



SUPERIOR  
QUALITY  
**SALMON**



***Bakkafrost presentation***  
*A world-class company in the salmon industry*

***Capital Markets Day***

**Faroe Islands 14 September 2021**

## DISCLAIMER

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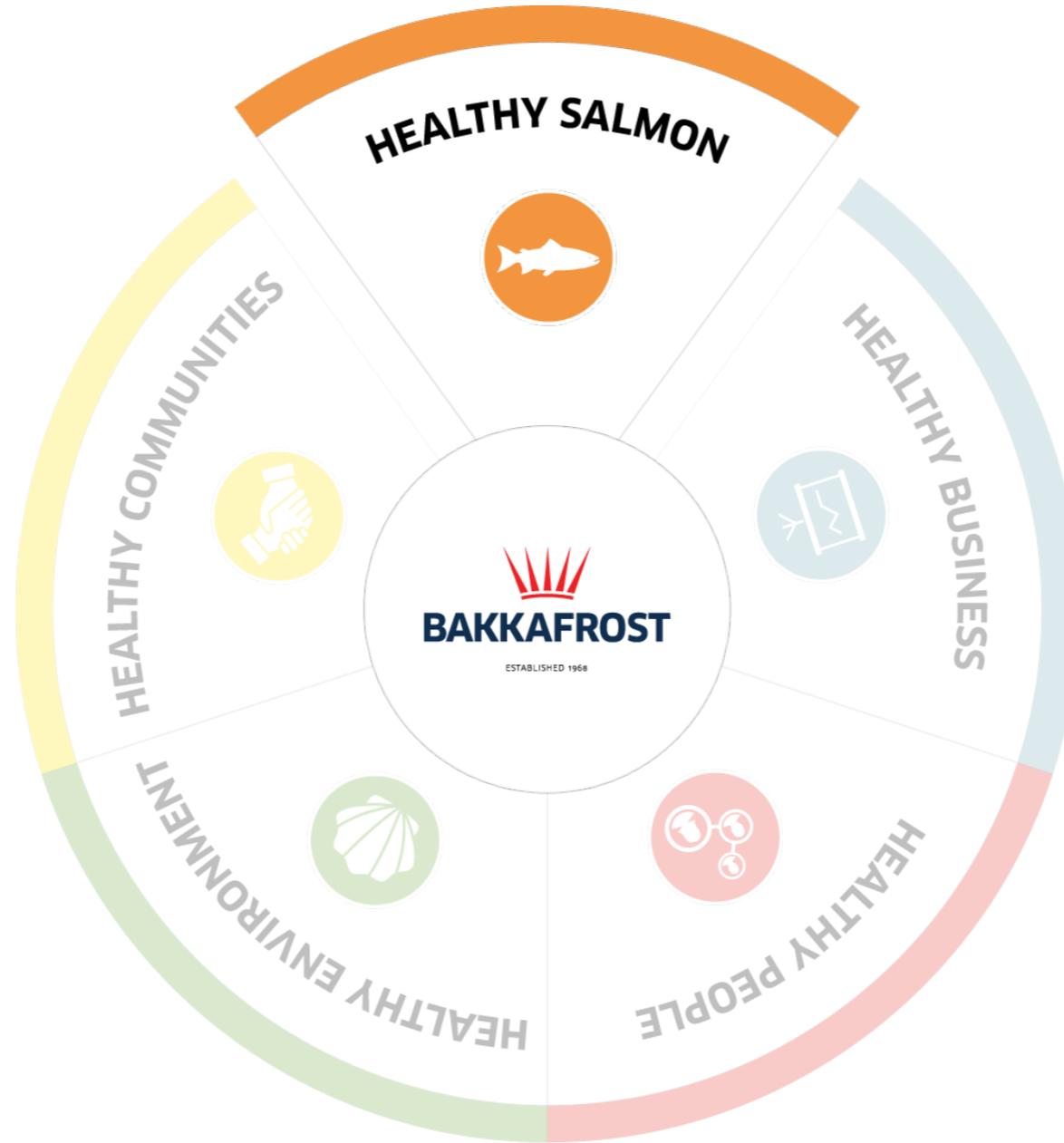
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## GROWING SUSTAINABLY



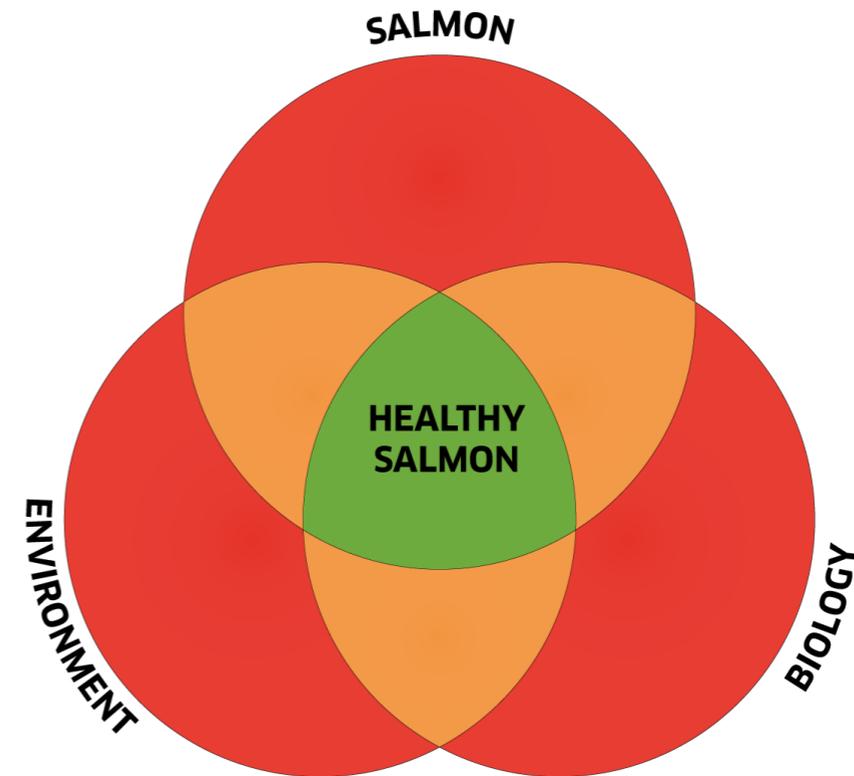
*4th Annual Sustainability Report is available on our website*



## WHAT IS HEALTHY SALMON?

### Good health is maintained when:

- The salmon is robust
- Environment is optimal and threats mitigated
- Biological threats are well controlled



Salmon farming is about being in control of biology in a difficult environment

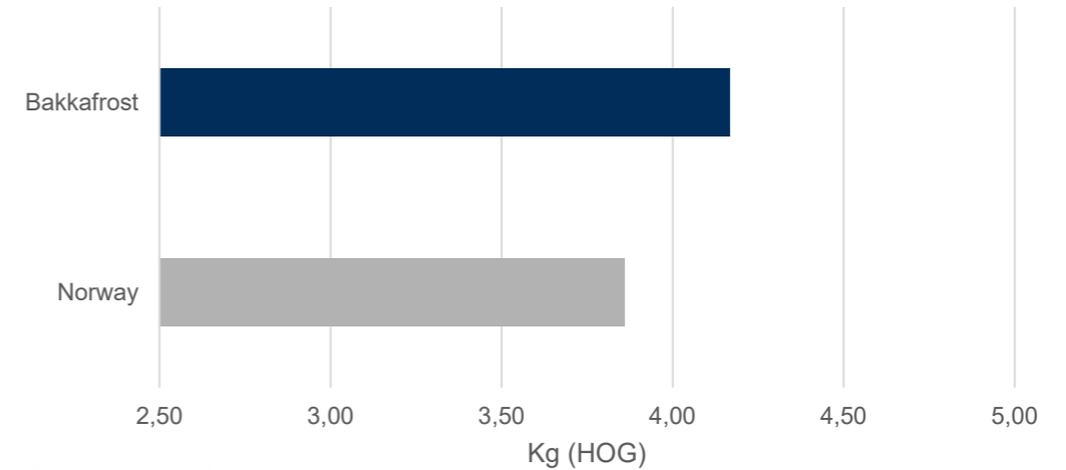
Key success factors

- A sustainable, well organised, value chain
- Management of external risks through trust and cooperation

Bakkafrost has an excellent track record in the Faroes

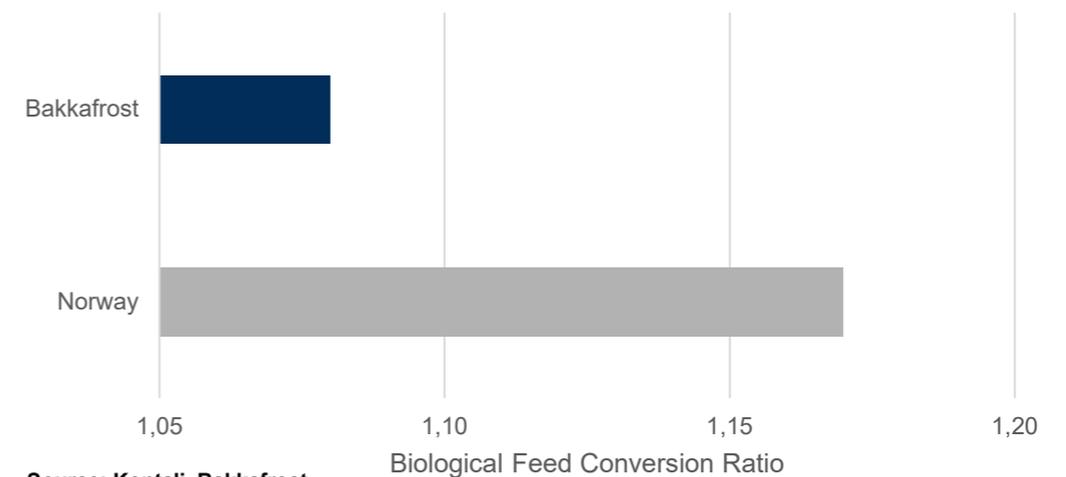
Embarked on a journey to structurally strengthen Scotland

**Yield per smolt (2020)**



Source: Kontali, Bakkafrost

**bFCR (2020)**



Source: Kontali, Bakkafrost

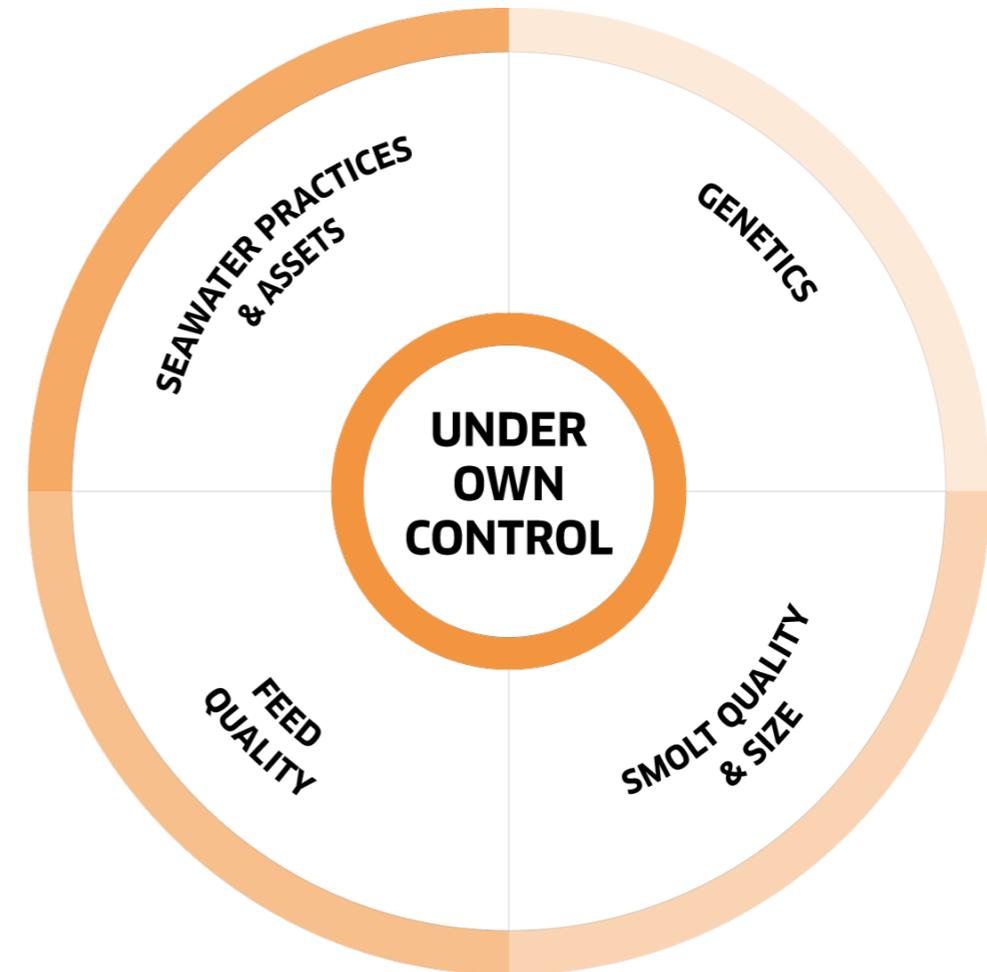
## FAROE ISLANDS – FACTORS UNDER OWN CONTROL

BAKKAFROST GAINS CONTROL THROUGH COMPETENCE AND A WELL INVESTED VALUE CHAIN

Bakkafrost has adopted an integrated value chain in the Faroe Islands, strengthening factors under own control

Bakkafrost has reduced reliance on third party contracts

- Flexibility to adapt to ever changing circumstances
- Outweighs short term benefits from outsourcing
- Increasing economies of scale within Bakkafrost



## FAROE ISLANDS – FACTORS UNDER OWN CONTROL

### GENETICS – ORIGIN BASED BROODSTOCK PROGRAMME

Bakkafrost owns the Intellectual Rights of two origin-based salmon strains:



*Broodstock programme and historical data since 1978*



*Broodstock programme initially based on wild salmon in outer Hebrides*

### Benefits

- Better control and more predictable
- Select salmon families better adapted to the local environment and resistance to disease
- Shorter learning cycles and rapid advancements due to integrated broodstock programme
- Avoid reliance on a consolidated group of third party suppliers

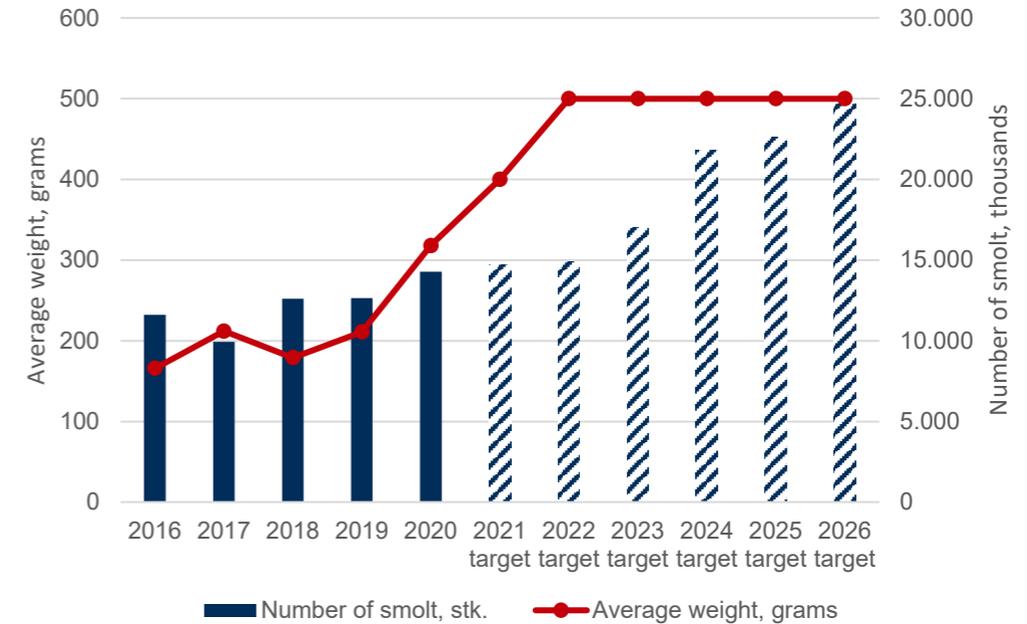
**Bakkafrost will be self-sufficient with roe in 2024**

## FAROE ISLANDS – FACTORS UNDER OWN CONTROL

### SMOLT QUALITY AND SIZE

- Seawater phase is the most risky part of salmon farming
- Smolt size and quality is instrumental in managing risks
- Large developments over 10 years with industrialised recirculation plants to optimise control of biology
- Plan to reach average smolt size of 500g in 2022
- Successful development of state of the art hatcheries

Average weight and number of released smolt



### Benefits

**Robust Smolt**

**Increased and consistent  
Size & Quality**

**Overall  
Reduced  
Biological  
Risk**

**Improved  
Biological Growth**

**Higher Capacity  
Utilisation of marine sites**

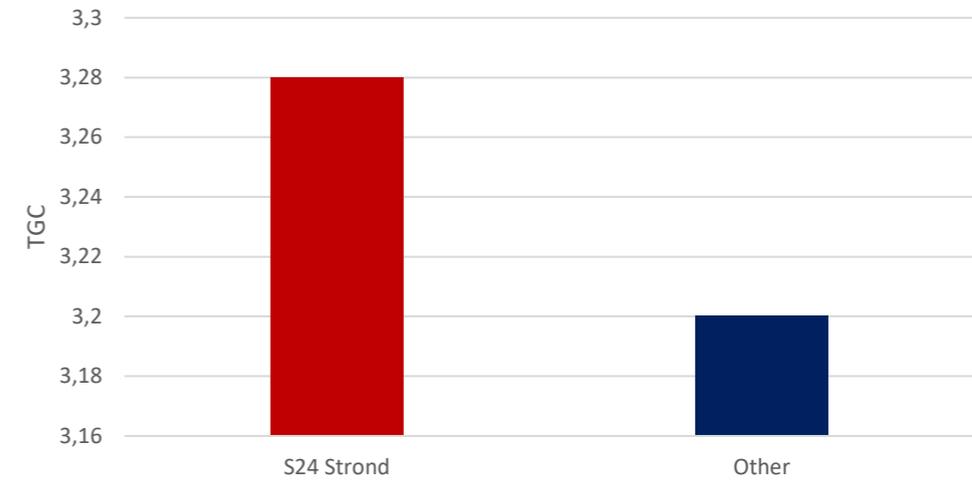
## FAROE ISLANDS – FACTORS UNDER OWN CONTROL

### EXPERIENCE FROM HARVESTED FISH FROM LARGE SMOLT

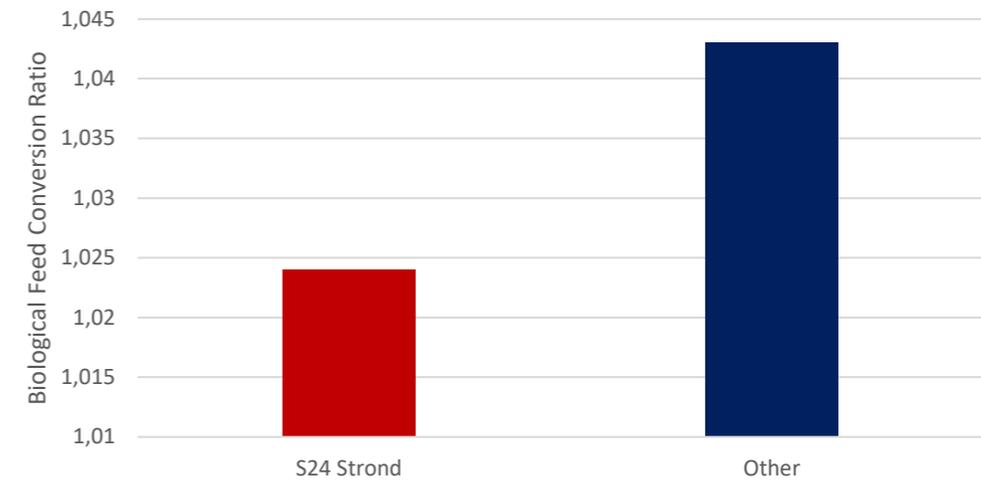
- Hatchery at Strond produces high quality and large size smolt
- Large smolts grow strongly after release
- Very low feed conversion rate



**TGC (Salmon from large smolt at Strond)**

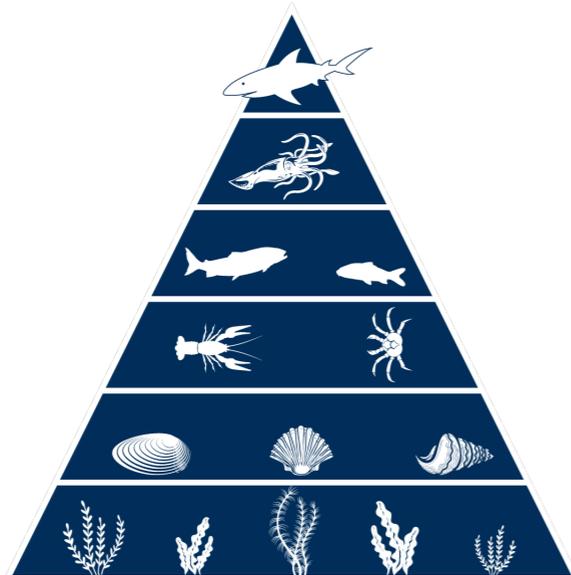


**FCR (Salmon from large smolt at Strond)**

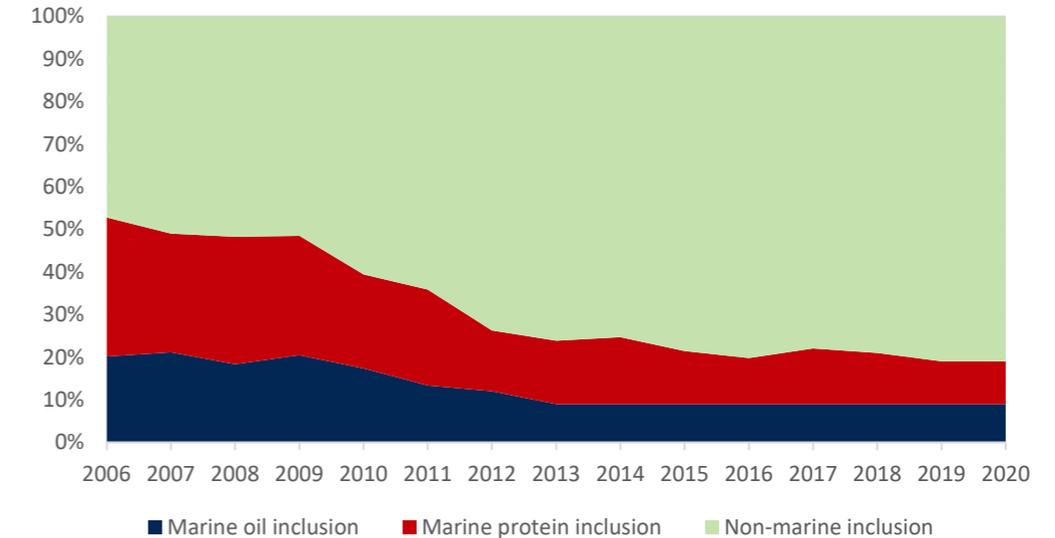


**Salmon has its natural place in the food chain**

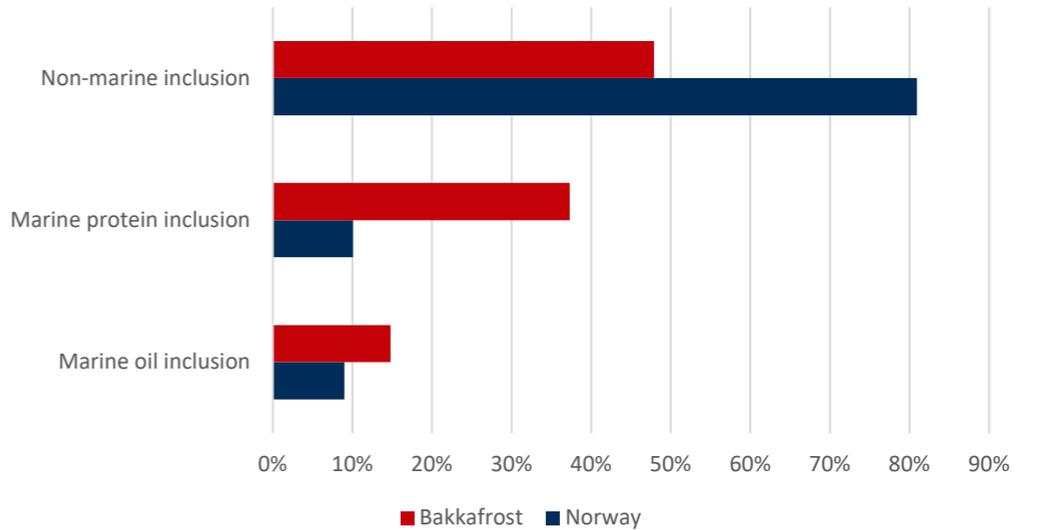
- In house, tailored feed production to optimise diet
  - Conversion of locally caught, non-edible marine recourse
  - Mix with plant-based ingredients
- Strong ties between diet and fish health



**Development of feed recipes - Norway**



Source: Holtermann



## FAROE ISLANDS – FACTORS UNDER OWN CONTROL

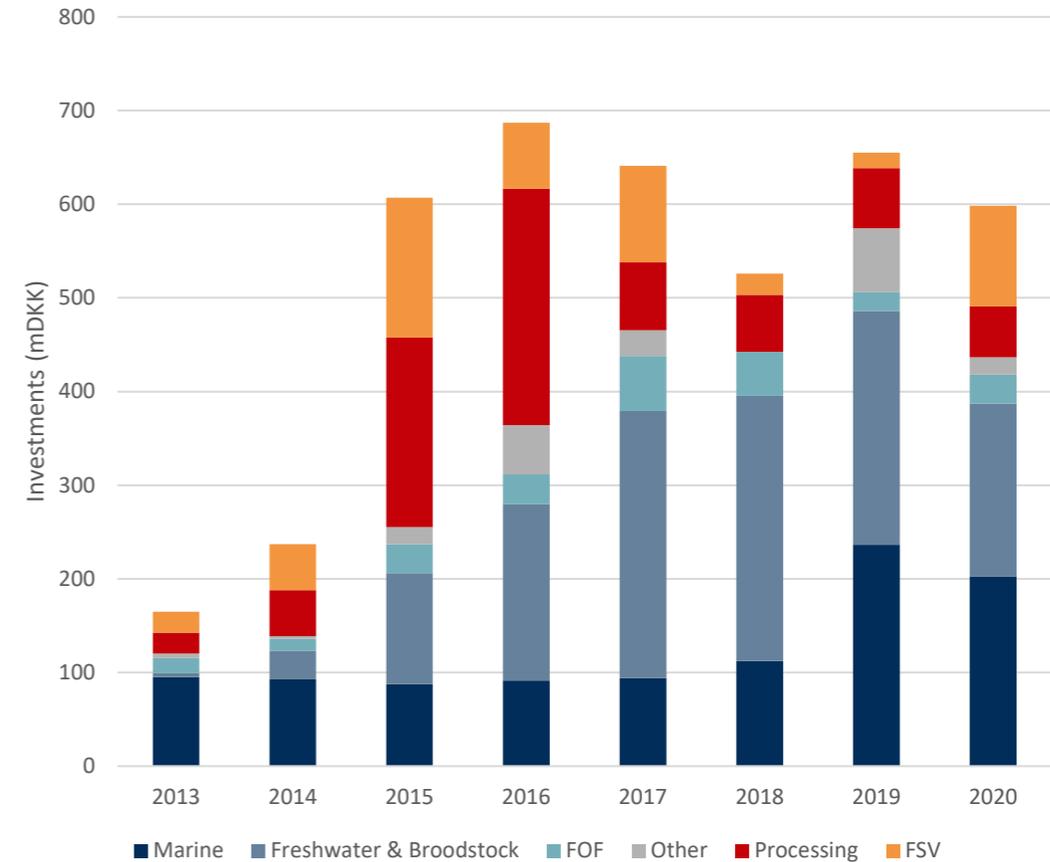
4.1BN DKK OF INVESTMENT MADE IN STATE-OF-THE ART VALUE CHAIN PAST 8 YEARS

### Past investments:

- **Hatcheries** *RAS and advanced vaccination technology*
- **Farming equipment** *Heavy-duty and “weather-resistant”*
- **Fleet of FSV’s** *Non-chemical delousing and net-cleaning*
- **Wellboat** *Gentle live fish transport & FW treatments*
- **Feeding systems** *Technologically advanced*
- **Digitalisation** *Continuous monitoring fish welfare*

**Bakkafrost’s high-quality assets has a positive impact on fish welfare**

### 4.1bn DKK invested past 8 years



### Marine farming staff are guardians against most external threats

- Fish welfare is the primary focus

### High focus on having competent, trained staff with short decision lines

- Sharing culture and common systems

### Marine farming staff is equipped with advanced technology

- Modern and robust seawater equipment
- Modern well boats and farming service vessels (FSV)
  - Gentle and protected live fish transport
  - Net cleaning, non-chemical delousing and emergency handling

### Characteristics



### Structure of production zones

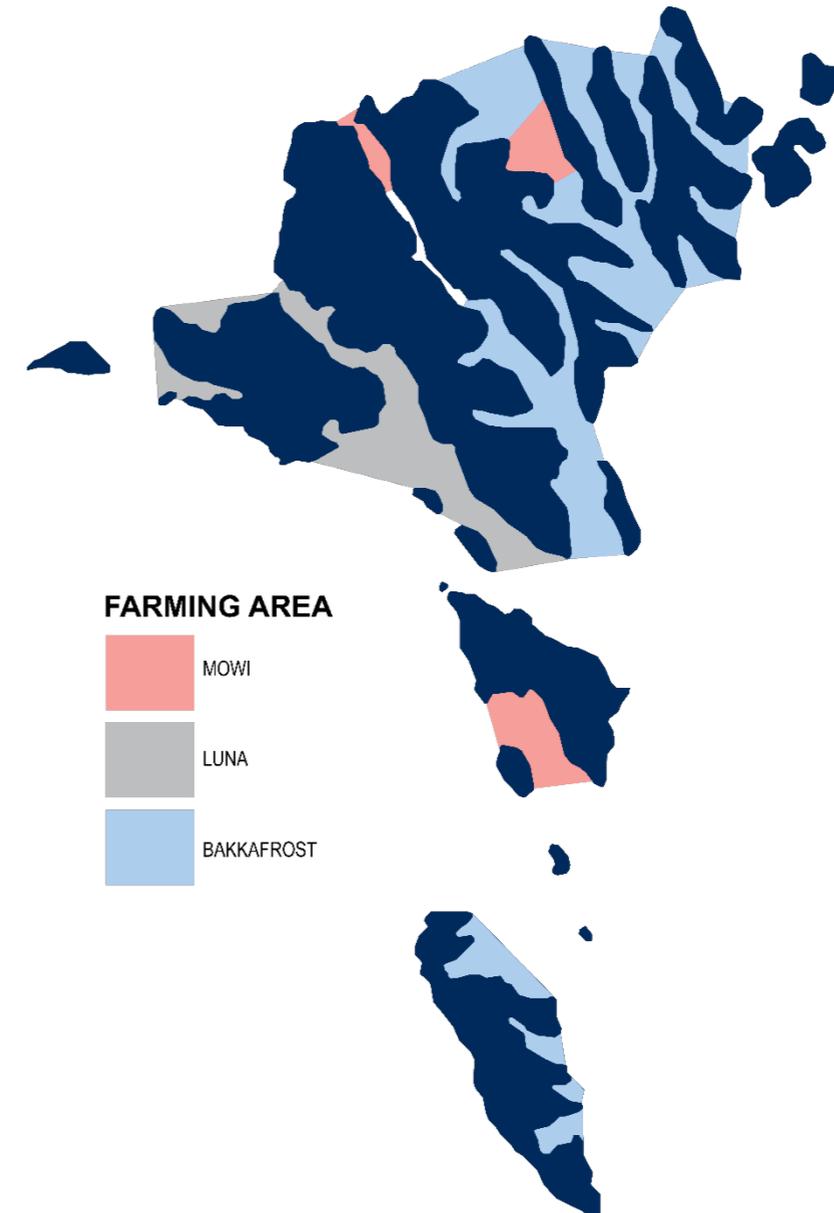
- Well adapted regulatory framework
- Few players to agree on coordination
- Largely segregated production areas
- Autonomy to adjust production cycles/fallowing periods

### Licenses

- Licenses give right to utilize given area of fjords for farming fish
- No MAB, but strict regulative measures on farming activity maintaining environmental sustainability

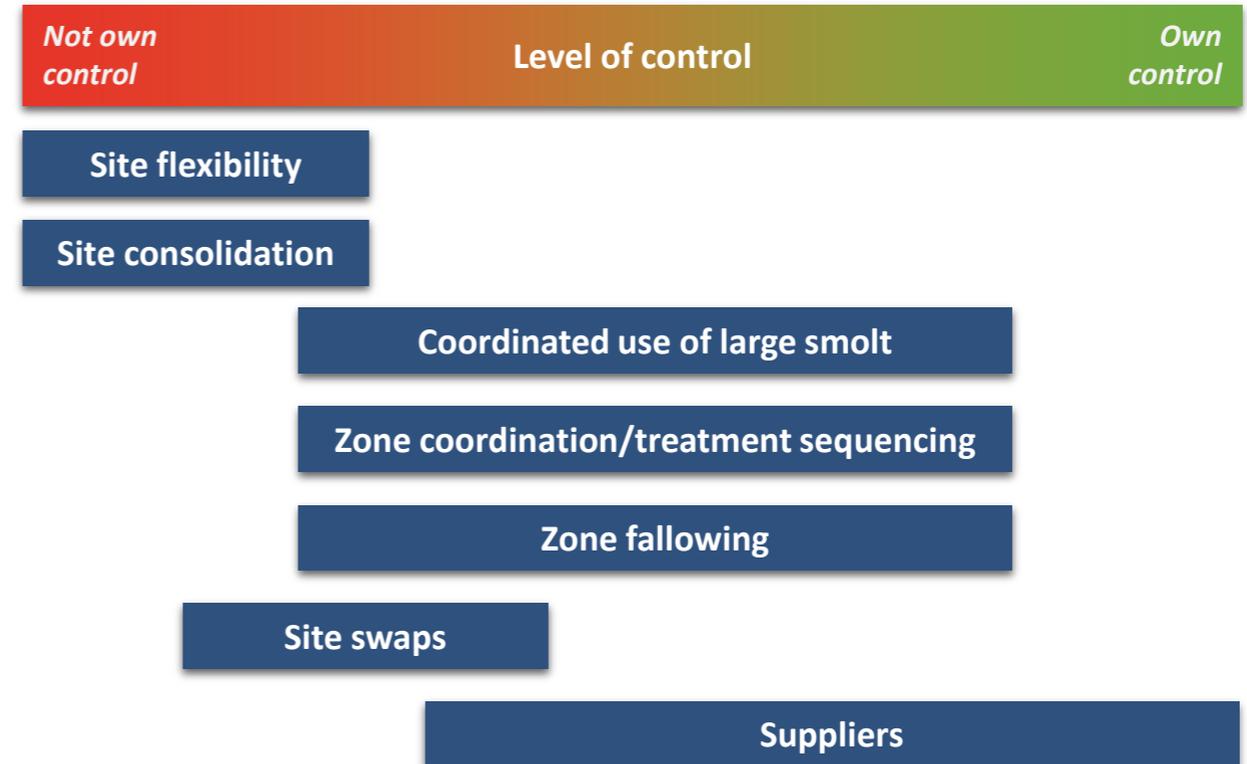
### Benefits

- External risks efficiently mitigated



## SCOTLAND – RELIANCE ON THIRD PARTY MORE CHALLENGING EXTERNAL ENVIRONMENT

- Generally tougher biology
- Reduced flexibility to optimise site locations
- More reliance on third party suppliers
- More players and higher exposure to the neighbours



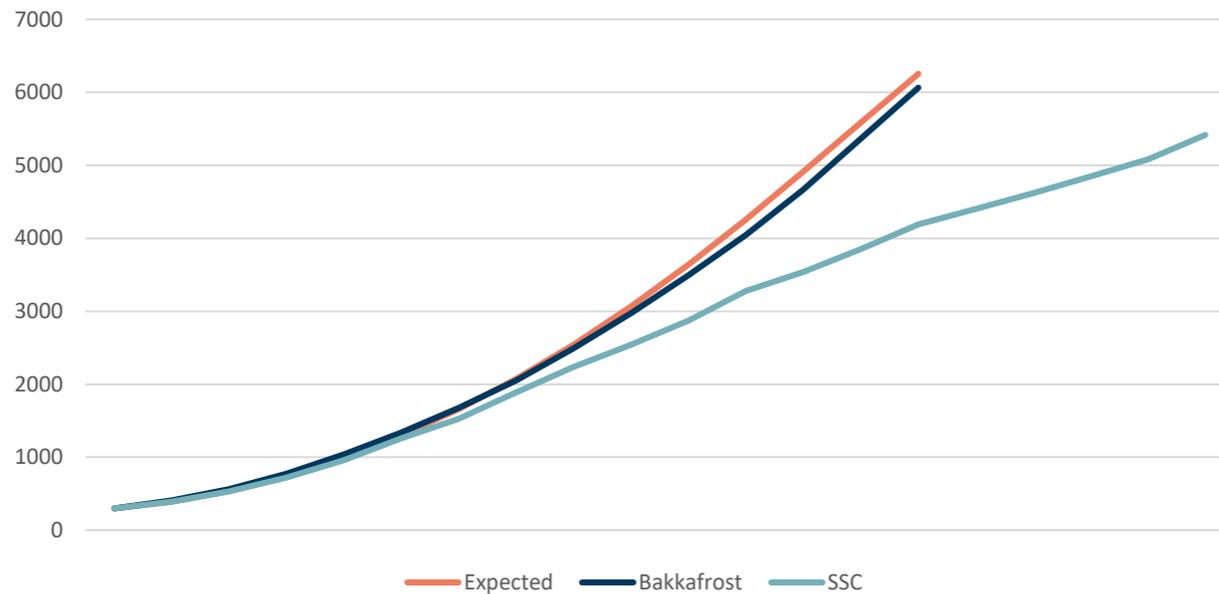
## SCOTLAND

### KEY INDICATORS OF WEAK PERFORMANCE

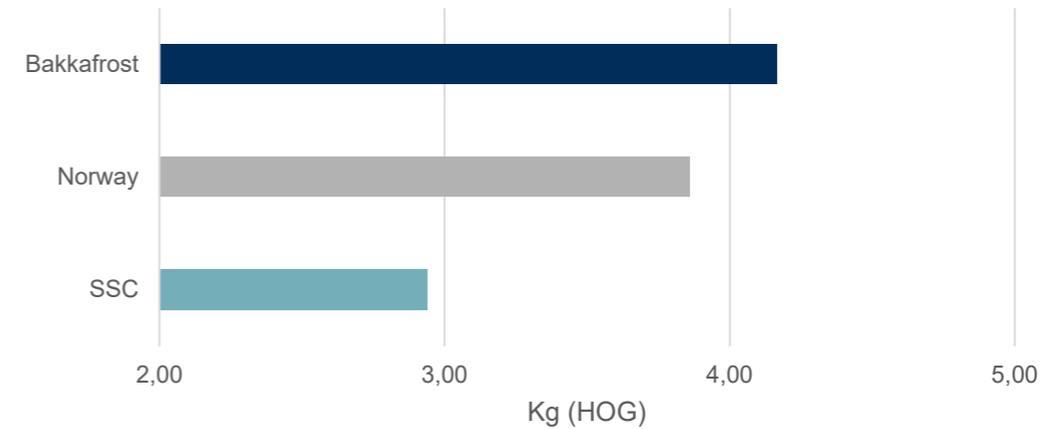


- Key indicators show poor efficiency
- Harvested kg per smolt released (yield per smolt)
  - High mortality and low harvest weight
- Low ability to convert feed to flesh
- Clearly illustrated by lagging growth track

Standardised growth Curve

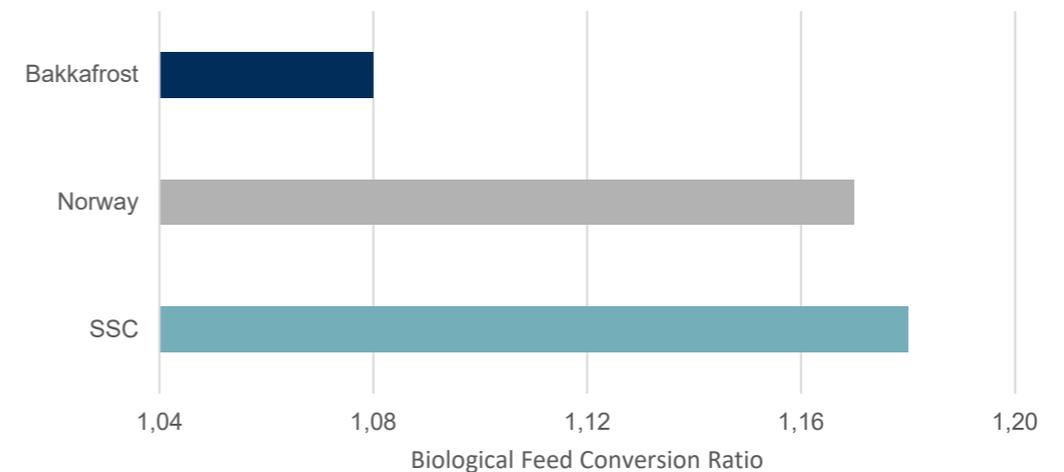


Yield per smolt (2020)



Source: Kontali, Bakkafrost

bFCR (2020)



Source: Kontali, Bakkafrost

**Reduced Ability to Manage Biological Threats**

- Limited vessel capacity
  - *Non-medicinal treatment*
  - *Gentle seawater transportation*
- Obsolete / under-capacity seawater equipment
- Fragmented smolt production in obsolete plants
  - *Low quality smolt of around <80g*
- Challenging external environment
  - *Large reliance on third parties*
  - *Poor zone management and limited industry co-ordination*



**Previously outweighed by biological threats**

*Poorly equipped for handling biological issues*



**Barvas**  
Flow-thru  
730 m<sup>3</sup>



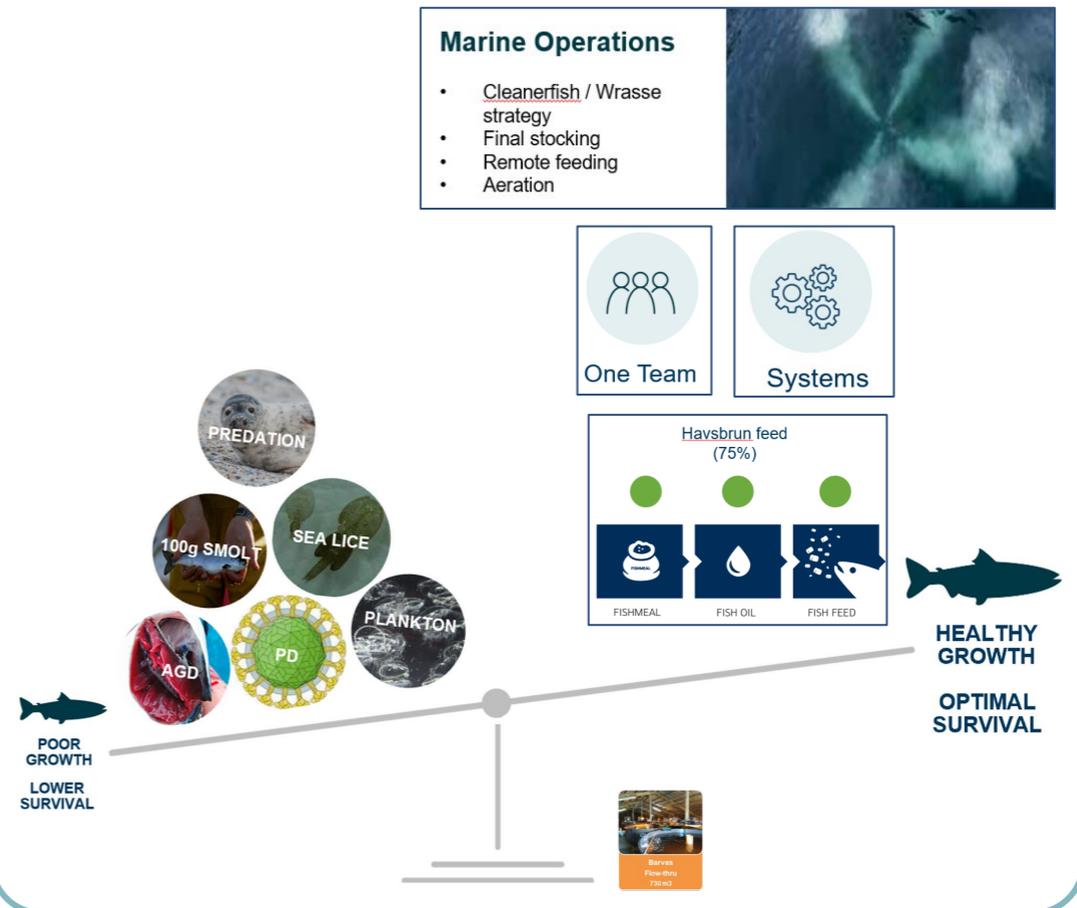
## Seawater assets were largely underinvested

- Upgrades made to feeding systems
- Feed strategy updated and best practice implemented
- Farming equipment upgraded, e.g:
  - *Predator-safe nets*
  - *Aeration diffuser systems in pens*
- State of the art technology implemented to ensure optimal monitoring of biomass and fish health
- Safety systems allowing staff on site in harsh conditions



## Gradual improvements to main KPI's

(FCR, TGC, lost feeding days, predator mortality, MW)



**Biological incidents require rapid treatment or transfers**

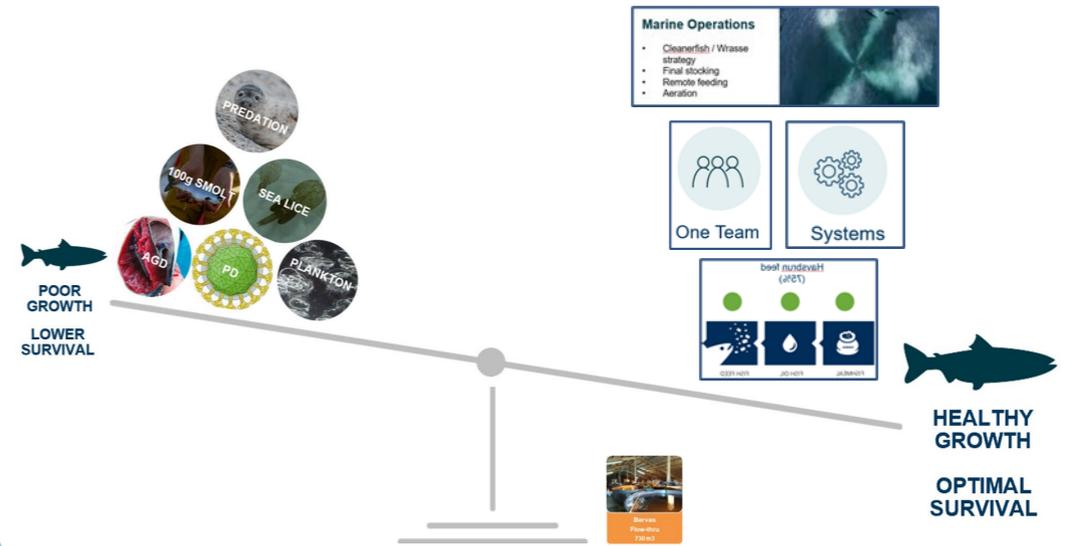
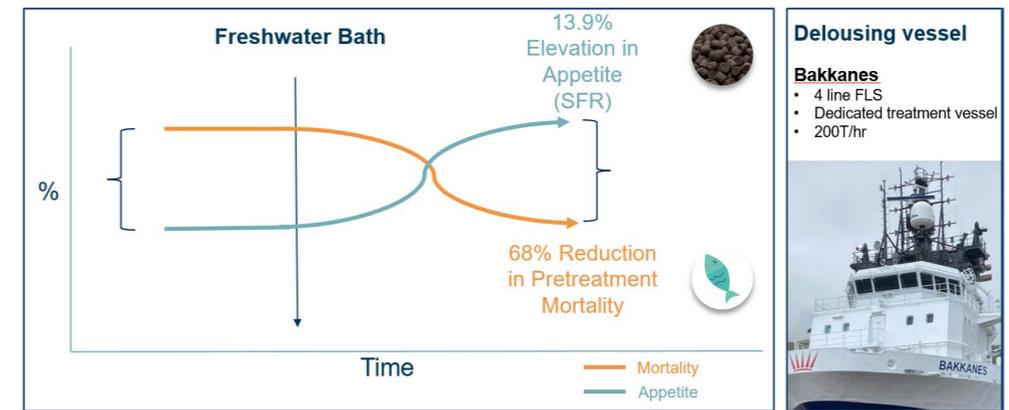
**Limited capacity has been available**

- Ample capacity is being made available
  - *Wellboat with freshwater treatment capability*
  - *FSV with advanced delousing equipment*
- Mitigation of an uninsurable risks
- Benefits far outweighs vessels costs



**Getting control of the biological risks**

**Introduction of additional health management resources**



# SCOTLAND – LARGE SMOLT WILL BE A GAME CHANGER

## LARGE SMOLT WILL TRANSFORM THE PERFORMANCE

Seawater exposure highest during summer/early autumn

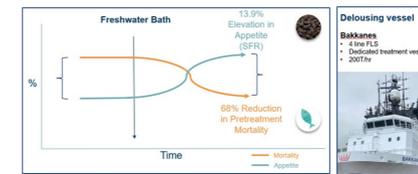
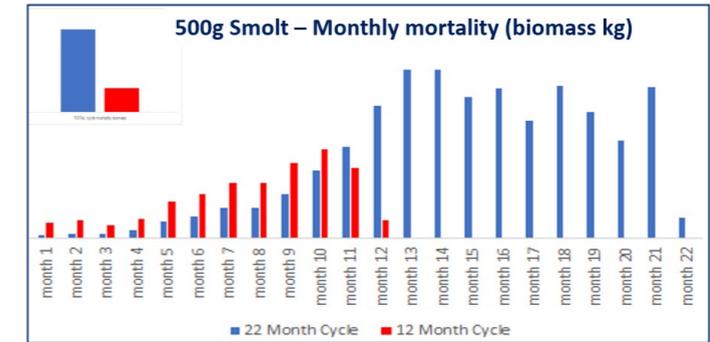
Exposed fish are weakened leading to cumulative mortality

