

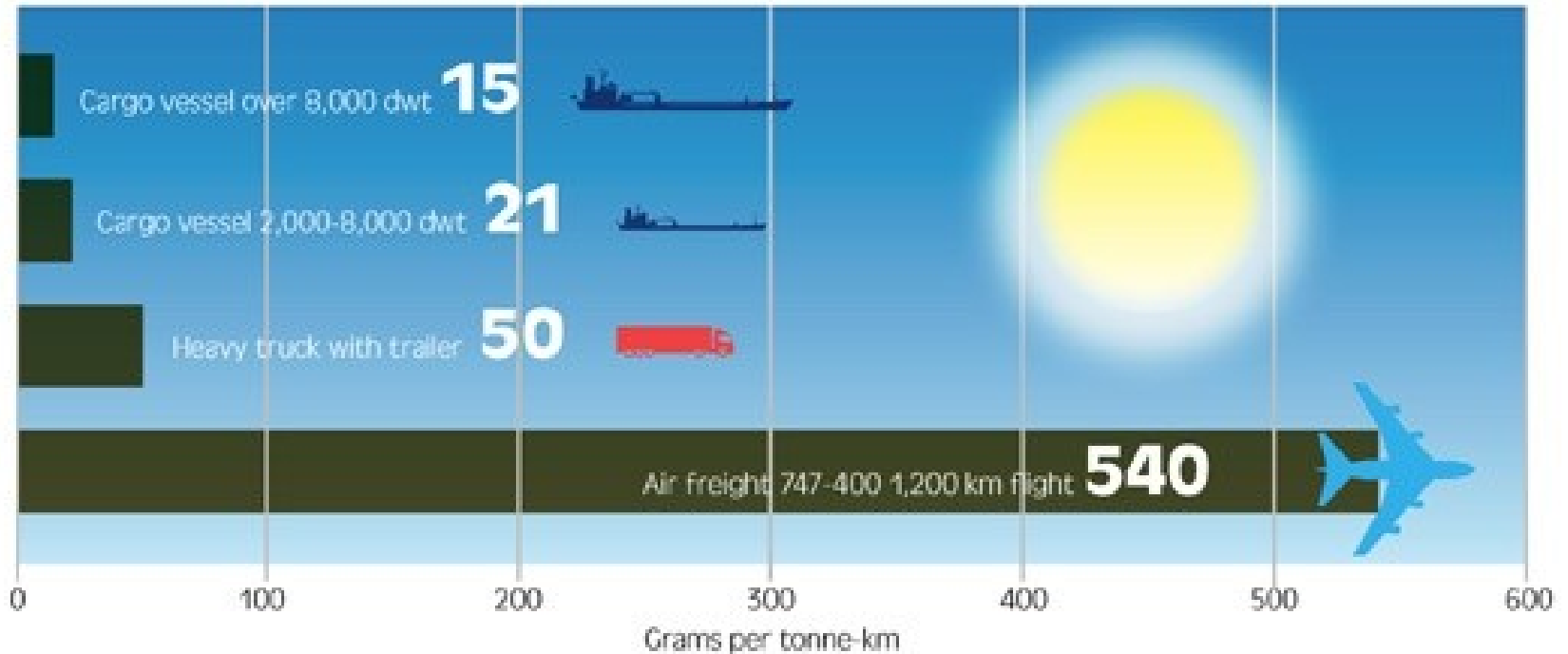
VIKING LINE'S ENVIRONMENTAL STRATEGY & ENERGY EFFICIENCY

*Innovative and Environmentally Friendly Operation with LNG powered
Cruise Ferry*

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Energy Efficiency of Shipping

