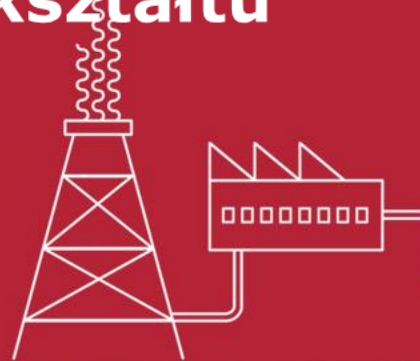




Prelegent: Jan Talaśka
DNV GL

Era LNG nabiera kształtu



[Warszawa - 28 listopada 2019 r.]

Polska Platforma LNG 2019



[Warsaw - 28 November 2019]

Polish LNG Conference 2019

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Era LNG nabiera kształtu

A forecast for natural gas and the LNG market

Polska Platforma LNG - Konferencja Warszawa 2019

Jan Talaśka

28 November 2019

Dzisiejsza prezentacja

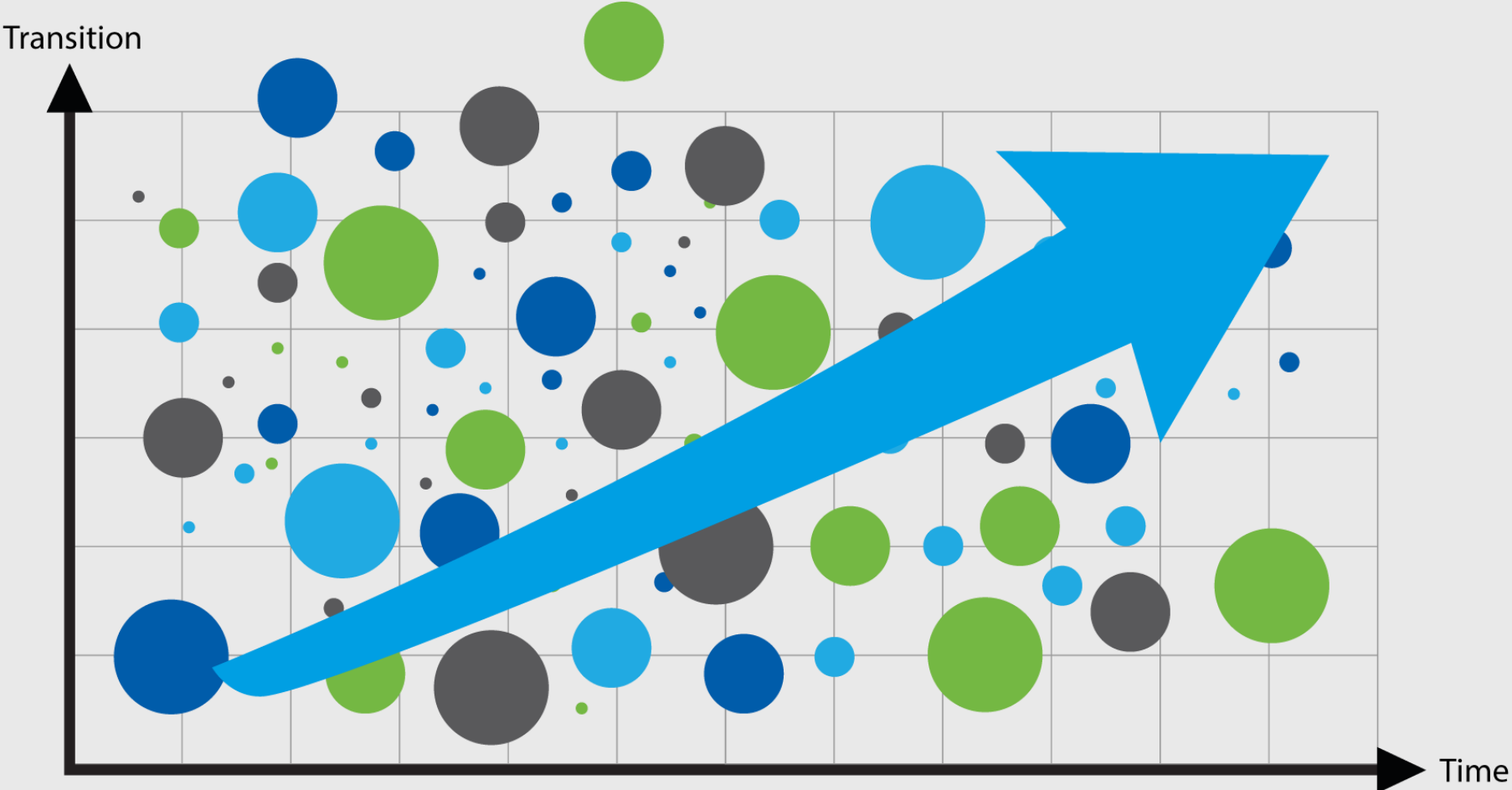
Findings drawn from two sources:

- DNV GL 2019 Energy Transition Outlook
- DNV GL 2019 LNG Market Outlook
- DNV GL 2019 The LNG Era Takes Shape

- DNV GL 2019 Perspektywa transformacji energetycznej na rok 2019
- Era LNG nabiera kształtu

