

Sustainable Shortsea Transport for the Seafood Industry

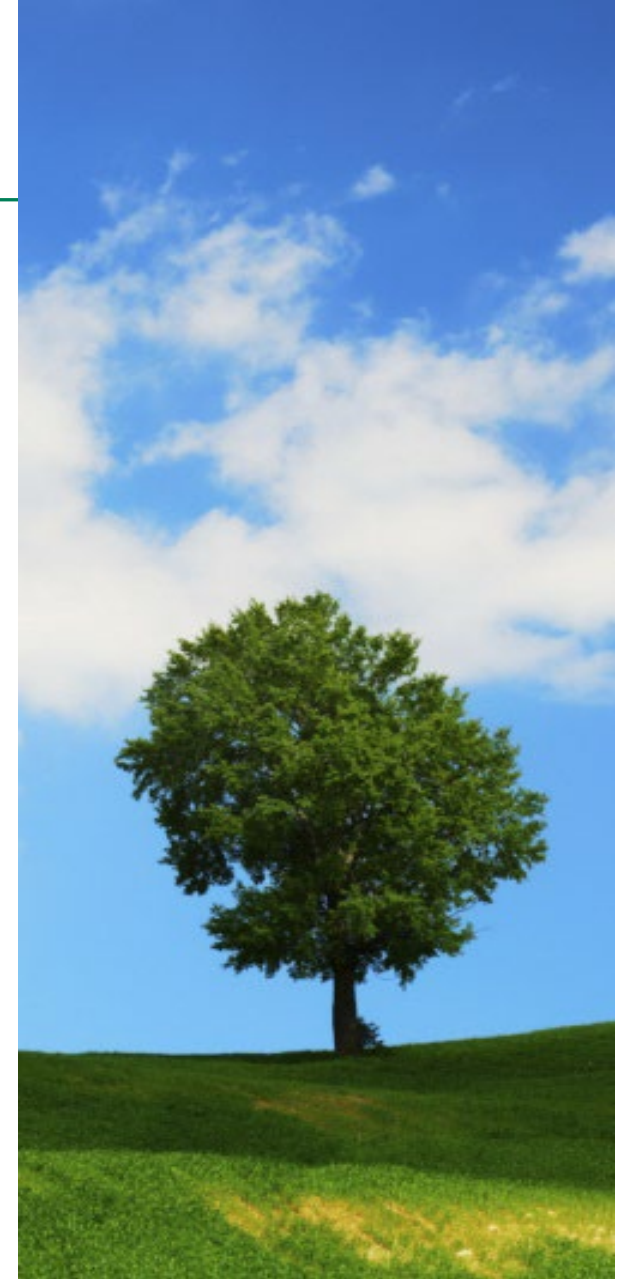
Global Seafood Transport Summit

Eivind Dale, DNV
22 June 2022



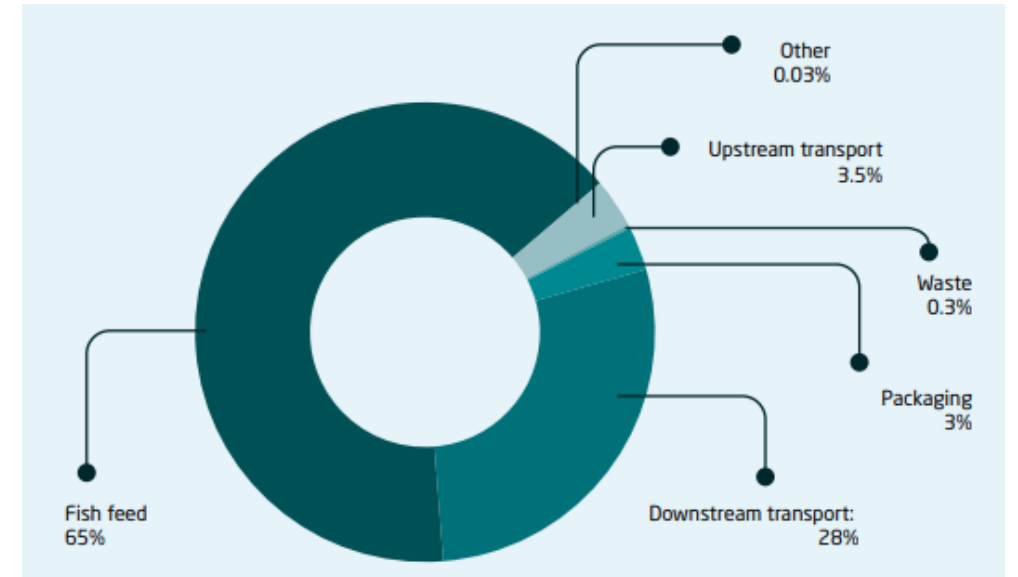
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Introduction