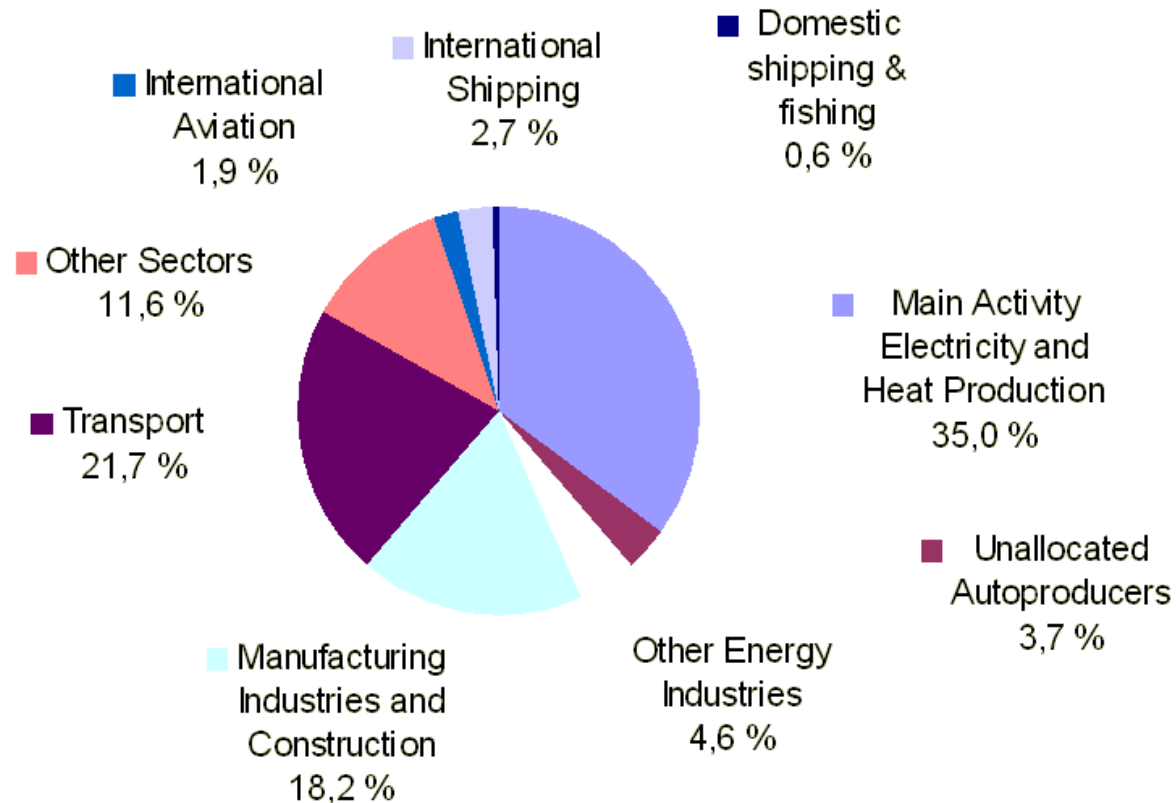
THE FUEL OIL CONSUMPTION GRAMS PER TONNE - KM



Contribution to world's overall CO₂ emissions

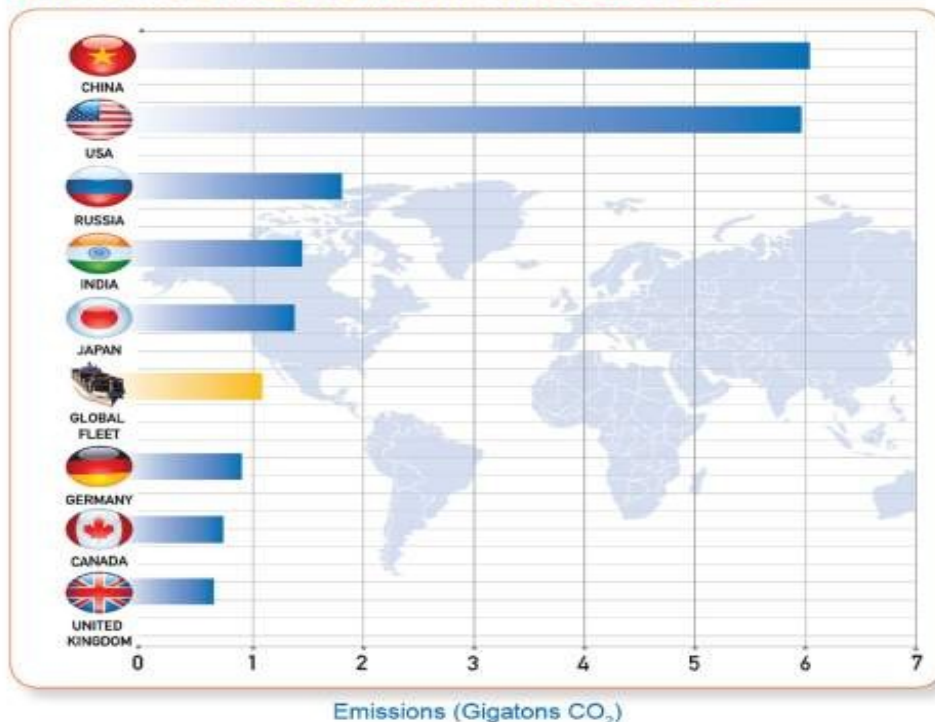
Shipping compared to others

= 3,3%



If shipping is compared to nations...

