# HEAVY FUEL OIL: A THREAT TO THE ARCTIC

Heavy fuel oil (HFO) use increases the impact of oil spills and produces harmful air and climate pollutants.

Vessels can no longer use HFO as fuel or have it on board in large quantities in the Antarctic.

How is the Arctic to be protected from the same risk?

## HFO: A DANGEROUS POLLUTANT FOR THE ARCTIC MARINE ENVIRONMENT

HFO is extremely **VISCOUS**, breaks down slowly, and is impossible to fully clean up.

HFO spills are **50 TIMES** more toxic to fish than medium and light crude oil spills.

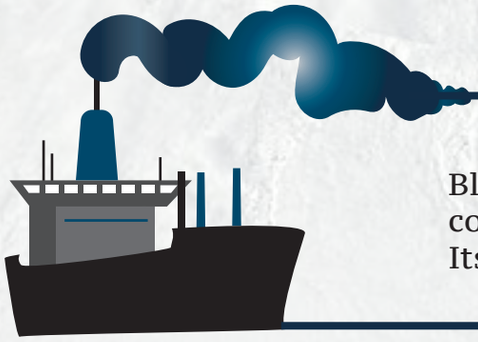
HFO spills pose a severe risk to **4 MILLION** Arctic residents including the food security of some indigenous communities.

## A THREAT TO THE INDIGENOUS COMMUNITIES' SUBSISTENCE

Many seabirds and marine mammals whose feathers or fur have been covered by HFO face hypothermia and death.

## AN AGGRAVATING FACTOR FOR GLOBAL WARMING

HFO produces higher emissions of harmful pollutants like sulphur and nitrogen oxides, and black carbon.



Black carbon (BC) is the **2ND LARGEST** contributor to climate warming after $CO_2$. Its emissions accelerate snow and ice melting.

## EMISSIONS FROM HFO IMPACT HUMAN HEALTH

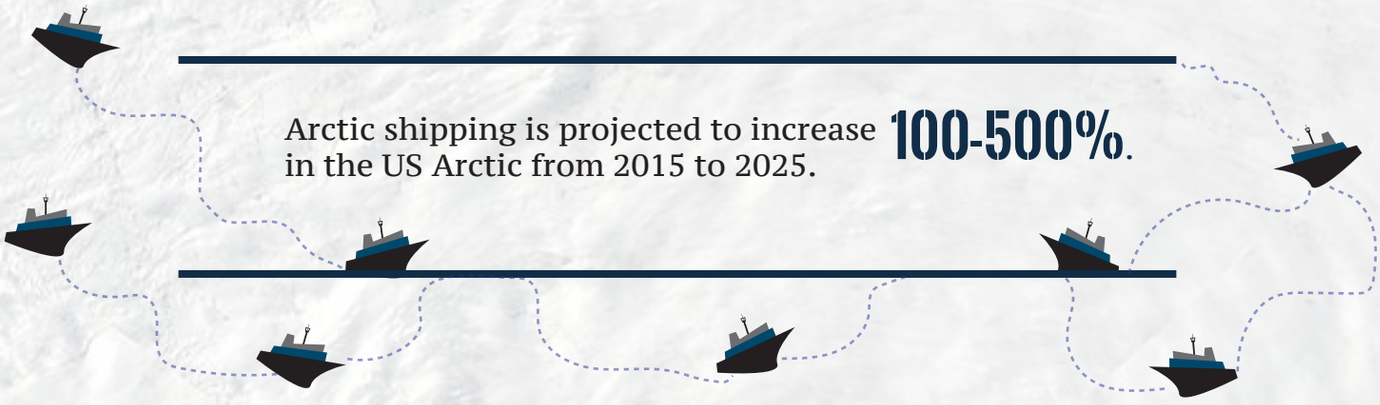
Inhaling BC particles increases the risk of heart and lung disease and premature death.

Switching from HFO fuel to low-sulphur distillate fuel would reduce BC emissions **30% TO 80%**.

## THE ARCTIC WATERS ARE GETTING BUSIER

More than **1300** ships sailed the Arctic in 2012.

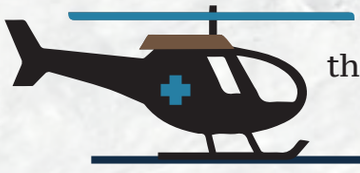
**75%** of the total mass of fuel on board was HFO.



Arctic shipping is projected to increase in the US Arctic from 2015 to 2025. **100-500%**.

## AND THE RISK OF ACCIDENTS RISES

Even in ideal conditions, spill response in the Arctic is difficult if not impossible, and the HFO viscosity makes the limited possibility more unlikely.



In 2005 there were **3** shipping casualties within the Arctic Circle. In 2015, over **70**.

## OPTIONS TO PROTECT THE ARCTIC SHOULD BE CONSIDERED:

1. phase out of HFO
2. emission control areas
3. use of spatial protection
4. routeing measures

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