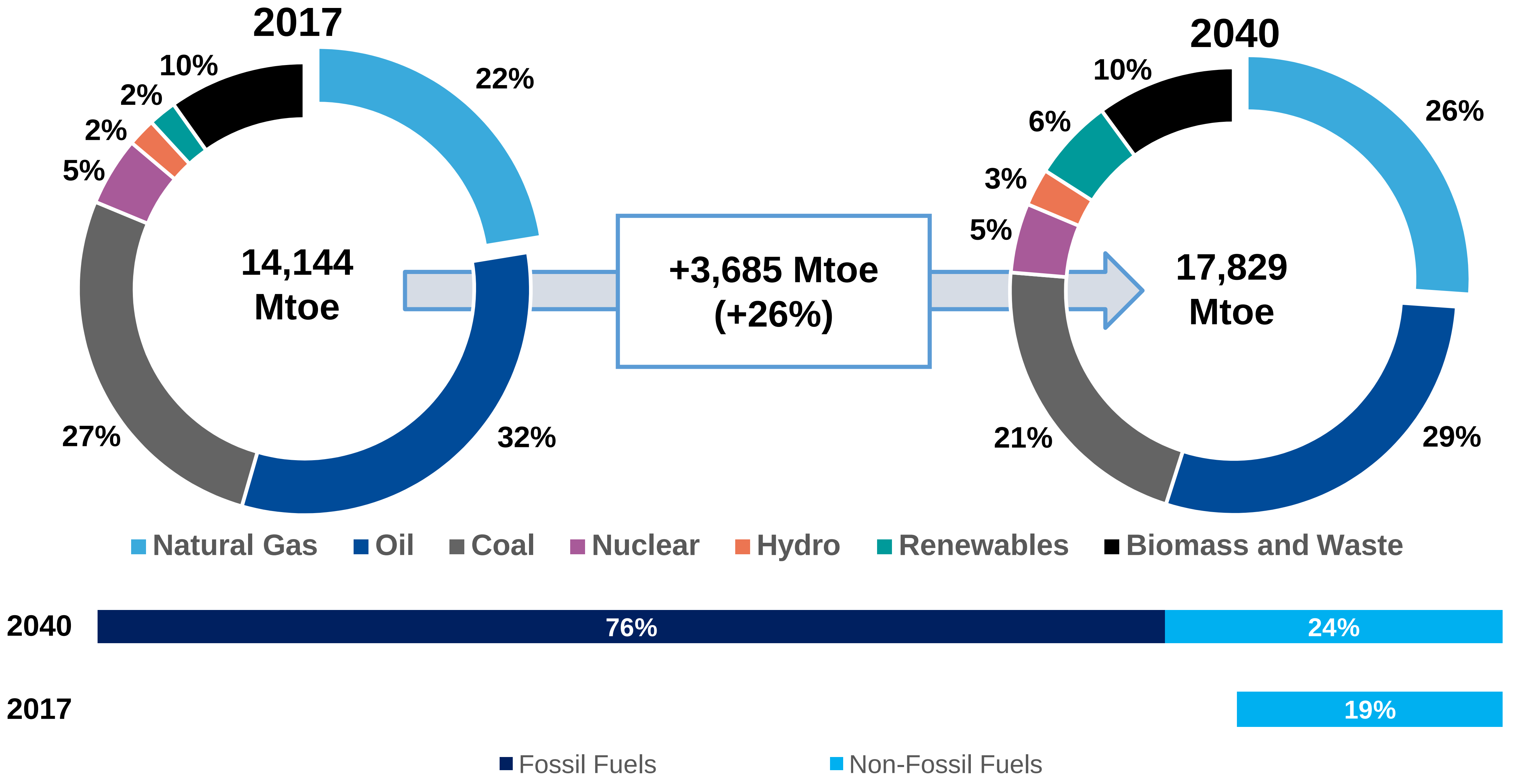
Source: UN World Urbanization Prospects rev. 2018

Projected GDP growth composition to 2040 (p.p. per annum)