GLOBAL SHIPPING ACTIVITY - AMONG THE LARGEST CARBON DIOXIDE EMITTERS



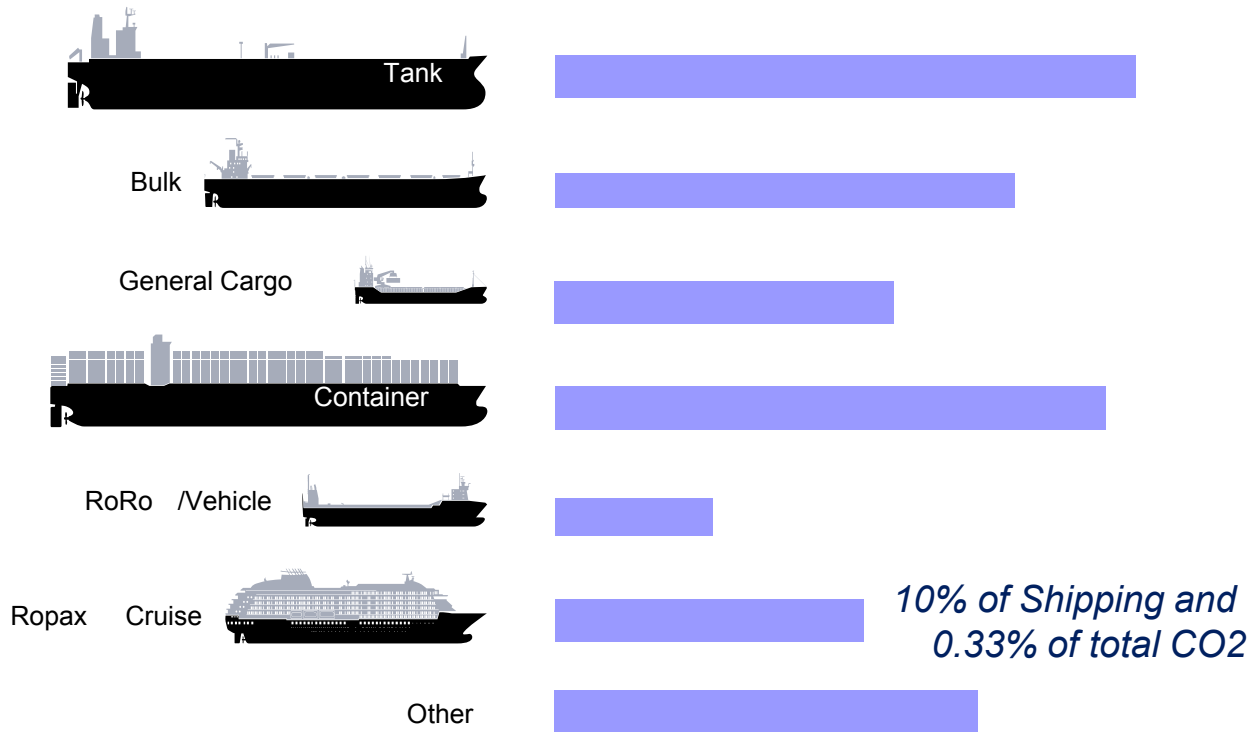
Shipping as a stand alone nation would be the 6th largest CO₂ emitter in the world

Source: 2006 Country data from www.eia.doe.gov/pub/international/realfftable1co2.xls and 2007 Shipping data from Buhaug, p., et al. (2009) Second IMO GHG Study 2009; International Maritime Organization London, UK



Global CO₂ emissions from Marine Industry

CO₂ emission distribution



Industry estimation of improvement potentials

International Chamber of Shipping:

- *“The consensus of opinion within the global industry is that it may be possible for shipping to reduce CO2 emitted per tonne of cargo transported one kilometer (tonne/km) by perhaps 15%-20% between 2007 and 2020, through a combination of technological and operational developments, as well as the introduction of new and bigger ships, designed to the new IMO Energy Efficiency Design Index.”*