- Large smolt reduces seawater exposure to ~12 months (“one summer” cycles)
- New hatcheries supply consistent high quality smolt
- Triggers volume growth (shorter high production cycles per site)



Reducing and significantly outweighing the risk

Large smolt 500g



**Marine Operations**

- Cleanerfish / Wrasse strategy
- Final stocking
- Remote feeding
- Aeration

**One Team** **Systems**

**best undevilt (JREI)**



**HEALTHY GROWTH**  
**OPTIMAL SURVIVAL**

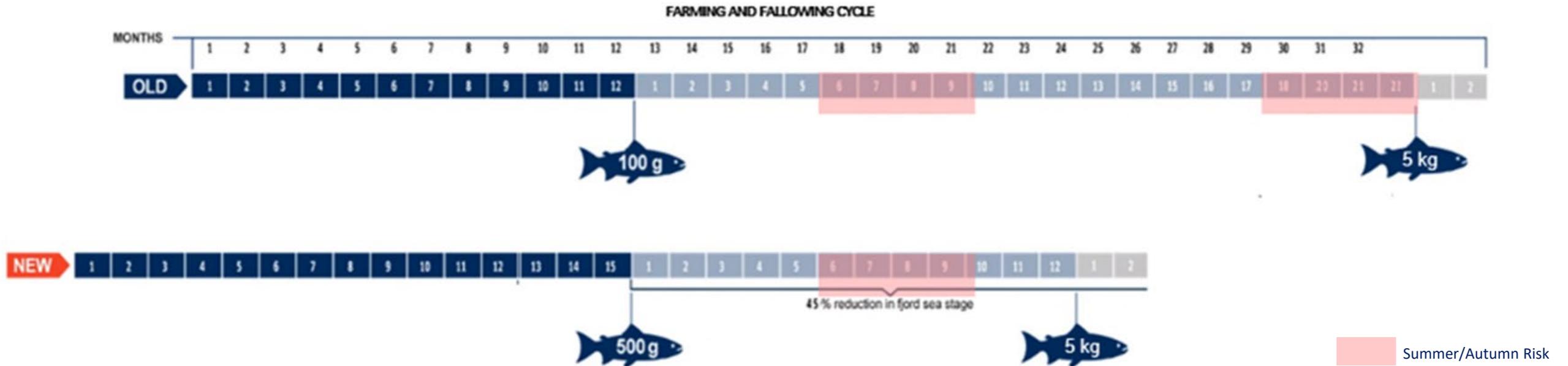


# SCOTLAND – LARGE SMOLT WILL BE A GAME CHANGER

## REDUCED BIOLOGICAL RISK, ALLOWING FOR “ONE SUMMER” CYCLES

### Key benefits:

- Reduce biological risk (*in Scotland the salmon will only be exposed to one summer/early autumn*)
- Increase production efficiency
- Enable organic growth



**ONE SUMMER                      ONE LOCH                      ONE OPERATOR                      ONE GENERATION**

# SCOTLAND – IMPROVE EXTERNAL FACTORS

## STRENGTHEN CONTROL REDUCING EXPOSURE TO EXTERNAL FACTORS

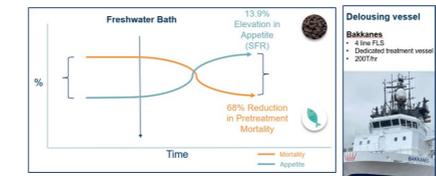
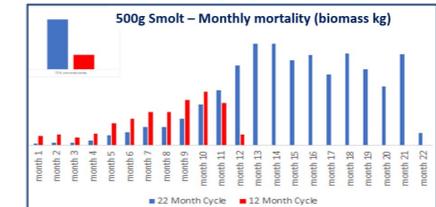
### Stakeholder Engagement / Collaboration

- Reduce third party reliance
  - *Value chain investments deliver integrated business model*
- Site development & consolidation (larger sites)
- Move framework in direction of Faroese farming model
  - *“One loch, one operator, one generation”*
  - *Contribute to industry “acting as one”*
- Priorities versus regulators
  - *Promote sustainable framework and geographic segregation*
  - *Movement of sites from shallow to more exposed waters*



### Achieving Control

Industry working to common goals



**Marine Operations**

- Cleanerfish / Wrasse strategy
- Final stocking
- Remote feeding
- Aeration

**One Team** **Systems**

**best run/visit (RRT)**



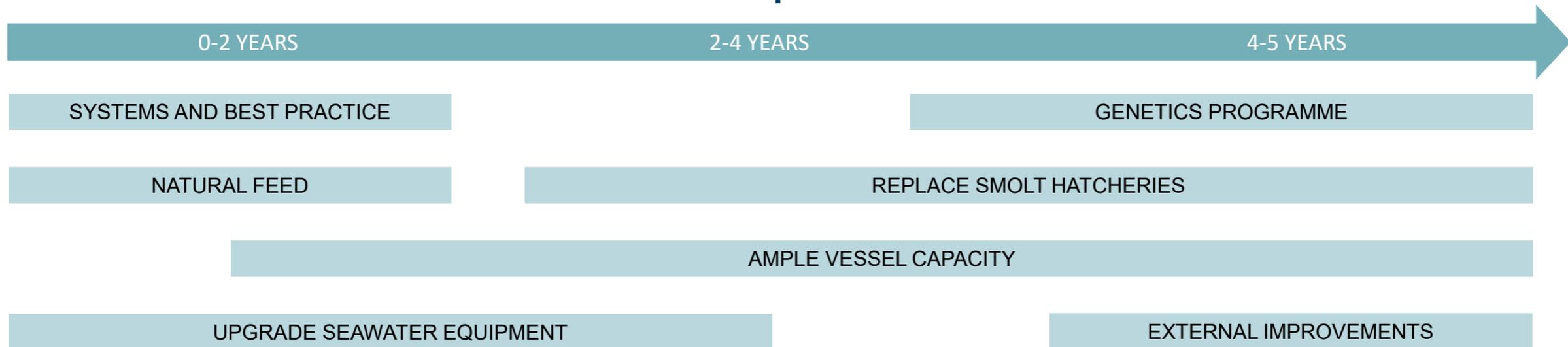
**HEALTHY GROWTH**  
**OPTIMAL SURVIVAL**

## SCOTLAND – SUMMARY OF PLANNED ACTIONS FOR HEALTHY SALMON

IT TAKES TIME BEFORE THE EFFECT MATERIALISES

- Comprehensive programme for improvement
- Overall focus on improved animal welfare and performance
- Competent organisation to execute programme
- Largely replication of successful investments and activities in the Faroe Islands

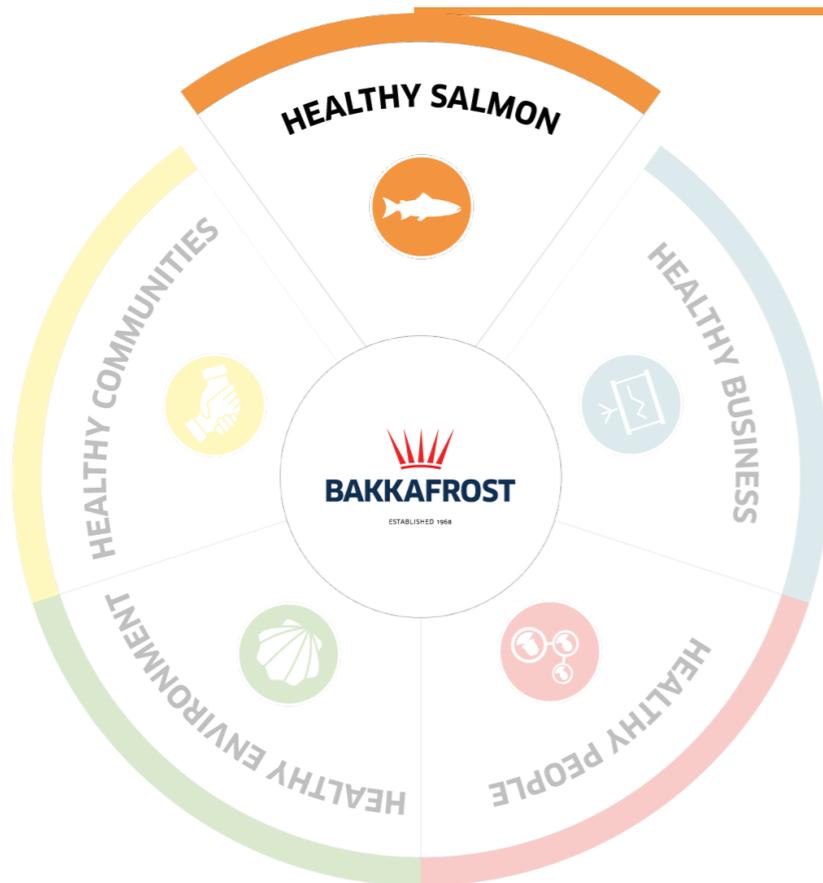
### When to expect effect?



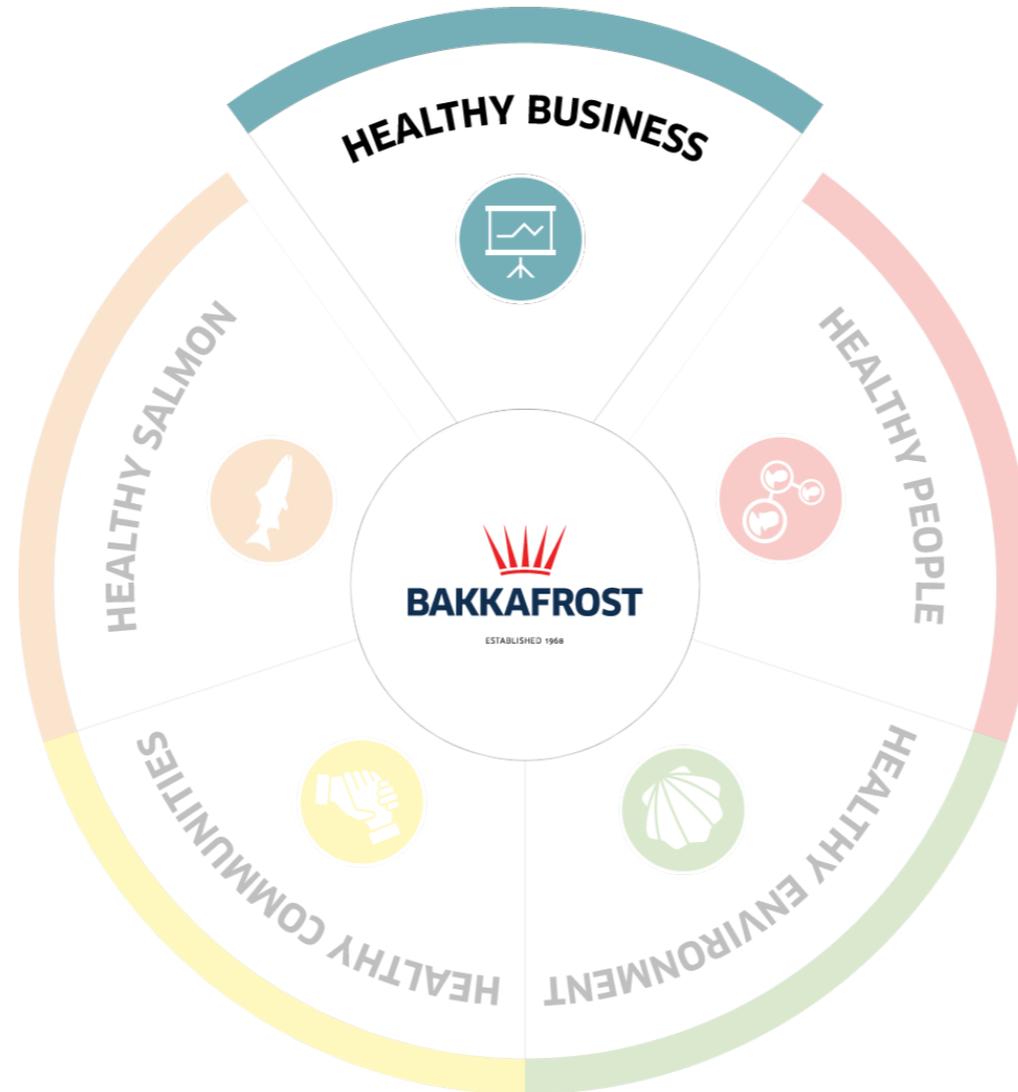
*We expect to start harvesting from larger smolt in 2024*

## HEALTHY SALMON TARGETS 2022-2026

STRENGTHEN FURTHER IN FAROES – TRANSFORM IN SCOTLAND



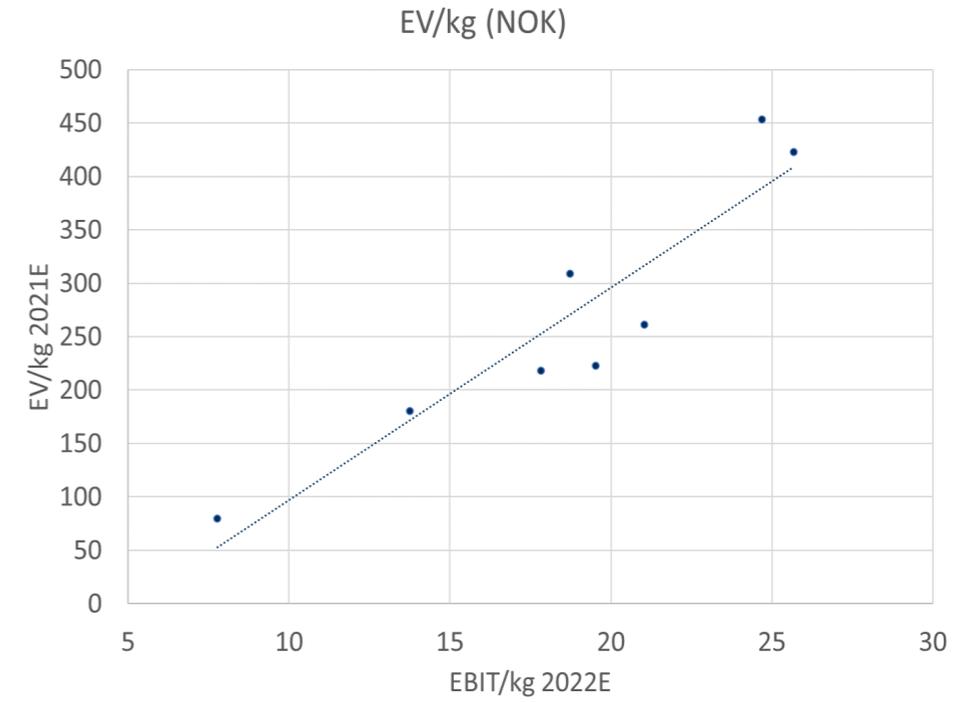
- Continue to strengthen performance in the Faroes and transformational improvements on main KPI's in Scotland with 500g smolt
  - bFCR <1.05 in the Faroes and <1.10 in Scotland
  - Salmon survival rate >94% in the Faroes and >92% in Scotland
  - Yield per smolt >4.1 for the Group
- Develop solid integrated value chain for Scottish operation
  - Increase degree of control of own operation
  - Implement best practice processes
  - Successfully execute comprehensive investment programme
  - Contribute to industry action “as one”



## HEALTHY SALMON = HEALTHY BUSINESS

VALUE CREATION THROUGH GROWTH AND MARGIN IMPROVEMENT

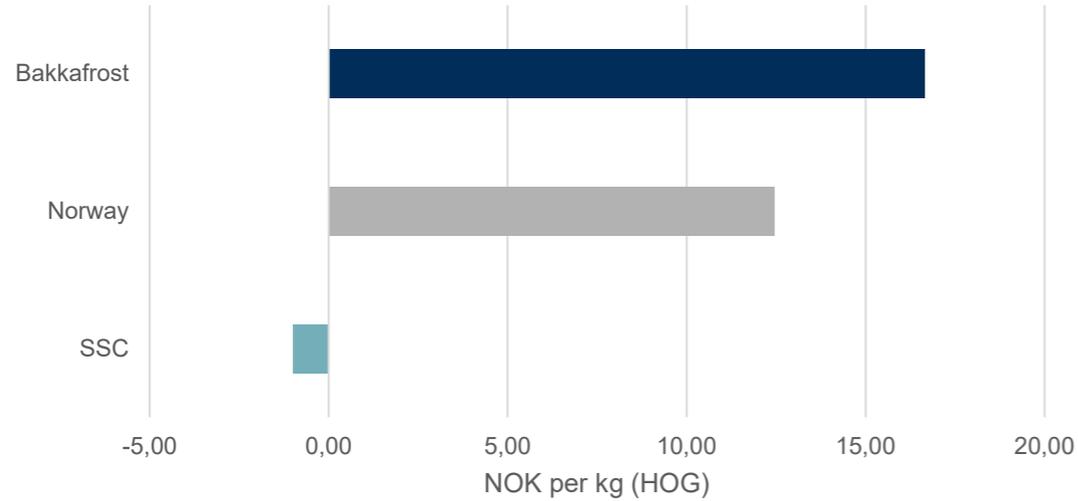
- Valuations closely tied to relative profitability per kg
- Healthy salmon drives most performance indicators
- Strong track record in the Faroe Island
- Robust plan for material improvements in Scotland
- Capacity to grow more than 40% next five years without need for additional licences/off-shore



Sources: Company guidance, Bloomberg consensus estimates

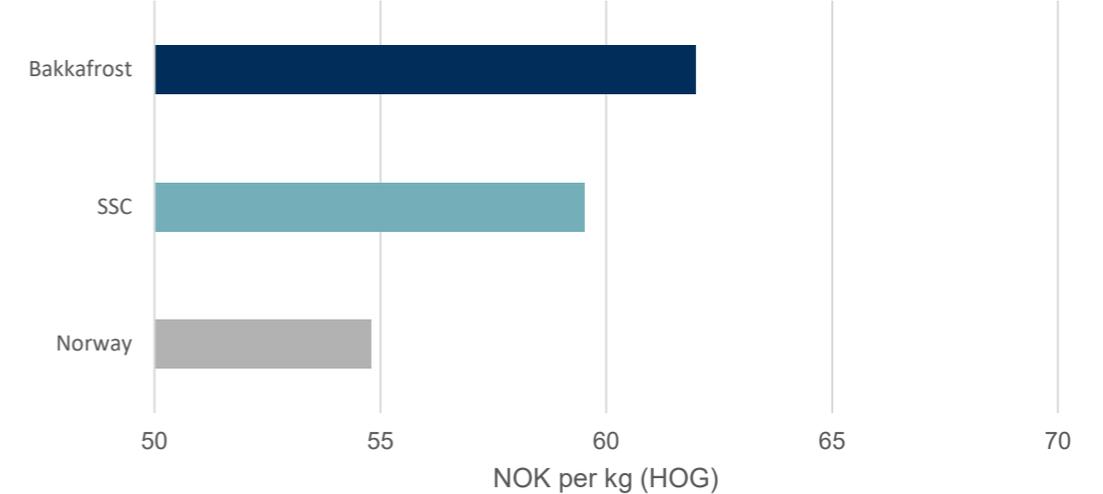
**PROFITABILITY**  
EBIT PER KG COMPARISON

**Operational EBIT/kg, NOK (2020)**



Source: Kontali, Bakkafrost

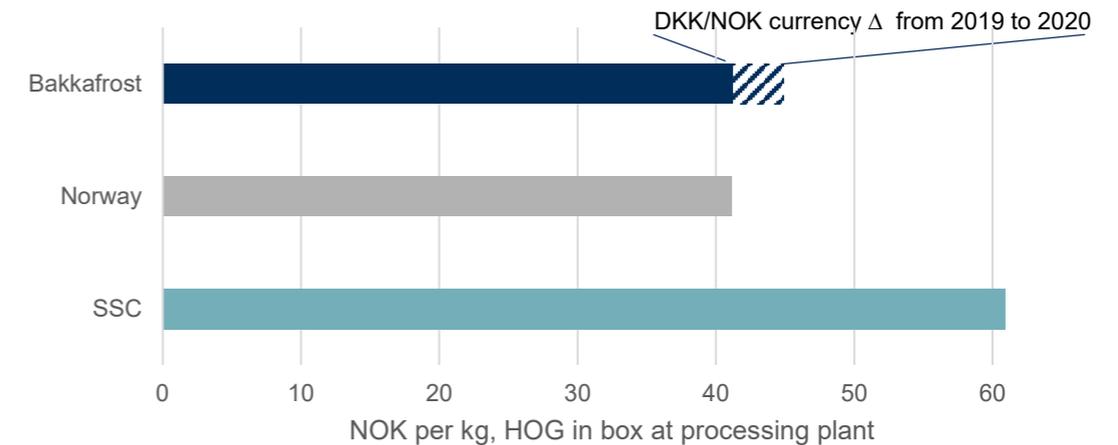
**Realised prices/kg, NOK (2020)**



Source: Kontali, Bakkafrost

- Outstanding performance in the Faroe Islands
- Robust plan for material improvements in Scotland
  - Natural target to be most profitable player in Scotland
  - Gradual improvement, larger step expected in 4-5 years
    - Upon harvest from larger smolt

**Costs/kg, NOK (2020)**



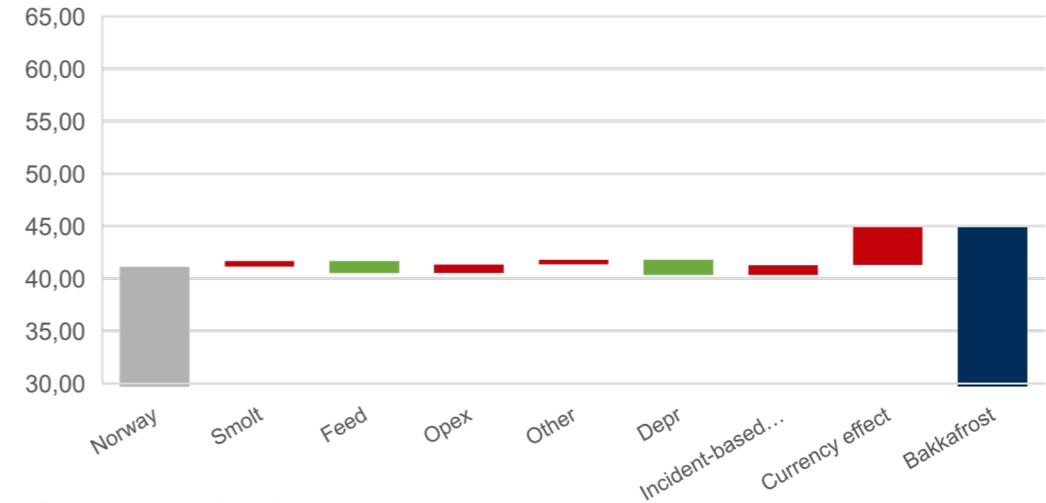
Source: Kontali, Company reports  
Note: (1) Harvesting, fish transportation and processing/packaging

## COST PERFORMANCE

### ROBUST PLAN FOR MATERIAL IMPROVEMENTS IN SCOTLAND

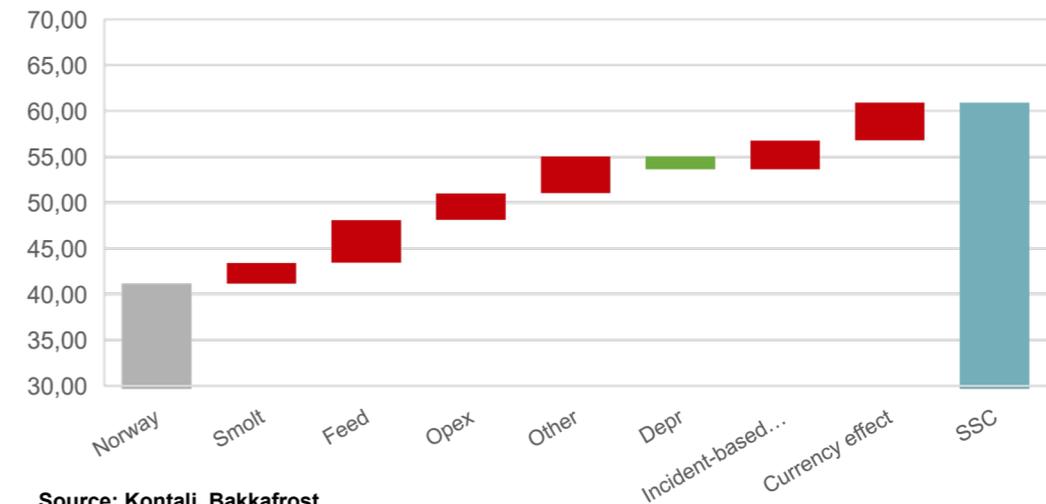
- Faroes carrying cost of value chain dimensioned for 100k tonnes
  - Fixed cost dilution expected in line with growth
  
- Very high costs in Scotland
- Business plan impacts Scotland in three stages
  - Feed, seawater equipment and vessels (short horizon)
  - Improved practices (medium horizon)
  - Structural investments in larger smolt (4-5 year horizon)
- Largest impact expected from larger smolt strategy

Comparison - Cost items per kg, NOK (2020)



Source: Kontali, Bakkafrost

Comparison - Cost items per kg, NOK (2020)

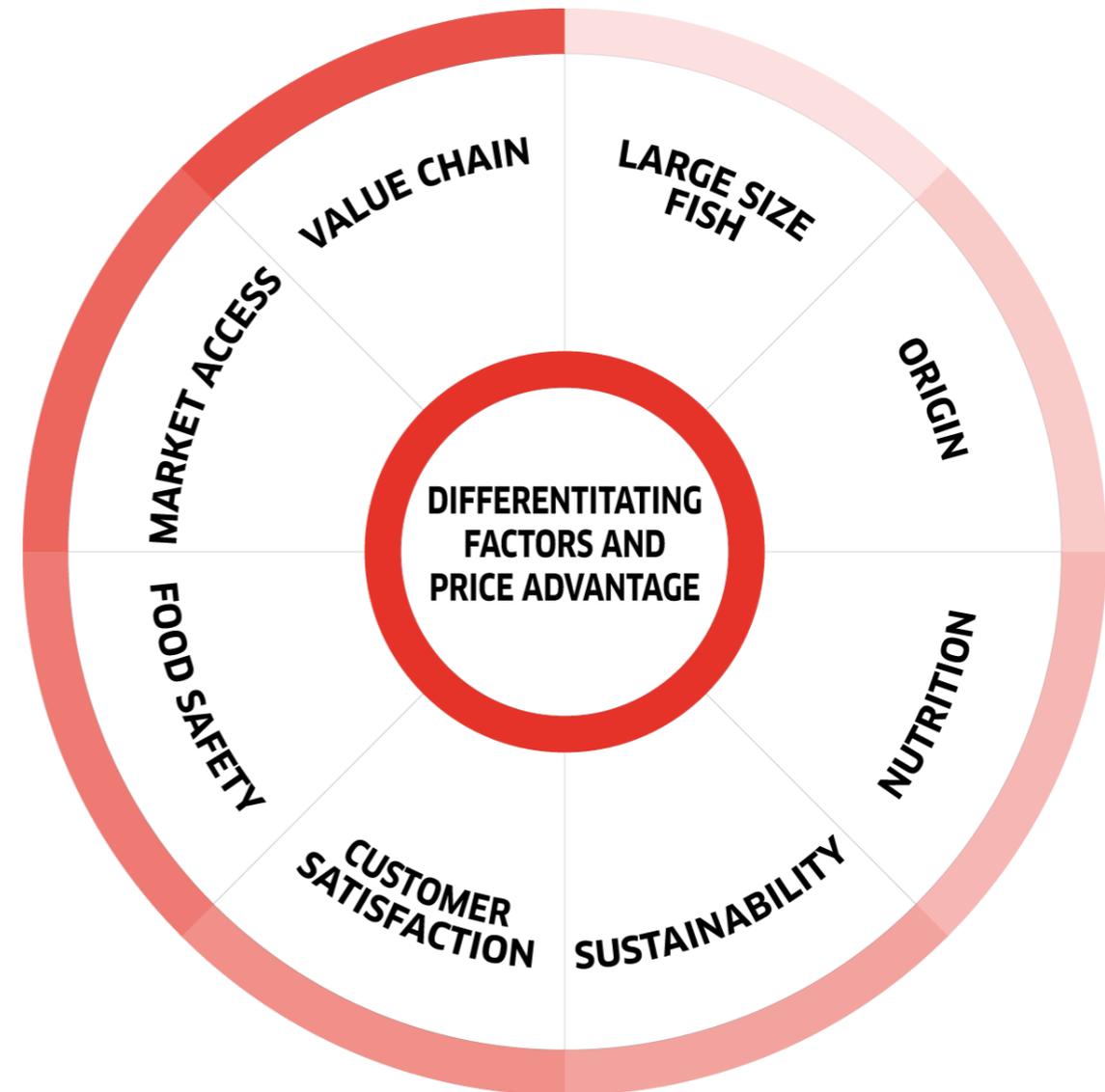


Source: Kontali, Bakkafrost

Note: Depreciation of seawater activities only

## PRICE ACHIEVEMENT RELATIVE TO MARKET MARKET CRITERIA

- Large sized fish short in supply
- Faroes and Scotland preferred niche origins
- Natural diet - healthy salmon - healthy products
- Alignment between sustainability and healthy salmon
  - High control of value chain
  - Control of food safety standards and traceability
- ESG certifications entry card to high end segments
  - Aquaculture stewardship council (ASC)
  - Best Aquaculture Practices (BAP)

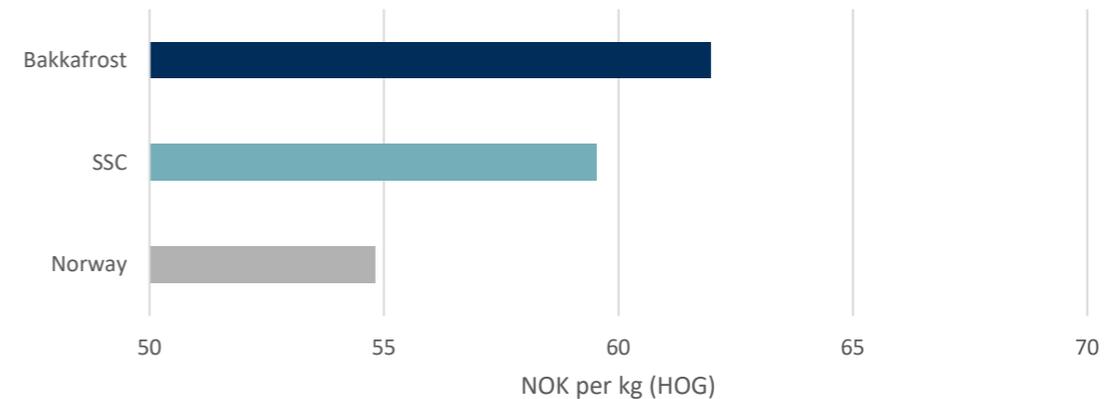


***Healthy salmon appreciated by the high end market!***

## PRICE ACHIEVEMENT RELATIVE TO MARKET STRONG TRACK RECORD

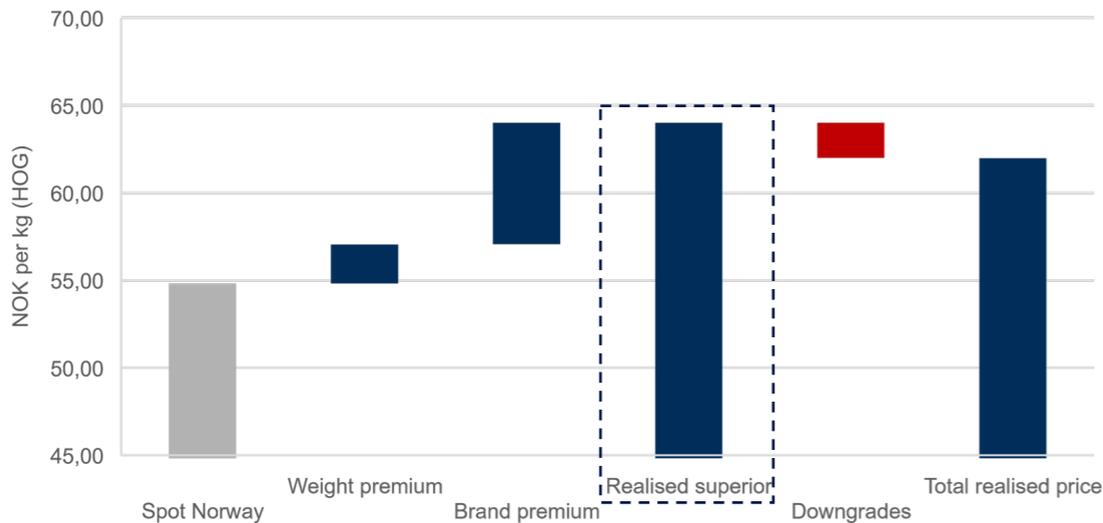
- Larger fish obtain price premium
- Brand premium
  - Driven by ability to meet market criteria
- Downgraded fish sold at discount
  - Mitigated by in house secondary processing (VAP)
  - Low secondary processing capability in Scotland

### Comparison – Price 2020



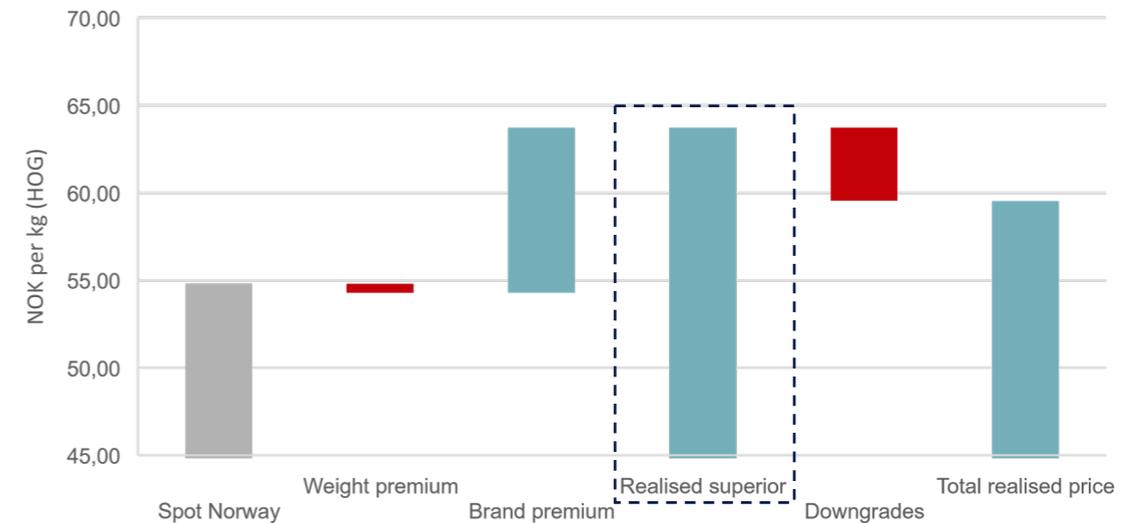
Source: Kontali, Bakkafrost

### Faroes – Price achievement 2020



Source: Kontali, Bakkafrost

### Scotland – Price achievement 2020

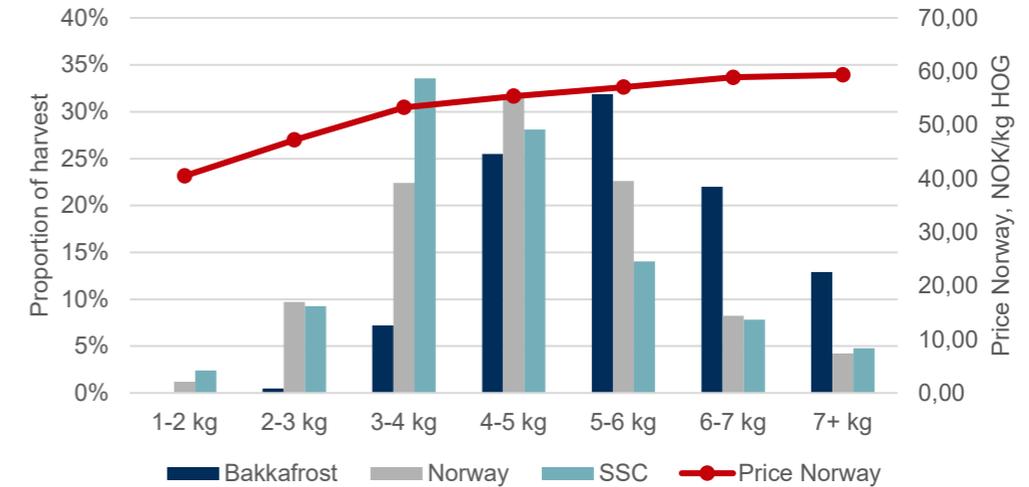


Source: Kontali, Bakkafrost

## PRICE ACHIEVEMENT RELATIVE TO MARKET SIZE AND NUTRITION

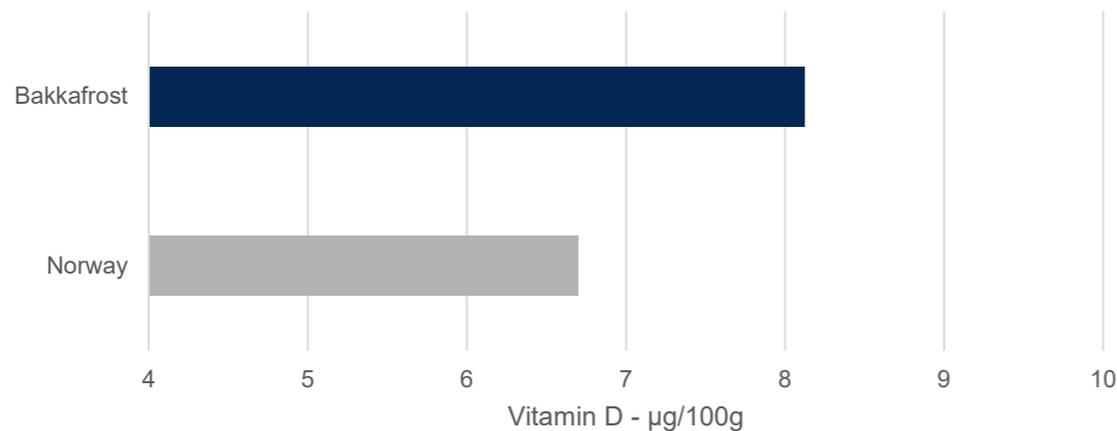
- Price of salmon generally increase with size
- A natural diet major contributor to obtaining large salmon
- Faroes has long history of high harvest weights
- Harvest weights in Scotland have been low
  - Business plan target higher average harvest weights
  - Scotland starting to benefit from in house feed
- The healthy salmon diet also converts into a healthy product

### Size distribution and price, 2020



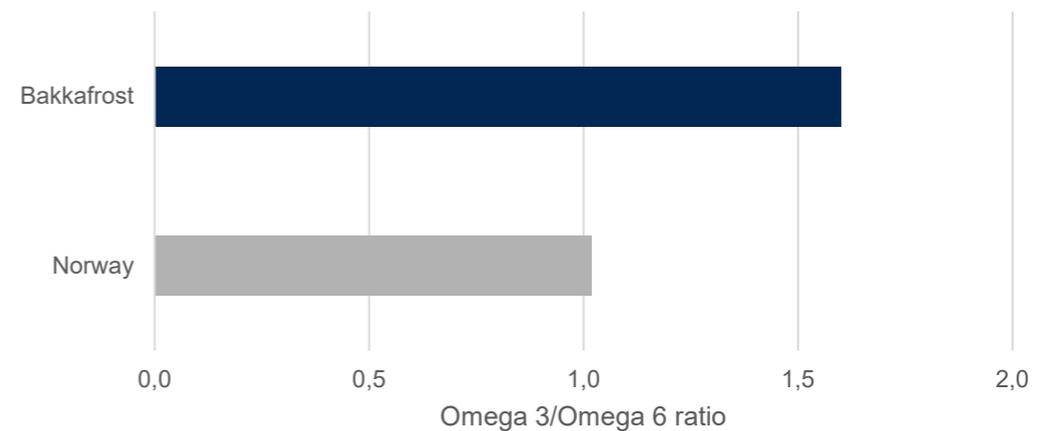
Source: Kontali, Bakkafrost

### Vitamin D - 2020



Source: Sjømatdatabasen, Bakkafrost

### Omega 3/Omega 6 ratio consumer portion - 2020



Source: Sjømatdatabasen, Bakkafrost

## PRICE ACHIEVEMENT RELATIVE TO MARKET

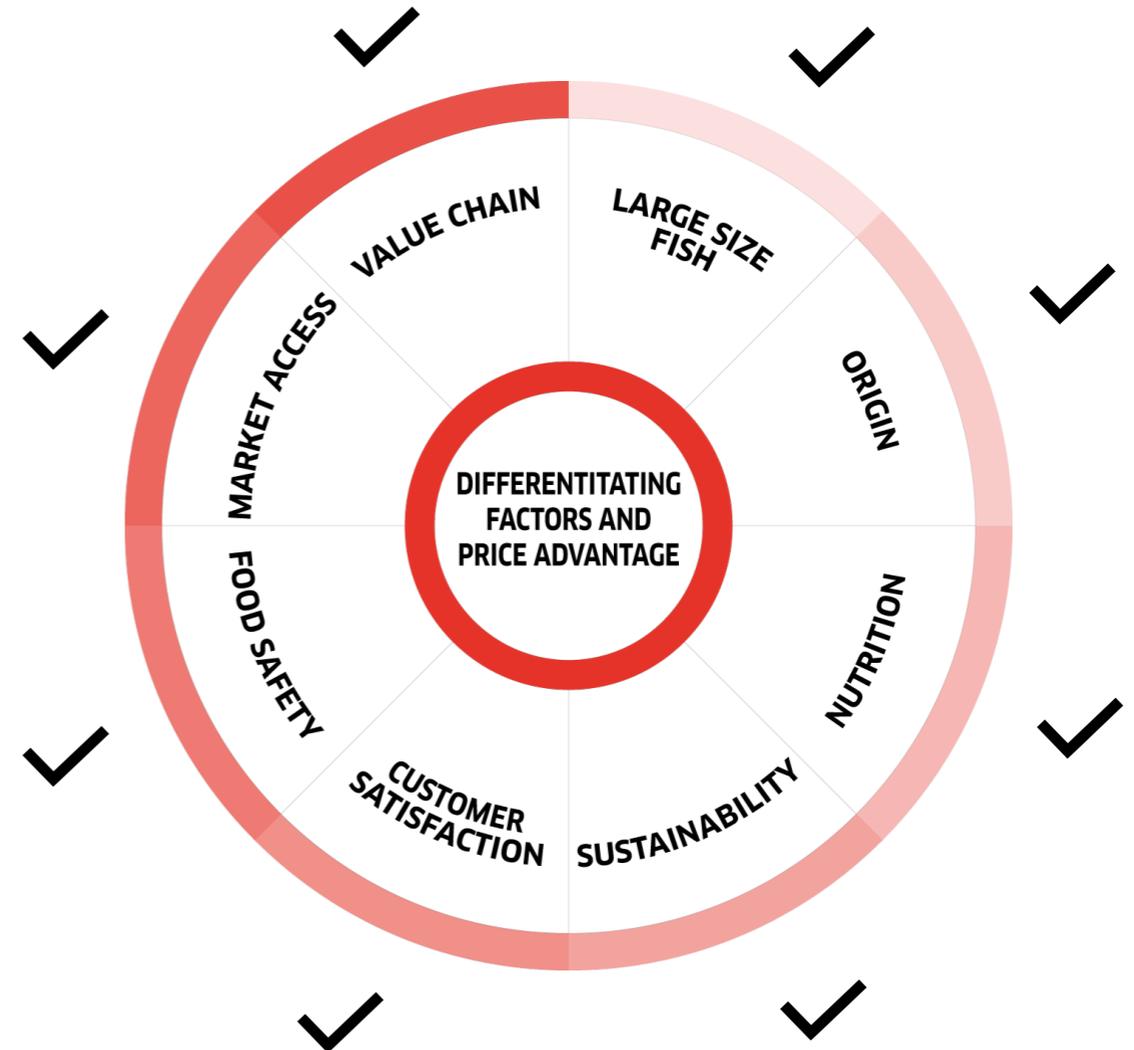
“BRAND PREMIUM” – TICKING ALL THE BOXES

### FAROE ISLANDS

- Bakka Salmon by Bakkafrost (B2B)
- Heimland by Bakkafrost (B2C)
- 18 Islands by Bakkafrost (luxury B2C)

### SCOTLAND

- Native Hebridean by Bakkafrost (luxury B2C)
- Lochlander by Bakkafrost (Luxury B2C)
- Scottish Salmon Company by Bakkafrost (B2B)

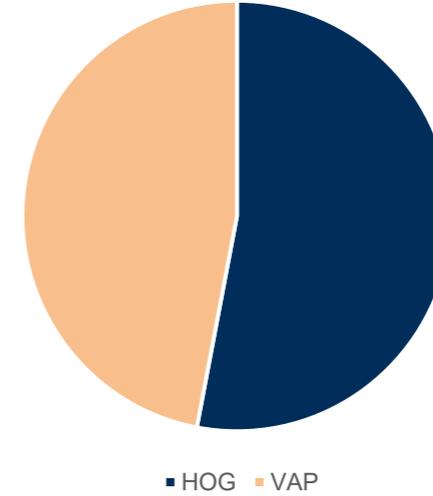


# PRICE ACHIEVEMENT RELATIVE TO MARKET

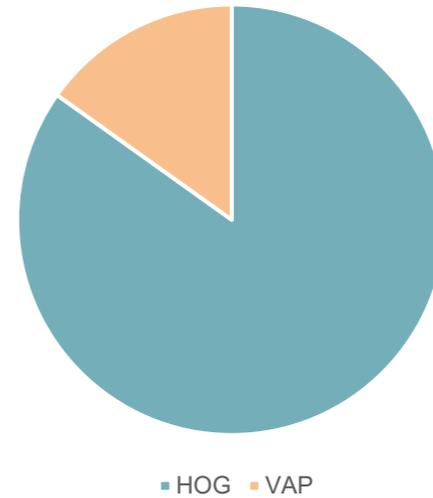
## “BRAND PREMIUM” SUPPORTED BY CONSUMER PRODUCTS