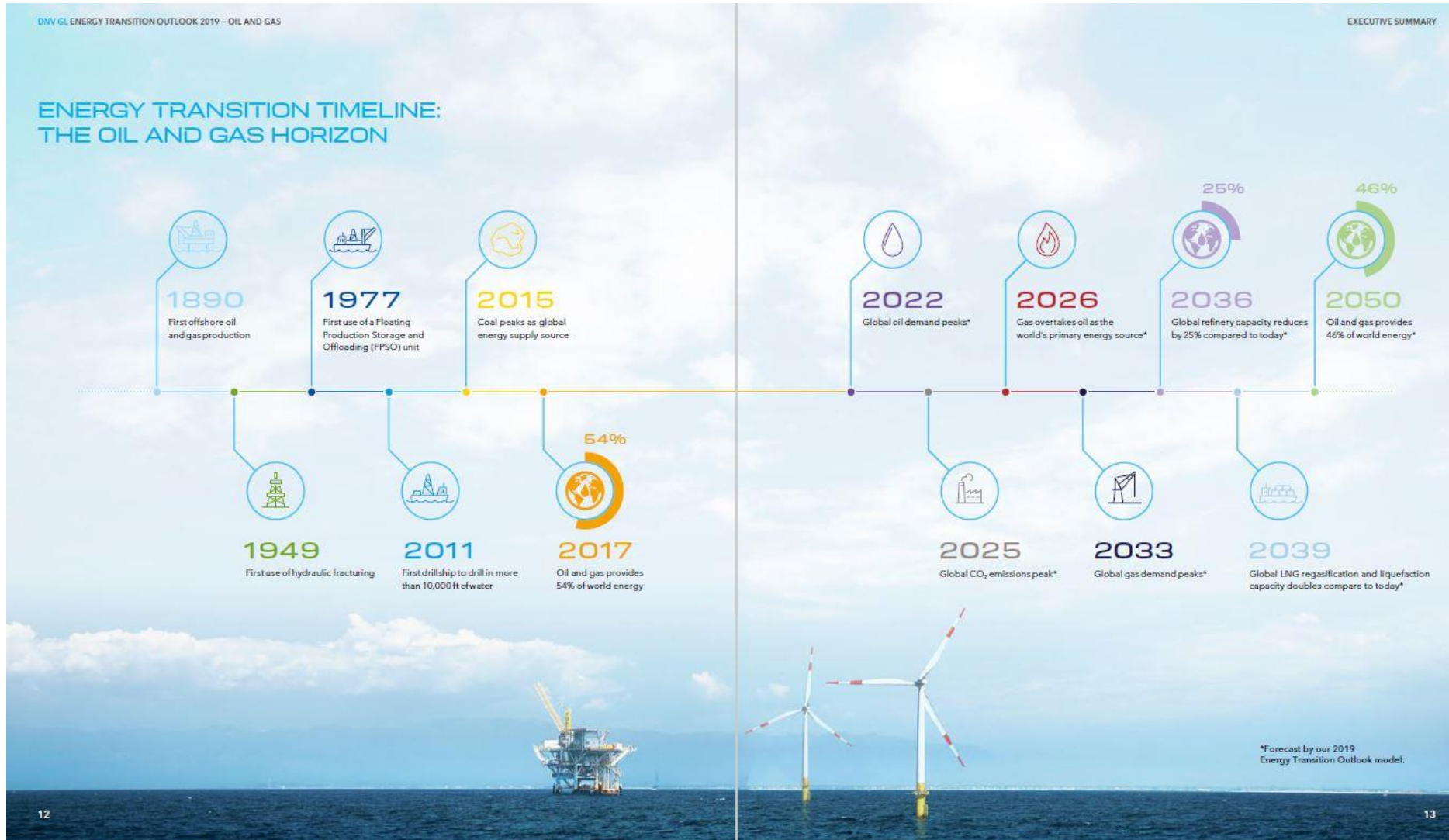


Prognoza, nie nowy scenariusz



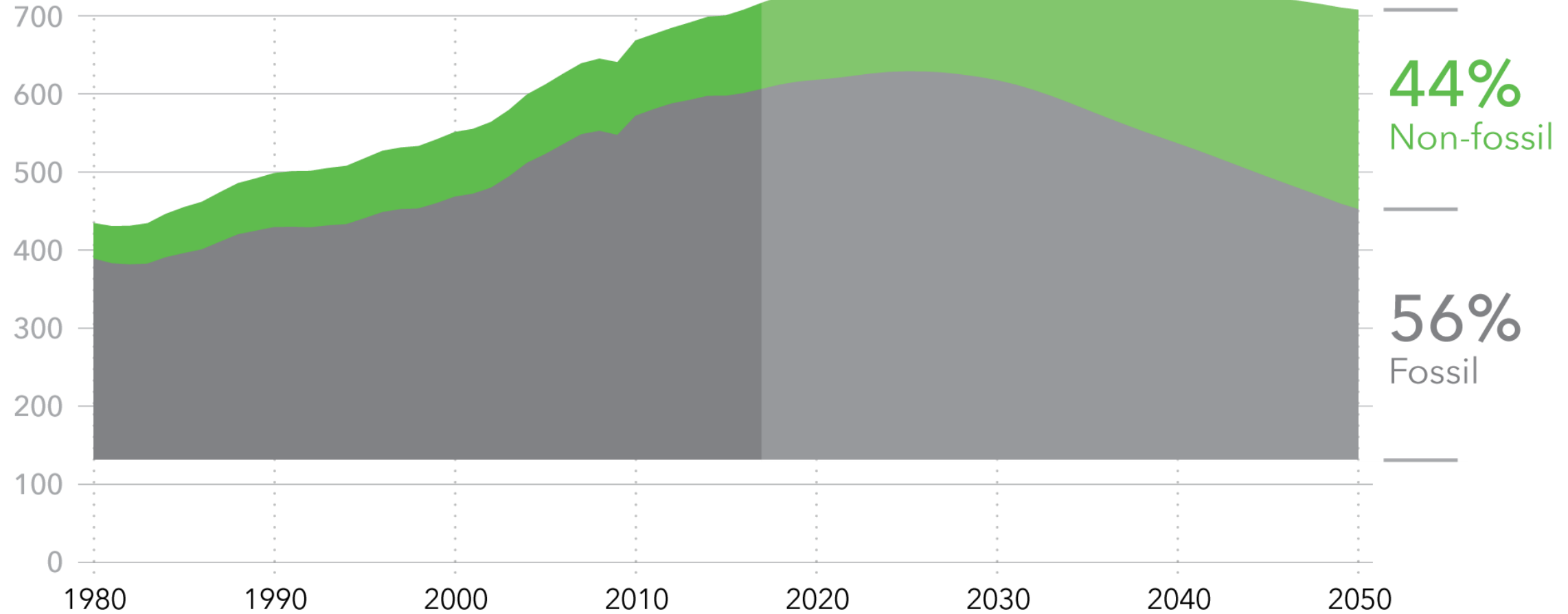
Source: DNV GL 2018 Energy Transition Outlook

