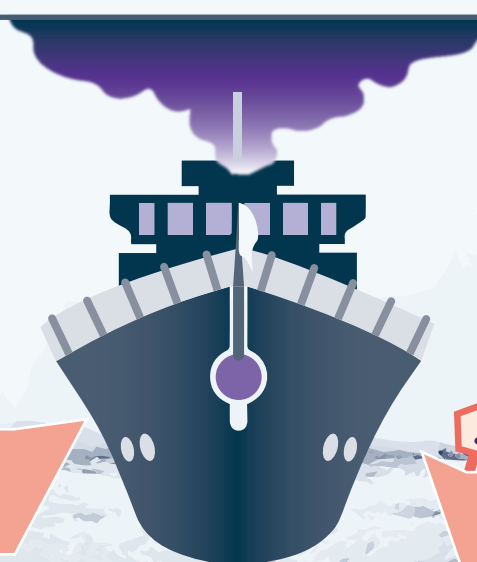


How to regulate and control black carbon emissions from shipping

Black carbon (BC) is a short-lived climate pollutant produced by the incomplete burning of fossil fuels.



Impact over **3000x** CO₂ (GWP20)

Contributes to **warming** while in the atmosphere

Around **1/5** of shipping's CO₂e emissions

Accelerates **melting** and habitat loss if deposited onto snow & ice

Reflective capacity of polar ice caps is **reduced**

Melting snow and ice leaves **darker areas** of land and water which absorb further heat from the sun

Disproportionate impact in the Arctic and on climate vulnerable Indigenous communities

Negative impact on **human health**

The regulation of black carbon emissions from ships is a priority

POSSIBLE PATHWAYS TO IMPLEMENT REDUCTIONS:



New regulation via amendment of MARPOL Annex VI



Development of an international fuel standard for MARPOL Annex VI

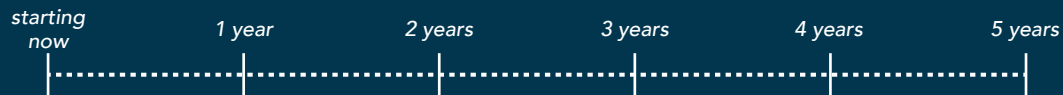


Amendment of Regulation 14 of MARPOL Annex VI

MEASURES

■ short-term ■ mid-term

Options for reducing black carbon emissions:



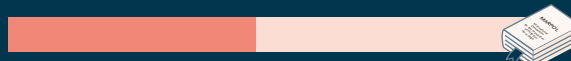
Mandatory switch to distillate by ships in/near the Arctic



Designate sulphur emission control areas (ECAs)



Develop an international standard on aromatic content of fuel



Develop Arctic and black carbon (or distillate-only) ECAs



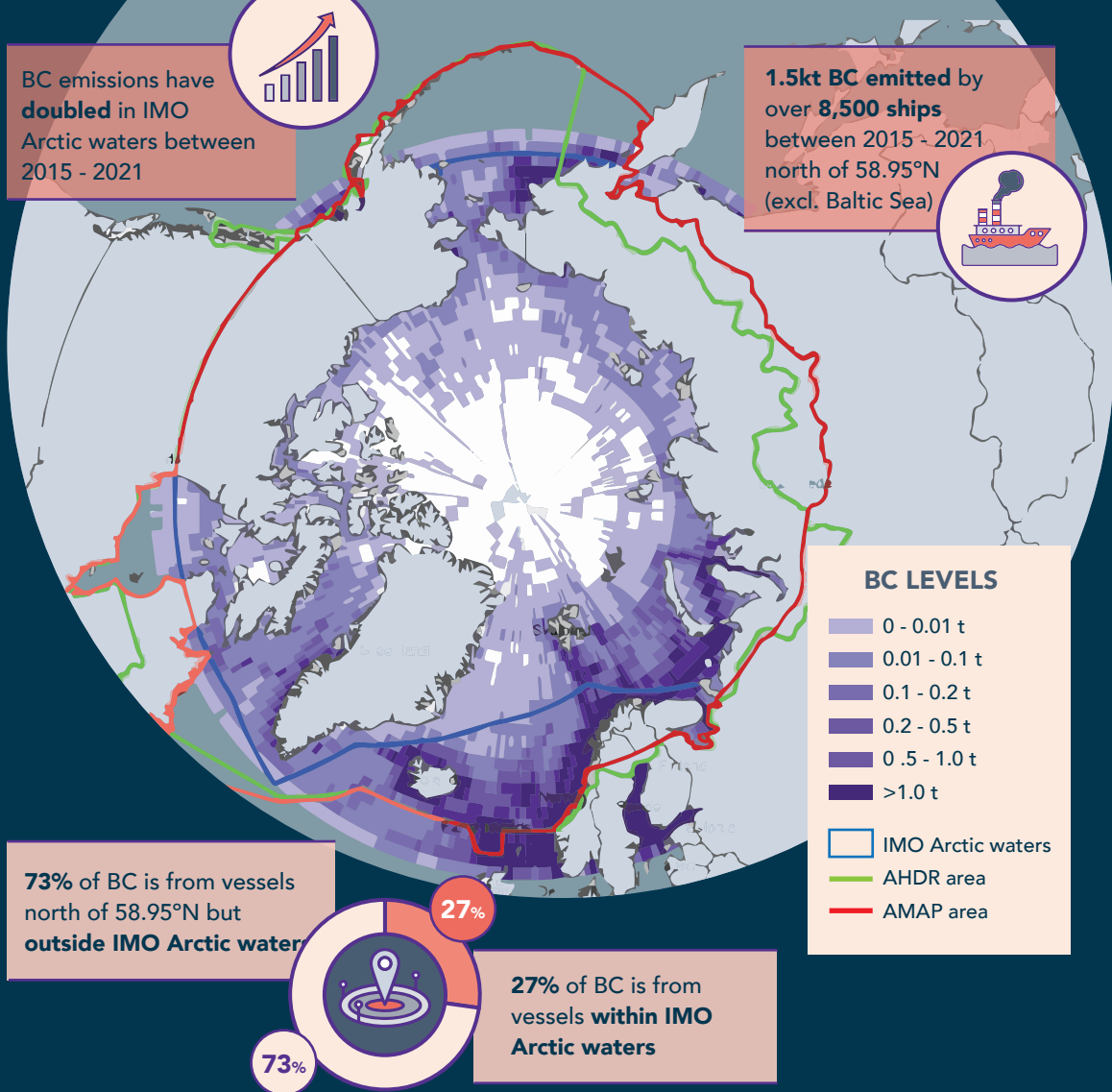
Require the use of diesel particulate filters for ships in/near the Arctic



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)

IMO Member States must...

1

Agree to **immediate action to regulate emissions of black carbon from ships** which impact the Arctic.

2

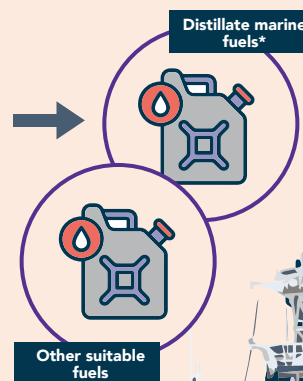
Develop **compulsory measures to reduce black carbon emissions from ships**, including:

- a new regulation in MARPOL Annex VI requiring the use of **polar fuels** in the Arctic
- develop the concept of new Arctic BC emission control areas
- use of technology to reduce BC emissions

3

Support **regional and domestic action** to rapidly lower black carbon emissions from ships.

Polar fuels:



*DMA / DMZ

