

Reducing the Impact of Shipping's Atmospheric Emissions on the Arctic: Progress and Future Opportunities

Dr Sian Prior
Lead Adviser
Clean Arctic Alliance
January 2025



Clean Arctic Alliance
www.cleanarctic.org

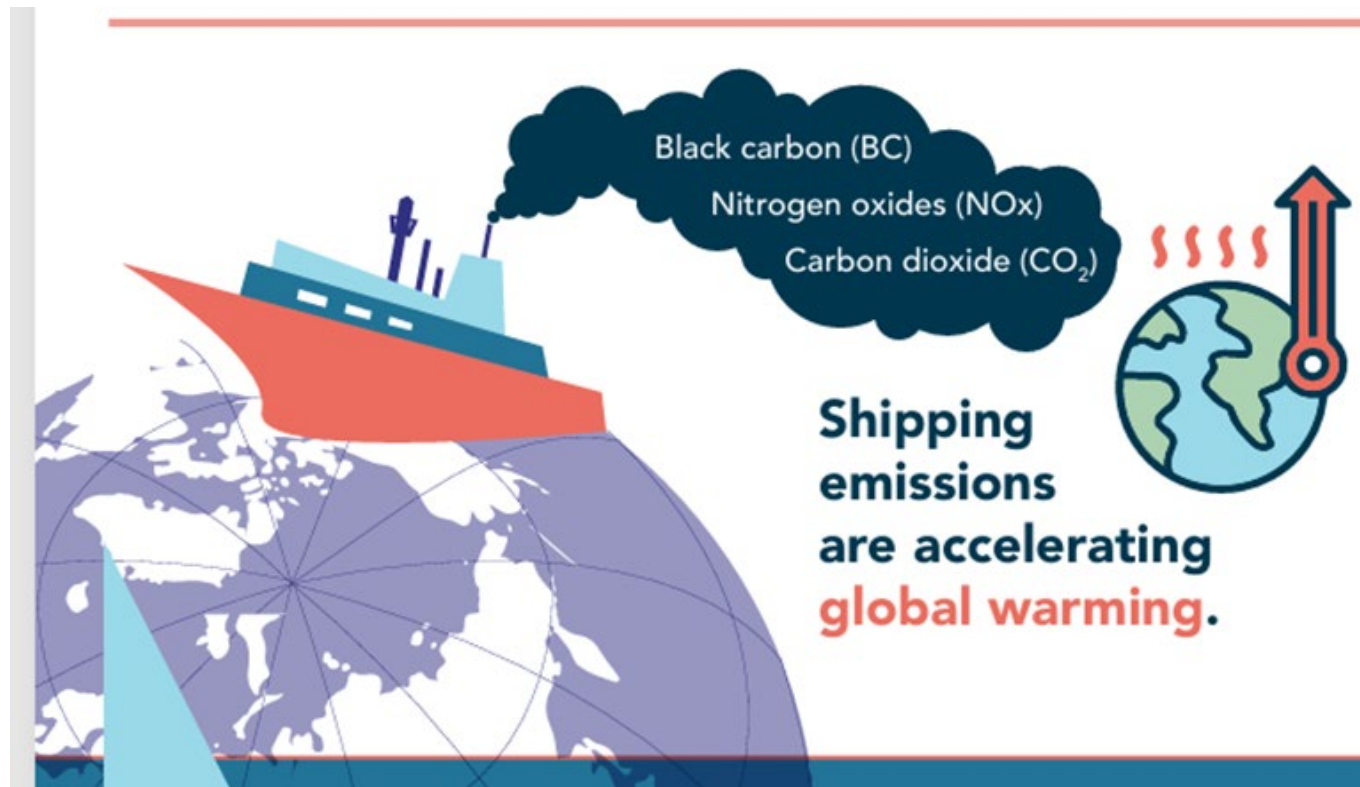
Formed in 2016
24 non-profit member
organisations



