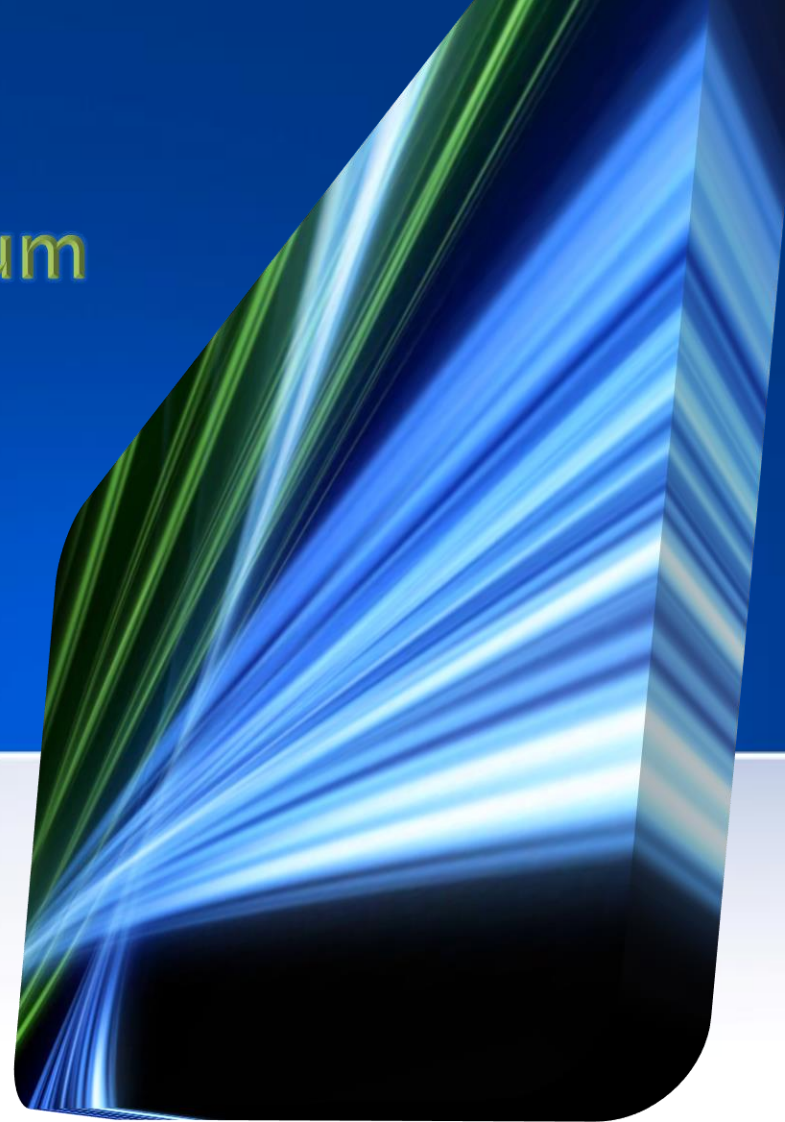


# 1<sup>st</sup> Vessel Performance Forum



**Capt. Eugen-Henning Adami**

**20<sup>th</sup> March 2024**



# Climate Change



What are the problems ?

**SO<sub>x</sub>**

**NO<sub>x</sub>**

**CO<sub>2</sub>**



a problem from the 60ties  
addressed by imo in 1997.  
marpol protocol annex vi

from the 60ties  
arming was  
ed by imo 2018.

