



Climate Change Issues and Challenges,

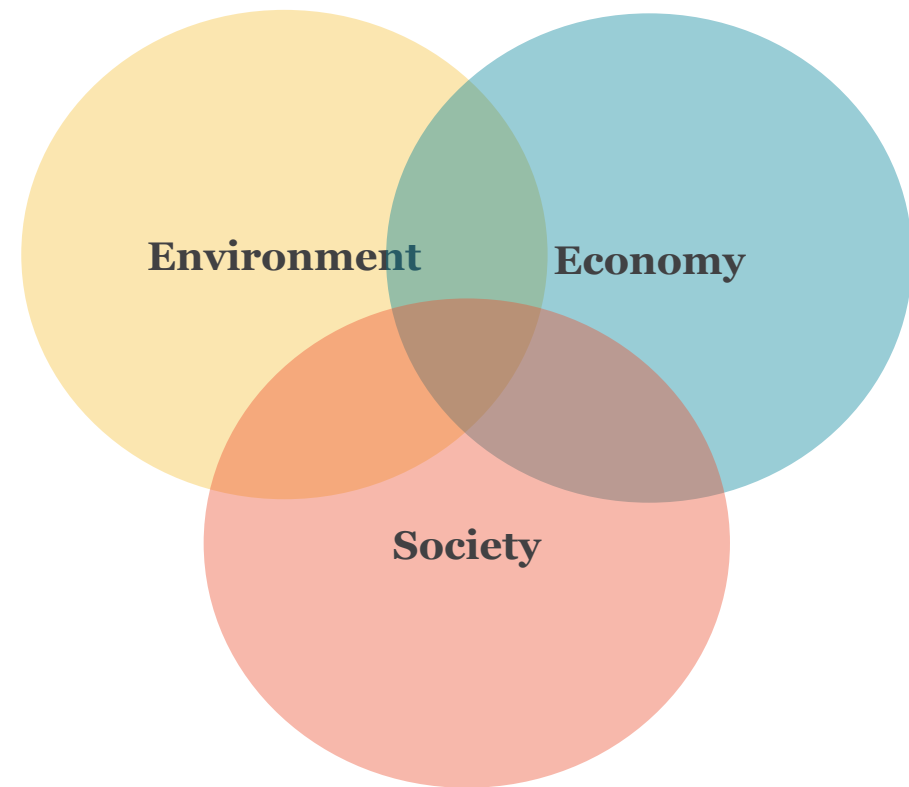
Capture Fisheries for Human Consumption

Hildur Hauksdóttir, Fisheries Iceland





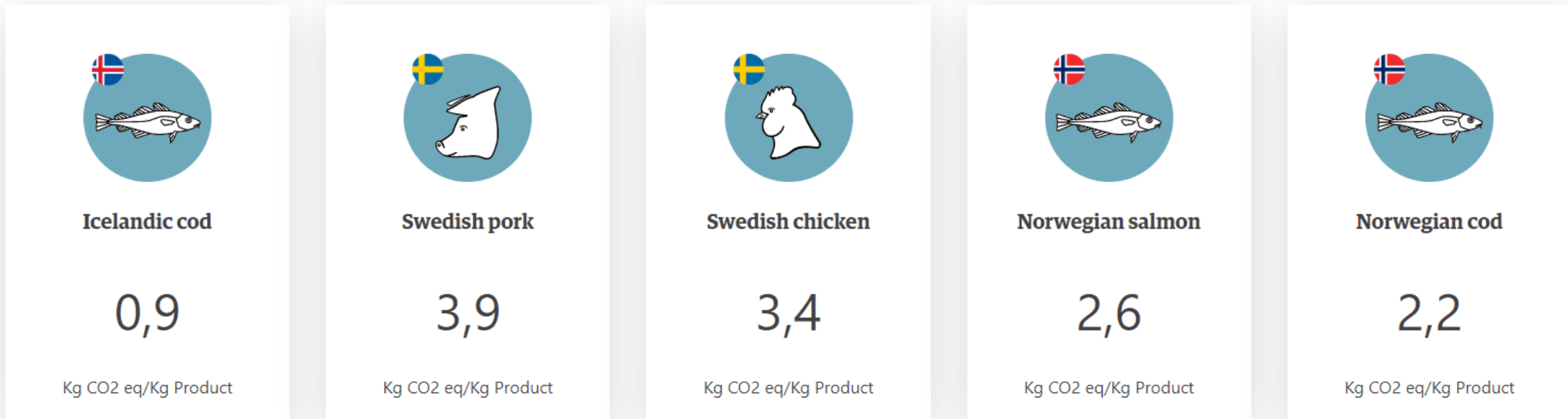
Icelandic Act on Fisheries Management, Article 1: ...*The objective of this Act is to promote the conservation and efficient utilization of fishing stocks, thereby ensuring stable employment and settlement throughout Iceland...*