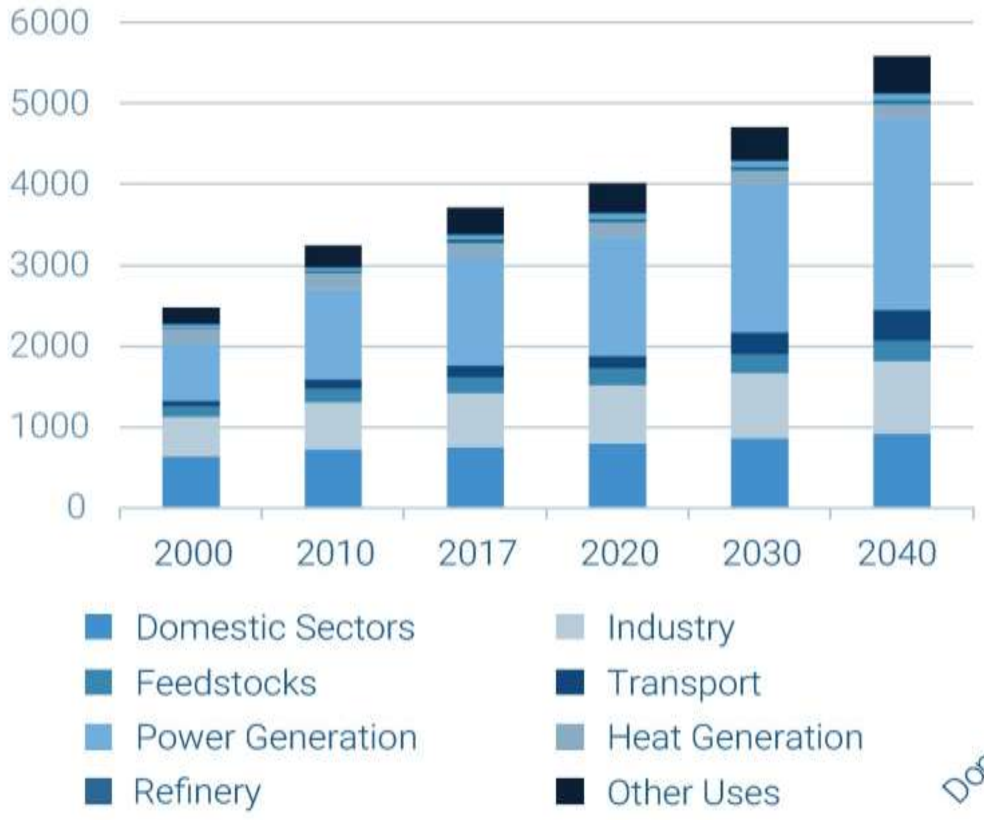
Source: GECF Secretariat based on data from the GECF GGM

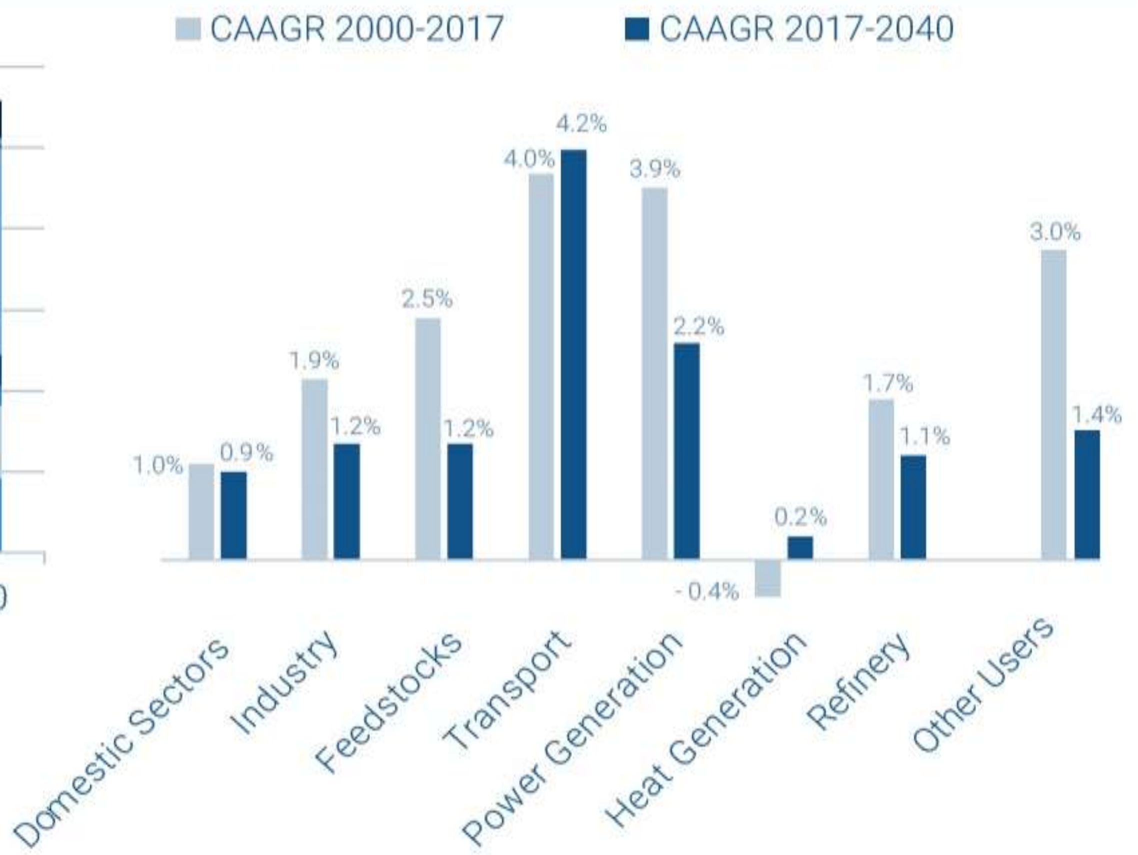
Natural gas in the global energy mix: 22% now to 26% by 2040