### Faroe Islands – Harvest allocation, 2020



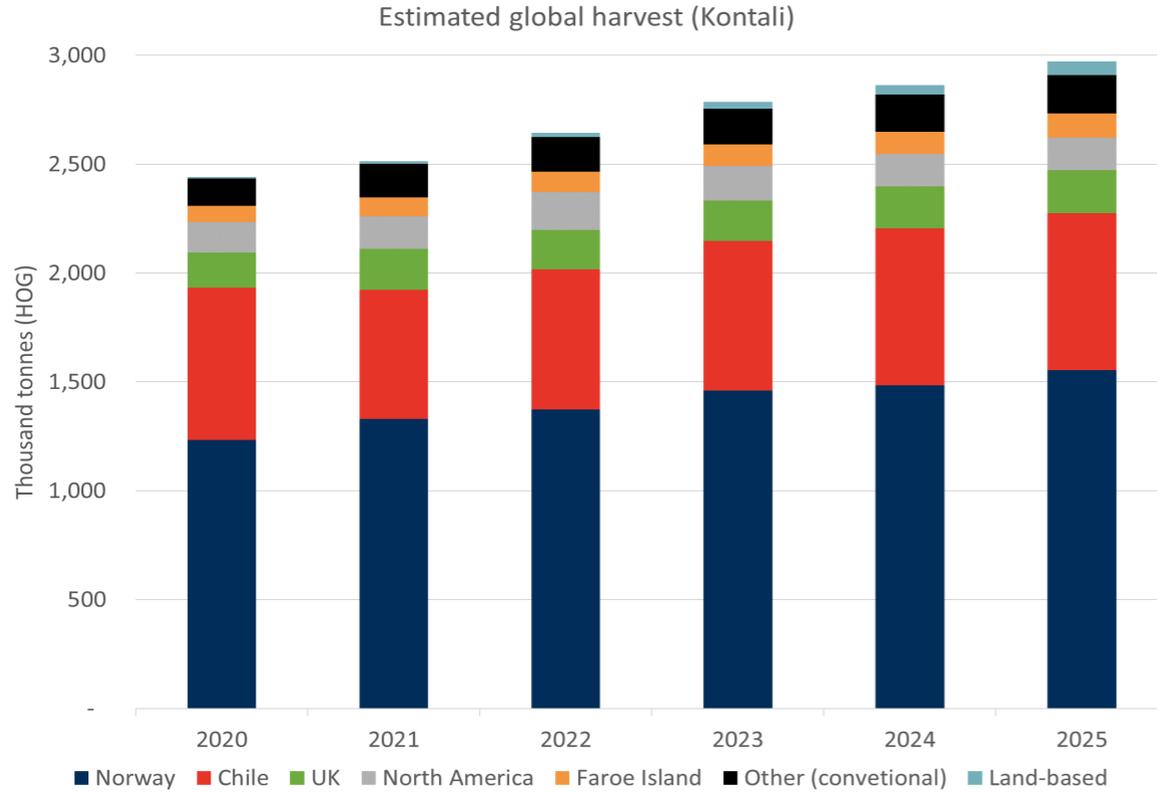
### Scotland – Harvest allocation, 2020



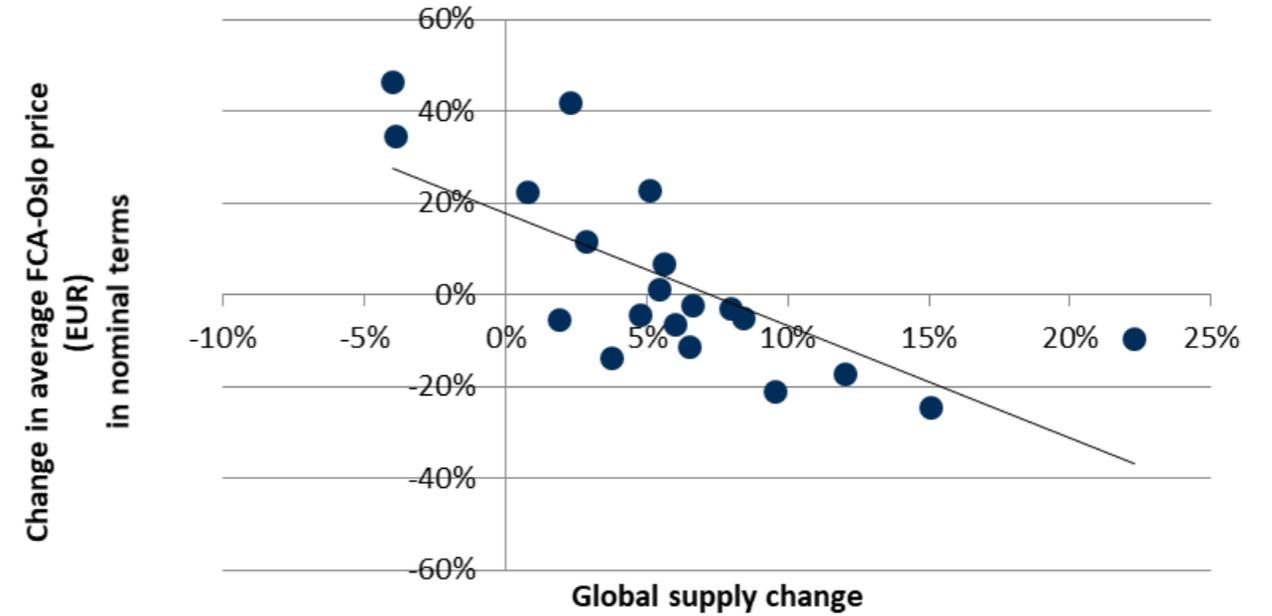
# MARKET OUTLOOK

## KONTALI PREDICTS LIMITED SUPPLY – IMPLIES TIGHT MARKET

**2020-2025: 4% CAGR**



**Market balance at ~6-7% growth**



## SUSTAINABLE GROWTH

### PLANNING FOR OVER 40% CONVENTIONAL ORGANIC GROWTH NEXT 5 YEARS

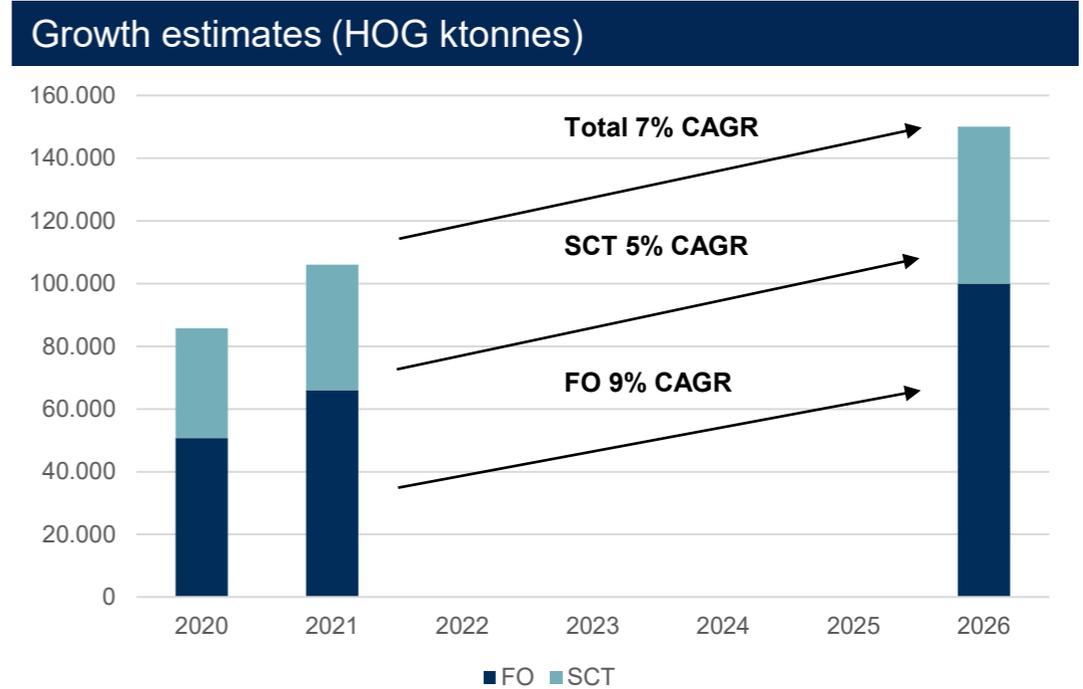
#### Faroe Islands

- Higher turnover of existing licence through larger smolt

#### Scotland

- Part of current licence portfolio is not fully utilised
- Mitigation of biological challenges to allow utilisation
  - Improved equipment, systems and practices
- Availability of larger smolt shortening cycle
  - Will enable “one summer” strategy

#### No requirement for new licence capacity



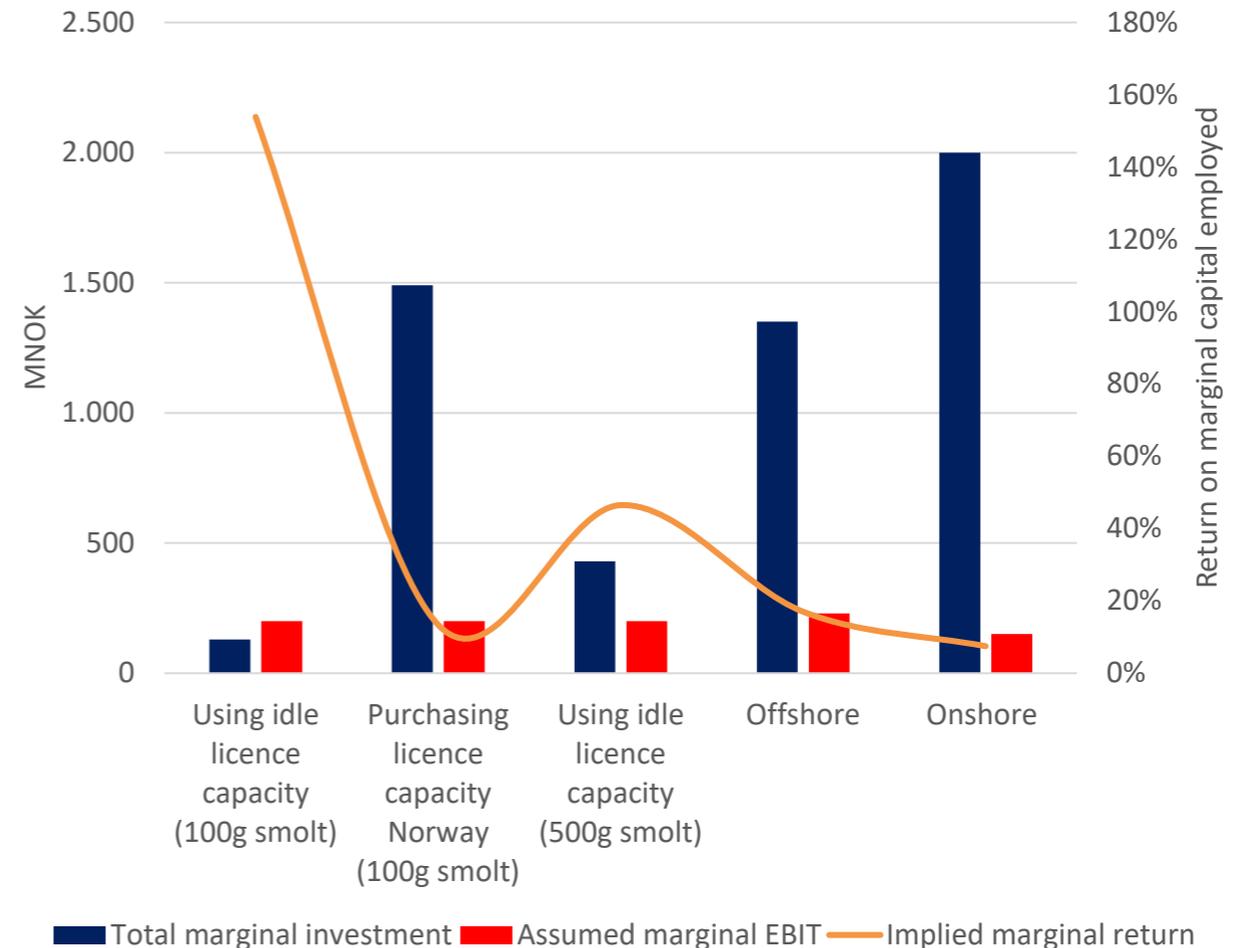
Note: Possible use of new technology (e.g. offshore) not accounted for in harvest projections

## GROWTH - NEW PRODUCTION METHODS DEVELOPING

MODERATE SUPPLY IMPACT EXPECTED DUE TO LOWER RETURNS FROM INCREMENTAL CAPACITY

- Industry facing supply constraints using conventional methods
- New, capital intensive, developments being tested
  - Government support through licence system in Norway
- No obvious first mover advantage for Bakkafrost
  - Large unutilised conventional growth potential
  - Capital intensive technologies not yet proven
  - No access to subsidised trials
- Focus to identify attractive growth track beyond 2026
  - Acceptable capital requirement and added costs
  - Sustainability

### ILLUSTRATIVE EXAMPLE OF RETURNS



Note: See assumptions, sources etc. in New Technology chapter

## Bakkafrost one of few players with large organic growth potential within existing conventional licence framework

Note: Bakkafrost takes no responsibility for the accuracy or correct interpretation of the collected estimates listed above. The purpose of the table is to generally illustrate return dynamics of projects requiring larger capital investments.

## ~ 6.2BN PLANNED INVESTMENTS 2022-2026

### FRONTLOADED TO ACCELERATE BUSINESS TRANSFORMATION IN SCOTLAND

#### Faroe Islands:

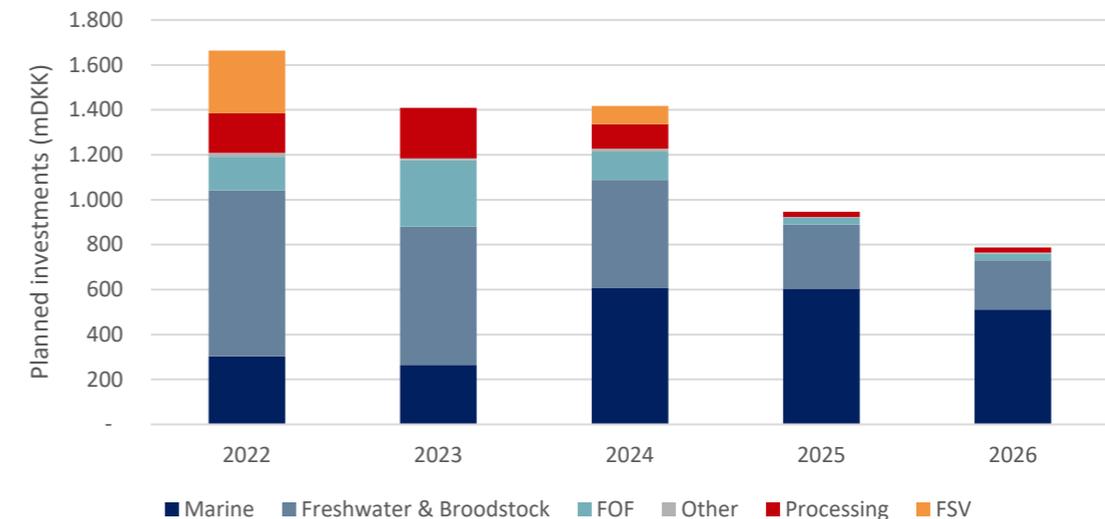
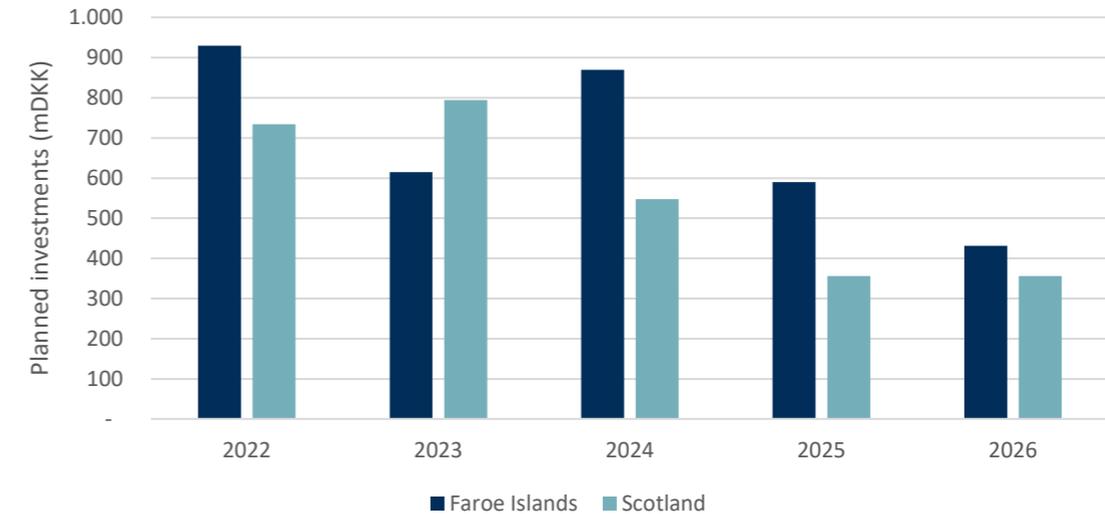
- Hatchery capacity (2026 capacity: +23m smolt at 500g)
- Increase feed capacity to cater 200,000 tonnes (HOG) harvest
  - Flexibility for further expansion to 290kt (HOG) harvest
- 7,000m3 multi-purpose well boat
- Seawater expansion investments, including offshore
- Broodstock facility

#### Scotland:

- Hatchery capacity (+18m smolt at 500g in 2026)
- Processing plant
- Treatment vessels
- Marine Site development

**Planned investment profile is subject to necessary agreements being secured with responsible authorities**

Planned investment profile 2022-2026 (DKK 1,000)

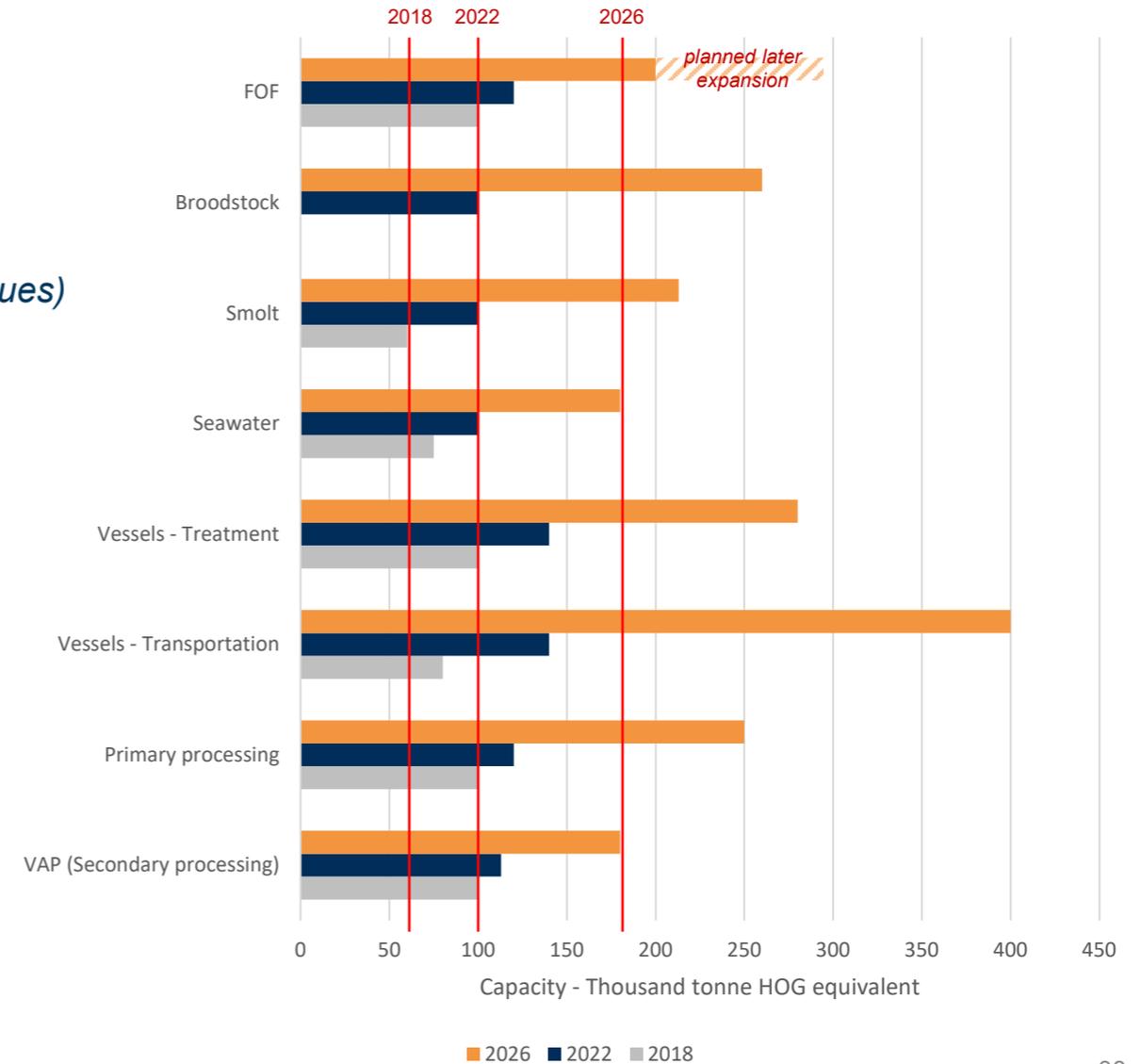


## PLANNED INVESTMENTS ENSURE SIGNIFICANT UPLIFT IN CAPACITY

### VALUE CHAIN SYNCHRONISED AT 180KT HOG HARVEST CAPACITY IN 2026

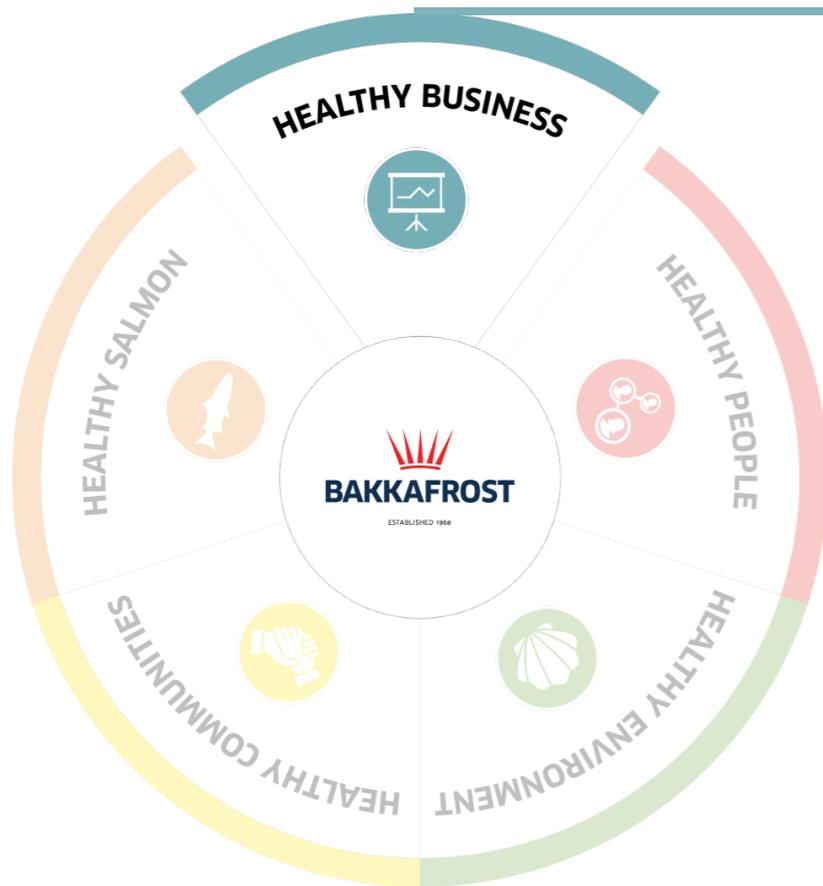
- Value chain synchronised at 180kt capacity in 2026
- Extra capacity as “insurance”, flexibility and for growth:
  - Broodstock *(flexibility and future growth)*
  - Smolt *(flexibility and future growth)*
  - Treatment *(improved ability to deal with biological issues)*
  - Vessel transportation *(flexibility and future growth)*
  - Primary processing *(market flexibility)*
  - Transportation *(flexibility and future growth)*

Development in capacity constraints



# HEALTHY BUSINESS TARGETS 2022-2026

## STRONG GROWTH AND RELATIVE MARGIN IMPROVEMENT



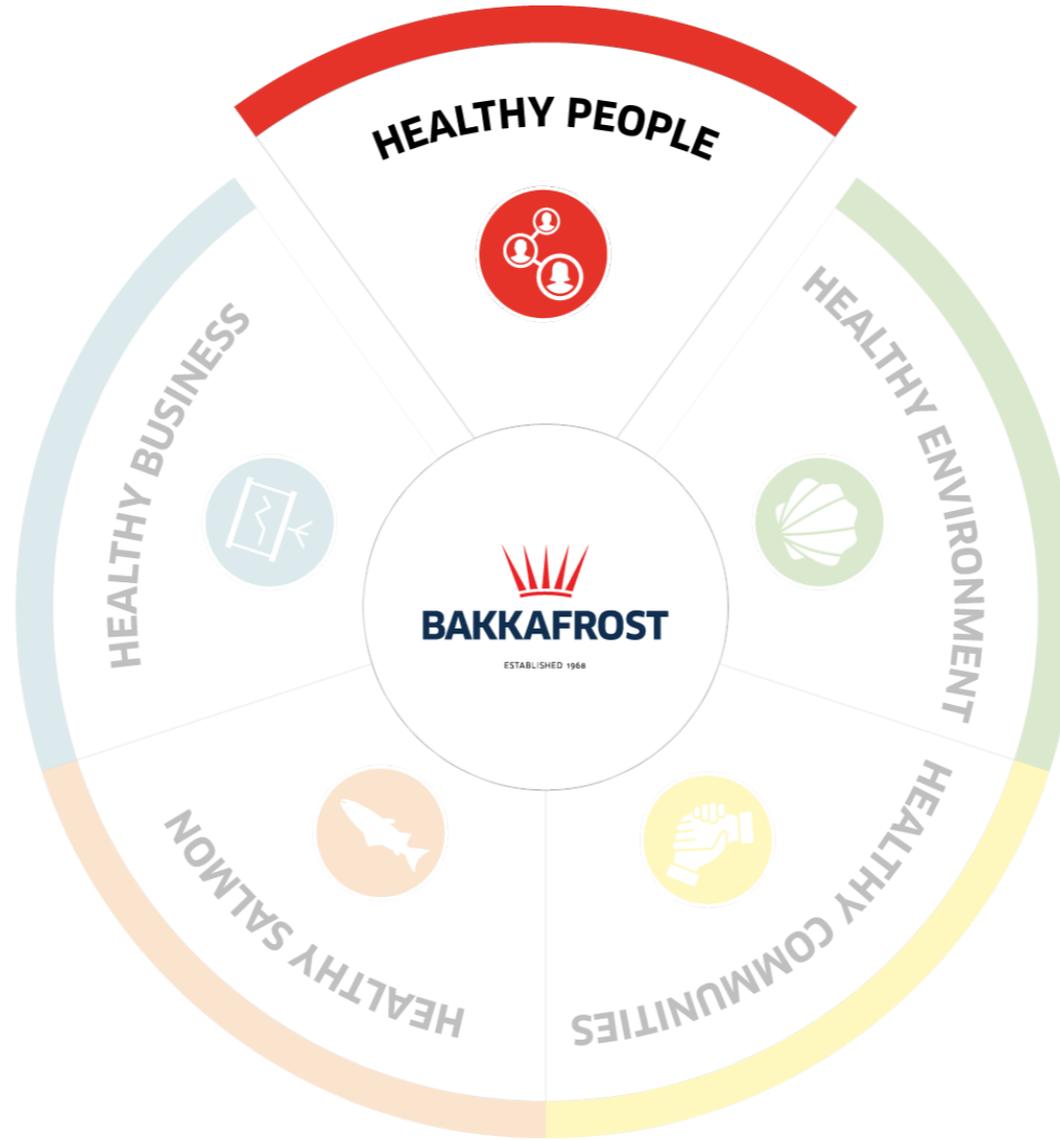
- Maintain global EBIT/kg leadership in the Faroes
- Industry leading on EBIT/kg in Scotland
- 40% organic growth using existing licences reaching 150,000kt harvest in 2026
- Synchronise value chain at 180,000kt capacity
- Explored further organic growth opportunities

HEALTHY MARGINS IN SCOTLAND

MAINTAIN COST POSITION

BUILD CAPACITY 180,000t (HOG)

HARVEST 150,000t (HOG)



**EMPLOYEE SAFETY**  
A CORE CRITERIA FOR ALL OUR ACTIVITIES

**Plan**

- Safety
- Occupational Health
- Special focus on Mental Health during Covid

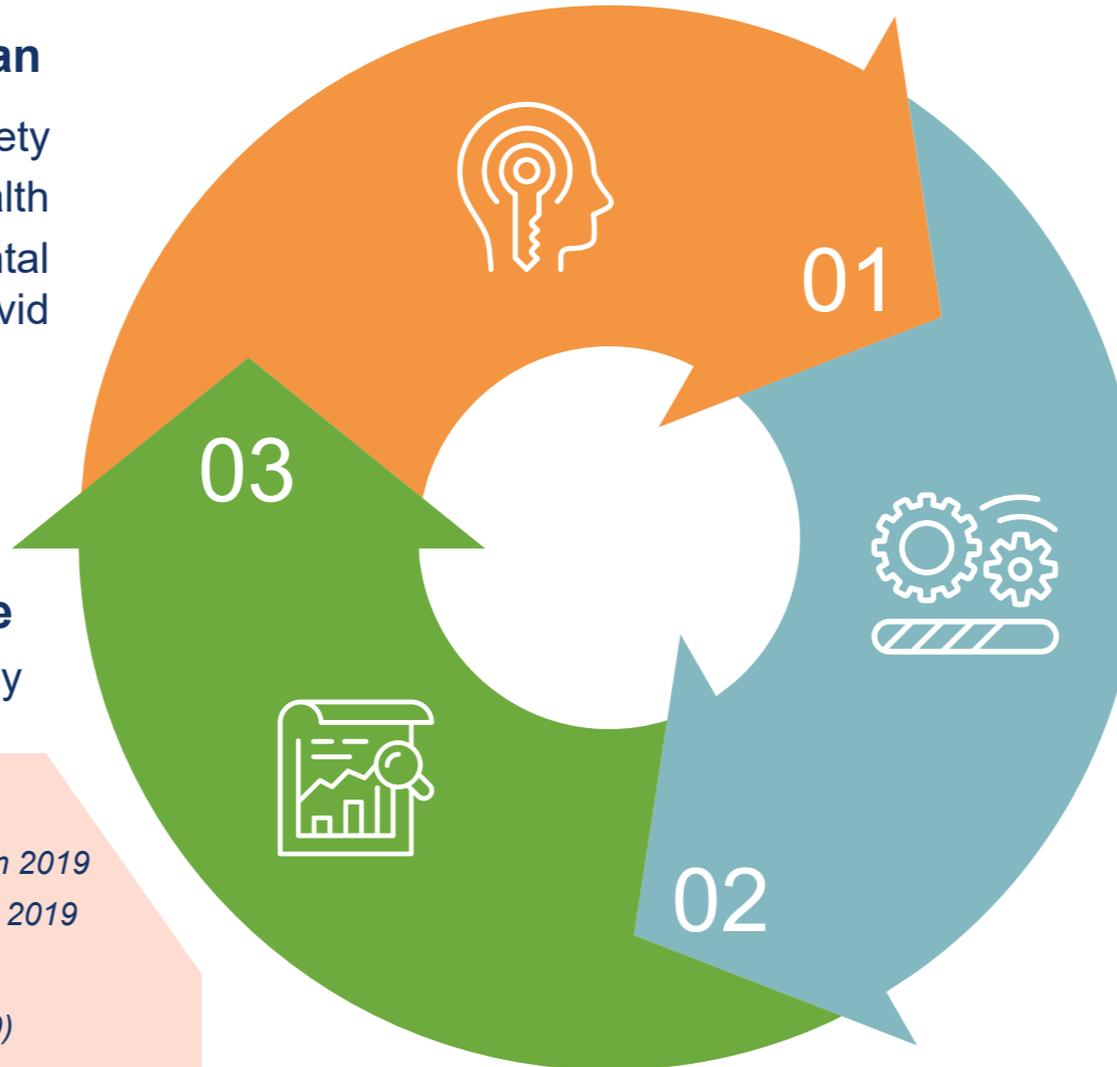
**Measure**

- Monitor KPI's weekly

Lost Time Incident Rate (2020):

- Scotland: 24.19 **21.7% reduced** from 2019
- Faroes: 9.63 **5.9% reduced** from 2019

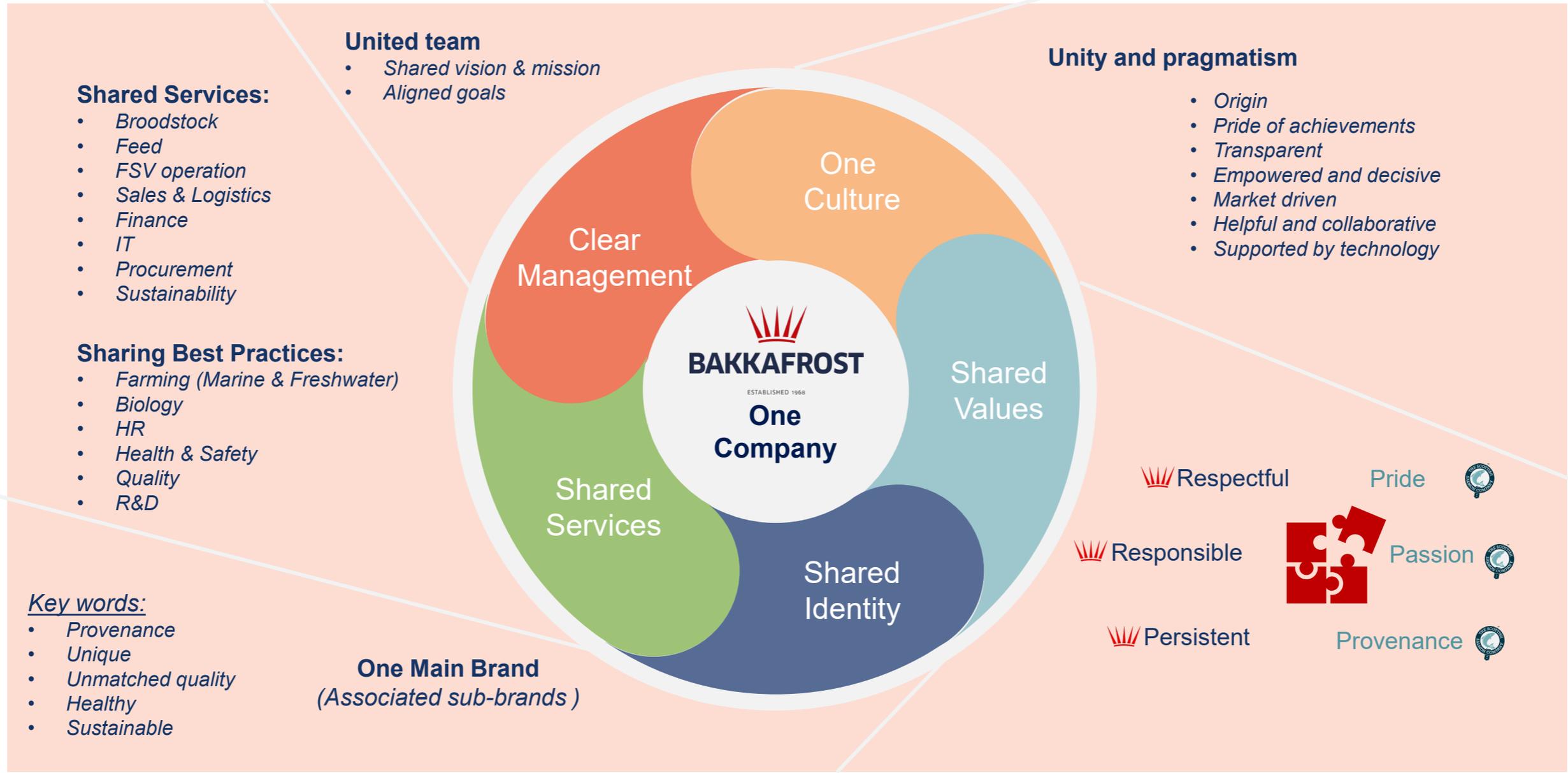
- **865 Good Catches** in 2020 (172 in 2019)
- **0 fatalities** in 2020 and 2019
- Absence Rate (Faroes) **reduced 19.3%** in 2020



**Improve**

- Further strengthen our Safety Culture
- Training staff & managers (e.g. IOSH training)
- Communication and Awareness (H&S is 1<sup>st</sup> meeting topic)
- Site visits and H&S audits (by 3<sup>rd</sup> party at site level)
- New Safety Management Systems
- Prepare for ISO 45001 certification
- Implemented “Good Catch” near miss registration

**ONE COMPANY**  
THE FUTURE OF BAKKAFROST



## ONE COMPANY SHARED SERVICES - EXAMPLES

### Sales

- *One sales organisation*
- *Full transparency and production control*
- *Optimise achieved prices*



### Feed

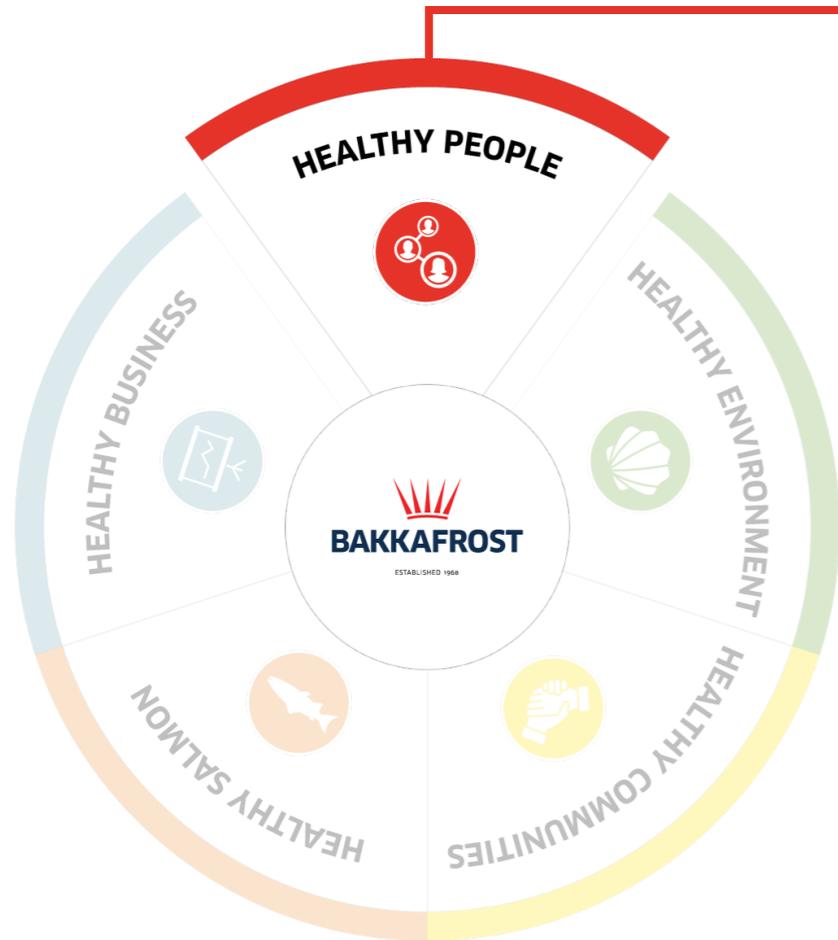
- *Economies of scale*
- *Ensures consistent quality*
- *Adds to differentiation*



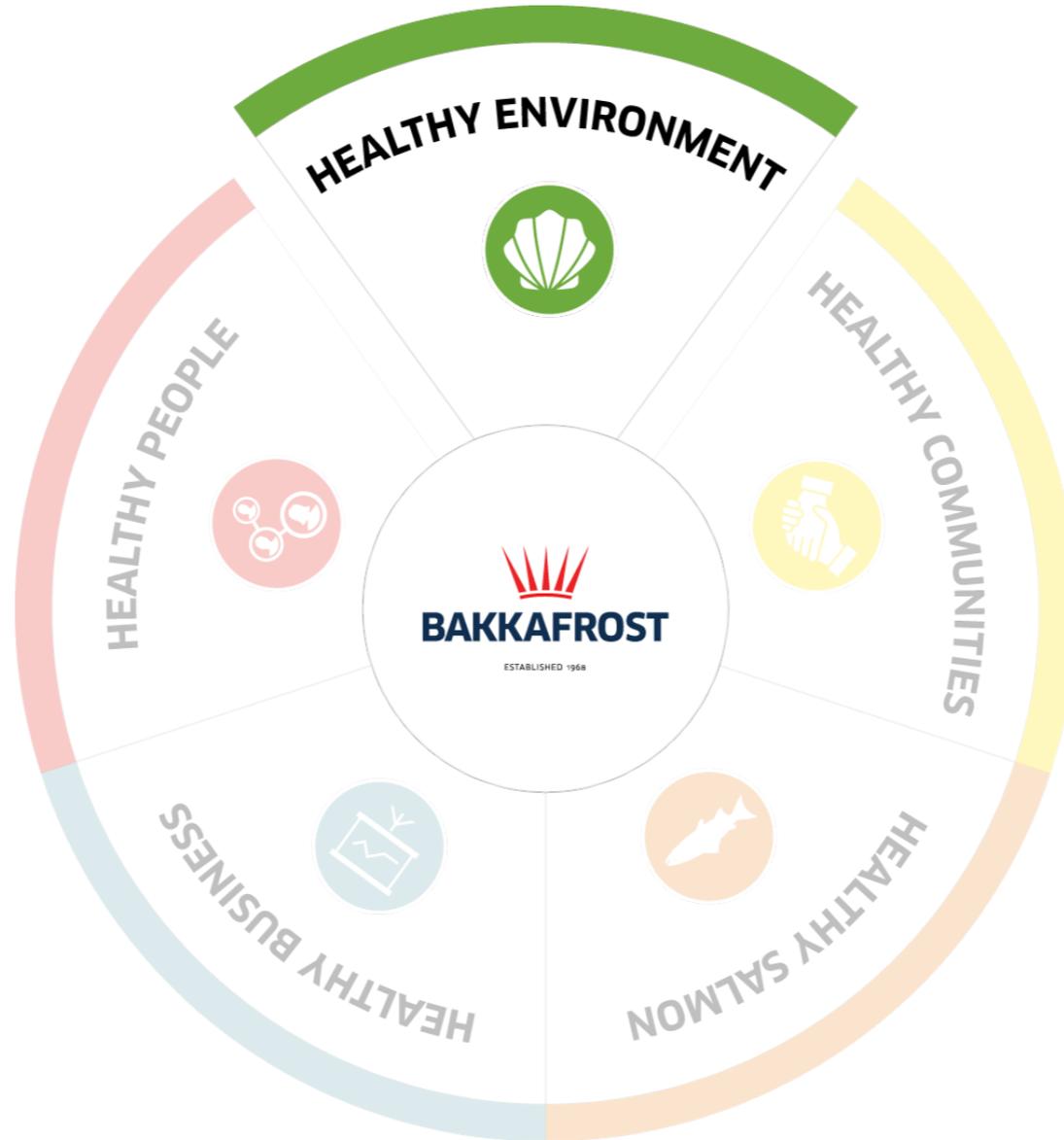
### FSV operation

- *Efficient use of assets*
- *Enables knowledge sharing and accumulation*



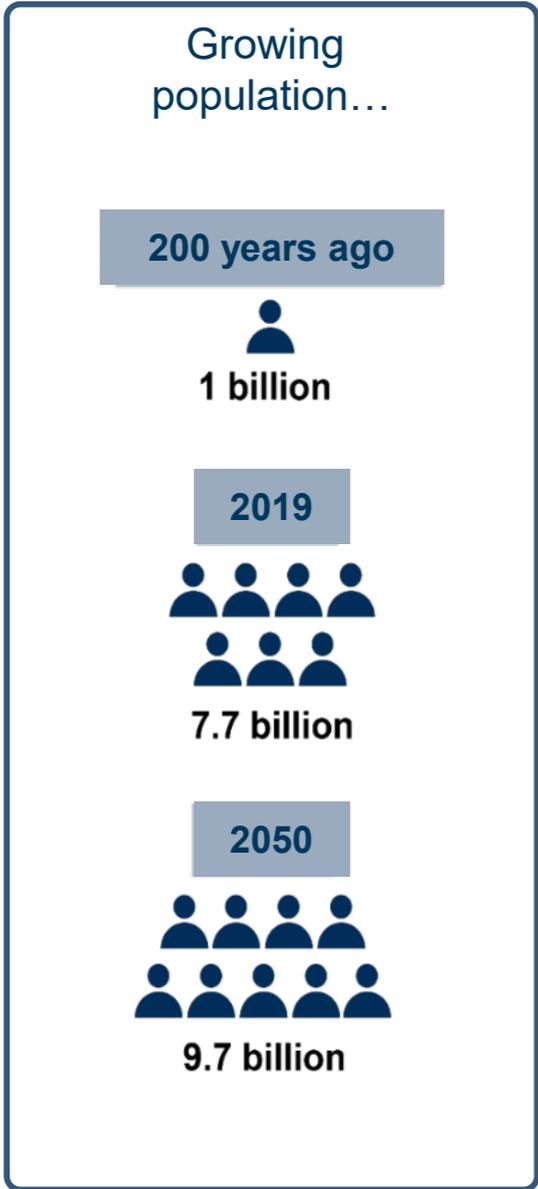


- Lost Time Injury Rate less than 5 for the Bakkafrost Group
- 0 fatalities
- ISO 45001 certified
- Truly One Company with
  - Efficient shared services
  - Harmonised best practice processes



# SUSTAINABILITY CHALLENGES

## FARMED SALMON HAS AN IMPORTANT ROLE TO PLAY



Sustainably produced Salmon is one of the most resource-efficient and healthy sources of animal protein

CO2 emissions

Water

Land

Feed

Salmon has an important role to play for feeding the growing population

Sources: UN, Earth Overshoot Day 2019, FAO, IPCC 2018 Report

# FARMED SALMON – LOW CARBON FOOTPRINT

## EFFICIENT USE OF NATURAL RESOURCES

**Kg CO2e**



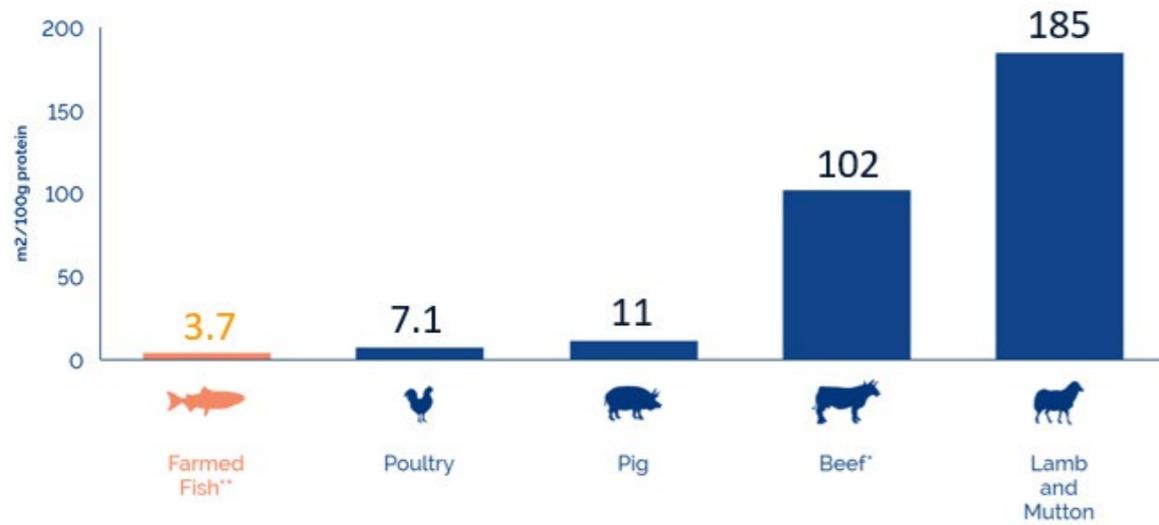
Note: CO2e is calculated by multiplying the emissions of each of the six greenhouse gases (CO2, CH4, N2O, HFCs, PFCs and SF6) by its 100-year global warming potential (GWP)

Source: Unilever Food Solutions & Global Salmon Initiative

# FARMED SALMON – LOW LAND AND FEED CONVERSION RATIO

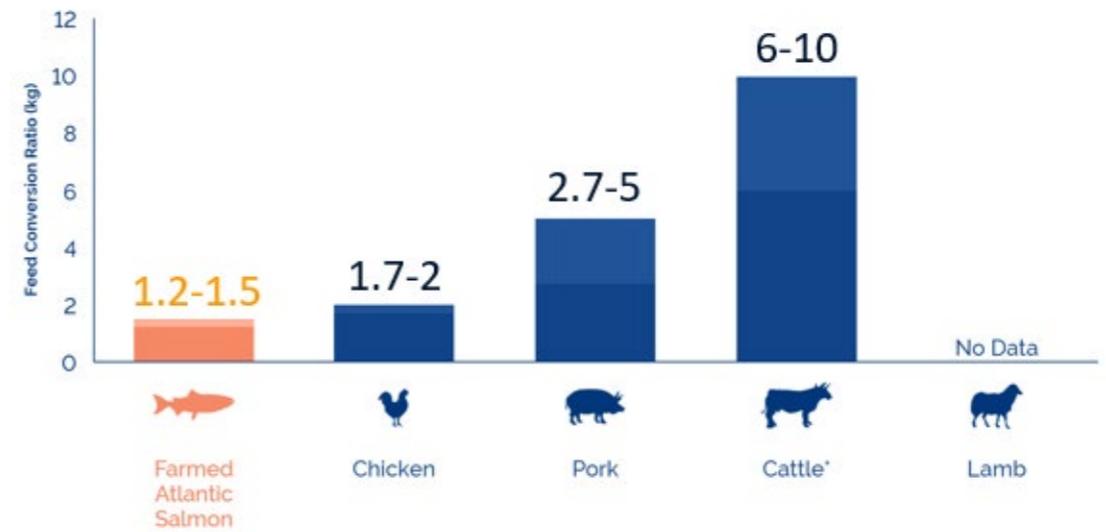
## EFFICIENT USE OF NATURAL RESOURCES

Land area needed to produce 100g of edible protein



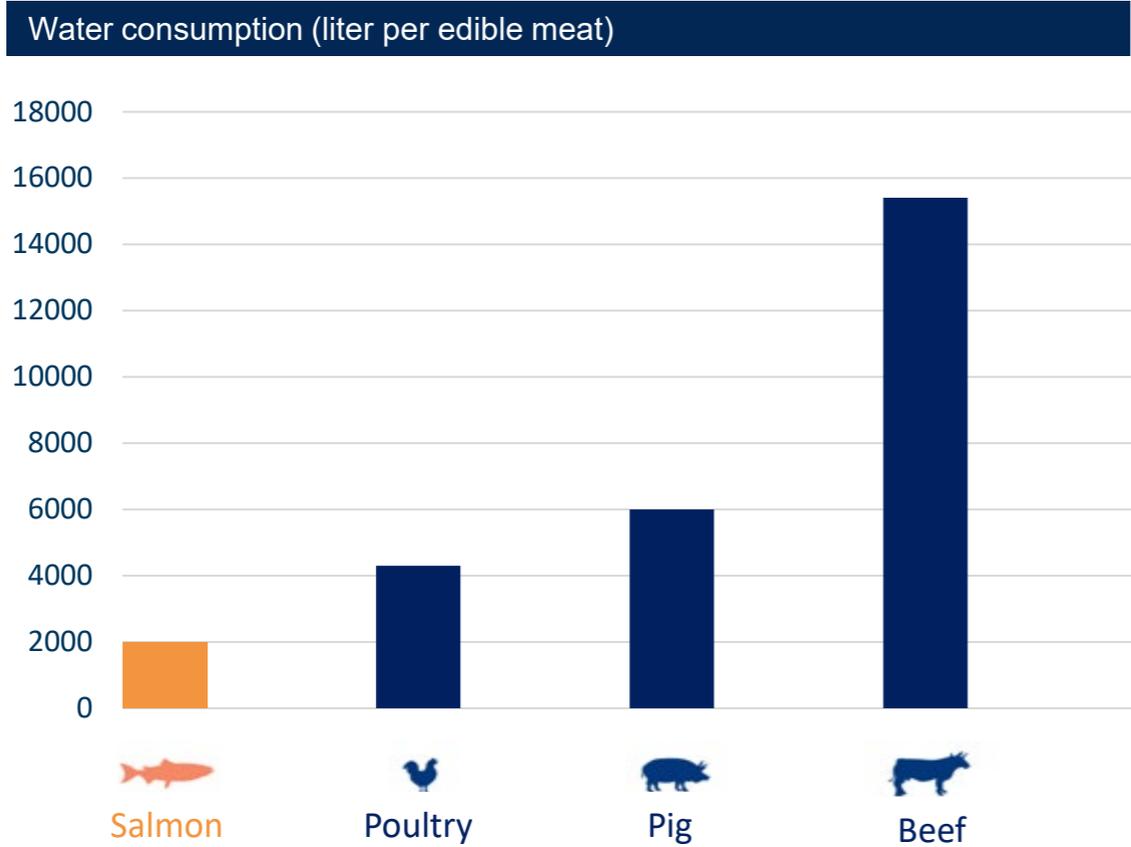
Source: GSI

Feed Conversion Ratio (FCR)



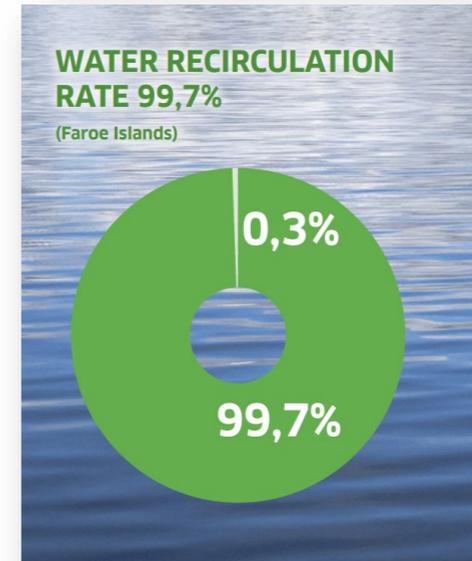
Note: Feed conversion ratio (FCR) measures the productivity of different protein production methods. It demonstrates the kg in feed need to increase the animal's bodyweight by 1kg.