Carbon footprint of Icelandic fish

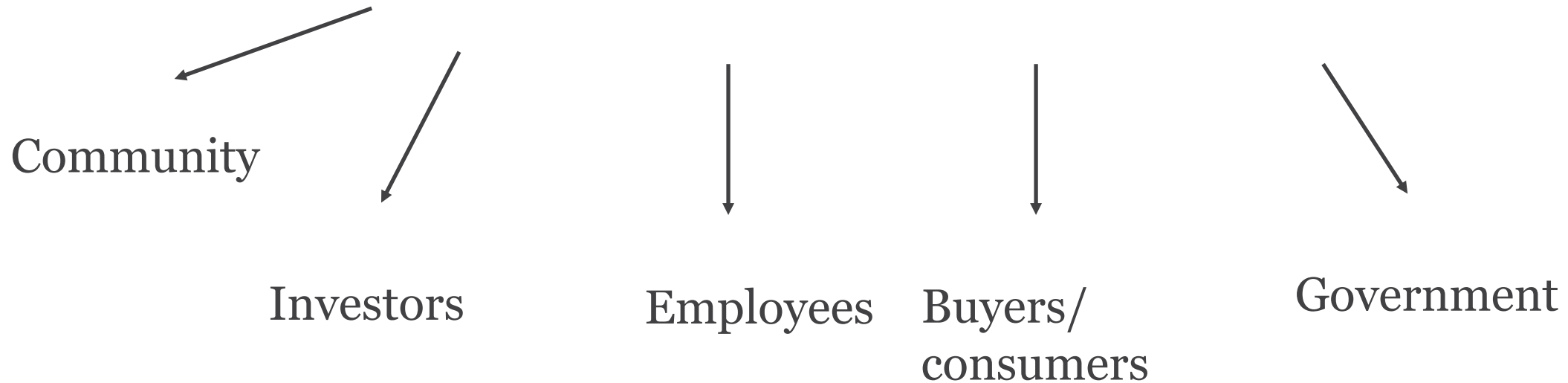


The following is the carbon footprint of Icelandic cod in comparison to selected protein providers; the results do not include transportation.



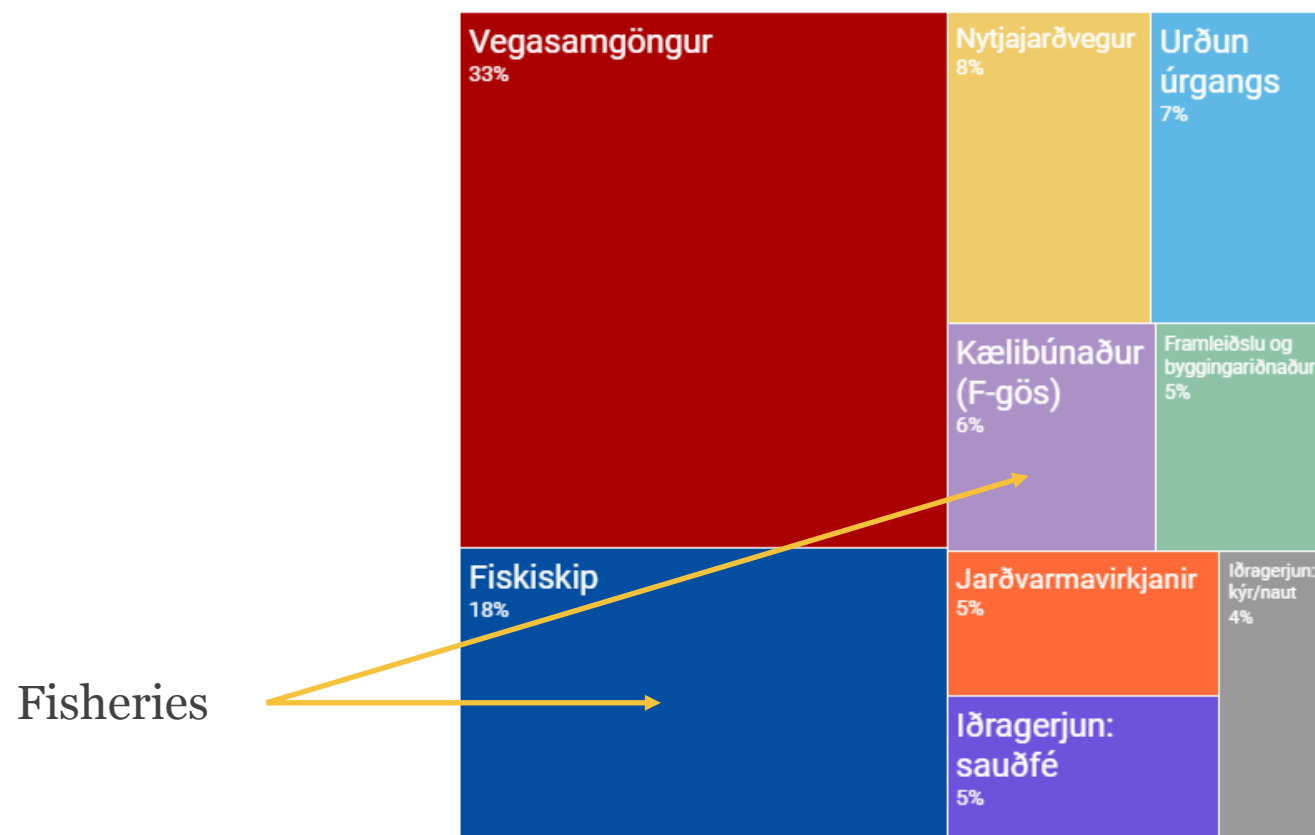


Social licence to operate





Non ETS emission by sector in Iceland (excluding LULUCF)



Source: Environmental agency Iceland

CSR policy – How did we do it?

