



RystadEnergy

Pace of Energy Transition and Implications for the Offshore Sector

2024 Marine Money Offshore Energy Finance Forum

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MARINE
M O N E Y

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2 Offshore Market Briefing

Rystad Energy is a top-tier energy advisory and business intelligence services provider

Rystad Energy's Value Proposition



An **independent energy advisory and research firm** established in **2004**



Headquartered in **Oslo, Norway** with offices in **major energy and finance hubs** globally



Leading energy advisors in strategy, business development and transaction advisory



Global business intelligence databases for the energy industry

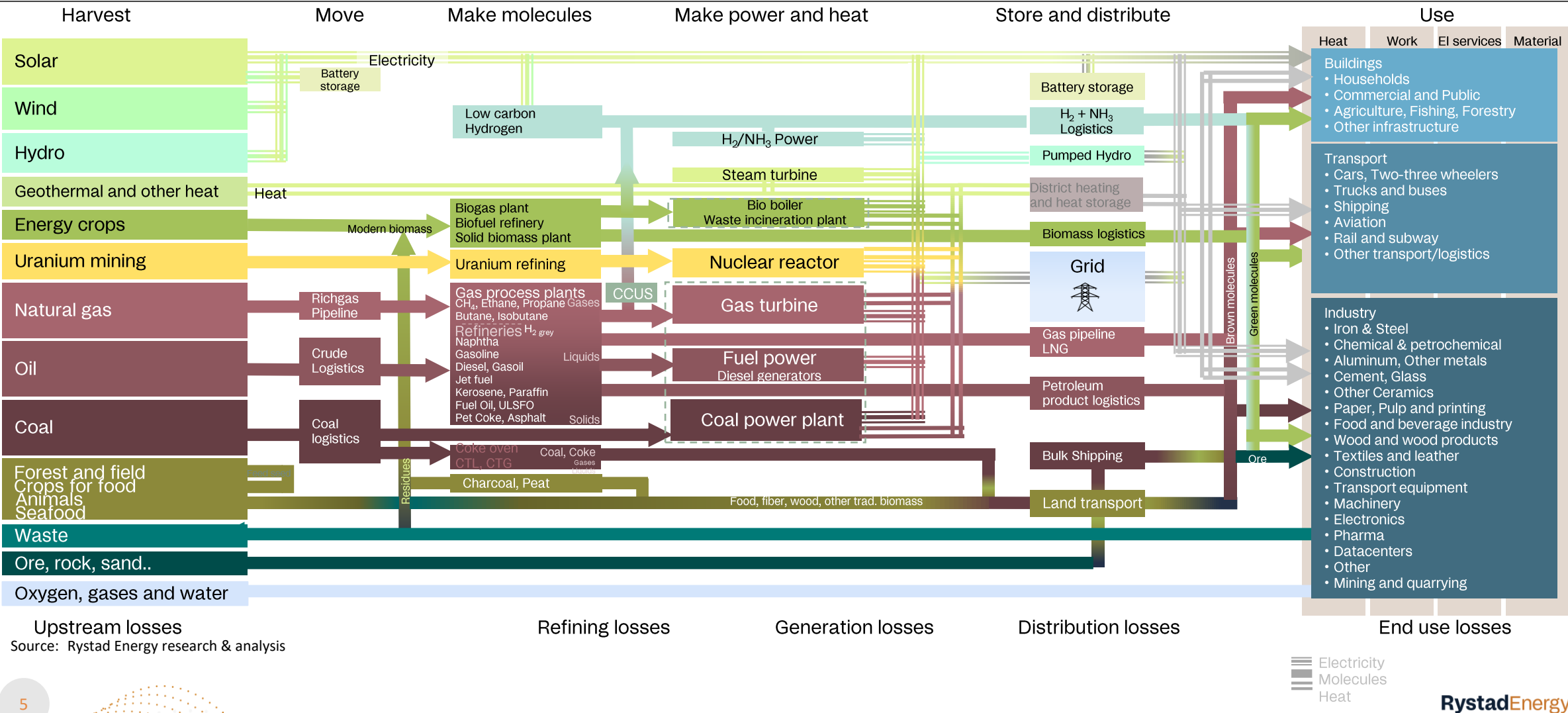


Library of cutting-edge industry reports on high impact topics

Source: Rystad Energy research & analysis

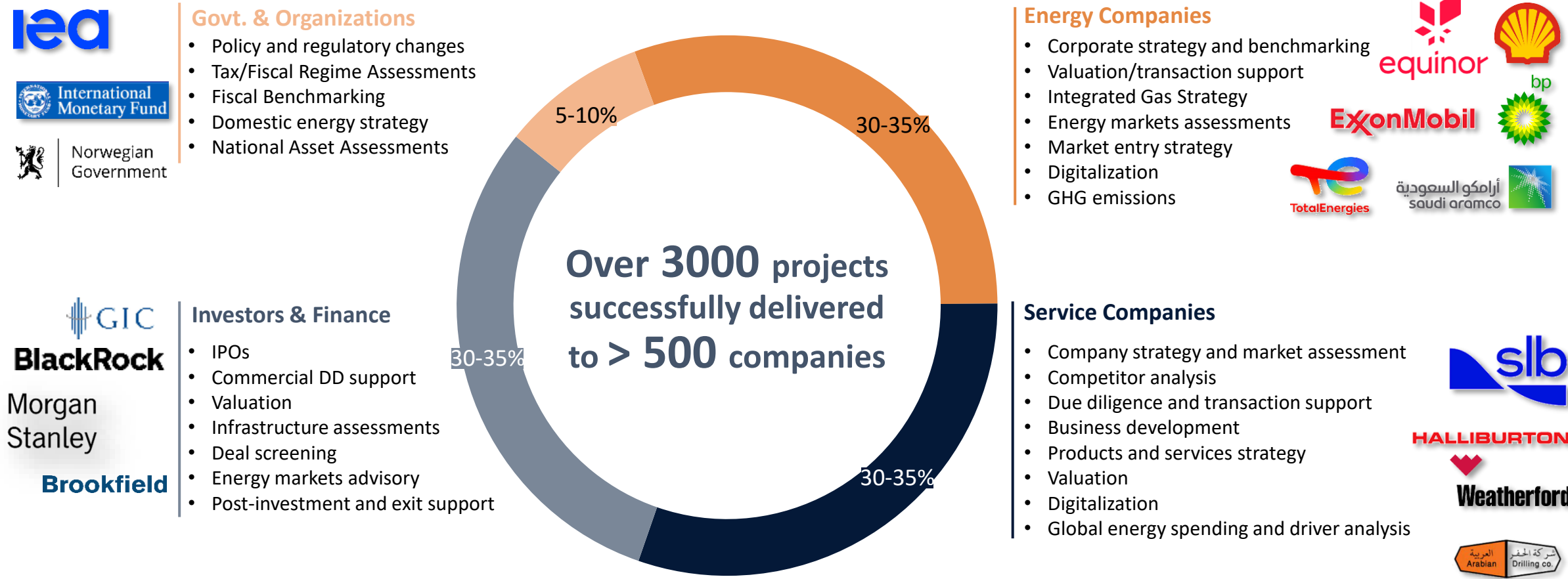
We aim to create a full digital twin of the energy sector via our research coverage and granularity

Rystad Energy Research Coverage



Having executed over 3,000 advisory projects, Rystad Energy Advisory remains as the trusted advisor to more than 500 leading firms