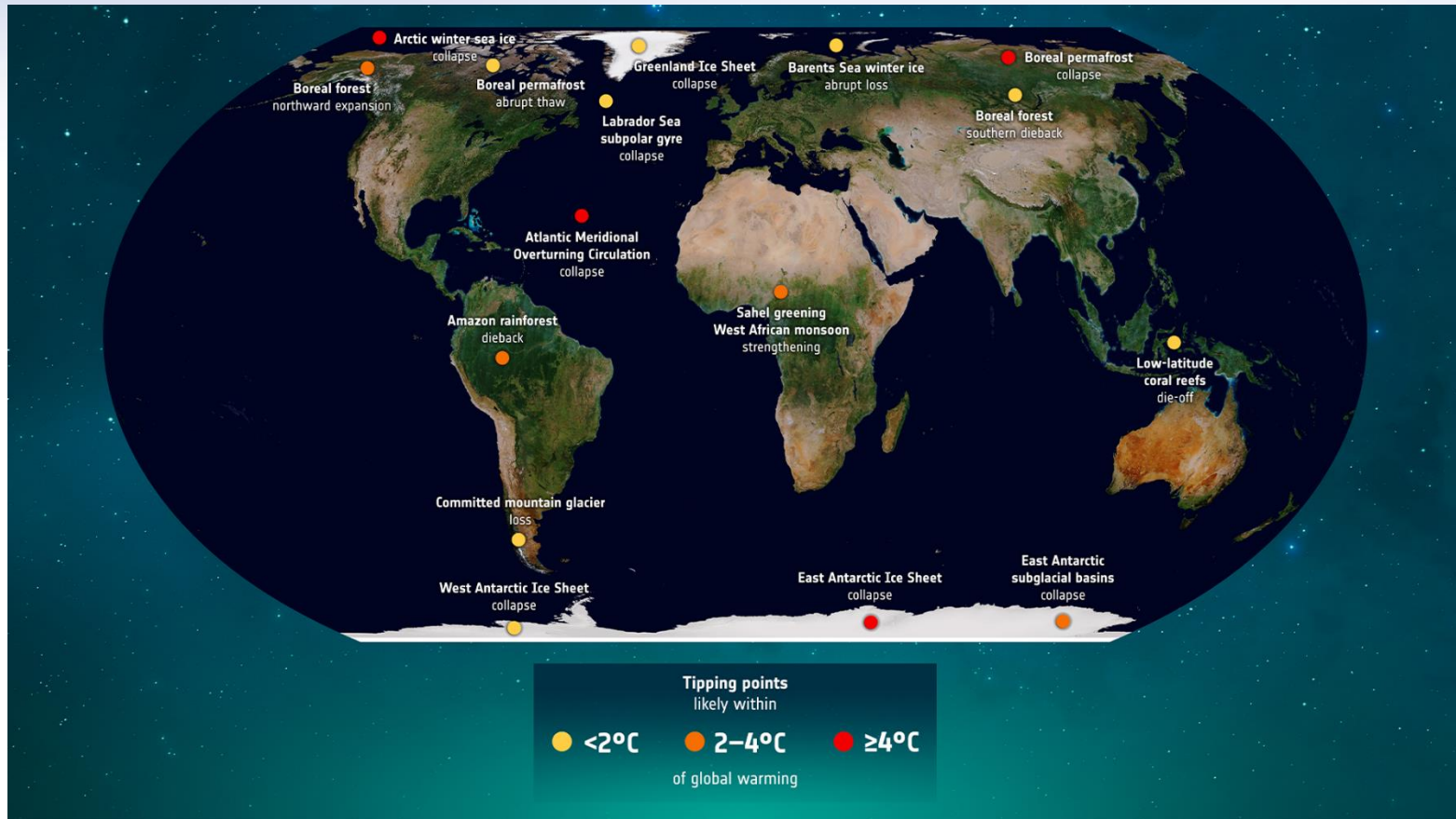
**DONE !**

**ON-GOING!**

# Climate Change



## Tipping Points

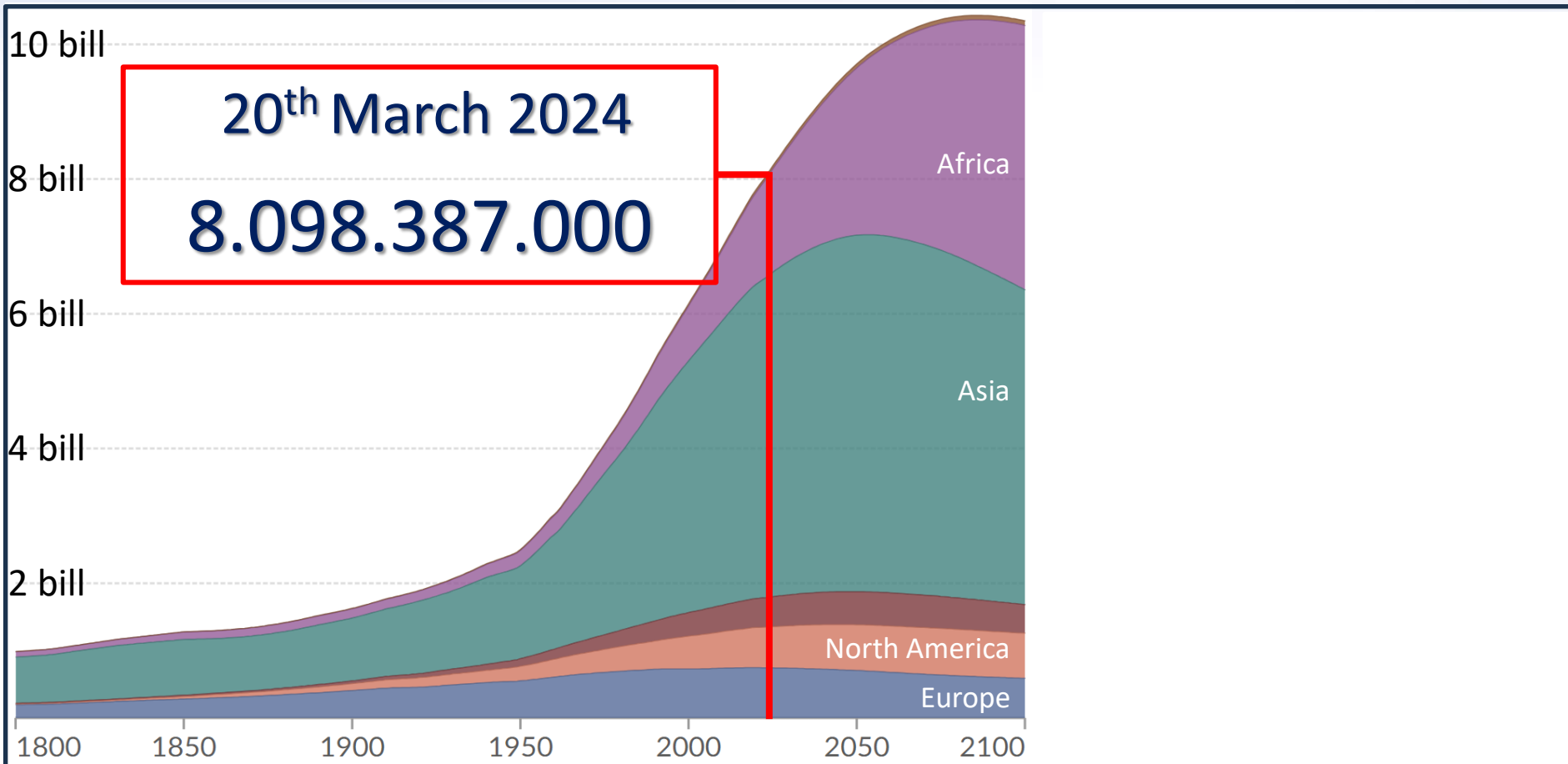


<https://www.youtube.com/watch?v=j3q7j8igyN4>

# World Population & Green Energy Gap

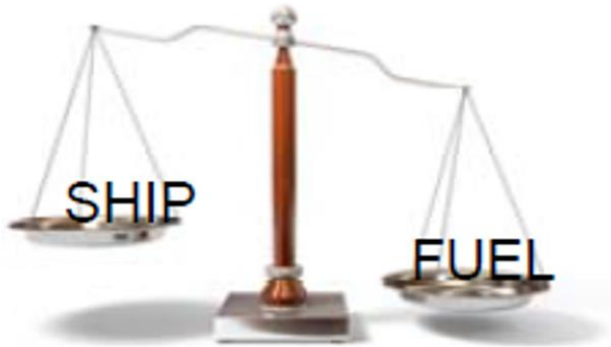


Caution is advised!



Source: Data source: HYDE (2017); Gapminder (2023); UN (2022). Dr. Martin Stopford

