

# Marine fuel outlook to 2030

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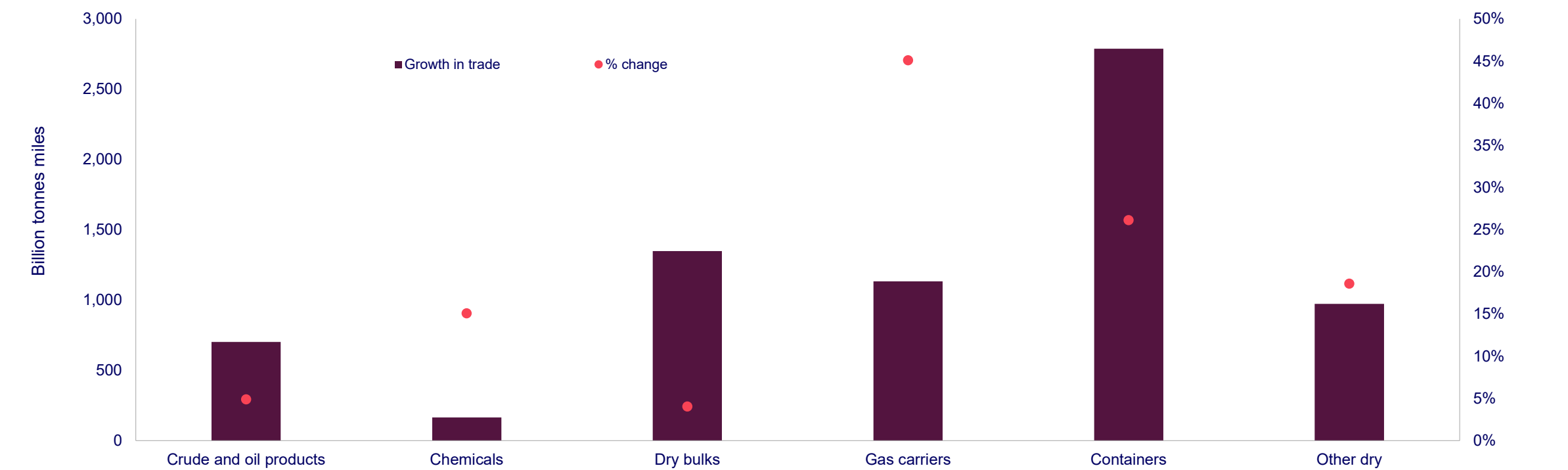
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# In our Strategic Planning outlook, global maritime trade is forecast to grow by 11% between 2024 and 2030

International trade in LNG is expected to grow at a much faster rate, although gas carriers account for a lower volume of trade growth compared to containers and dry bulks