Rystad Energy Advisory Solutions across Client Type



Source: Rystad Energy research & analysis

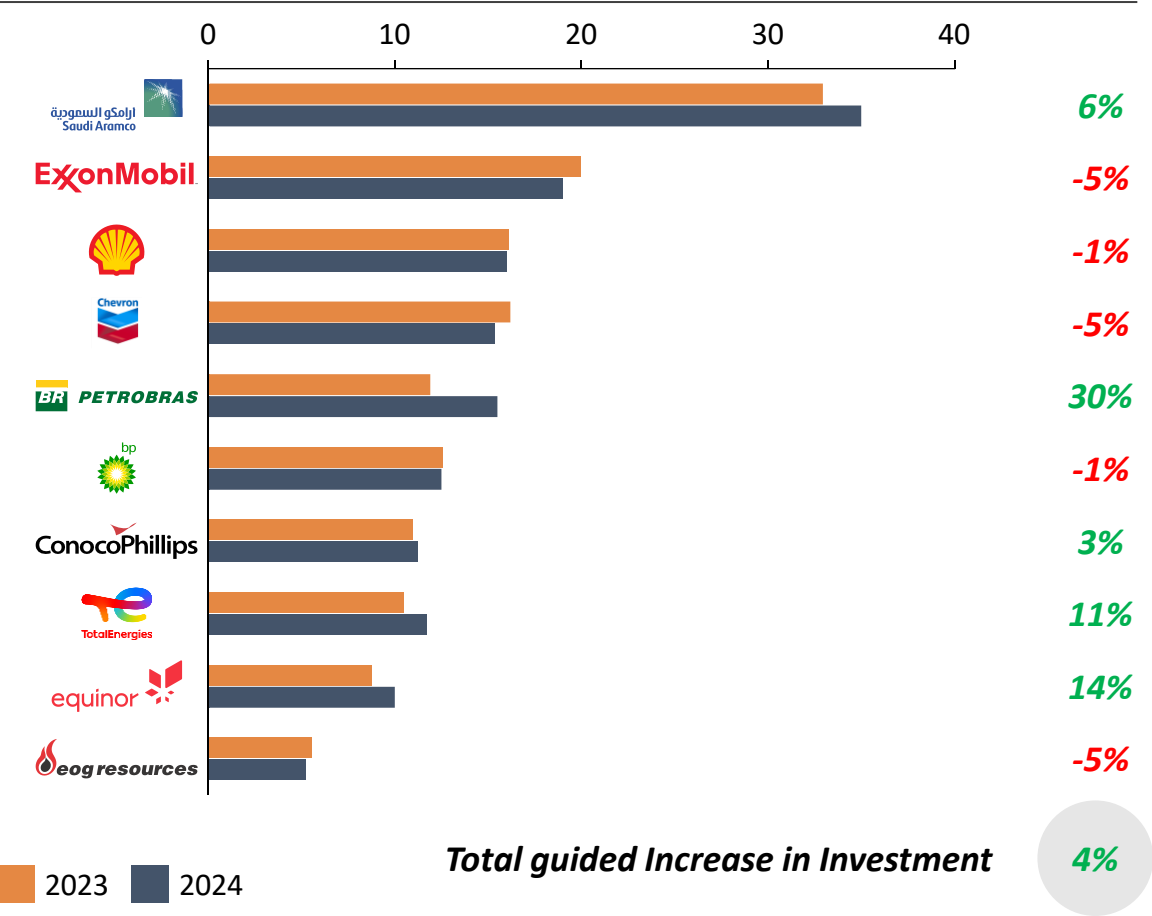
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1 Introduction to Rystad Energy

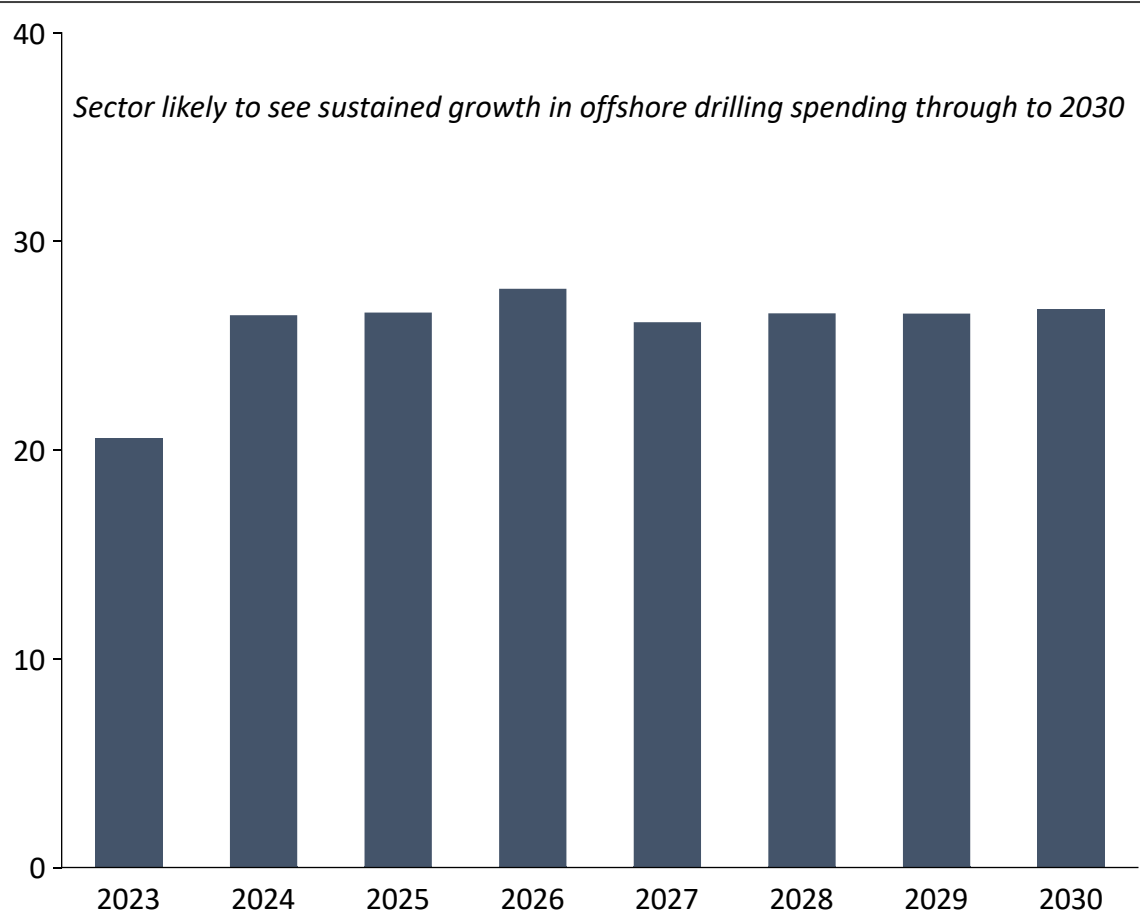
2 Offshore Market Briefing

Sustained oil prices and energy supply concerns have led to higher industry investment commitments and spendings

Top 10 companies in guided increase in 2024 upstream investments
USD billion, Real



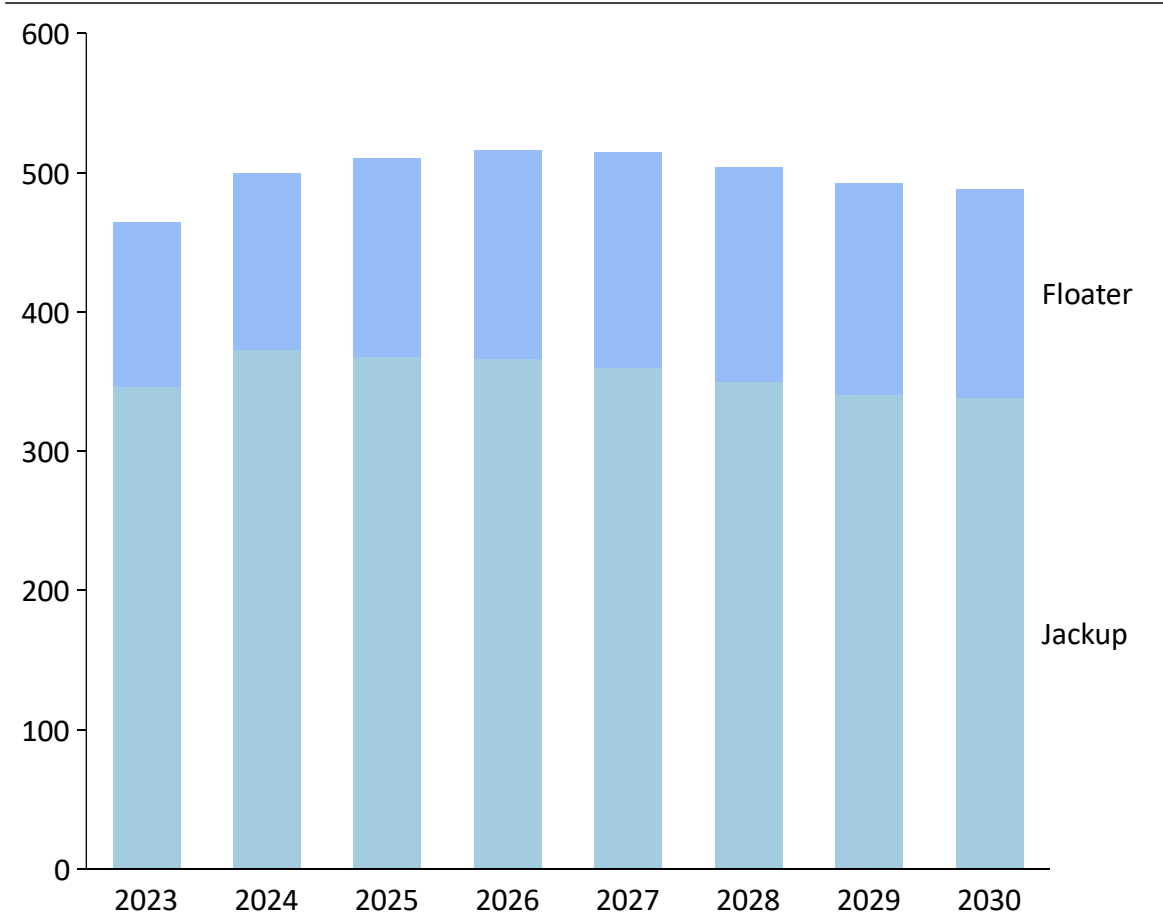
Offshore E&P drilling spending
USD billion, Real



