

The Use of Heavy Fuel Oil in Arctic Shipping

In 2015 in the Arctic

889 HFO-fueled ships

carried
830K
tonnes
of fuel
onboard

consumed
250K
tonnes
of HFO

emitted
131
tonnes
of BC

HFO-fueled ships **+30%**

HFO carriage **+46%**

HFO use **+57%**

BC from HFO **+55%**

**Update
2017**



Heavy Fuel Oil (HFO) is the residual waste of the petroleum refining process. It is extremely viscous and virtually impossible to clean up in the case of a spill.



Black Carbon (BC) is a critical contributor to human-induced climate warming, especially in the Arctic, and the combustion of HFO produces high levels of BC emissions.

HFO-fueled Arctic ships include:



cargo ships



container ships



bulk carriers



fishing vessels



oil tankers

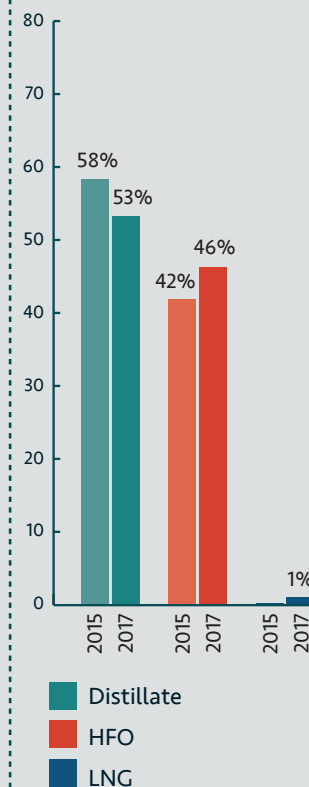


cruise ships

2015 vs 2017

Number of
HFO-fueled
ships is growing

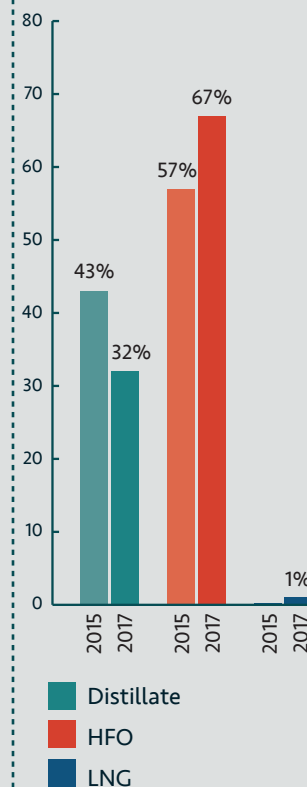
*Ships operating on each fuel
in the Polar Code Arctic*



2015 vs 2017

Use of HFO
is growing

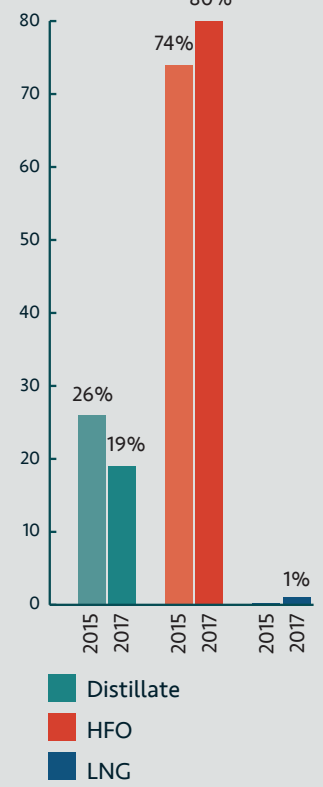
*Fuel Use in the
Polar Code Arctic*



2015 vs 2017

Carriage
of HFO
is growing

*Fuel Carriage in the
Polar Code Arctic*



Predominant Flag States in the Arctic in 2015

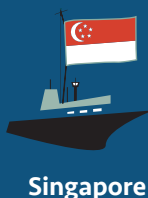
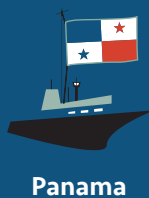
In 2015 in the Arctic

Ships flew **65 flags**

Top 3 flags by distance-weighted HFO carriage:



Flag states carrying the most HFO in their bunker tanks (top 5):



Ships operating on HFO in the Arctic in 2015 registered to:

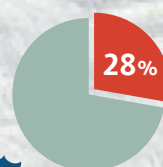


Arctic states

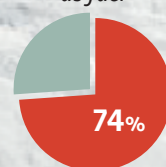


Non-Arctic states

HFO use

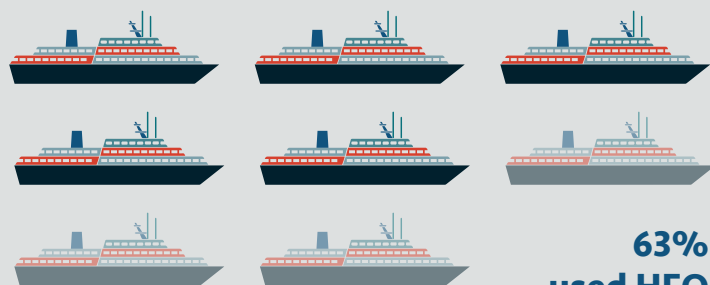


HFO carriage as fuel



A focus on cruise ships

63 cruise ships operated in the Arctic in 2015.



● Arctic states
● Non-Arctic states

Most of the HFO-fuelled cruise ships operating in the Arctic in 2015 were registered to **non-Arctic states**.

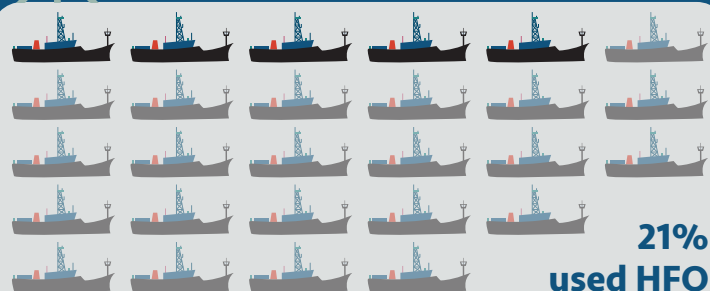


Bahamian-flagged cruise ships consumed nearly **10,000 tonnes of HFO** and emitted **over 5 tonnes of BC**.



A focus on fishing vessels

755 fishing vessels operated in the Arctic in 2015.



● Arctic states
● Non-Arctic states

Of the 17 flag states fishing the Arctic, **only 6 were Arctic states**

