8TH ST PETERSBURG INTERNATIONAL GAS FORUM - 10/5/2018

ASIA-PACIFIC: A KEY GROWTH DRIVER OF THE WORLD LNG MARKET

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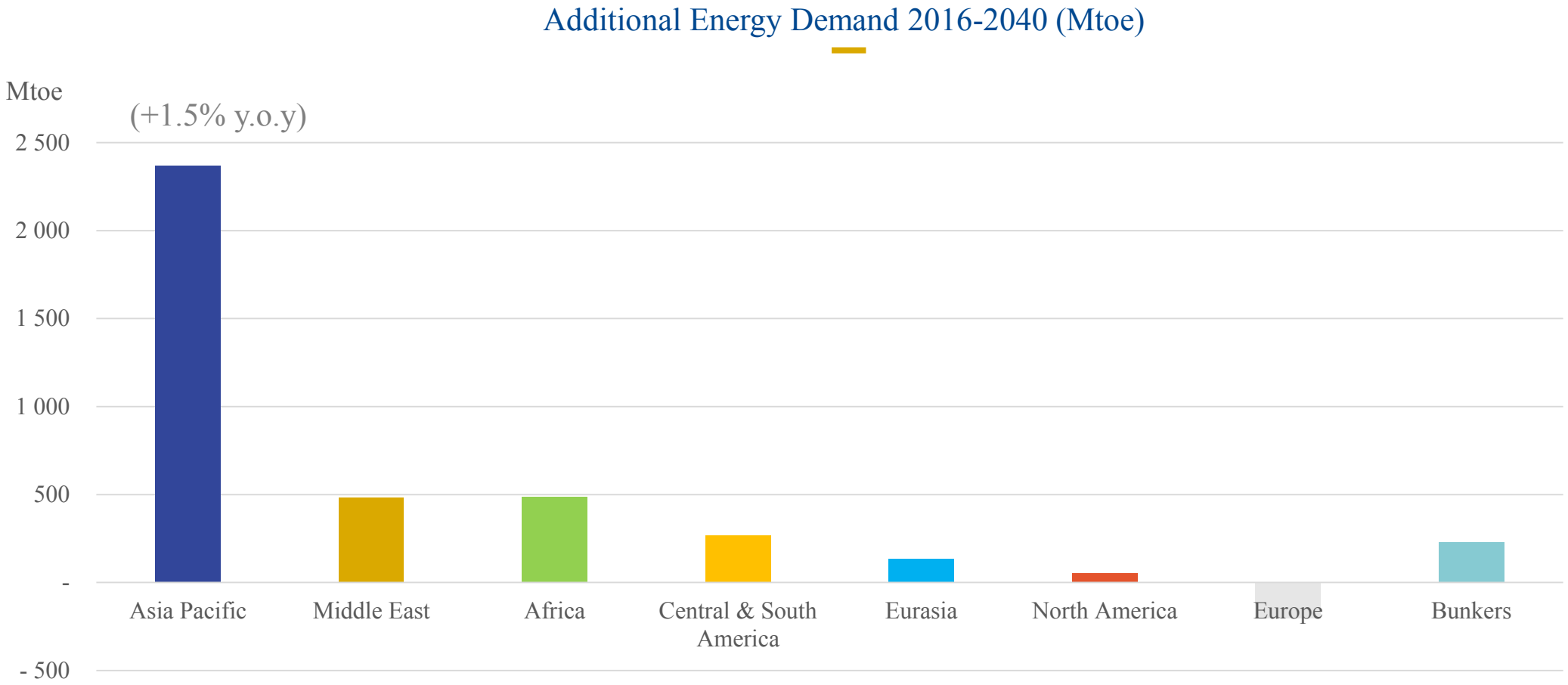
Co-Chair, World Energy Council and President, GIIGNL

01

Natural Gas in the future energy landscape

AS GLOBAL POPULATION RISES TO 9BN BY 2040, THE WORLD NEEDS MORE AND CLEANER ENERGY

Developing economies in Asia-Pacific represent around 2/3 of energy demand growth 2016-2040

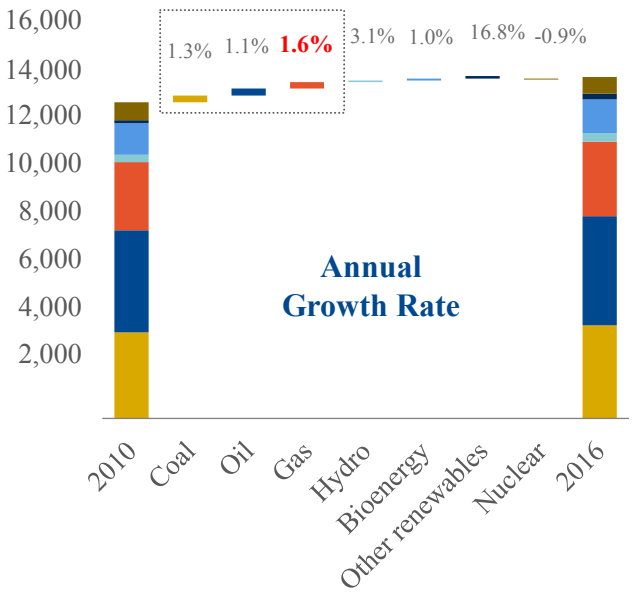


Source: IEA WEO 2017, NPS

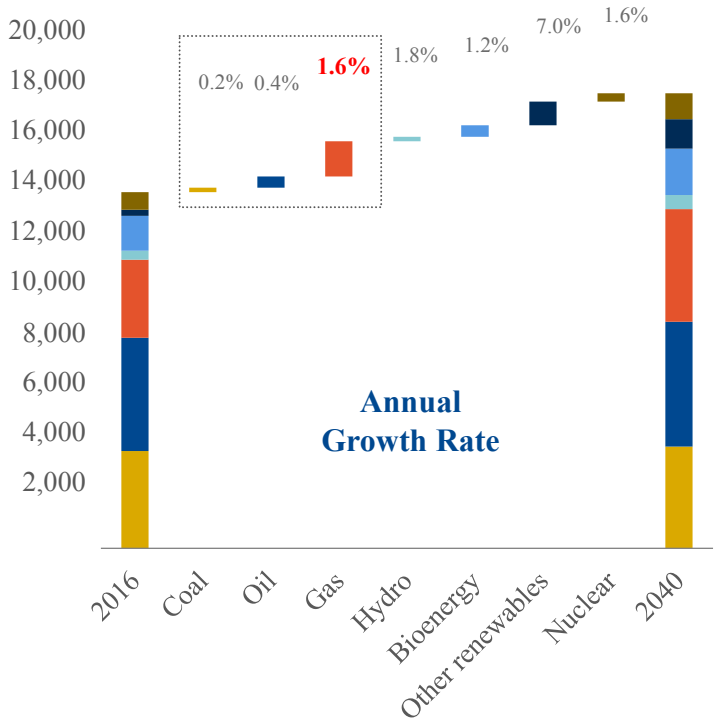
NATURAL GAS IS THE FASTEST GROWING FUEL

Gas will outpace growth of other hydrocarbons and has a growing share of Primary Energy in 2040