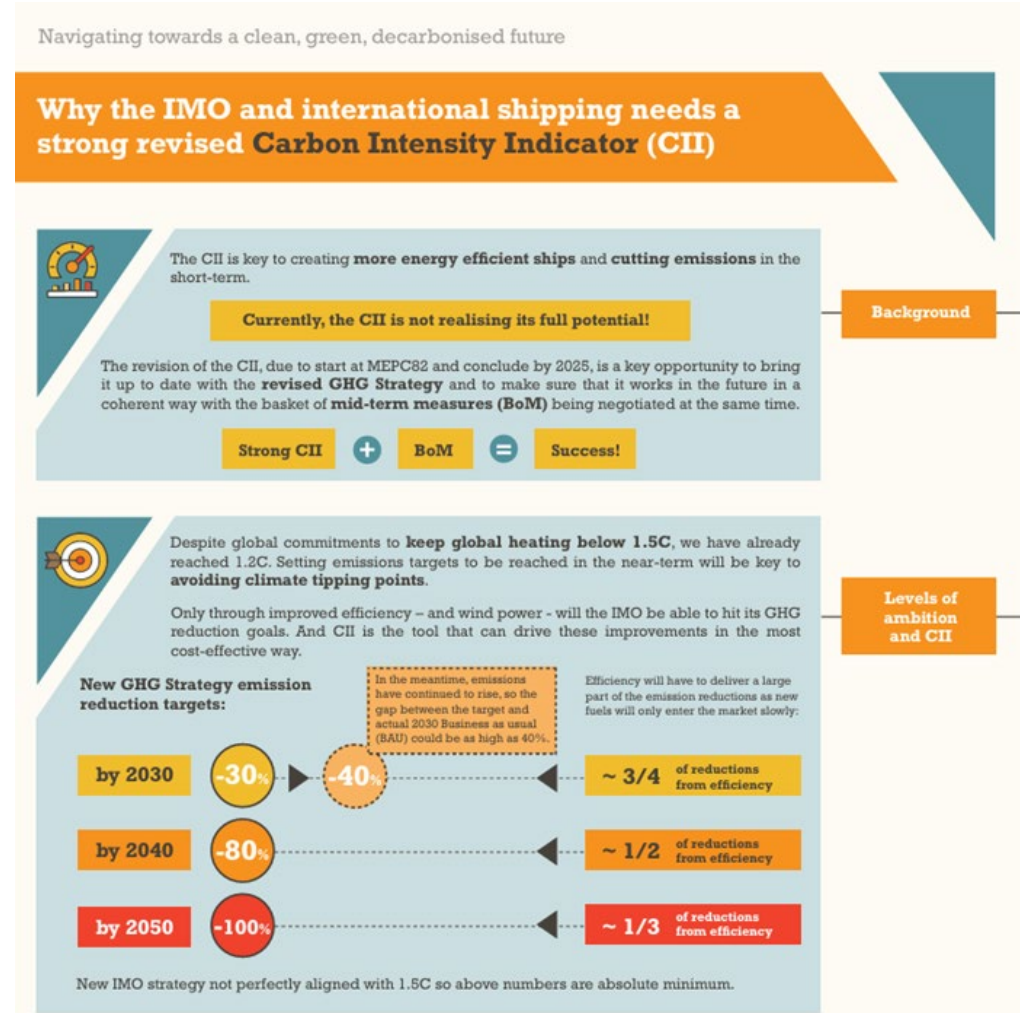
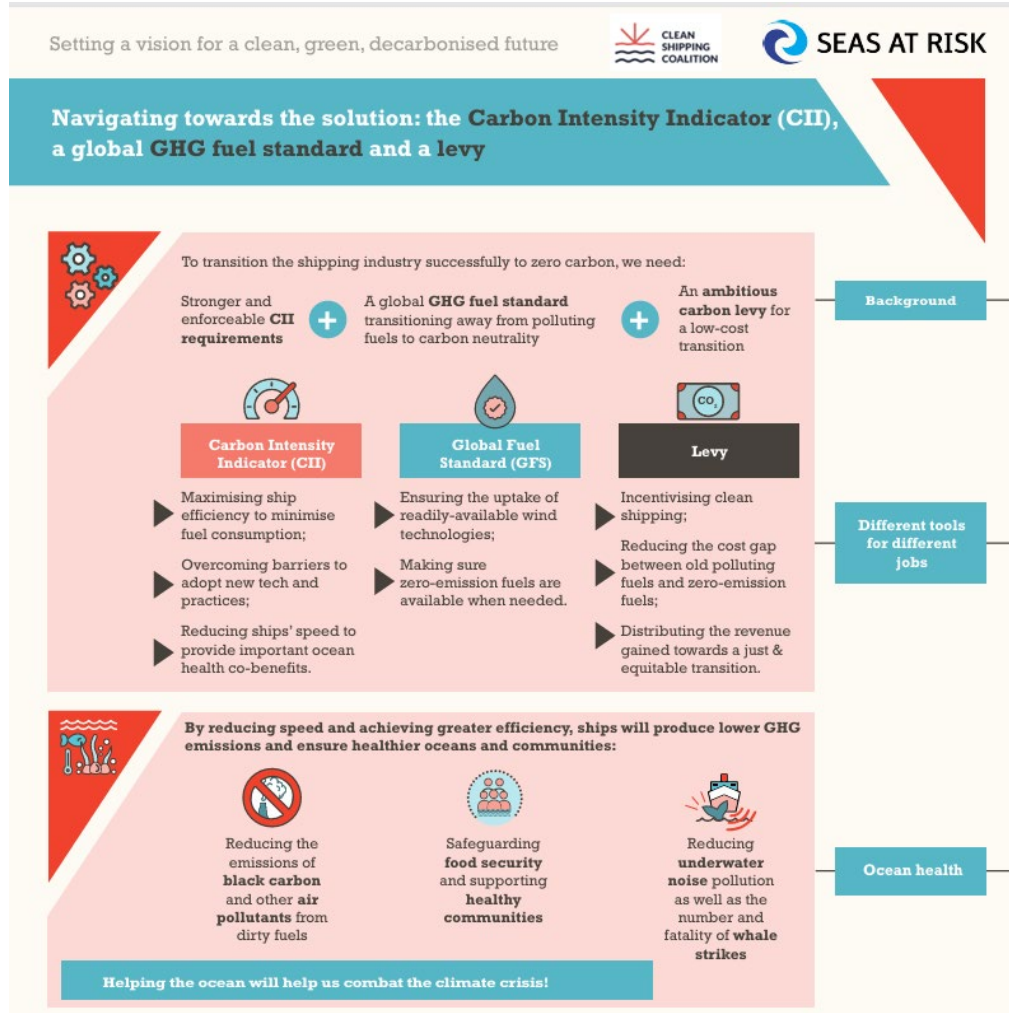
THE CLEAN ARCTIC ALLIANCE IS WORKING TO PROTECT THE ARCTIC FROM THE IMPACTS OF SHIPPING