Source: GECF Secretariat based on data from the GECF GGM

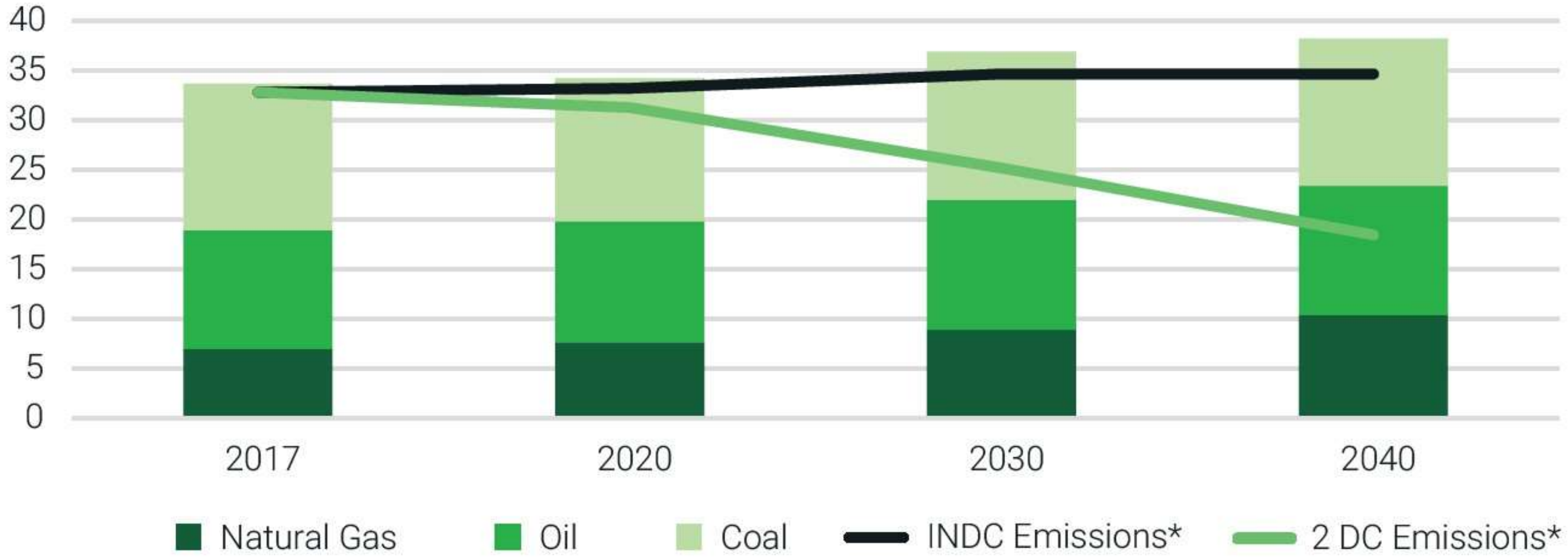
Global natural gas demand by sector (bcm) and associated CAAGR (%)





Source: GECF Secretariat based on data from the GECF GGM

Global CO2 emissions by fuel source (GtCO2)