UN maritime body IMO is preparing it's package

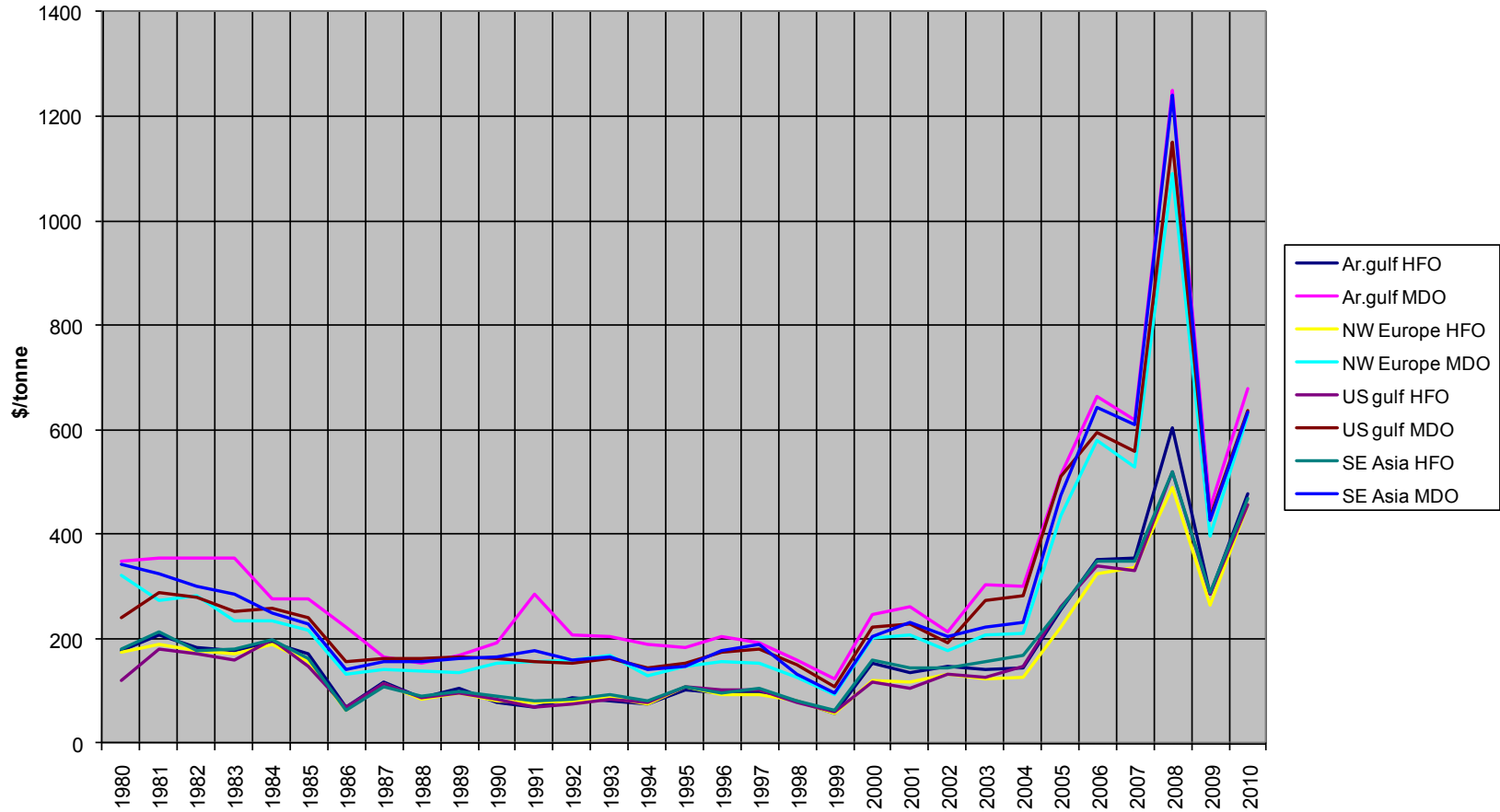
IMO Marine Environment Protection Committee (MEPC) has developed a package of measures for reducing shipping's CO₂ emissions with agreed timetable for adoption:



- 1) Energy Efficiency Design Index (EEDI) for new ships
 - 2) Energy Efficiency Operational Indicator (EEOI) for all ships
 - 3) Ship Energy Efficiency Management Plan (SEEMP) for all ships
- + Market Based Measures (MBM's) for all ships

Marine fuel price history

Fuel price history; IFO380 and MDO



What does the certification mean (ISO 14001)



- Viking Line carried out an *extensive environmental study in 1996*
 - The company identified the environmental aspects of its operations
 - Environmental work focuses mainly on vessel operations, where the largest gains can be achieved when it comes to protecting our environment
- An explicit, documented Environmental Policy establishes the overall direction of environmental work and states the principles behind the Company's actions. *It is adopted by the Group Management*
- Environmental programmes include overall and detailed environmental targets, adopted by Group managements as part of its review:
 - The Company *works proactively and systematically to minimize the environmental impact of its operations*
- The Company makes *demands on its suppliers* (supplier assessments, purchasing manuals, information forms)
- *Internal and external audits monitor Viking Line`s compliance with the requirements for environmental certification.*
- The Company regularly provides *environmental training to its employees (training plan)*



Black water, grey water and bilge water

- Black water is wastewater from toilets. Grey water comes from showers and other washing activity. Bilge water, which contains oil, originates in the engine rooms of vessels
- The International Convention for the Prevention of Pollution from Ships (MARPOL 73/79) regulates black water and bilge water management. Grey water discharges are not regulated by law. Vessels are permitted to discharge black and bilge water into the sea when the water meets certain specified criteria.
 - => untreated black water no closer than 12 nautical miles from the nearest land
 - => treated black water no closer than 3 NM from the nearest land
 - => treated bilge water: oil content may not exceed 15 ppm

NEW BUILDING IN TURKU AT STX



Sulphur content of vessel fuel

International Maritime Organization

(a United Nations agency):

May 2005 => international maximum sulphur content 4.5%

SECA areas (i.e. the Baltic Sea):