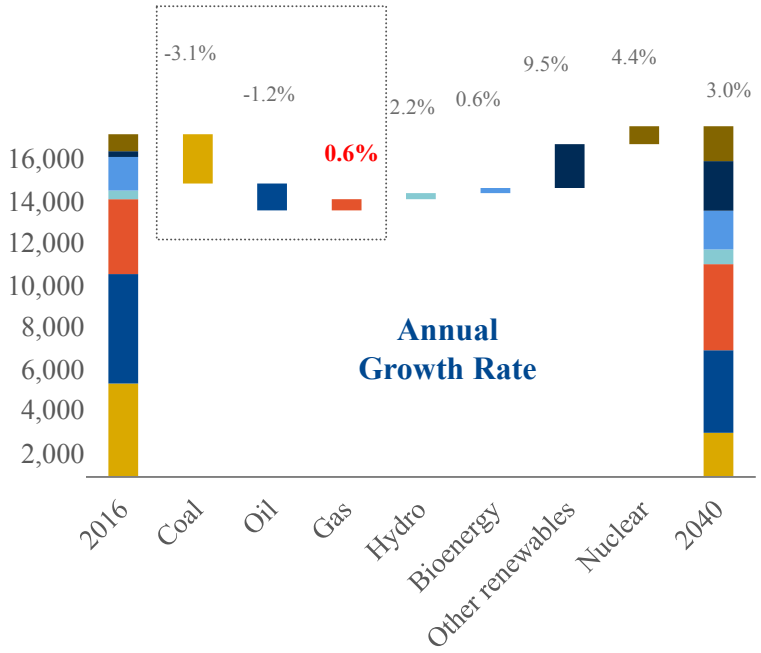
Historic energy mix change
2010-2016 (IEA)



New Policies Scenario
2016-2040 (IEA)



Sustainable Development Scenario
2016-2040 (IEA)