## Growth in international maritime trade by commodity, 2024-2030

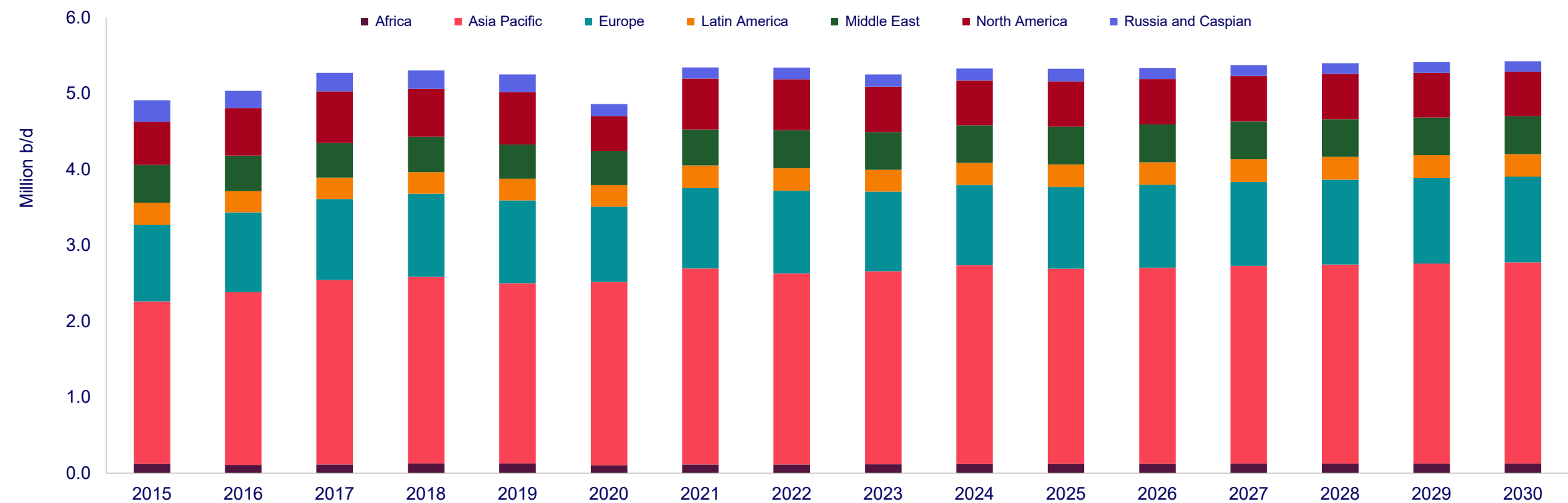


Source: Wood Mackenzie

Global marine fuel volumes (fuel oil equivalent) are expected to grow by 2% between 2024 and 2030, substantially lower than the growth in international maritime trade

Asia Pacific accounts for around half of all global marine bunkers, which is sustained at this level to 2030

Volume of global marine bunkers (international and domestic) by region, 2015 - 2030