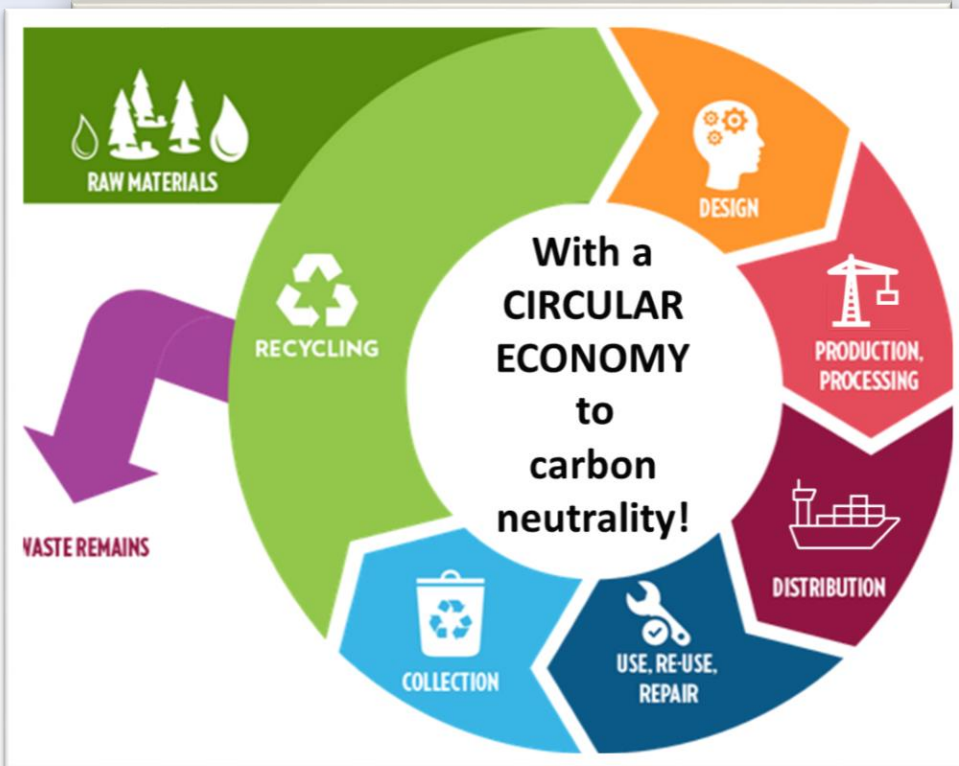
# Energy Costs - Game Changer



# Zero-Emission Alternatives



~~Zero Emission Alternatives~~ are possible with the correct measures.



**We need to adapt a circular economy in Research and Real Life!**

**We need to test Zero Emission Alternatives against Life Cycle GHG Emissions, Costs & Waste!**

**17 UN Sustainable Development Goals**



# Questions