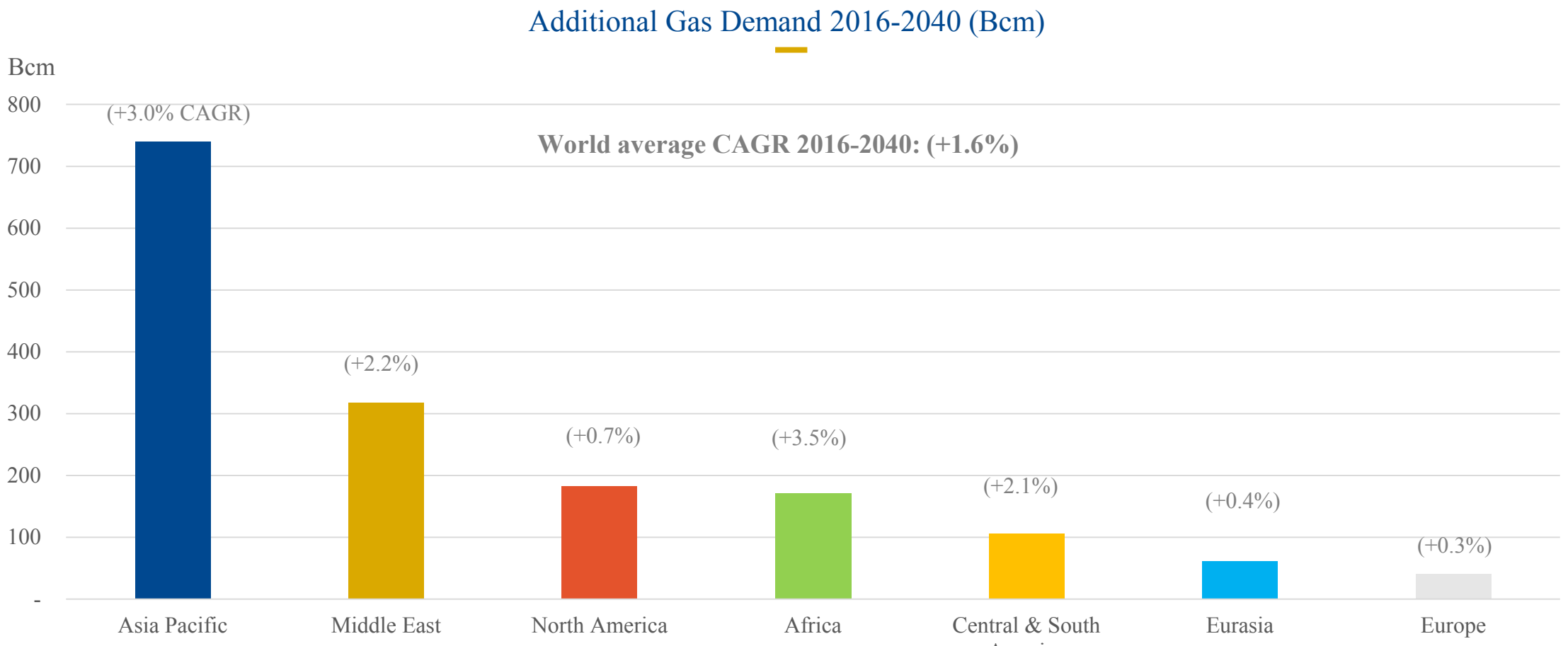
Source: IEA WEO 2017

02

Natural Gas Demand in Asia

A MASSIVE SHIFT OF GAS DEMAND TO ASIA

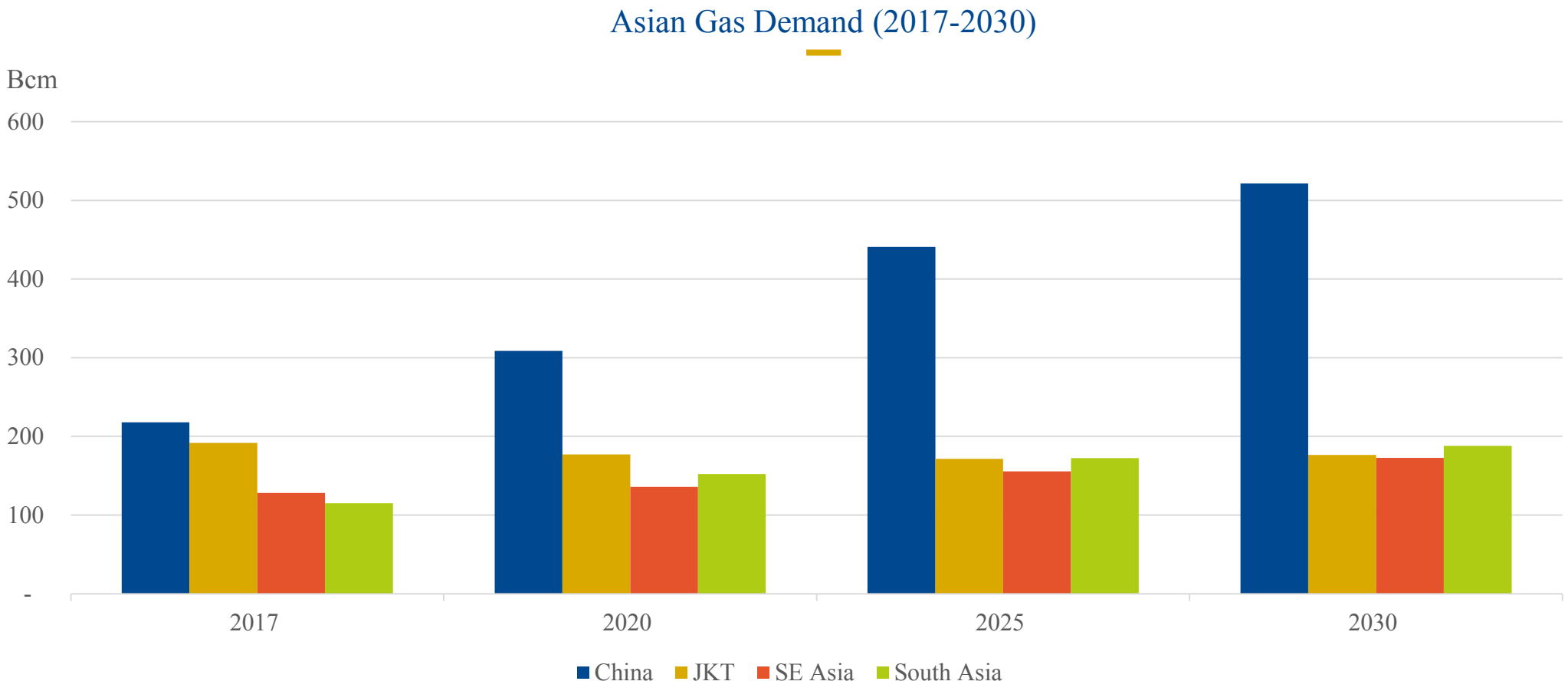
Asia: From 20% of gas demand today to 28% by 2040



Source: IEA WEO2017, NPS

GAS DEMAND IN ASIAN COUNTRIES

Growth will be concentrated in developing countries but potential in existing gas markets remains high