Atmospheric emissions from ships

- Carbon dioxide (CO₂)
- NO_x, SO_x and particulate matter
- Black carbon
- Methane



Greenhouse gases

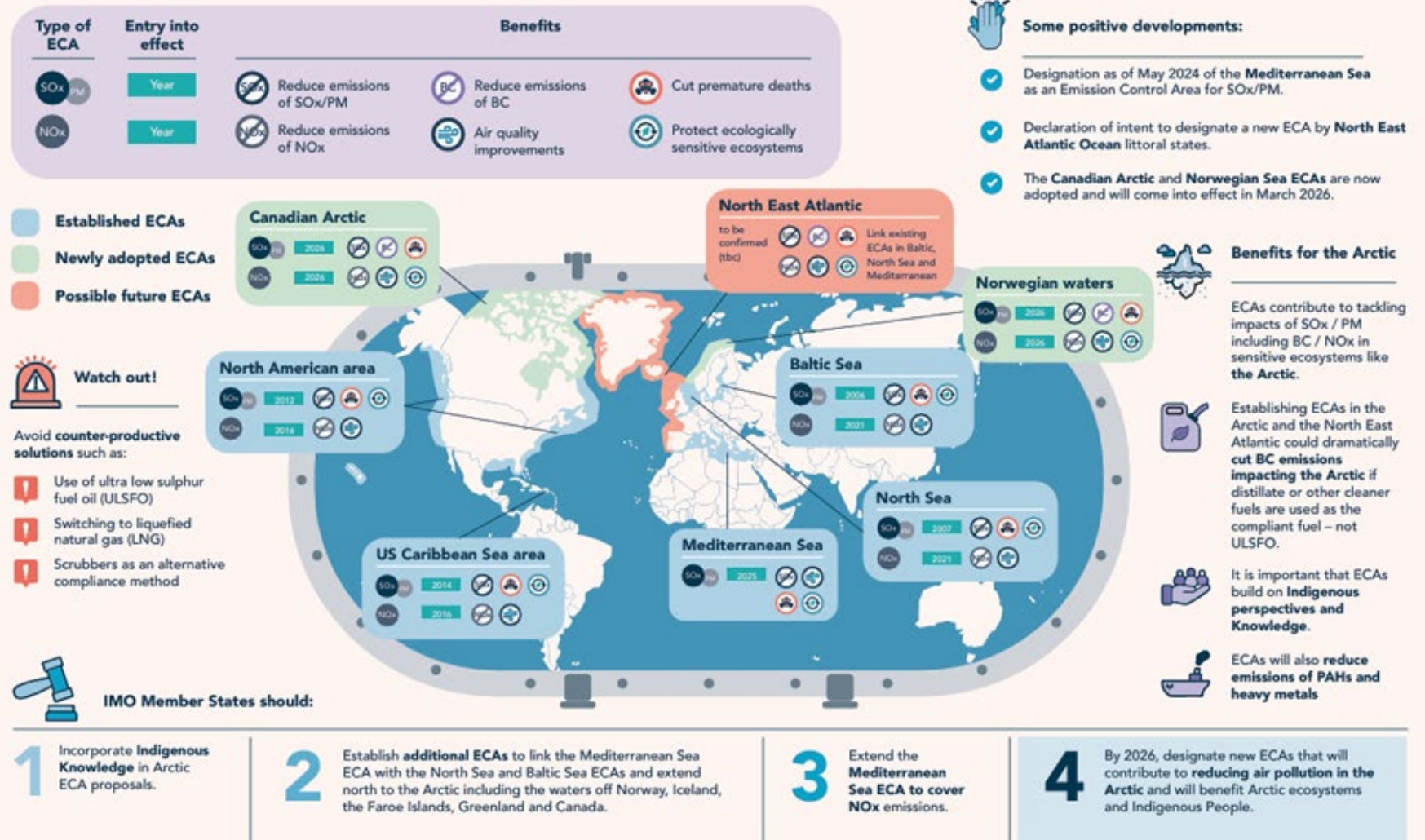




CLEAN ARCTIC
ALLIANCE

- NO_x
- SO_x
- PM

Emission Control Areas - Reducing Air Pollution from Shipping to Protect the Arctic

