



# The State of Decarbonisation of Deep & Short Sea Shipping

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Martin Stopford, Director MarEcon Ltd

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# Quick Progress report

1. *Propulsion options* - internal combustion engine (ICE) or all-electric? crucial choice
2. *Green fuel options* are methanol, ammonia, hydrogen and nuclear – mixed bag!
3. *Green fuel supply* - likely to lag way behind demand: -
  1. Who gets limited green fuel? Ships at back of queue?
  2. How much will it cost? You don't want to know!
4. *Deep-sea shipping*. Methanol & Ammonia short term solution for internal combustion engines &
5. Short sea & service vessels Fuel cells and hydrogen better for all-electric ships.
6. *Digital technology & communications* crucial to improve transport performance but very slow progress.



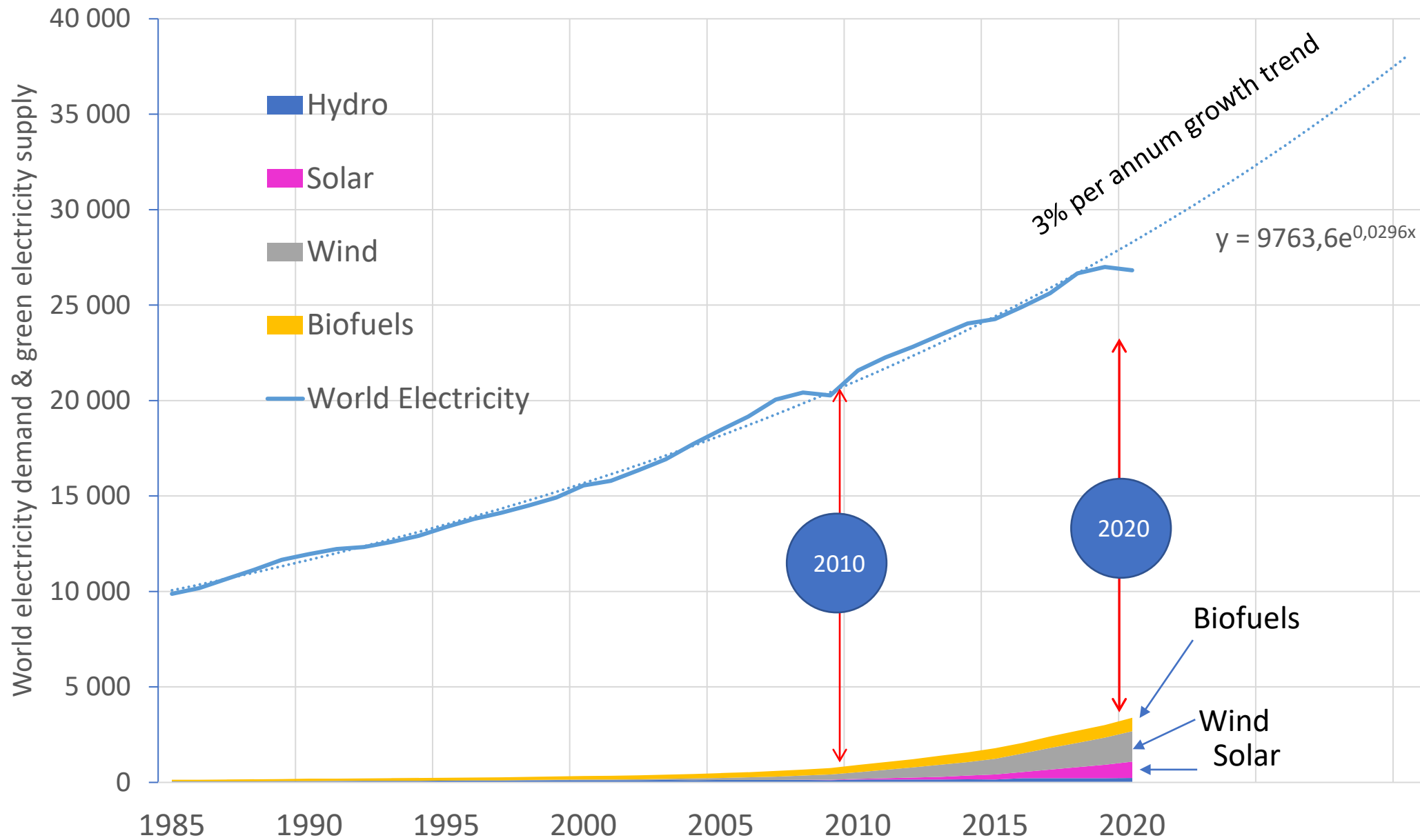
1.  
FUEL  
COST

36 wind turbines 10 MW each needed to power containership  
like this with about 400 tonnes a day of green methanol