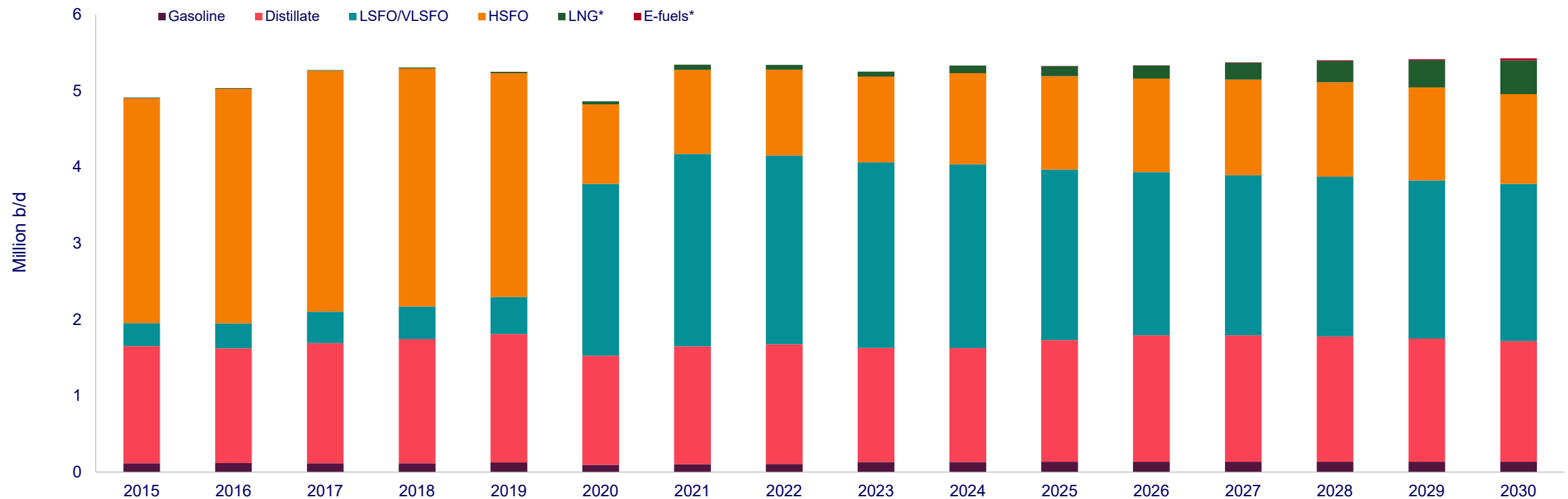


Source: Wood Mackenzie

# Marine LNG is the main source of volume growth in the next decade, with oil bunkers peaking during the mid-2020s

E-fuels start to emerge in the marine fuel market before the end of this decade

## Volume of global marine bunkers (international and domestic) by fuel type, 2015 - 2030

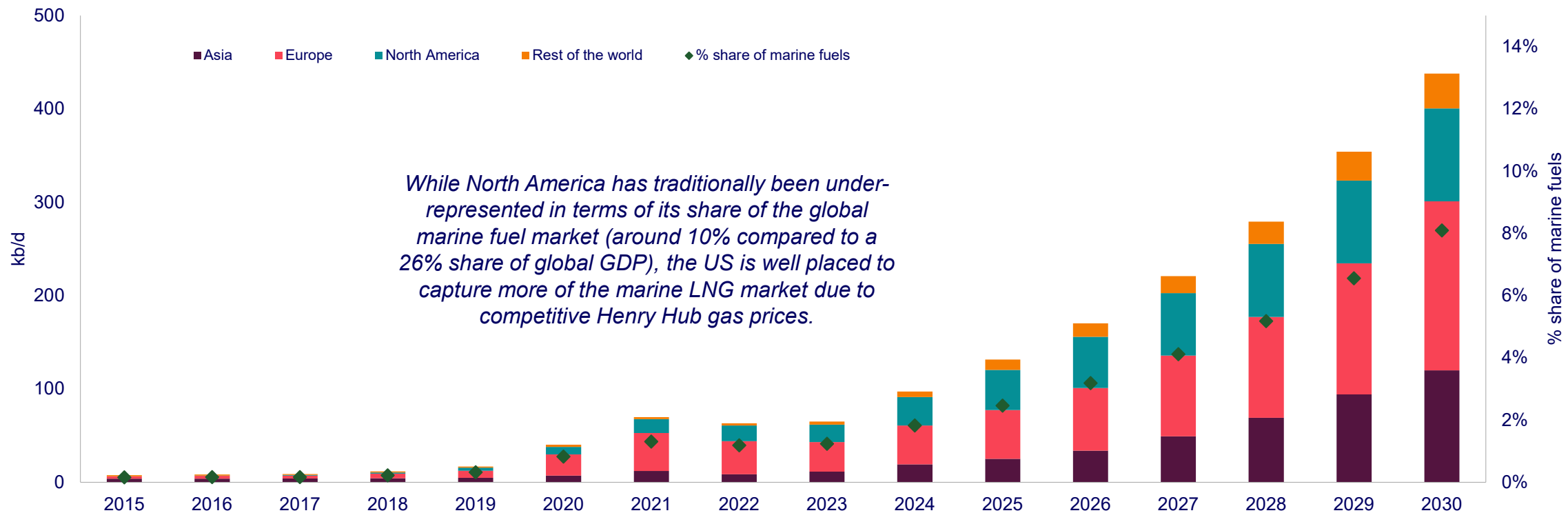


Source; Wood Mackenzie; \* Volume of oil displaced by LNG and E-fuels in international and domestic shipping NB: Blended biofuel volumes are included in the outlook for oil products and LNG

# Marine LNG is expected to grow steadily through this decade, displacing over 0.4 million b/d of oil bunkers by 2030

Infrastructure is already in place in the Northern European and Chinese domestic markets supporting early growth, with expansion in key bunkering hubs drives demand by the end of the decade