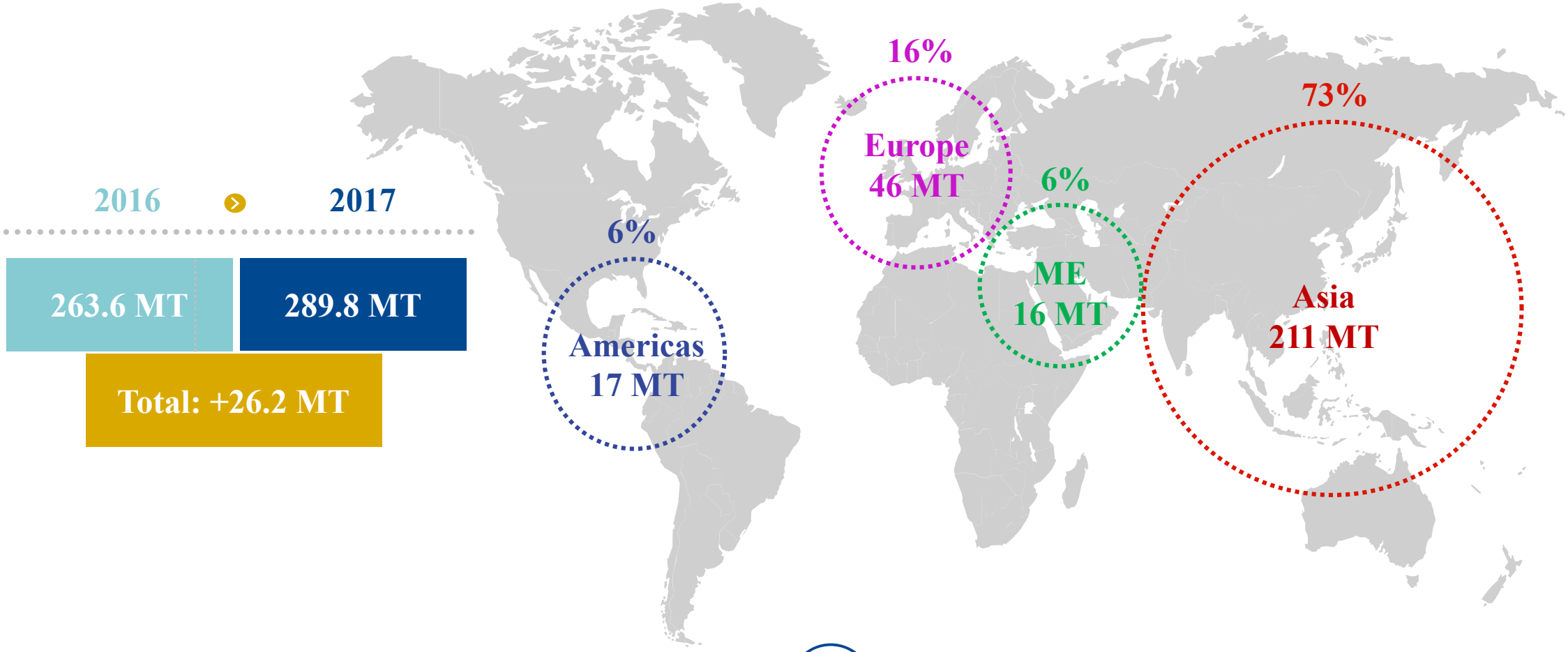
Source: Woodmackenzie

03

Implications for the LNG market

2017 LNG IMPORTS

North East Asian importers accounted for almost 2/3 of global LNG demand in 2017

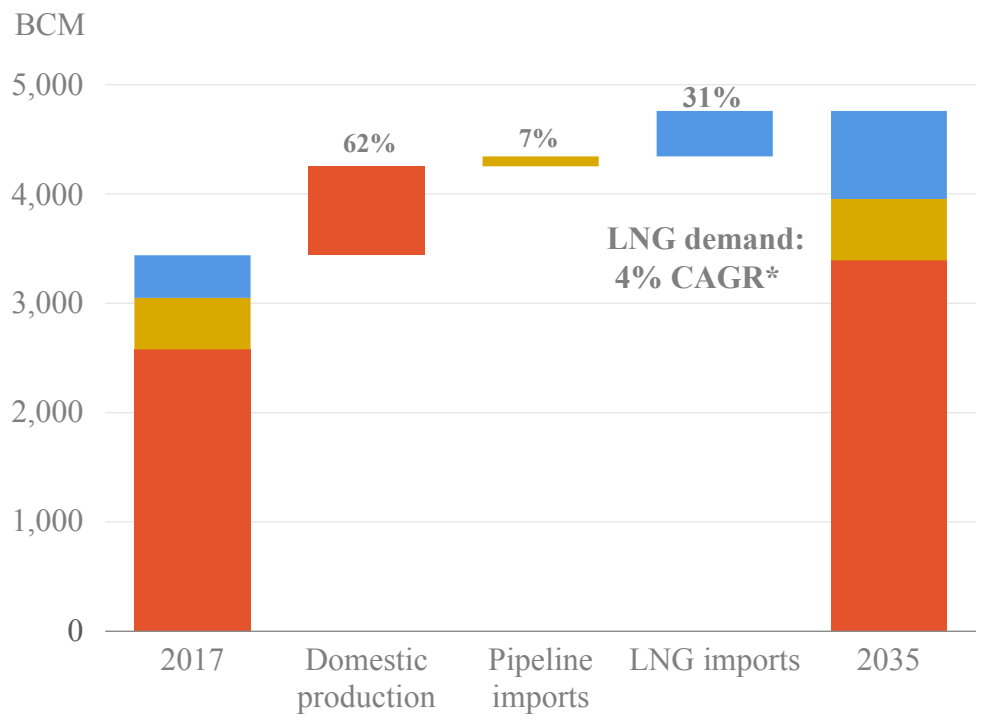


Source: GIIGNL 2018 Annual Report

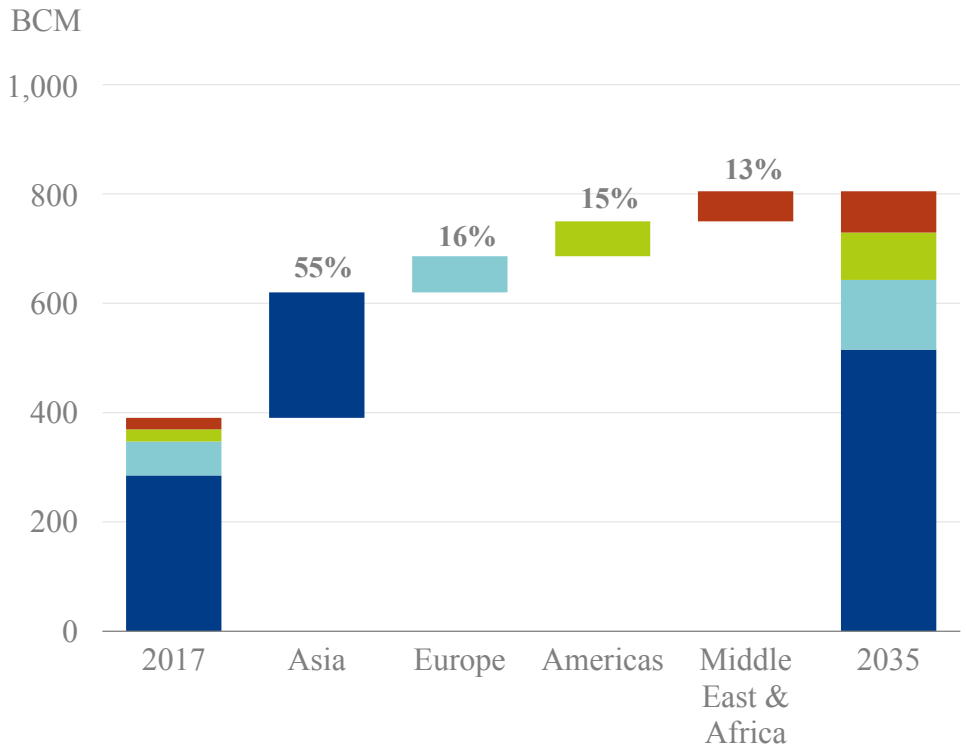
LNG IS THE FASTEST GROWING GAS SUPPLY SOURCE