- **Aquaculture is Norway's third largest export industry**
 - Salmon produced along the whole west coast
 - 1,4 million tons of value 8,2 billion EUR in 2021
- **Carbon-intensive downstream transport**
 - 65 - 70 000 truck transports annually
 - 165 000 tons by air
 - Almost nothing by sea
- **Long way to the main markets**
 - EU, Asia and North America
- **Large production growth expected**
 - Governmental ambition is 5 times by 2050



Source: Salmar

Need for Change

- **Decarbonization of the society is urgent**
 - The Paris Agreement – the “1,5 degrees C pathway”
 - The European Green Deal - reducing net GHG emissions by at least 55% by 2030
 - Concept of circular economy
- **Climate awareness is becoming increasingly important for consumers**
- **The seafood industry responds:**
 - Typical goals are to reduce GHG emissions 40-55% by 2030 (scope 1, 2 and 3)



SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD



Cooperation for a Greener Future

Green Shipping Programme

- Vision: establish the world's most effective and environmentally friendly shipping
- Norwegian public-private partnership programme
- Joint effort - all major players involved
- Started in 2015, today 114 partners
- Executed over 120 studies, pilots and industry projects



Salmon from road to sea (2017-2018)

BACKGROUND

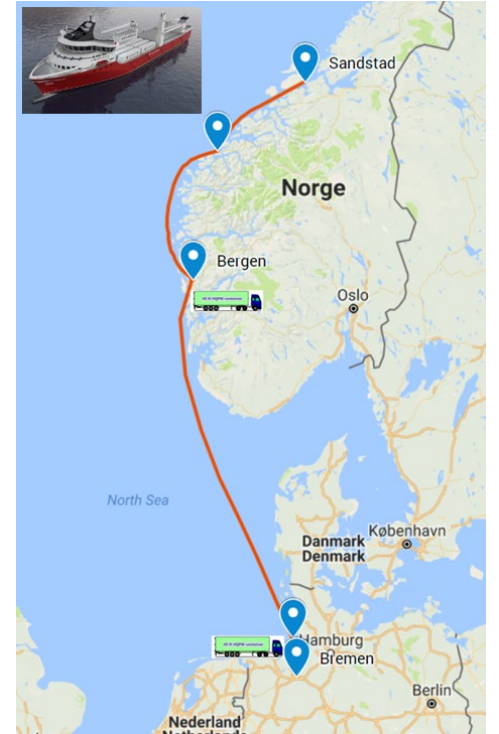
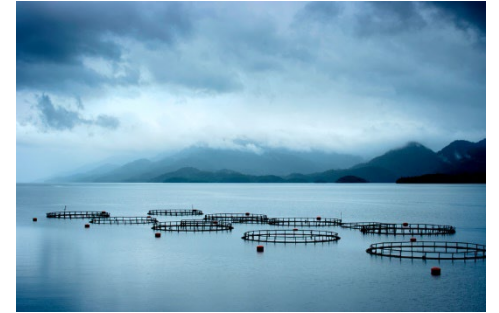
- The aquaculture industry needs a sustainable alternative to road transport that reduces the traffic on the roads and reduces the environmental and safety problem