## Marine LNG for domestic and international shipping, 2015-2030

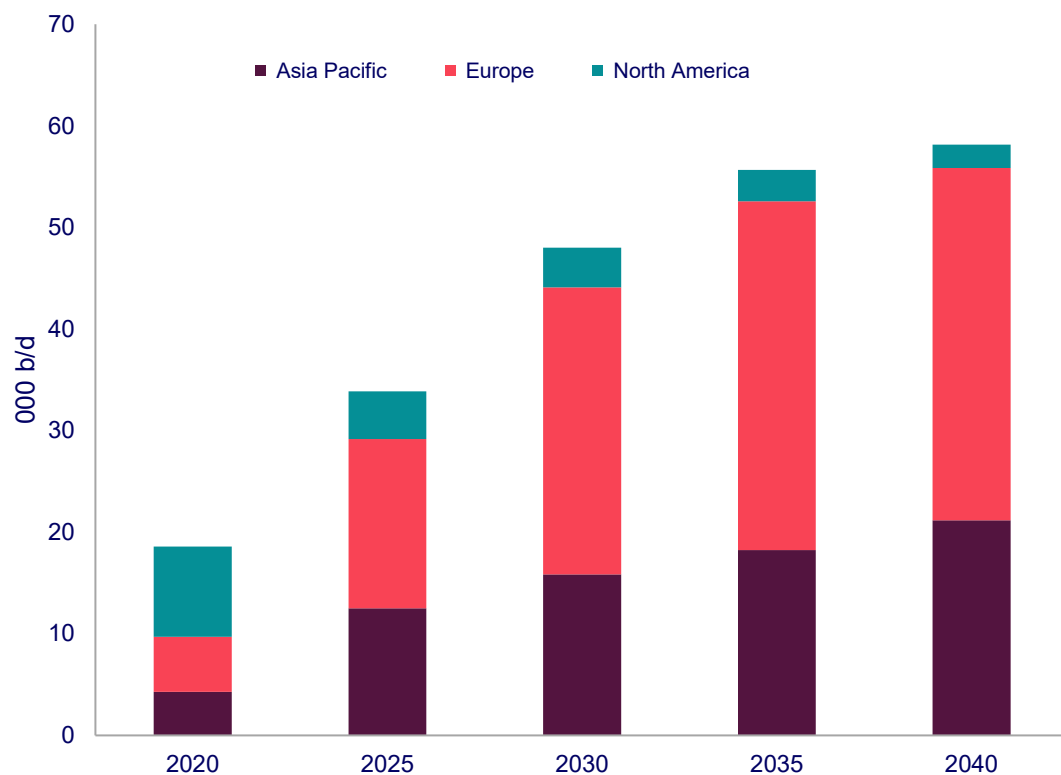


Source: Wood Mackenzie

# Marine biofuels are expected to increase steadily over the next decade, driven mainly by the introduction of the EU ETS and Fuel EU Maritime regulations in Europe

Marine biofuel volumes rise to ~50,000 b/d by the end of the decade, but further growth is constrained by a lack of feedstock supply availability and increasing competition from demand for SAF in the aviation sector

## Outlook for marine biofuels by region



Source: History, IEA, National Statistics, Forecast: Wood Mackenzie

- There are a **range of biofuel blends now established in the marine fuel market** including B24, B30 and B100 blends which include 24% and 30% and 100% biofuel content, respectively. The biofuel content can be advanced Fatty Acid Methyl Ester (FAME) or Used Cooking Oil Methyl Ester (UCOME), and is usually blended in with a VLSFO residual fuel rather than a distillate fuel such as MGO
- Current main markets for marine biofuel blends have been in the Netherlands and Singapore**, where local incentives do exist to encourage the use of biofuels in the marine sector
- We expect a **further uptick in marine biofuel use in Europe as a result of the introduction of EU ETS and the Fuel EU maritime regulations**, which encourage the use of lower carbon fuels in the marine sector
- We do expect marine biofuel volumes to continue to increase over the next decade, but **growth is restricted by lack of supply availability and increasing competition from the aviation sector**, where sustainable aviation fuel (SAF) attracts a much higher premium for bio feedstocks compared to the marine sector

# Outlook for global marine fuels



- **Global oil marine bunker demand is now peaking at under 5.3 million b/d.** Marine LNG is the main source of growth over the next few years, displacing over 0.4 million b/d of oil by 2030
- The global marine fuel market is expected to start declining by the early 2030s as **improving fuel efficiency outweighs rising global maritime trade**
- **Growth in marine LNG slows post-2040 as synthetic e-fuels become more widespread,** displacing around 1.0 million b/d by 2050, supported by the increasing availability and lower cost of green hydrogen combined with tightening environmental regulations
- The **ramp up in Renewable Fuels of a Non-Biological Origin (RFNBOs) is primarily in Europe**, where the inclusion of shipping in the EU ETS and the introduction of the Fuel EU Maritime (FEUM) regulation, substantially raises the cost of fossil marine fuels, which alters regional refining throughputs and economics
- The **IMO has now committed global shipping to reach net zero emissions by around 2050**, and a net-zero framework is now being finalised, with a GHG pricing mechanism for international shipping due to enter into force in 2027, but in our view, net zero emissions are still not yet achieved



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