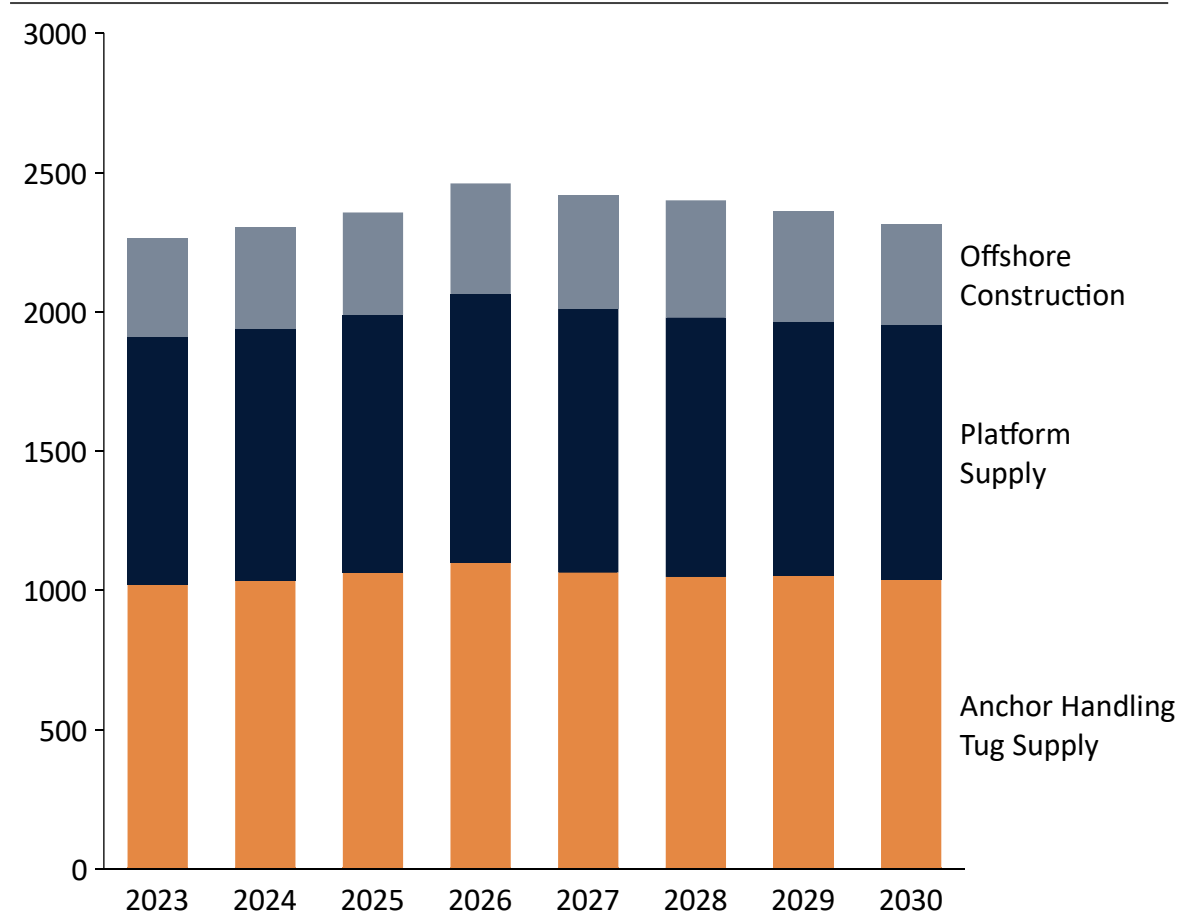
Sources: Rystad Energy research and analysis, Various company reports

The offshore rig market is expected to see sustained uptake, with rig and offshore vessel demand tracking closely with drilling activity

Offshore E&P rig demand by rig type
Rig years



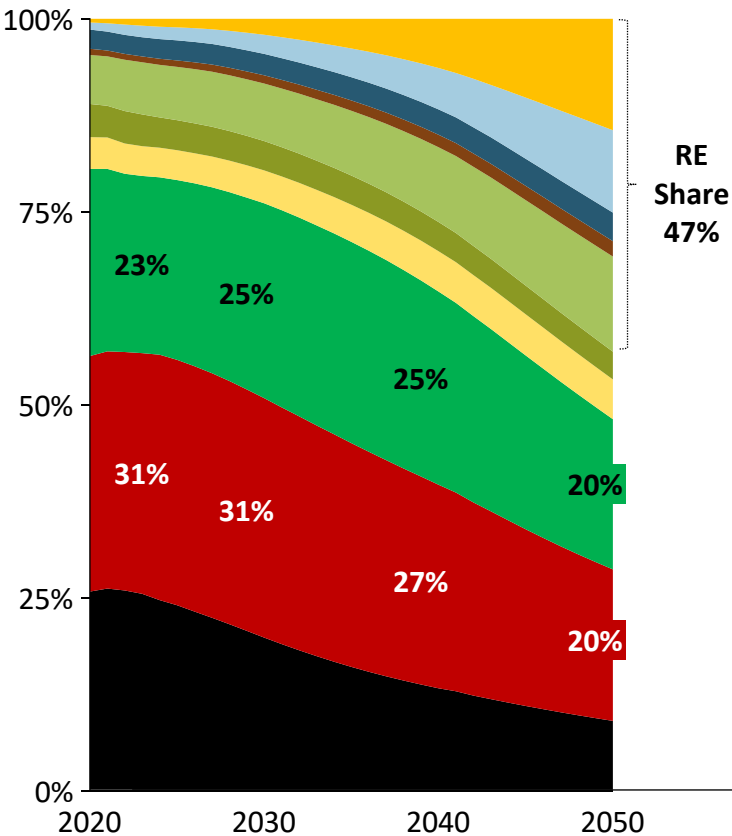
Offshore E&P vessel demand by type
Vessel years



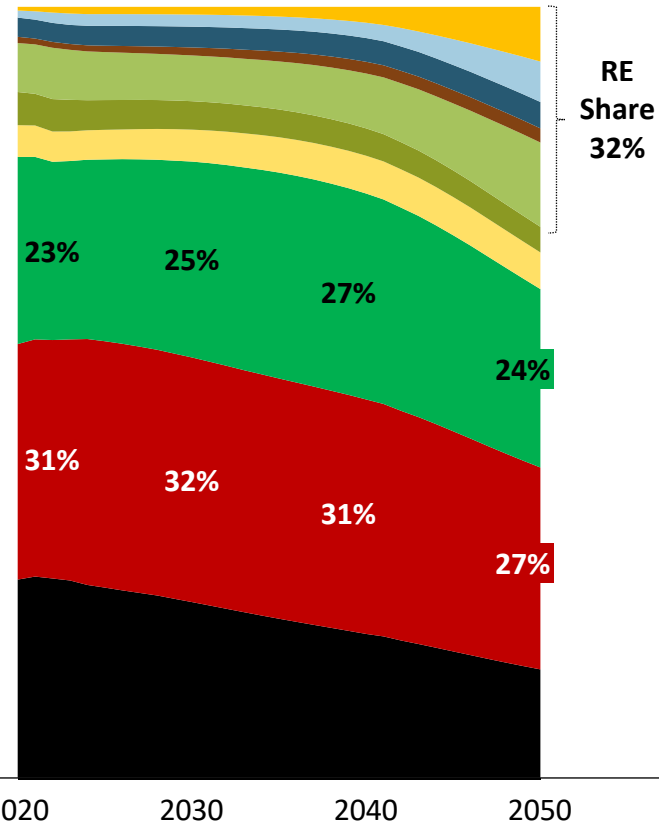
Note: Rig/Vessel years demand are the number of rigs/vessel needed based on the sum of time a rig/vessel spends on drilling/working in one year
Sources: Rystad Energy research and analysis, Rystad Energy Offshore Vessel Analysis Dashboard, Rystad Energy Offshore Rig Demand Analysis Dashboard