Source: GSI



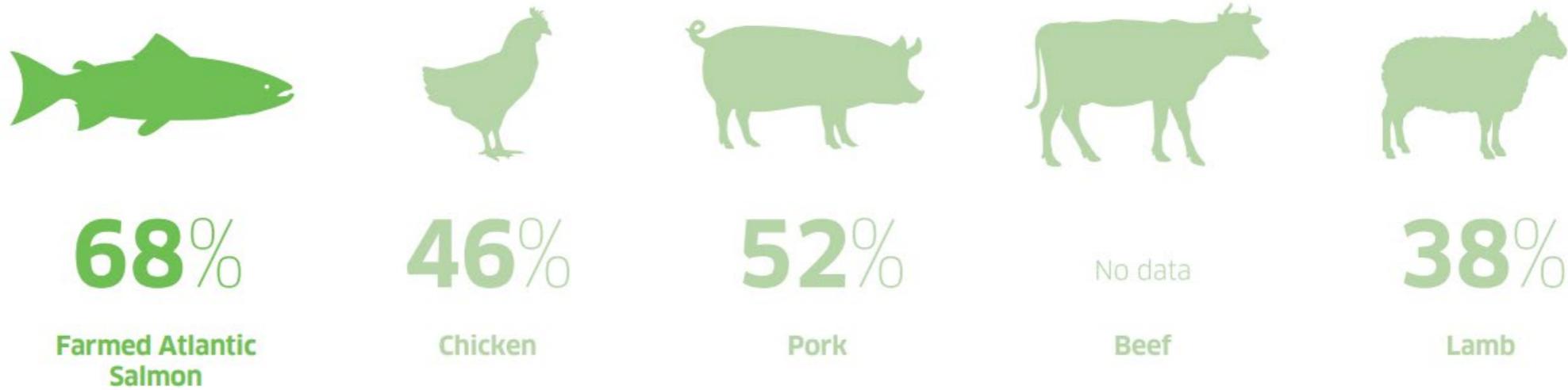
Source: GSI

**Bakkafrost has an ongoing target to have 97% water recirculation rate in our hatcheries**



- Reduced water usage by 95% at our site Applecross by introducing RAS
- Water use in Scotland will decrease significantly with the planned investments in new hatcheries with RAS

Edible meat pr kg feed



Calculated with avg. FCR of 1.3  
Bakkafrost FCR (2020) was 1.08

These calculations take into account differences in FCR, edible yields and the cost of progeny.  
Source: Global Salmon Initiative, Bakkafrost

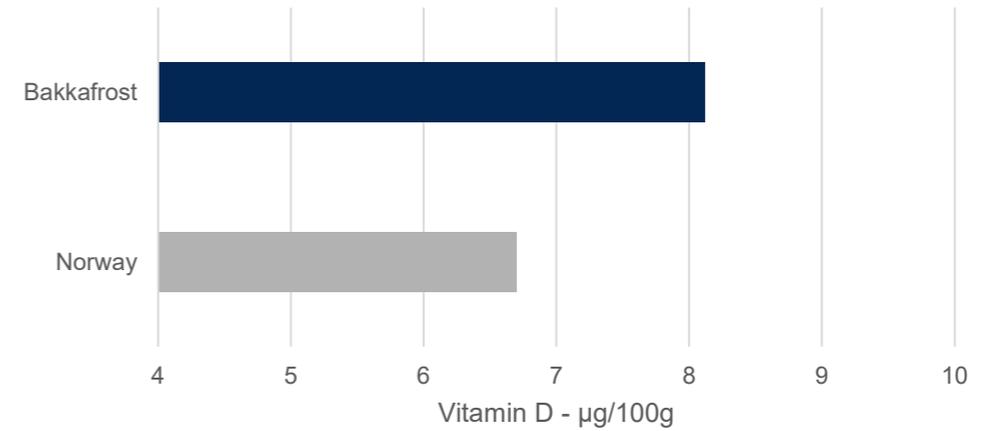
# FARMED SALMON - NUTRITION

## A HEALTHY SOURCE OF PROTEIN

On average, 100g of Bakkafrost salmon contains:

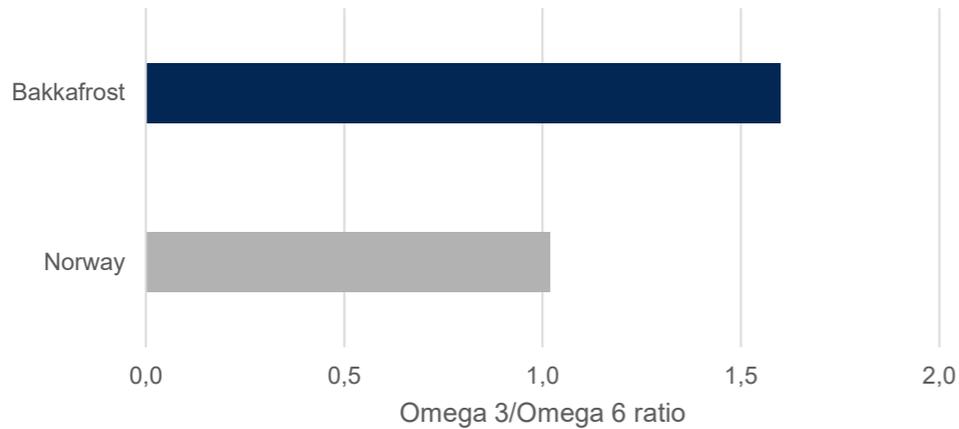


### Vitamin D - µg/100g - 2020



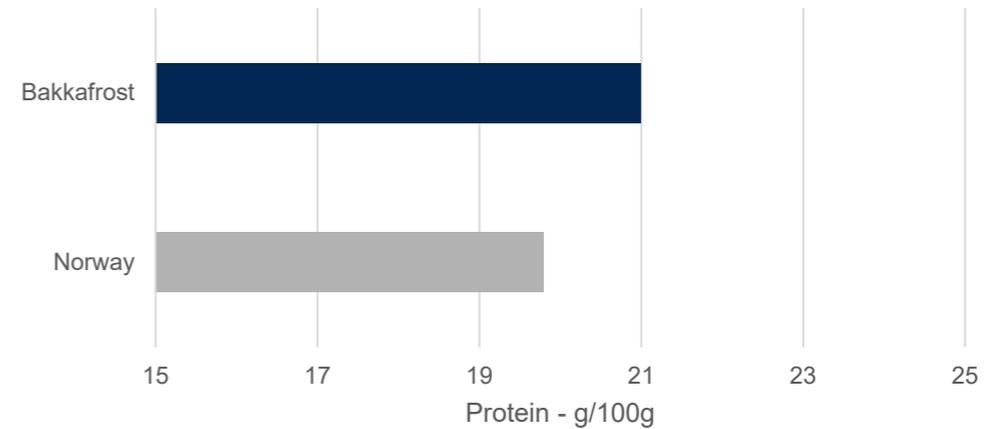
Source: Sjømatdatabasen, Bakkafrost

### Omega 3/Omega 6 ratio consumer portion - 2020



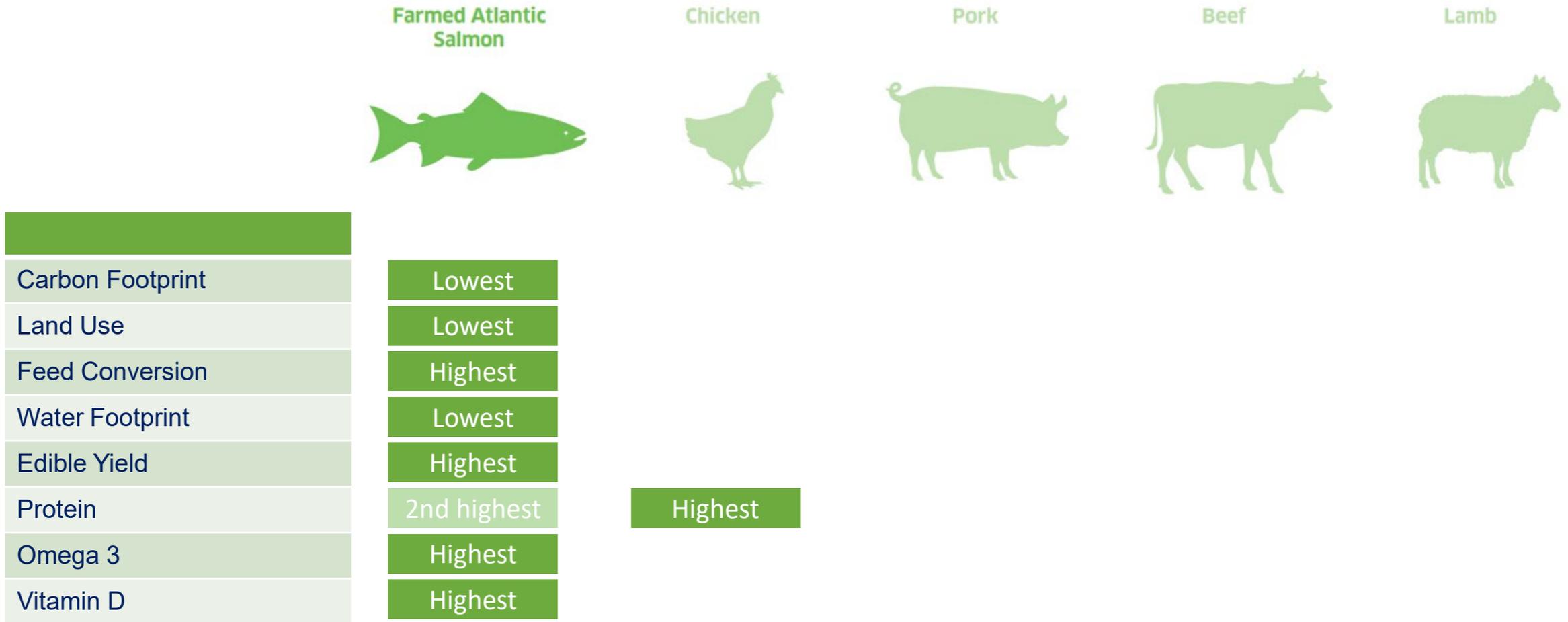
Source: Sjømatdatabasen, Bakkafrost

### Protein - g/100g - 2020\*



Source: Sjømatdatabasen, Bakkafrost  
\*Norway is for 2019

## FARMED SALMON IS A VERY RESSOURCE EFFICIENT SOURCE OF HEALTHY PROTEINS

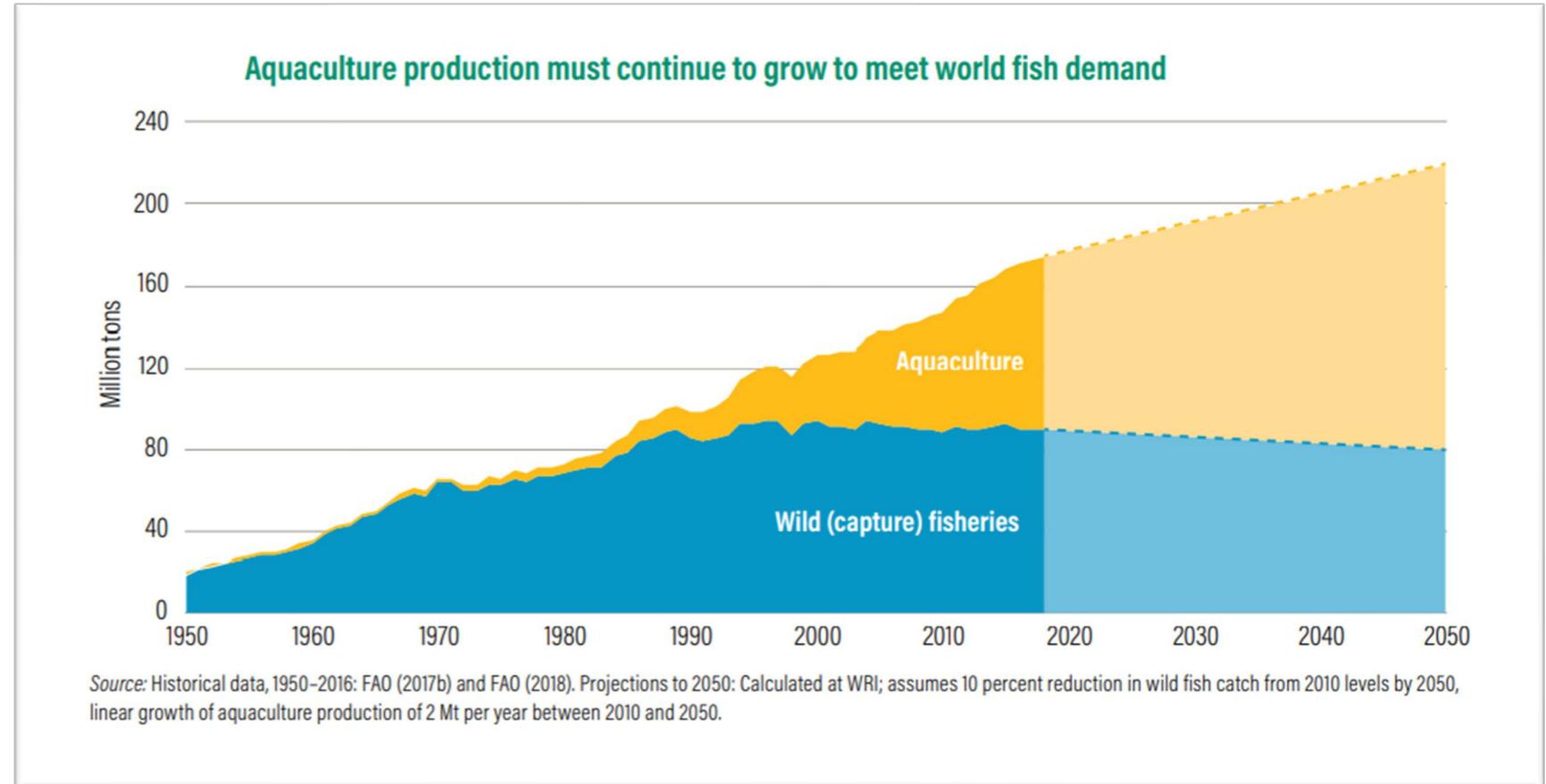


## SUSTAINABILITY CHALLENGES – IMPORTANCE OF AQUACULTURE

### AQUACULTURE PRODUCTION MUST CONTINUE TO GROW TO MEET WORLD FISH DEMAND



Growth in world fish supply since the 1990s has come from aquaculture.



Aquaculture production would need to **more than double** between 2010 and 2050 to meet projected fish demand in our baseline

**GROWING SUSTAINABLY**  
EXAMPLES OF HOW WE EMBED SUSTAINABILITY IN OUR BUSINESS MODEL

Bakkafrost HQ



**Building the green way**

Energy efficiency is a design criteria when we construct new plants.

Strond Hatchery



Applecross Hatchery



<b>Waste</b>	<b>Energy</b>	<b>Water</b>
90% reduction ↓	100% sustainable power ↓	90% reduction ↓



**Recycling**

Recycle or repurpose old farming nets and chains.  
Repair and reuse cables and pipes



**Sustainable Growth**

FÖRKA - Bakkafrost biogas plant produces renewable energy from bioorganic waste from Bakkafrost hatcheries

**GROWING SUSTAINABLY**  
EXAMPLES OF HOW WE EMBED SUSTAINABILITY IN OUR BUSINESS MODEL



**Electrification**

- The majority of Bakkafrost feeding barges in the Faroe Islands are powered by electrical sea cables from land
- Building new pure electrical work boat



**Full utilization of resources – minimise waste**

- 100% utilisation of the salmon
- By-products sold for human or animal consumption

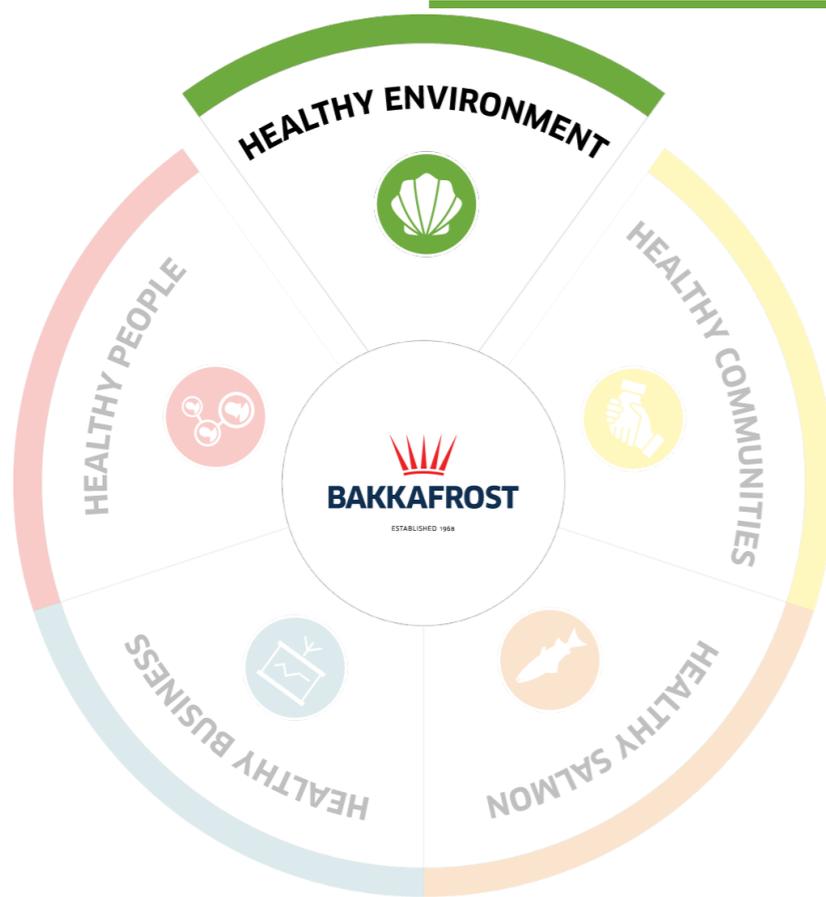


**Building for the future**  
Energy vessel efficiency  
(Bakkafoss, electrical work boat, fuel consumption)



**Reducing scope 3 emission**

Own airline to reduce carbon air freight emission by 40-50%



- 50% reduction of scope 1 & 2 CO2 emission in the Faroes by 2030
- Over 97% water recirculation rate in hatcheries
- Ensured sustainable feed ingredients, supporting further growth
- ISO14001 certification in the Faroe Islands (*already in place in Scotland*)
- Zero fish escapes
- We commit to Net Zero by 2050



## HEALTHY COMMUNITIES

OUR COMMITMENT TO CREATE SHARED VALUE

We remain committed to our local communities in which we live and work.

As a **responsible business**, we are passionate about driving the **economic growth** and **sustainability** of the **rural** economy



### We focus on ensuring:

- Ability to meet growing demand through regulated growth
- Compliance with relevant laws, regulations
- Compliance with local and international standards

### We seek open and transparent communication with:

- Industry, customers, investors, stakeholder groups and our communities

### Work closely with:

- SSPO (Scottish Salmon Producers Group)
- Faroese Fish Farmers Association



**HEALTHY COMMUNITY**  
COOPERATION TO IMPROVE INDUSTRY PRACTICE

Drive forward and collaborate with authorities, peers in the industry and a number of leading industry groups including:

-  Global Salmon Initiative (founding member)
-  The Faroese Sustainable Business Initiative
-  SSPO (Scottish Salmon Producers Organisation)
-  EFFOP (European Fishmeal and Fish oil producers)
-  Faroese Employers Association and Fish Farmers Association
-  Scotland Food & Drink
-  IFFO The Marine Ingredients Association
-  Lantra
-  SEDEX
-  SAIC (Scottish Aquaculture Innovation Centre)



To ensure inclusivity, open fair and equal opportunities and recruitment with clear priorities in key areas



Develop a mental health & wellbeing strategy



Active participation in Modern Apprenticeships and Graduate training schemes in Scotland



Partnering with local schools for internships. Expanded partnership 10th grade maritime concentration



Participation in “kick-start” programme to encourage employment for young people



Integration initiatives for our growing international staff



## HEALTHY COMMUNITY POSITIVE FORCE IN COMMUNITIES

- Year-round sustainable employment in remote rural areas in the Faroe Islands and Scotland
- 3.5% of the total Faroese workforce is employed by the Bakkafrost Group (in 24 of the 29 municipalities in the country)
- Largest private employer in the Western Isles in Scotland
- Social responsibility
  - “The partnership with Bakkafrost is exemplary, and we are thankful for their commitment to offer our clients an opportunity to be active in the labor market again”
  - Quote: Hallur Thomsen, Director at Almannaverkið, Department of Social Services
- 2.1 mDKK partnership with The University of the Faroe Islands
- Housing programme as part of new site development plans, included a local Café in Lochcarron



## HEALTHY COMMUNITY TARGETS 2022-2026

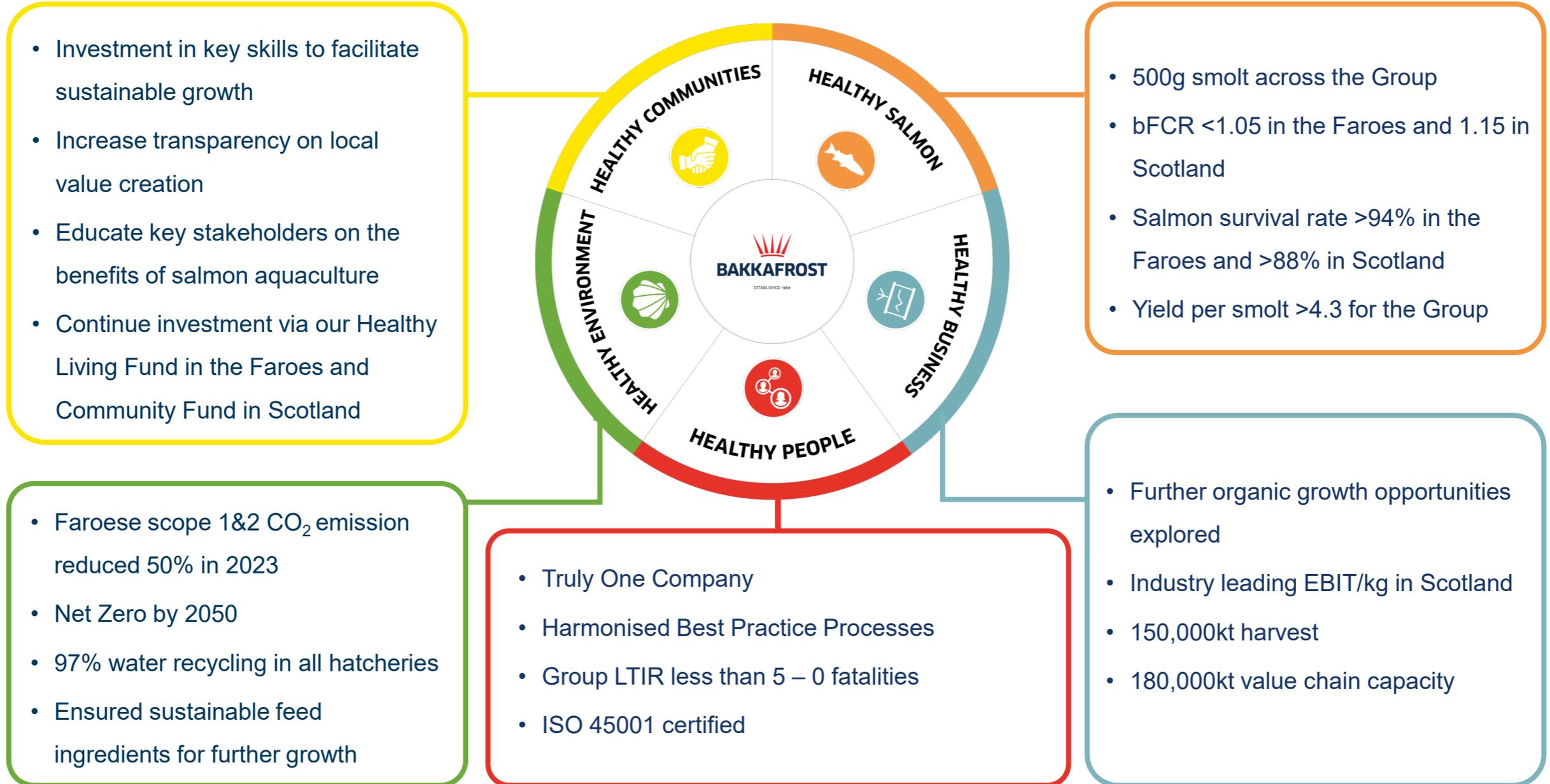
DON'T JUST WANT TO BE THE BEST IN THE SALMON SECTOR - WE WANT TO MAKE IT BETTER FOR EVERYONE



- Investment in key skills to facilitate sustainable growth and investment plan
- Increase transparency on local value creation
- Educate key stakeholders on the benefits of salmon aquaculture
- Increase collaboration with key stakeholders to achieve the Healthy Living Plan
- Continue investment via our Healthy Living Fund in the Faroes and Community Fund in Scotland

## TARGET SUMMARY 2022-2026

### TOP 4 TARGETS PER AREA FOR SUSTAINABLE GROWTH





# Q&A



SUPERIOR  
QUALITY  
**SALMON**



## ***Bakkafrost presentation***

*A world-class company in the salmon industry*

## ***Capital Markets Day – Processing***

**Faroe Islands 14 September 2021**

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## PROCESSING

### PROCESSING CAPABILITIES FAROE ISLANDS

### Glyvrar

- Capacities per day
  - Gutting - 375 tonnes (HOG)
  - Filleting - 160 tonnes (HOG)
- 100.000 tonnes (HOG) through Harvest per year



## Vágur

- Capacities per day
  - Gutting: 110 tonnes (HOG)
- 25.000 tonnes (HOG) per year



## PROCESSING LOGISTICS CHAIN FAROE ISLANDS

- Large investments in highly flexible value chain
- State-of-the-art VAP factory with high capacity
- Ability to adapt to rapidly changing market situations
- Ability to meet increased retail demand for consumer products



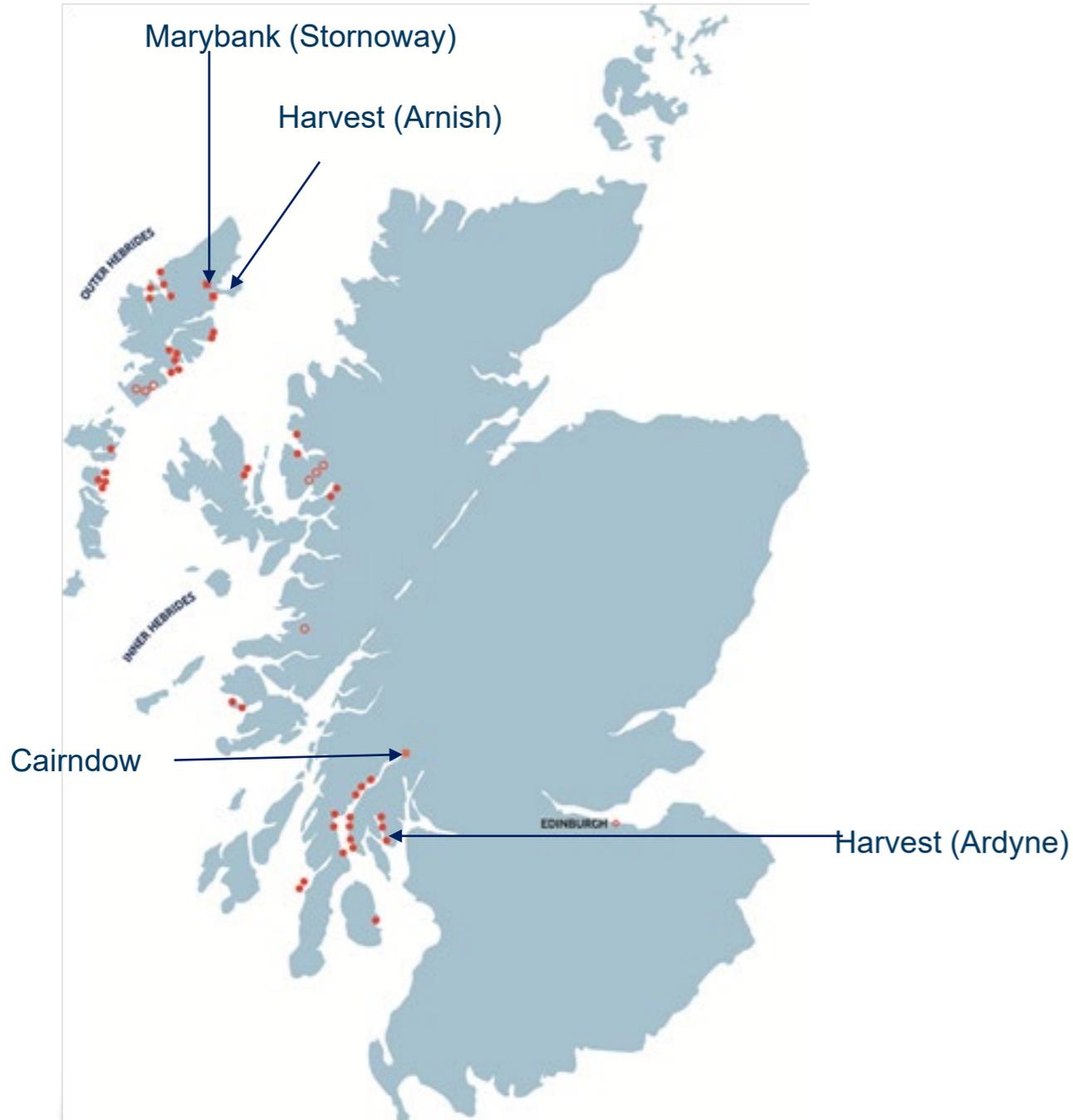
## PROCESSING

### BENEFITS OF JOINT LOCATION OF MANAGEMENT AND PROCESSING

- Central location
  - Short distance to farms
  - Access to labour improved since opening of tunnel to Tórshavn
- Ability to adapt to rapidly changing market situations
  - Short response time with managers on site
  - Flexible staff
  - Flexibility great advantage during market disruptions (e.g Covid-19 pandemic)



## CURRENT PROCESSING IN SCOTLAND



- Two processing facilities with separate harvest stations
- Serve wide geographical spread of marine sites
  - Ranges from 1 to over 400KM from farm to harvest
- Current Capacity
  - 210te/day (HOG)
  - (Increased from 170te/day in 2020)



## PROCESSING CAPABILITIES SCOTLAND

### Marybank

#### Capacities per day

- Gutting -103 tonnes (HOG)
- Filleting - 33 tonnes (HOG)
- 32.000 tonnes (HOG) through Harvest per year
- Smoked salmon (Harris & Lewis smokehouse)



## PROCESSING CAPABILITIES SCOTLAND

### Cairndow

#### Capacities per day

- Gutting - 103 tonnes (HOG)
- Filleting - 18 tonnes (HOG)
- 32.000 tonnes (HOG) through Harvest per year

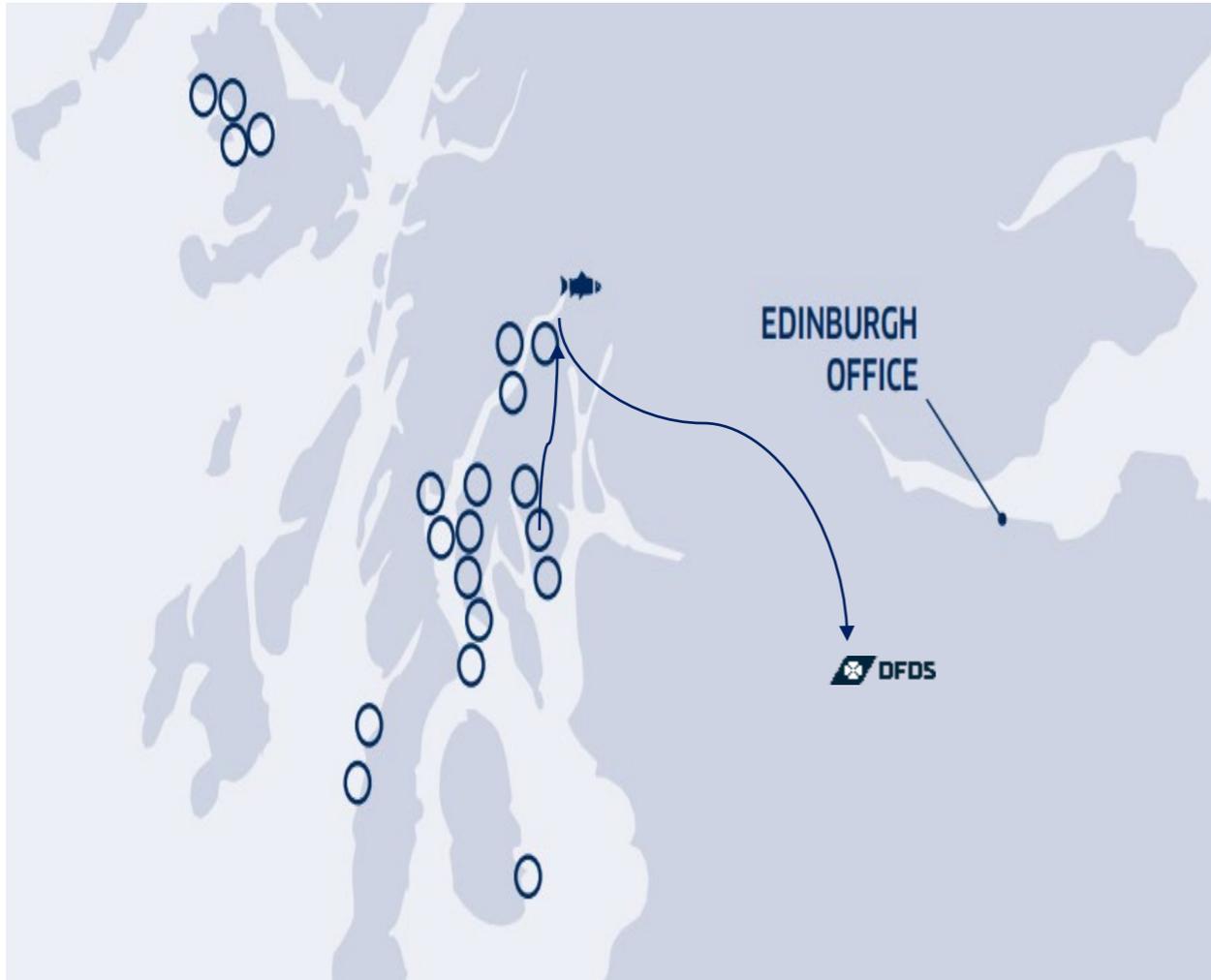


## CURRENT PROCESSING IN SCOTLAND



- Fully optimised current capacity
  - New gutting machines and robotic palletisation at Marybank
  - 4th gutting machine at Cairndow
  - Increased filleting capacity (+60%)
- Supports next two years
- Manual processes remain
  - Harvesting
  - Grading & palletisation (Cairndow)
  - Icing and packing
- Limited labour pool

# PROPOSED PROCESSING CHANGES IN SCOTLAND



**Current**

**5 Yrs**

Manual process  
Up to 600 miles  
Limited chilling



Minimal handling  
Reduce stress increase quality  
Fully integrated

Manual processes:  
Grading  
Icing & Packing  
Palletisation



Highly automated:  
Latest gutting technology  
High speed grading & packing  
Robotic Palletisation

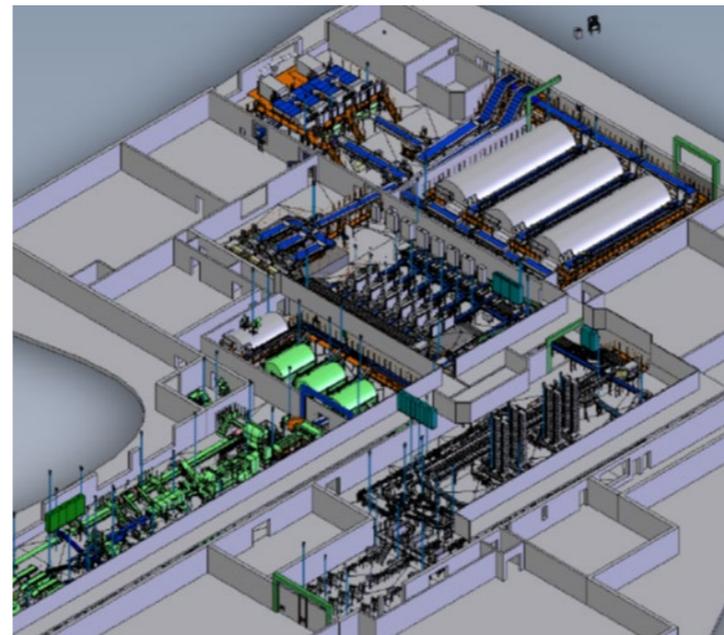
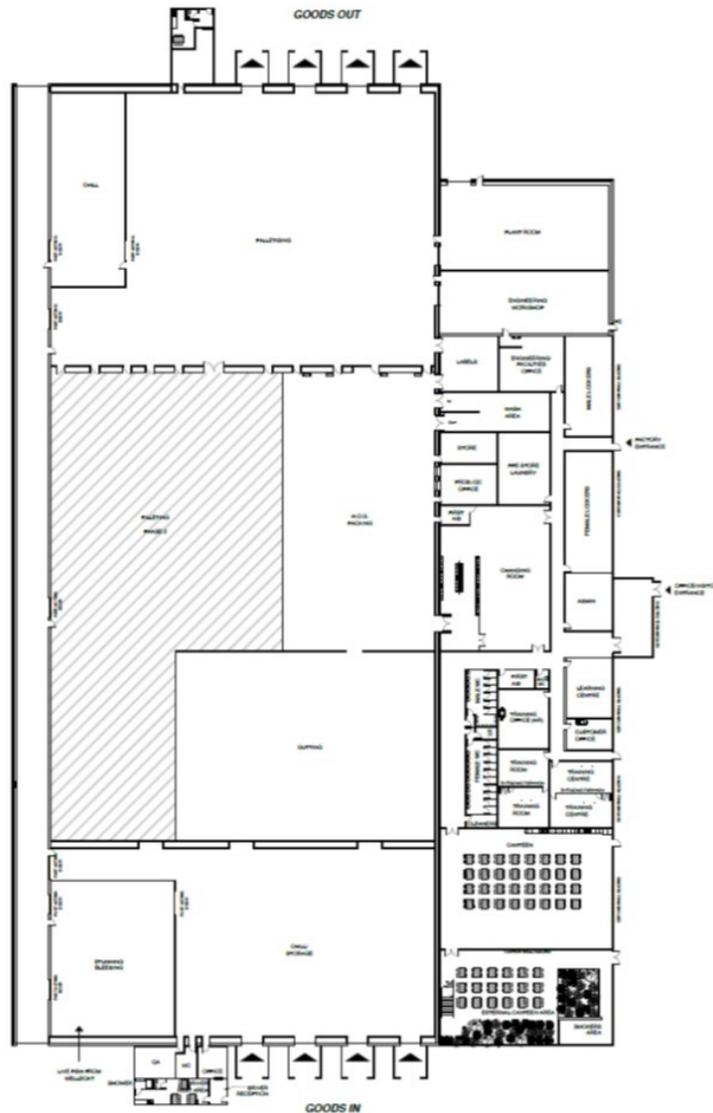
1100 miles per day  
Unreliable road network



600 miles per day  
1 hour to 'market'  
Unrivalled freshness

- Target new south location with:
  - Access to labour market
  - Close to markets
  - Shore side access

# PROPOSED PROCESSING CHANGES IN SCOTLAND



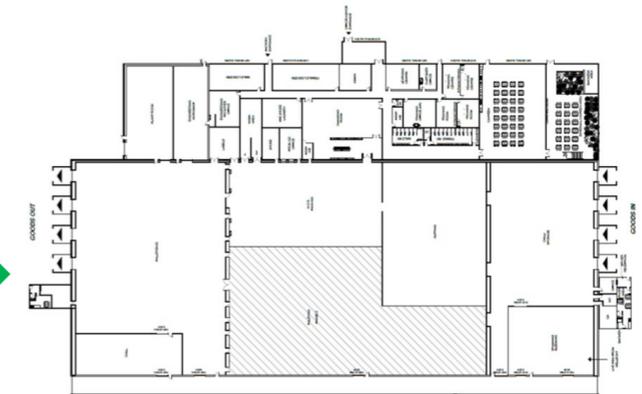
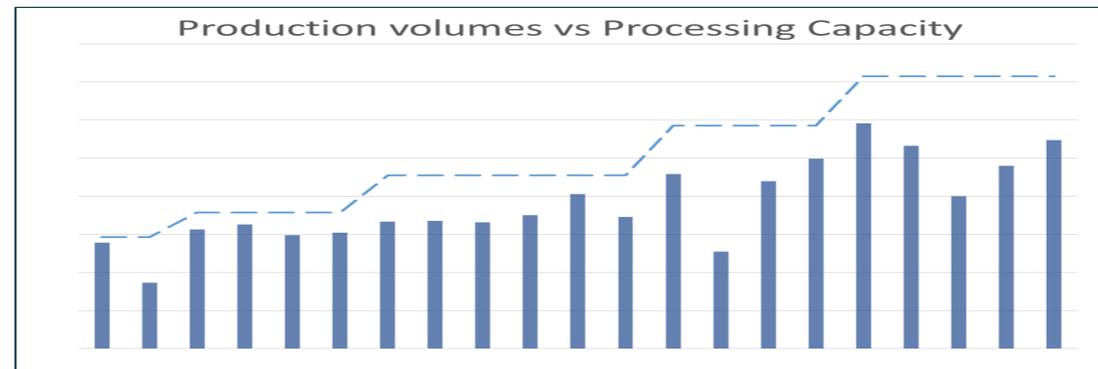
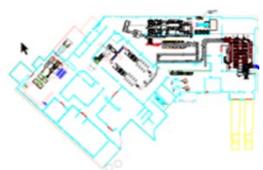
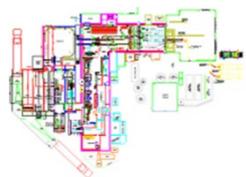
- **Highly automated quality focused processing**
  - Swim through harvest
  - Latest processing technology
  - Automated packing & palletisation
- **Scalable design to build capacity in line with business growth**
- **Unique pre-rigor fillets ensuring freshness to market**
- **Green energy opportunity**

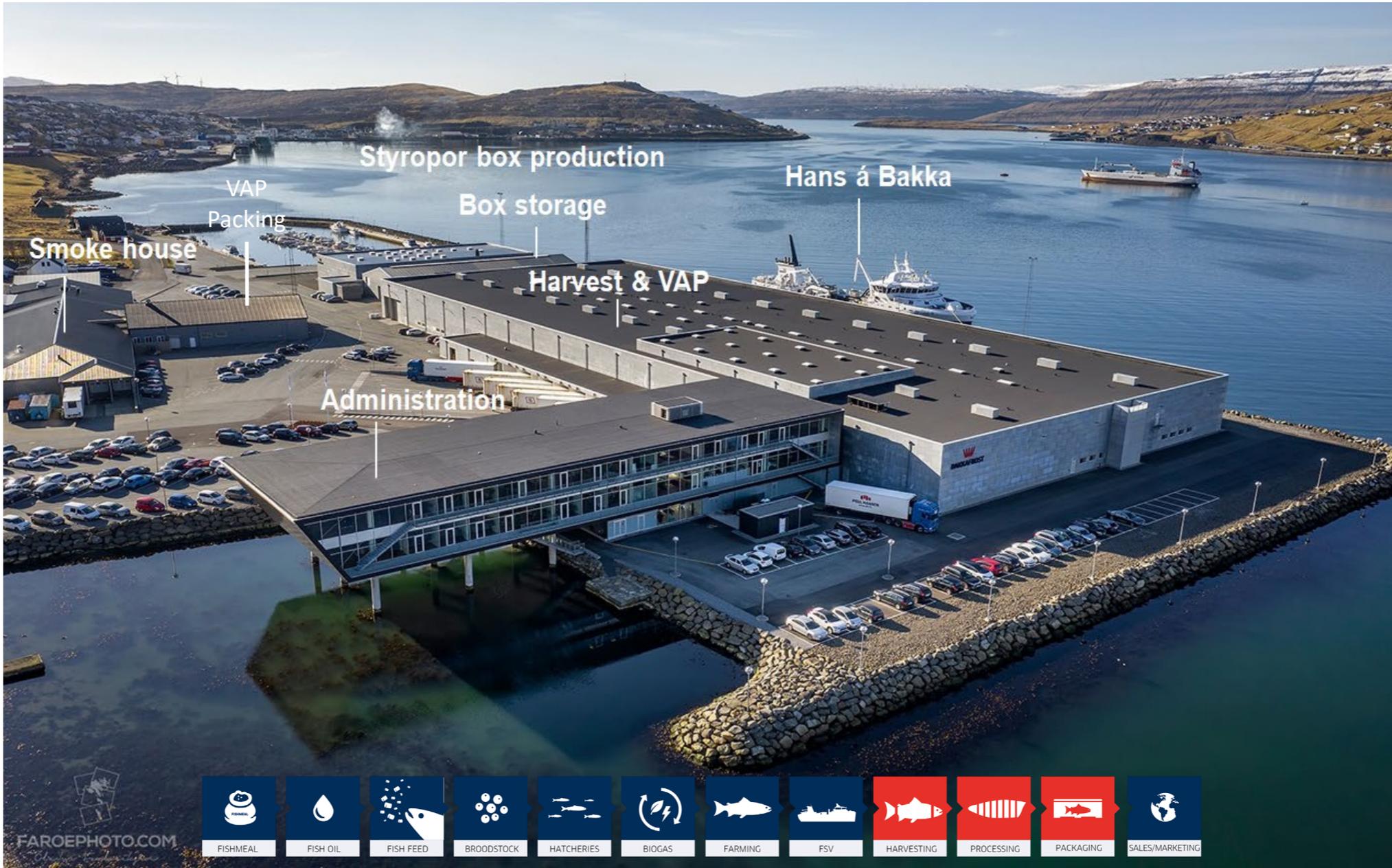
## EXPECTED OPERATIONAL OPPORTUNITIES

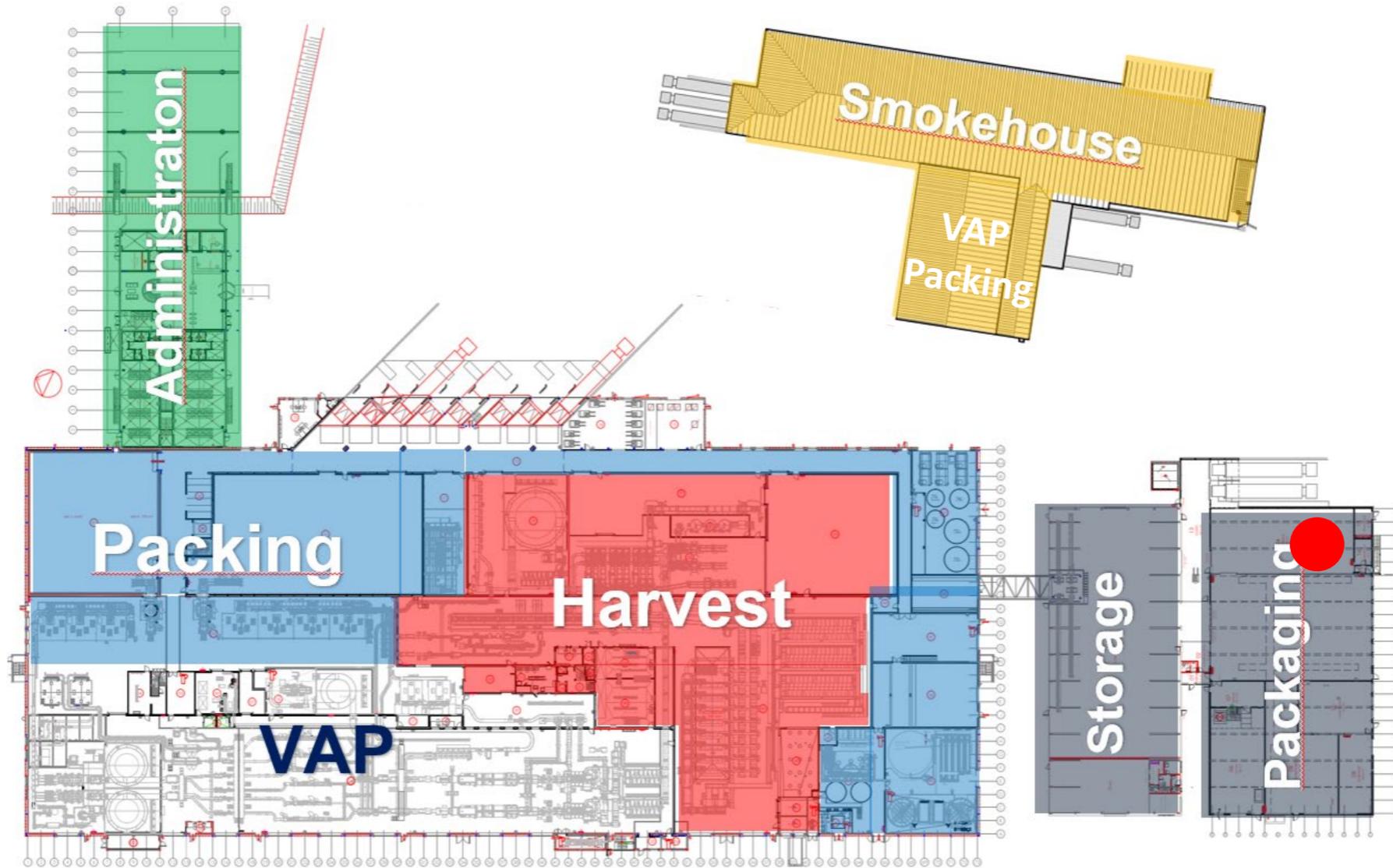
- Fully integrated processing facility based on Glyvrrar
- Flexibility (capacity headroom)
  - React to Market
  - Contingency for marine events
  - Value retention through secondary processing
  - Access to labour
- Efficiency
  - Minimal fish handling
  - Maximised quality
  - Reduced man hours
  - Increased tonnage – 550te/day
- Transform
  - Access to markets
  - Pre rigor fillets – maximum freshness
- Target operational by 2024