Ropa naftowa i gaz na osi czasu



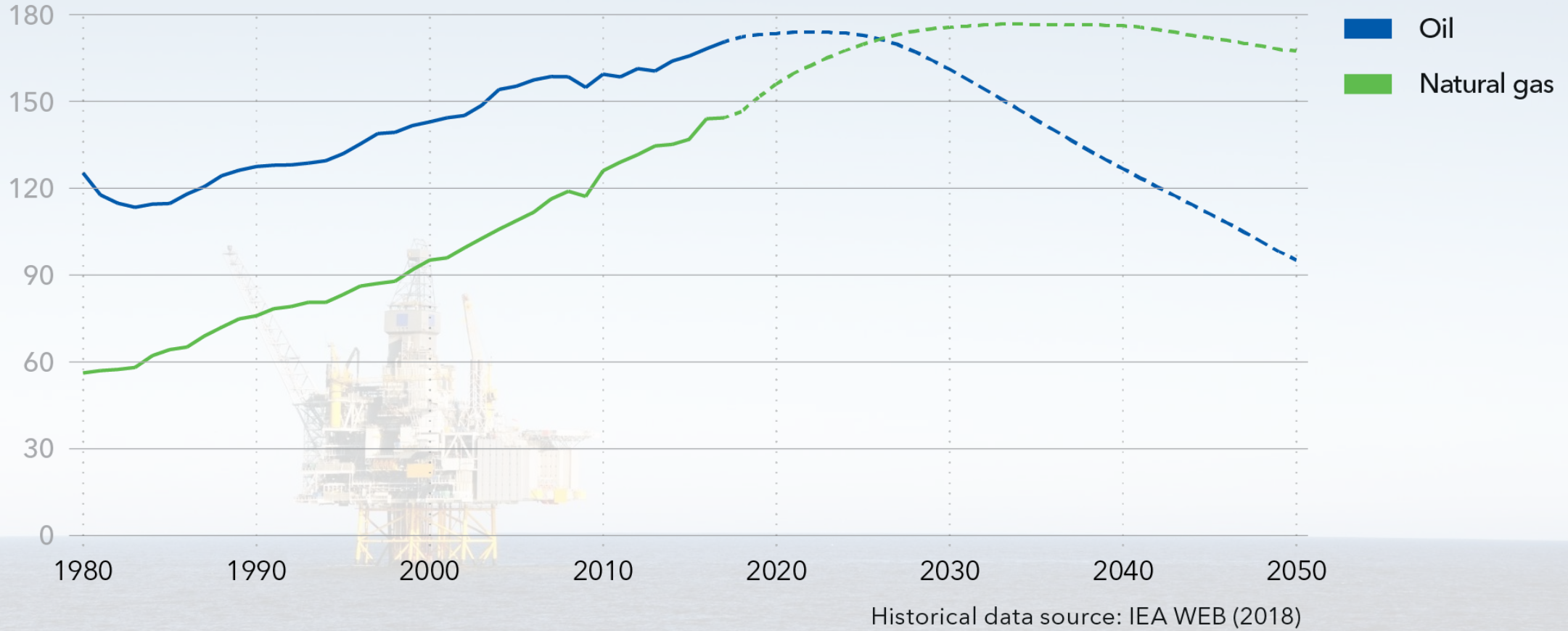
Podział źródeł energii in 2050

Units: EJ/yr



Prognoza użycia energii ze źródeł kopalnianych

Units: EJ/yr

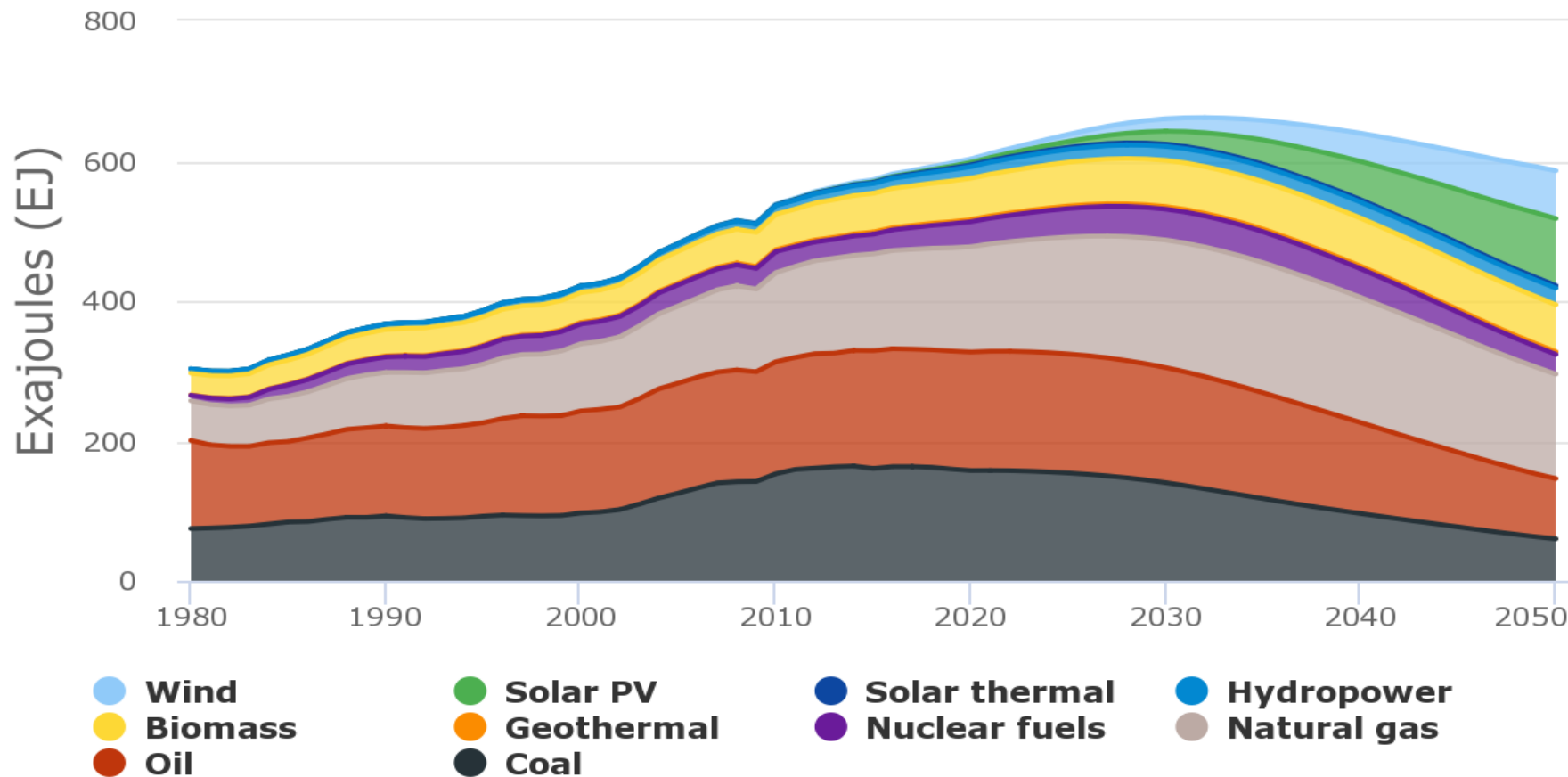


Source: DNV GL 2018 Energy Transition Outlook

Główne światowe źródła energii w mikście energetycznym

World primary energy supply by source

DNV GL Energy Transition Outlook 2018

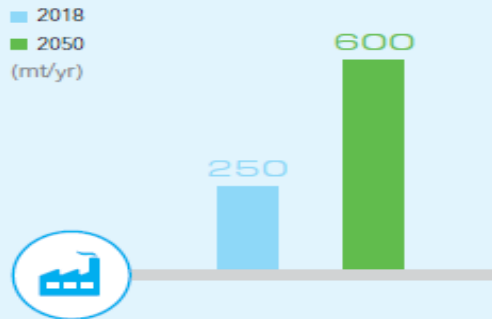


DNV GL - ETO 2018

Wzrost produkcji i handlu LNG

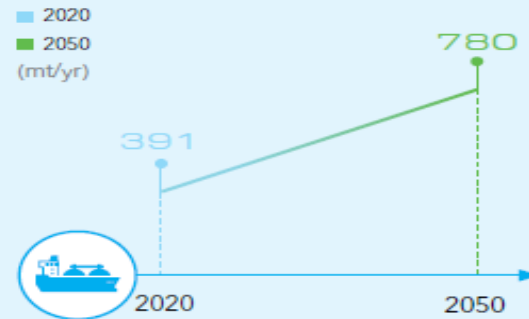
Growth in LNG production and trade

Global LNG production forecast



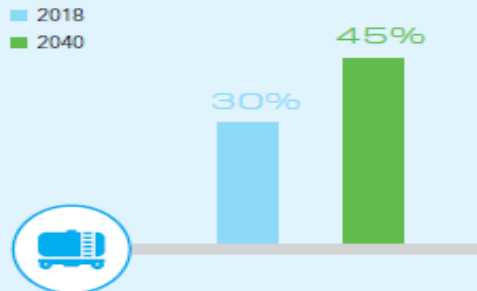
DNV GL's 2018 Energy Transition Outlook - which forecasts global energy markets to 2050 - estimates that global LNG production will increase from 250 mt/yr in 2016 to around 630 mt/yr in 2050.

Global seaborne natural gas trade forecast



The model forecasts an average 2.5% annual rise in global seaborne natural gas trade - LNG and liquid petroleum gas combined - from 391 mt/yr in 2020 to around 780 mt/yr in 2050.

Forecast share of gas transport as LNG



Gas transport as LNG is expected to grow faster than pipeline transport, with the share of gas transported as LNG to grow from 30% today to 45% by 2040.