Long-term energy outlook remains uncertain with transition looming

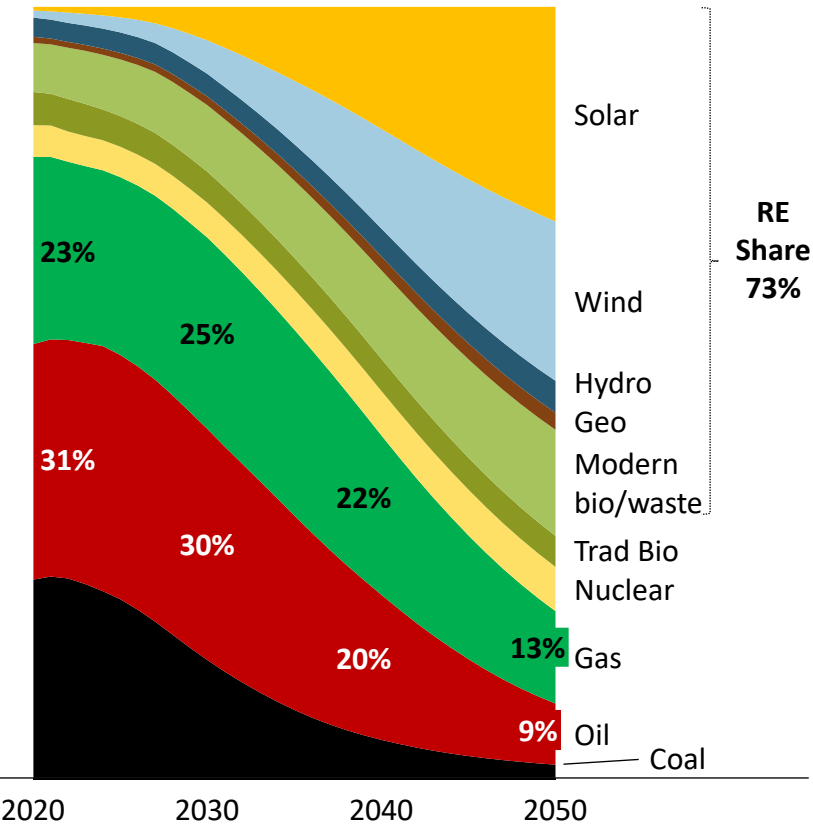
Primary energy mix in 1.9 DG scenario
%



Primary energy mix in 2.2 DG scenario
%



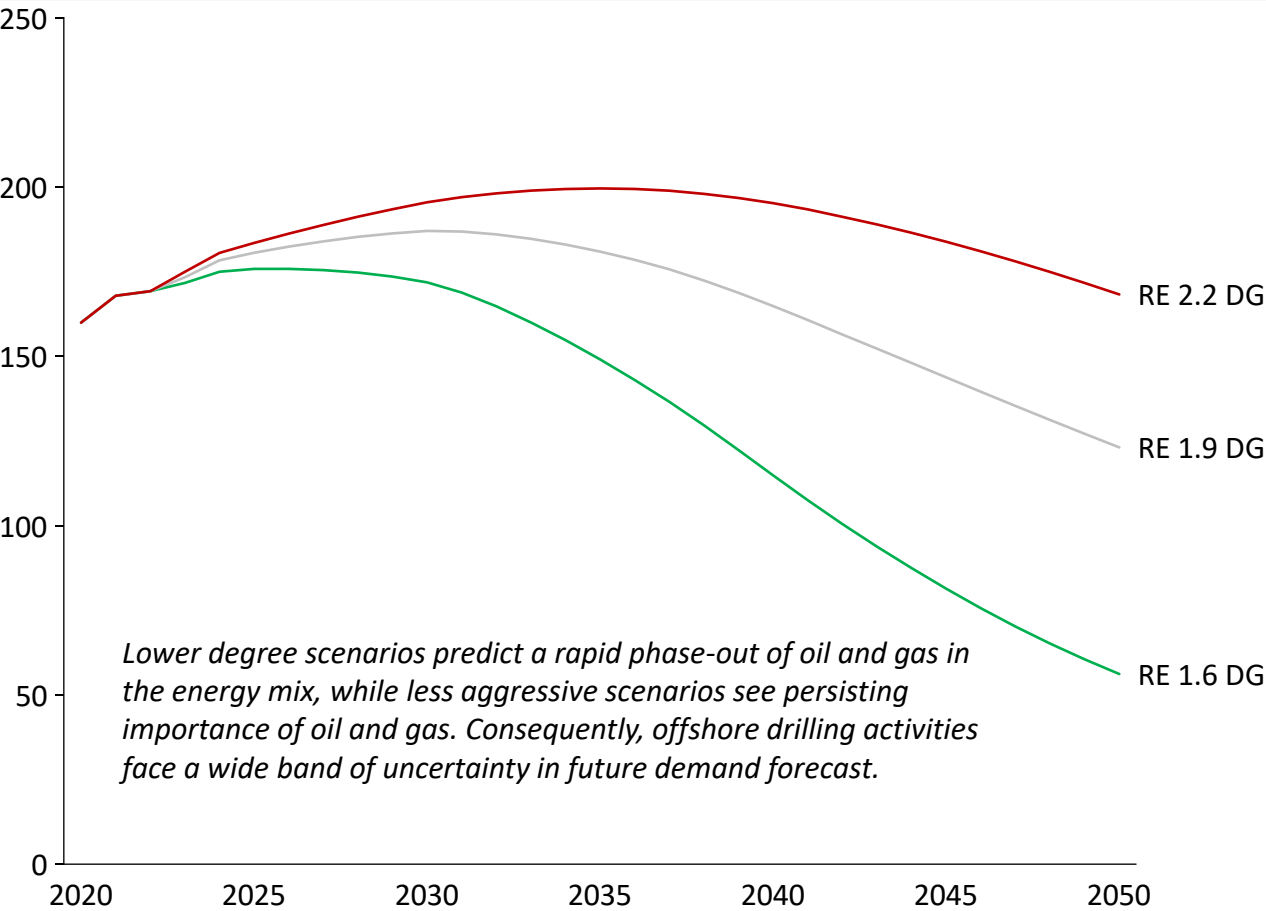
Primary energy mix in 1.6 DG scenario
%



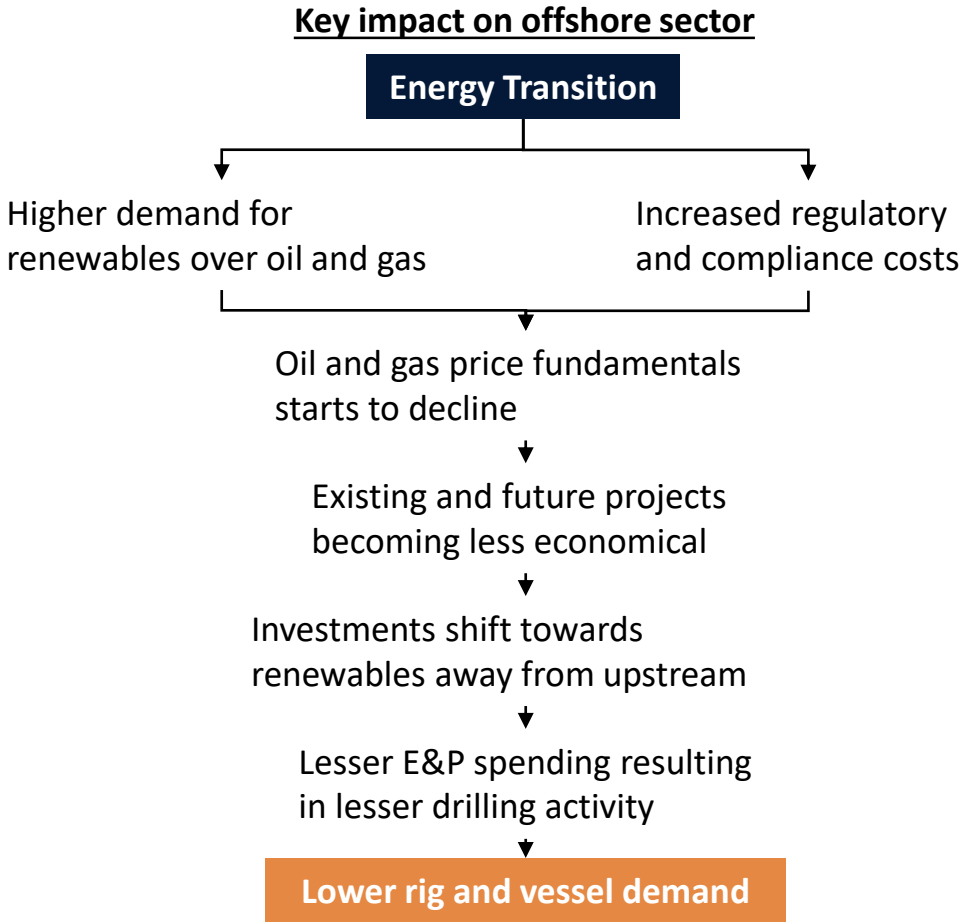
Note: Energy mix developed based on emission trajectory and projections aligned with IPCC; RE refers to renewable energy
Sources: Rystad Energy research and analysis, Rystad Energy Global Energy Scenarios Dashboard

Global oil and gas demand could see material energy transition impact resulting in higher uncertainty for the offshore sector

Global gas and liquid supply by climate scenario
Million boe/d