PROJECT OBJECTIVE

- In the short run (2-3 years): Establish a seaborne transport system from Mid Norway to Europe
 - 2017-18: Establish a feasible commercial and technical concept
 - 2018-19: Test the concept using existing tonnage
- In the longer term: Secure that the growth in transport need is absorbed by seaborne transport

PROJECT PARTNERS

- Shipowners, main aquaculture players, authorities, Menon Economics, SINTEF and DNV



New Seaborne Transport Concept Developed

- **Combined cargo, based on existing routes;**
 - Fresh salmon 30 - 50 % of the total volume
 - Load carriers; Semi-trailer (Euro-trailer) and 45 feet container
- **Ship solutions;**
 - Pallet/container ship
 - Container ship
- **Routes;**
 - Mid Norway – South-West Norway – UK
 - Mid Norway – South-West Norway – North Europe
- **Volume scenarios;**
 - Scenario 1 (2020): 90 000 ton (30 % of total)
 - Scenario 2 (2030): 240 000 – 300 000 ton (40-50 % of total)
- **Frequency; 2-3 weekly departures**
- **Increased durability; Use of super chill/durability indicators**
(time from production to last day in the supermarket increased from 10 to 20 days)



Super chill



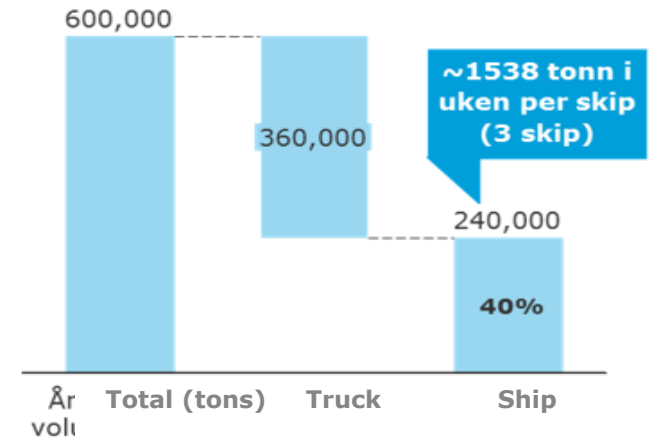
Durability indicator

Project Results

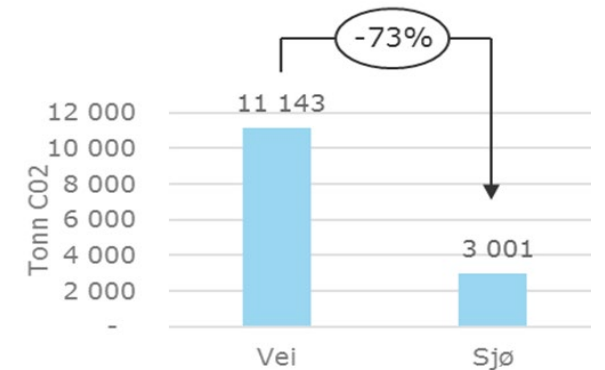
- **Profitable seaborne concept both for salmon exporters and shipowners**
 - 10-30 % lower transport cost from production site to market
- **Substantial socio-economic benefit of moving from road to sea**
- **The aquaculture industry is interested**
 - Transfer potential 30-50 %
 - Seaborne transport may absorb a large proportion of expected growth
- **Positive environmental effect**
 - CHG footprint door-to-door is reduced by 73 %
 - Substantially reduced microplastic pollution
- **Lead time is a challenge – super chill is the solution**
 - Experience from Iceland and Norway
- **Concept tested full scale 2018-2019**
- **Smyril Line operated ordinary route 2020-2021**

Scenario 2

Annual volumes pr transport mode




CO₂ emissions per year



Full scale testing in 2018-2019

iLaks.no NYHETER KOMMENTARER KONTAKT OSS STILLINGER f t



Egil Ulvan Rederi AS

"With Frohavet" skal gå i fast rute mellom Hitra og Danmark. FOTO: Egil Ulvan Rederi

Denne båten blir den første til å gå i fast rute mellom Hitra og kontinentet

Nyheter av Hitra-Frøya - 27 mai 2018

En fast båt rute mellom Jostnøya på Hitra og kontinentet med laks ombord, har vært på ide- og ønskestadiet i en årrekke. Før helgen avslørte Egil Ulvan rederi at de starter opp fast båt rute med laksefrakt fra i sommer.