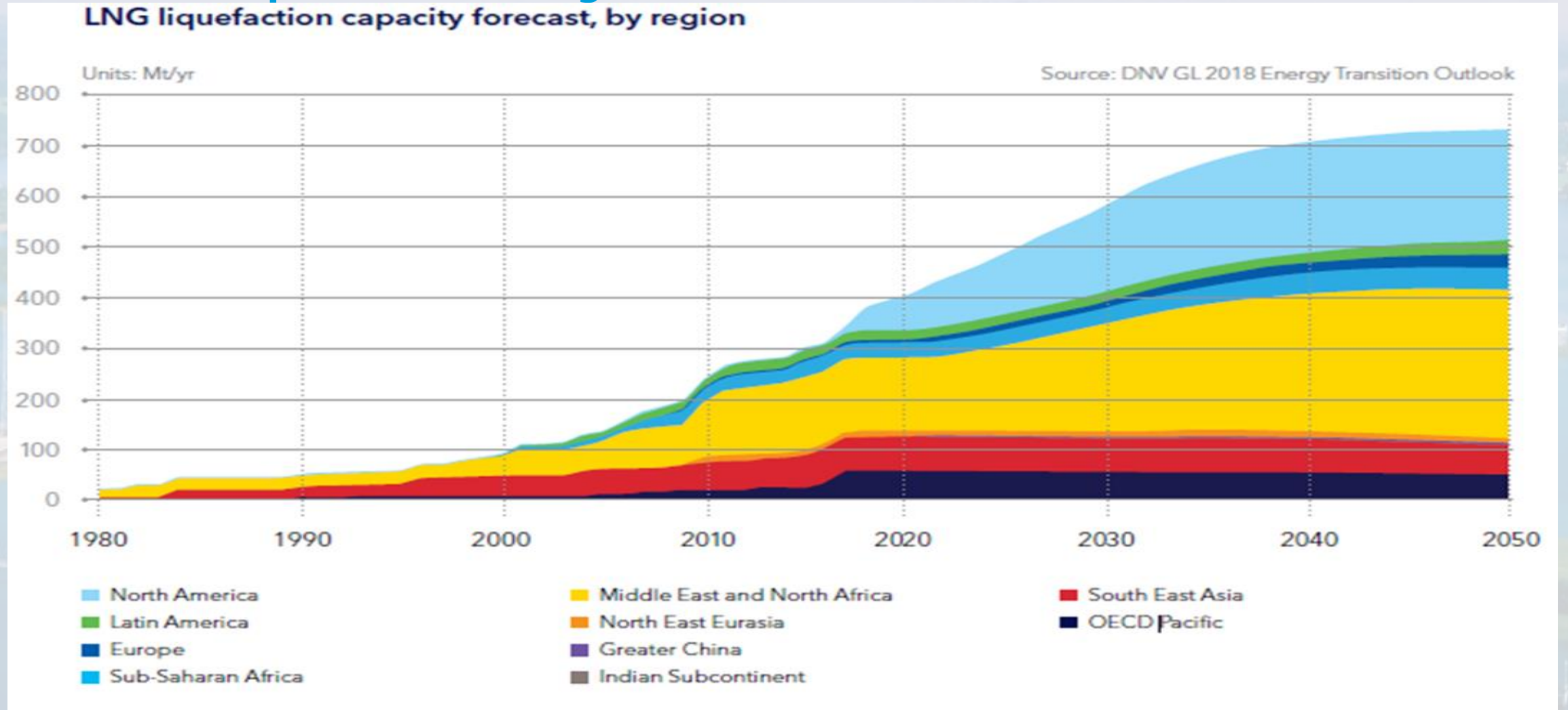
Top two regions for liquefaction capacity in 2050

- North America's share of global liquefaction capacity in 2050
- Middle East & North Africa's share of liquefaction capacity in 2050



Conventional gas from the Middle East and North Africa, and unconventional gas from North America is forecast to account for 70% of LNG liquefaction capacity in 2050.

Zdolność skraplana LNG w regionach

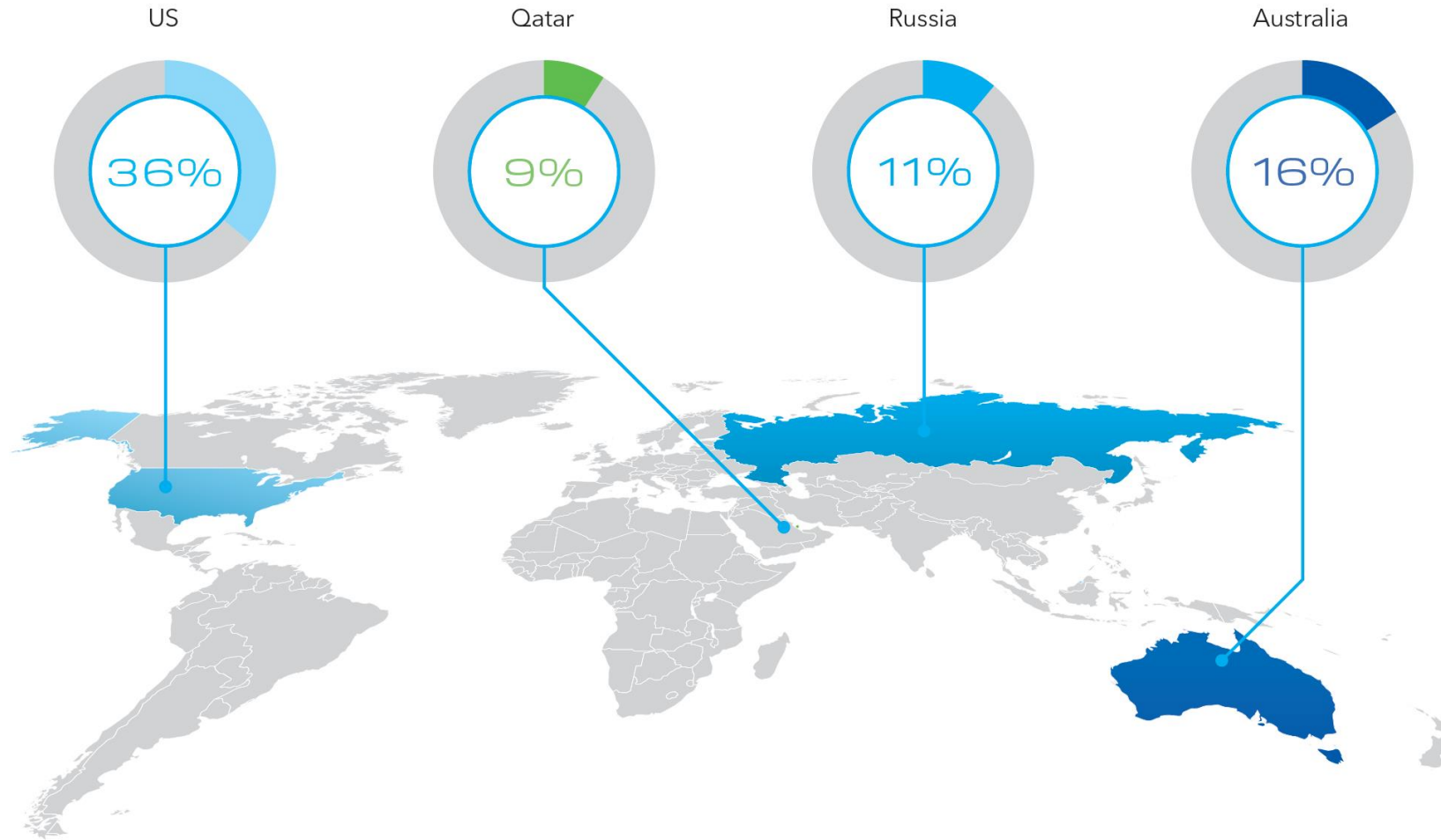


Source: DNV GL 2018 Energy Transition Outlook

Globalne inwestycje w rurociągi i infrastrukturę LNG



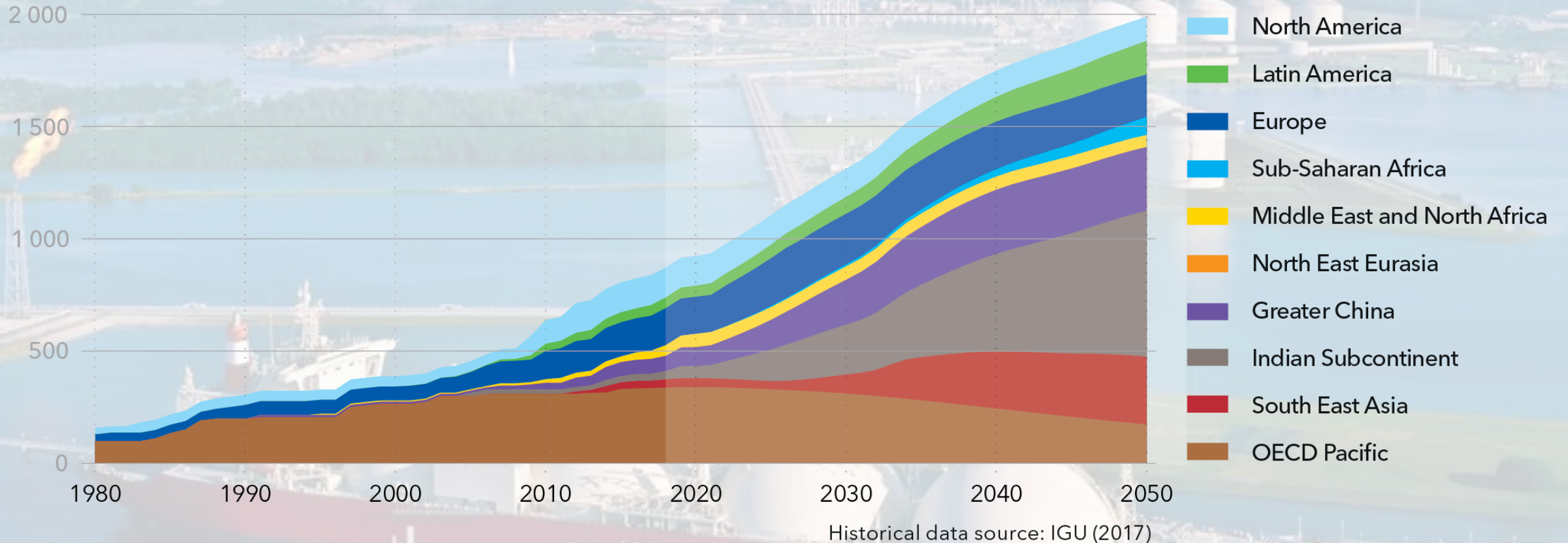
Kraje, w których respondenci oczekują największego wzrostu eksportu LNG w ciągu najbliższych trzech lat