Source: GECF Secretariat based on data from GECF GGM
Note: INDC Emissions: CO2 emissions estimation based on aggregated INDCs targets (UNFCCC, 2016) - 2 DC Emission: based on IEA 450 scenario (WEO, 2016)

GECF and the global climate agenda

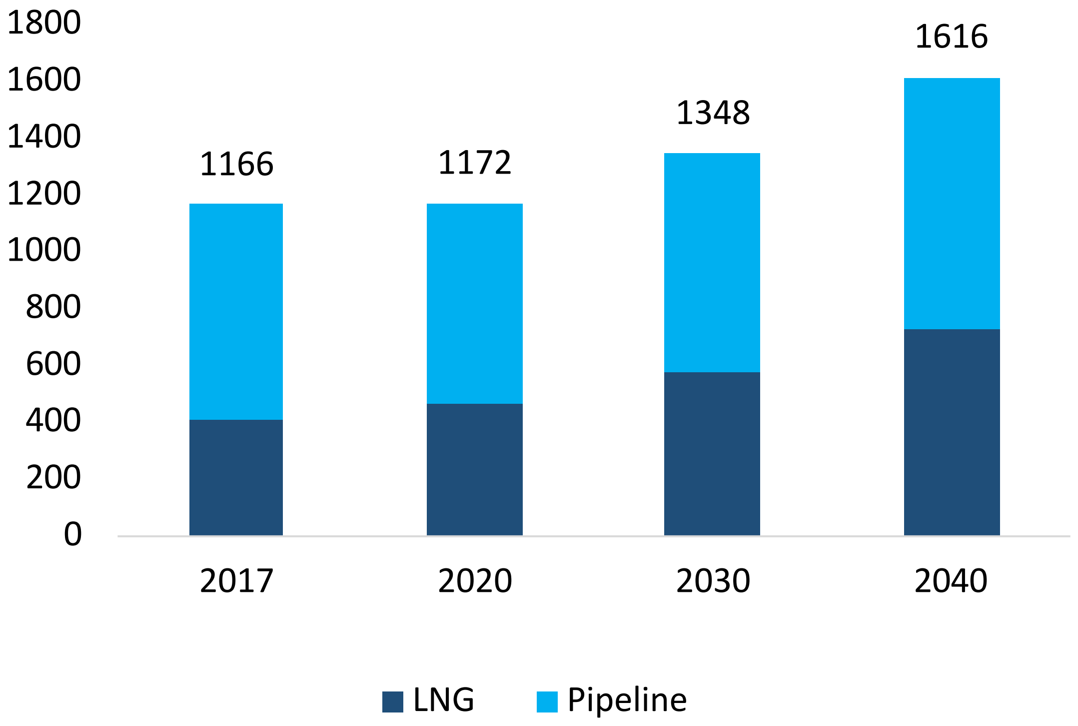
GECF acknowledged as Observer Intergovernmental Organisation to UNFCCC at COP24,
12 December 2018 Katowice, Poland