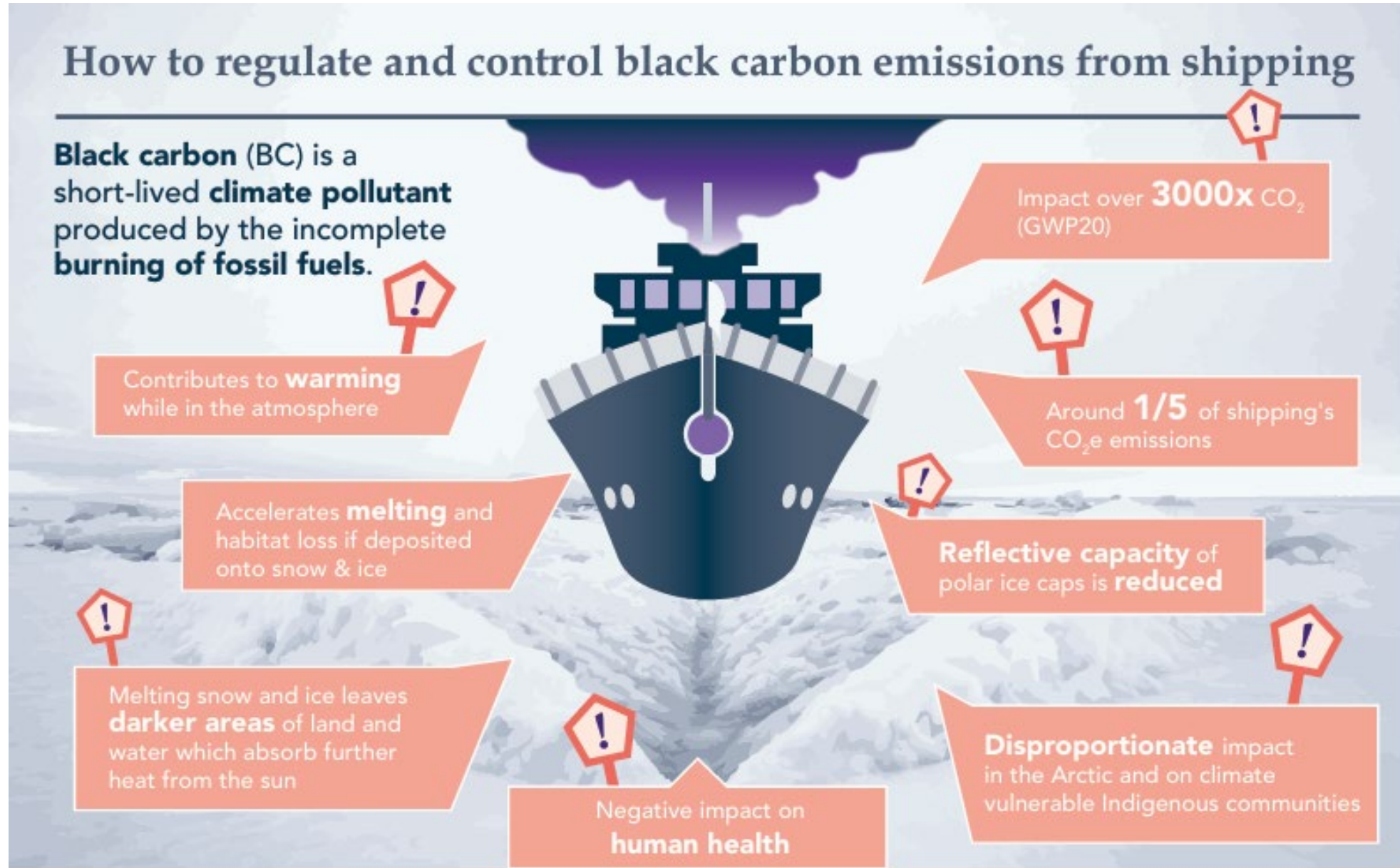


Alaska Wilderness League | Bellona | Clean Air Task Force | ECODES | Environmental Investigation Agency | Equal Routes | Eurasian Wildlife & Peoples | Friends of the Earth US | Global Choices | Green Global Future | Green Transition Denmark | Greenpeace | Icelandic Nature Conservation Association | International Cryosphere Climate Initiative | Nature And Biodiversity Conservation Union | Ocean Conservancy | Pacific Environment | Seas At Risk | Stand.earth | Surfrider Foundation Europe | Transport & Environment | WWF | Zero | 90 North Foundation

THE CLEAN ARCTIC ALLIANCE IS WORKING TO PROTECT THE ARCTIC FROM THE IMPACTS OF SHIPPING

Black
carbon

a potent
short-lived
climate
pollutant





CLEAN ARCTIC
ALLIANCE

- BC emissions have doubled
- 73% of BC comes from vessels in the Arctic but not in Arctic waters (Polar Code)
- Resolution MEPC.342 (77) – voluntarily use cleaner fuels to reduce black carbon
- Regulating polar fuels