May 2006 => maximum sulphur 1.5%

July 2010 => maximum sulphur content 1%

Sulphur content
of ships' fuels

From 1.1.2015

< 0.1%

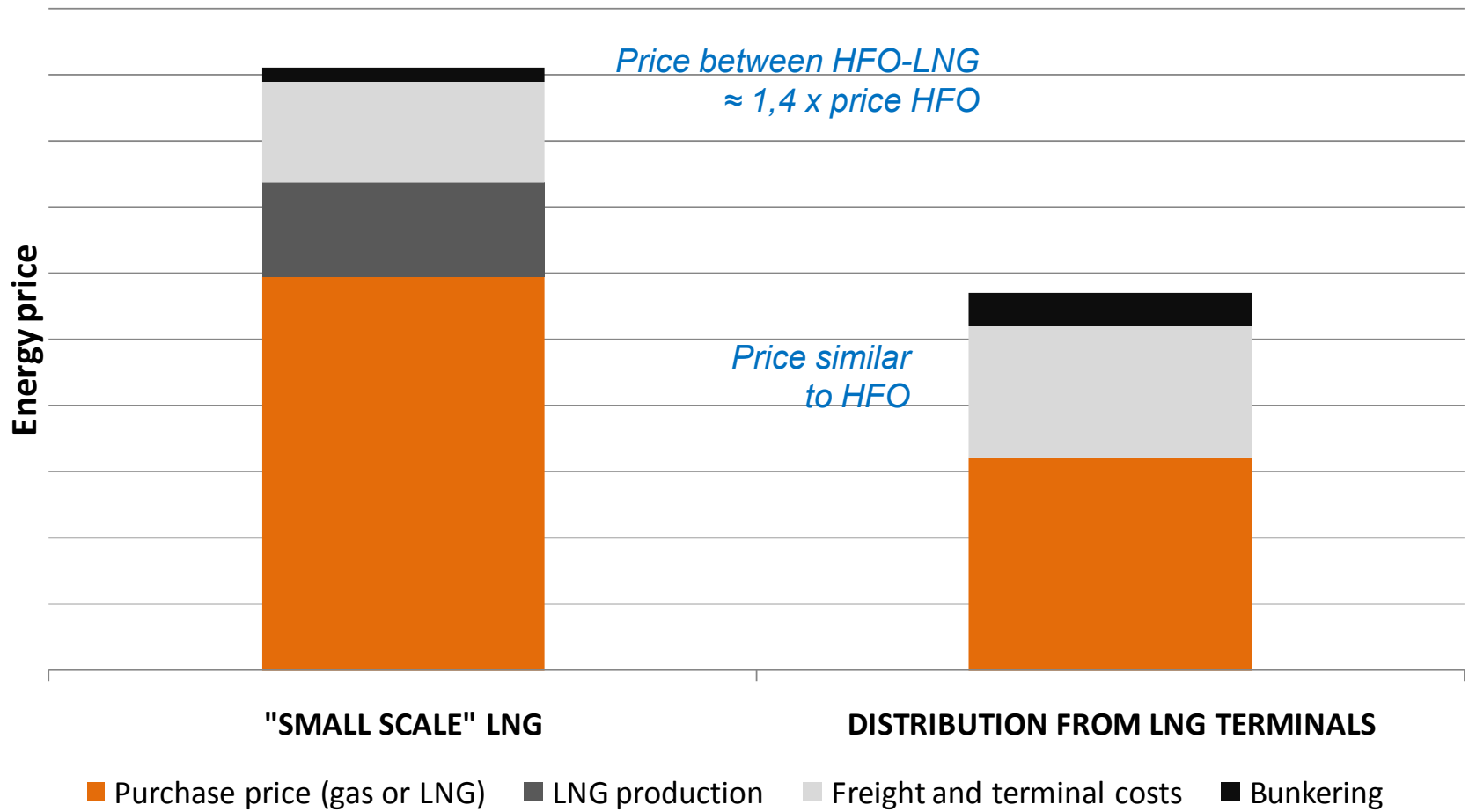
European Union:

January 2010 => in EU ports, maximum sulphur content 0.1% for vessels staying in port for more than 2 hours (exemption for vessels using connections with onshore electricity sources)