GECF regular report on the role of natural gas in the global climate agenda

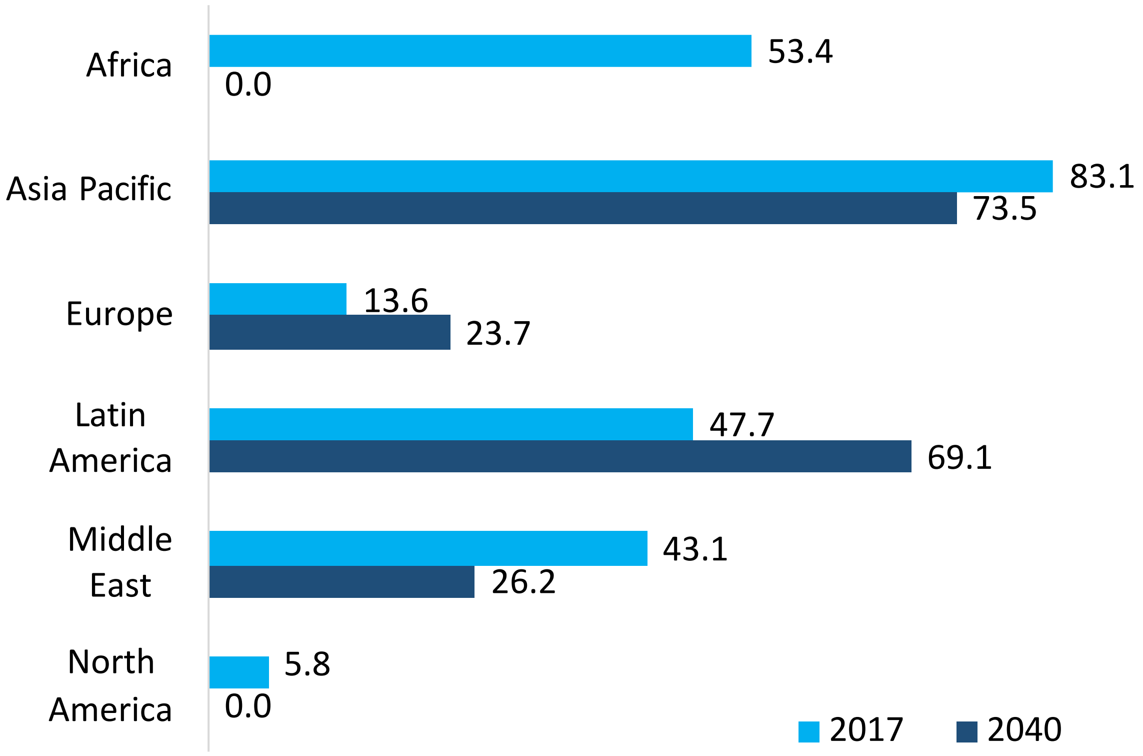
Annual GECF Workshop on the environmental advantages of natural gas

Gas trade

Global gas trade via pipeline and LNG (bcm)