Voices of stakeholders

In order to explore what the fishing industry can do better and to increase understanding and trust, Fisheries Iceland (SFS) held four public meetings during late winter [of 2020] on issues relating to the industry. The meetings addressed transparency, environmental issues, social gains and innovation.





Workshop

CSR policy



csr.sfs.is

“Icelandic fisheries companies take their responsibilities seriously as food manufacturers and as pillars of the economic prosperity for the Icelandic nation. Companies within Fisheries Iceland have established a social responsibility policy that is based on the UN Sustainable Development Goals.”





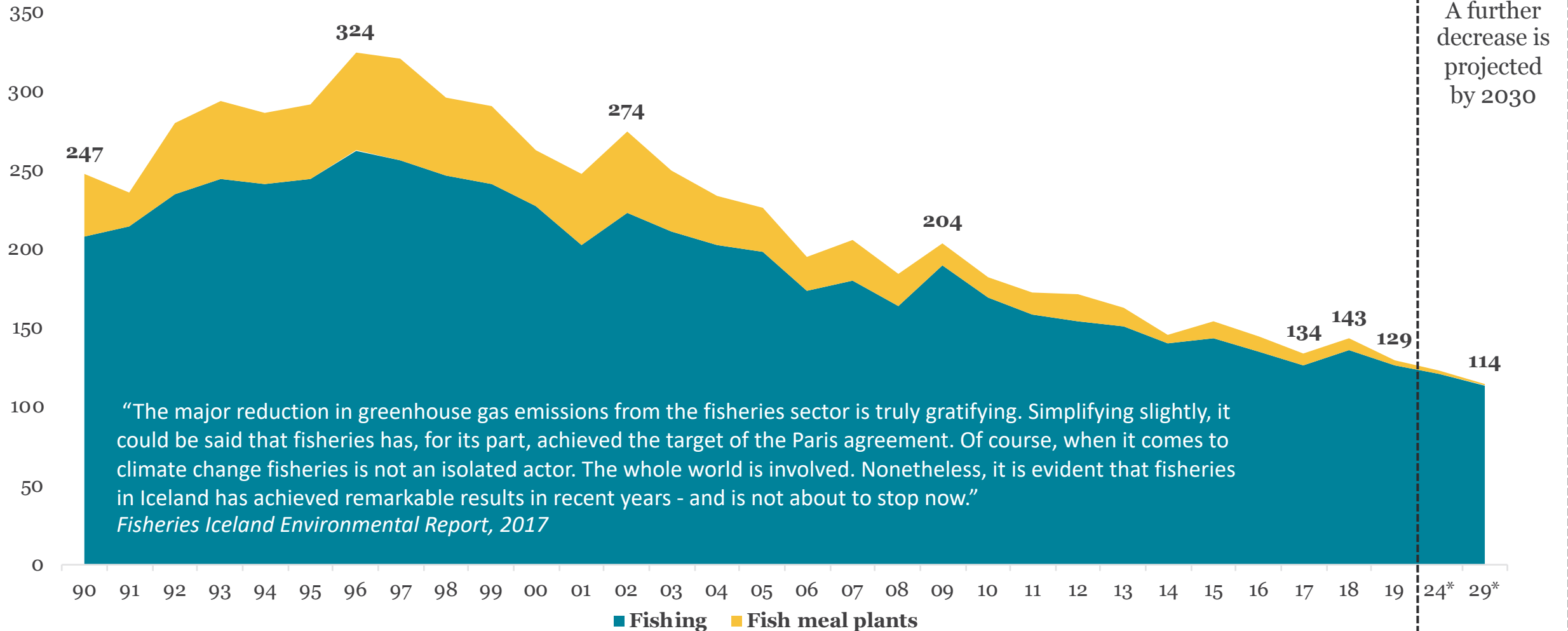
How sustainable fishing has
led to less oil consumption
and added value