Energy growth 1%, Gas growth 2%, Asia gas growth 3%, LNG growth 4%

Global gas supply by source



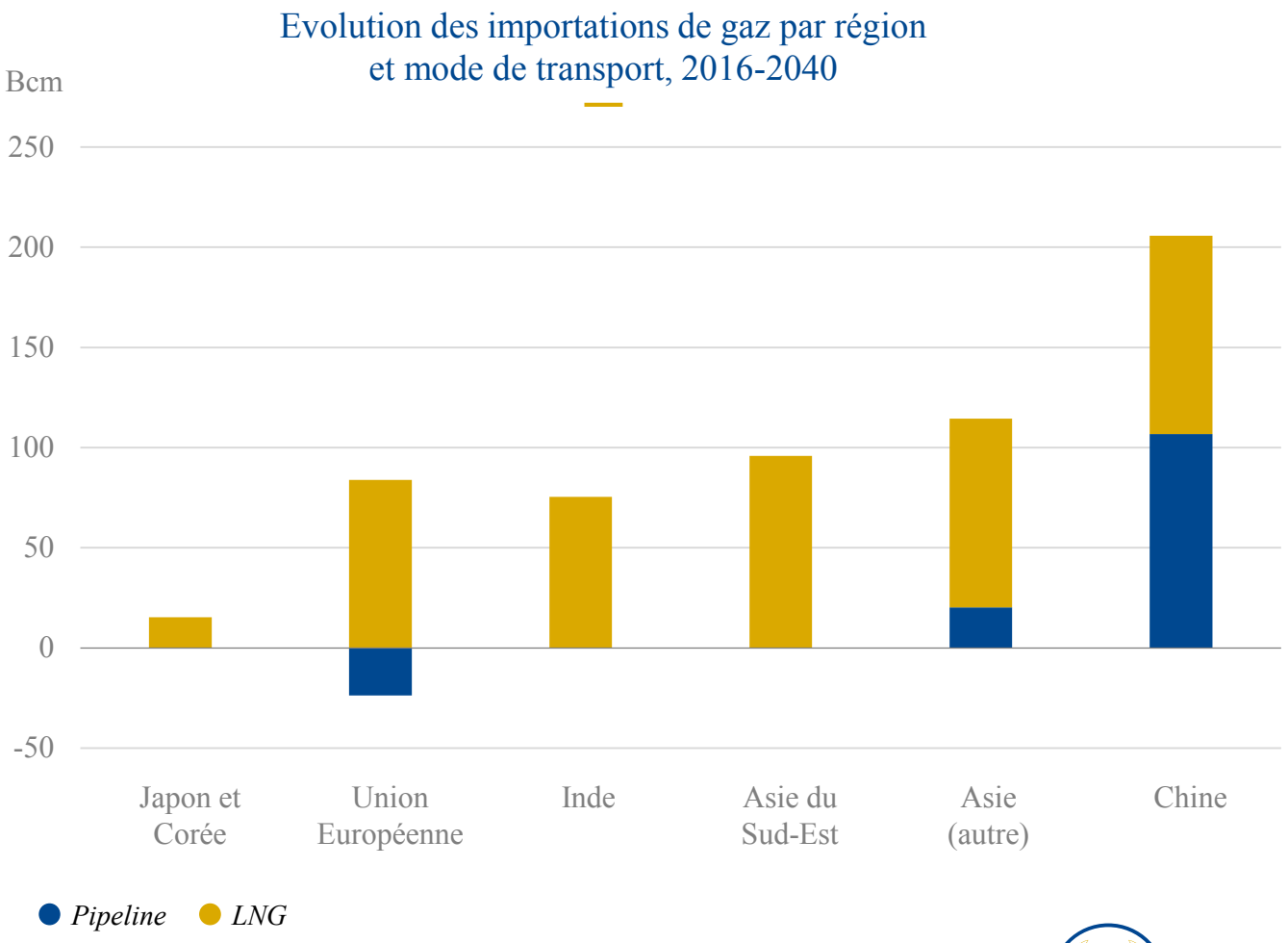
LNG imports by region



**CAGR - Compound Annual Growth Rate*

Source: Shell LNG Outlook 2018

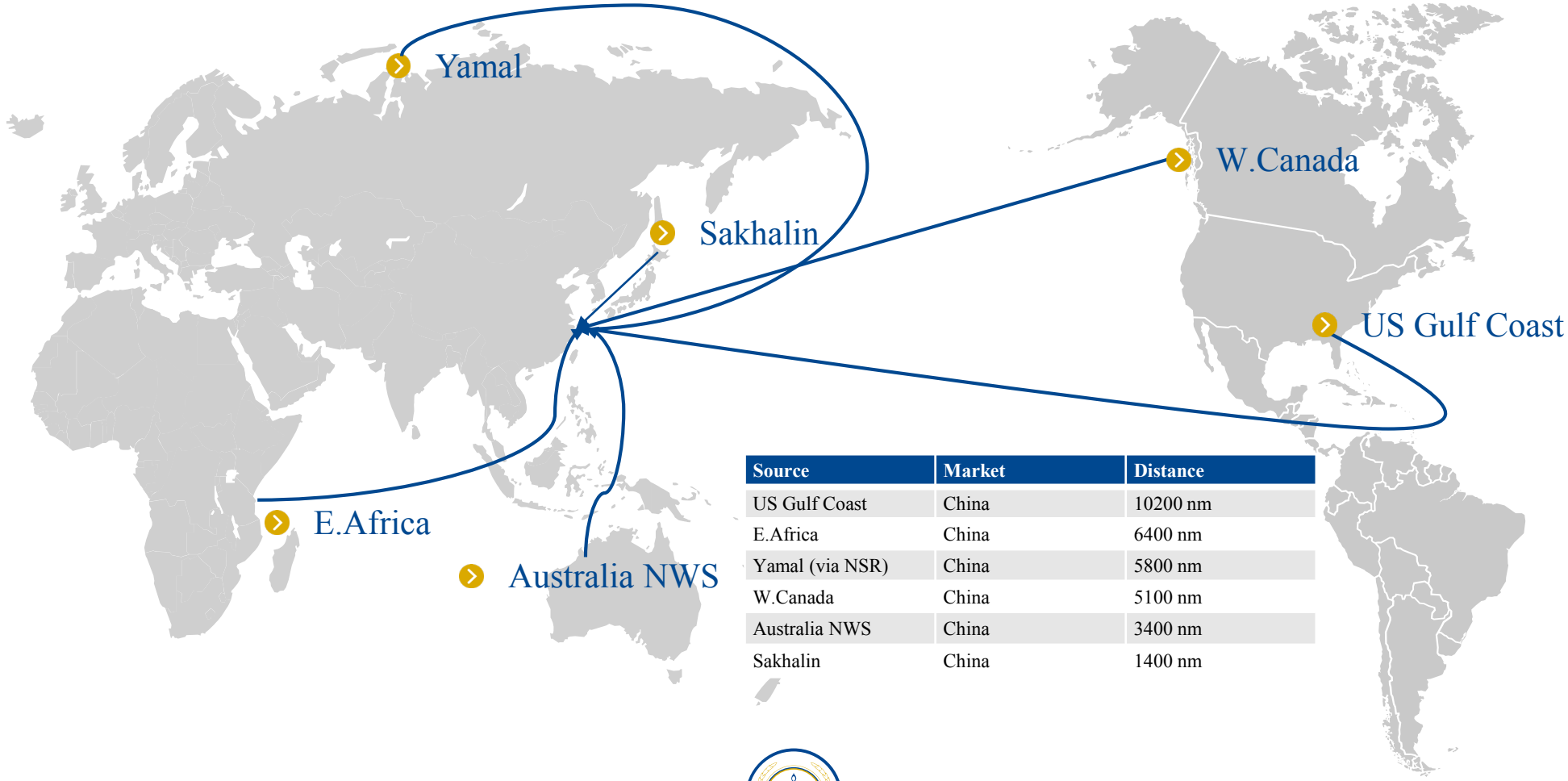
ASIAN ENERGY DEMAND GROWTH WILL BE FUELED BY LNG



- Outside China, new pipeline trade routes find it hard to advance in a market with readily and flexibly available LNG
- LNG will increase its share from 39% of global long-distance trade to 60% by 2040 (IEA)
- In 2030, LNG will represent 38% of Asia's gas demand vs 32% in 2017

Source: IEA World Energy Outlook 2017, New Policies scenario

KEY NEW LNG SUPPLIES FOR ASIA



Source	Market	Distance
US Gulf Coast	China	10200 nm
E.Africa	China	6400 nm
Yamal (via NSR)	China	5800 nm
W.Canada	China	5100 nm
Australia NWS	China	3400 nm
Sakhalin	China	1400 nm