36 offshore turbines  
cost about \$1.1 billion  
and \$100k/day to run

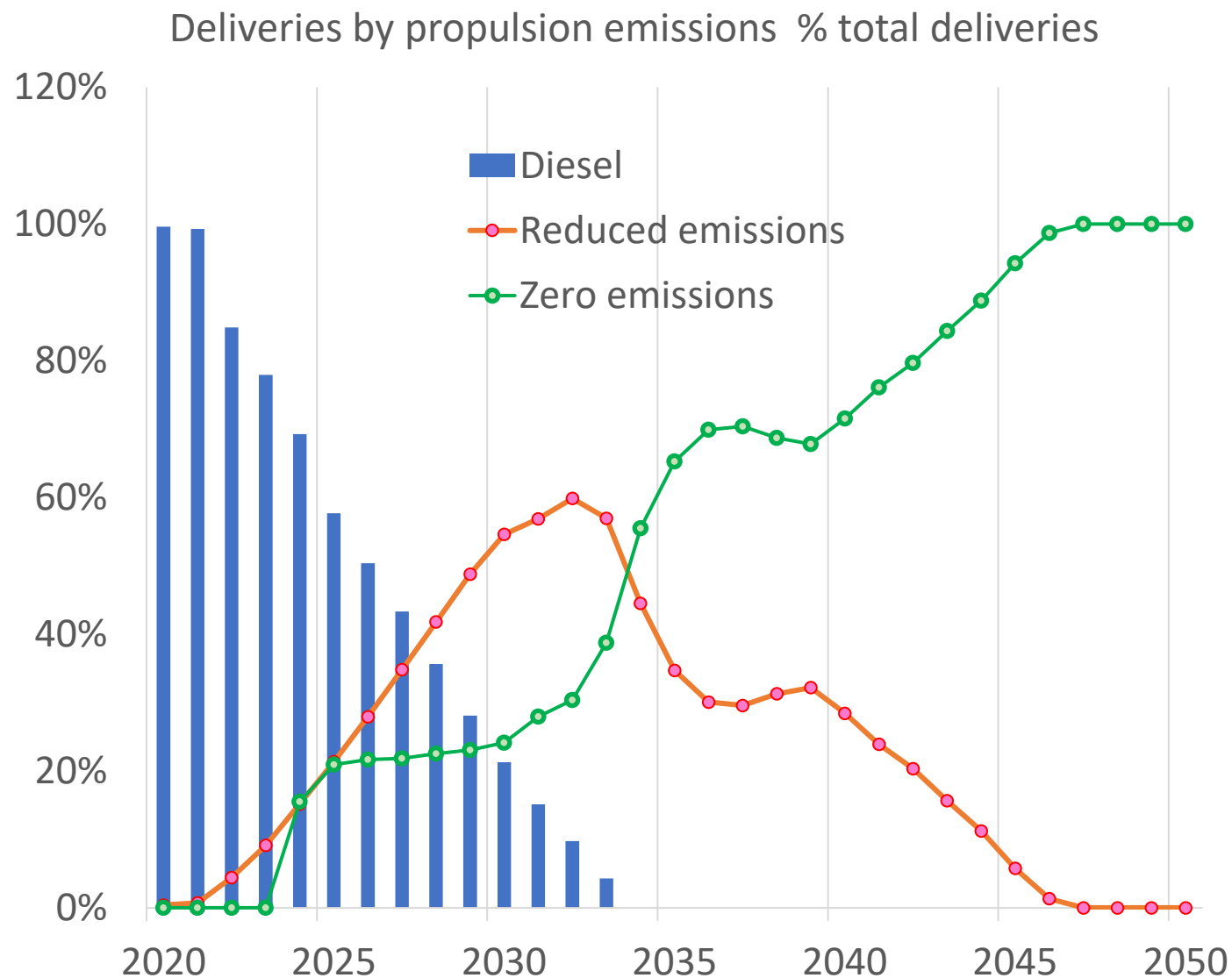
# Electricity supply 1985-2020

2.  
FUEL  
AVAILABIL  
ITY



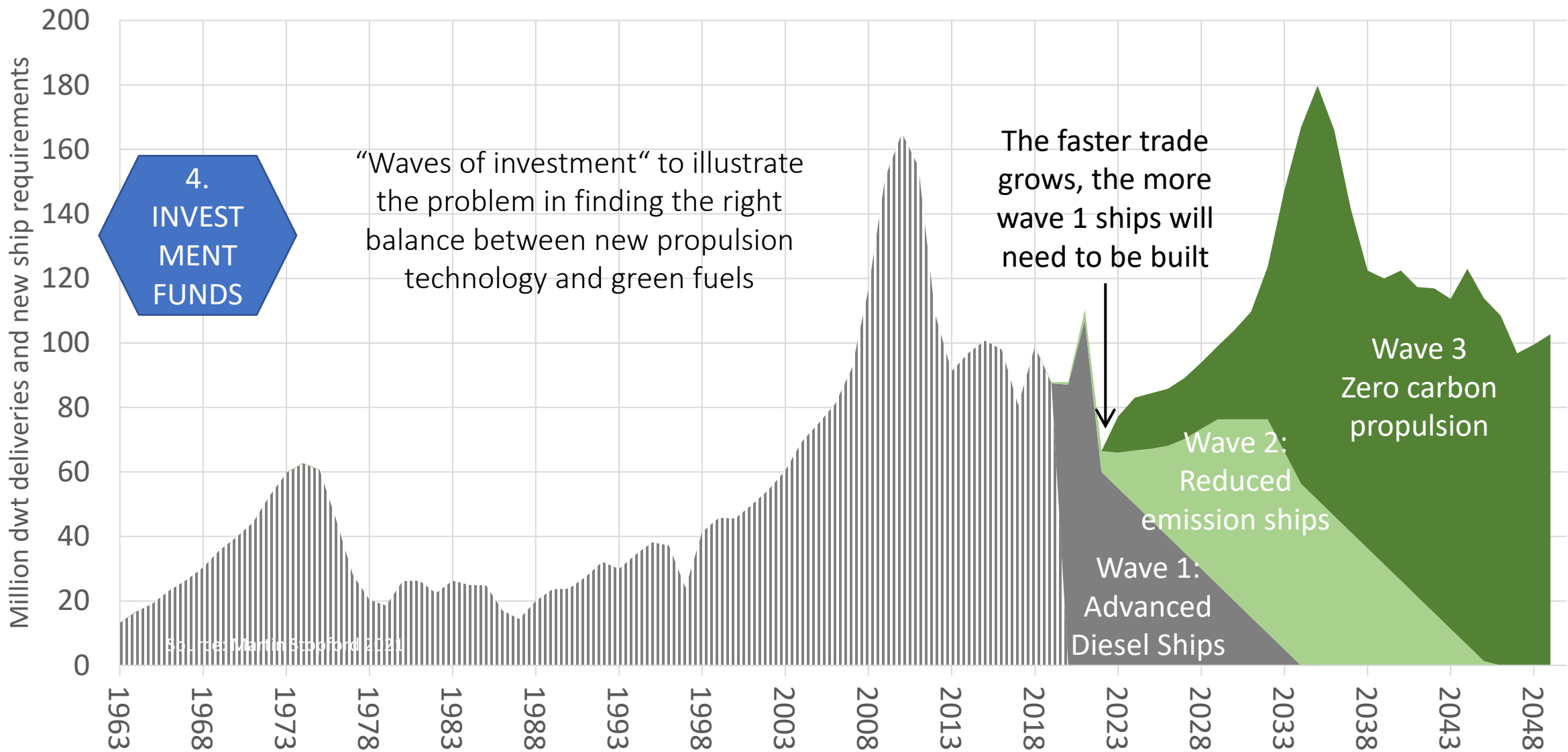
3.  
INVEST-  
MENT  
TIMING

## Waves of deliveries by propulsion system 2021- 2050



# Building new ships takes time & decisions are not clear cut

Shipbuilding (Scenario 2): Soft trade growth and 12 knots speed



This chart is based on trade scenario 2 and shipbuilding scenario 2 in Maritime Scenarios 2020-2050 Martin Stopford





# THE END

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