Sustainability – reaping the harvest



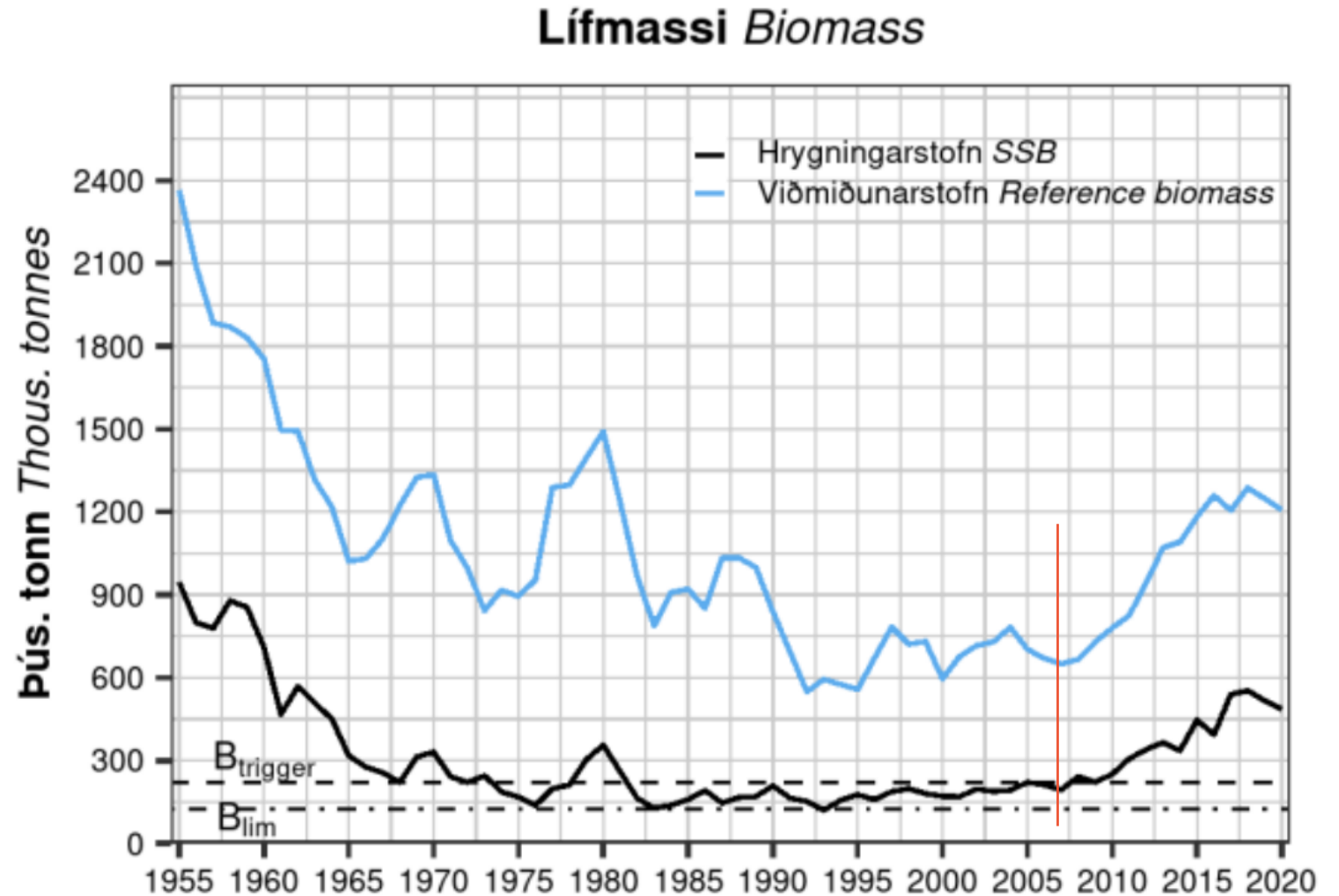
Oil consumption in fisheries

In thousand tonnes



The story of the cod

- Fisheries management and consolidation is the main reason for decreased oil consumption
- Larger fishing stocks = easier to catch the fish = less oil consumption