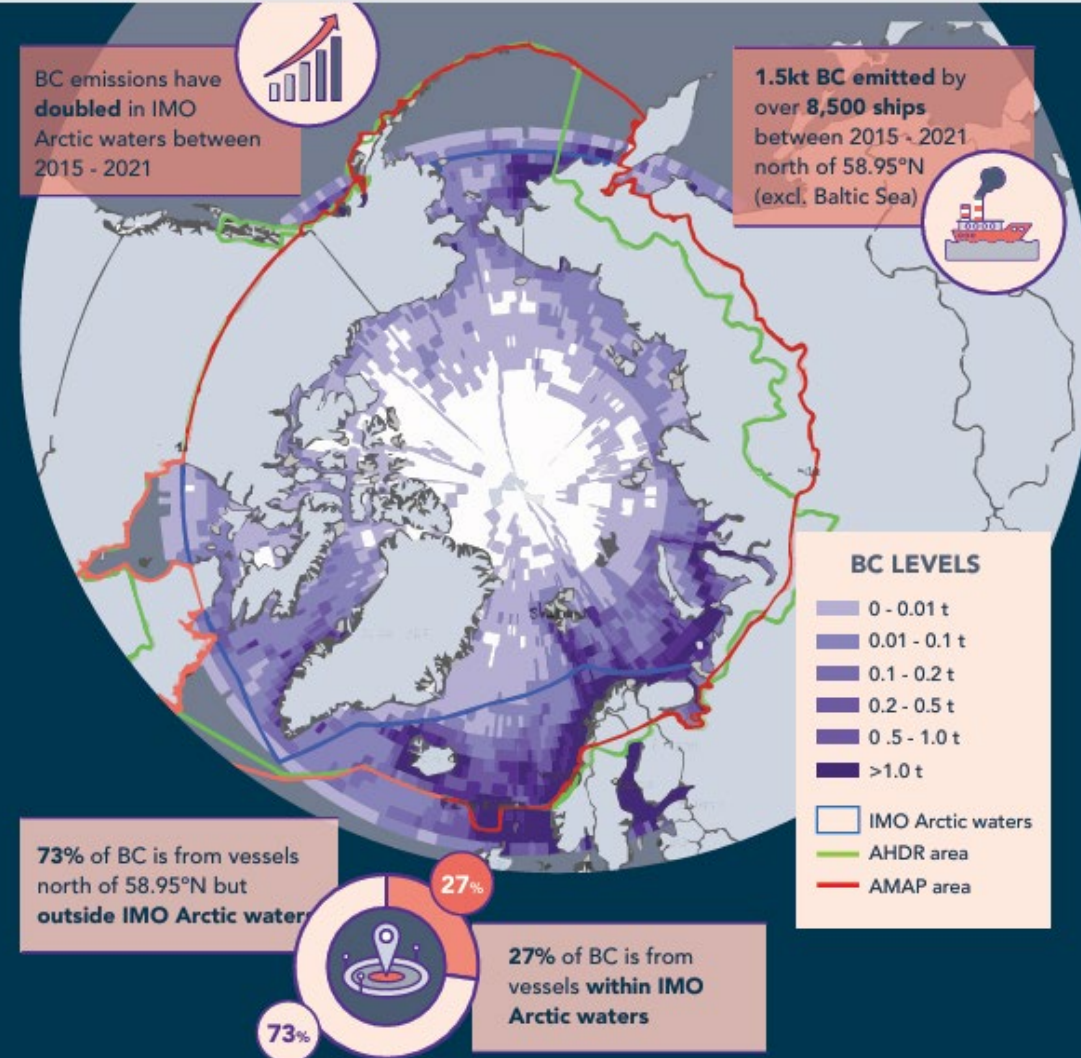


Alaska Wilderness League | Bellona | Clean Air Task Force | Equal Routes | ECODES | Environmental Investigation Agency | Eurasian Wildlife and Peoples | Friends of the Earth US | Global Choices | Green Global Future | Green Transition Denmark | Greenpeace | Icelandic Nature Conservation Association | International Cryosphere Climate Initiative | Nature And Biodiversity Conservation Union | 90 North Foundation | Ocean Conservancy | Pacific Environment | Seas At Risk | Stand.earth | Surfrider Foundation Europe | Transport & Environment | WWF | Zero

Measures to reduce the impact of black carbon from ships must apply throughout the Arctic

Measures must have a sufficiently **wide geographic scope** to:

- 1 reduce the impact of all shipping BC on the Arctic
- 2 address shipping BC emissions in and near the Arctic (incl. airborne transportation of BC to the Arctic)