### Production volumes vs Processing Capacity









SUPERIOR  
QUALITY  
**SALMON**



## ***Bakkafrost presentation***

*A world-class company in the salmon industry*

## ***Capital Markets Day – Consumer Trends***

**Faroe Islands 14 September 2021**

# Nordic consumers are reconsidering their health

**Over 50%** **Yet, 25%** **But: 3 in 5**

of Nordic consumers claim to eat healthily all or most of the time

of Nordic consumers aspire to consume more nutritious food/drink over the next year

Nordic consumers agree that there is too much conflicting information about what a healthy diet is

*Base: 1,000 internet users aged 16+ per country  
Source: Lightspeed/Mintel*



**TASTY,  
HEALTHY &  
SUSTAINABLE**

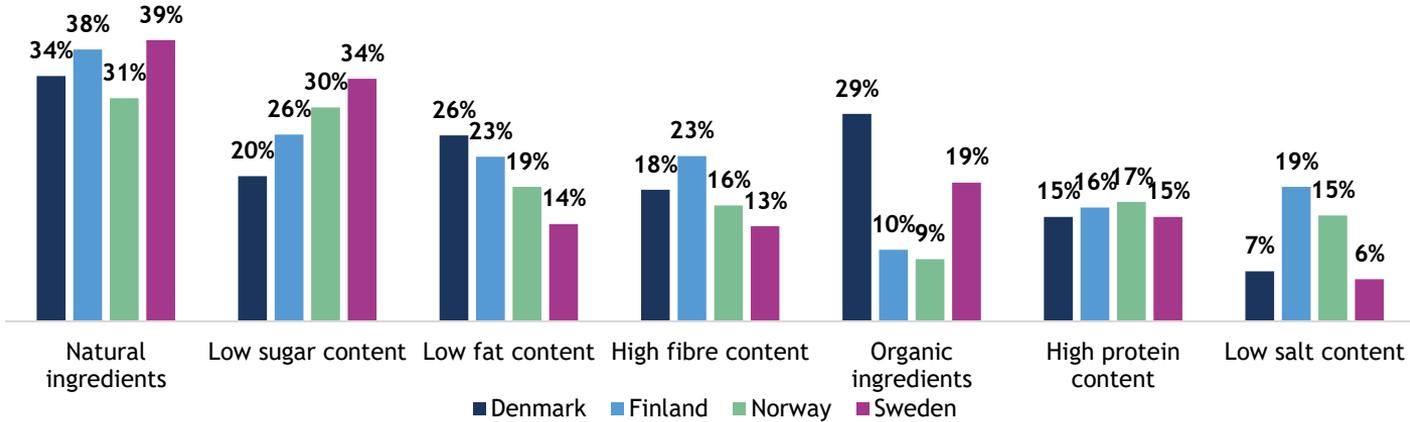
HIGH IN OMEGA-3  
HEALTHY OMEGA-3 TO 6 RATIO  
RICH ON VITAMIN D  
HIGH LEVEL OF MARINE INGREDIENTS  
NO ANTIBIOTICS  
NON GMO (OGT/VLOG)  
LABEL ROUGE  
ASC  
BAP  
OPTIMAL NATURAL CONDITIONS  
TOTALLY VERTICALLY INTEGRATED VALUE CHAIN  
TWO ORIGINS

# 'Natural' and 'low sugar' are top health preferences in food & drink



**TASTY,  
HEALTHY &  
SUSTAINABLE**

Nordics: most important factors when shopping for food, % consumers who agree, 2021



- HIGH IN OMEGA-3
- HEALTHY OMEGA-3 TO 6 RATIO
- RICH ON VITAMIN D
- HIGH LEVEL OF MARINE INGREDIENTS
- NON ANTIBIOTICS
- NON GMO (OGT/VLOG)

LABEL ROUGE

ASC

BAP

OPTIMAL NATURAL CONDITIONS

TOTALLY VERTICALLY INTEGRATED VALUE CHAIN

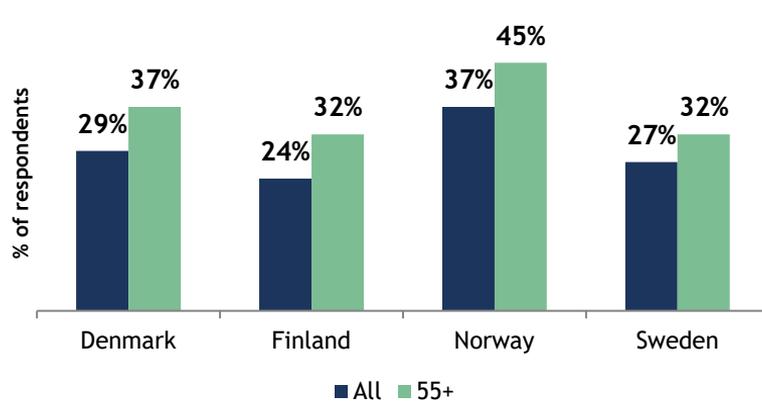
TWO ORIGINS

Base: 1,000 internet users aged 16+ per country  
Source: Lightspeed/Mintel

# Beyond basic nutrition: COVID-19 fuels intentions to eat a diet that limits risk of lifestyle diseases

**TASTY,  
HEALTHY &  
SUSTAINABLE**

Nordics: those planning to eat a diet that reduces the risk of "lifestyle diseases" (eg hypertension, diabetes) after the COVID-19 pandemic subsides, 2020

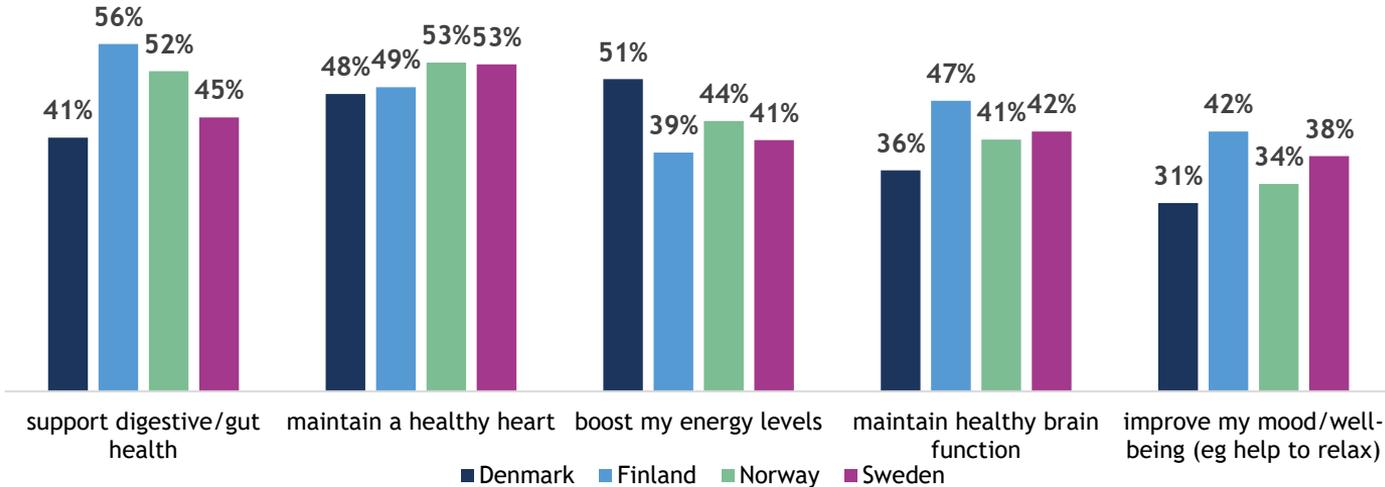


HIGH IN OMEGA-3  
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BAP  
OPTIMAL NATURAL CONDITIONS  
TOTALLY VERTICALLY INTEGRATED VALUE CHAIN  
TWO ORIGINS

# Nordic consumers would ideally like their diet to...



Nordics: "I would ideally like my diet to...", top 5 priorities, 2019



Base: 1,000 internet users aged 16+ per country  
Source: Lightspeed/Mintel

## TASTY, HEALTHY & SUSTAINABLE

- HIGH IN OMEGA-3
- HEALTHY OMEGA-3 TO 6 RATIO
- RICH ON VITAMIN D
- HIGH LEVEL OF MARINE INGREDIENTS
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- NON GMO (OGT/VLOG)
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- TWO ORIGINS

# Pandemic fuels interest in immune-boosting diets

Spotlighting 'genuine' immunity credentials has never been more timely. Less than 1% of food/drink launches in the Nordics over the past year featured immunity claims.



Tine Biola Lactose Free Skimmed Cultured Milk with Melon & Passionfruit is enriched with vitamin D, which is said to contribute to the normal function of immune system, Norway



Innocent Super Smoothie On Guard comprises a mix of pineapple, guava, orange and turmeric with added vitamins and “helps guard your immunity”, Sweden



of Finnish adults have been prompted by the COVID-19 outbreak to include immune-boosting foods to their diets (e.g. fresh fruit, zinc-rich foods)

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TWO ORIGINS

Base: 1,000 Finnish internet users aged 16+

Source: Lightspeed/Mintel, Mintel GNPD

# Plant power: Nordic consumers strive to eat fewer animal products

**< 10%**

of consumers across Nordic countries claim to be avoiding animal-derived food

**over half**

of the Nordic population claim to be limiting their meat intake

**a third**

of consumers in Norway, Sweden and Finland say that COVID-19 proves that humans need to eat fewer animals (Denmark: 24%)

Base: 1,000 internet users aged 16+ per country  
Source: Lightspeed/Mintel



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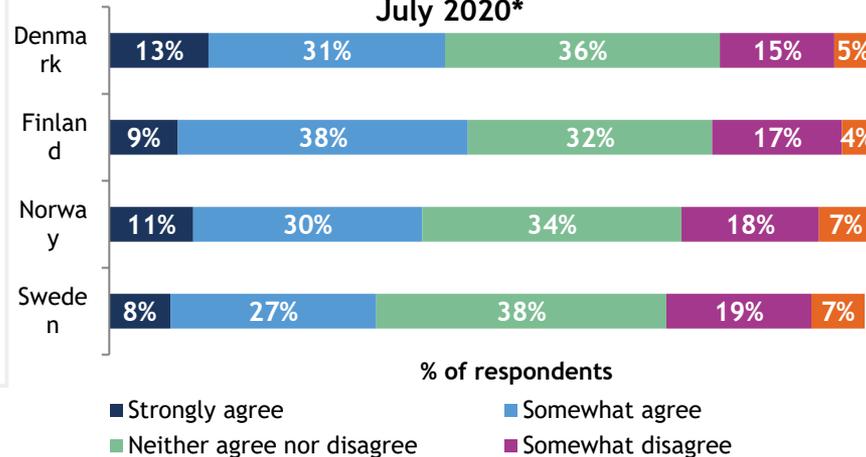
# Taste 2.0: umami flavour for vegetable dishes

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**Nordic countries: agreement with the statement "Taste is more important than health in my food choices", July 2020\***



Orkla in Denmark launches an umami sauce to provide flavour for vegetable dishes

Base: 1,000 internet users aged 16+ per country  
Source: Lightspeed/Mintel, Mintel GNPD



## Sustainability concerns disrupting shopping priorities

**BAKKAFROST**  
ESTABLISHED 1968

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# Planet in crisis: brands must be part of the solution



**TASTY,  
HEALTHY &  
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**7 in 10**

consumers across Nordic countries say they try to act in a way that is not harmful to the environment

**over half**

of consumers across Nordic countries agree it is hard to know which factors have the most impact on the environment (eg food waste, reduced energy use)

**~50%**

of consumers across Nordic countries agree that companies/brands can be leaders in protecting the environment

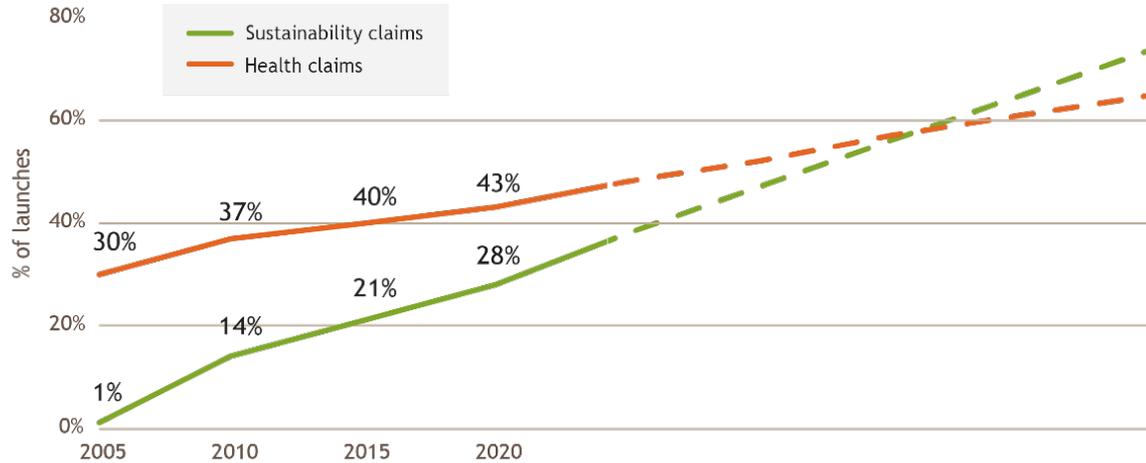
*Base: 1,000 internet users aged 16+ per country  
Source: Lightspeed/Mintel*

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# Sustainability will dominate the 2020s



Global: % of food and drink launches making health\* or sustainability claims, by year, 2005-20



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\* for this analysis, health-related claims include functional, plus, minus, and natural claim categories on GNPD  
Source: Mintel GNPD (dotted lines are based on the continuation of current rates of growth)

# Linking health and the environment is the way forward



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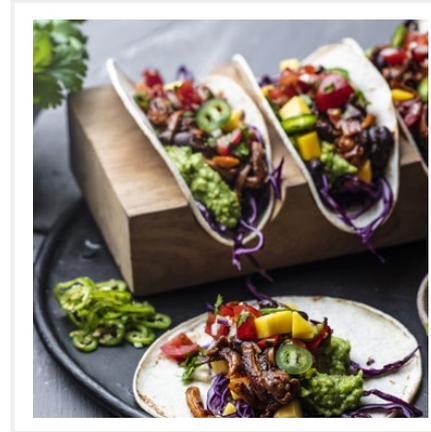
TWO ORIGINS



**Governments are reacting.** Denmark recently updated its official dietary advice to consider not only health, but also the environment (Denmark)



**Brands are reacting.** Fazer have launched a range of "responsible" oat-based cooking sauces to add flavour to vegetarian and vegan foods. "What nature would feed you" (Finland)



**Chefs are reacting.** Norwegian chef Lise Finckenhagen promotes a "Weekly Planetary Health Menu", including dishes such as vegetable tacos, grilled cod, and falafel wraps with hummus (Norway)

# Climate change will drive the need to change

Global: total annual CO2 emissions (billion tonnes)



On average,  
**44%**  
of Nordic consumers say  
that climate change  
will have an effect on  
the foods/drinks they  
buy

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TWO ORIGINS

# 'Climate anxiety' calls for understandable carbon labelling

CO2 neutral, CO2 negative, CO2 positive: Climate-friendly labelling on food and drink is emerging but it lacks standardization and, often, clarity.



**CO2 compensated  
(Sweden)**



**CO2 neutral  
(Denmark)**



**Climate positive  
(Finland)**



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TWO ORIGINS

# Nordic consumers seek local solutions

When surveyed during the pandemic, many consumers were turning to food and drink solutions from local producers and brands.

LOCALLY GROWN

# 32%

of Swedish consumers typically try to buy locally grown food all or most of the time

LOCAL BRANDS

# 30%

of Finnish consumers plan to support more local food/drink brands over the next 12 months



Totensupper Sweet Potato and Carrot Soup is described as **local, short-distance travelled** and healthy food that comes straight from the farmer (Norway)



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Base: 1,000 internet users aged 16+ per country in Sweden, Finland  
Source: Lightspeed/Mintel, Mintel GNPD

# Upcycling as a way to food waste reduction

A third of Swedish and Finnish, 37% of Danish and 43% of Norwegian consumers say, after the COVID-19 pandemic subsides, they'll try to plan meals ahead to make use of all ingredients and avoid waste.



**TASTY,  
HEALTHY &  
SUSTAINABLE**



In Sweden, Karma connects surplus food from restaurants and grocery stores with hungry consumers via the Karma app.



Rema 1000 Stop Madspild Daloon Odd Sized Vegetable Mini Spring Rolls comprise discarded and imperfect in appearance vegetable spring rolls that would not have been sold, in order to minimize food waste, Denmark



Svenska Sea Salt Root Vegetable Chips are made with rescued beetroot, carrots and parsnips, and are said to be part of the food waste revolution, Sweden

Base: 1,000 internet users aged 16+ per country  
Source: Lightspeed/Mintel, Mintel GNPD

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TWO ORIGINS

# Plastic packaging under high scrutiny, but COVID-19 sparks more reasonable debate over its benefits



## TASTY, HEALTHY & SUSTAINABLE



Consumers want less  
plastic

**3 in 5**

of consumers across Nordic  
markets think brands should  
reduce the amount of plastic  
packaging they use

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Base: 1,000 internet users aged 16+ per country  
Source: Lightspeed/Mintel

# Plastic reduction through thoughtful design



Tine Organic Milk:  
The new pack is **lighter in weight having one less layer**, it **does not have a screw cap**, contains **less plastic**, and causes lower carbon footprint than common carton, Norway



Lantmännen Durum Wheat Hot Dog Buns now feature **21% less plastic**, which is said to **save 60 tonnes of plastic annually**, and **121 tonnes CO2 emissions**, Sweden

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# Recycling presents an acceptable solution

Consumers are putting the responsibility for recycling squarely on the shoulders of brand owners.

61%

of Swedish consumers say food and drink brands should use packaging that can be recycled

56%

of Finnish consumers say food and drink brands should use more recycled material when making packaging

45%

of Danish consumers say food and drink brands should make it easier to recycle their packaging

Base: 1,000 internet users aged 16+ per country in Sweden, Finland, Denmark  
Source: Lightspeed/Mintel

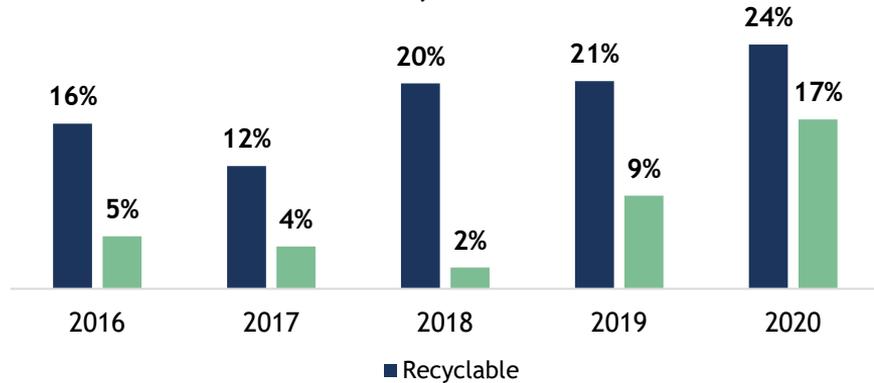


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# Closing the loop: use of recycled plastic sees huge jump in claims

Nordics: food/drink launches in plastic bottles by recyclable and contains recycled plastic claims, 2016-20



Coop Unfiltered Apple Must has been repackaged in a 1L pack made from 50% recycled plastic, Denmark

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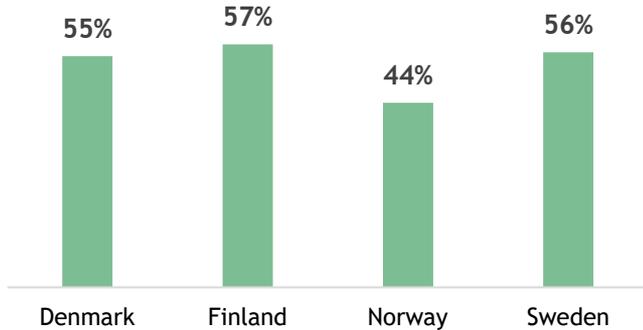
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TWO ORIGINS

# Consumers look to brands for alternative solutions

In the longer run, brands will have to come up with suitable alternatives to plastic that have same or similar advantages (light weight, inexpensive production, protecting the product and holding it fresh).

Nordics: Brands should use packaging that is compostable or biodegradable", % consumers who agree, 2019



Chew Folk Peppermint Natural Chewing Gum retails in a 100% biodegradable pack: *“You’re never too small to make a difference, said the plastic-free chewing gum”*, Sweden

Base: 1,000 internet users aged 16+ per country

Source: Lightspeed/Mintel, Mintel GNPD



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SUPERIOR  
QUALITY  
**SALMON**



## ***Bakkafrost presentation***

*A world-class company in the salmon industry*

## ***Capital Markets Day – Sustainability***

**Faroe Islands 14 September 2021**

## DISCLAIMER

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*4th Annual Sustainability Report is available on our website*

# HEALTHY LIVING PLAN

## HIGH LEVEL OVERVIEW

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 <b>2020 PERFORMANCE AGAINST OUR 2020 COMMITMENTS</b> ●●●	<ul style="list-style-type: none"> <li>Have zero cases of noncompliance ●</li> <li>Have customer net promoter score (NPS) of 9 out of 10 or above ●</li> <li>Invest in a new biogas plant ●</li> </ul> <p>See page 22 for more details</p>	<ul style="list-style-type: none"> <li>Renew our employee strategy ●</li> <li>Launch an employee engagement survey ●</li> <li>Have zero fatalities ●</li> </ul> <p>See page 28 for more details</p>	<ul style="list-style-type: none"> <li>Maintain our high omega-3 levels ●</li> <li>Maintain high customer satisfaction with product quality ●</li> <li>Reduce fish mortality to 6% ●</li> <li>Have ASC certification across all sites (end of 2020 GSI goal) ●</li> <li>Further develop and implement non-medicinal treatments with high focus on fish welfare ●</li> <li>Have zero fish escapes ●</li> </ul> <p>See page 40 for more details</p>	<ul style="list-style-type: none"> <li>Further optimise feed distribution ●</li> <li>Continue phasing out copper-treated nets ●</li> <li>Implement a sustainable feed policy ●</li> </ul> <p>See page 54 for more details</p>	<ul style="list-style-type: none"> <li>Set up a new 'Healthy Living' Func ●</li> <li>Implement stakeholder engagement plan ●</li> <li>Implement a new community investment plan ●</li> </ul> <p>See page 68 for more details</p>
 <b>2023 GOALS</b>	<ul style="list-style-type: none"> <li>Have zero cases of non-compliance</li> <li>Actively engage customers in waste reduction</li> <li>Maintain high NPS and customer satisfaction with quality scores</li> <li>Update procurement policy and supplier code of conduct</li> <li>Influence the improvement of aquaculture practices</li> <li>Extend ISO9001 standard certification</li> <li>Focus on producing salmon from own unique breed</li> </ul>	<ul style="list-style-type: none"> <li>Have industry-leading employee engagement scores</li> <li>Launch internal sustainable behavior campaign</li> <li>Maintain gender diversity in senior positions</li> <li>Reduce absence rate by 10%</li> <li>Become certified against ISO45001 standard</li> <li>Reduce LTA to zero</li> <li>Have zero fatalities</li> </ul>	<ul style="list-style-type: none"> <li>Increase smolt size to 500g</li> <li>Maintain our high omega-3 levels</li> <li>Zero antibiotic use</li> <li>Maintain salmon survival rate at 94% or above</li> <li>Increase research to optimise fish welfare and product quality</li> <li>Maintain industry leading approach to animal welfare</li> <li>Maintain ASC certification, BAP certification or similar for all Bakkafrost salmon</li> </ul>	<ul style="list-style-type: none"> <li>By 2030 reduce by 50% the scope 1 &amp; 2 CO2 footprint in the Faroes</li> <li>Continue research into sustainable feed ingredients</li> <li>Investigate new sustainable marine sources for fishmeal</li> <li>Optimise feed strategy to maintain industry leading FCR</li> <li>Achieve ISO14001 environmental standard certification in the Faroe Islands, already in place in Scotland</li> <li>Zero fish escapes</li> <li>Measurably reduce environmental impact from packaging</li> <li>Explore innovative waste streams at the new biogas plant</li> <li>Over 97% water recirculation rate in hatcheries</li> </ul>	<ul style="list-style-type: none"> <li>Actively educate key stakeholders on the benefits of salmon aquaculture</li> <li>Increase collaboration with key stakeholders to achieve the Healthy Living Plan</li> <li>Increase transparency on local value creation</li> <li>Continue 10m DKK 3yr investment in Healthy Living Fund in the Faroe Islands</li> <li>Continue investment in Community Fund in Scotland</li> </ul>
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Bakkafrost is on track and have met **15 of 18** of our 2020 commitments

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## OUR SUSTAINABILITY CHALLENGE

MORE FOOD PRODUCTION FROM THE OCEAN IS NEEDED

### The world faces some of its greatest challenges ever

- By **2050**, our planet will have about **9.7** billion inhabitants - around **25 percent** more than we are today
- By 2050, **world food production** needs to **double**, but arable land is declining and arable land in the tropical regions in particular is becoming more and more depleted
- We need to produce as much food in the next 40 years, as we have in the last 8,000!



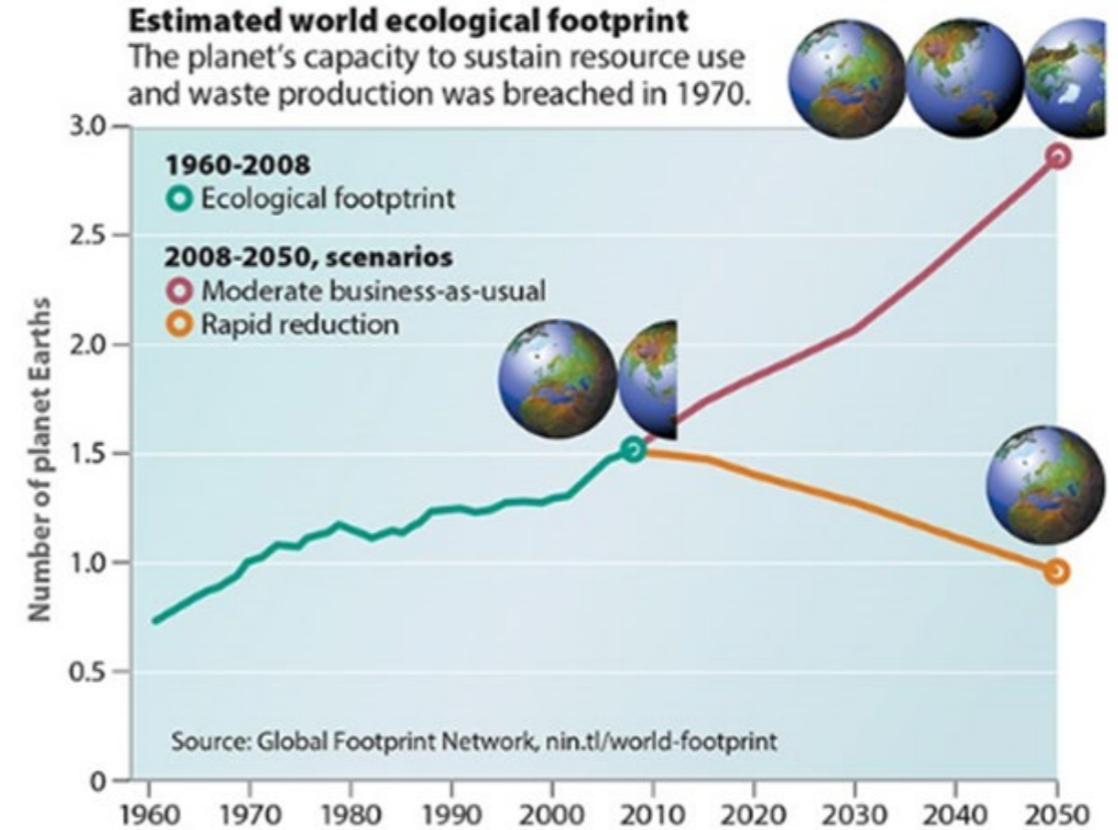
**MORE SUSTAINABLY PRODUCED FOOD NEEDS TO BE SOURCED FROM THE OCEAN**

## OUR SUSTAINABILITY CHALLENGE

### CO2 IS THE BIGGEST THREAT



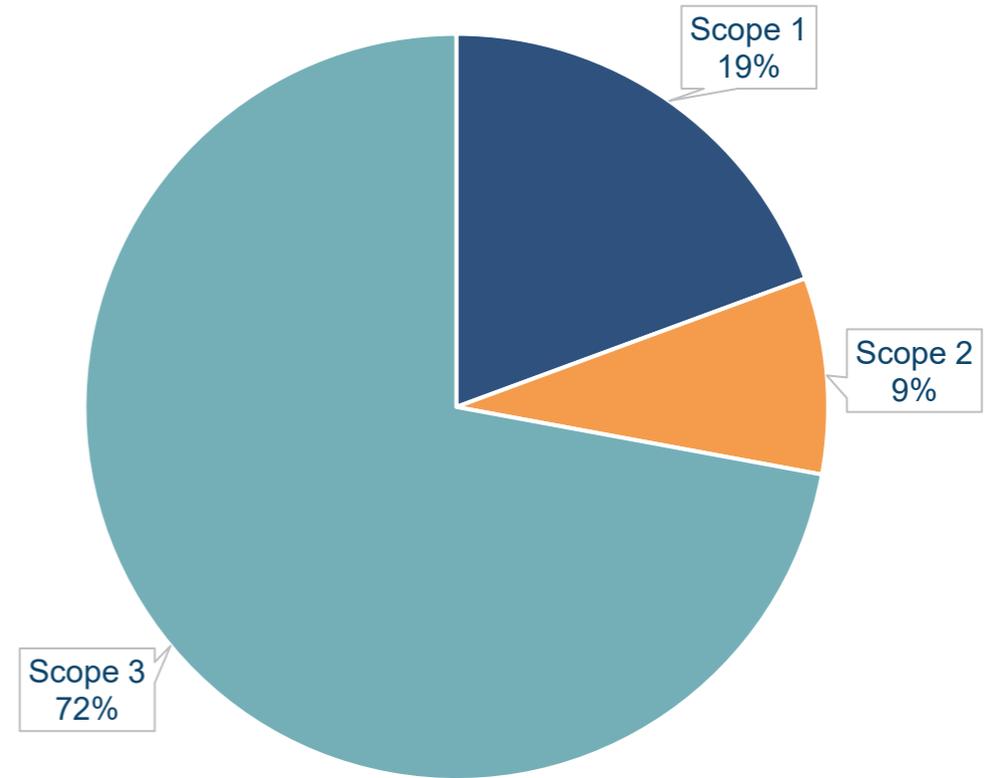
- The biggest threat to the earth is **CO2 and other greenhouse gases**, gases that we produce through our consumption. As consumption increases, the amount of greenhouse gases produced increases, affecting global warming and leading to climate change.
- The total amount of CO2 we emit has increased by **36%** since 1979.
- **Opportunities** for people and businesses as we take care of the challenges



Bakkafrost's **scope 1 & 2** emissions account for **28%** of the total GHG emissions.

**Scope 3** emissions account for **72%** of Bakkafrost's emissions

Total GHG emission (2020)



## GROWING WHILE REDUCING OUR SCOPE 1 & 2 FOOTPRINT

50% REDUCTION IN THE FAROES BY 2030

### By 2030 reduce the scope 1 & 2 CO2 footprint by 50% in the Faroes

- Our aim is to **decouple carbon emissions** from our production, and we have managed to achieve this in some parts of the value chain – through **electrification** in areas such as feed barges, **recycling of energy** (at our hatcheries and feed and processing factories), etc.
- The biogas plant is expected to save **11,000 tonnes of CO2 emissions** a year which represent about **2 %** of the total electric power produced in the Faroe Islands in 2020.
- We plan to have our targets approved by the **Science Based Target initiative (SBTi)** by early 2022

**Building the green way**  
Energy efficiency is a design criteria

Bakkafrost HQ      Strond Hatchery      Applecross Hatchery

Waste 90% reduction      Energy 100% sustainable power      Water 90% reduction

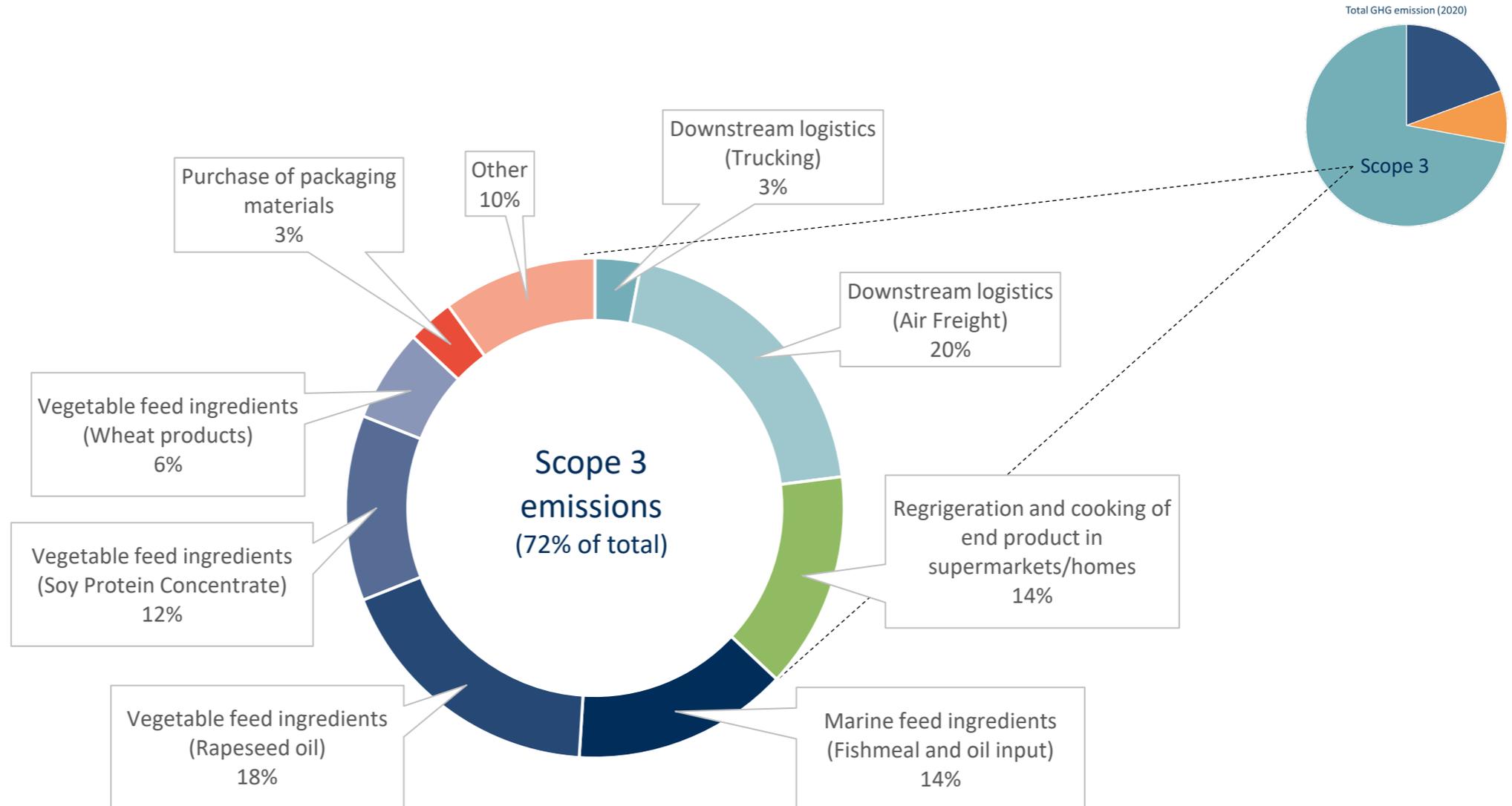
**Own production of renewable energy**

Our biogas plant produces renewable energy from organic waste from our hatcheries

**Electrification and flexible fuel options**  
Barges, boats, vessels, hatcheries etc.

# SCOPE 3 EMISSION ACCOUNTS FOR 72% OF TOTAL EMISSION

## AIR FREIGHT, MEAL-OIL-FEED PRODUCTION AND CUSTOMER BEHAVIOUR BIGGEST SUB-CATEGORIES



Feed ingredients account for 50% of the Scope 3 emissions

# FISH MEAL, OIL AND FEED INGREDIENTS

## BENEFICIAL FOR EMISSION, FISH WELFARE AND FEED EFFICIENCY

### High marine inclusion in feed – with relative low carbon footprint

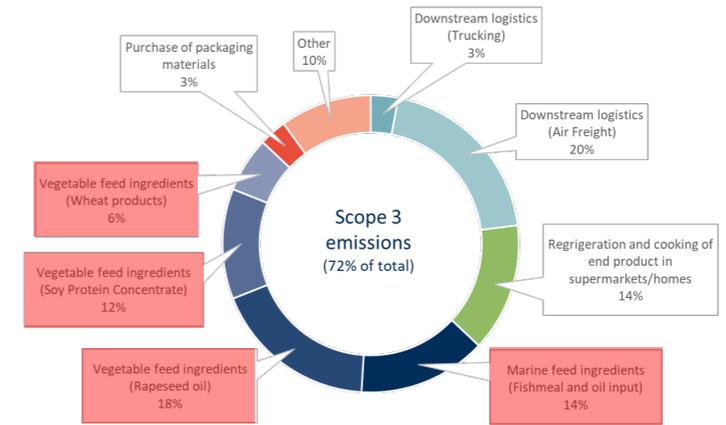
Bakkafrost has chosen to continue a high inclusion of marine content in our feed, as this is a more sustainable approach for our operations given our location.

### Marine ingredients

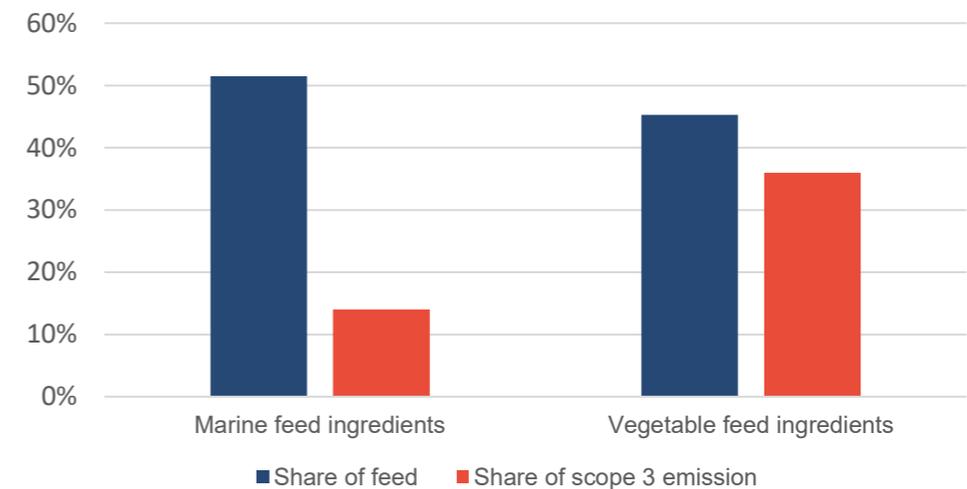
Fisheries in the North Atlantic, primarily within Faroese waters, transparent supply chain, low demand on freshwater and land compared to imported plant proteins, reduced transportation, supporting circular economy, all off cuts purchased in the Faroes Island, positive economic impact for the Faroese community, increased nutritional value in the feed, high in omega 3 & fishmeal with a diet closer to the natural diet of wild salmon Low FCR, Good fishhealth.

### Plant ingredients

The plant proteins and oils in our feed are all non-GMO, all soybeans are Pro-Terra certified and we do not use of palm oil



Feed ingredients' share in feed and of scope 3 emission

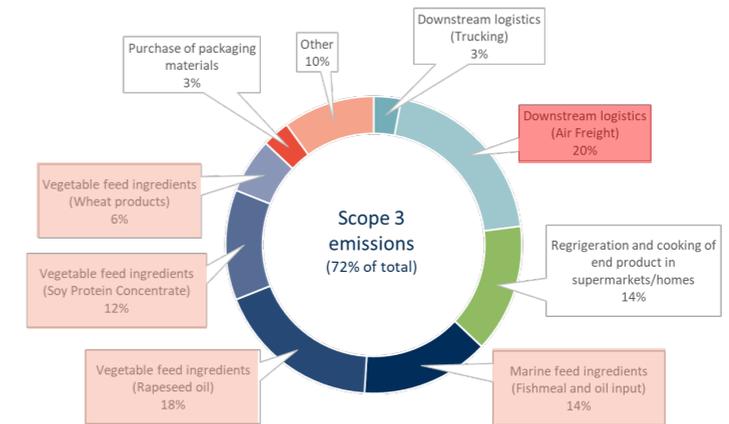


## AIR FREIGHT

REDUCE CO2 EMISSION BY CONTROLLING AIR FREIGHT THROUGH OWN CARGO PLANE

### Taking control of air freight

- Air Freight accounts for 20% of the scope 3 emissions
- Reduction in CO2 emissions by 40-50%
- Reduce weight of air-freight by
  - reduce flown ice
  - fly less whole salmon
- Direct transport, shorter flight distance
- More control
- Increased responsiveness, faster delivery
- Longer shelf life, enables reduced food waste

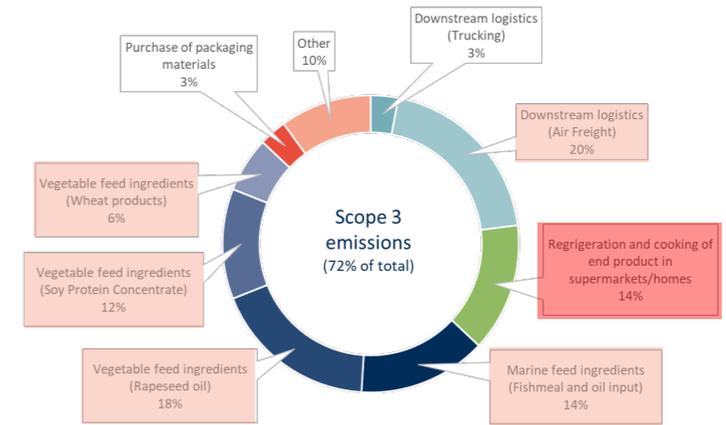


**Reducing the scope 3 emission via consumer behaviour.**

We will help make sustainable decision-making easier for consumers by adding environmental data, CO2e pr kg product, available on our packaging.

In cooperation with our customers we want to increase the demand for sustainable salmon and support the shift to a more environmental friendly diet, e.g. our new salmon burger.

Develop more recipes with low carbon cooking methods and recipes with a lower total amount of CO2.



**By replacing a traditional burger with a salmon burger, you can cut around 75% of your carbon footprint.**

Source: Unilever Food Solutions, CO2 beregner



The **wealthiest 20 per cent** of the world's population account for **80 per cent of consumption** of global resources

## CUSTOMER AND CONSUMER BEHAVIOUR

RELATIVELY SMALL CHANGES CAN HAVE A HUGE IMPACT



**Breakfast:**

2 pieces of bread with cheese per day	<b>250 kg</b>
A bowl with oatmeal and oatmilk per day	<b>60 kg</b>

**Travel:**

A roundtrip to Thailand	<b>2500 kg</b>
Roundtrip by flight Nordics – France (2400 km)	<b>300 kg</b>
Roundtrip by bus Nordics – France (3000 km)	<b>60 kg</b>

## CUSTOMER AND CONSUMER BEHAVIOUR

DK EXAMPLE - FOOD AND DRINK CONSTITUTES A SIGNIFICANT PORTION OF CO2 EMISSION

An average Danish household have one of the highest carbon footprints in Europe, around **12 tons CO2** per year.

Distributed on:

Travel 1 tons,  
Services 1 tons,  
**Food & drink 3 tons,**  
Electricity, heat, etc. 3 ton,  
Shopping 4 tons

Worlds total average around **6 tons**.

According to UN the average emissions **need** to be down to **2 tons per person by 2050** (4 tons by 2030)



## CUSTOMER AND CONSUMER BEHAVIOUR FROM COUNTING CALORIES TO COUNTING CARBON DIOXIDES



Pumpkin soup

~ 0,5 kg CO<sub>2</sub>e



Stew with salmon or chicken

~ 0,7 kg CO<sub>2</sub>e



Ground beef steak with potatoes and gravy

~ 2,5 kg CO<sub>2</sub>e



200g Fillet steak with chips and bearnaise sauce

~ 5,0 kg CO<sub>2</sub>e

Only **0.5%** of the earth's water is available fresh water.

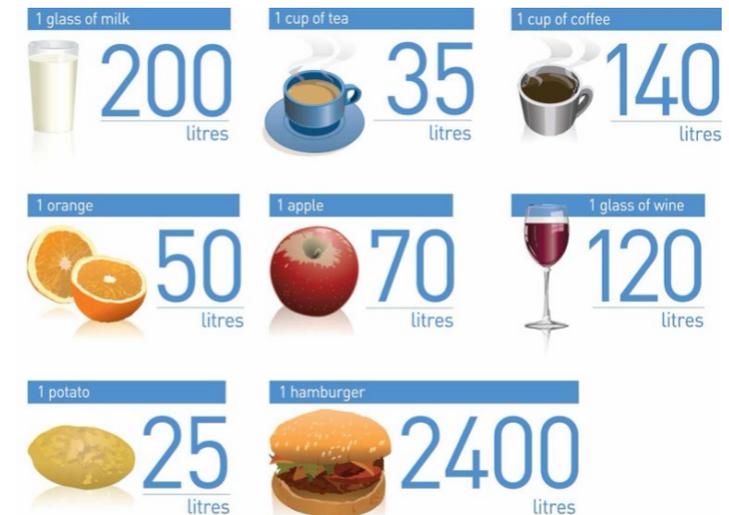
Globally **70%** of freshwater is used for agriculture.

With a growing population we all need to share this small amount of freshwater.