Then and now



1980 🐟 2.400 tonn



2016 🐟 3.200 tonn

CPUE - Catch per unit effort

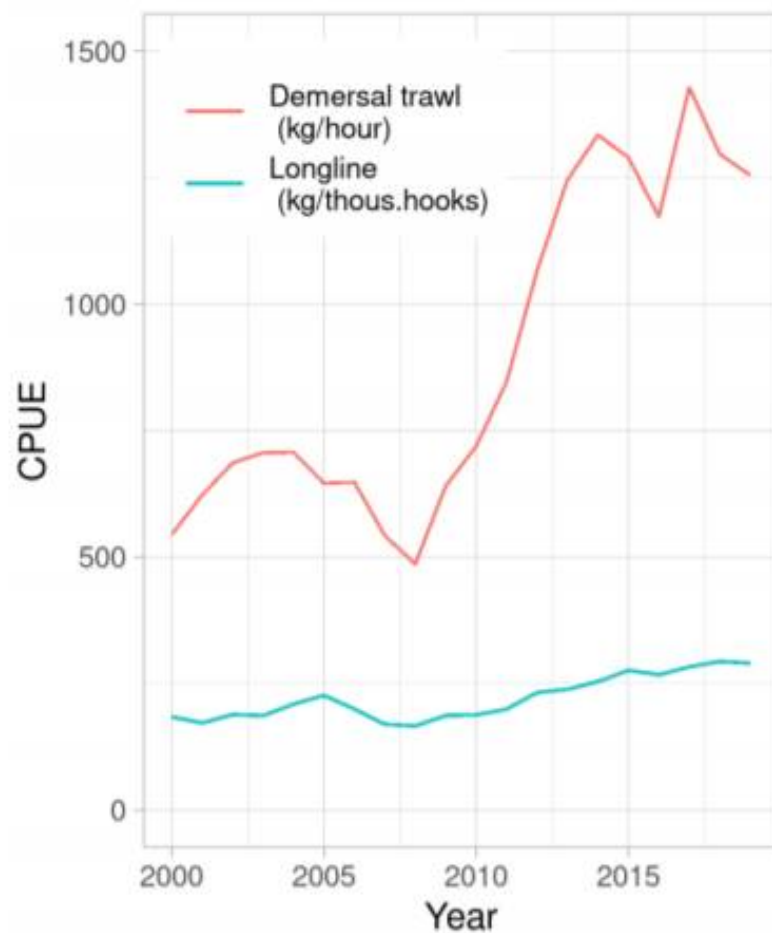
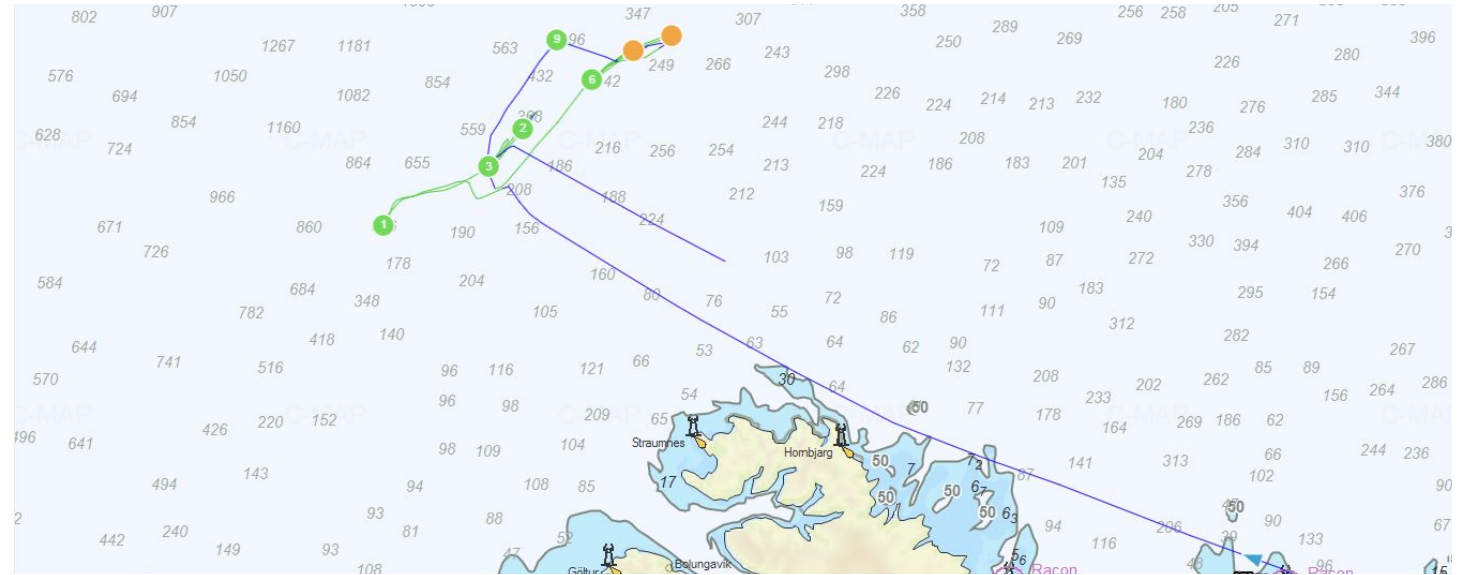


Figure 8. Cod. Non-standardised estimates of CPUE (left) from demersal trawl (kg/h) and longline (kg/1000 hooks).