Source: DNV GL 2019 LNG Market Survey

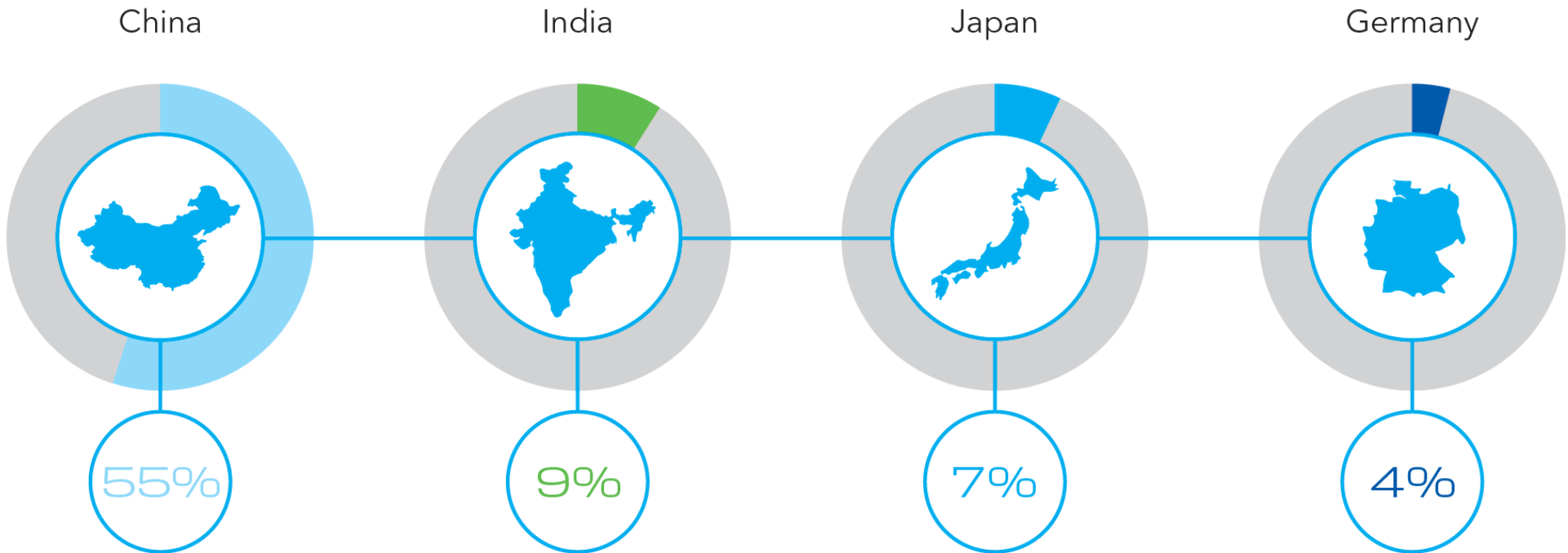
Zdolność regazyfikacji LNG w regionach

Units: Mt/yr



Source: DNV GL 2018 Energy Transition Outlook

Kraje, w których respondenci oczekują największego wzrostu importu LNG w ciągu najbliższych trzech lat

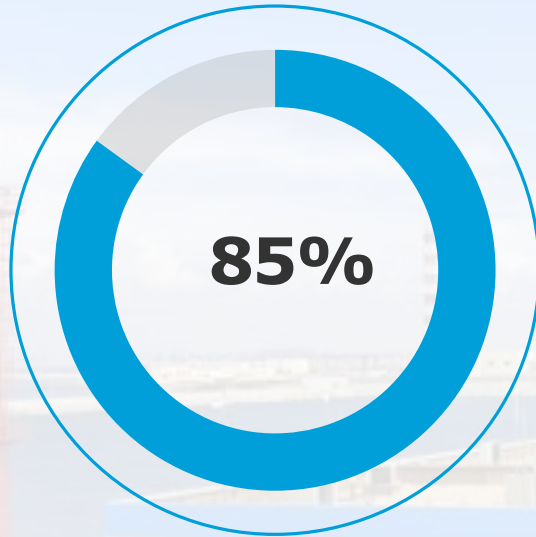


Source: DNV GL 2019 LNG Market Survey

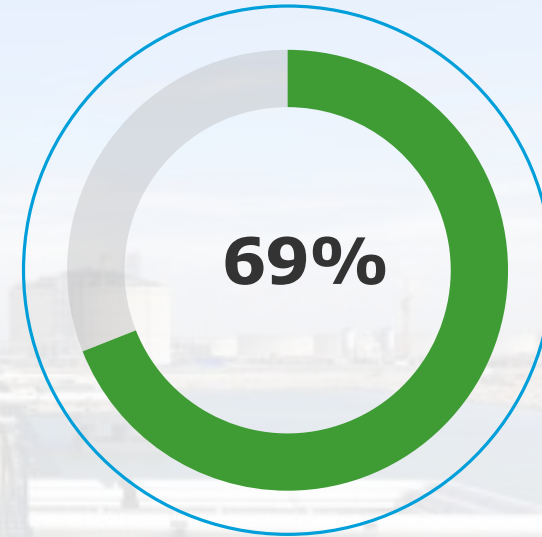


WYZWANIA A MOŻLIWOŚCI

Potrzebna jest większa infrastruktura, ale nakłady inwestycyjne są niepewne



believe that more investment is needed in LNG infrastructure to satisfy growing demand after 2025