Det er «With Frohavet», tidligere «Silver River», som skal betjene ruten, ifølge Hitra-Frøya.

– Vi har gjort avtale med et oppdrettselskap om et prøveprosjekt vedrørende frakt av fersk laks fra Hitra til Danmark, med første forsendelse i august.

Det fortalte daglig leder Arild Hoff i Egil Ulvan Rederi i en e-post til politikere fra Hitra, Frøya og Trondheim, som torsdag og fredag var samlet på Hitra for å diskutere nettopp blant annet sjøveistransport av laksen. Også representanter fra oppdrettsnæringen, rederiene og norske og internasjonale havneselskaper deltok på konferansen.

Servicestasjon Sunnhordland

- Miljøvennlig reiseopplevelse
- Moderne utstyr

Kontakt oss i dag


SELSTAD

MEST LEST

Atlantic Sapphire vil forsere Miami-utbygging – henter 90 millioner dollar i emisjon

7. SEPTEMBER 2018

DOKUMENTERER KVALITET PÅ FERSK LAKS FRAKTET PÅ KJØL TIL EUROPA



Fraktfartøyet MS Nordkinn dokumenterer at sjøtransport av fersk laks fra Midt-Norge til Europa er kvalitetsmessig forsvarlig. En direkterute vil korte ned pilotens framføringstid med 40 timer.

NTS Shipping AS er ett av rederiene som har søkt den statlige tilskuddsordningen for overføring av gods til sjø, med tanke på å opprette en fast sjørute for eksport av fersk sjømat fra Midt-Norge til vårt viktigste laksemarked, Europa. Nylig gjennomførte selskapet en pilotsending med reeferfartøyet MS Nordkinn.

Ivaretar produktkvaliteten

En kjølekcontainer med fersk trøndersk laks ble fraktet fra et slakteri i Ytre Namdal og fram til en fiskekjøper i Nederland. NTS-gruppens prosjektleder, Kim Rune Bøe, dokumenterte hele reisen selv og er svært godt fornøyd med resultatene.

Ordinary Route in 2020-2021

- «Kysthavnalliansen» initiated a large scale test in 2020 between Europe and Mid Norway
 - Grocery importers
 - Salmon exporters
 - Industry
- Smyril Line started a new ro-ro route Rørvik–Rotterdam
- Increasing seafood volumes, insufficient directional balance
- «Time out» from Smyril Line late 2021



Grønt Skipsfartsprogram

Hjem » Nyheter » GSP nyhet » 100.000 vogntog kan flyttes fra vei til sjø

100.000 vogntog kan flyttes fra vei til sjø

02.07.21 kl. 12:21

2-3 millioner tonn av vareimporten til Norge kan flyttes fra vei til sjø. Dette baseres på intervju med mer enn 50 norske vareiere. Grønt Skipsfartsprogram går nå sammen med Kysthavnalliansen, som har initiert en storskalatest av sjøfrakt av fersk fisk mellom Europa og Midt-Norge.

Målet er å oppnå en betydelig overføring av gods fra vei til sjø på en måte som verken forringet kvaliteten på varer levert eller forlenger tida frakten tar. Så langt er både lakseeksportører og matvareimportører fornøyde.

Initiativet står Norges største dagligvaregrossist, ASKO bak.

Bakgrunnen er at dagens logistikk- og infrastruktur for varetransport i Norge er utviklet på veitransportens premisser, hvor det meste av godsimporten fra Europa kjører gjennom Østlandet, uavhengig av sluttdestinasjon. Siden 2019 er godsvolumer og transportmonster for over 50 større bedrifter på Øst- og Vestlandet kartlagt.

KOMMENDE ARRANGEMENT

Ingen arrangement planlagt for øeblikket.