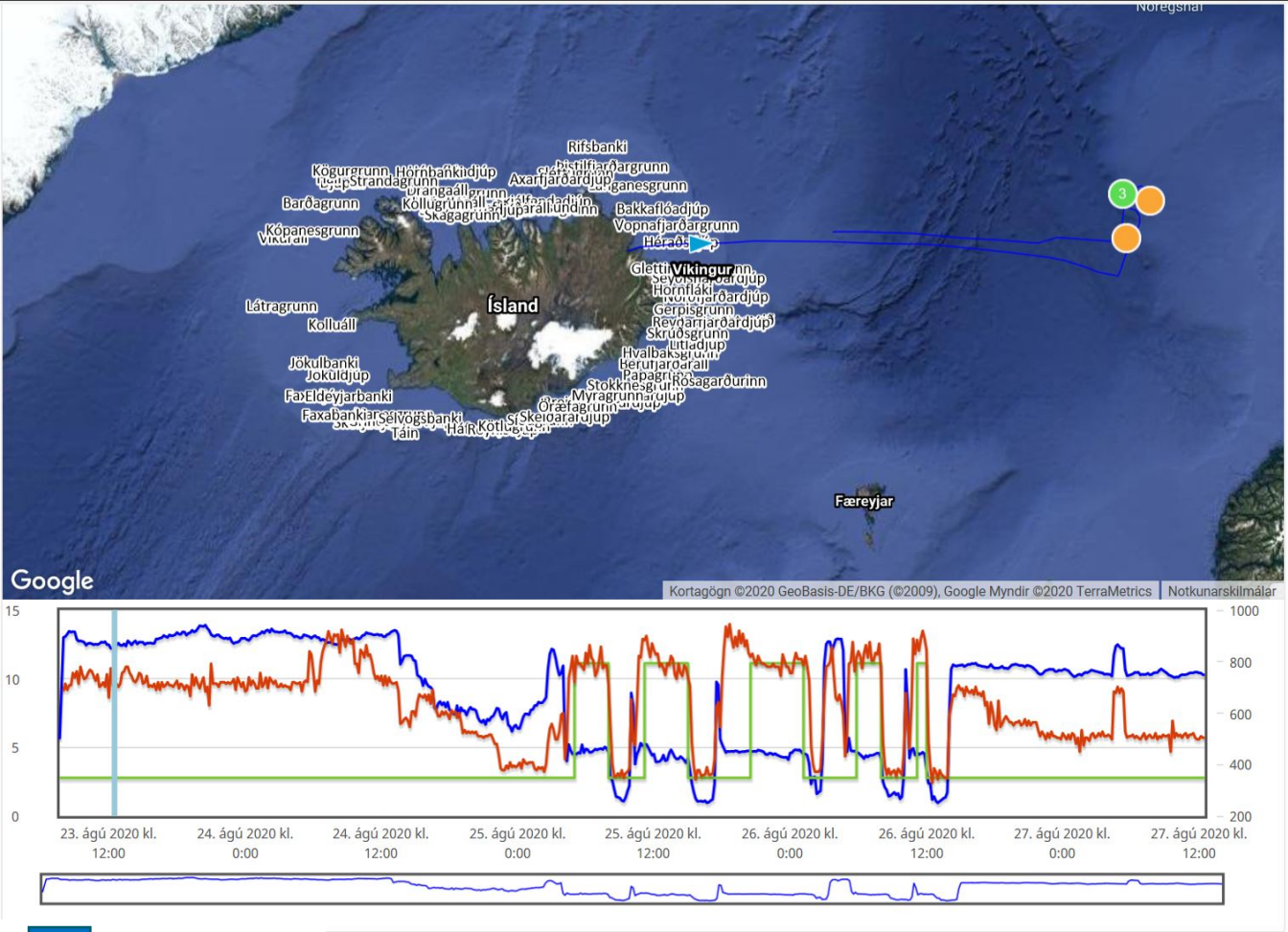
Icefish trawler

- Speed
- Haul
- Fuel consumption





Pelagic vessel



Höfrungur	X	
Víkingur	Kast: 5 Veðarfæri: Flotvarpa Tími: 26. ágúst 2020 11:05 Svæði: XNE Staðsetning: 65°53.000' N 1°42.490' E Togtími: 0:46:00 Afli á togtíma: 443.478 kg/klst Olía á togtíma: 770 l/klst Olía á afla: 2 l/tonn	
Helga María		
2020-18 Vopn		
Skip	Tegund	Magn
Skipstjóri	Makrill	340.000
Veðarfæri	Kast: 4 Veðarfæri: Flotvarpa Tími: 26. ágúst 2020 05:47 Svæði: XNE Staðsetning: 65°57.700' N 1°43.500' E Togtími: 2:07:00 Afli á togtíma: 174.803 kg/klst Olía á togtíma: 785 l/klst Olía á afla: 4 l/tonn	
Brottför		
Koma		
Seinasta kast		
Höl(5)		
Tegund	Tegund	Magn
Makrill	Makrill	370.000
Kolmunni	Kast: 3 Veðarfæri: Flotvarpa Tími: 25. ágúst 2020 20:22 Svæði: XNE Staðsetning: 66°30.530' N 1°35.410' E Togtími: 4:39:00 Afli á togtíma: 23.656 kg/klst Olía á togtíma: 767 l/klst Olía á afla: 32 l/tonn	
Samtals	Tegund	Magn

Translation:

Catch per hour when towing: **443 tons/hour**
Fuel per hour when towing: **770 liters/hour**
Fuel per catch: **2 liters per ton**

Catch per hour when towing: **174 tons/hour**
Fuel per hour when towing: **785 liters/hour**
Fuel per catch: **4 liters per ton**