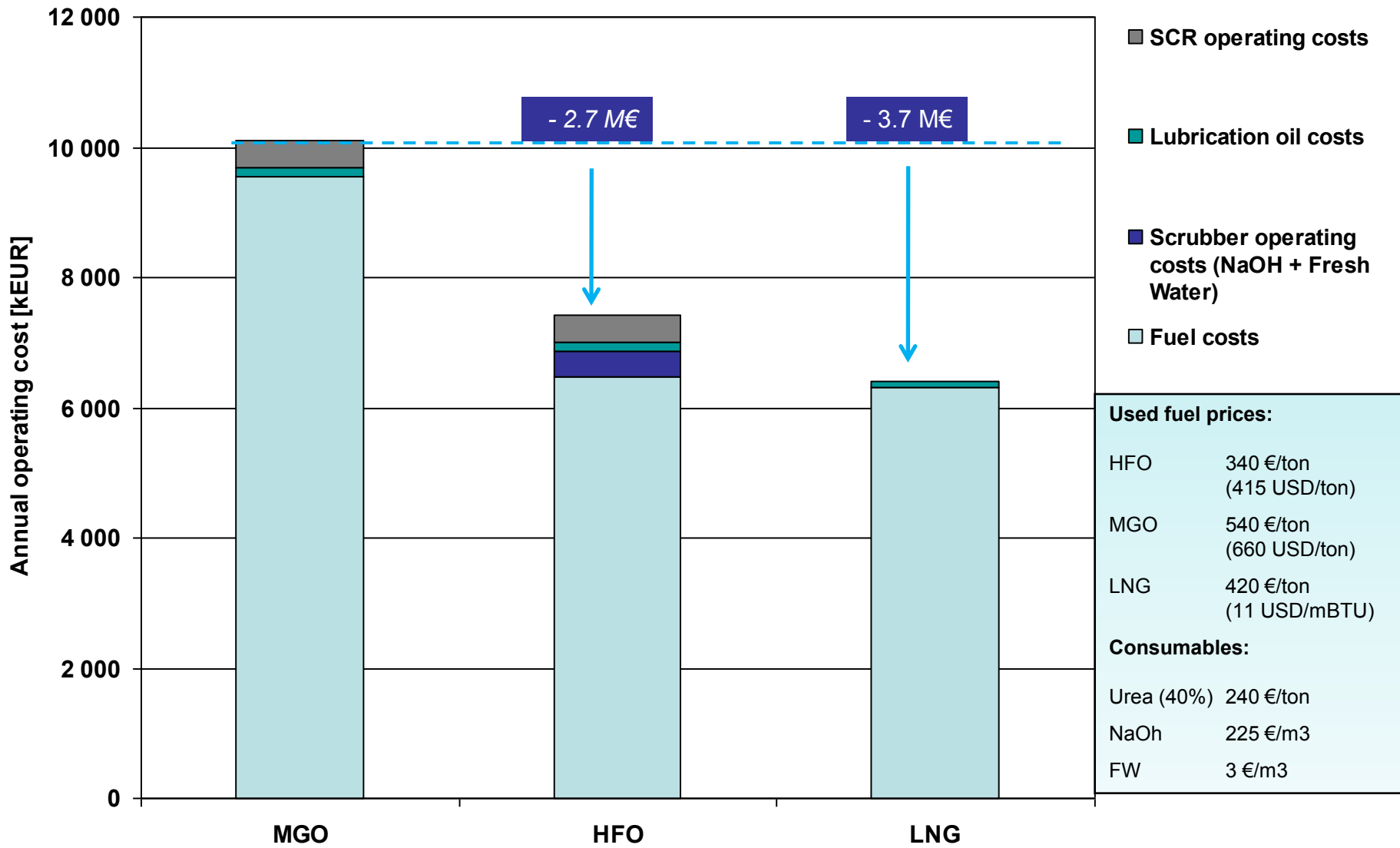
Viking Line has used low-sulphur fuel (maximum sulphur content 0.5%) since the 1990s.

Since January 1, 2010, all Viking Line vessels that stay moored in a port for more than 2 hours use marine diesel oil with a sulphur content not exceeding 0.1% throughout their port stay.