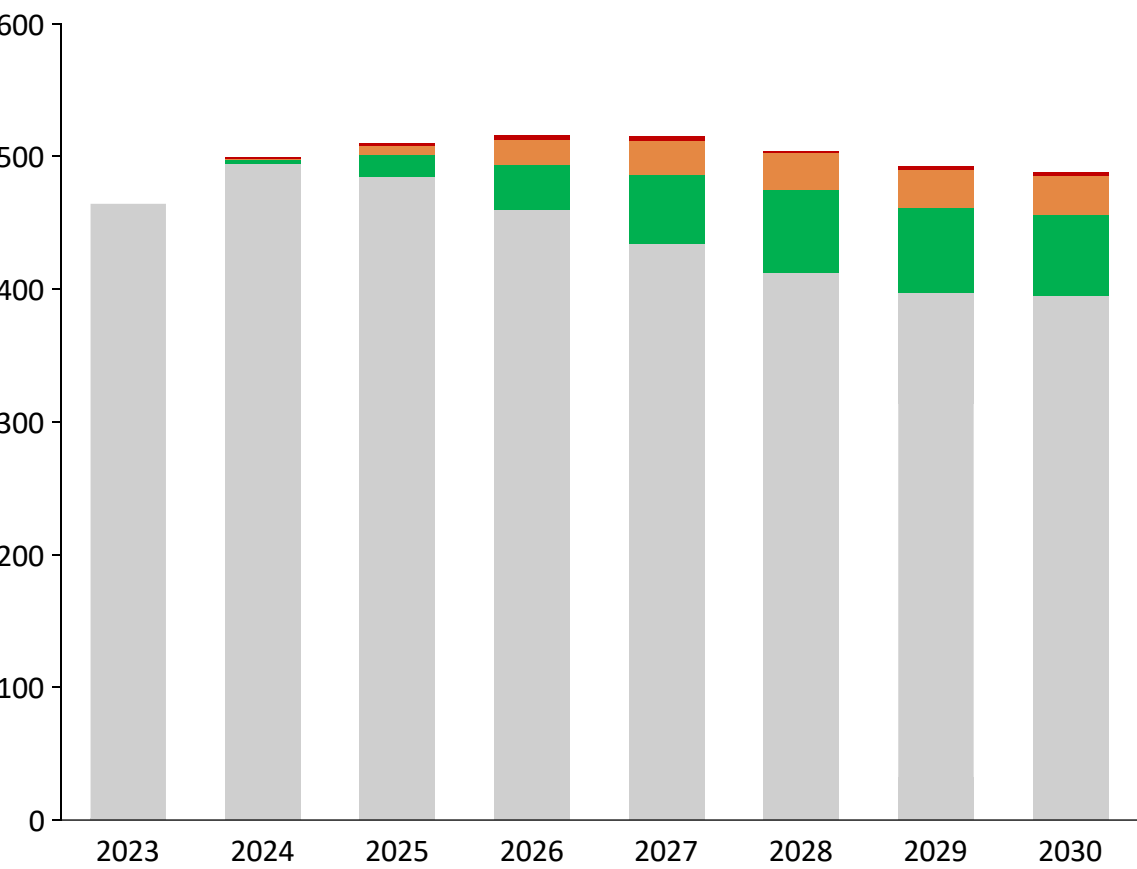


Sources: Rystad Energy research and analysis, Rystad Energy Global Energy Scenarios Dashboard

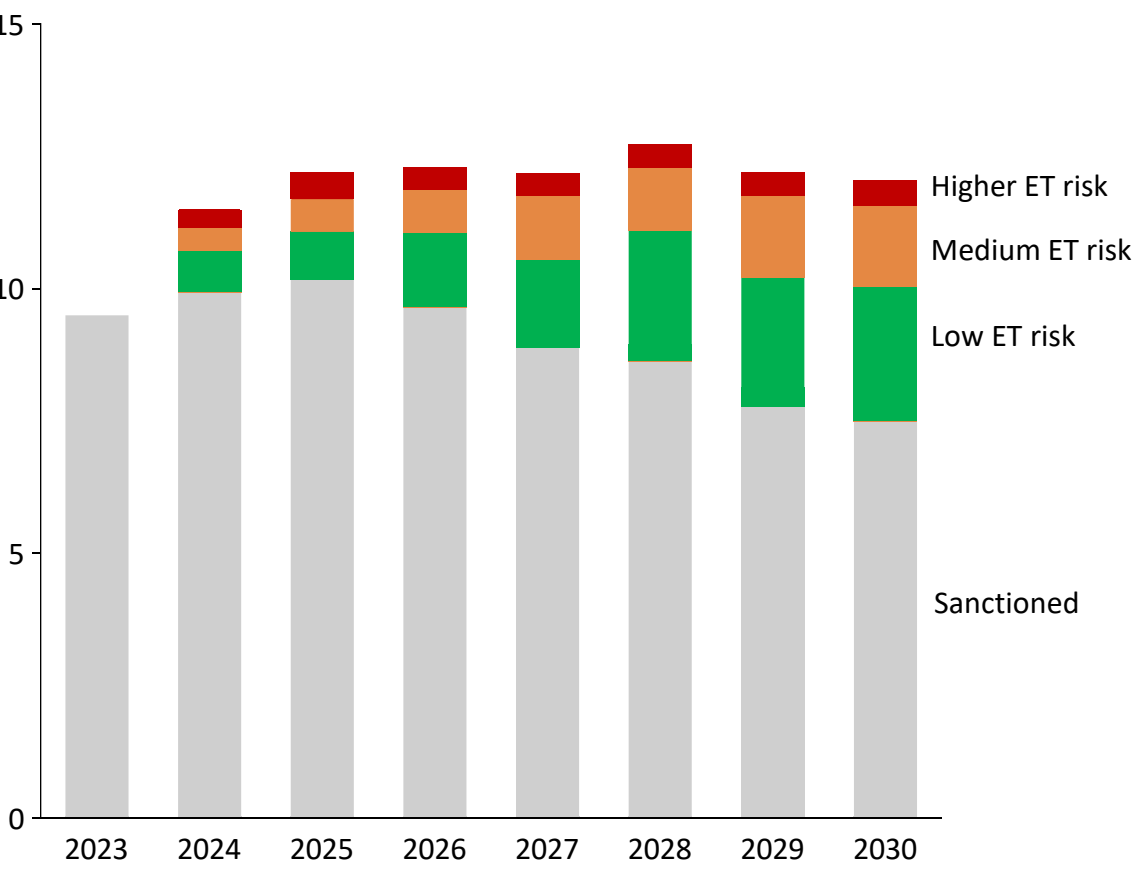


Rig and vessel demand could see substantial impact from faster energy transition

Offshore E&P rig demand by ET risk type
Rig years



Offshore E&P vessel spending by ET risk type
Billion USD, Real



Note: Sanctioned is based on all contracted rigs and vessel demand; Low risk considers assets breakevens below 40 USD/bbl; Medium risk considers breakevens between 40-60 USD/bbl; High risk considers breakevens above 60 USD/bbl
Sources: Rystad Energy research and analysis, Rystad Energy Offshore Rig Analysis Dashboard; Rystad Energy Offshore Vessel Analysis Dashboard