1 person **drinks**  
**2 to 4 liter** of water per day

1 person **eats**  
**2,000 to 5,000 liters**  
of virtual water embedded in food per day



ROASTED PORK



1,200 litres

CARROT SOUP



65 litres

TOMATO AND CHESE SALADE



418 litres

BOLOGNESE



1,830 litres

SALMON



340 litres

STEAK



3,000 litres

BEANS



1,000 litres

CHICKEN



865 litres

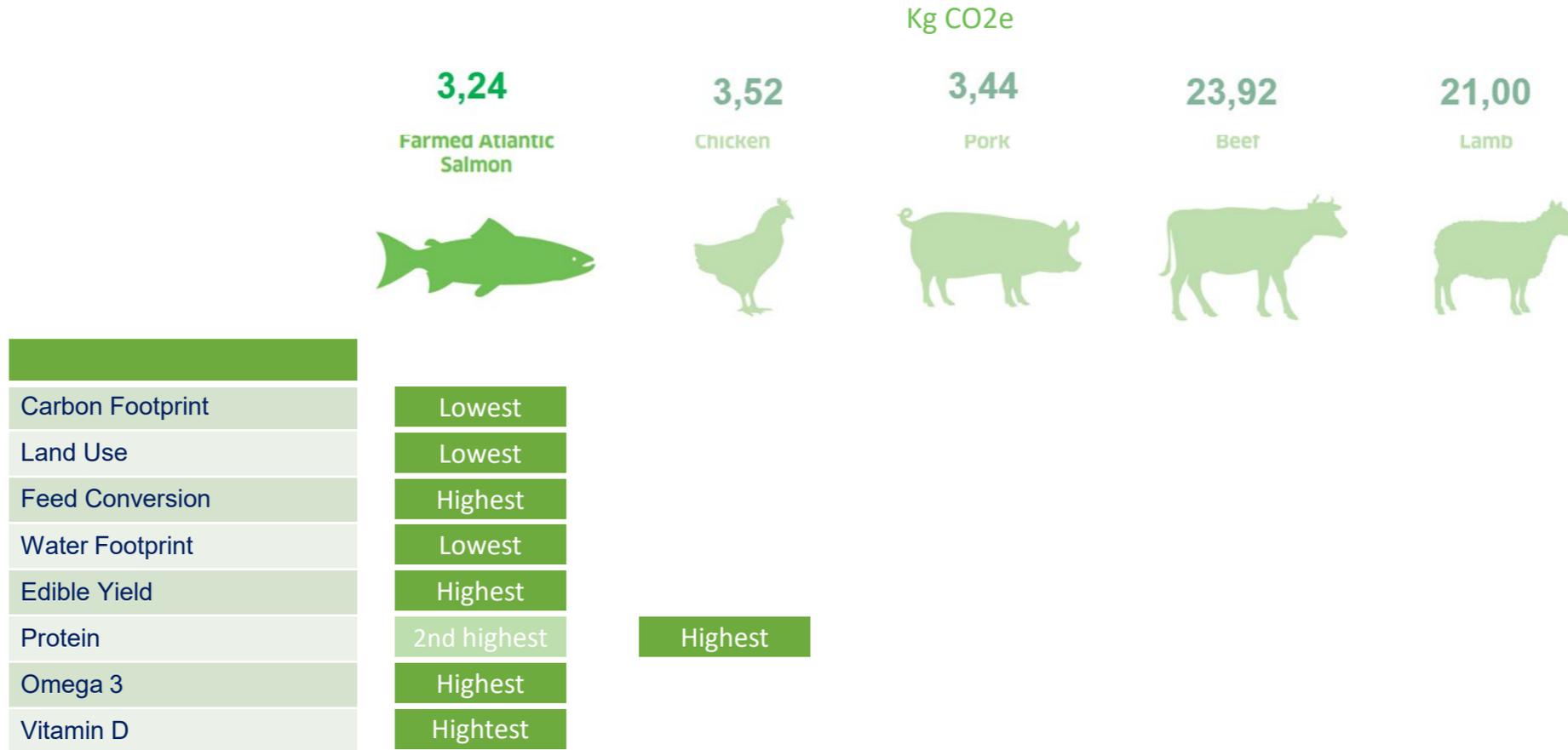
NOODLES WITH VEGETABLES



600 litres

## CUSTOMER AND CONSUMER BEHAVIOUR

FARMED SALMON IS A VERY RESOURCE EFFICIENT ALTERNATIVE FOR HEALTHY PROTEIN



## NET ZERO BY 2050

Bakkafrost group commits to reach **Net Zero** greenhouse gas emissions by **2050**



# CREATING A SUSTAINABLE FUTURE



## 4 ESG 100 ranking

Norsk Hydro	A+	Kongsberg Automotive	B	Fjordkraft Holding	D
Yara International	A+	Kværner	B	Norwegian Air Shuttle	D
Aker Solutions	A	Norske Skog	B	Norwegian Finans Holding	D
Borregaard	A	Norwegian Property	B	Ocean Yield	D
Entra	A	Shelf Drilling	B	Sbanken	D
Equinor	A	SpareBank 1 Nord-Norge	B	Selvaag Bolig	D
Europris	A	SpareBank 1 SMN	B	SpareBank 1 Ringerike Hadeland	D
Gjensidige Forsikring	A	Sparebanken Vest	B	SpareBank 1 Østfold Akershus	D
Grieg Seafood	A	Subsea 7	B	Sparebanken Møre	D
Mowi	A	TietoEVRY	B	Axactor	E
Orkla	A	XXL	B	B2Holding	E
Scatec Solar	A	Golden Ocean Group	B-	Bonheur	E
Telenor	A	Norway Royal Salmon	B-	Bouvet	E
Aker BP	A-	Wilh. Wilhelmsen Holding	B-	Crayon Group Holding	E
Atea	A-	Avance Gas Holding	C	DNO	E
<b>Bakkafrost</b>	<b>A-</b>	Borr Drilling	C	Medistim	E
DNB	A-	BW LPG	C	Norwegian Energy Company	E
Kongsberg Gruppen	A-	FLEX LNG	C	NTS	E
Lerøy Seafood Group	A-	Frontline	C	Olav Thon Eiendomsselskap	E
Nordic Semiconductor	A-	Hexagon Composites	C	PCI biotech	E
SallMar	A-	NRC Group	C	Protector Forsikring	E
Schibsted	A-	Odffell Drilling	C	RAK Petroleum	E
SpareBank 1 Østlandet	A-	PGS	C	Salmones Camanchaca	E
Storebrand	A-	SATS	C	Self Storage Group	E
TGS-NOPEC Geophysical Company	A-	SpareBank 1 BV	C	Solon Eiendom	E
Veidekke	A-	Stolt-Nielsen	C	VoW (Scanship Holding)	E
Elkem	B+	Tomra Systems	C	Komplett Bank	F
SpareBank 1 SR-Bank	B+	Wallenius Wilhelmsen	C	NEL	F
Adevinta	B	Aker	D	Northern Drilling	F
AF Gruppen	B	AKVA Group	D	Otello Corporation	F
Akastor	B	Arcus	D	Pareto Bank	F
Austevoll Seafood	B	Arendals Fossekompani	D	Treasure	F
BW Offshore Limited	B	Data Respons	D		
Høegh LNG Holdings	B	Fjord1	D		





SUPERIOR  
QUALITY  
**SALMON**



## ***Bakkafrost presentation***

*A world-class company in the salmon industry*

## ***Capital Markets Day – New Technology***

**Faroe Islands 14 September 2021**

## DISCLAIMER

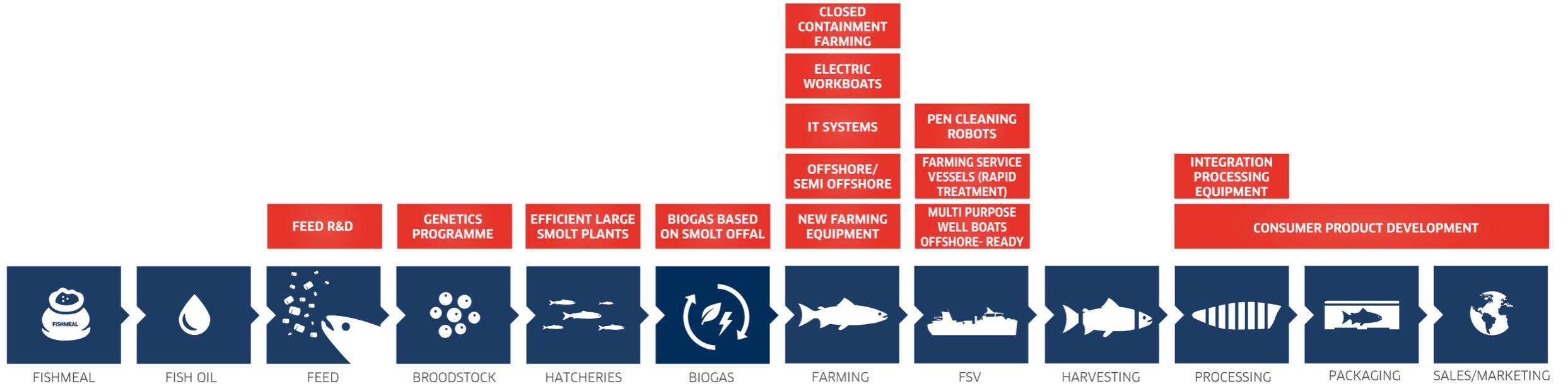
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No representation or warranty (expressed or implied) is made as to, and no reliance should be placed on, the fairness, accuracy or completeness of the information contained herein. Accordingly, none of the Company, or any of its principal shareholders or subsidiary under-takings or any of such person's officers or employees or advisors accept any liability whatsoever arising directly or indirectly from the use of this document.

# NEW TECHNOLOGY

## EXAMPLES OF R&D ACTIVITIES WITHIN BAKKAFROST



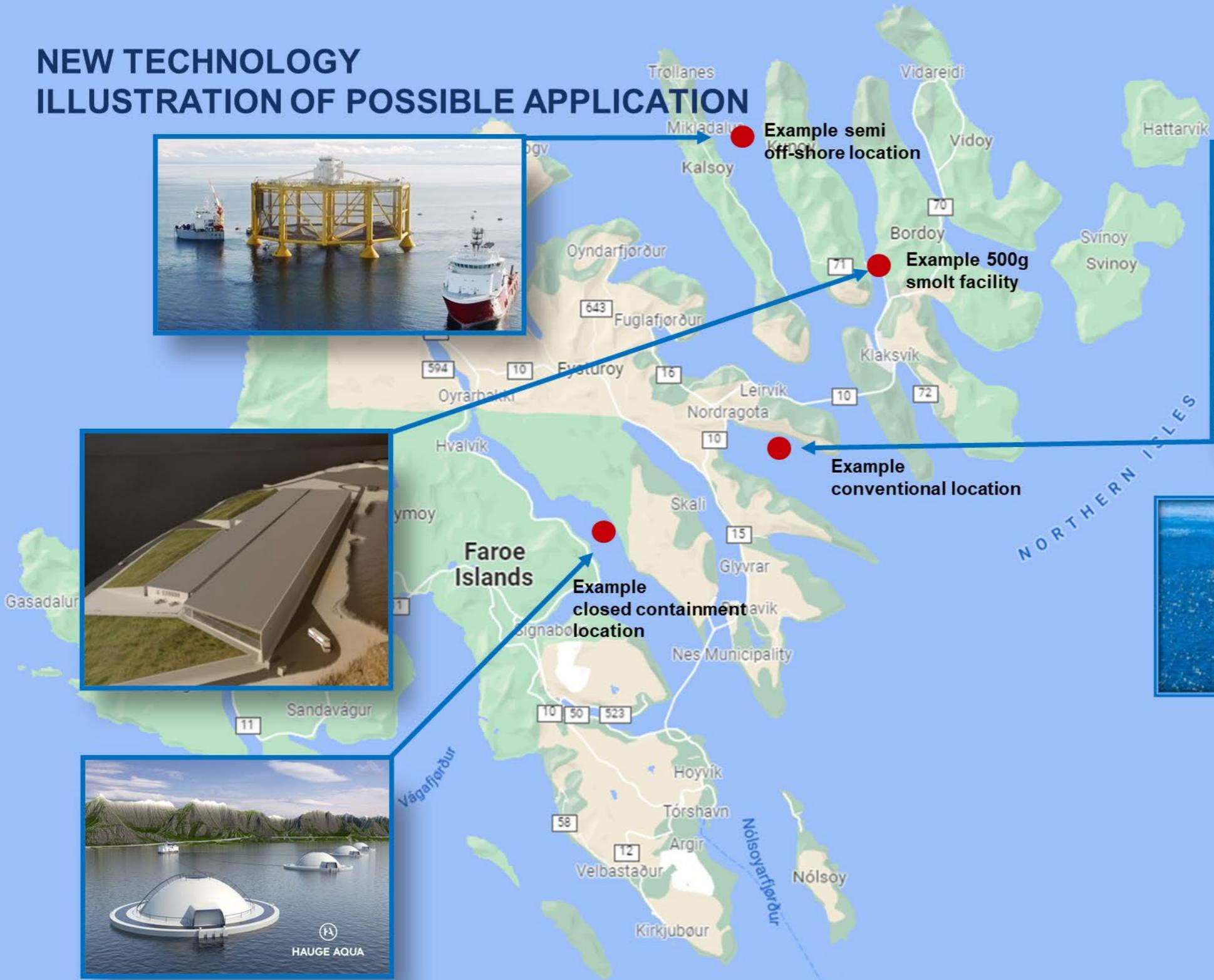
## NEW TECHNOLOGY

### KEY AREAS OF DEVELOPMENT IN FARMING TECHNOLOGY

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- Output from conventional farming constrained due to mix of biological and environmental factors
- Strong industry profitability has incentivised search for alternative production methods
- R&D licences issued in Norway contain mechanisms largely offsetting risks arising from trial of new concepts
  - Offshore and semi offshore projects
  - Closed and semi closed production in conventional areas
- Stand alone off-shore projects in China
  - Limited information available
- Land based projects based on recirculation aquaculture systems (RAS) with application for
  - Production of larger smolt for convectional aquaculture
  - Integrated land based production

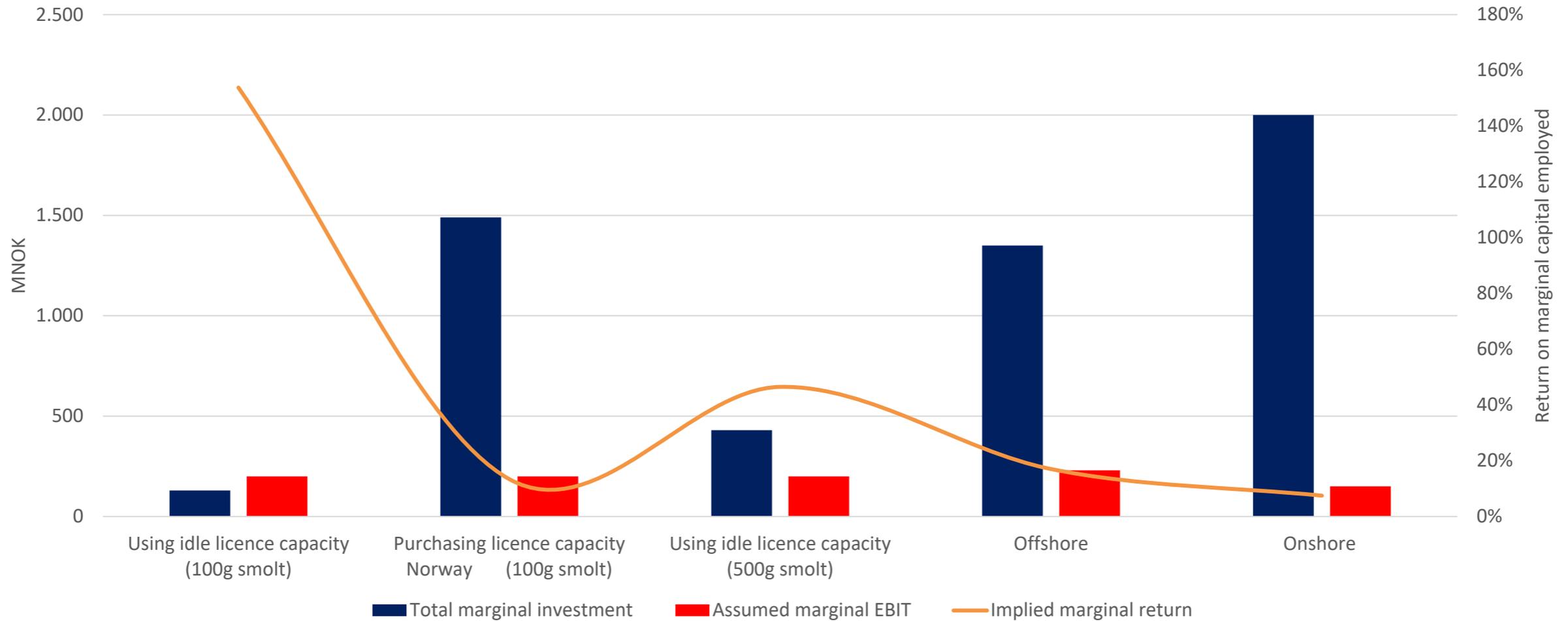
# NEW TECHNOLOGY ILLUSTRATION OF POSSIBLE APPLICATION



## NEW TECHNOLOGY

### ILLUSTRATIVE COMPARISON ALTERNATIVE FARMING METHODS

#### ILLUSTRATIVE EXAMPLE OF RETURNS



Note: Bakkafrost takes no responsibility for the accuracy or correct interpretation of the collected estimates listed above. The purpose of the table is to generally illustrate return dynamics of projects requiring larger capital investments.

## NEW TECHNOLOGY

### ILLUSTRATIVE COMPARISON ALTERNATIVE FARMING METHODS

Example, 10 ktonnes (HOG) marginal output	Conventional farming method			Offshore	Onshore
	Using idle licence capacity	Purchasing licence capacity (Norway)	Using idle licence capacity		
Smolt size	100g	100g	500g	500g	500g
Onshore (months)	12	12	16	16	26
Conventional seawater (months)	18	18	12	7	
Structures for harsh environment				5	
<b>Total</b>	<b>30</b>	<b>30</b>	<b>28</b>	<b>28</b>	<b>26</b>
Licence cost (MNOK) (1)	0	1,360	0	n.a. (2)	n.a.
Marginal investment on shore (MNOK)	50	50	350	350	2,000 (3)
Marginal investment seawater (conventional) (MNOK)	80	80	80		
Marginal investment harsh environment structure (MNOK)				1,000 (4)	
<b>Total marginal investment excl. working capital, vessels etc.</b>	<b>130</b>	<b>1,490</b>	<b>430</b>	<b>1,350</b>	<b>2,000</b>
Price example	60	60	60	60	60 (5)
Cost example	40	40	40	37 (6)	45 (5)
<b>Implied marginal EBIT</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>230</b>	<b>150</b>
<b>Implied marginal return</b>	<b>154%</b>	<b>13%</b>	<b>47%</b>	<b>17%</b>	<b>8%</b>

#### Notes:

- (1) Based on average auction price in Norway
- (2) No basis for assumption offshore licence, assuming no increase in conventional MAB (stand alone project)
- (3) Source: Broker research
- (4) Assumed cost of structure required for net increase of 10k tonnes (HOG) after adjustment for reduced harvest in conventional farming
- (5) Recalculated to HOG in Box Norway, cost estimate assuming scale, high utilisation and stable biology
- (6) Public estimate from industry player testing structure, presumably excluding depreciation of farming structure and additional costs of servicing offshore

Note: Bakka Frost takes no responsibility for the accuracy or correct interpretation of the collected estimates listed above. The purpose of the table is to generally illustrate return dynamics of projects requiring larger capital investments.

## NEW TECHNOLOGY OFF-SHORE/SEMI OFF-SHORE

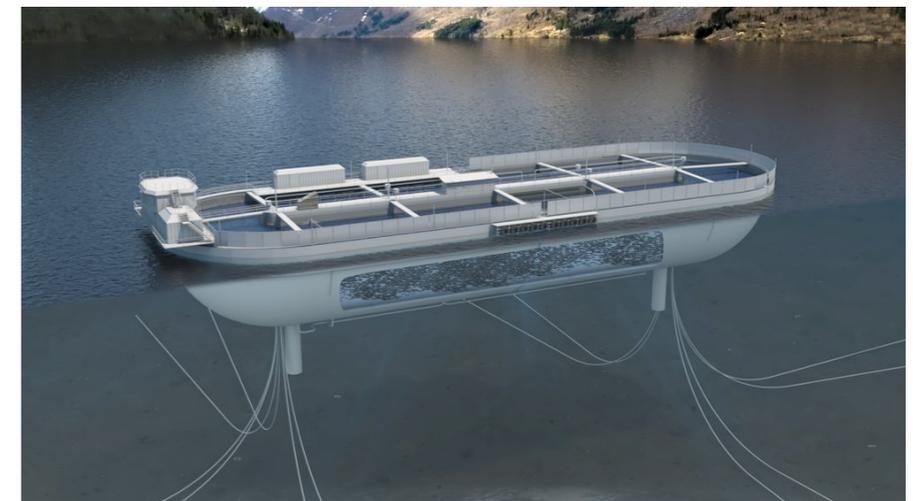
- Two large scale off-shore projects realised to date
  - Tested in semi harsh environment
  - Reports of good performance in “off-shore” phase
  - Materially reduction in biological challenges
- Several projects testing alternative concepts underway
- Interesting growth opportunity beyond 2026
  - Development towards proven technology
    - Viable alternatives for offshore and semi offshore
    - Risk reduction
    - Possible alternatives requiring less capital
  - Value chain well prepared



## NEW TECHNOLOGY

### CLOSED CIRCUIT PRODUCTION IN FJORDS

- Concepts aim for reducing/eliminating exposure to external threats in traditional farming waters
- Several large scale concepts being tested
- Possible applications
  - Combination with offshore production
    - E.g. 500g-2.5kg
    - Minimise probability of bringing undesired elements into large scale offshore structure
  - Marginal sites in Scotland



- Integrated onshore facilities
- Largely similar to Bakkafrøst RAS facilities for 500g smolt
  - Volume requirement exponential with fish size
- Absence of traditional external threats
- Potential to produce close to the consumer
- Large capital investments and maintenance requirements
- Energy requirement for temperature control
- Risks of controlling highly complex site



# VESSEL TECHNOLOGY DEVELOPMENT

## BAKKAFROST'S VESSEL FLEET IN THE FAROE ISLANDS

- Planned and required transportation to and from seawater sites
  - Well boats
- Key resource to tackle challenges/threats for site managers
  - Well boats and Farming Service Vessels (FSV)
- Value of in house capacity
  - Installation and adjustment of treatment equipment not straight



Vessel	Type	Capacity (m3)	Main tasks
Hans á Bakka	Wellboat	3,000	Harvest FW treatments
Martin	FSV	N/A	Delousing (Optilice & FLS), Net cleaning, Cable laying, towing
Róland	FSV	1,000	Delousing (Optilice), Net cleaning, Cable laying, towing, emergency mort.
Bakkanes	FSV	1,000	Delousing (FLS), Net cleaning, Cable laying, towing, emergency mort.
Víkingur	Wellboat	240	Live fish carrier (smolt)
Stígabrúgv	Wellboat	325	Live fish carrier (smolt)
Vesthav	Wellboat	650	Live fish carrier (smolt + harvest)
Bakkafossur	Wellboat	7,000	Live fish carrier (smolt + harvest), FW treatments, FW production



SUPERIOR  
QUALITY  
**SALMON**



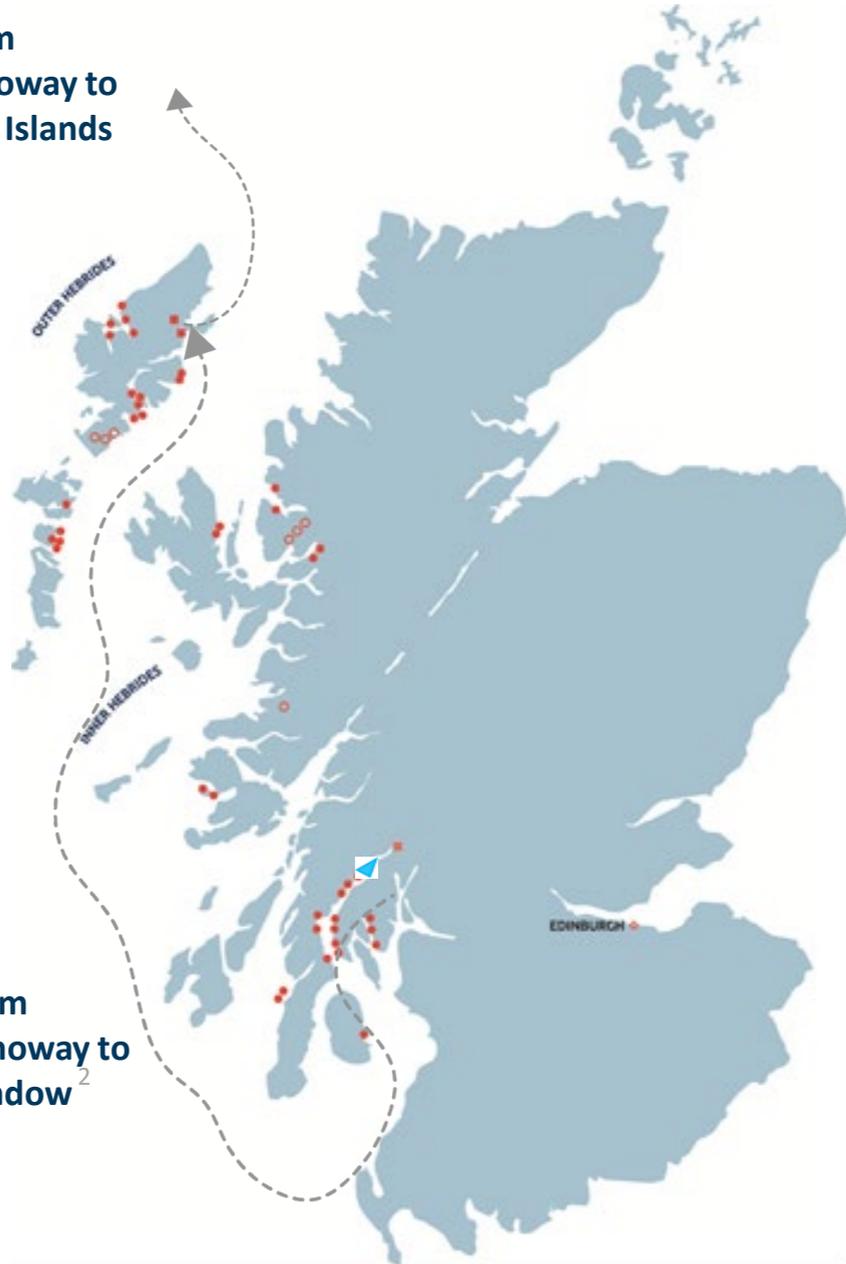
## ***Bakkafrost presentation***

*A world-class company in the salmon industry*

## ***Capital Markets Day – Strategic Roadmap***

**Faroe Islands 14 September 2021**

428km  
Stornoway to  
Faroe Islands



482km  
Stornoway to  
Cairndow<sup>2</sup>

	Current	5 Yrs
<b>HATCHERIES</b>	7 Sites Capacity <b>10.7k m3</b> 6.0m @ <b>85g</b>	2 / 3 Sites Capacity to <b>64k+ m3</b> 18m+ capacity @ <b>500g</b>
<b>FARMING</b>	42 Sites	42+ Sites <b>50kT</b> (HOG) Production
<b>PROCESSING</b>	2 Processing facilities <b>2 Harvest stations</b> Capacity <b>205T/day</b> (HOG)	Primary / secondary facilities <b>Integrated</b> Capacity <b>450T/day</b> (LWE)
<b>FSV</b>	<b>2,100 m3</b> Harvest <b>300T/hr</b> Delousing <b>200T/hr</b> FW treatment	<b>6,300 m3</b> Harvest <b>500T/hr</b> Delousing <b>480T/hr</b> FW treatment
<b>PEOPLE</b>	610 fte <b>59T/fte</b>	660 fte <b>83T/fte</b>

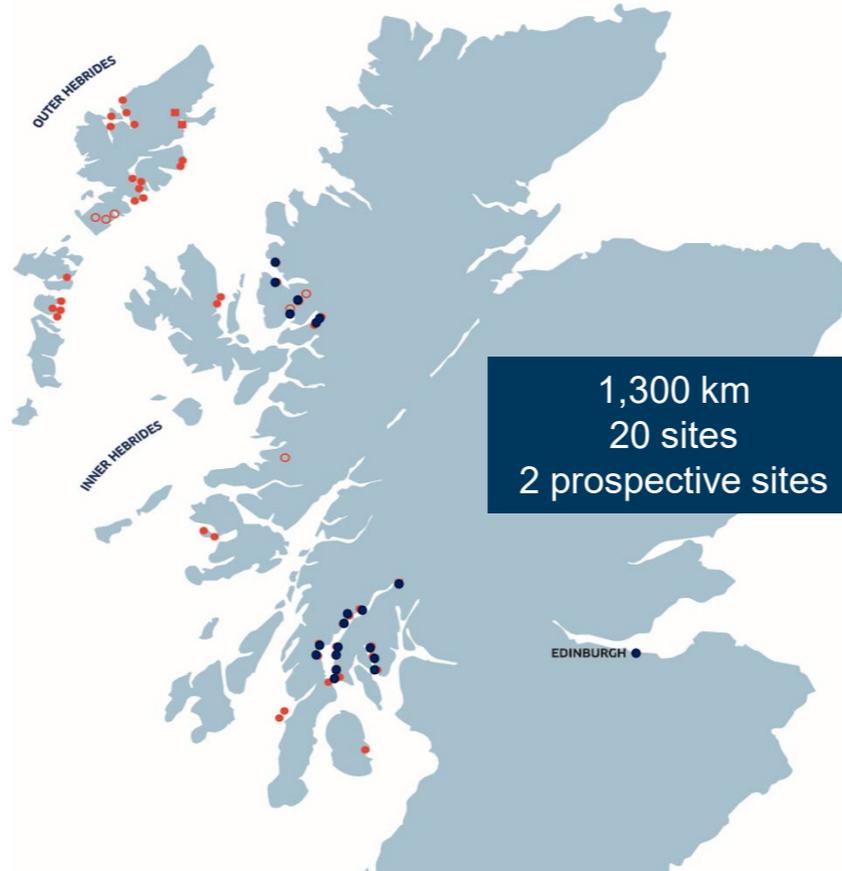
\*) fte: Full Time Equivalent



Loch Striven



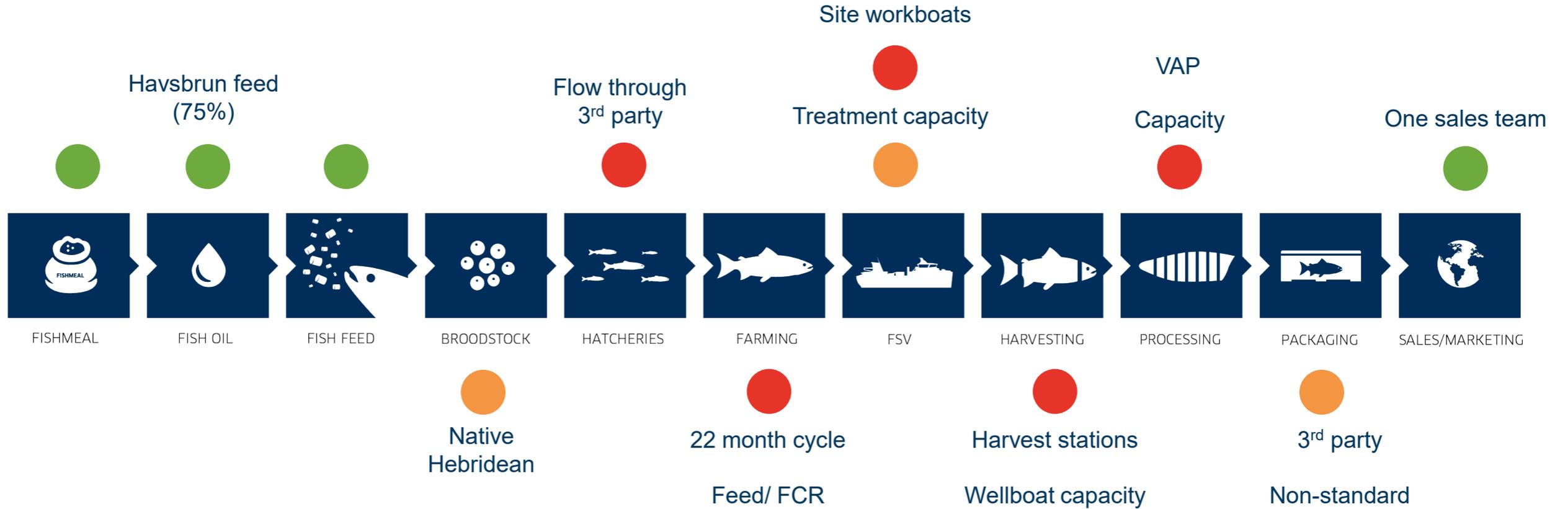
Applecross



Loch Fyne



West Strome

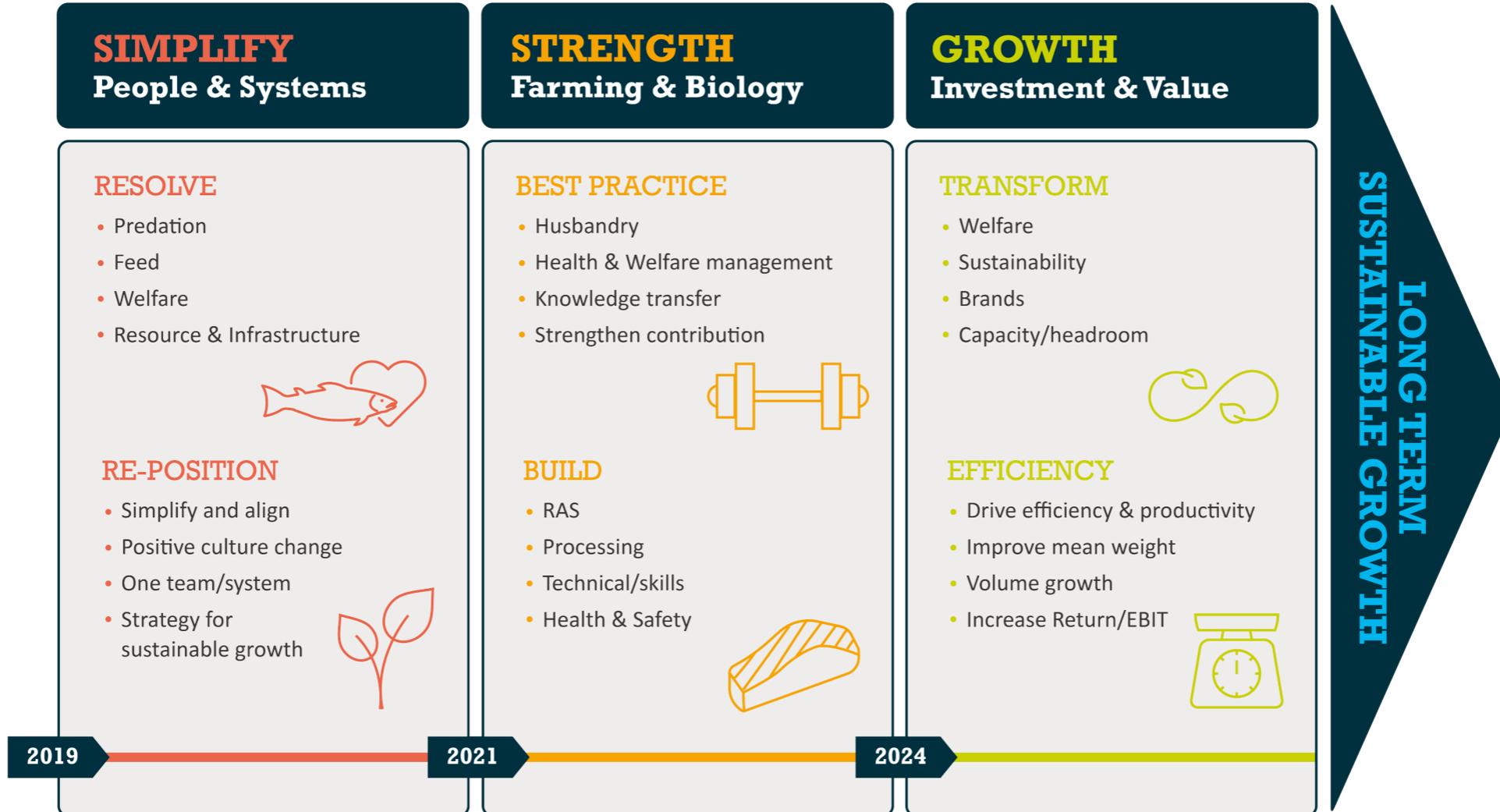


# HEALTHY BUSINESS

## FACTORS EFFECTING RECENT PERFORMANCE



To create long term sustainable growth focussed on the principles of: Simplify - Strengthen - Growth



**OPERATIONS**

HAVSBRUN FEED

FRESHWATER TREATMENT CAPACITY

OPTIMISE PROCESSING CAPACITY

ONE TEAM/GROUP

CLEANER FISH

RESTRUCTURED

2019

2020

2021

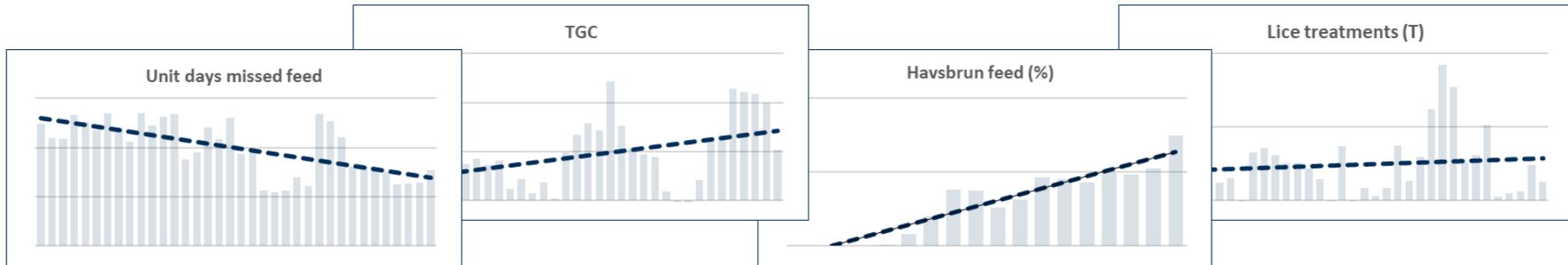
**INVESTMENT**

FEED SYSTEMS

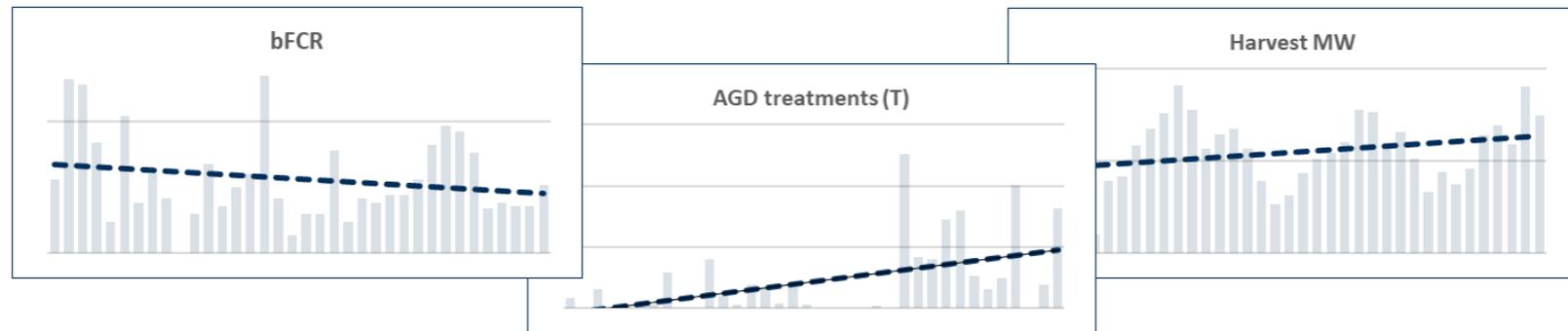
SEAL PRO NETS

RAS FACILITY

TREATMENT RESOURCE



TGC	Harvest Mean Weight (kg)	Feed (% Havsbrun)	lost feed days	bFCR	AGD treatments (T)	Lice treatments (T)
↑	↑	↑	↑	↑	↑	↑



**Best Practice**

**Marine Operations**

**Ronja Fisk**

- Dedicated FW treatment vessel
- 2,500m<sup>3</sup>
- RO at 200T/hr



**One Team**

- Bakkafrøst Freshwater team at Applecross
- Group Sales Director at Loch Striven



**Marine Operations**

- Cleanerfish / Wrasse strategy
- Final stocking
- Remote feeding
- Aeration



**Build**

**Marybank**

- 15kt pa to 20kt GWE pa

**Cairndow**

- 21kt pa to 27kt GWE pa

**Geocrab**

- Reinstated after flood
- 100T p.a. production

**Couldoran**

- 500 m<sup>3</sup> RAS reinstated
- 80T p.a. production



**Applecross RAS**

**Phase 1-3**

- 4,520m<sup>3</sup>
- 5m smolt @ 110g
- Commissioning phase



**Phase 4**

- 13,800m<sup>3</sup>
- 10m smolt @ 250g, then
- 5m smolt @ 500g
- Build phase



**FSV**

**Bakkanes**

- 4 line FLS
- Dedicated treatment vessel
- 200T/hr



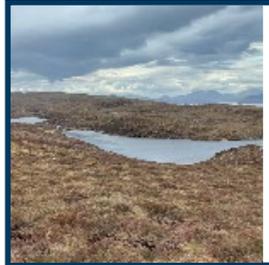
# HEALTHY ENVIRONMENT CASE STUDY - APPLECROSS



**Hydro**  
500kw/hr capacity  
2MW available



**Heat/Chill**  
Salt Water Heat  
Exchanger  
Reduces heat  
pump energy  
Saving 400kW/hr  
10% energy  
reduction



**Water**  
90% reduction of  
use vs current



**Recycled  
Materials**  
Batching plant on  
site saves 130,000  
km road miles  
4,000 tonnes of  
rubble for subbase



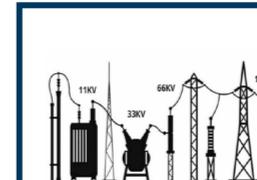
**Solar**  
Annual yield 1,100  
KW  
33% of site needs  
625kw/hr capacity



**Waste**  
Reduced to 90%  
dry matter  
Reduce solids from  
10 T/day to  
0.35T/day, Saves  
260 trucks/year  
96% waste  
reduction



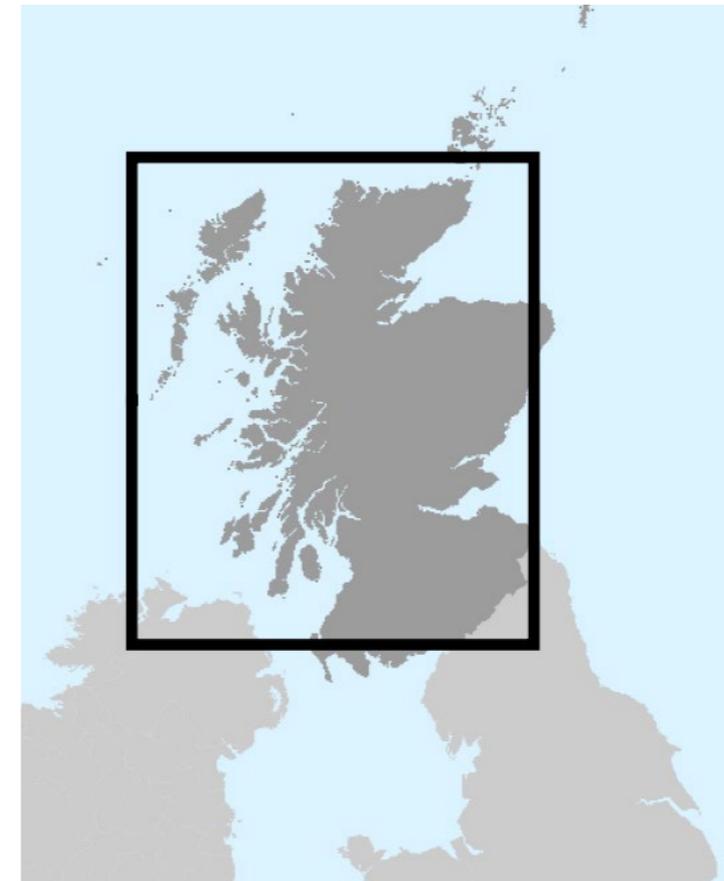
**Heat  
Recovery**  
Salt Water Heat  
Exchanger  
Reduces heat  
pump energy  
Saving 400kW/hr



**Power**  
Upgrade  
substation to 33kv  
Incoming power  
3.4MW for supply  
security  
Power factor  
correction 10%  
energy reduction

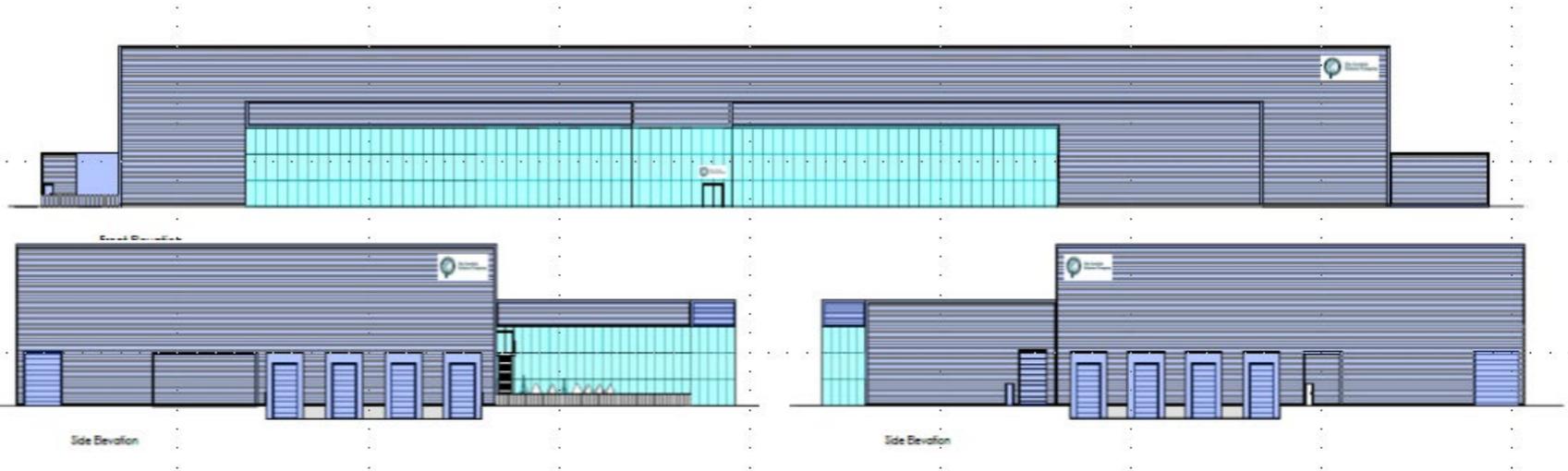
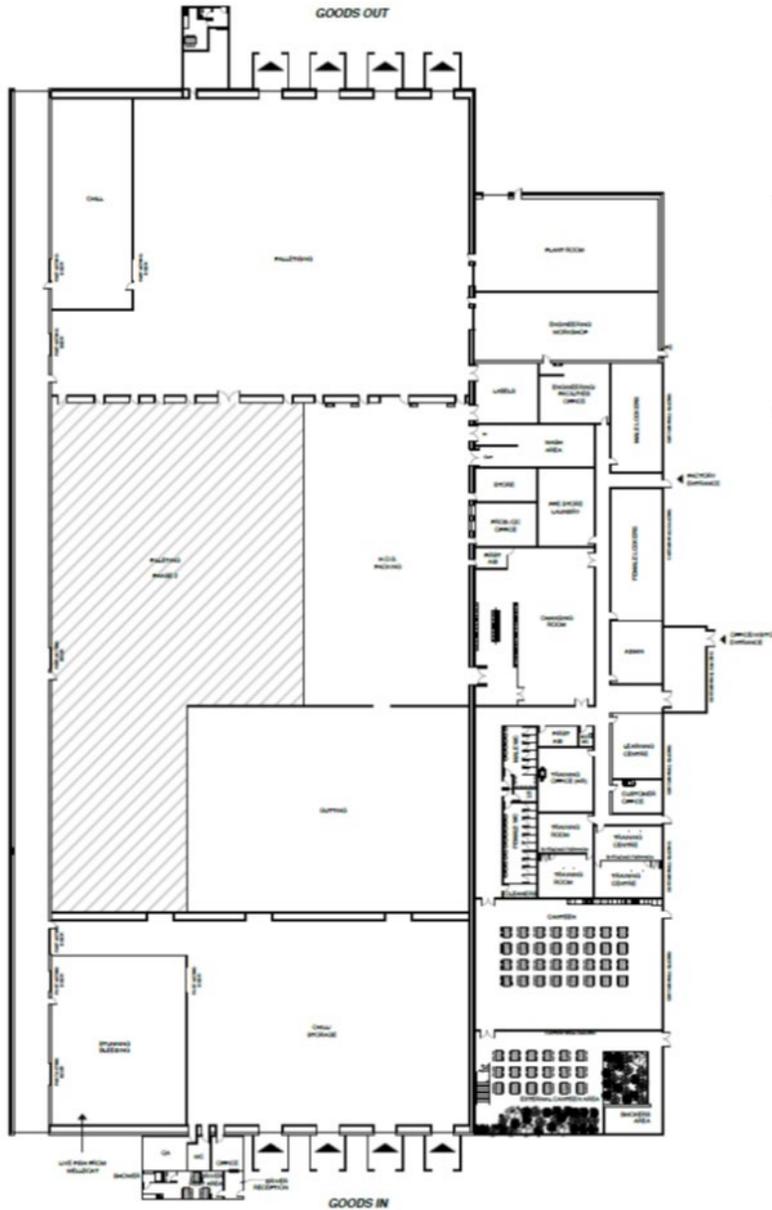
**Applecross Phase 5** – 10,000 m3 expansion to 28,000m3  
Production increase to 8m smolt @ 500g

**New facilities** to 36,000 m3  
Production capacity to 10m smolt @ 500g

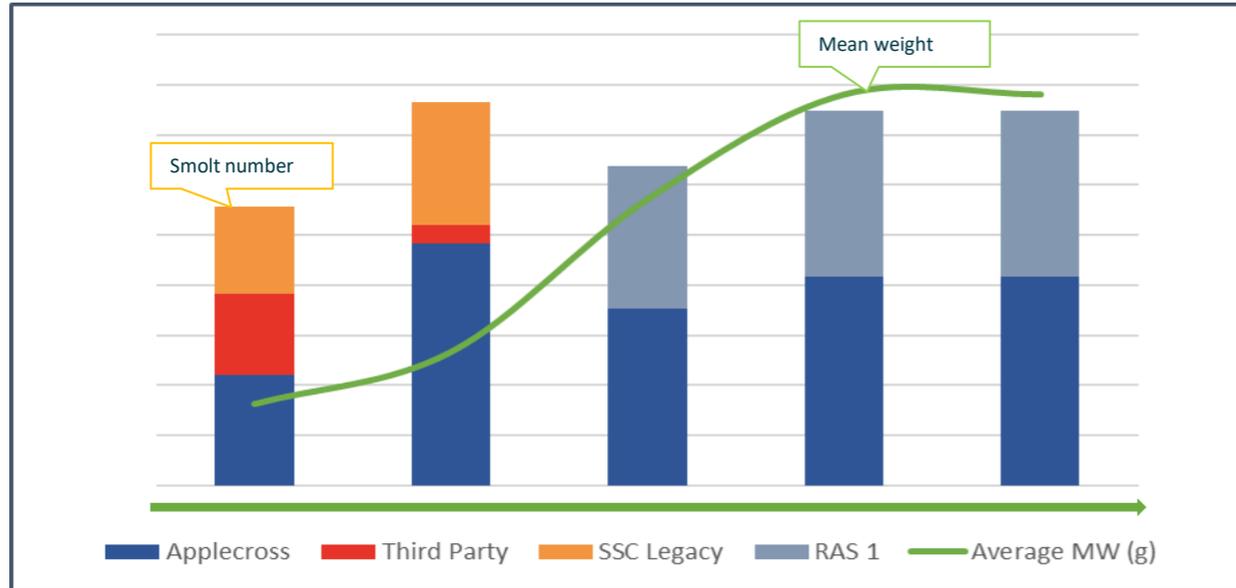


- Legend**
- SSC Marine Site
  - RAS Option**
  - ▲ Good prospect
  - ▲ Under Investigation
  - ▲ Dismissed

# STRENGTH PROCESSING - NEW FACILITY



- **Highly automated quality focused processing**
  - Swim through harvest
  - Latest processing technology
  - Automated packing & palletisation
- **Scalable design to build capacity in line with business growth**
- **Operational by 2024**
- **Unique pre-rigor fillets ensuring freshness to market**
- **Green energy opportunity**