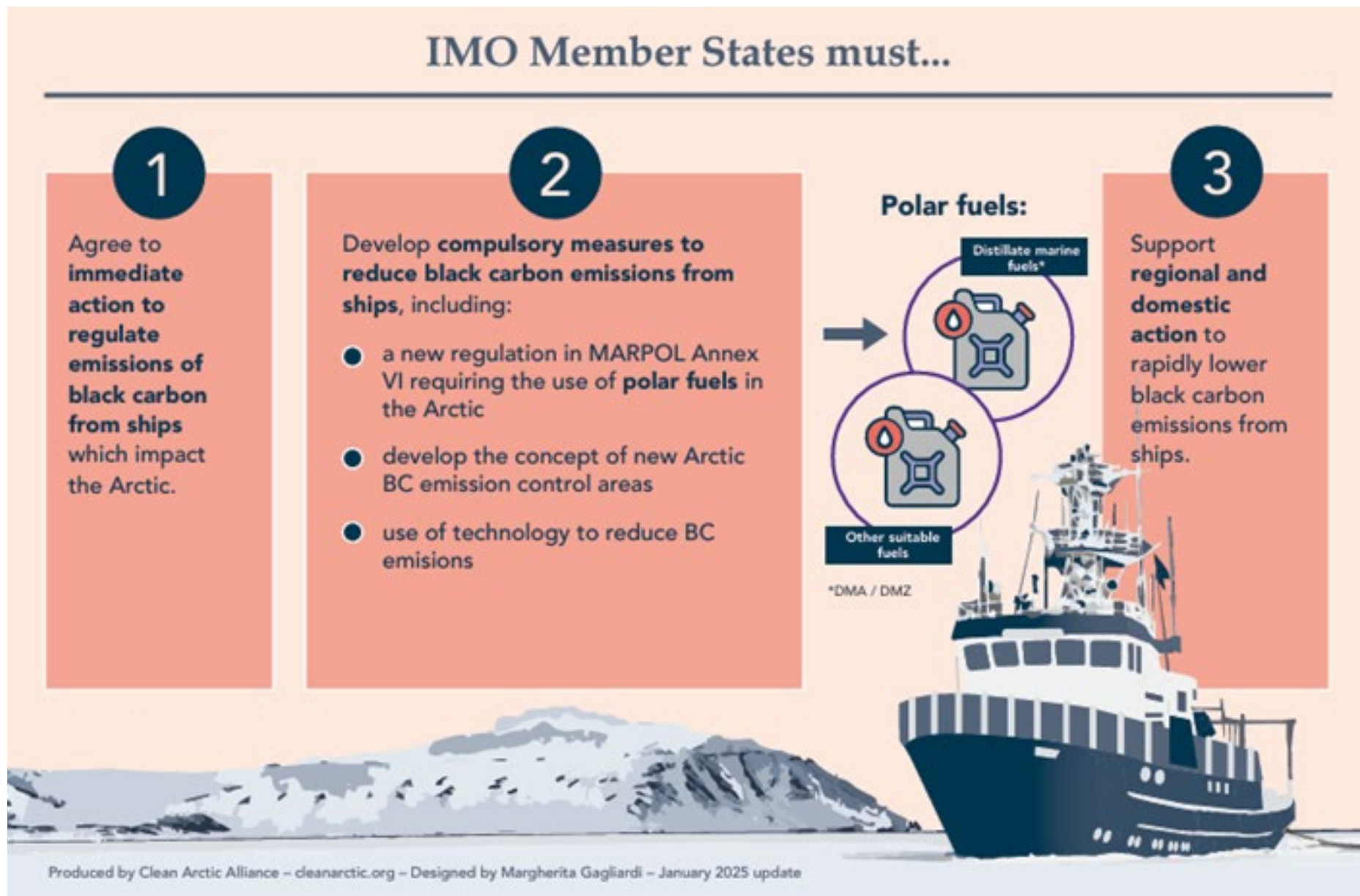
Graphic adapted from ICCT map of black carbon emissions (2021)