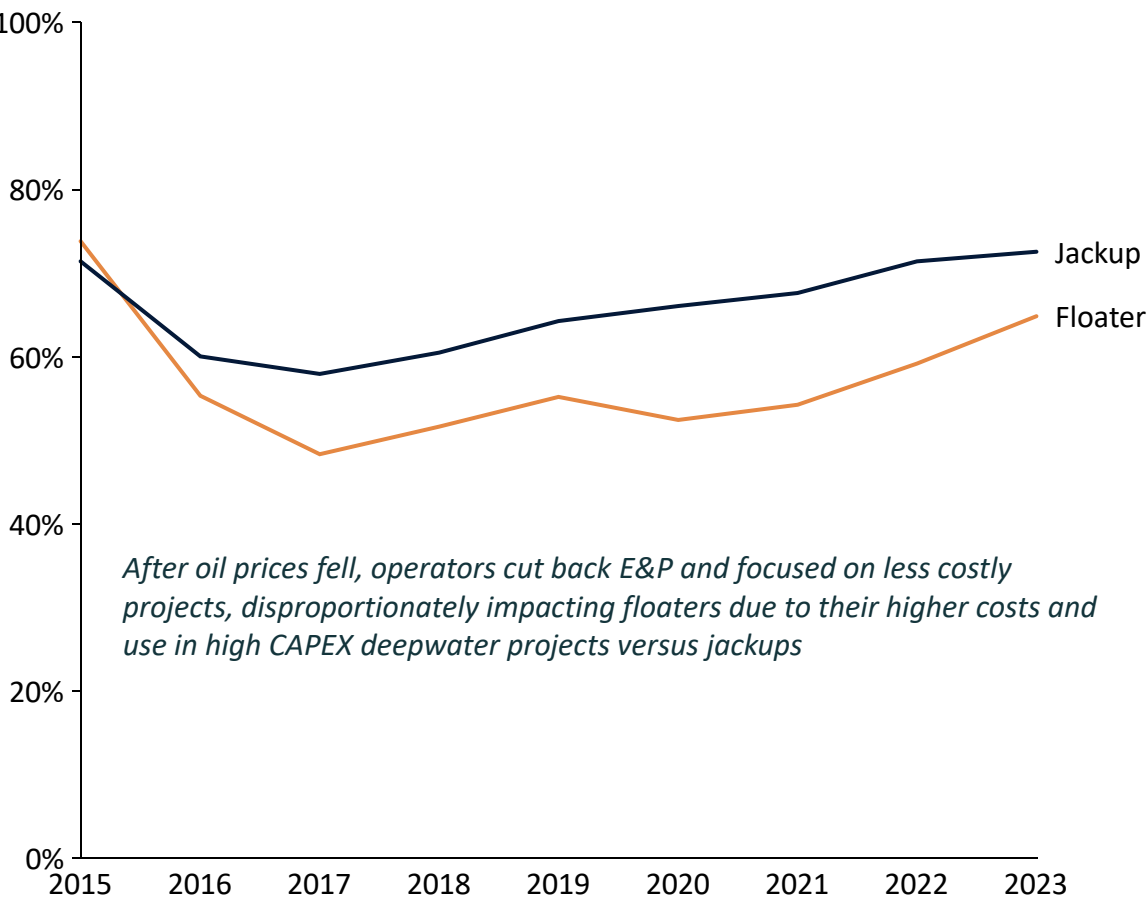
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How are offshore players adapting
in the face of increasing energy
transition pace?

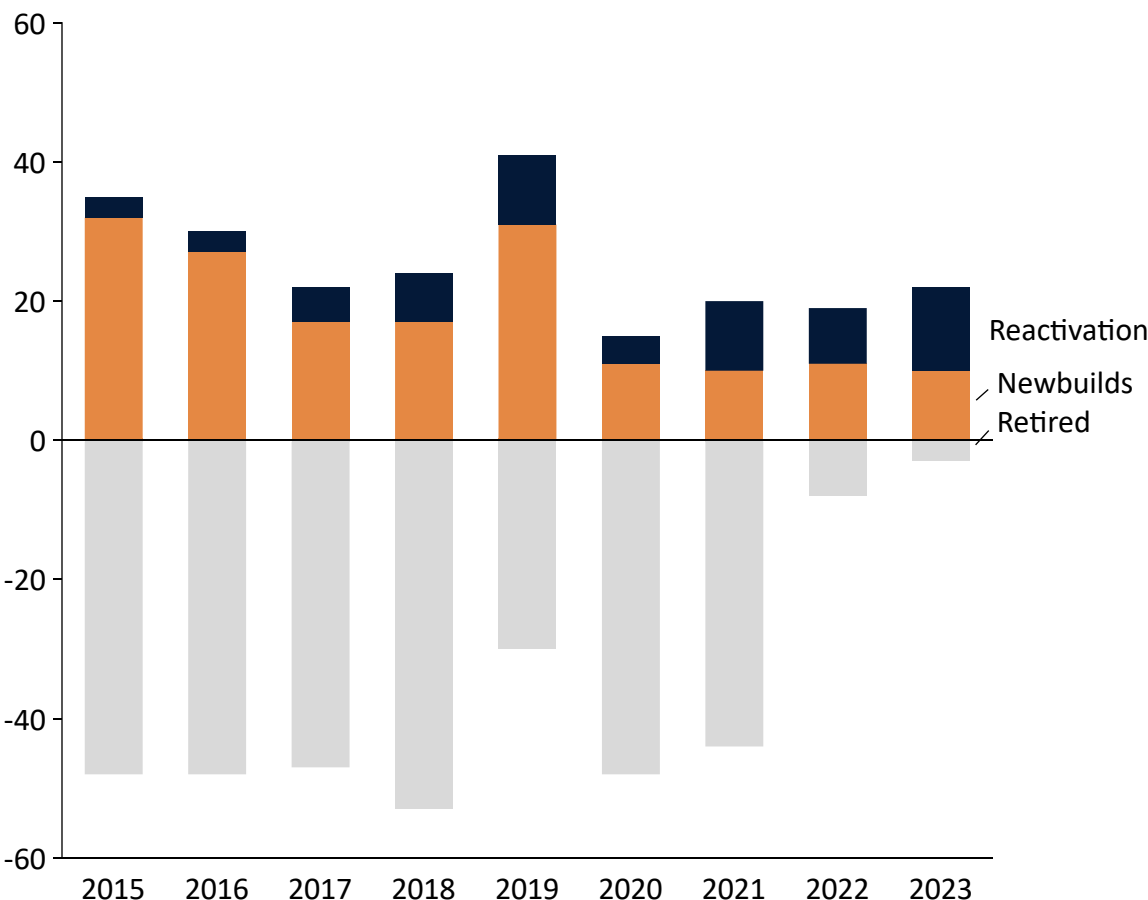


Defend: Players have optimized their rig fleets to become more competitive

Rig contracted utilization rate
% (Time)



Rig supply change
Units



Note: Rig contracted utilization rate (Time) is rig contracted time divided by total available time for the underlying selection of rigs
Sources: Rystad Energy research and analysis, Rystad Energy Offshore Rig Analysis Dashboard; Rystad Energy Offshore Vessel Analysis Dashboard