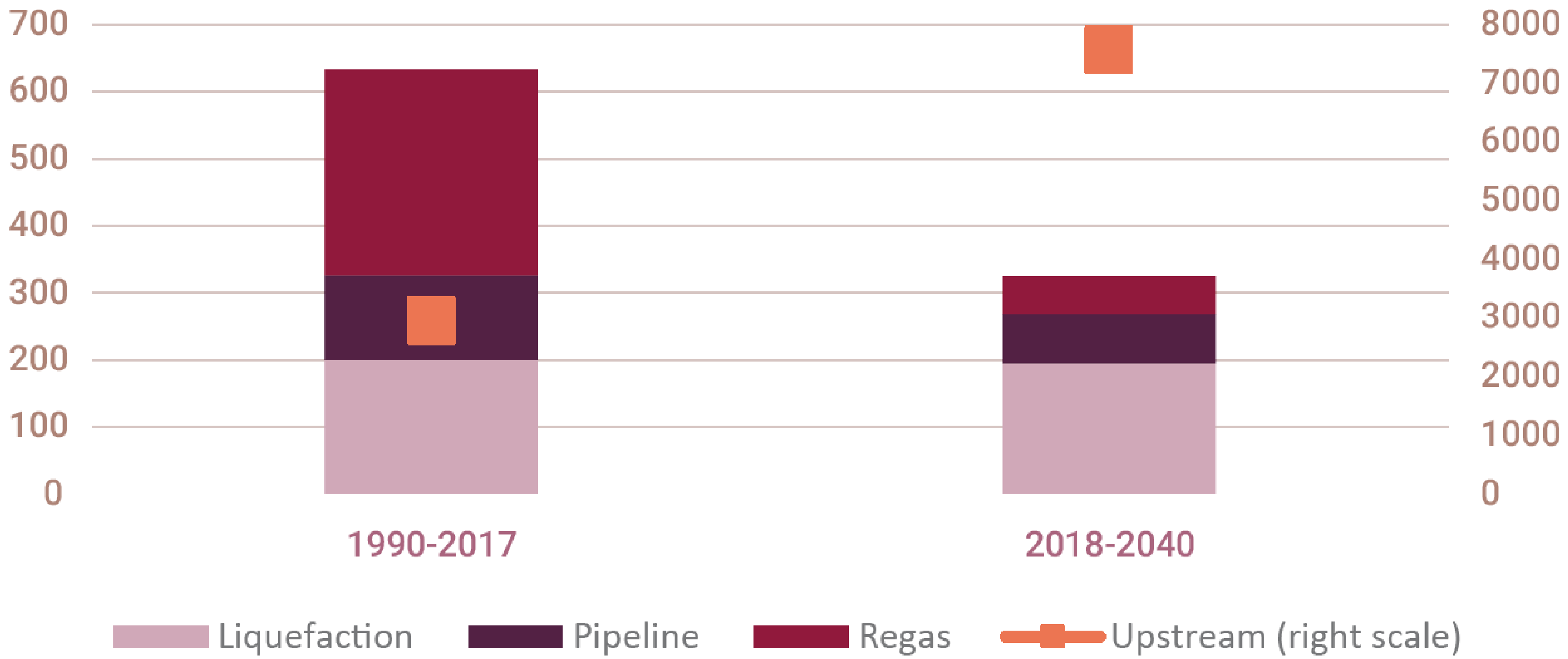


LNG's share of natural gas imports by region (%)



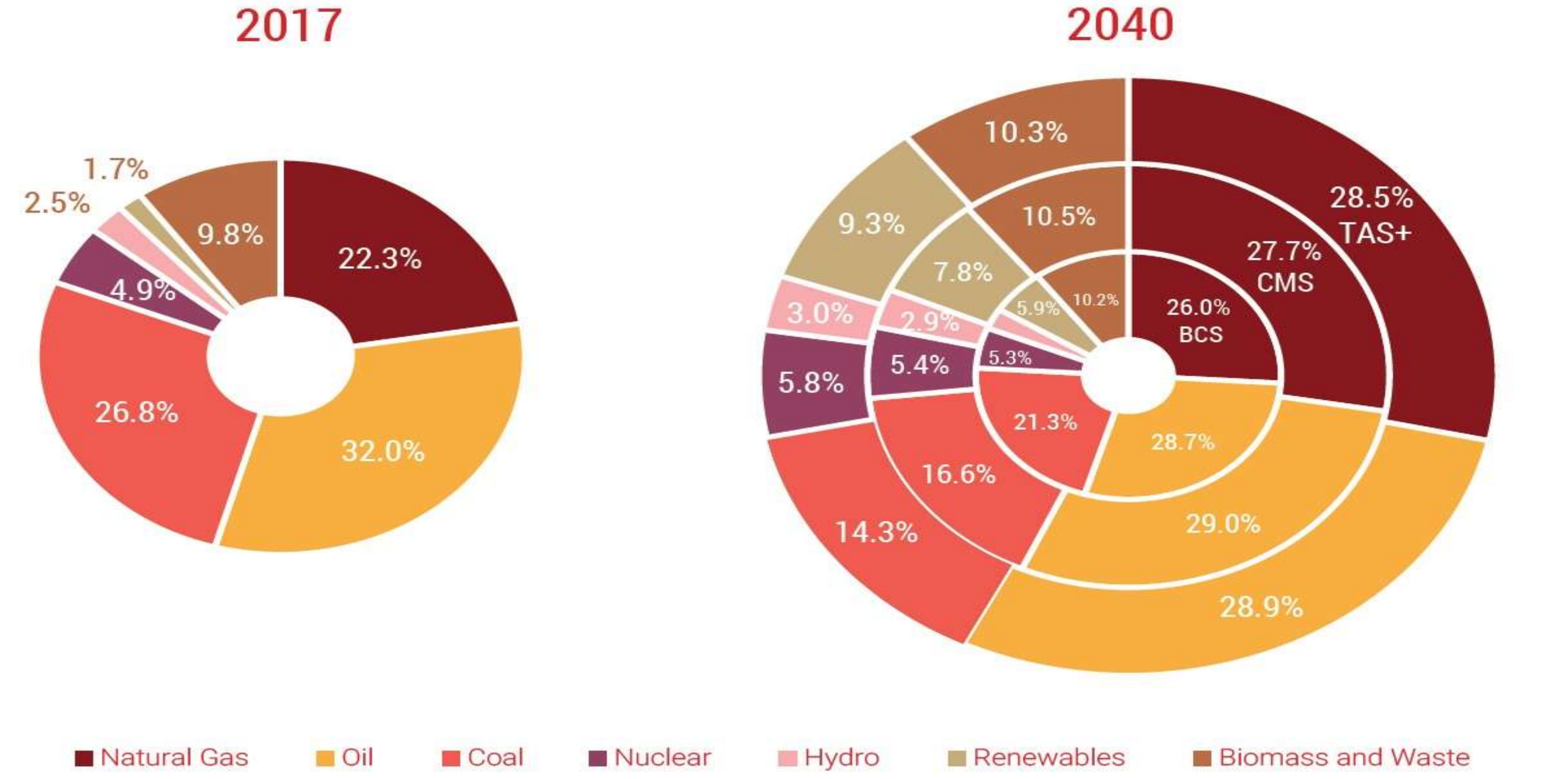
Source: GECF Secretariat based on data from the GECF GGM