THE CLEAN ARCTIC ALLIANCE IS WORKING TO PROTECT THE ARCTIC FROM THE IMPACTS OF SHIPPING



CLEAN ARCTIC
ALLIANCE

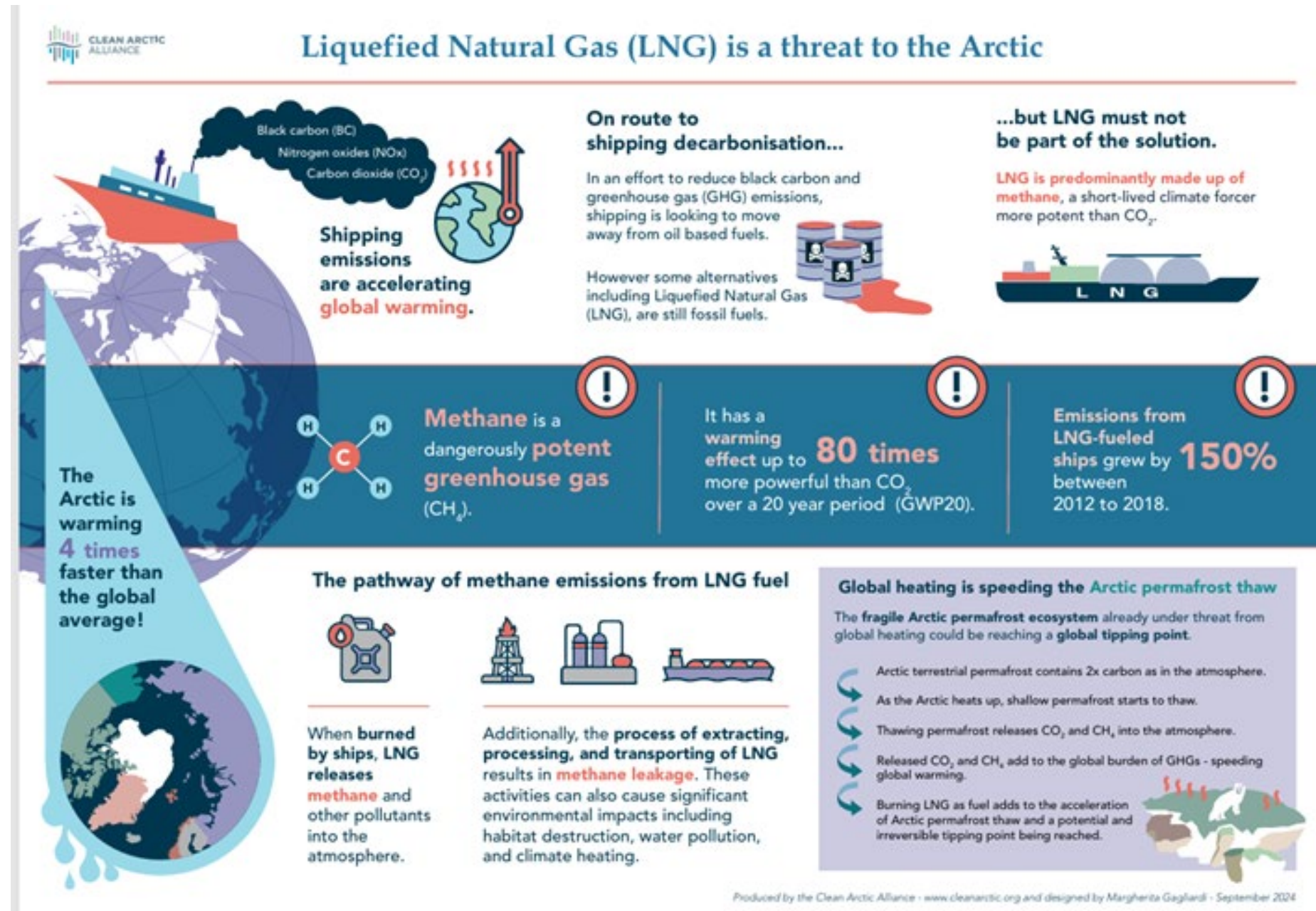
- Agree the concept of polar fuels
- Agree to regulate the use of polar fuels under MARPOL Annex VI



THE CLEAN ARCTIC ALLIANCE IS WORKING TO PROTECT THE ARCTIC FROM THE IMPACTS OF SHIPPING

Methane

a potent short-lived climate pollutant





In the polar regions

- Reduce emissions of CO₂, NO_x, SO_x, BC, methane by 2030
- Increase energy efficiency
- Wind-assisted and wind propulsion
- Onshore power supply
- Move to safe low and zero emission fuels with climate and air quality benefits



The Arctic is at a crossroads that could reshape its maritime future. Promoting the continued use of any fossil fuels, including LNG, will impede the transition to a zero-emission economy.

The Clean Arctic Alliance is calling for:

- 1 Arctic nations to require all ships to **urgently reduce emissions of CO₂, black carbon, and methane by 2030**, and move to alternative, non-fossil fuels and other forms of propulsion;
- 2 ships operating in the Arctic to immediately **switch from heavy fuels to distillate fuels or cleaner non-fossil fuels** in order to cut ship black carbon emissions;
- 3 the **shipping industry to focus on energy-saving practices and technologies**, such as wind propulsion, batteries, low and zero-emission fuels that can deliver air quality and climate benefits; and
- 4 public and private sectors to **stop investing in LNG infrastructure** that will cause further delays for the sector to transition to low and zero emission propulsion and fuels in the future.

Sign the Beyond Methane pledge
<https://saynotolng.org/beyond-methane-pledge/>

Produced by the Clean Arctic Alliance - www.cleanarctic.org



CLEAN ARCTIC
ALLIANCE

Thank you

www.cleanarctic.org



THE CLEAN ARCTIC ALLIANCE IS WORKING TO PROTECT THE ARCTIC FROM THE IMPACTS OF SHIPPING