Source: Kpler

LNG: THE KEY TO ENERGY SECURITY ASIA

Flexibility and competitiveness against alternative fuels will be key

OPPORTUNITIES	UNCERTAINTIES
• Declining domestic production	• Gas supply and demand uncertainty
• Cleaner alternative to coal-fired generation and back-up for renewables	• « Asian premium » / Risk of coal+renewables paradigm
• Flexible / Readily available alternative to laying pipelines	• Limited TPA to pipelines and LNG terminals despite the liberalisation process at work in several Asian countries
• Diversification of gas supply sources via LNG	• Destination clauses in certain Asian contracts
• Displacing more polluting fuels in industry and transport	• Absence of a liquid and transparent pricing reference point

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Conclusions

CONCLUSIONS

- Asia-Pacific will remain a significant driver for the demand of natural gas and LNG in the long-term
- China currently in the limelight but LNG demand growth is also about existing markets and South and SE Asia
- Flexible and competitive LNG supply projects will be required
- Russia could play a role in supplying natural gas and LNG to Asia

THANK YOU

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GIIGNL 2018 ANNUAL REPORT

Unique insight on the state of the LNG industry

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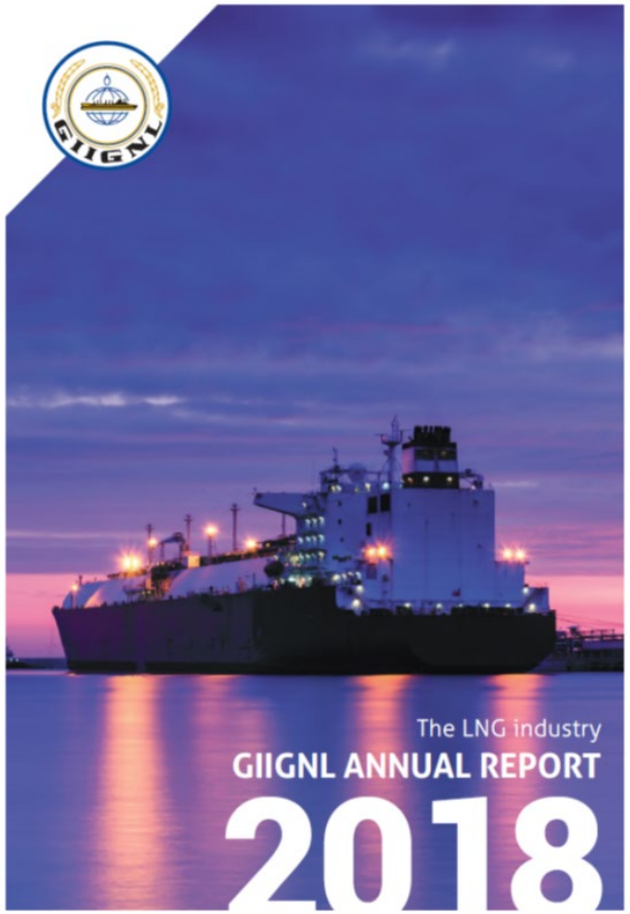
- Spot & Short-Term volumes
- Retail LNG



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APPENDIX

GIIGNL MEMBERSHIP

78 Members in 25 countries – LNG Importers and Terminal Owners/Operators

47% of Members in Asia

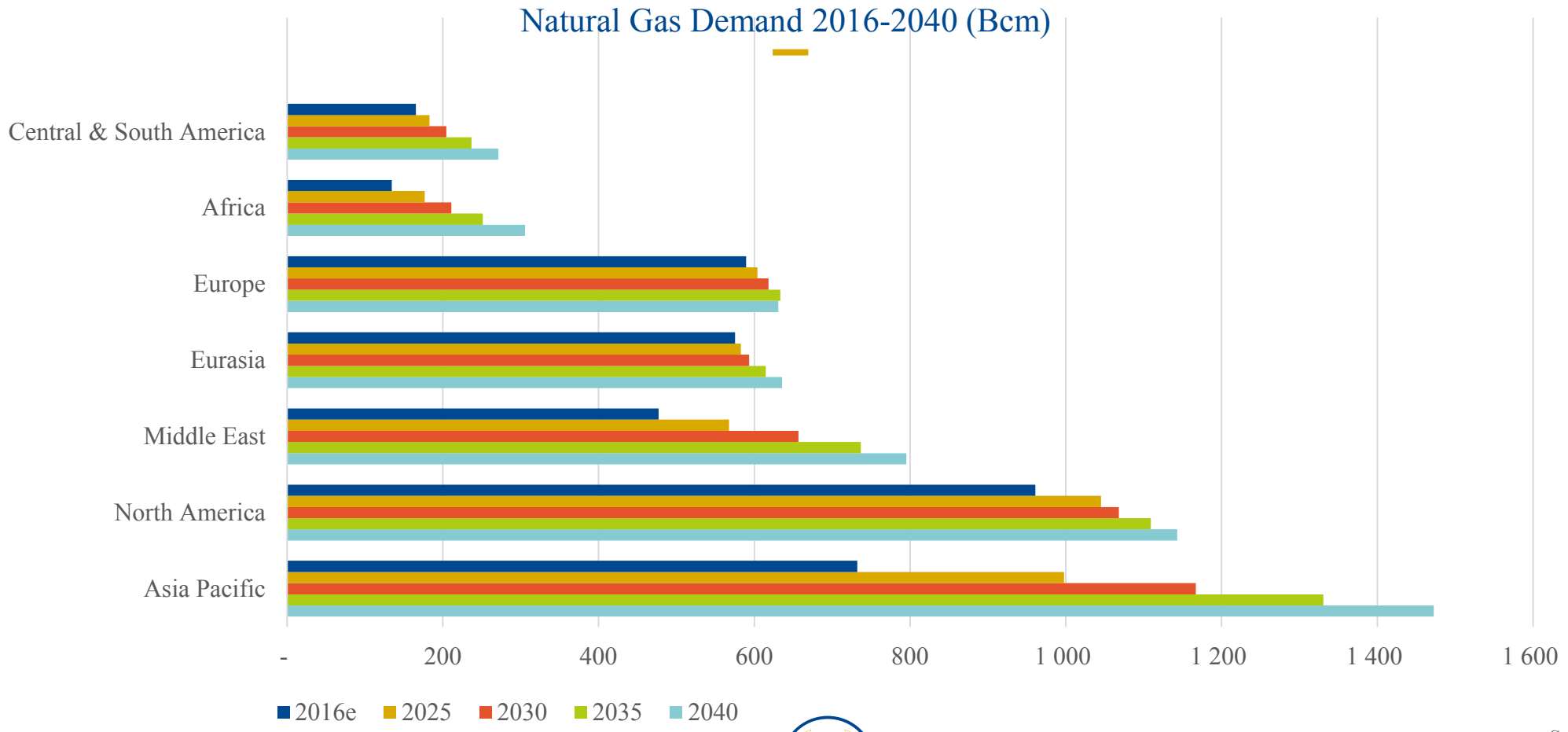
PROMOTING COOPERATION BETWEEN LNG IMPORTERS