Global gas industry investment by purpose (2017 USD bn)



Source: GECF Secretariat based on data from the GECF GGM

Global primary energy mix in 2017 and 2040 by fuel type in all scenarios (%)



Source: GECF Secretariat based on data from the GECF GGM

The G20 Communique on natural gas

GECF

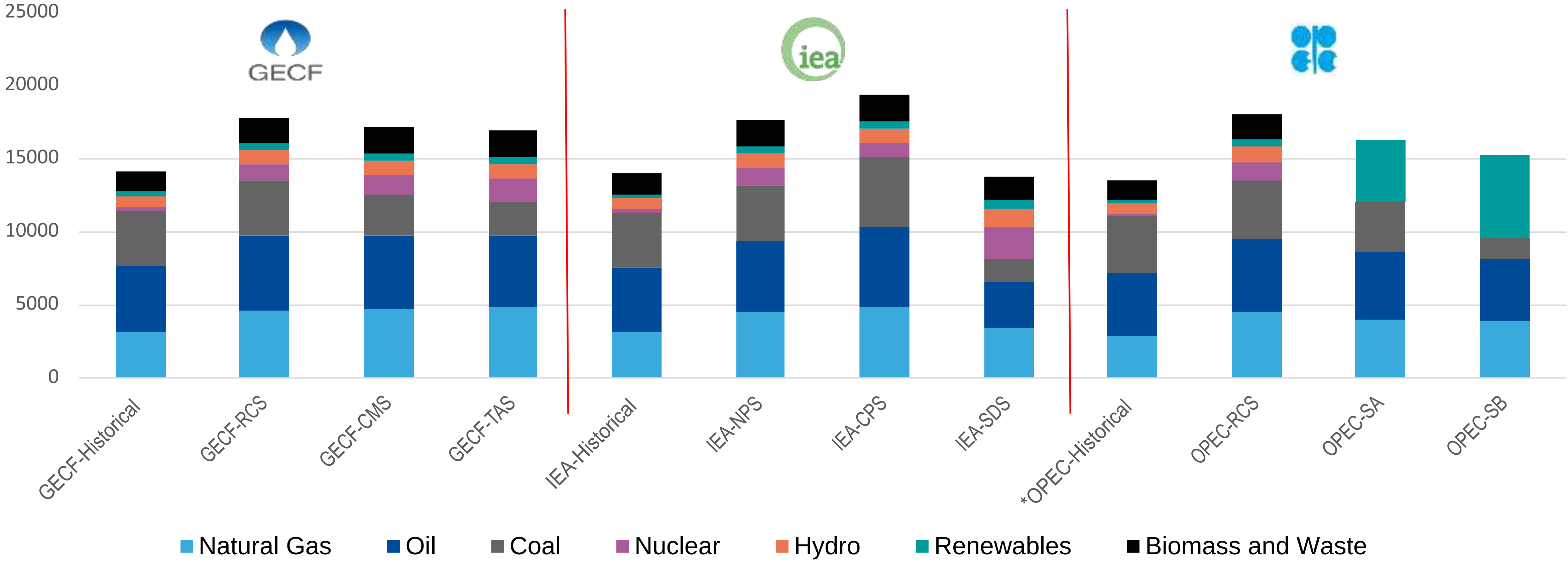
“ We recognise **the key role that natural gas currently plays** for many G20 countries, and **its potential to expand significantly over the coming decades**, supporting transitions towards lower emission energy systems. We will endeavour to improve the functioning, transparency and competitiveness of gas markets, with a strategic view of the supply chain -including Liquefied Natural Gas (LNG) and storage facilities -at a global level. We will encourage an expanded dialogue with relevant international organisations on more effective and flexible use of natural gas. ”

G20 ARGENTINA 2018

G20 Energy Ministers Communique
15 June 2018, Bariloche, Argentina

GECF, IEA and OPEC:
Similarities and Differences in the Outlooks 2018

World primary energy demand by fuel type (Mtoe)