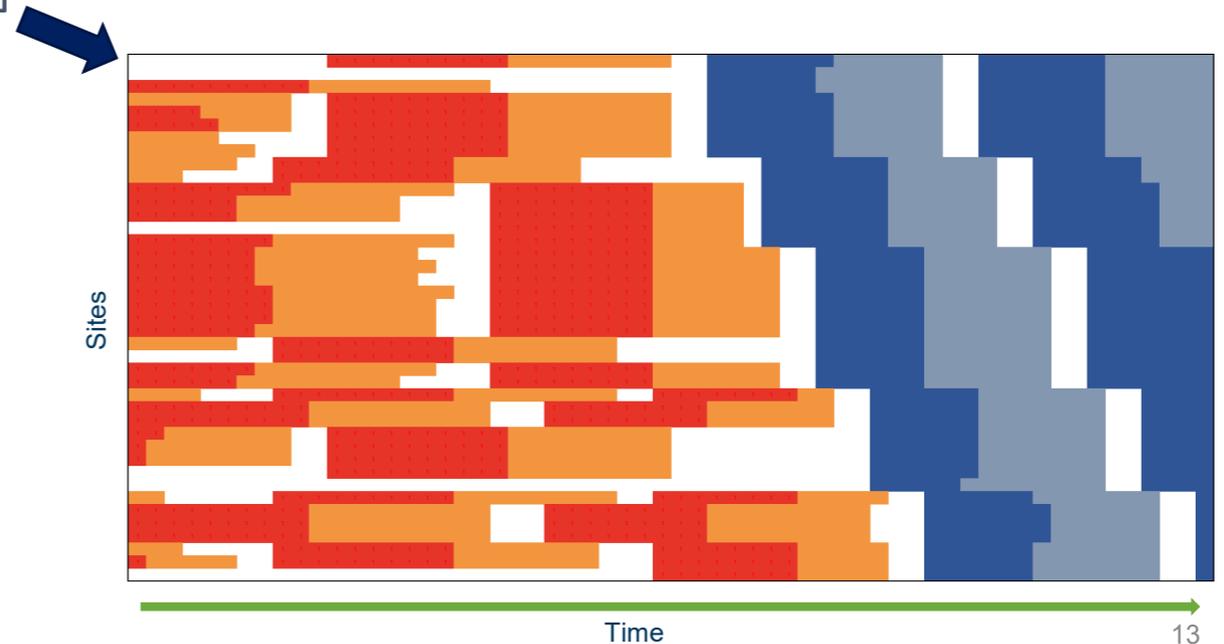


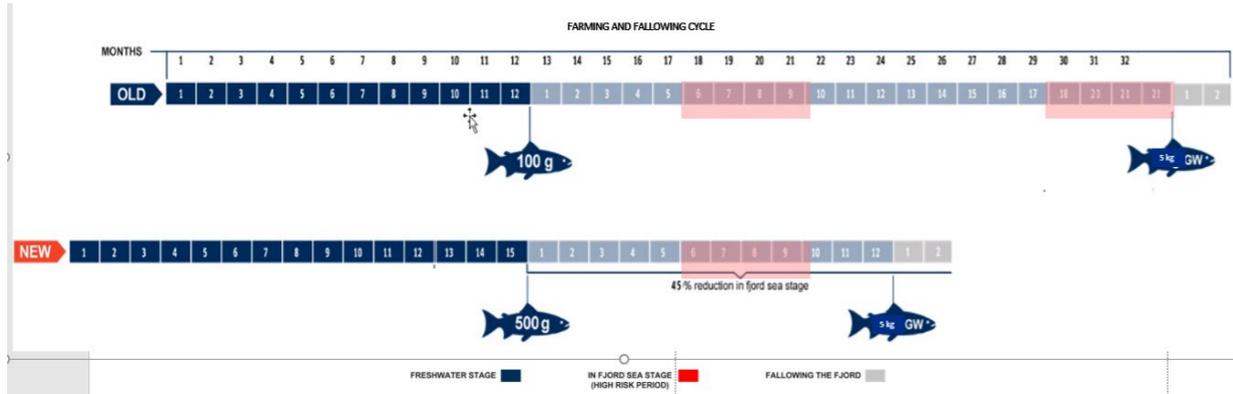
## FRESHWATER STRATEGY

- Consolidation to large hatcheries
- Remove 3<sup>rd</sup> party smolt within three years
- 10k m3 to 64k m3 capacity, by 2026
- 6m smolt @ 85g to 18m+ smolt capacity @ 500g by 2026

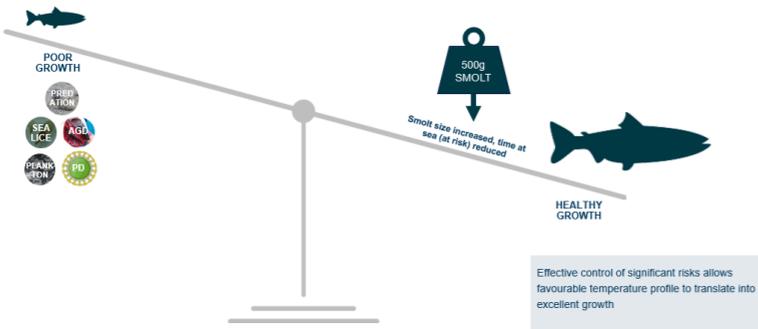
## MARINE STRATEGY

- Reposition and transition of cycles underway
- Shorter Marine cycle
- Quarterly cycles / stocking – Metronomic
- Smoother production profile





**RISKS CONTROLLED**



**FRESHWATER STRATEGY**

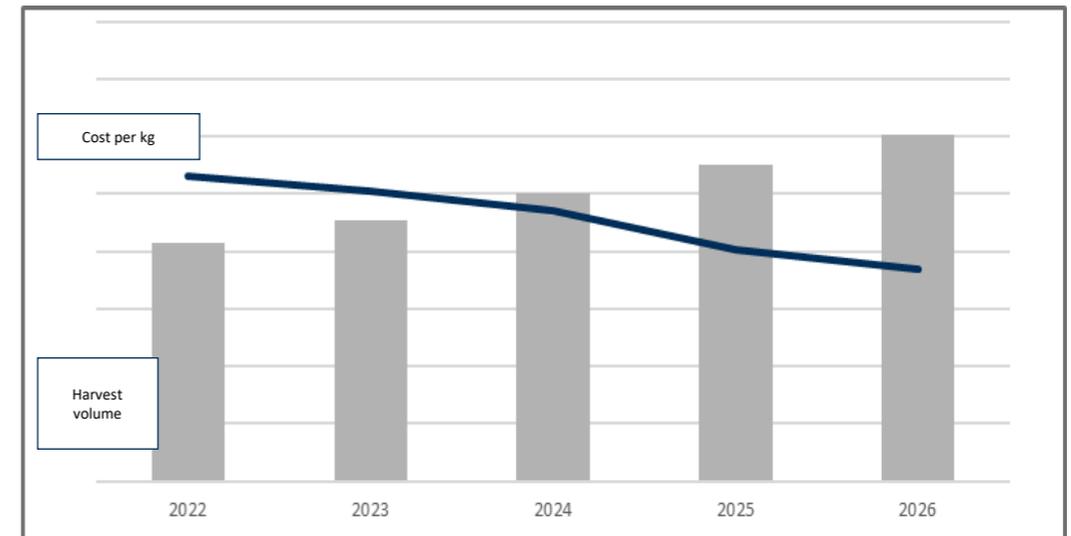
- Large smolts shift the balance of risk
- FW treatment improves health / ability to tolerate environmental factors
- One Summer - 50% risk removed

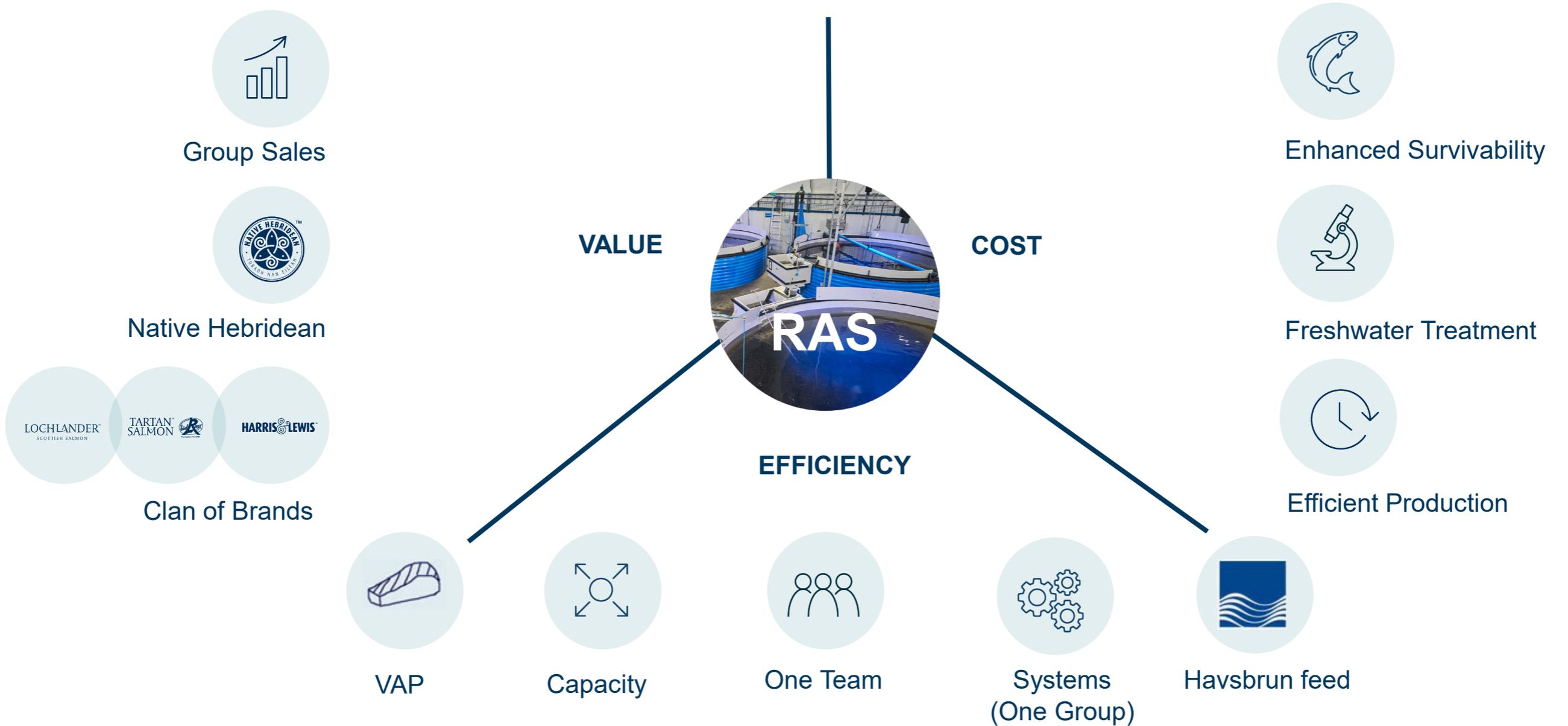
**IMPACT ON PRODUCTION**

Production at **50kT** by 2026

Survivability, health and efficiencies of scale transforms cost per kg

Mean weight increase to **5kg+**







Truly Scottish: Native Hebridean



UK Domestic Market



Free Trade

**VALUE**



**COST**

**EFFICIENCY**



Investment Incentives



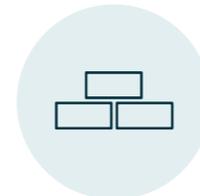
R&D Incentives



Energy De-regulation



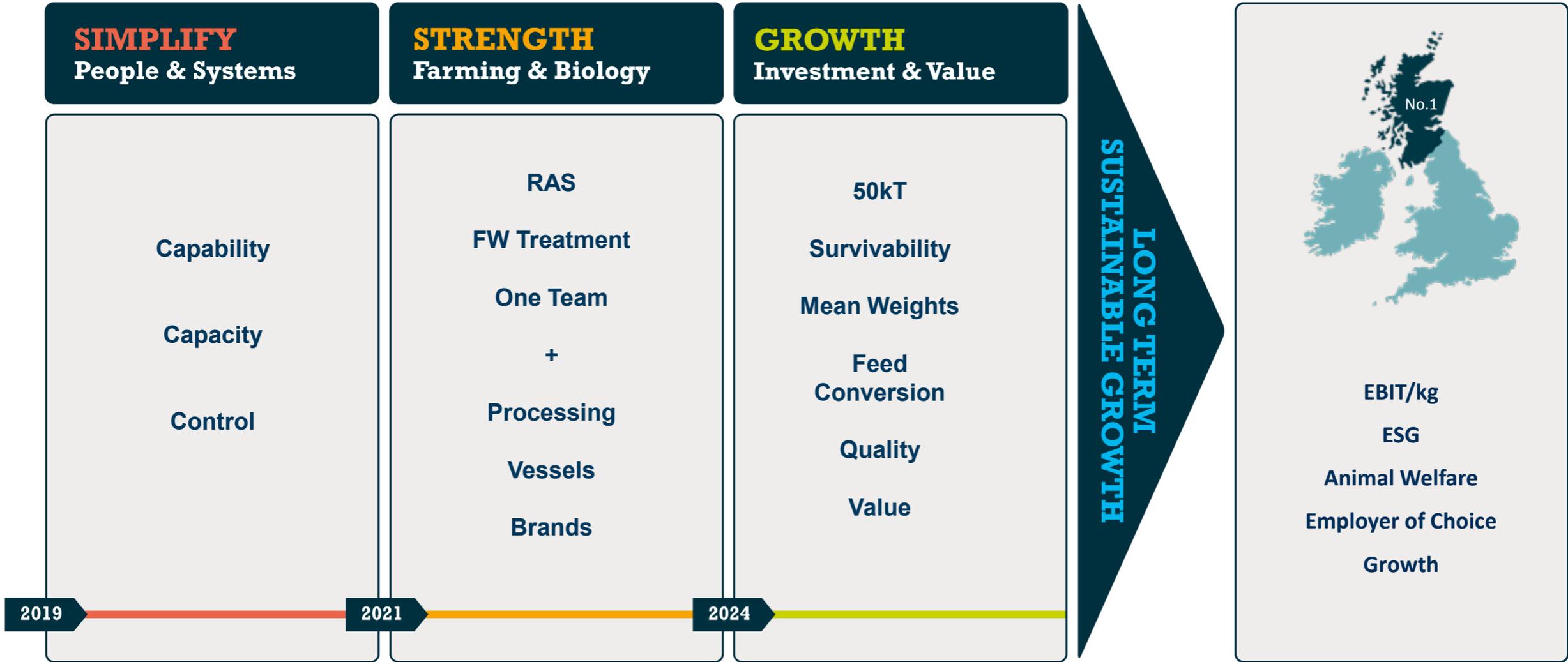
Academia / Skills Based



Site Development



Growth – TGC / Temp



# THANK YOU

---





SUPERIOR  
QUALITY  
**SALMON**



## ***Bakkafrost presentation***

*A world-class company in the salmon industry*

## ***Capital Markets Day – Fish meal, oil and salmon feed***

**Faroe Islands 14 September 2021**

## DISCLAIMER

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# WELCOME TO HAVSBRÚN

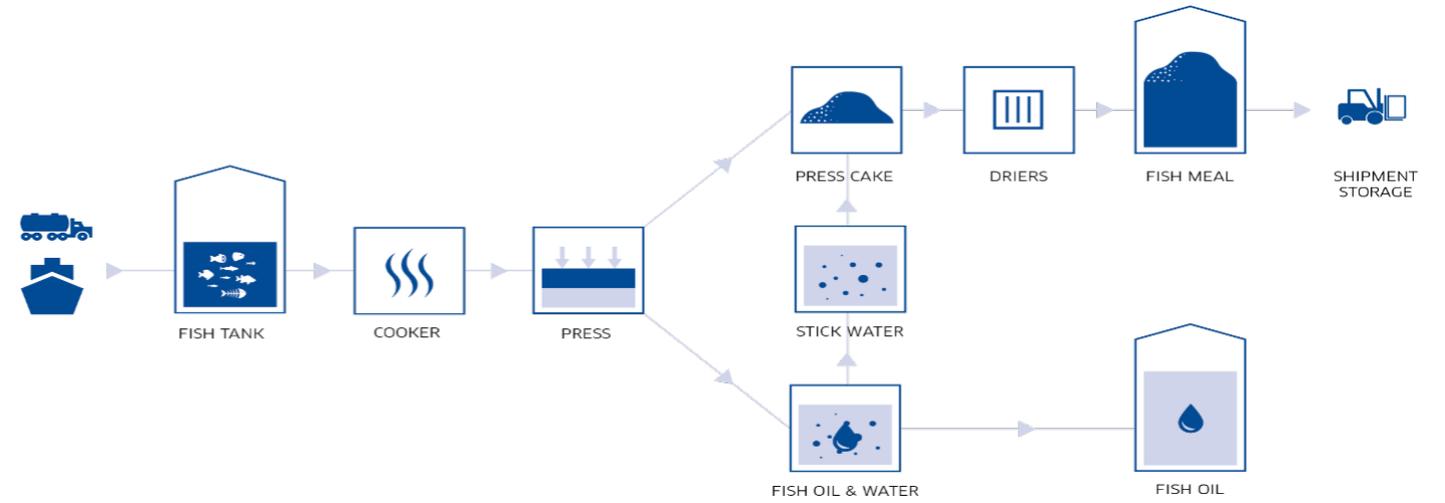


## AGENDA

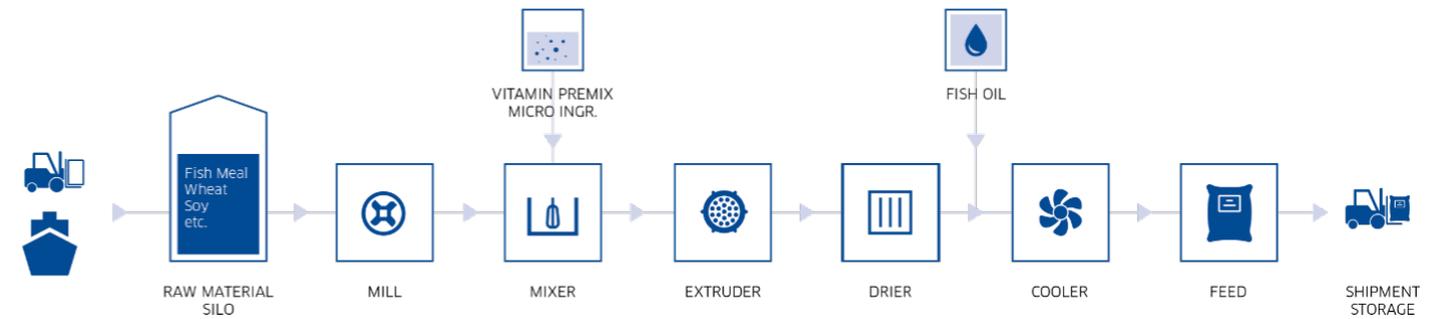
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- What do we do at Havsbrún
- Natural feed to our salmon
- R&D - the benefits
- Feed to Scotland – Synergies
- Future Investment in new feedline
- MSC and blue whiting, what is the situation?

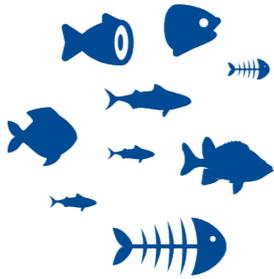
## Meal and oil department



## Feed department

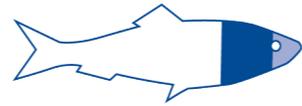


# Transformation



## Raw Materials

Not suitable for hum. cons.  
No or limited marked demand.  
Rejected fish.  
Fish biproducts & offcuts.



## Fish Composition

- 72% water
- 18% dry matter
- 10% lipid



## Fish Oil



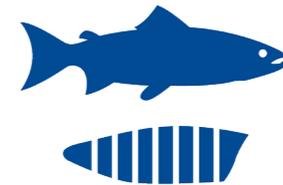
## Fish Meal

71% Protein  
14% Ash  
8% Lipid  
7% Moisture...



## Feed Composition

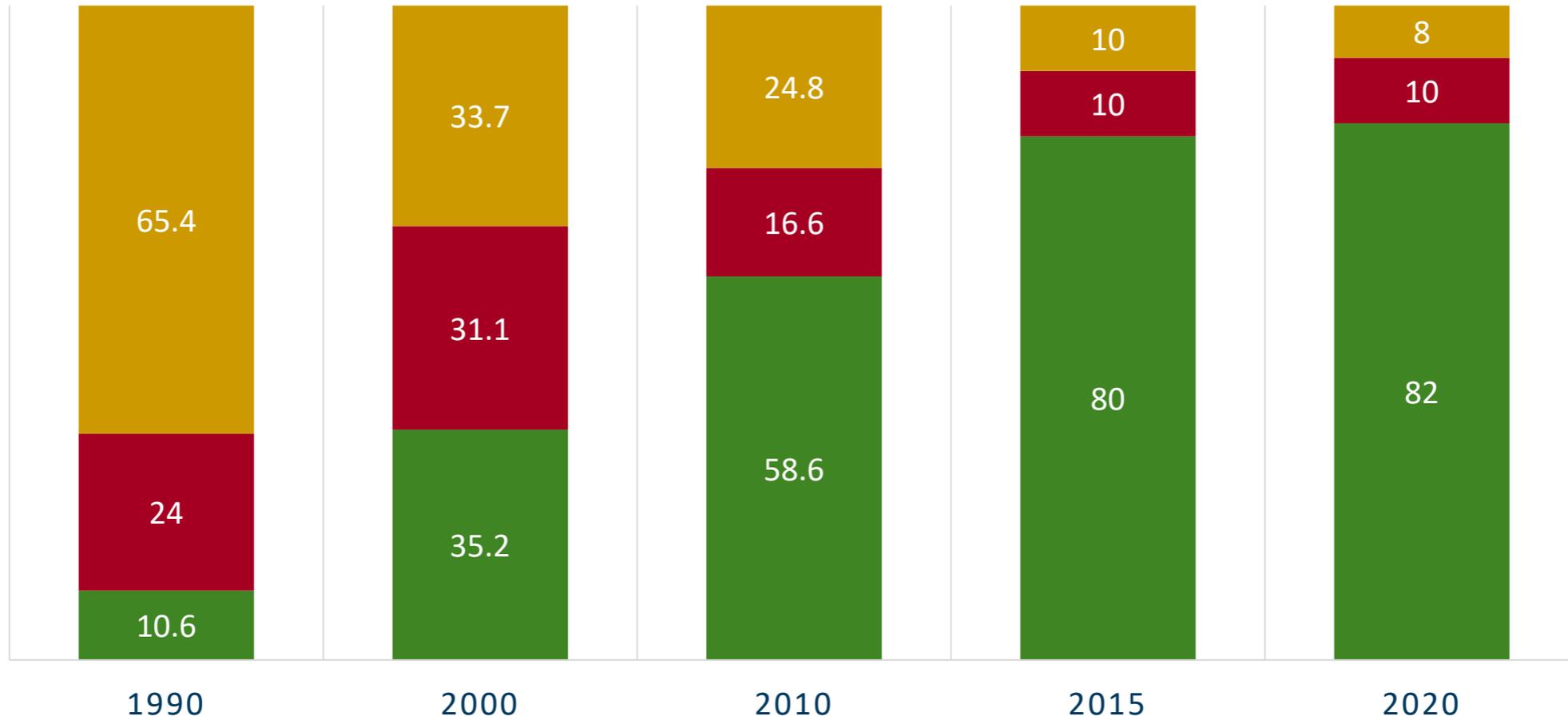
35-48% protein  
20-37% lipid



## Salmon

## RAW MATERIAL IN SALMON FEED

■ Vegetable protein/oil ■ Fish oil ■ Fish meal

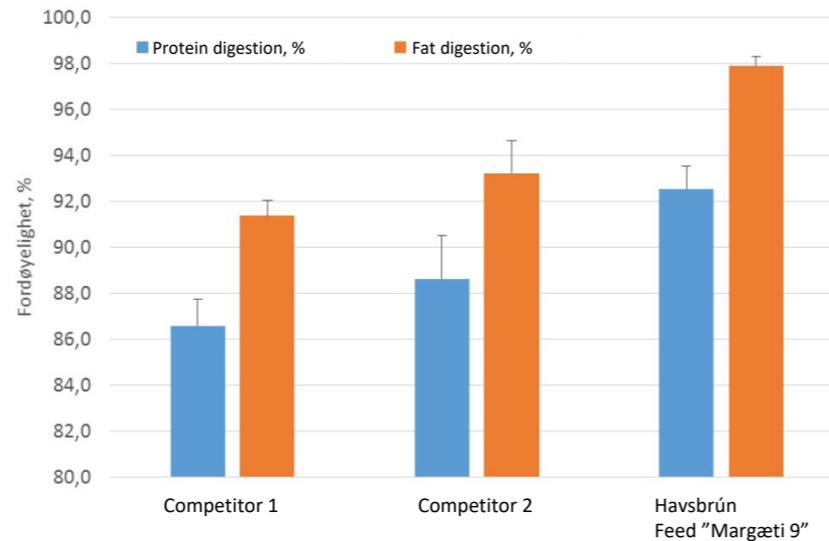


Figures for Norway  
Source: Holtemann

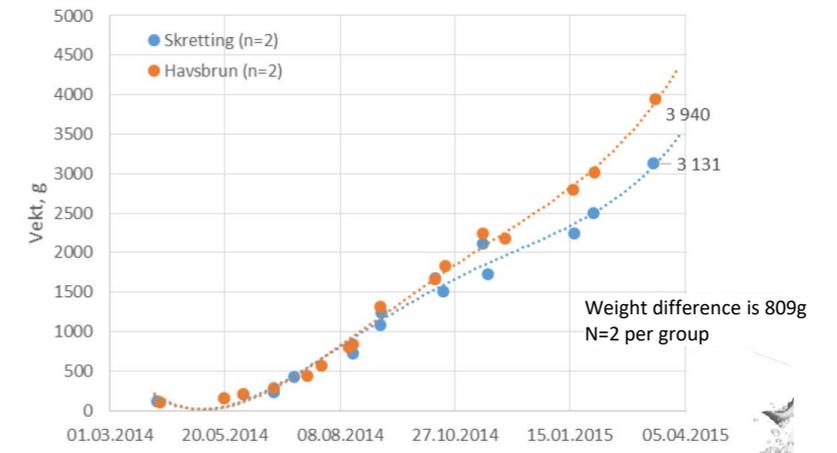
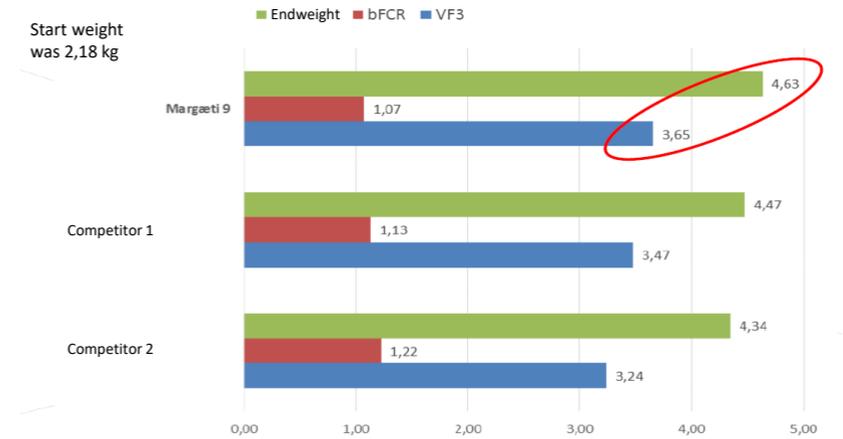
## SOME OF THE BENCHMARKING RESULT WITH HIGH MARINE PROFILE



- Strong performance by Havsbrún feed
- More efficient digestion
- More rapid growth



## Benchmarking GIFAS: Performance - Weight after 84 days at 12,2°C





## HP EFFECT ON QUALITY & GROWTH

- Higher harvest yield
- Lower fat
- Lower *viscerosomatic index* (VSI)
- Thicker *hypaxial anterior muscle* (HAM)
- Higher condition factor
- Better fillet quality
- Better growth (TGC) Lower FCR

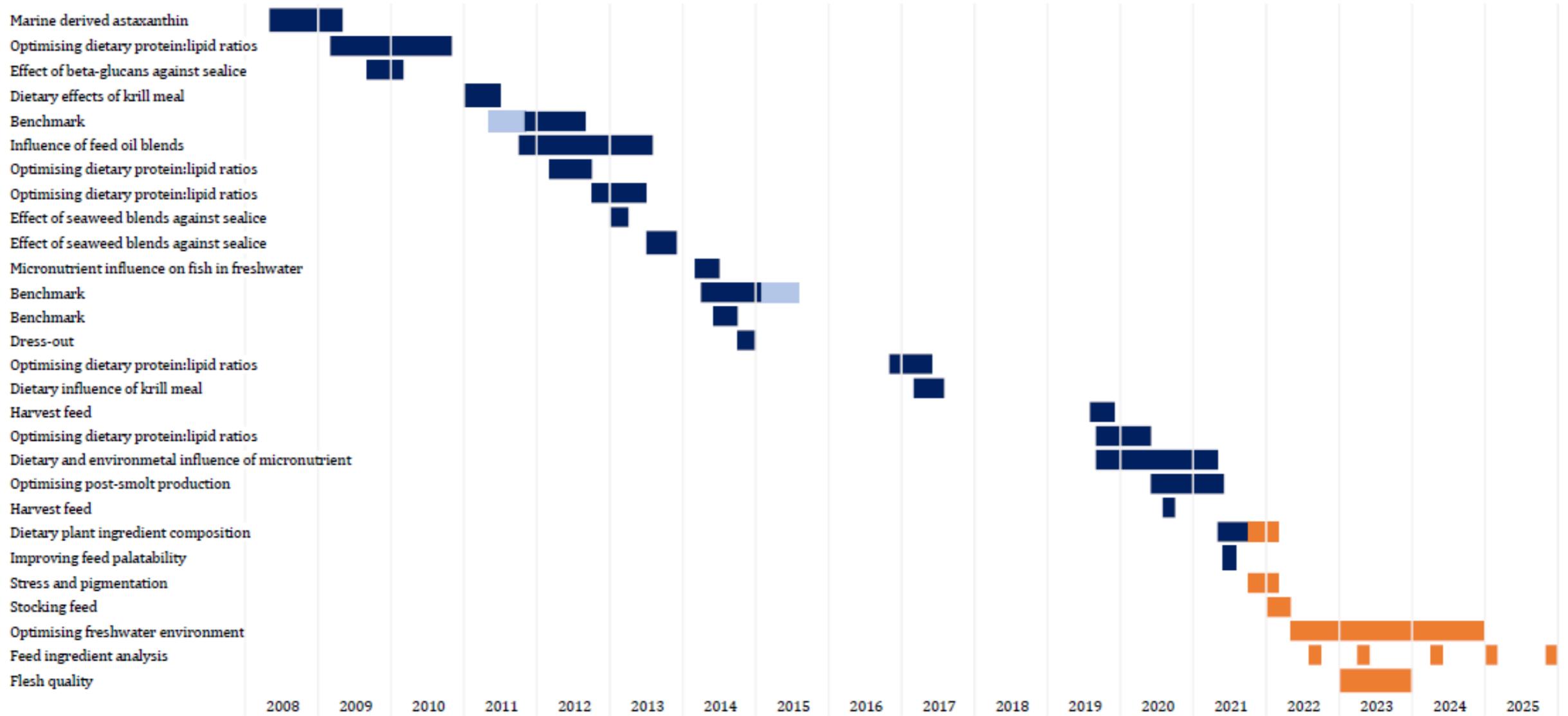
## CREATING SUPERIOR QUALITY

- Fillet quality
- Great fillet color
- Rich in long-chained omega-3 (FA profile)
- Shelf life
- Unique taste



See the different - Taste the different – Measure the different

# FISH MEAL, OIL AND SALMON FEED RESEARCH AND DEVELOPMENT

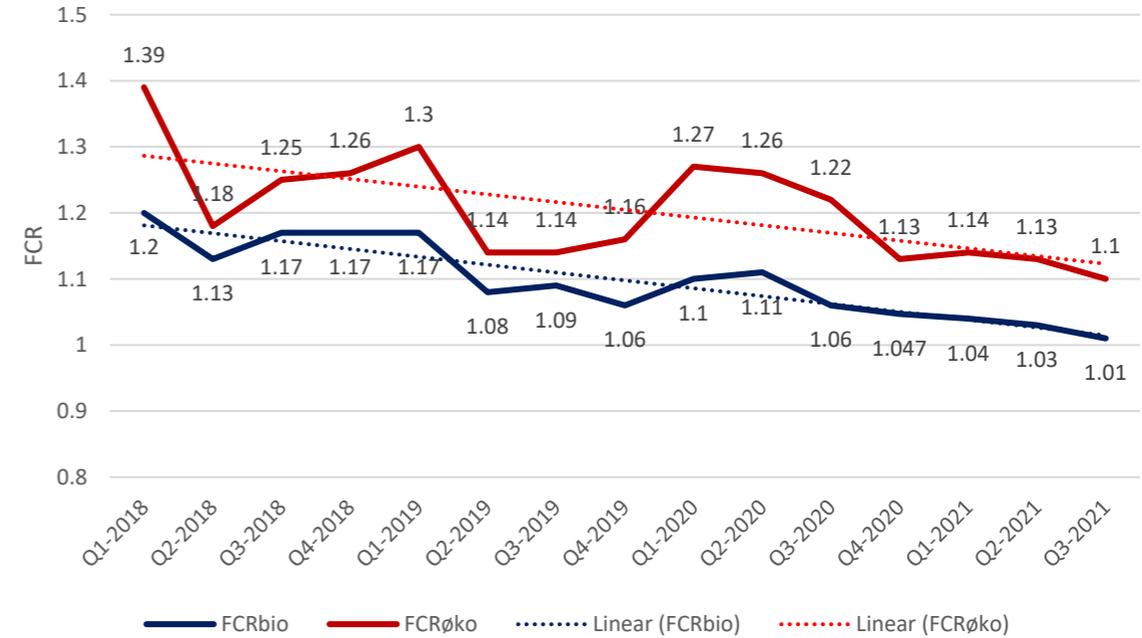


## World record?

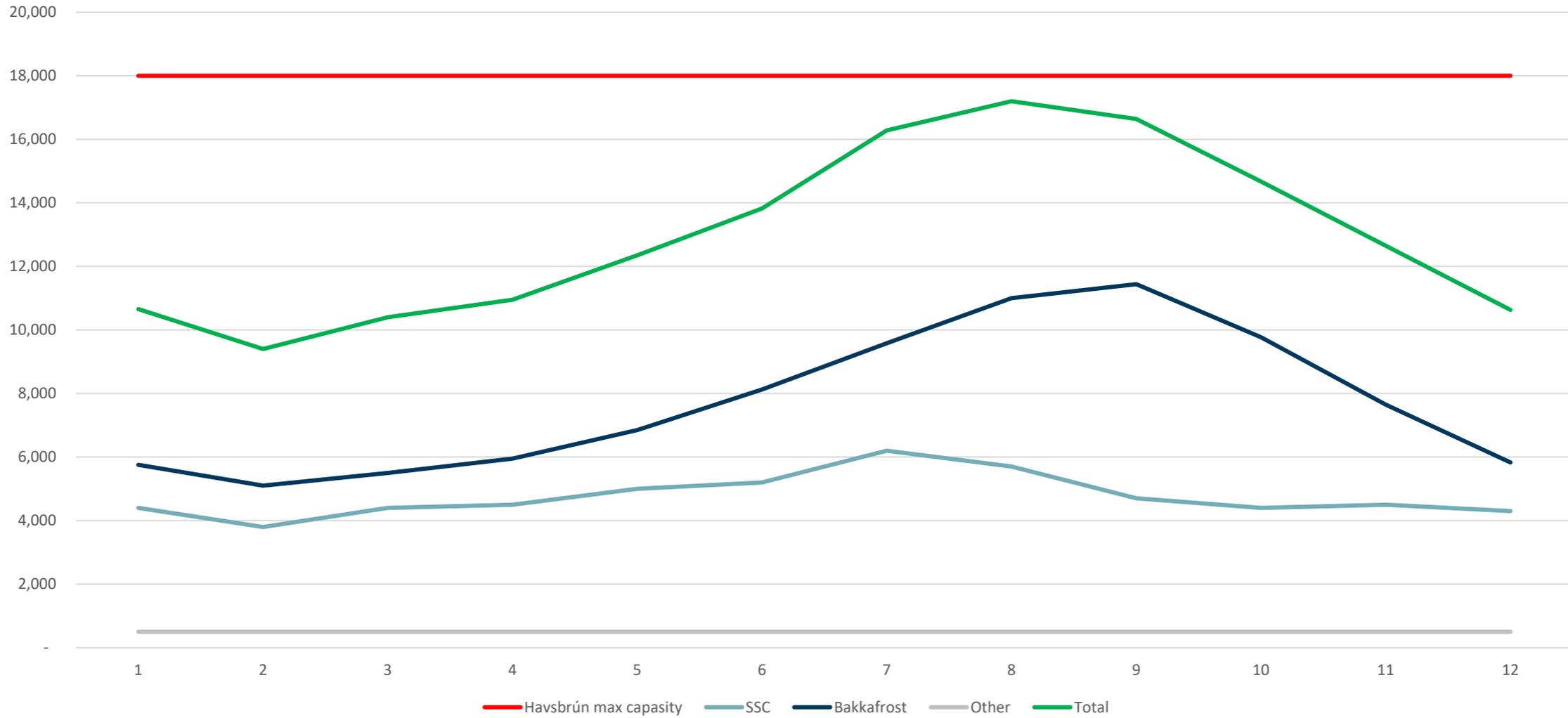
Fuglafjørður 2021    9.139 tons    FCR 1,00 (0,91-1,08)

Last 12 sites    70.000 tons    FCR 1,04

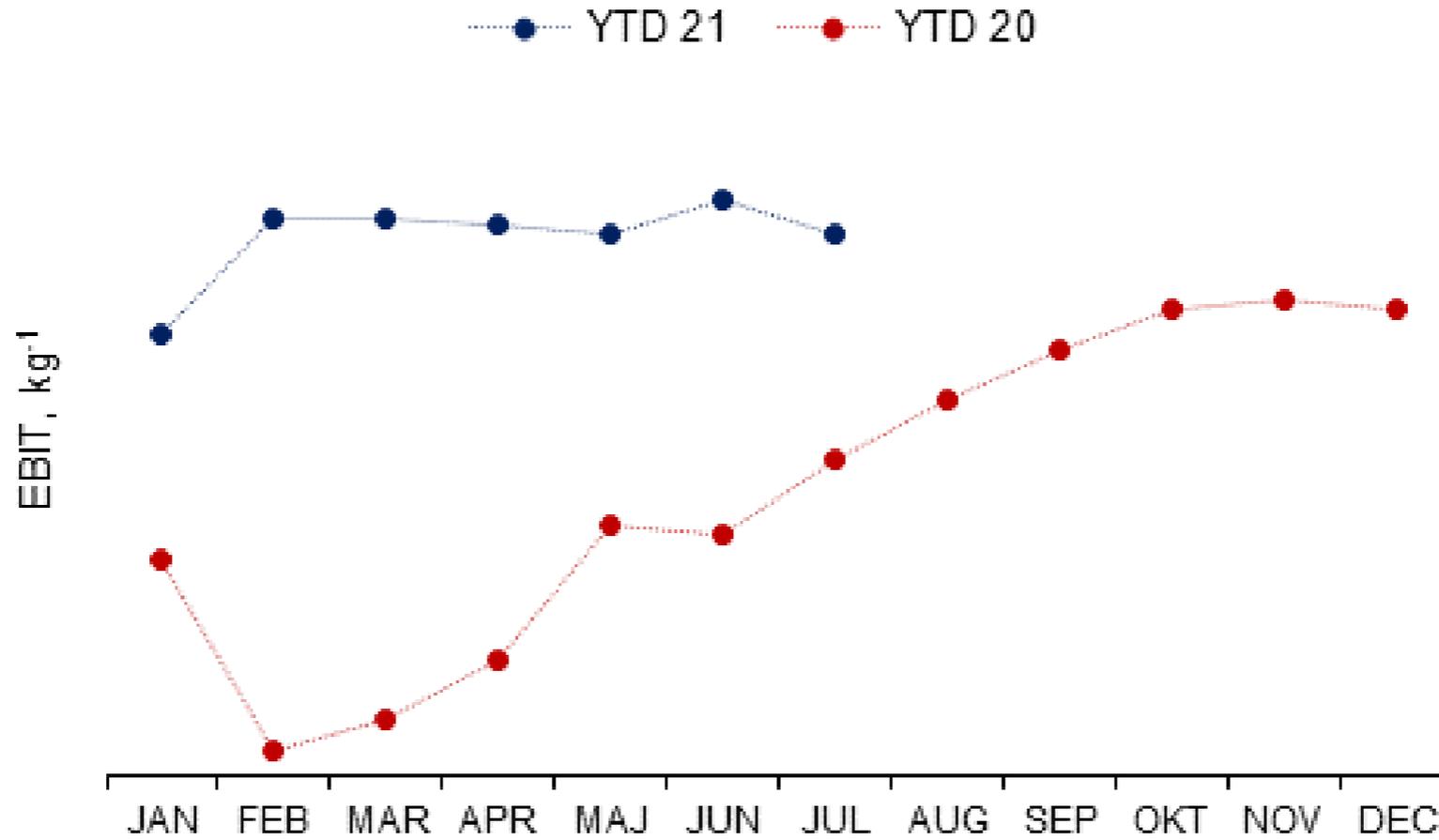
**BFCR og EFCR slakt**



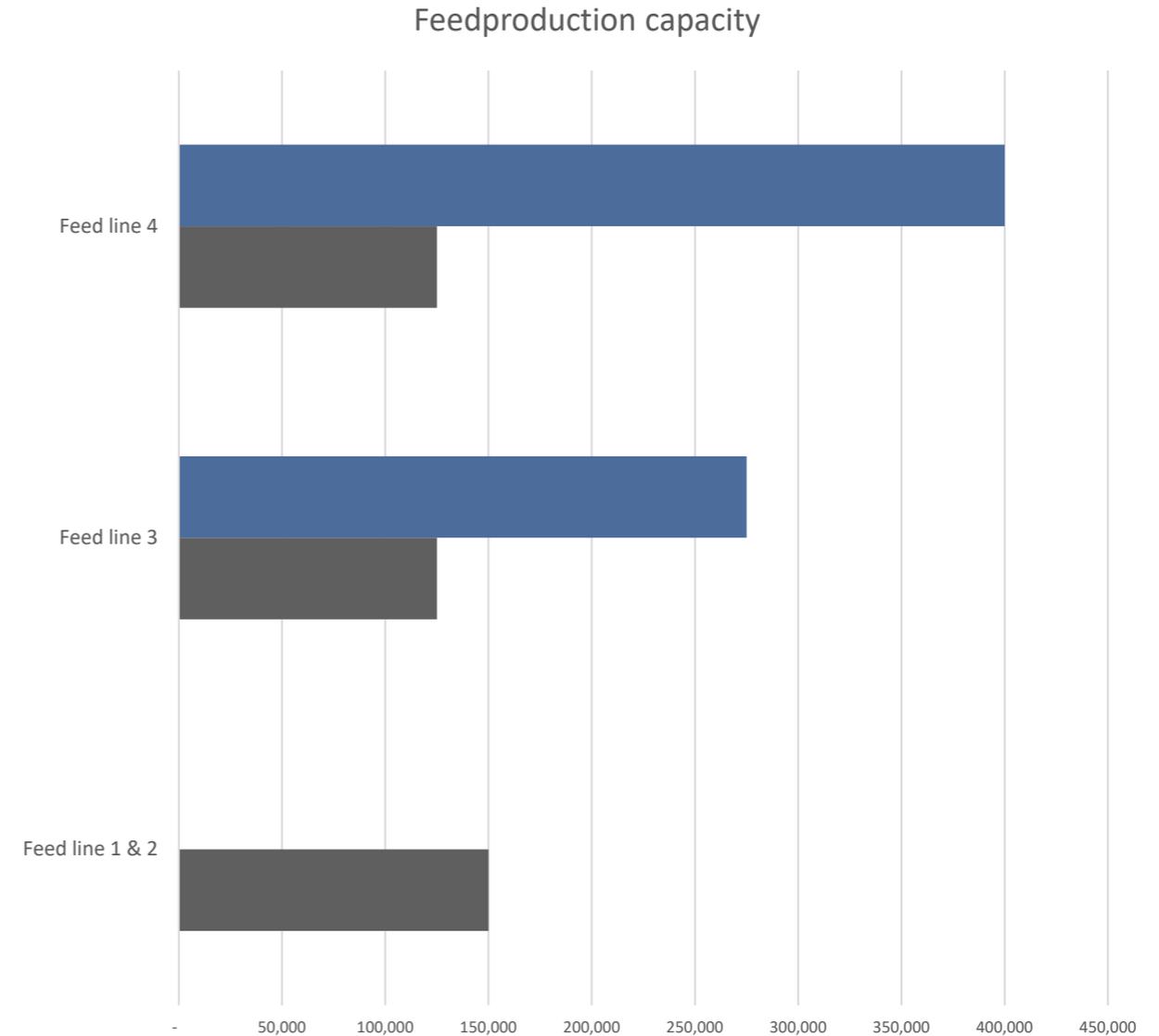
Capacity max 18000 t/month.