SENESTE NYHETER

Ny kontrakt legger til rette for autonome ferger

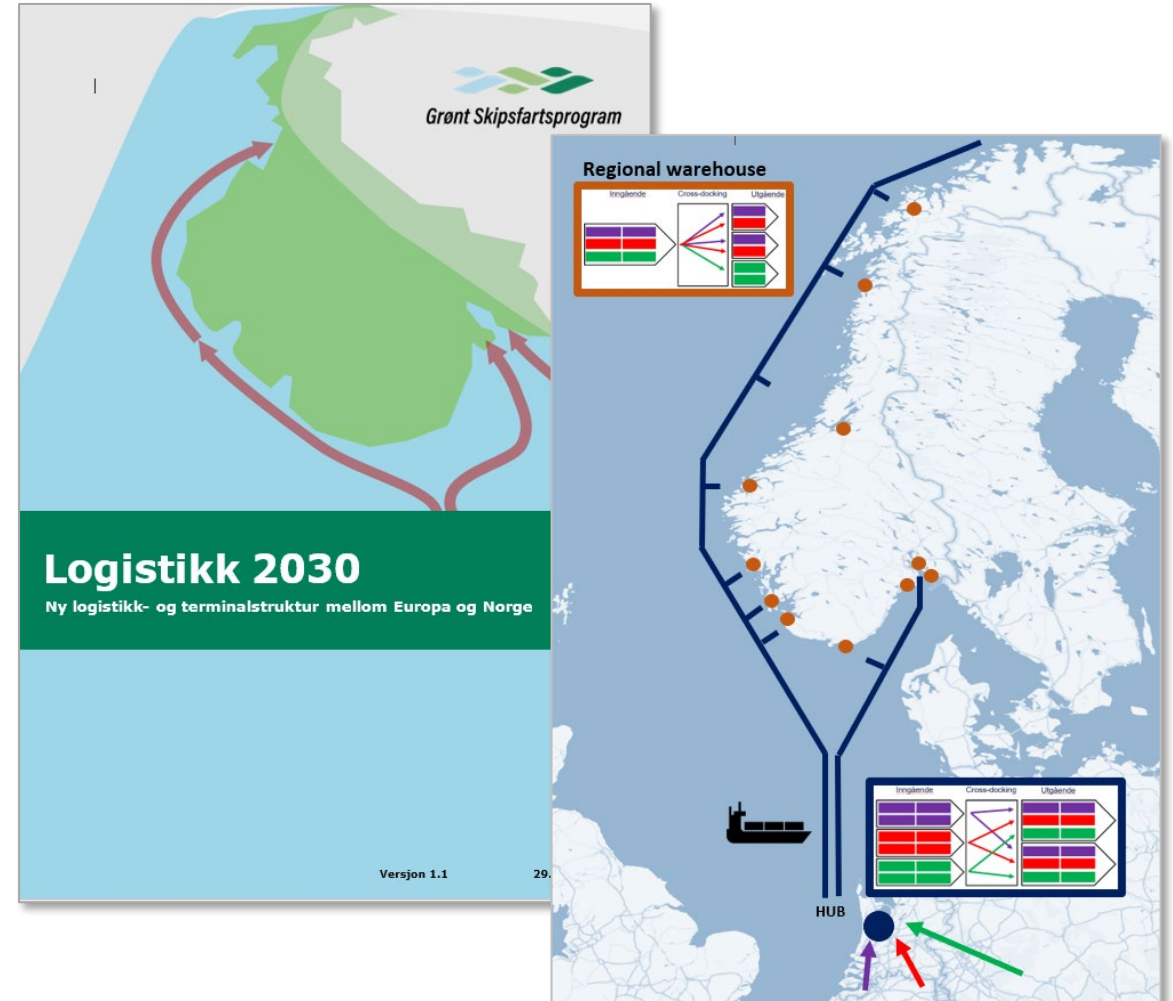
Havner samarbeider for mer sjøtransport

Verdens første utslippsfrie brønnbåt – et steg nærmere realisering

Se våre partnertmøter for 2022

Logistics 2030 (2019-2022)