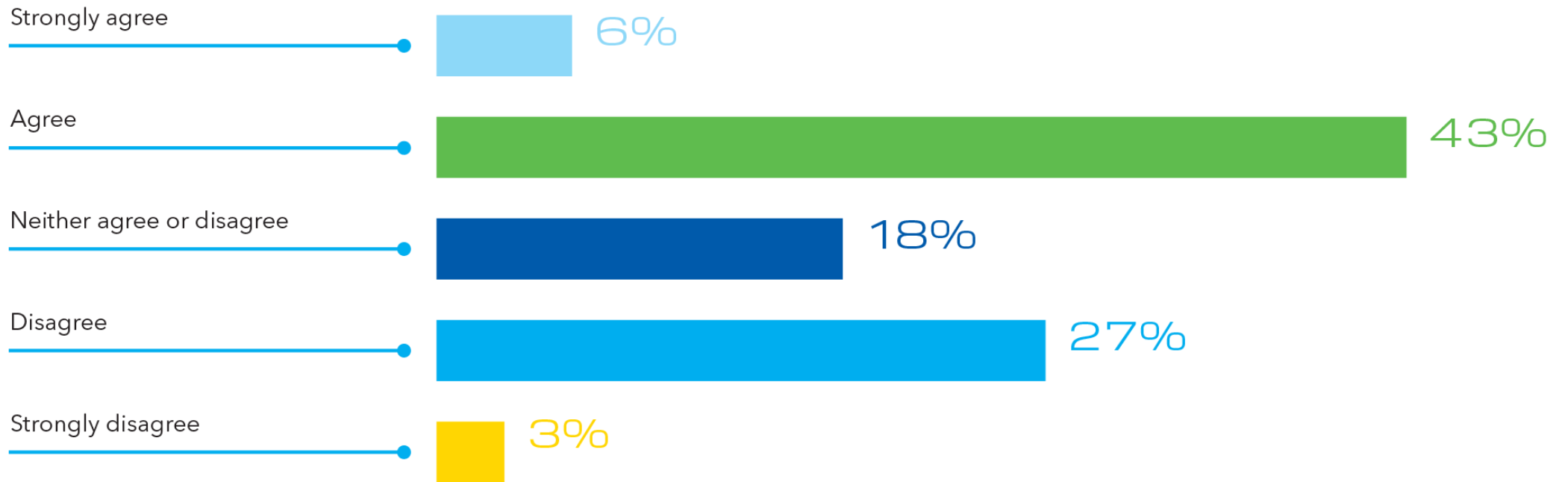


think price uncertainty is limiting spending in LNG mega projects

Source: DNV GL 2019 LNG Market Survey

Co powoduje niechęć do inwestowania ?

Extent to which respondents agree that contracted LNG prices will continue to be linked to the oil price

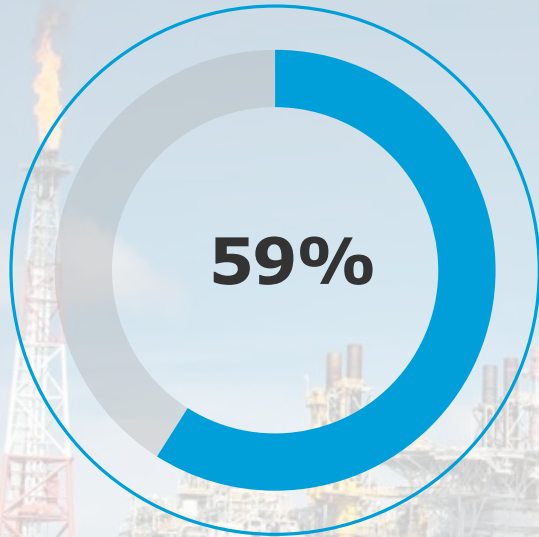


Source: DNV GL 2019 LNG Market Survey

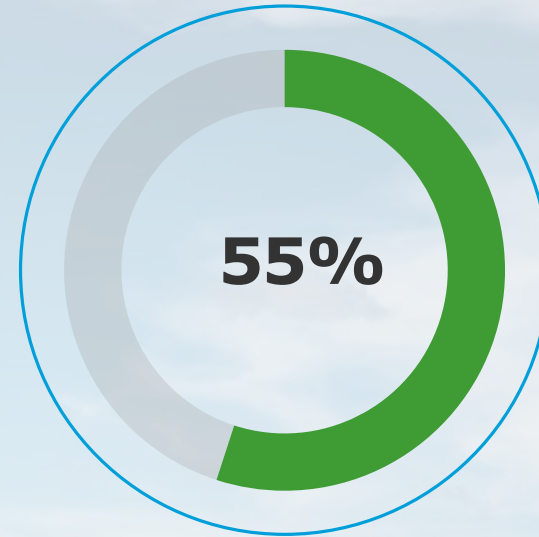


POTRZEBA NOWEGO PODEJŚCIA

Sprawne i elastyczne podejście do produkcji LNG



think smaller FLNG vessels and LNG tanker conversions are preferred over large-scale floating production units



believe it is likely that operators will outsource or lease critical field development assets in 2019

Source: DNV GL 2019 LNG Market Survey

Efektywne podejście do handlu



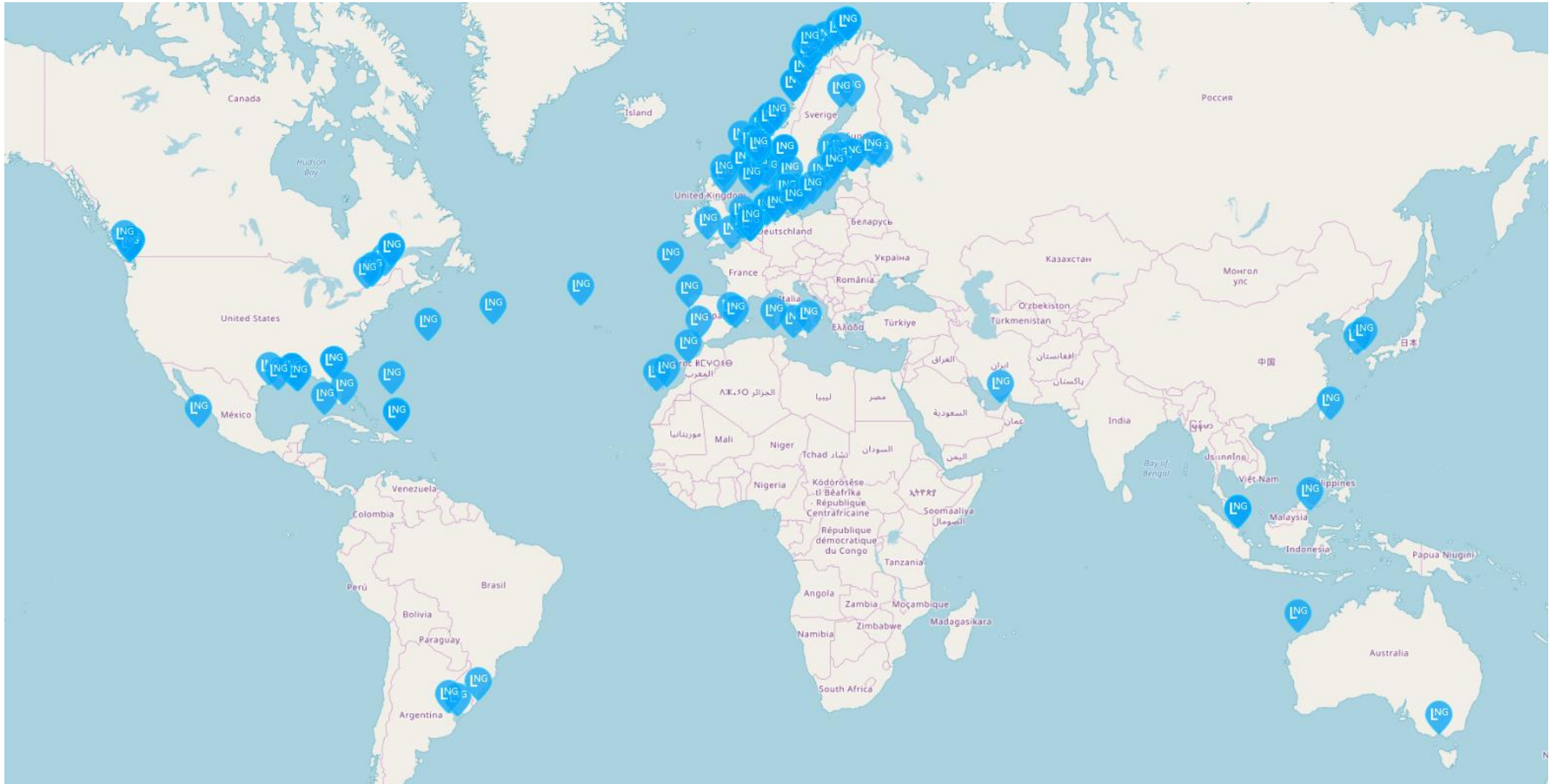
Three quarters believe that buyers need more flexible contracts, where LNG volumes can be reduced, tenures shortened and delivery locations changed