Decarbonize – Other players sought to decarbonize via various means

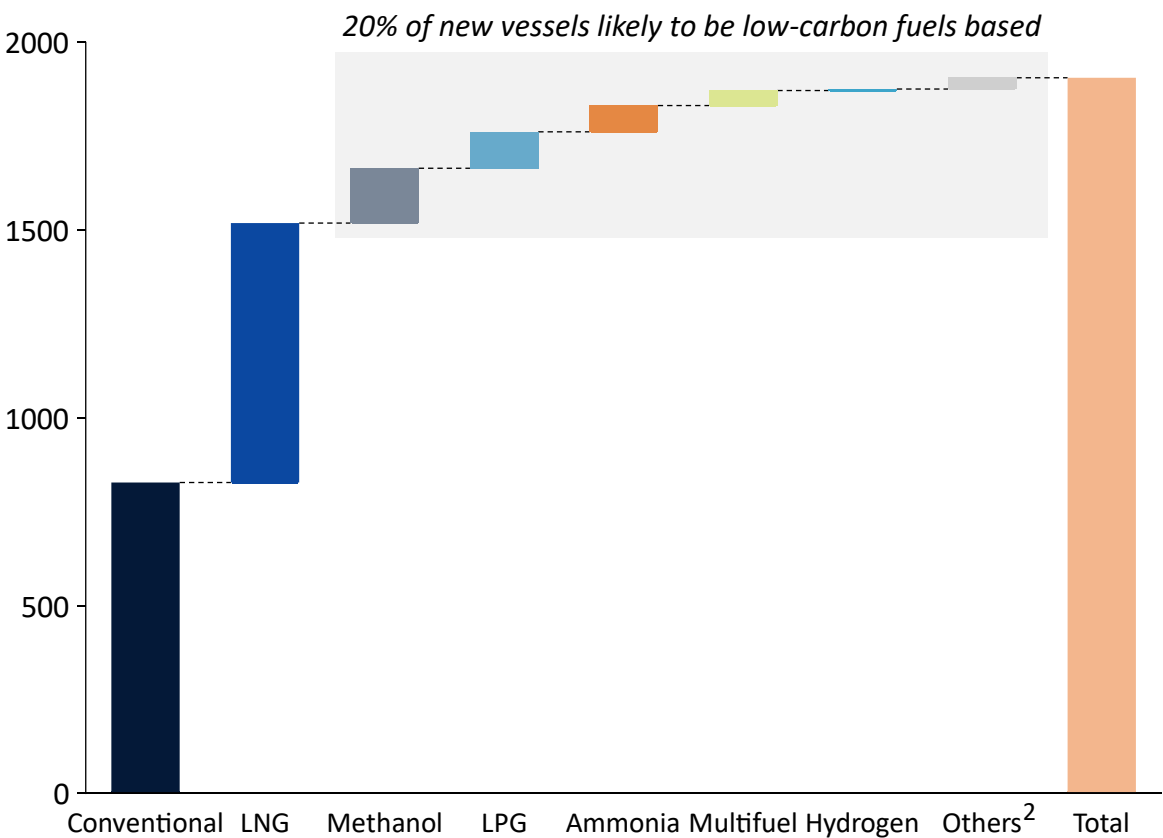
Emission Reduction Technologies Implementation
Rig Count

Technology	Description	Rig Count ¹
Energy Management Software	• Continuously optimizes rig energy usage	18
Selective Catalytic Reduction System	• Reduces NOx emissions	18
Hybrid Battery Power	• Reduces diesel/ conventional engine use	17
Closed Bus-tie configuration	• Optimizes engine utilization • Enables fuel, cost savings	3
Hydrogen and Methanol injection	• Reduces CO2, NOx emissions	1