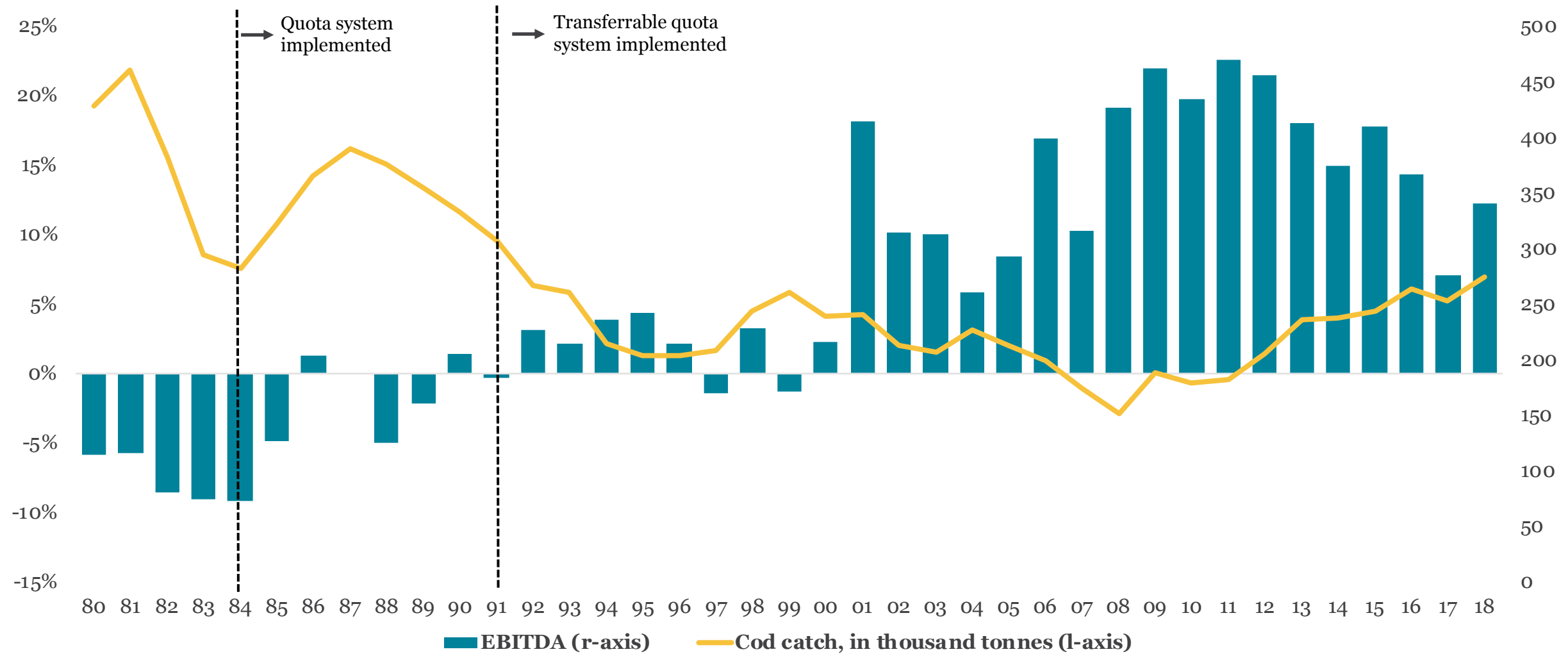
Catch per hour when towing: **23 tons/hour**
Fuel per hour when towing: **767 liters/hour**
Fuel per catch: **32 liters per ton**

Final haul uses 16 X more fuel per catch compared to the first haul

Sustainability – not a quick fix

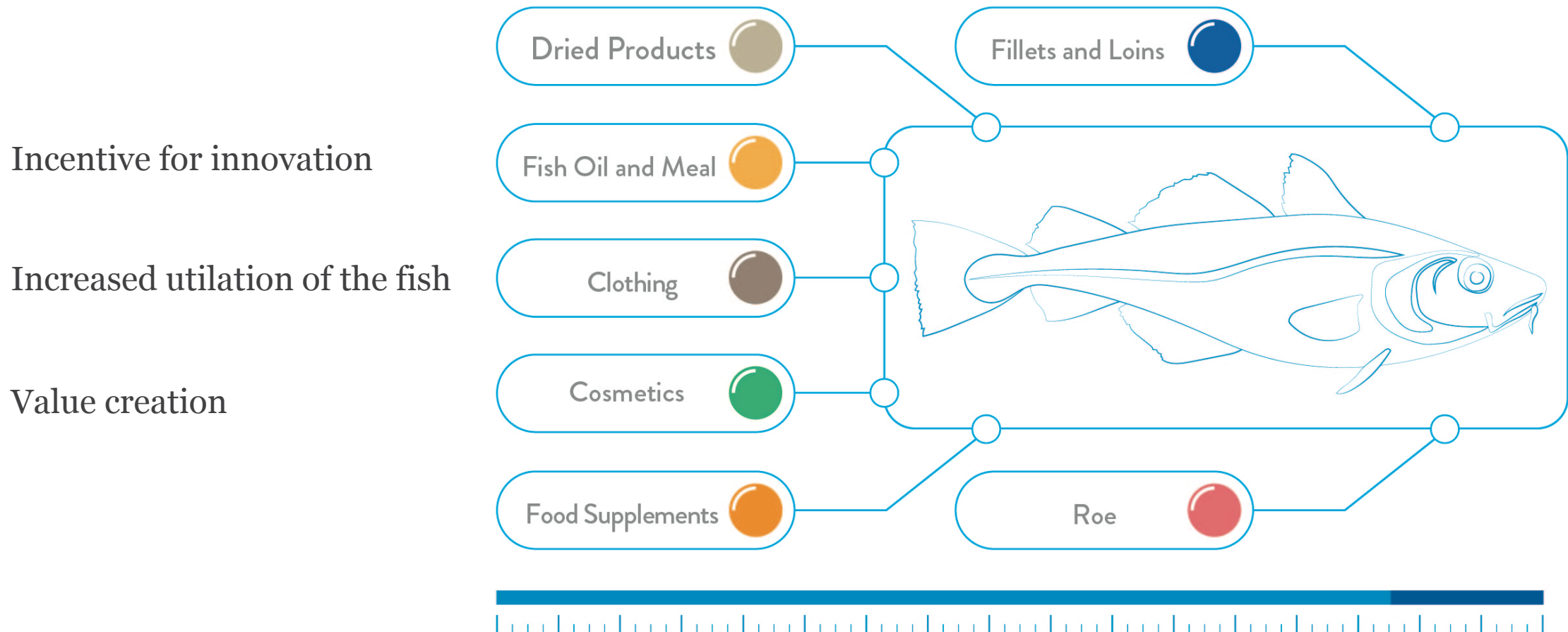


Cod catch and earnings in Icelandic seafood industry



Source: Statistics Iceland

What happens when you put a cap on fishing





Further emission reduction

What does a CO₂-neutral fishery look like?