72%

Source: DNV GL 2019 LNG Market Survey

LNG na morzu

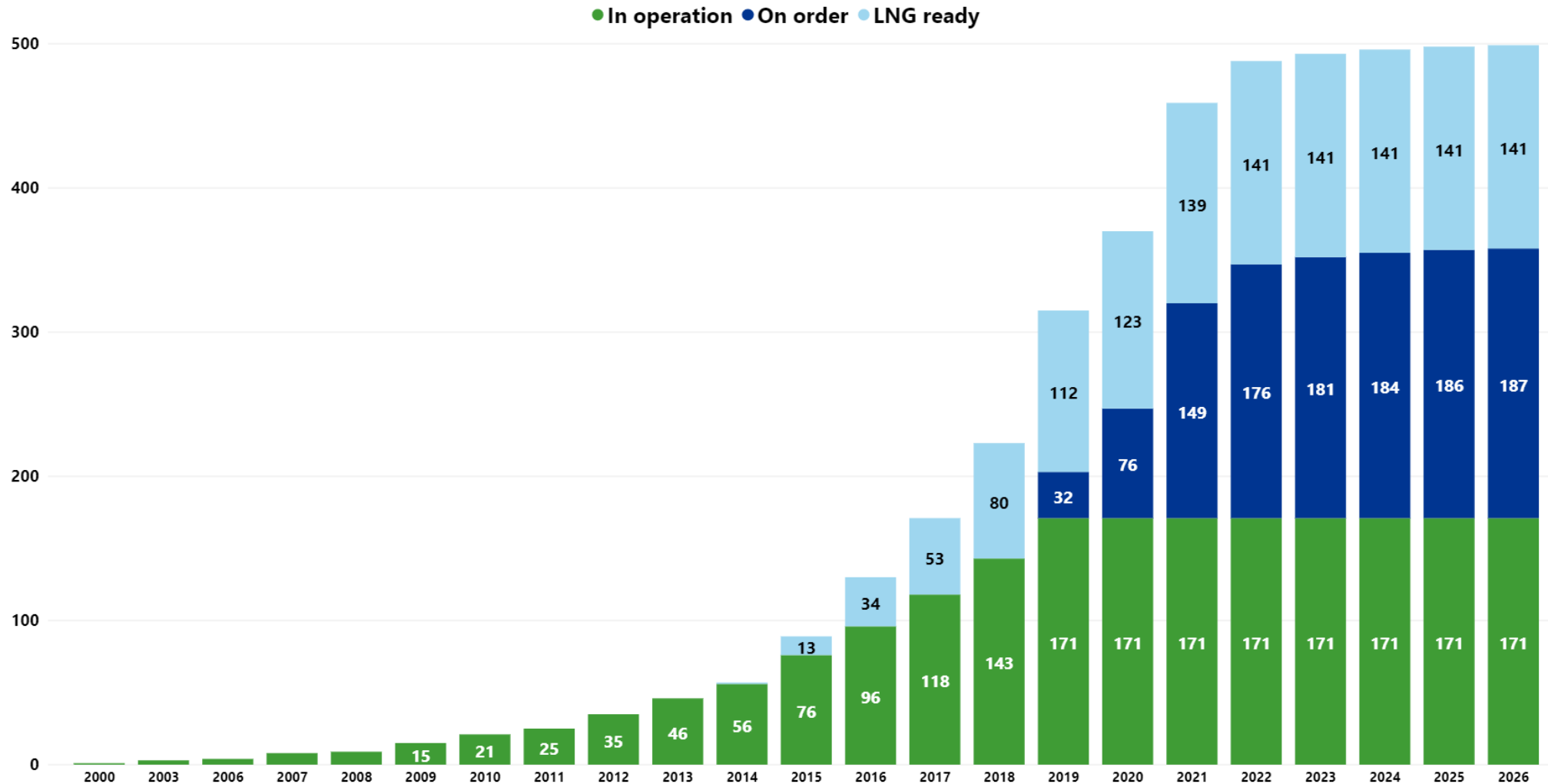
Statki napędzane LNG operują już dużym obszarze



Rozwijana jest infrastruktura bunkrowania LNG w celu zaopatrzenia rosnącej floty

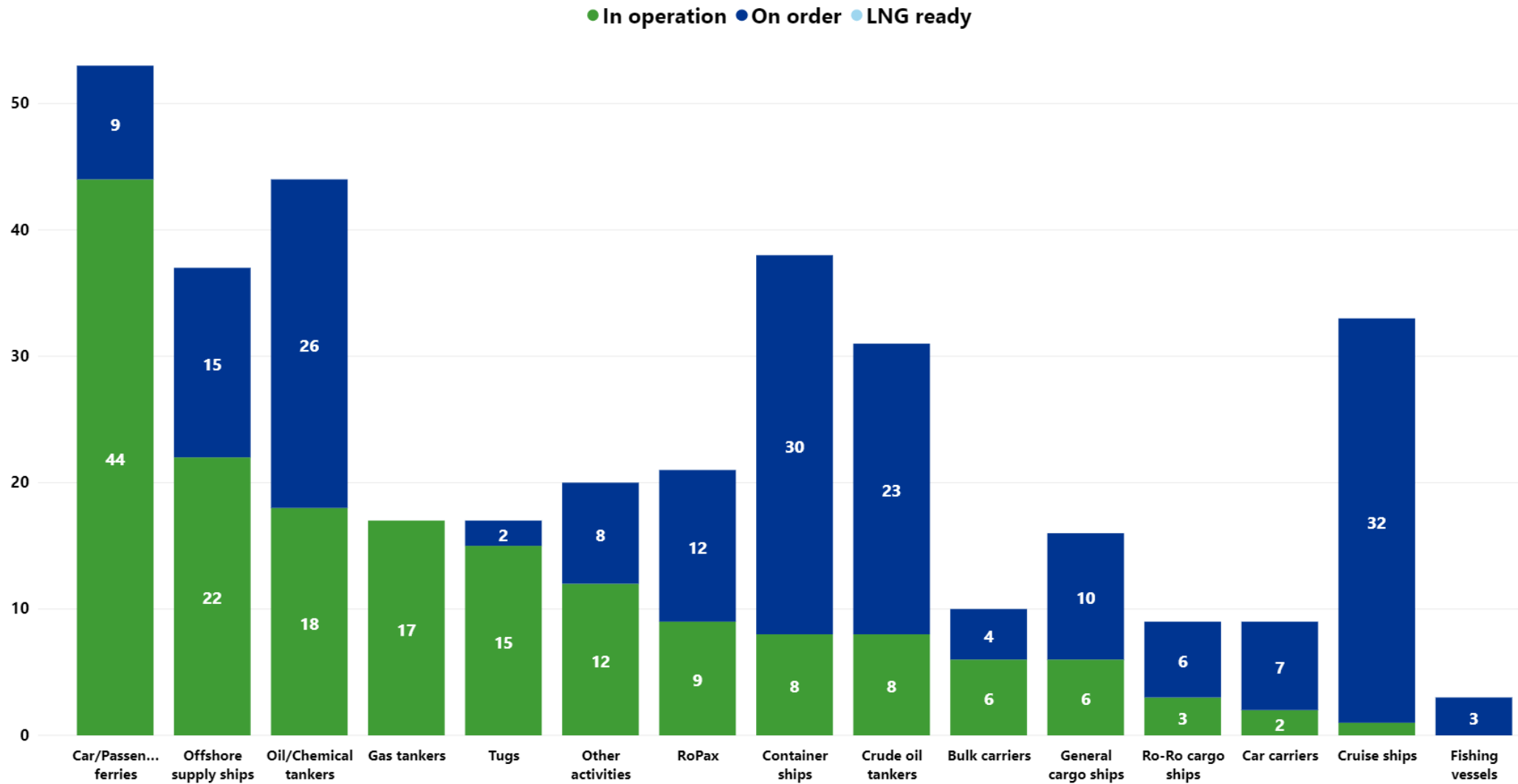


Obecnie istnieje 358 potwierdzonych statków napędzanych LNG i 141 statków gotowych na użycie LNG jako paliwa