Leading Rig Managers increasingly utilizing emission reduction technologies



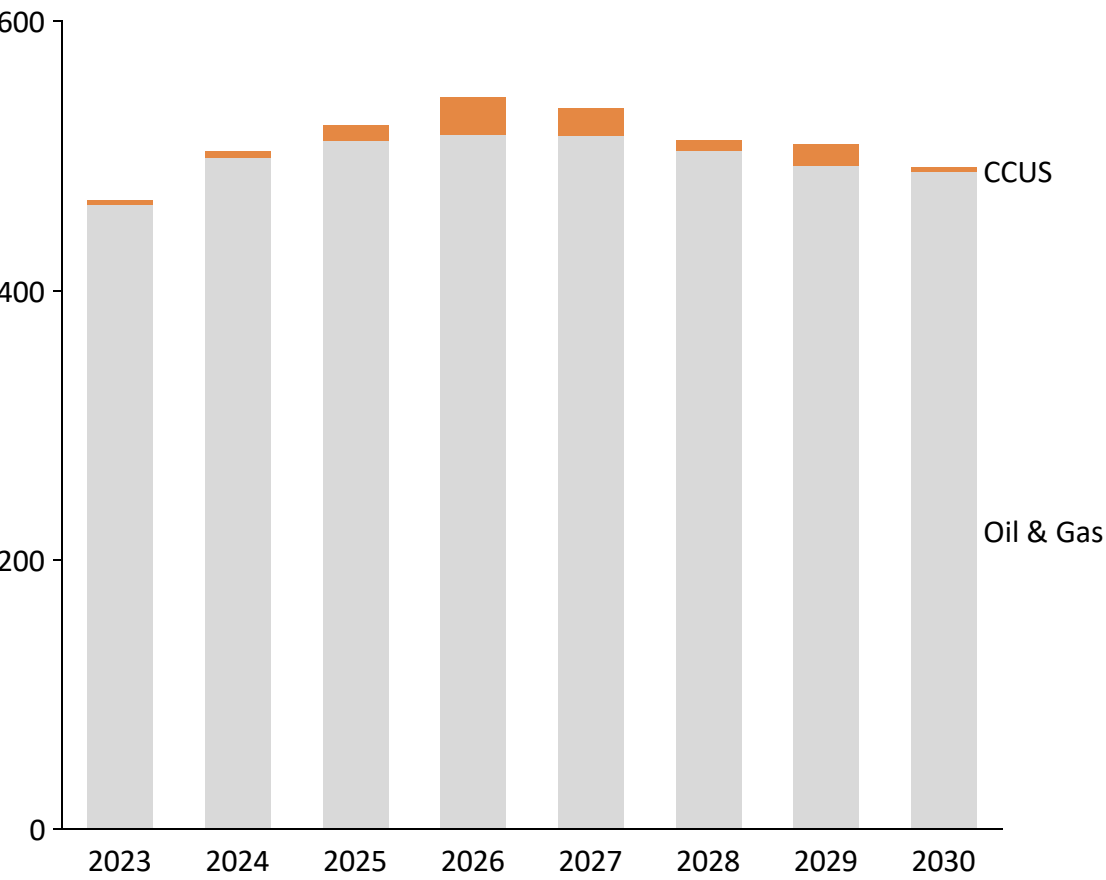
New Vessel Orderbook by Fuel Type
Count



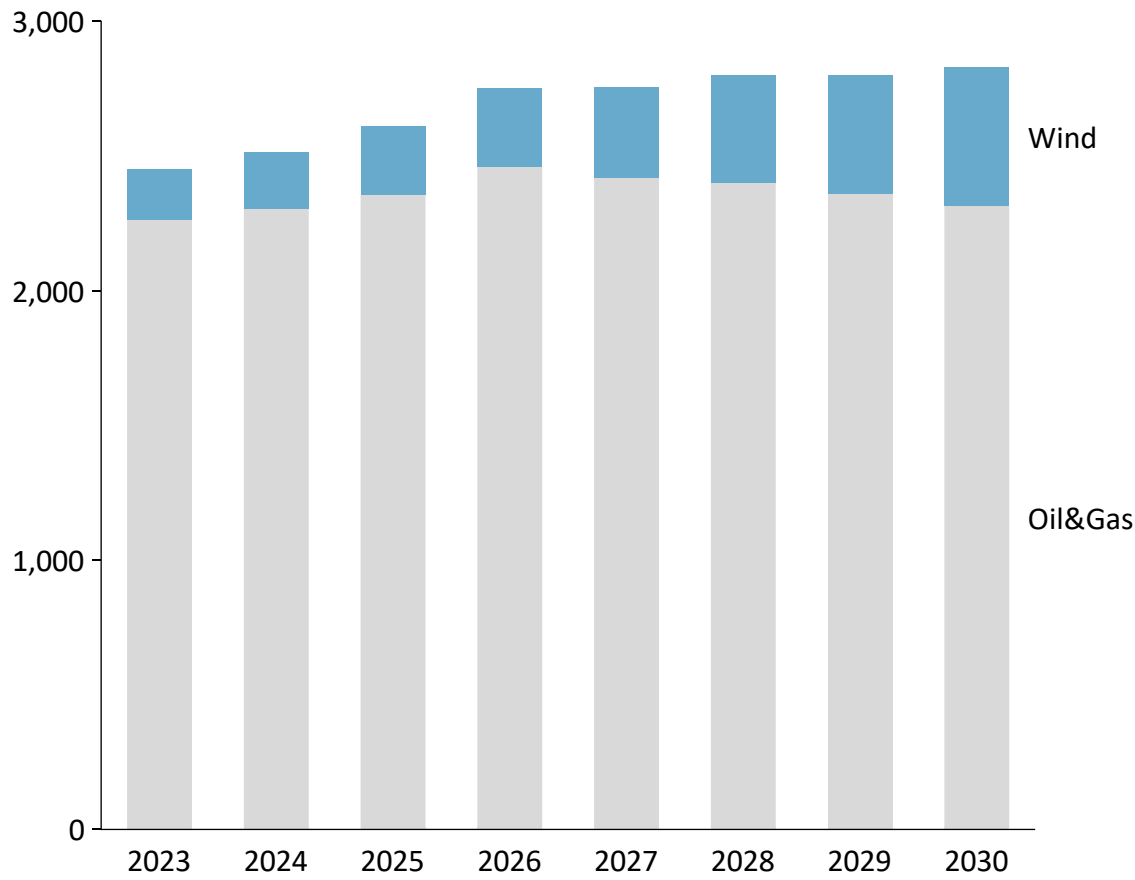
Note: (1) Includes floaters and jackup rigs; (2) Multifuel-ready vessels include vessels that will be ammonia- & methanol-ready and ammonia- & methanol- & LNG-ready. Others refers to ethane, biofuels, battery, not specified.
Sources: Rystad Energy research and analysis, Rystad Energy Offshore Rig Analysis Dashboard; Rystad Energy Offshore Vessel Analysis Dashboard

Diversify – Players are actively entering and expanding into new energies themes such as CCUS and offshore wind

Offshore rig demand for CCUS 2023-2030
Rig years



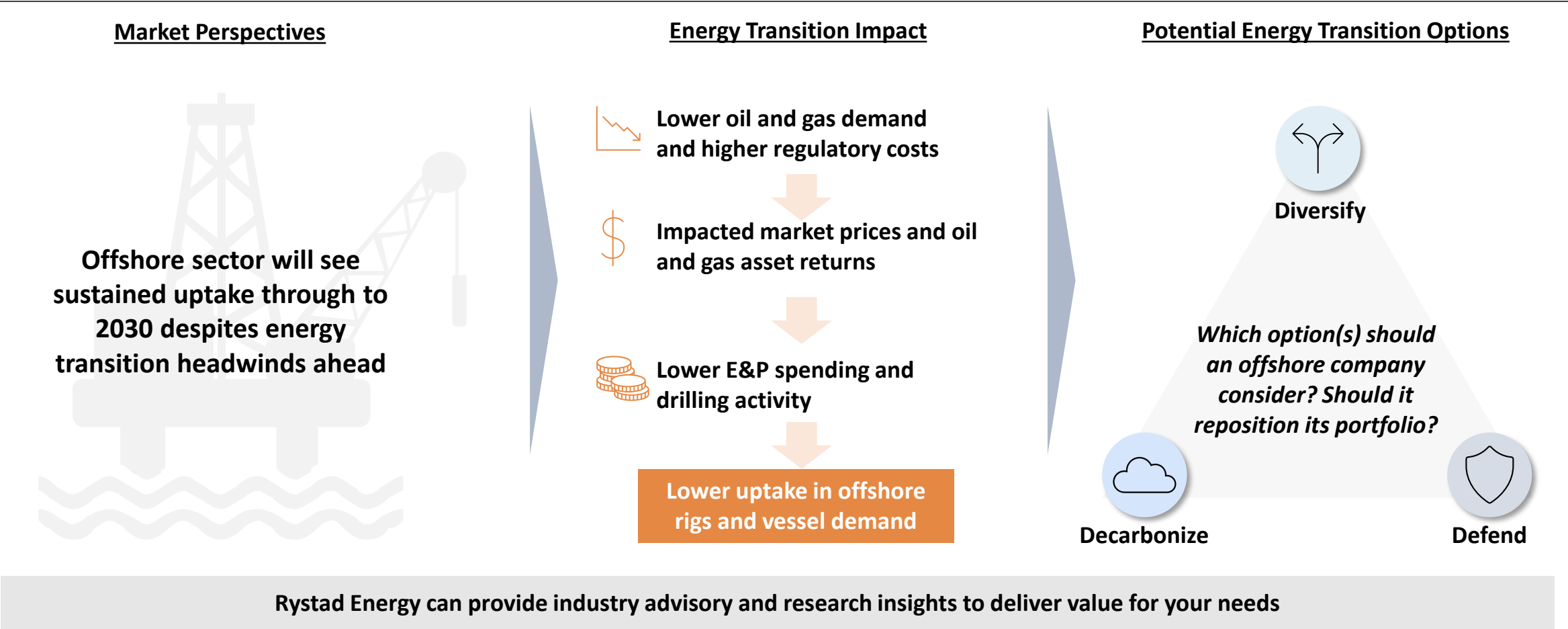
Offshore vessel demand 2023-2030¹
Vessel years



Note: (1) Offshore O&G utilizes Platform Supply Vessels, Anchor Handling Tug Supply Vessels among others. Offshore wind projects typically utilize Wind Installation Vessels, Offshore Construction Vessels, and Service Operation Vessels
Sources: Rystad Energy research and analysis, Rystad Energy Offshore Rig Analysis Dashboard; Rystad Energy Offshore Vessel Analysis Dashboard

Offshore companies must monitor, adapt, and thrive amid growing energy transition challenges

Key Takeaways



Source: Rystad Energy research and analysis

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PROFILE

Sam has more than 10 years of working experience in the energy sector, primarily in the areas of strategy formulation, due diligence, valuation and market assessment projects. Prior to Rystad Energy, Sam worked at Wood Mackenzie where he was involved in various business development and commercial strategy projects for the Gas and LNG in Asia Pacific region. Sam graduated from the National University of Singapore with a Bachelors degree in Chemical Engineering.

Nationality: Singaporean

Languages: Proficient in English and Chinese

WORK EXPERIENCE

Rystad Energy

- Lead project management for APAC advisory teams
- Develop and grow new advisory businesses and practices across different sectors

Wood Mackenzie

- Led strategic review and business discussions with key Oil Majors and NOCs
- Developed financial modelling of key expansion and growth projects, new upstream acquisitions based on detailed economic modelling
- Conducted commercial and financial due diligence on existing business portfolio

Royal Vopak

- Established new processes and best operational practices across four storage terminals in Asia Pacific
- Led innovation and digitalization projects in the region
- Established business case for storage acquisition opportunity in the region

SELECTED EXPERIENCE

Upstream E&P

- Exploration strategy and development for an Asian NOC
- Exploration benchmarking for an Asian NOC
- Strategic option assessment for an upstream asset for an Asian NOC
- Minimum economic field size study for an Asian NOC
- Performance improvement for an upstream asset for an Asian NOC
- Strategic option and valuation assessment for an upstream asset for an Asian NOC
- Upstream portfolio tool development for an Asian NOC

Commercial and Business Development

- TPA framework development and assessment
- Upstream gas asset monetization strategy for an Asian NOC
- Market entry strategy for an international oil major in SE Asia markets
- LNG contracting trends assessment
- Commercial advisory for Western Australia gas markets
- LNG portfolio cashflow modelling
- Risk Identification and Mitigation Planning

Due Diligence/Transaction Support

- Commercial due diligence support for a regasification terminal in the Philippines
- Commercial Due Diligence for Spanish Energy Company for a Singaporean LNG Player
- Commercial due diligence support for an LNG asset acquisition opportunity in Indonesia for an Asian NOC
- Commercial due diligence support for a gas acquisition opportunity in Middle East for an Asian NOC
- Commercial due diligence support for a gas acquisition opportunity in APAC for an Asian NOC
- Assessment of a targeted upstream asset through detailed resource estimation, development phasing and precedent transaction analysis for an Oil Major
- Business development support for a downstream asset acquisition opportunity in Indonesia for an energy storage player

Sources: Rystad Energy research and analysis



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Navigating the future of **energy**

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