Expected LNG prices

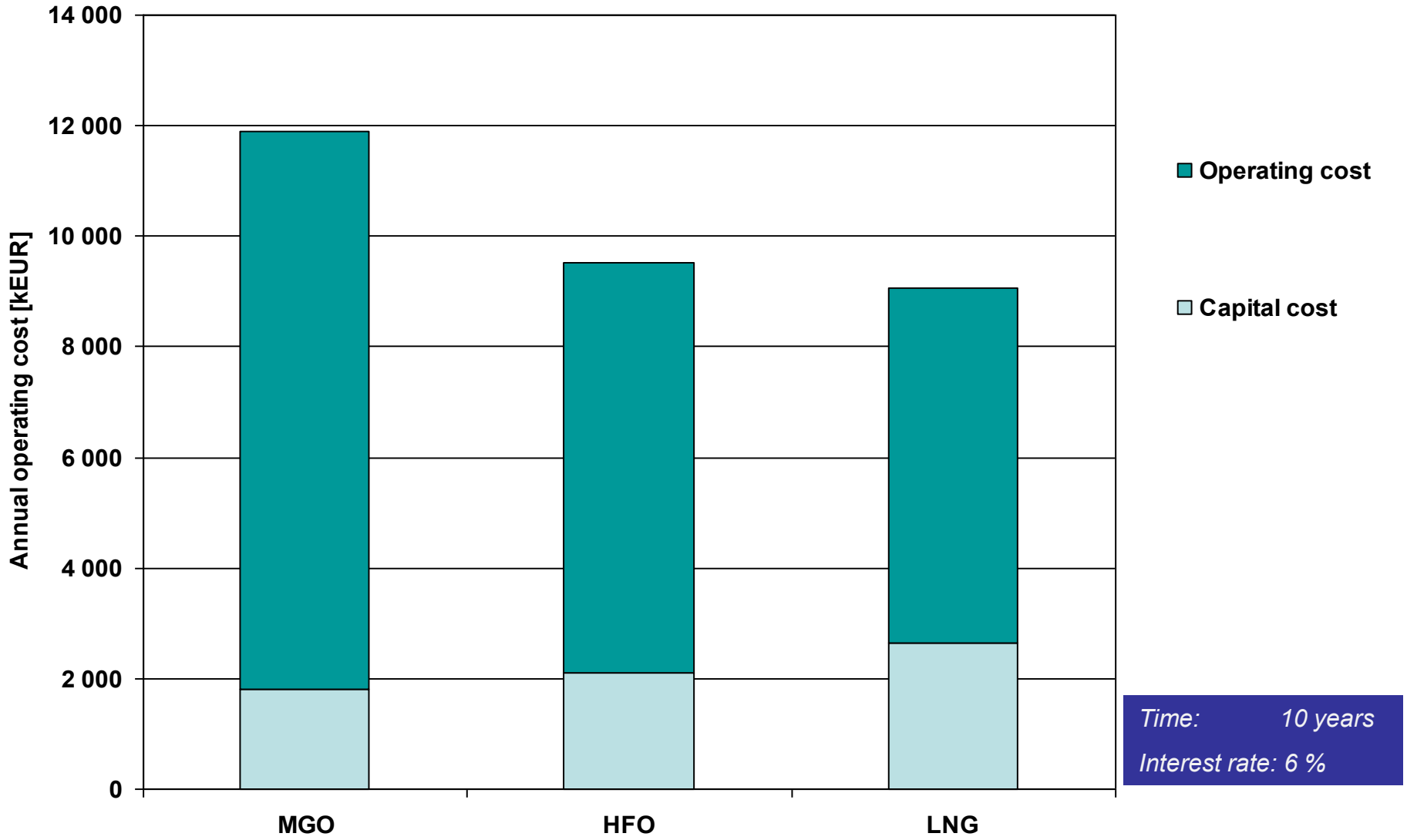


Annual operating costs

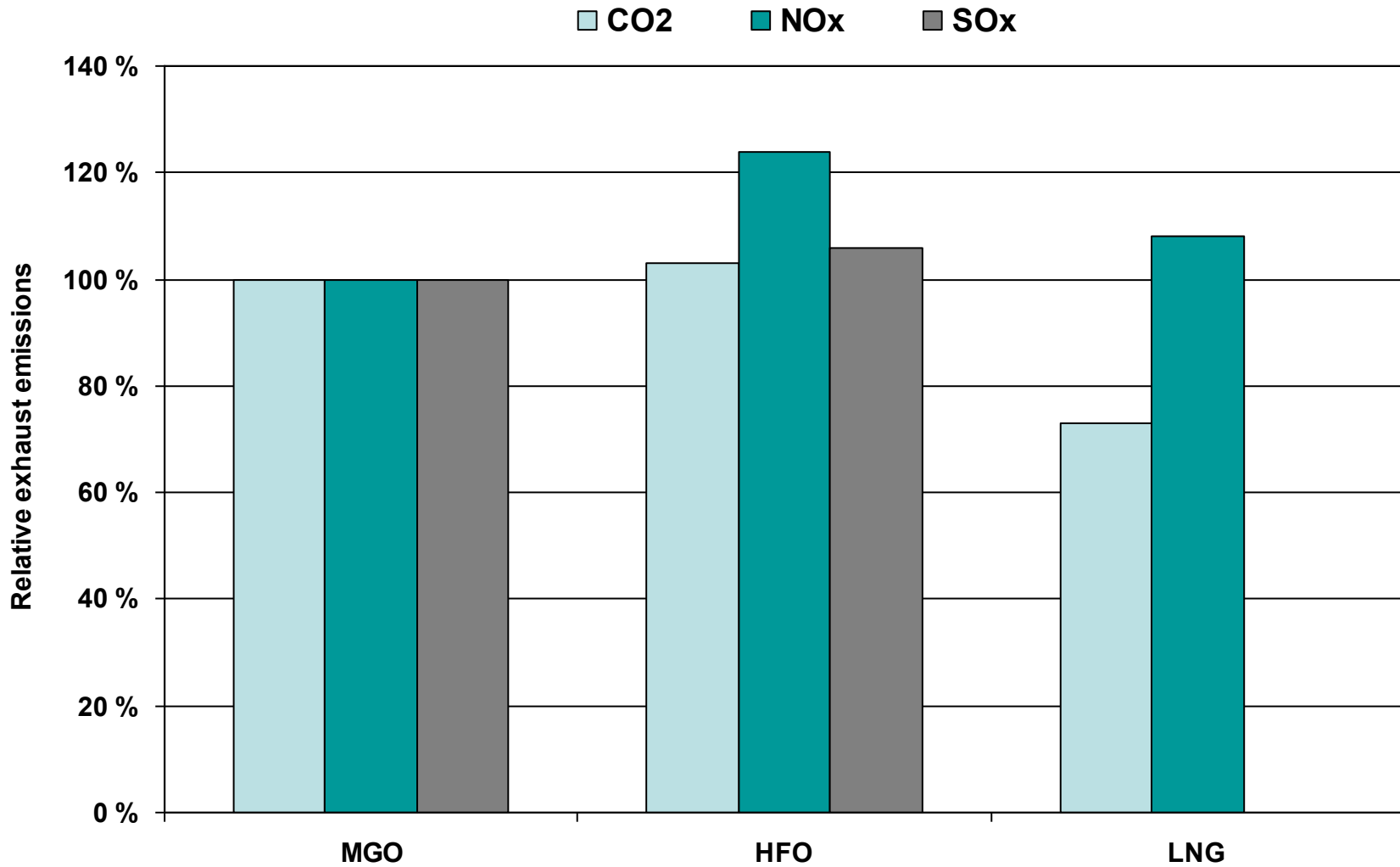


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