- **Concept development** of an industry wide and sustainable transport infrastructure between Norway and Europe
- **Broad contribution** from stakeholders
- **Combine volumes of large cargo owners, move cargo from road to sea**
 - Shared solutions (equipment, cross-docks (hubs), terminals, logistics corridors)
 - Favourable directional balance, highcapacity utilization
- **Great potential** (5-7 million tons in the long term)
- **Ongoing full scale test with 20 large companies**



Pilot Study 2: Project Results

■ Profitability

- 10-30% lower logistics costs for the cargo owners
- Increased turnover and profitability for the sea-based logistics suppliers

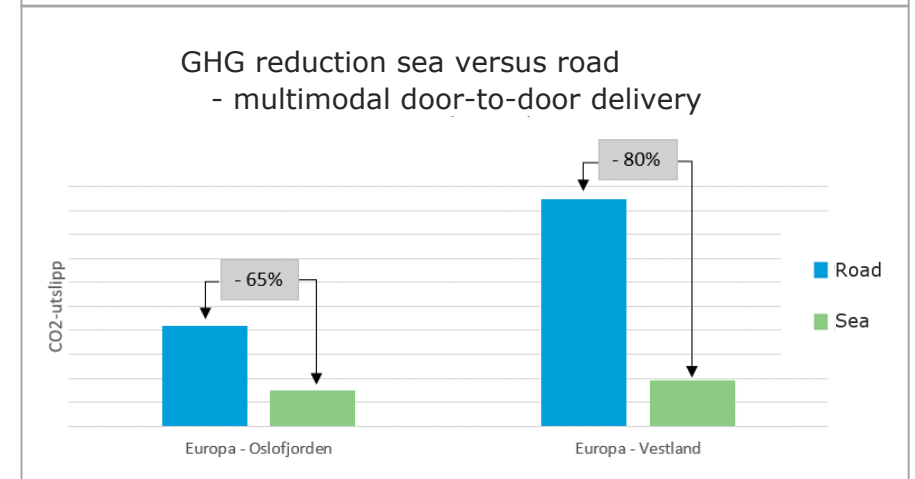
■ Environmental benefit

- More sustainable logistics for cargo owners / manufacturers
- 60-80% reduction of GHG emissions door-to-door (zero emission in the long term)
- Corresponding reduction in energy consumption
- Faster introduction of zero-emission solutions in the intermodal chain

■ Socio-economic gain

- Reduced road traffic and wear, less queues, noise and fewer accidents
- Reduced emissions of GHG, local pollution and microplastics
- 5 million tonnes transferred results in 300,000 tonnes of reduced GHG emissions

■ Full scale test pilot in 2022 with 20 large companies is ongoing



Green Fleet Renewal – Some Projects

Lerøy Havfisk – Zero Emission Ammonia Trawler



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Nova Sea– Zero Emission Live Fish Carrier



Scanbio – Zero Emission Tanker in Aquaculture Industry



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22 June 2022



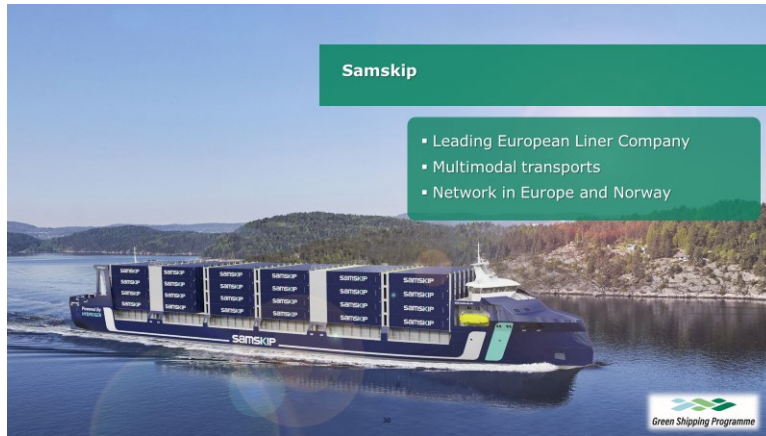
HeidelbergCement/Felleskjøpet

- Combined Bulk Transport Solution
- Next Generation Bulk Carrier
- Hydrogen Engine and Rotor Sails