What does a CO₂-neutral fishery look like?



For a CO₂-neutral fishery to materialize there are two ways

1. measuring our carbon footprint
2. reducing emissions even further
3. offsetting and binding carbon

Or:

Transition away from fossil fuel

Pathways for Decarbonization of the Icelandic Maritime Sector

Samorka, Ministry of Industries and Innovation, Associated Icelandic Ports and Fisheries Iceland

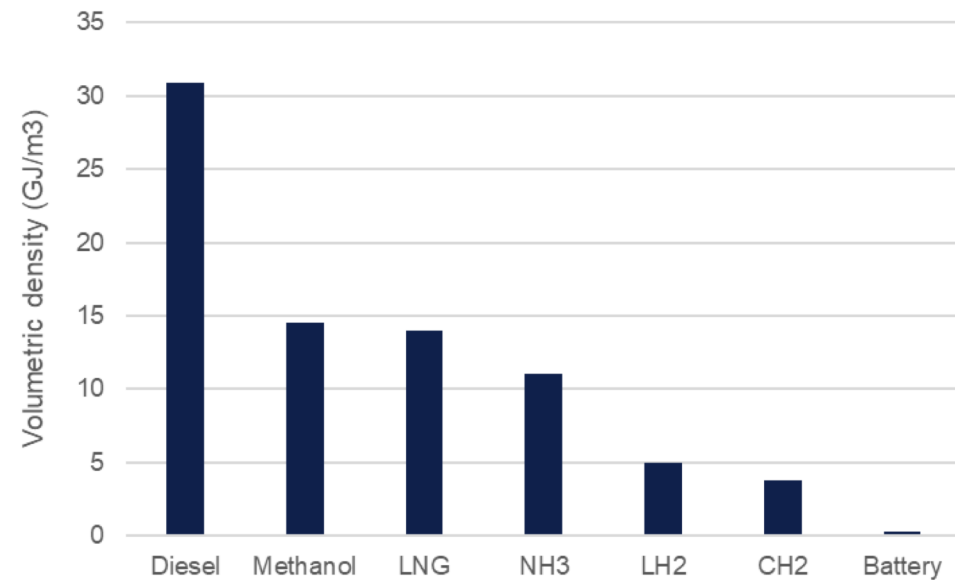
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Document No.: 10306236
Date: 2021-11-04



Barriers

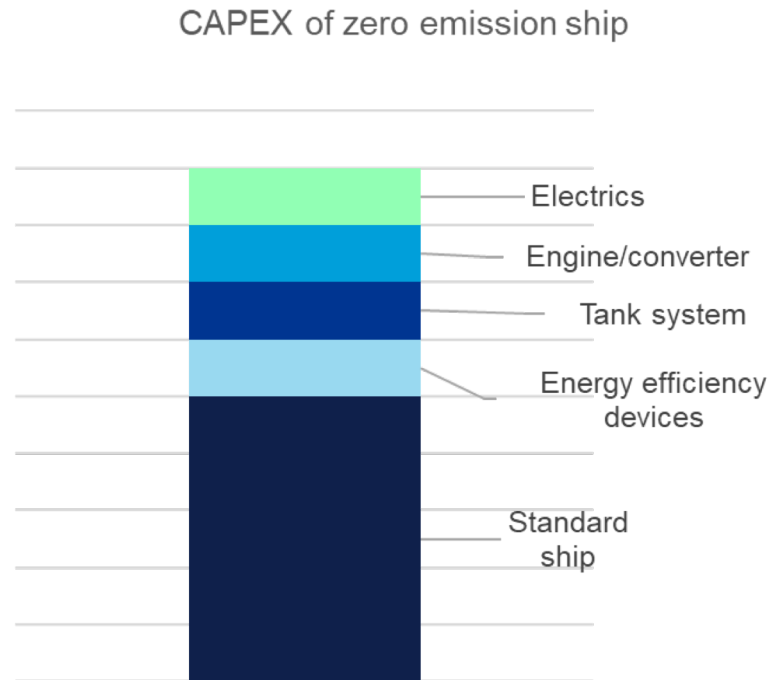
- / Energy storage
- / Energy density
- / Safety
- / Energy production and supply
- / Infrastructure
- / Technical maturity
- / Costs

Volumetric energy density of energy carrier including containment



Heimild: DNV, Pathways for Decarbonisation of the Icelandic Maritime Sector

Zero carbon emission ship



50 % - 100 % additional CAPEX?



Moving forward

