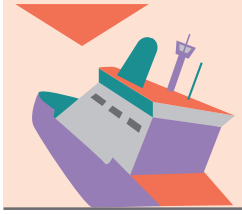
Do not delay a ban on the use and carriage of HFO as fuel by Arctic shipping

Environmental impacts of a HFO spill

RISKS



Based on 2012 shipping levels, an incident resulting in **1 oil spill in the Arctic** could be expected **every 1.6 years**. *(a)*

BAN HFO

IN THE ARCTIC

THREAT

The **consequences of HFO spills** could be prolonged because of its persistent nature, and the threat to marine life and economically sensitive resources can **last longer** in the event of a HFO spill*. *(b)*

*based on a review of problems posed by HFO spills

SOLUTION

An investigation published by the Arctic Council concluded that....**using distillates (MGO) instead of heavy fuel oil (HFO) fuel would achieve significant spill risk reduction**. *(c)*

Economic impacts of a HFO ban

HFO spill

Clean-up costs

Estimated clean-up costs for a 3,000-gallon HFO spill at Shuyak Island, Alaska in 2018 ..... **$9 mn** *(d)*

In 2007, a financial settlement with a total payout of $112 mn was reached following the MV Selendang Ayu disaster in the Aleutian Islands which covered formalized response, criminal penalties, clean-up costs, wreck removal and lost taxes and beach monitoring. ..... **$112 mn** *(e)*

$5-70 million *(g)*

Cost of cleaning up a HFO spill

HFO ban

Arctic fleet's fuel expenditure *(g)* ..... +3-18% in 2021

Switching from HFO to MGO could cost approximately US $59 million for the entire Red Dog fleet, representing approximately 0.53% of the annual revenue from Red Dog *(d)* ..... **+0.53%** of fleet annual revenue

Operational costs

Increased cost of operations using MGO in Alaska *(d)* ..... **+$0.04-0.06** per gallon of fuel delivered

$13 million *(g)* *base case scenario*

Cost of shifting to distillate fuel

Costs for a 2020 sulphur cap compliant ship *(g)*

Ships operating on low sulphur HFO ..... **+2%**

Ships using HFO in combination with a scrubber ..... **+4-15%**

Nearly 100% of settlements in Svalbard, Norway are served by vessels using distillate fuels and will therefore not be affected by a HFO ban. *(f)* ..... **nill**

Import and export price of goods *(g,h)*

Average import and export price of goods in Greenland ..... **+0.2-0.5%**

Cost of food shipped to Iqaluit in North Canada ..... **+0.2%**

Cost for dry cargo shipped through Arctic Sealift operations in Canada ..... **+1%**

Cost of crude oil shipped from Varandey terminal in Russia ..... up to **0.2%**

CASE STUDY

There is **no correlation between fuel costs and food prices**: in Nunavut fuel oil prices fell nearly 65% in 2014-17, but the average cost of select shelf-stable food items in communities increased by about 15%. *(i)*

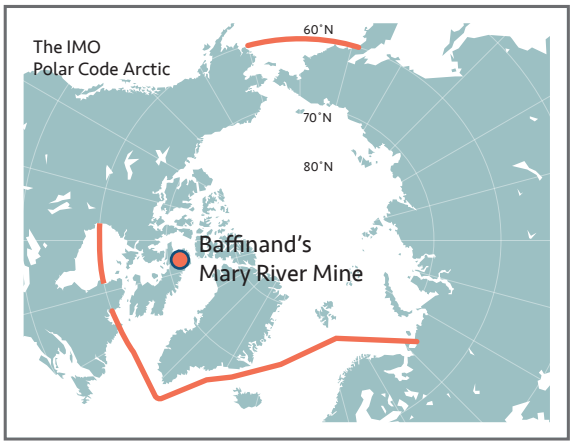
(a) Det Norske Veritas 2013. HFO in the Arctic – Phase 2
(b) Ansell et al., 2001. A review of the problems posed by spills of heavy fuel oils. ITOPF
(c) Det Norske Veritas 2011. Heavy fuel in the Arctic – Phase 1
(d) PPR 7/14/3 Submitted by the United States, 13 December 2019
(e) Deere-Jones, T., Ecological, Economic and Social Impacts of Marine / Coastal Spills of Fuel Oils (Refinery Residuals), 2016

Produced for the Clean Arctic Alliance
www.HFOFreeArctic.org
Designer: Margherita Gagliardi

Baffinland case study[j]

The potential fuel and voyage cost effects of an Arctic HFO ban on bulk carriers serving Baffinland mines

Mary River Mine is a large, open pit iron ore mine in the Canadian Arctic. A HFO ban will affect fuel costs and voyage costs for ships that service the mine. These impacts are extremely sensitive to relative fuel prices and depend on how ships comply with the IMO 2020 sulphur cap.



HFO ban costs for ships currently operating on:	HFO + scrubbers	Very low sulphur fuel
Fuel costs	+33% - 54%	+4-5%
Total voyage costs	+17% - 23%	+2-3%

Fuel and voyage costs of an Arctic HFO ban will likely be **negligible** for bulk carriers without scrubbers installed.

In 2017, none of the ships serving the mine had scrubbers installed.

Social impacts of a spill

A HFO spill would impact Alaskan fisheries for a period of time that is undeterminable and could take years to recover. Subsistence is linked to the health of communities through nutrition and through traditional cultural practices. *(d)*

> We are constantly reminded how taking action on greenhouse gas emissions will negatively impact our economy ... which is a very outdated card to play at this stage with our climate crisis. I would say do not play this card when it comes to banning HFO which has potential to create extreme irreparable damage to our Arctic oceans ... and I repeat the oceans are the life force and source of life for us as Inuit of the Arctic."

Sheila Watt-Cloutier, Environmental and Human Rights Advocate

Do not delay a ban on the use and carriage of HFO as fuel by ships operating in Arctic waters

(f) PPR 7/INF.14 Submitted by Norway, 13 December 2019
(g) Nelissen, D. & Tol, E., Residual bunker fuel ban in the IMO Arctic waters, CE Delft, 2018
(h) Nelissen, D., Residuals bunker ban in the IMO Arctic waters. Cost implications for Russian trade flows – a case study, CE Delft, 2019
(i) DeCola, et al., Phasing Out the Use and Carriage for Use of Heavy Fuel Oil in the Canadian Arctic: Impacts to Northern Communities, Nuka Research and Planning Group, 2018
(j) PPR 7 / INF.24 Submitted by FOEI, WWF, Pacific Environment and CSC, 13 December 2019