Samskip

- Leading European Liner Company
- Multimodal transports
- Network in Europe and Norway



Thome Group /SinOceanic Shipping

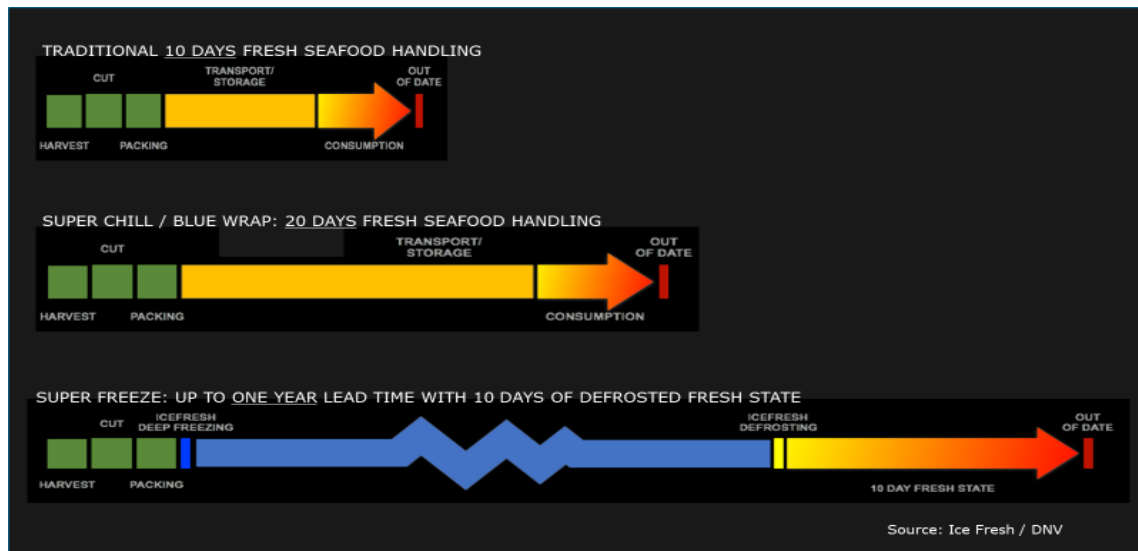
- Leading International Ship Manager
- Methanol Retrofit of Existing Feeder
- International Network



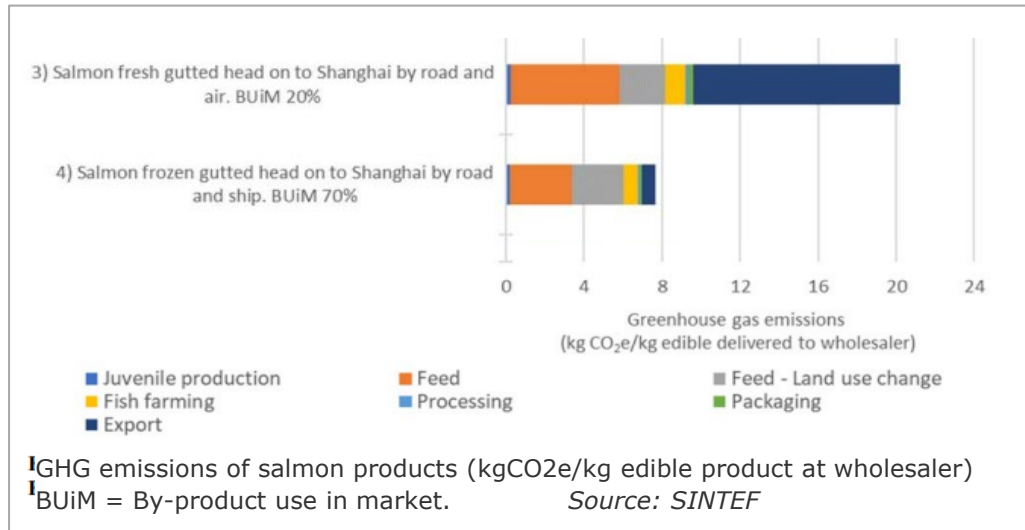
Future Logistics (1): Less Rush to the European Market?