Improving efficiency, safety and sustainability of LNG import activities

- Unrivalled networking opportunities
- Platform for exchange of information and best practices
- Voice for the midstream and downstream side of the LNG industry

BY 2040, ASIAN GAS DEMAND WILL ACCOUNT FOR 28% OF GLOBAL GAS DEMAND VS 20% TODAY

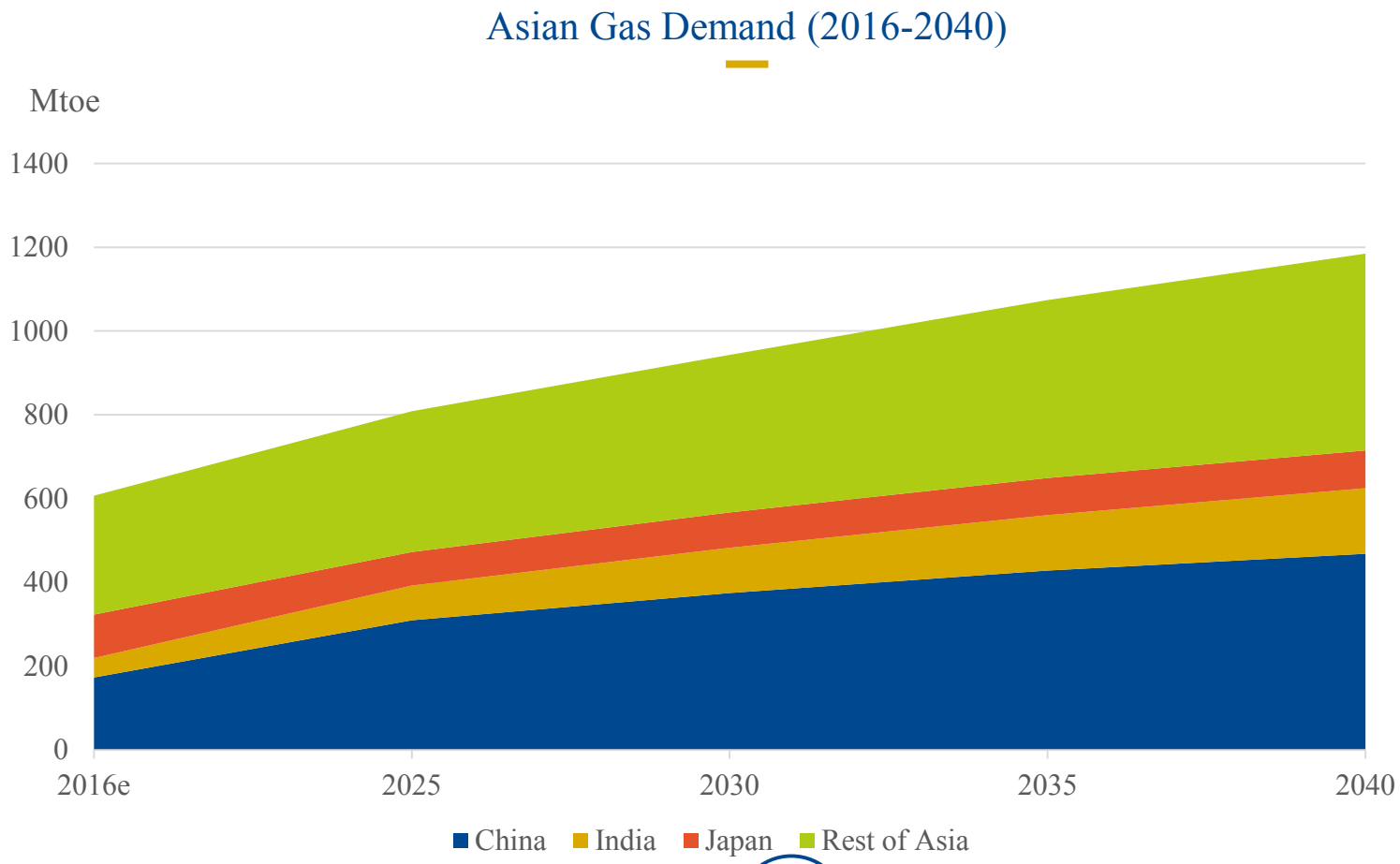
China driving growth in the near term, South and South East Asia driving long-term growth



Source: IEA WEO2017

GAS GROWTH IN ASIAN DEVELOPING COUNTRIES

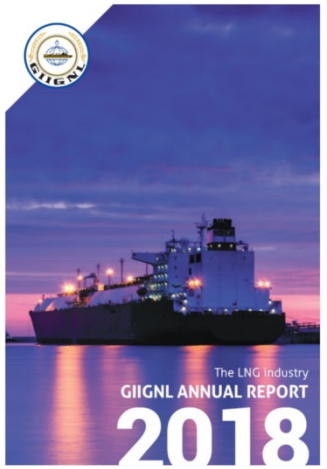
China driving growth in the near term, South and South East Asia driving long-term growth



Source: IEA WEO 2017 NPS

2017 KEY FIGURES

- **+ 9.9 %** growth (highest rate since 2010)
- **40** importing countries – 1 new importer: Malta
- **19** exporting countries
- **850** MTPA of regasification capacity
- **365** MTPA of liquefaction capacity
- **4 724** cargoes delivered
- **1** FID (Coral FLNG - Mozambique)