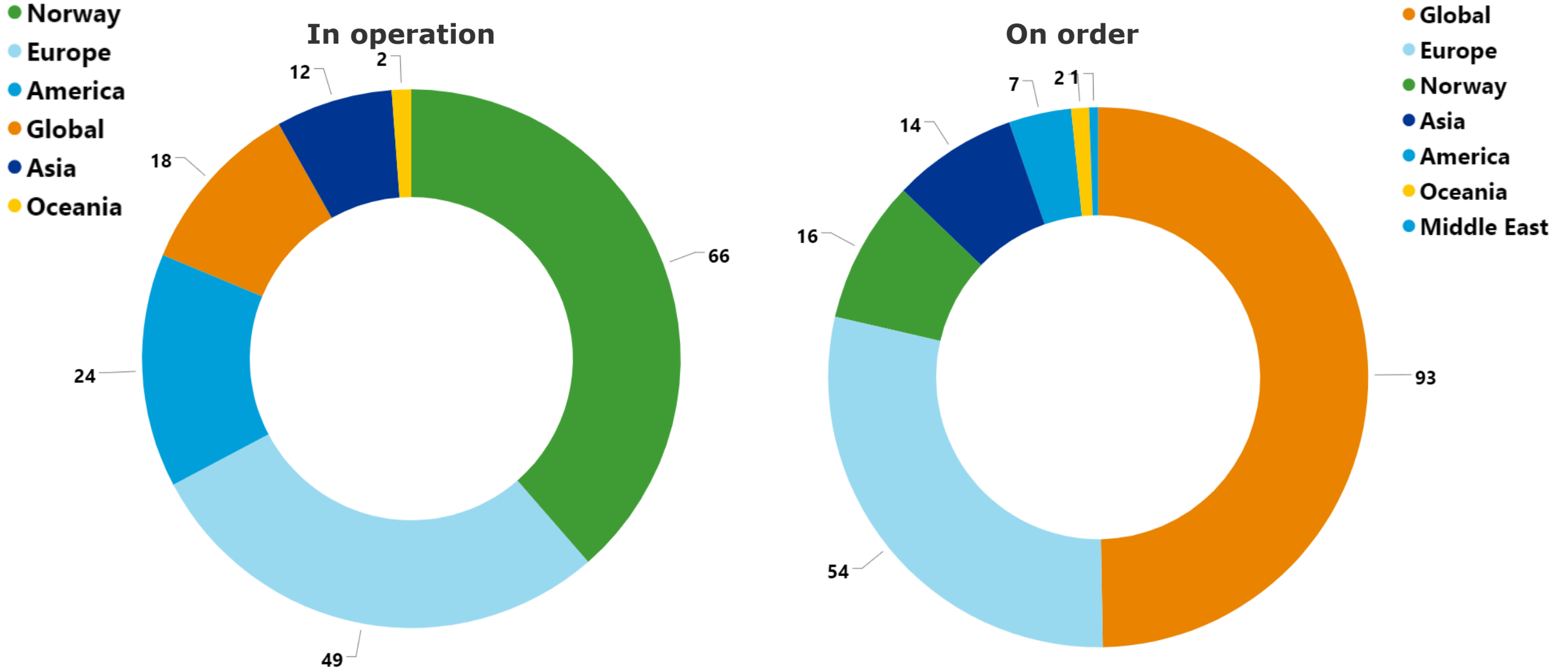


Showing delivery year of existing orders only. Future additional contracts will increase the number of LNG fueled ship deliveries in 2020 and onwards.

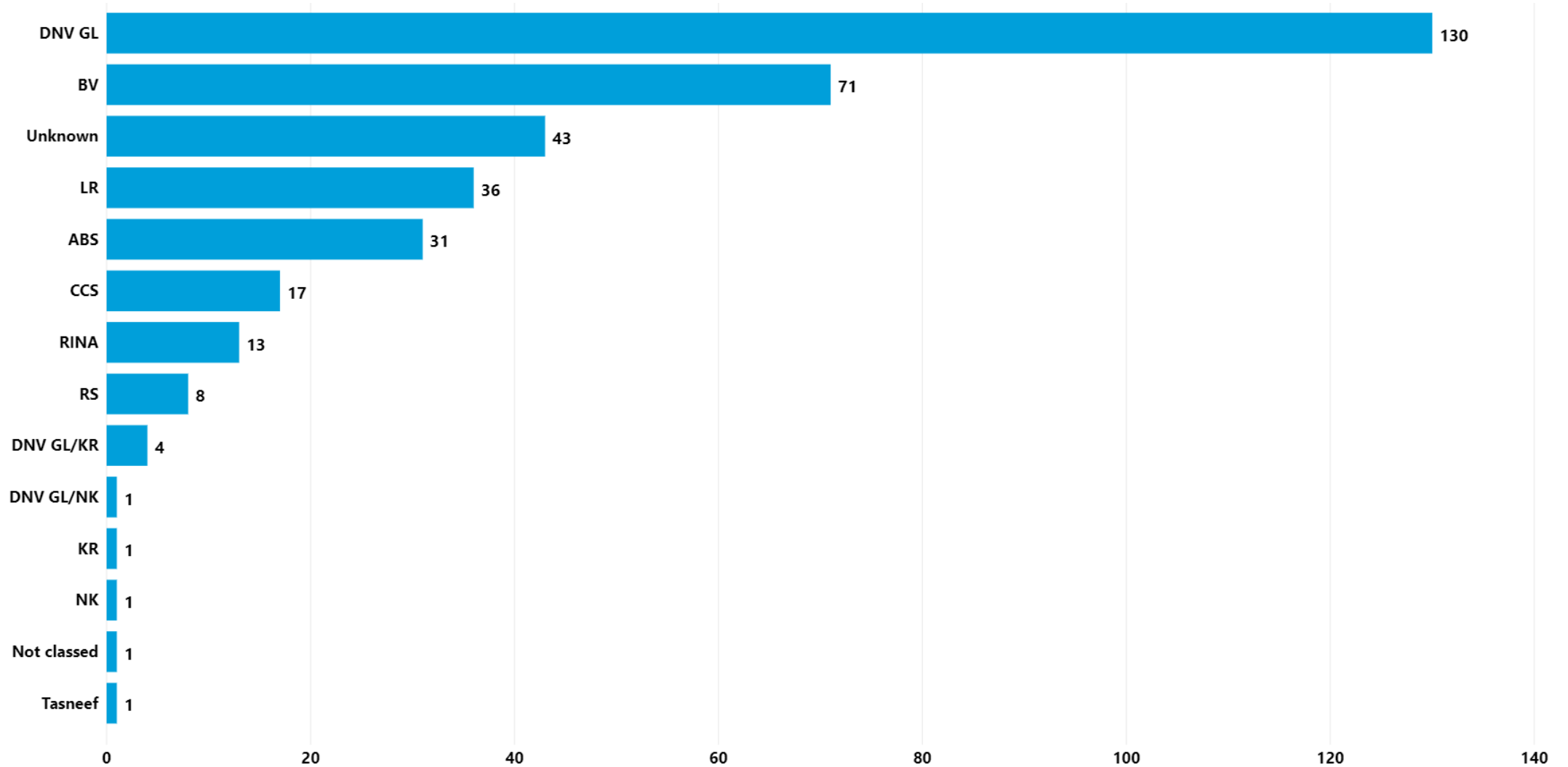
Flota zasilana LNG według rodzaju statku



Obszar operowania statków napędzanych LNG




Statki zasilane LNG - towarzystwo klasyfikacyjne



WORLDWIDE LNG PROJECT EXPERIENCE



*FSRU position as of October 2018



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