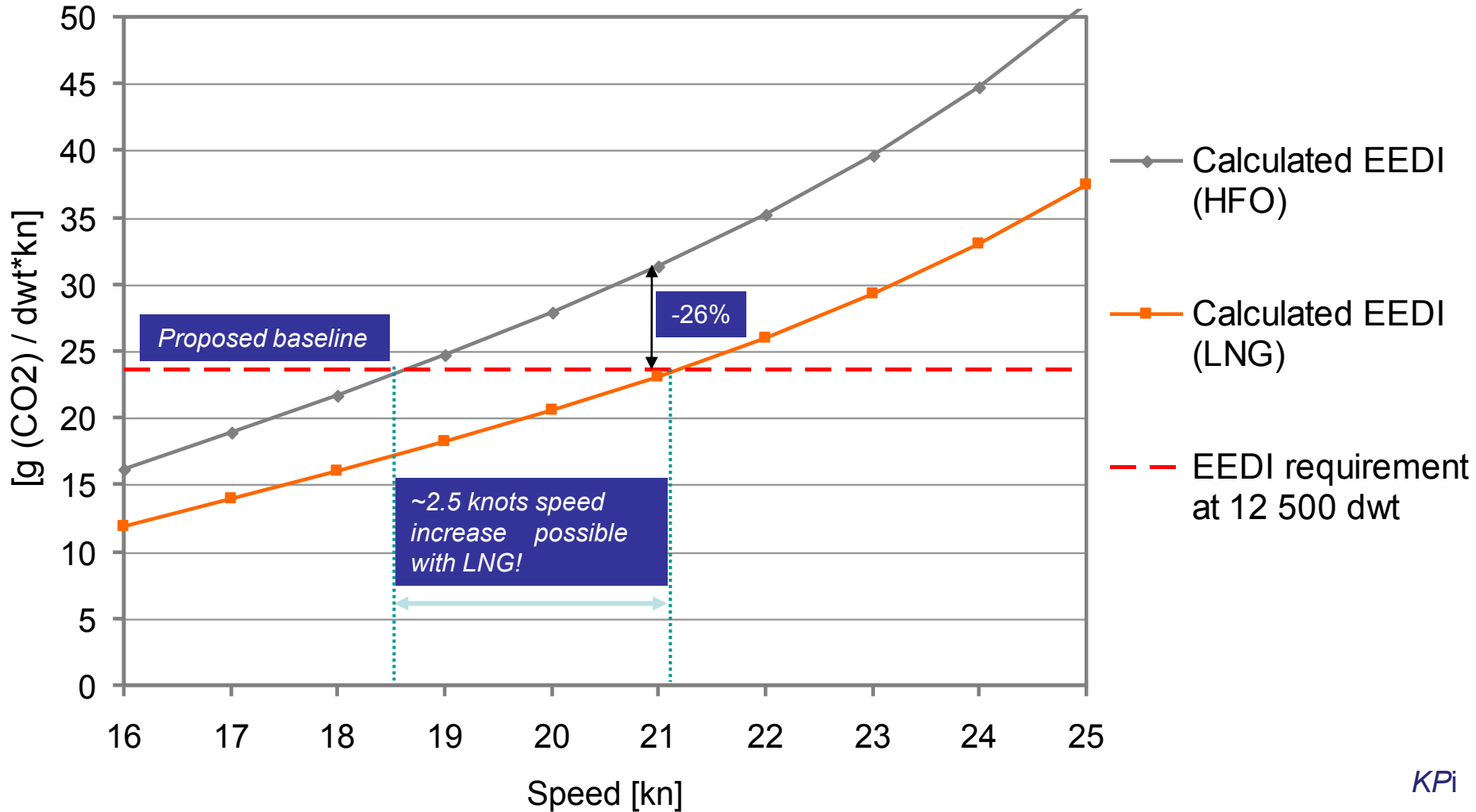
Annual machinery related costs



Exhaust emissions



EEDI value for RoRo



THANK YOU FOR YOUR ATTENTION!