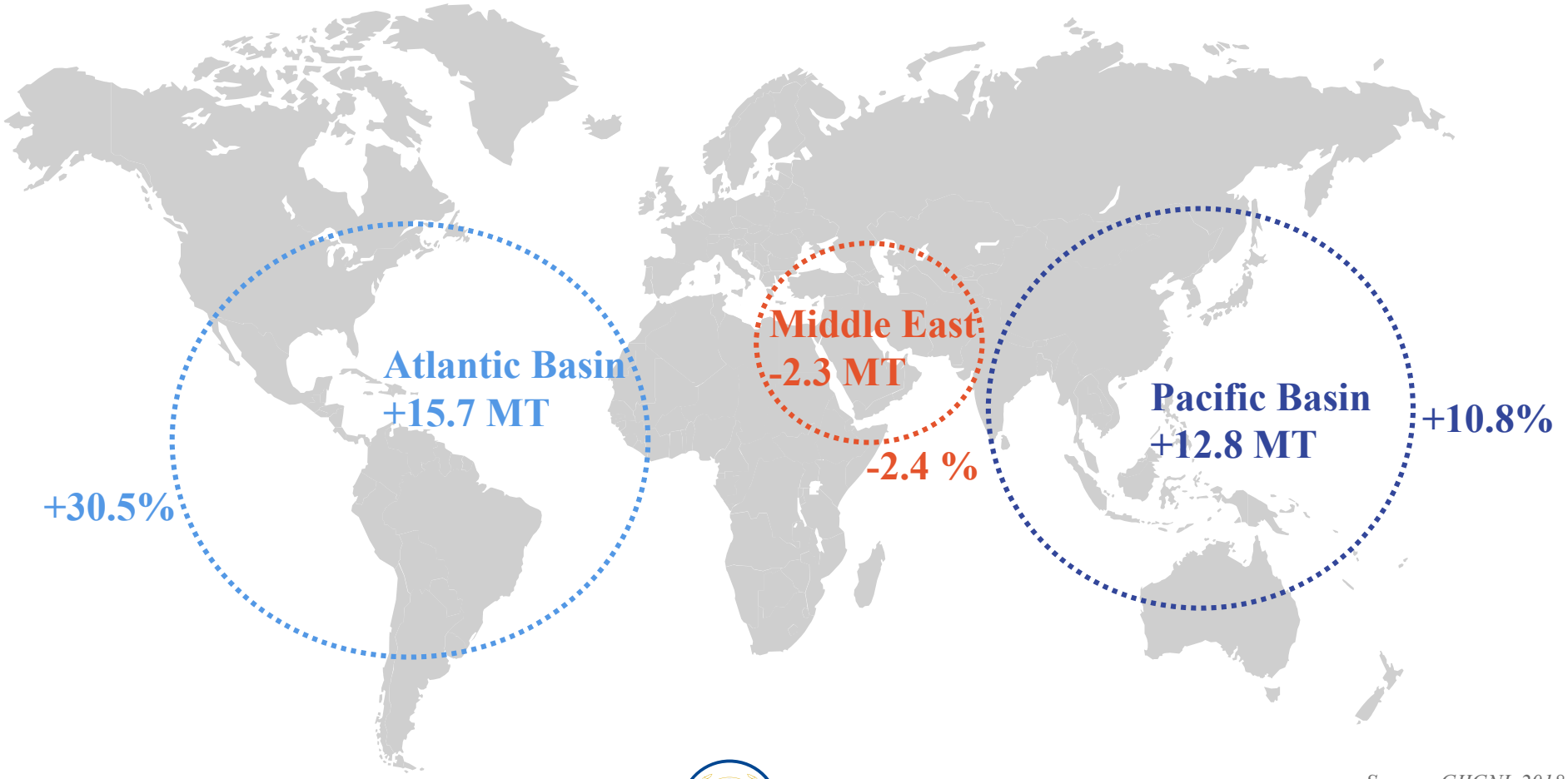
2016	2017
263.6 MT	289.8 MT

Total: +26.2 MT

Source: GIIGNL 2018 Annual Report

2017 LNG SUPPLY

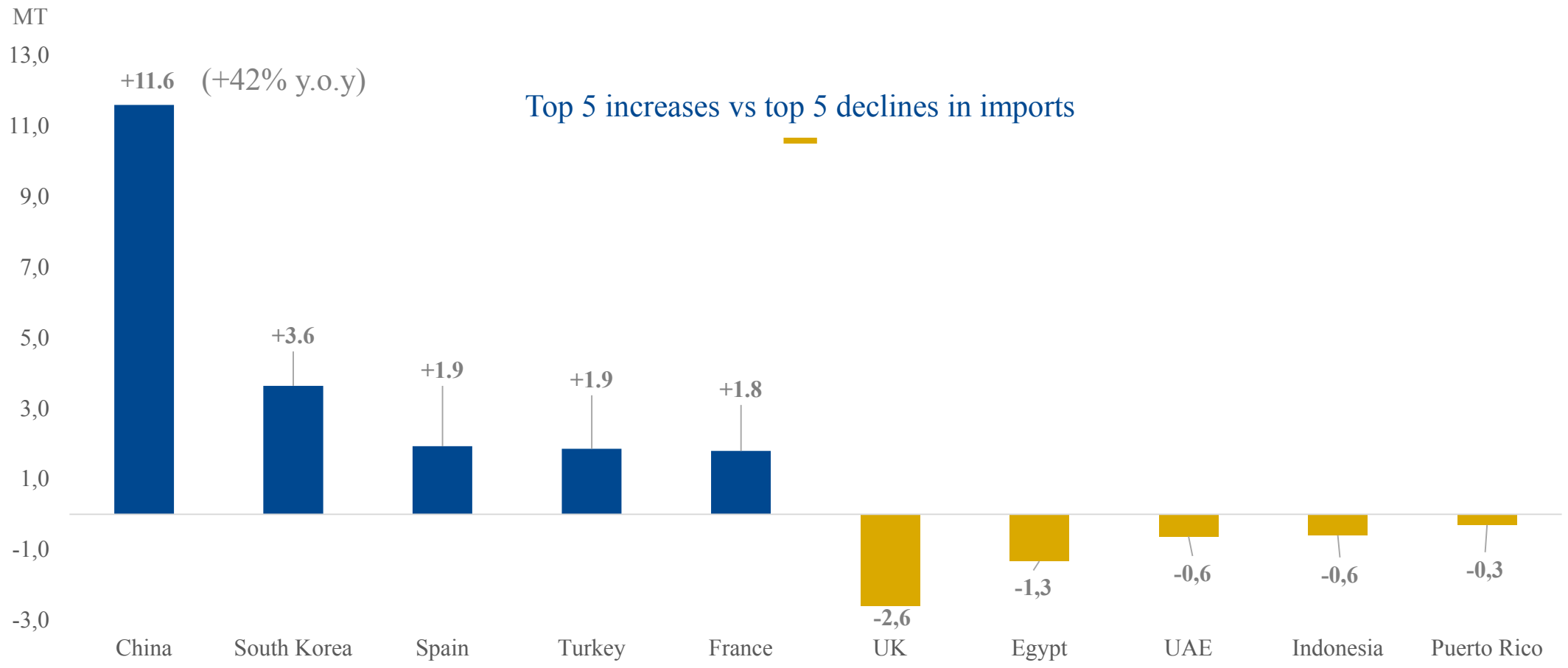
LNG supplies from the Atlantic Basin on the rise



Source: GIIGNL 2018 Annual Report

2017 IMPORTS VS 2016

China and South Korea accounted for 15.2 MTPA of additional LNG imports



Source: GIIGNL 2018 Annual Report