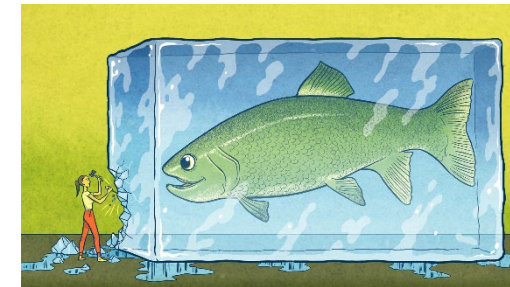
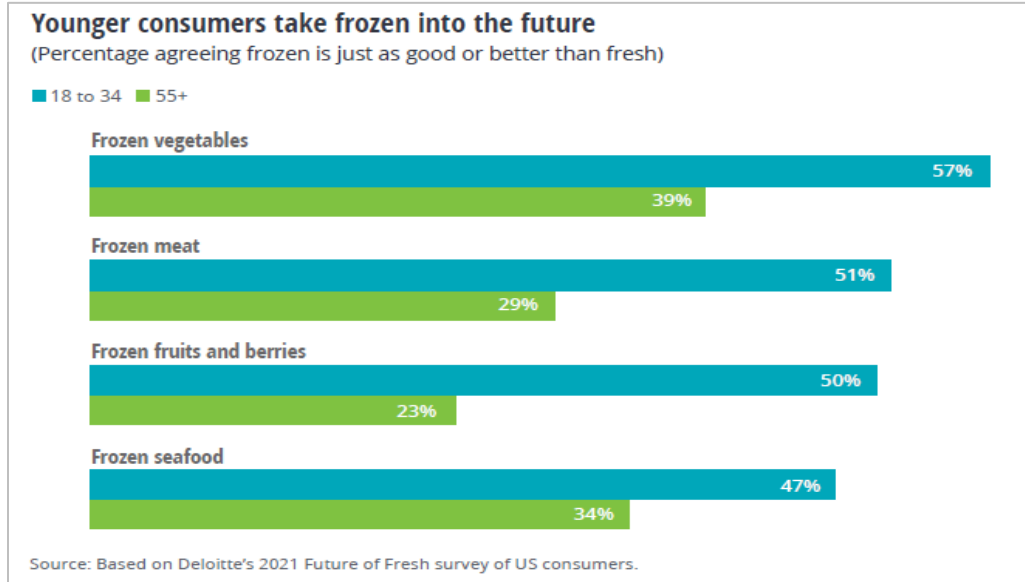
- Zero-emission shortsea transportation
- Packaging and refrigeration technology to improve quality and durability
- Reduced volume due to high share of secondary processing at the harvesting plant



Future Logistics (2): Deepsea Transportation?



- Zero-emission deepsea transportation to Asia and North America?
- Norwegian Seafood Council expects growth in exports from Europe to North America and Asia of over 80 percent by 2030
- Large degree of market acceptance for frozen seafood in these markets?



The Washington Post



Summary

- **Need for change**
 - Seafood industry, particularly aquaculture, is growing
 - The downstream transport to the market is carbon-intensive
 - Decarbonization is urgent – industry with ambitious goals to reduce GHG emissions
 - Climate awareness is becoming increasingly important for consumers
 - The transport industry has to deliver sustainable solutions
- **Sea transportation may reduce GHG emissions substantially:**
 - Shortsea to European market with 60-80% compared to road
 - Deepsea to markets in Asia and North America with 95% compared to air (frozen)
 - Substantial socio-economic benefits of moving cargo to sea





Thank you for your attention

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Green Shipping Programme: grontskipsfartsprogram.no / greenshippingprogramme.com