Note: 1) The formal base year for the OPEC projections is 2015
2) In the OPEC SA and SB Scenarios; Renewable energies included hydro, nuclear and biomass

Source: GECF Secretariat based on data from the GECF GGO 2018, OPEC WOO 2018 , IEA WEO 2018

IEF16 Concluding Statement

सत्यमेव जयते

Concluding Statement by Host Country - India

IEF 16
INTERNATIONAL ENERGY FORUM
NEW DELHI 2018

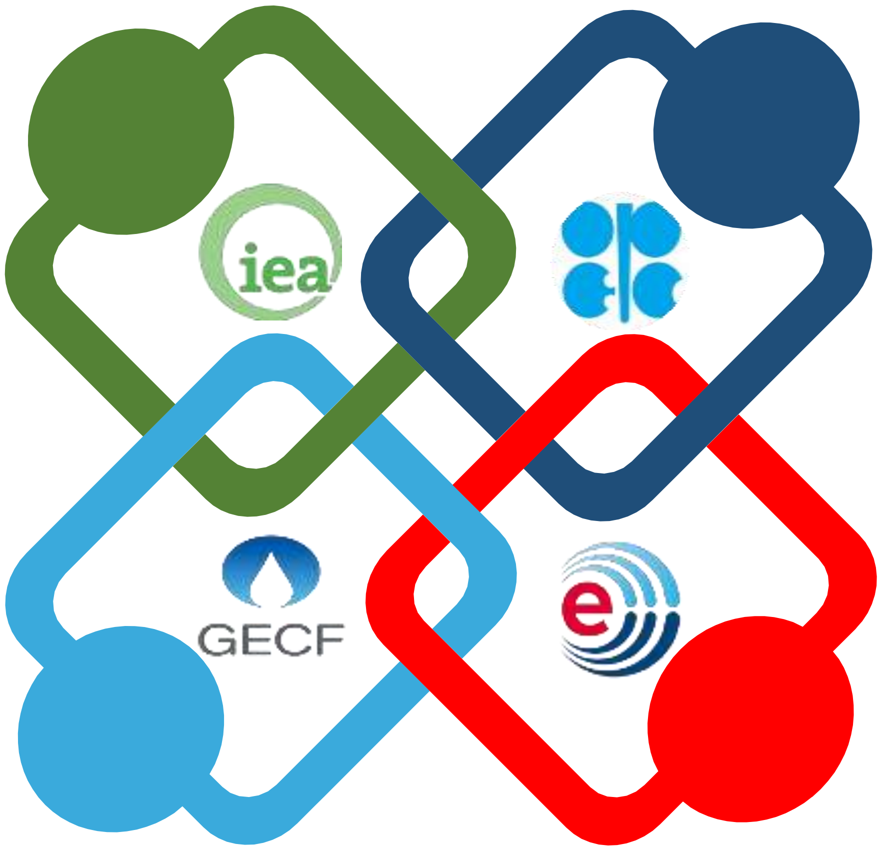
16th International Energy Forum Ministerial
New Delhi, India 10-12April 2018

16. IEF16 delegates noted that global shifts in energy demand and supply patterns as well as rapid technology advancesalter world energy market dynamics and compel corresponding governance structures including the institutional set up of the IEF energy dialogue to respond to evolving producer consumer relations. Building on the successful model of the trilateral workprogramme that energy ministers established at the IEF12 (Cancun, 2010) and mindful of the encouragement energy ministers gave at the IEF15 (Algiers 2016) to enhance the global energy dialogue,ministers welcomed the proposal to further improve on the architecture of the IEF energy dialogue and the interface between international organisations by involving the Gas Exporting Countries Forum in their cooperation on the neutral IEF platform, including the work programme on energy outlooks and physical and financial energy market interactions, noting that the GECF is already an active IEF partner organisation in the Joint Organisations Data Initiative (JODI) since 2014.

Conclusion

Natural gas will continue to play a robust roll in the future energy mix; its position as an affordable, available and sustainable fuel necessitates its inclusion in the dialogue arrangement

IEF16 concluded with an affirmative response regarding the inclusion of the GECF in the IEA-IEF-OPEC trilateral work programme on Energy Outlooks



The GECF is ready to participate in the IEA-IEF-OPEC energy dialogue as a full-fledged partner organization

The GECF will bring its expertise in natural gas markets to become a viable partner, facilitating transparency and information exchange, as well as standardization efforts