## Synergies



- 155.00 tons of hog salmon is corresponding to app. 200.000 of fish feed.
- Feed line 1 & 2 have a max capacity at 150.000 tons ( Seasonal depending)
- The new 3. feed line will increase capacity with 125.000 ton up to app. 275.000 tons
- The 4. feed line will increase capacity with 125 tons up to 400.000 tons
- Building constructions, silos and IT software are planed for 400.000 tons



## FISH MEAL, OIL AND SALMON FEED

### ILLUSTRATION OF PLANT DEVELOPMENT TO MEET REQUIREMENT



## FISH MEAL, OIL AND SALMON FEED

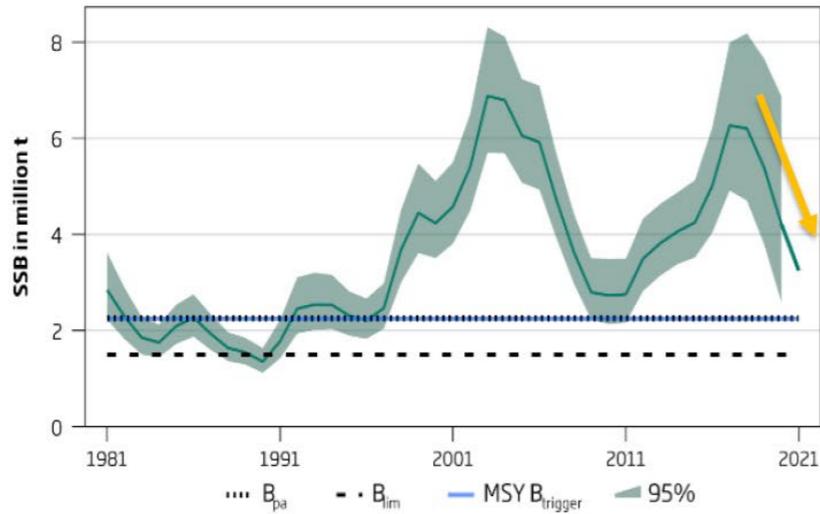
### ILLUSTRATION OF PLANT DEVELOPMENT TO MEET REQUIREMENT



# Blue Whiting

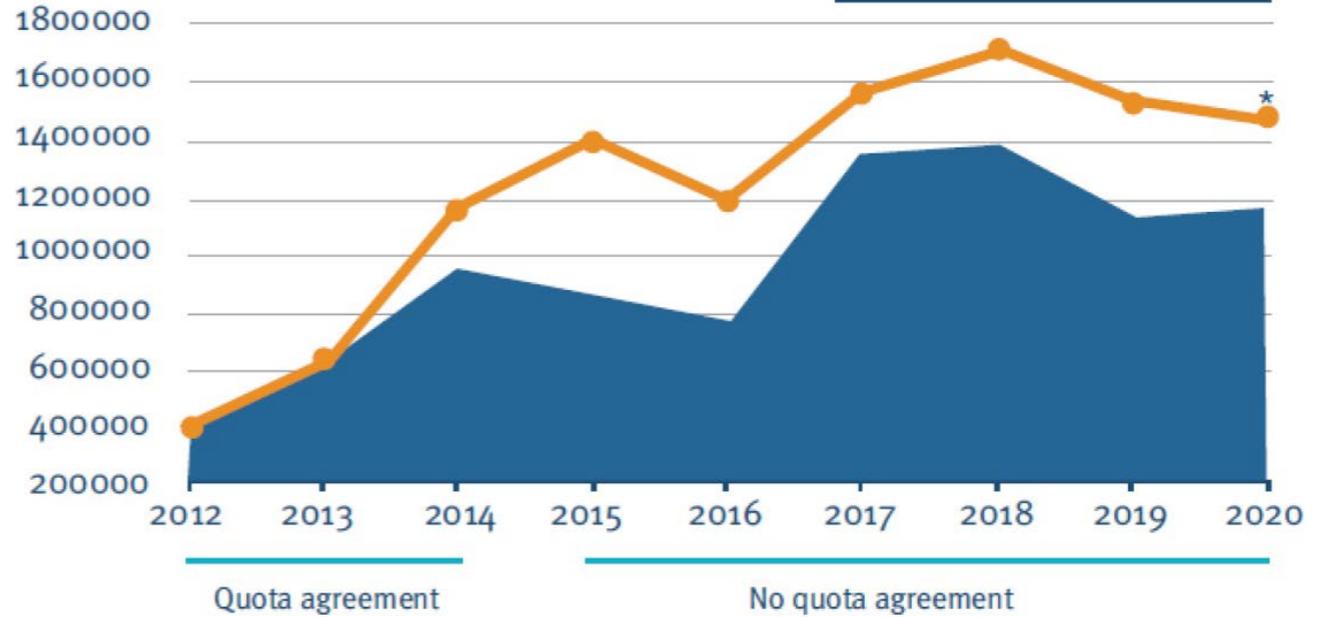



SSB



## Combined total blue whiting catch compared to scientific advice

TONNES

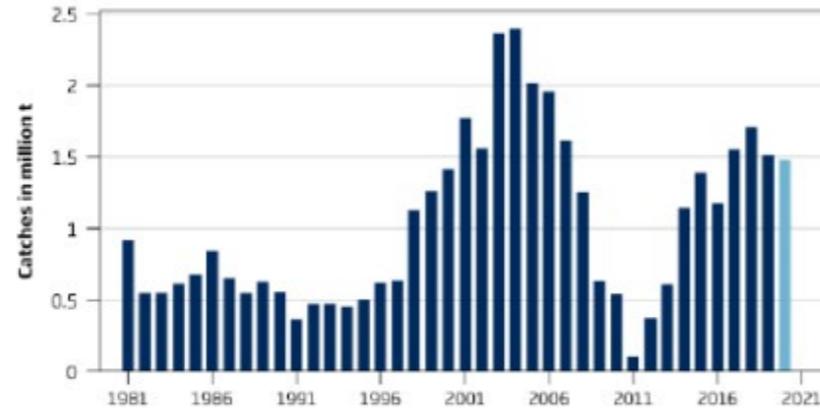


(\*Provisional total catch)

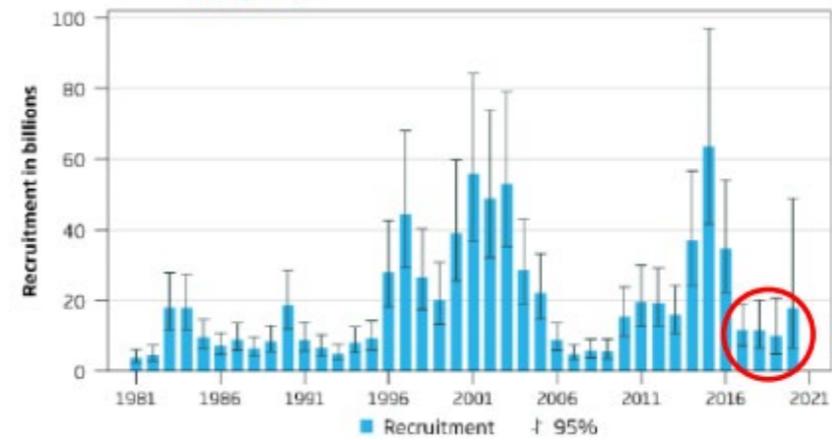
Source: ICES (2012 - 2020)

# Blue whiting stock development

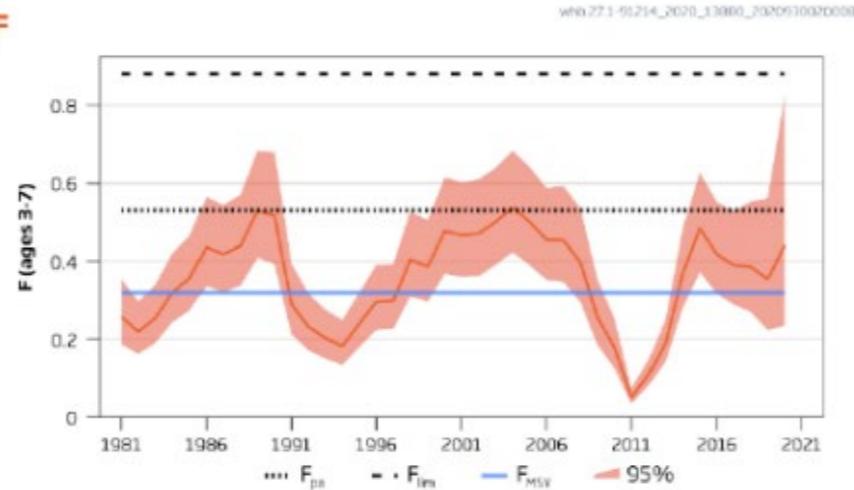
**Catches**



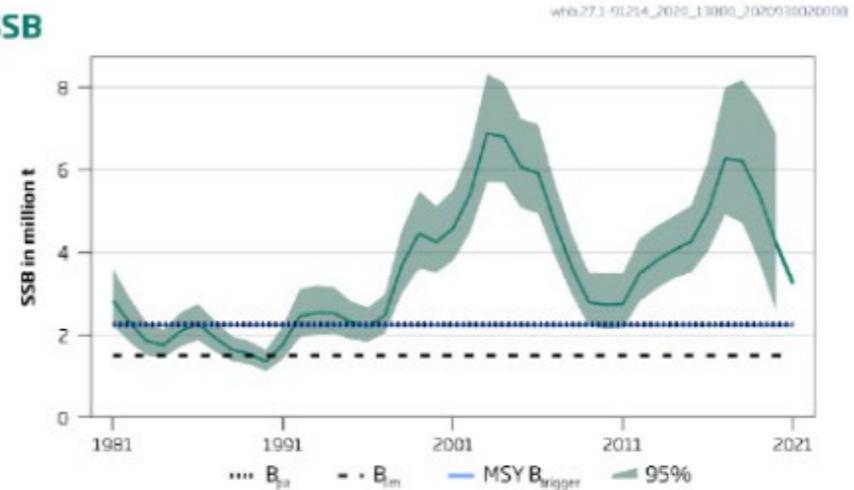
**Recruitment (age 1)**



**F**



**SSB**



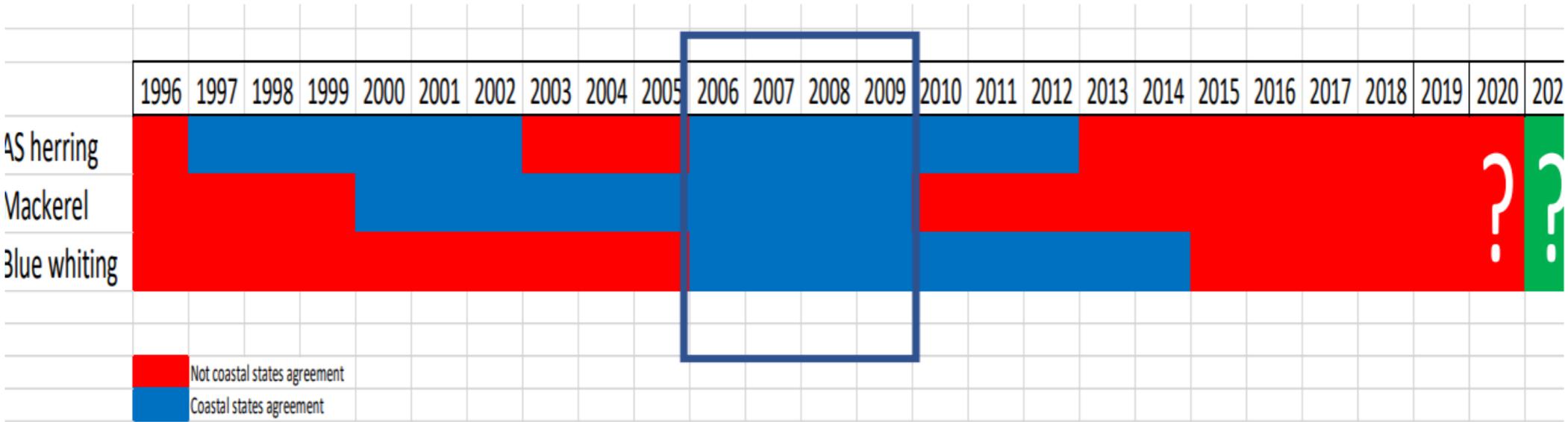
# Blue whiting advice for 2021

ICES advises that when the long term management strategy agreed by the European Union, the Faroe Islands, Iceland, and Norway is applied, catches in 2021 should be no more than **929 292 t**.

		Fishing pressure			Stock size		
		2018	2019	2020	2019	2020	2021
Maximum sustainable yield	$F_{MSY}$	✗	✗	✗ Above	$B_{trigger}$	✓	✓ Above trigger
Precautionary approach	$F_{pa}, F_{lim}$	✓	✓	✓ Harvested sustainably	$B_{pa}, B_{lim}$	✓	✓ Full reproductive capacity
Management plan	$F_{MGT}$	✗	✗	✗ Above	$B_{MGT}$	✓	✓ Above

Advice for 2019 was 1 161 615 t => 20% decrease in 2021

# Coastal states sharing agreement in North Atlantic

Since 1997 there has only been **4 years 2006-2009** where all coastal states are in sharing agreement on all 3 pelagic stocks

## WHAT IS NAPA TRYING TO DO?

---



### **NAPA aims to secure:**

1. An agreement on total allowable catches for Northeast Atlantic mackerel, Norwegian Spring Spawning (Atlanto-scandian) herring, and Northeast Atlantic blue whiting in line with scientific advice,
2. A long-term science-based management agreement.

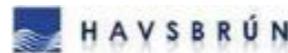
## Supply Chain



INTERNATIONAL FISH CANNERS  
Premium Quality Canned Seafood  
NOR-SEA FOODS LTD  
The Smoked Fish Specialists



INTERFISH Ltd



KARAVELA



## Trade



PROVISION TRADE FEDERATION



Fiskbranschens Riksförbund

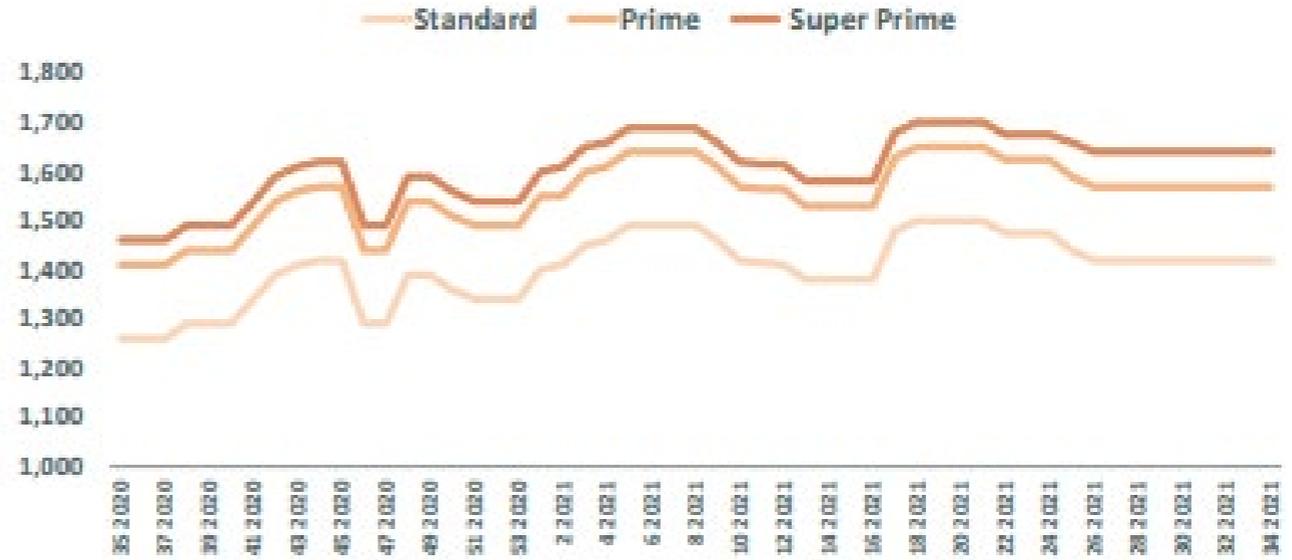


# A THREE-YEAR COUNTDOWN TO CERTIFICATION.

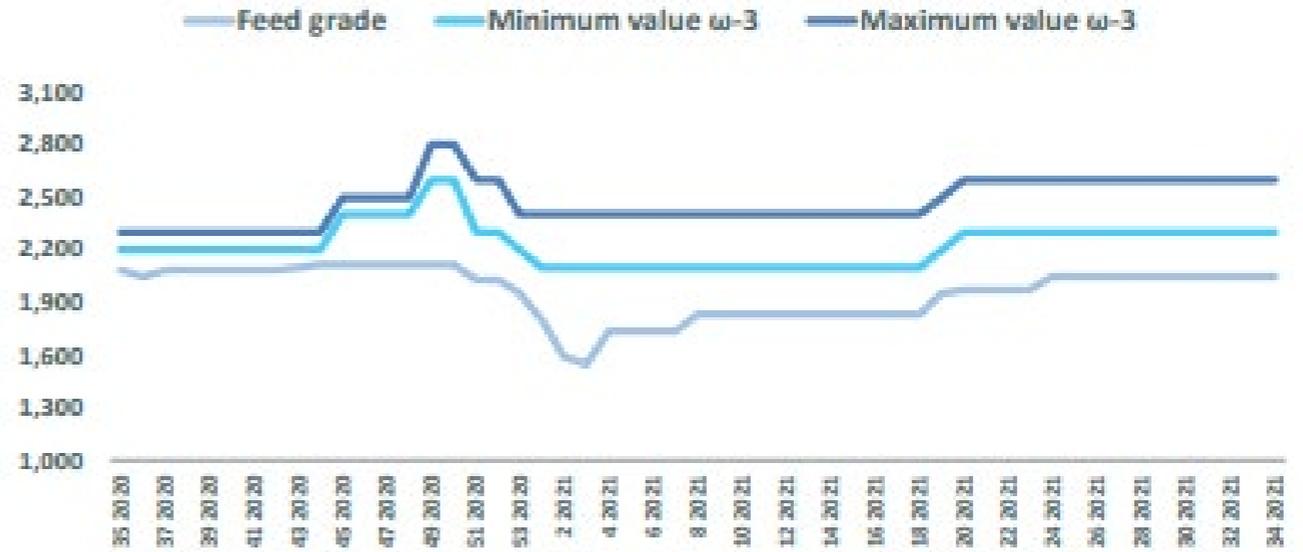
THE CLOCK IS TICKING.



## Fishmeal price

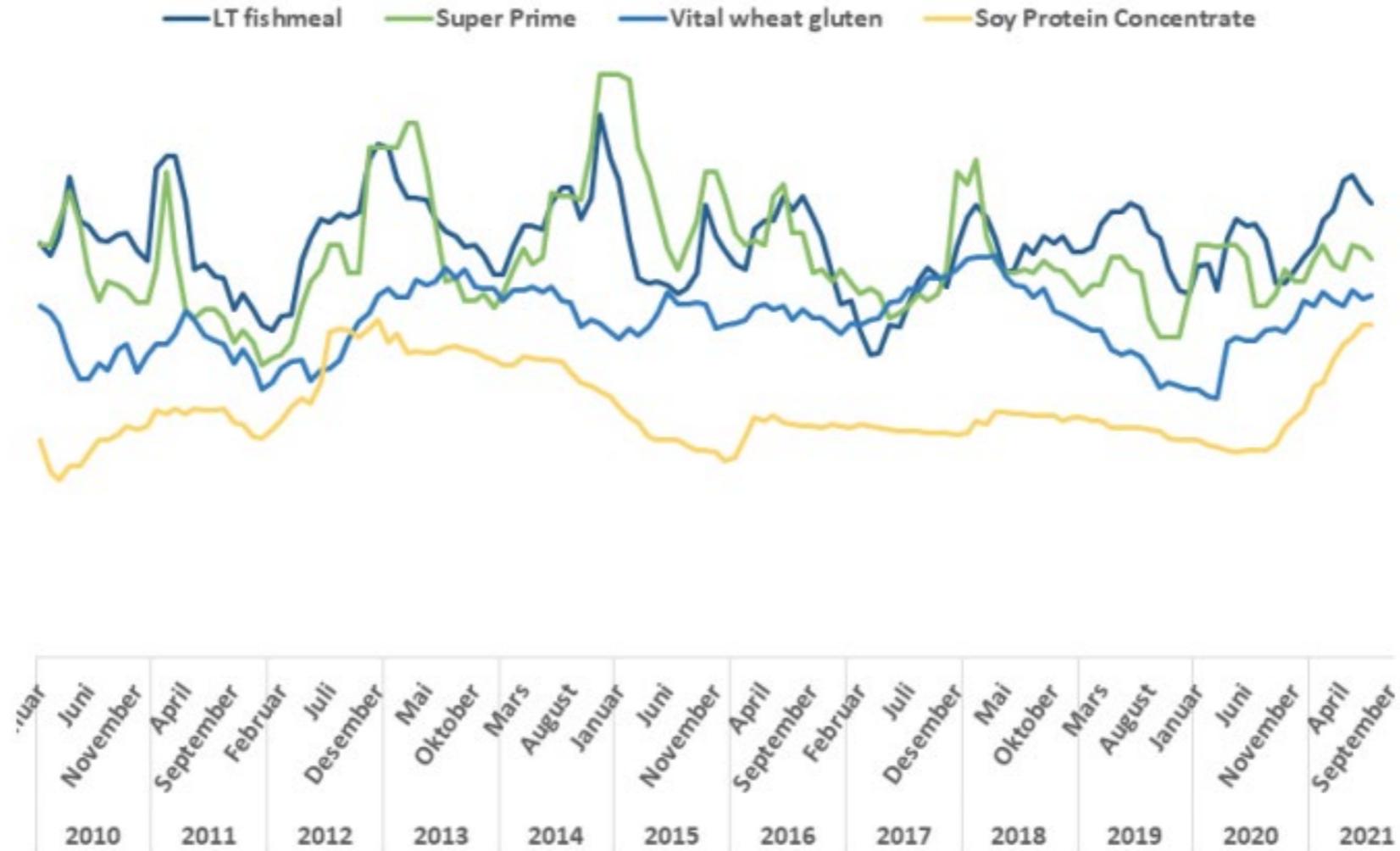


## Fish oil price



# Per unit protein prices

Calculated in USD



THANK YOU





SUPERIOR  
QUALITY  
**SALMON**



## ***Bakkafrost presentation***

*A world-class company in the salmon industry*

## ***Capital Markets Day – Market, Brands & Products***

**Faroe Islands 14 September 2021**

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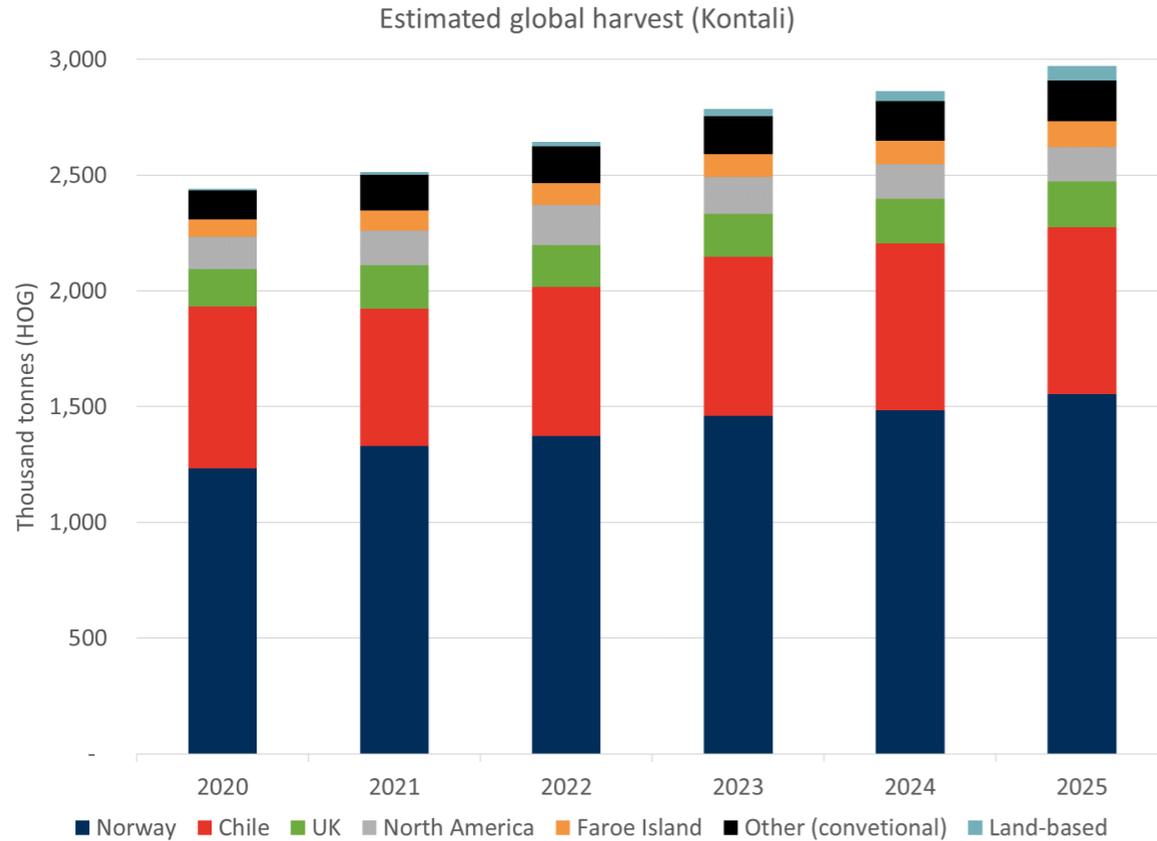
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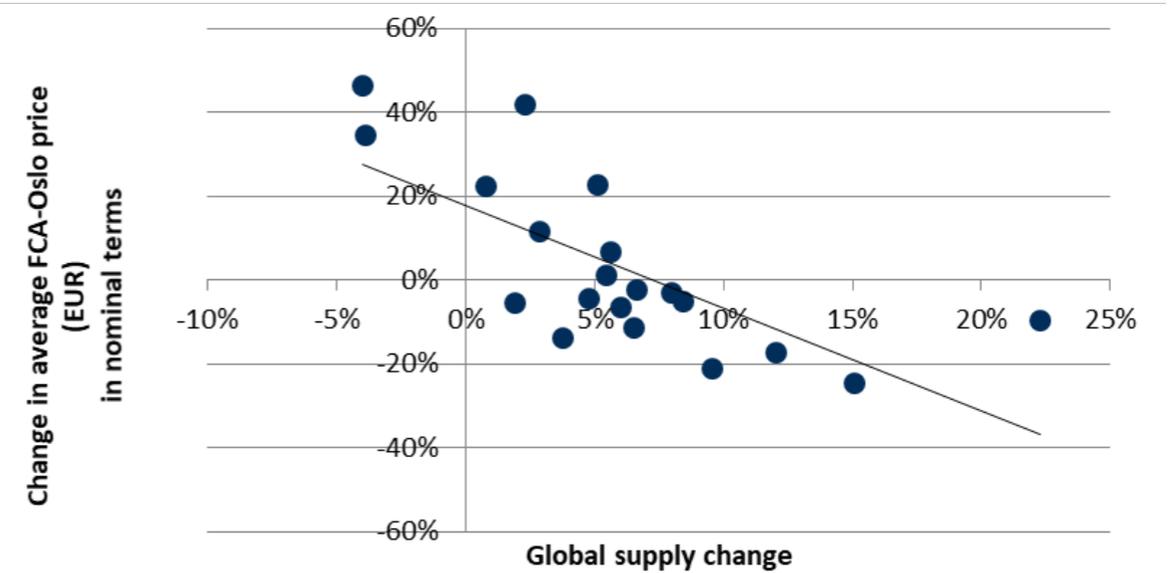
# SUPPLY OUTLOOK

## KONTALI 5 YEAR ESTIMATE – HISTORICAL SUPPLY DEMAND BALANCE

### 2020-2025 - 4% CAGR



### MARKET BALANCE AT ~6-7% GROWTH



### Supply uncertainties

- Availability of new licenses in Norway
- Supply fluctuations driven by biology
- Introduction of new technology

### Demand opportunities

Well-placed to capitalise on:

- Spike in demand from reduced Covid19 measures
  - Food service
  - Retail
- Mega trends of healthy eating, integrity and trust through integrated value chain
- ESG credentials
- Growth potential in existing markets and Free Trade opportunities
- Creating value through customer service, customer partnerships and meeting requirements in terms of quality
- Consumer product development
- Market differentiation

# PRESENT BRAND STRATEGY IN THE BAKKAFROST GROUP

- Two origins
- Two different strategies

## BAKKAFROST



# FUTURE BRANDS FOR BAKKAFROST



# A SHORT INTRODUCTION TO THE BAKKAFROST BRANDS

## SCOTLAND



**LOCHLANDER**<sup>TM</sup>  
SCOTTISH SALMON



Superior salmon from the  
**FAROE ISLANDS**



## FAROE ISLANDS

  
**18 ISLANDS**

Finest selection from the Faroe Islands

**HEIMLAND**  
A TASTE OF THE FAROE ISLANDS

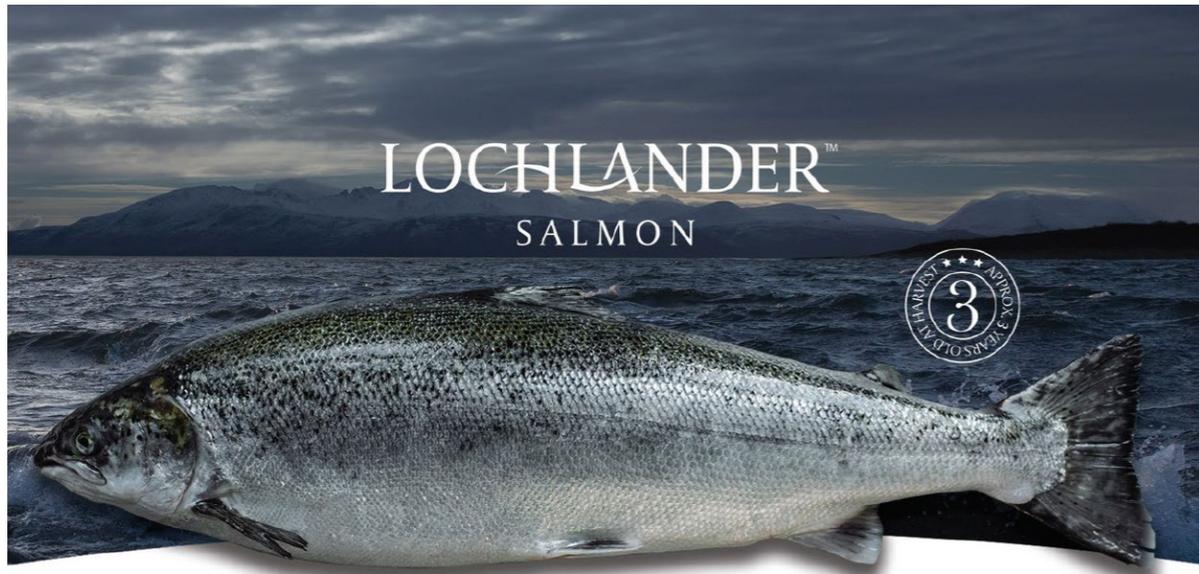


  
**BAKKA SALMON**



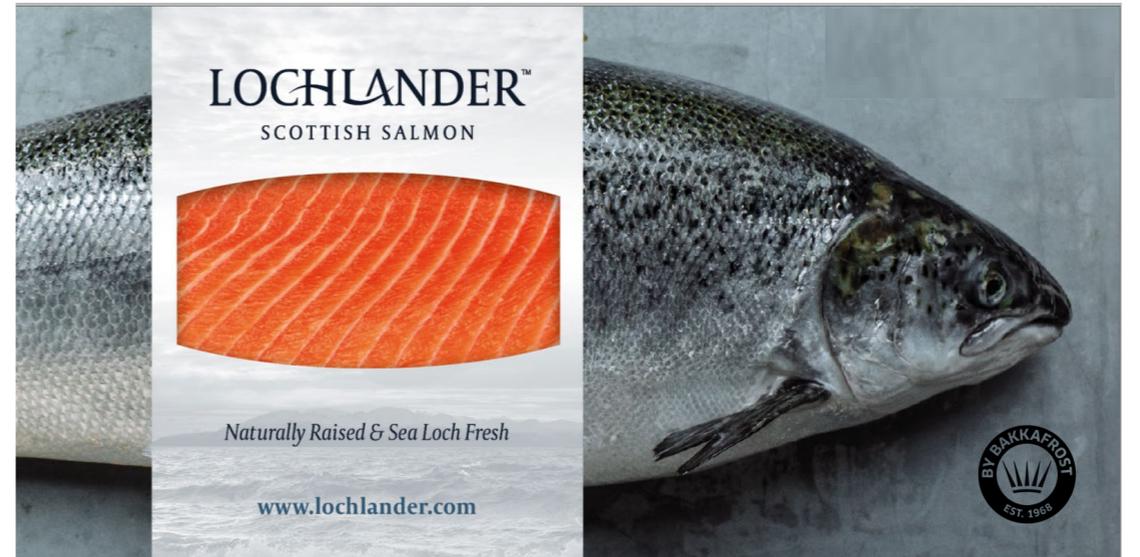


# LOCHLANDER



Naturally Raised & Sea Loch Fresh

Exclusively from The Scottish Salmon Company



# 18 ISLANDS



# HEIMLAND



# PRODUCT RANGE



# PRODUCT RANGE



## PRODUCT RESEARCH & DEVELOPMENT

- Salmon Burgers
- Smoked salmon
- Sous Vide "Ready" meal
- Reduce plastic in packaging
  - Use recyclable plastic
  - Use plastic produced of recycled plastic
- Production techniques and equipment



Prototype of Sous Vide consumer product

# HEALTHY SALMON



**THANK YOU**



SUPERIOR  
QUALITY  
**SALMON**



## ***Bakkafrost presentation***

*A world-class company in the salmon industry*

## ***Capital Markets Day – Smolt and Broodstock***

**Faroe Islands 14 September 2021**

## DISCLAIMER

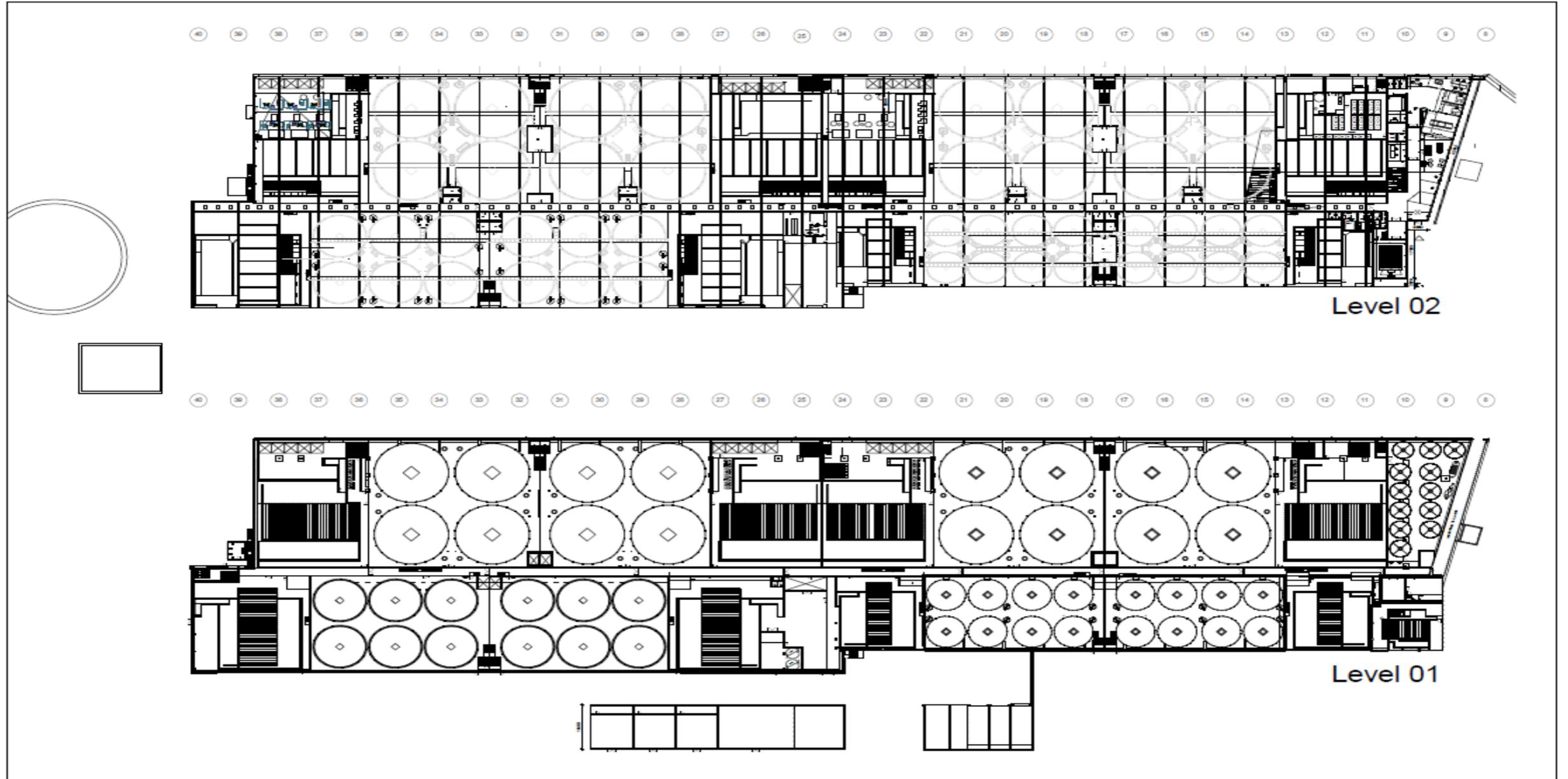
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# LARGE SMOLT – FAROE ISLANDS

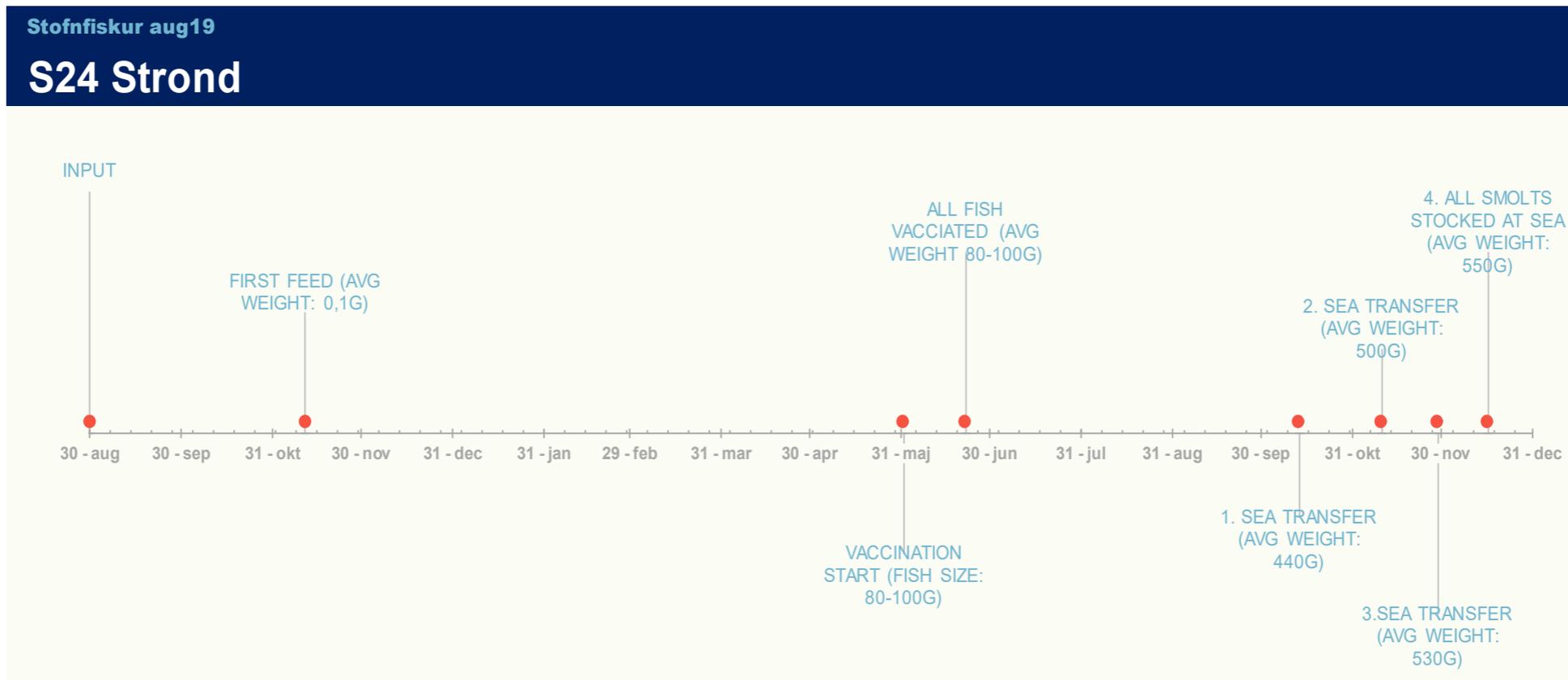
STROND: 500G SMOLT PLANT (8 MILLION P.A.)



## LARGE SMOLT – FAROE ISLANDS

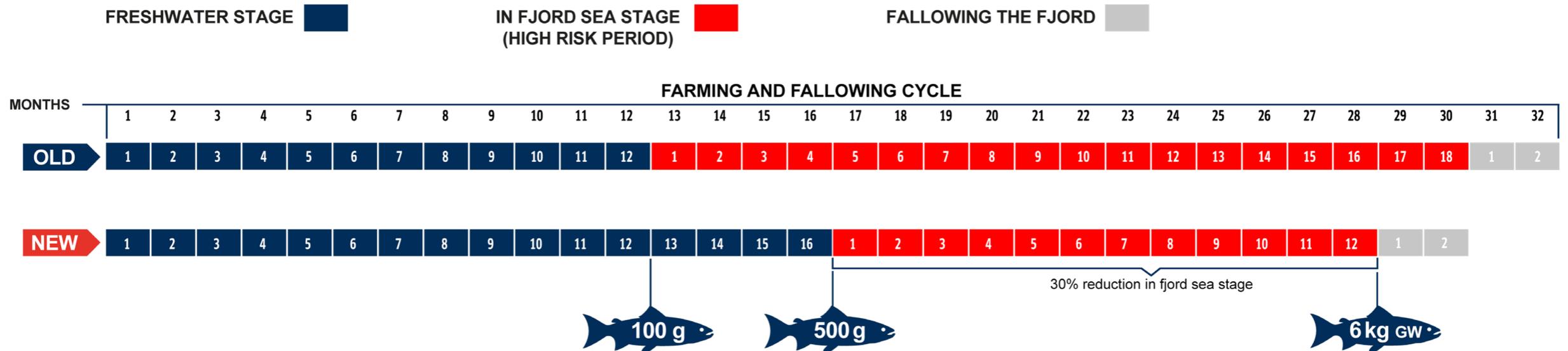
### BEST GROWTH CASE AT S24 STROND

- Approx. 13½ months from input to the first sea transfer (440g)
- The last smolts of the Stofn aug19 batch was transfered to sea side approx. 16 months after input (550g).
- Growth depends on typically depends on good planning:
  - Temperature, water quality, fish welfare, availability of seashores



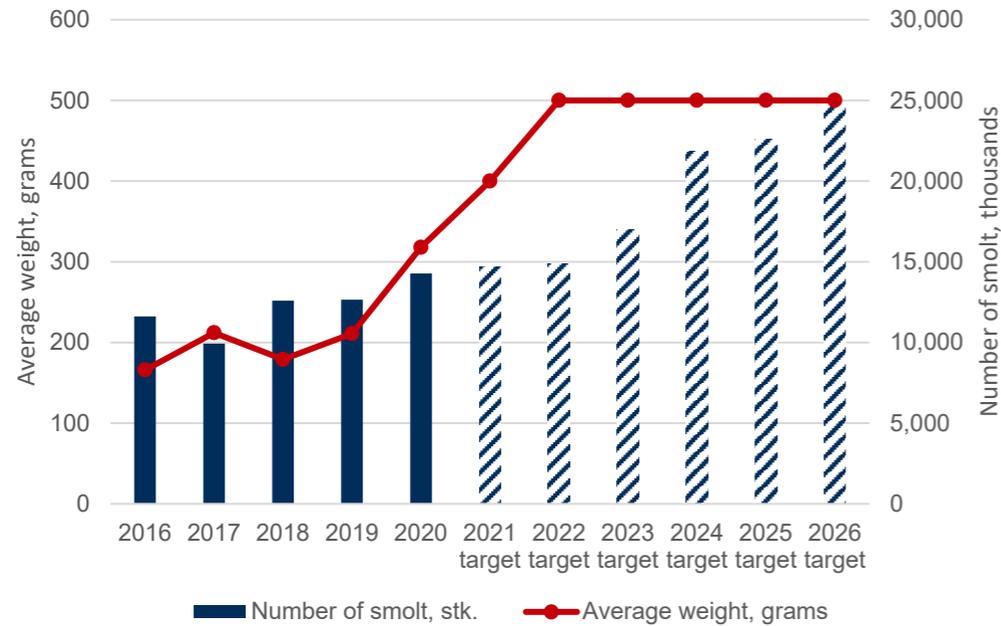
## Key benefits:

- Reduce biological risk
- Increase production efficiency
- Enable organic growth



# LARGE SMOLT – FAROE ISLANDS FACILITIES IN THE FAROE ISLANDS

Average weight and number of released smolt



2021	Hatchery	Water capacity (m3)	Production capacity (tons/year)
	S03 Norðtoftir	5.150	649
	S04 Húsar	1.350	170
	S08 Gjógv	1.260	159
	S16 Glyvradalur	1.537	194
	S21 Viðareiði	11.248	1.417
	S24 Strond	29.000	3.654
	<b>Total</b>	<b>49.545</b>	<b>6.243</b>

2022	Hatchery	Water capacity (m3)	Production capacity (tons/year)
	S03 Norðtoftir	5.150	680
	S04 Húsar	1.350	178
	S08 Gjógv	1.260	166
	S16 Glyvradalur	1.537	203
	S21 Viðareiði	12.568	1.659
	S24 Strond	29.000	3.828
	<b>Total</b>	<b>50.865</b>	<b>6.714</b>

2023	Hatchery	Water capacity (m3)	Production capacity (tons/year)
	S03 Norðtoftir	17.150	2.264
	S04 Húsar	1.350	178
	S08 Gjógv	1.260	166
	S16 Glyvradalur	14.450	1.907
	S21 Viðareiði	12.568	1.659
	S24 Strond	29.000	3.828
	<b>Total</b>	<b>75.778</b>	<b>10.003</b>

2024	Hatchery	Water capacity (m3)	Production capacity (tons/year)
	S03 Norðtoftir	17.150	2.470
	S04 Húsar	1.350	194
	S08 Gjógv	1.260	181
	S16 Glyvradalur	14.450	2.081
	S21 Viðareiði	12.568	1.810
	S24 Strond	29.000	4.176
	<b>Total</b>	<b>75.778</b>	<b>10.912</b>

2025	Hatchery	Water capacity (m3)	Production capacity (tons/year)
	S03 Norðtoftir	17.150	2.264
	S04 Húsar	1.350	178
	S08 Gjógv	1.260	166
	S16 Glyvradalur	14.450	1.907
	S21 Viðareiði	12.568	1.659
	S24 Strond	29.000	3.828
	S25 Ónavík	9.860	1.302
<b>Total</b>	<b>85.638</b>	<b>11.304</b>	

2026	Hatchery	Water capacity (m3)	Production capacity (tons/year)
	S03 Norðtoftir	17.150	2.470
	S04 Húsar	1.350	194
	S08 Gjógv	1.260	181
	S16 Glyvradalur	14.450	2.081
	S21 Viðareiði	12.568	1.810
	S24 Strond	29.000	4.176
	S25 Ónavík	9.860	1.420
<b>Total</b>	<b>85.638</b>	<b>12.332</b>	

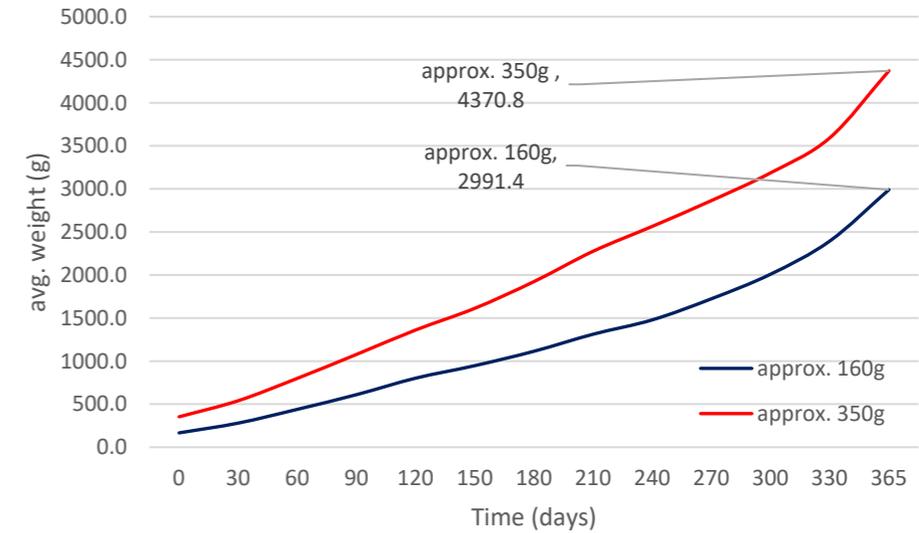
# LARGE SMOLT – FAROE ISLANDS

## OBSERVATIONS FROM USE OF LARGE SMOLT

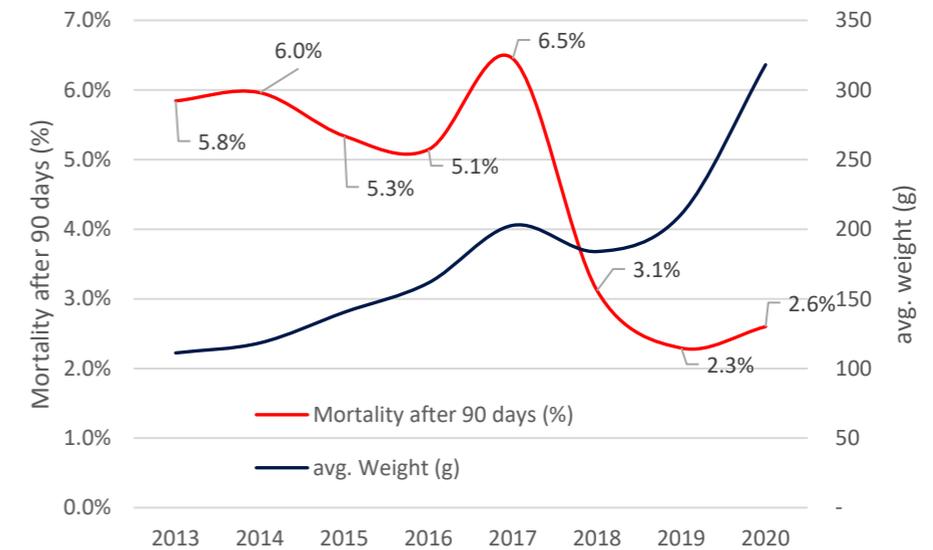
### Observations:

- Reduced 90d mortality
- Faster growth

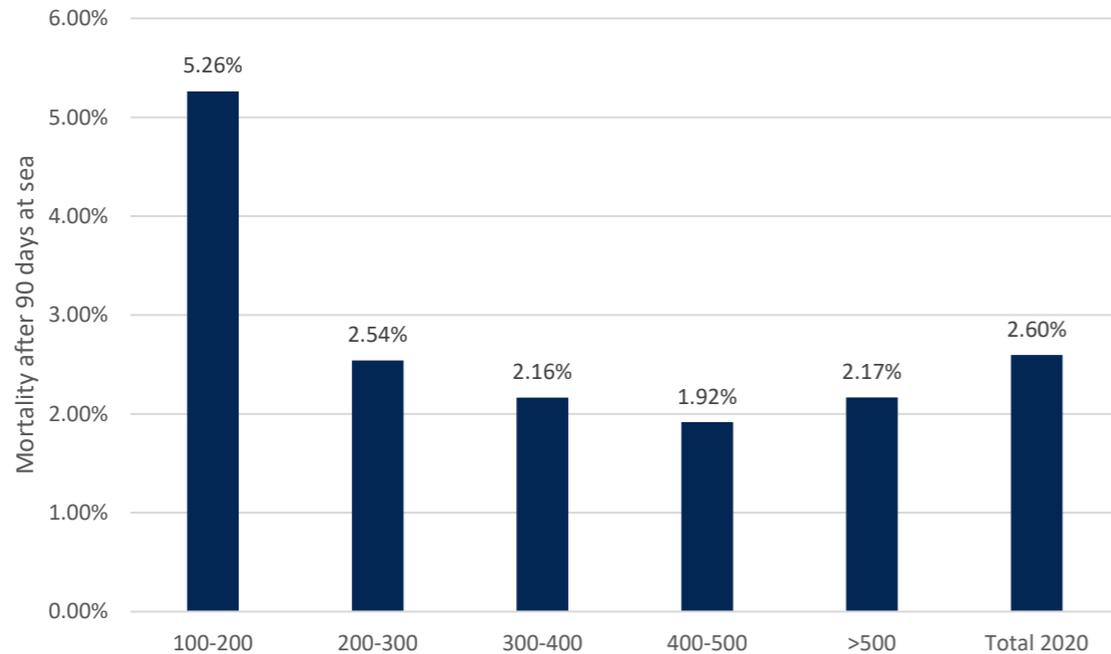
### Growth rate



### 90d mortality falling as our smolt size has increased



### 90d mortality vs. smolt size groups



# LARGE SMOLT – FAROE ISLANDS NORÐTOFTIR EXPANSION



# LARGE SMOLT – FAROE ISLANDS

## GLYVRADAL EXPANSION



# OUR ROUTEMAP TO LARGER SMOLT IN SCOTLAND

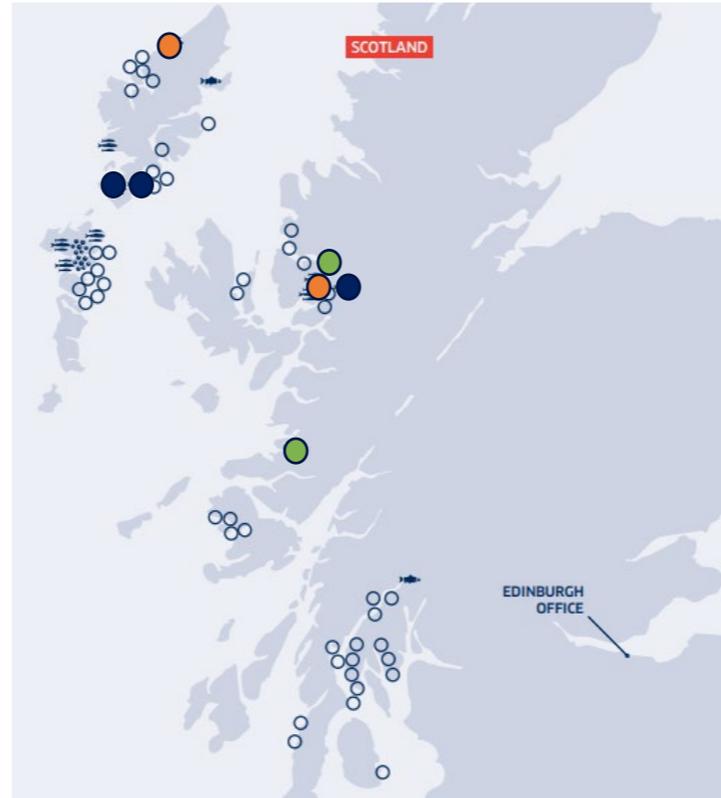
## EXISTING SMOLT PLANTS IN SCOTLAND



**Harris Lochs**  
Freshwater Loch



**Geocrab**  
Flow-thru  
1470 m3



**Couldoran**  
FT - 700m3  
RAS – 500m3



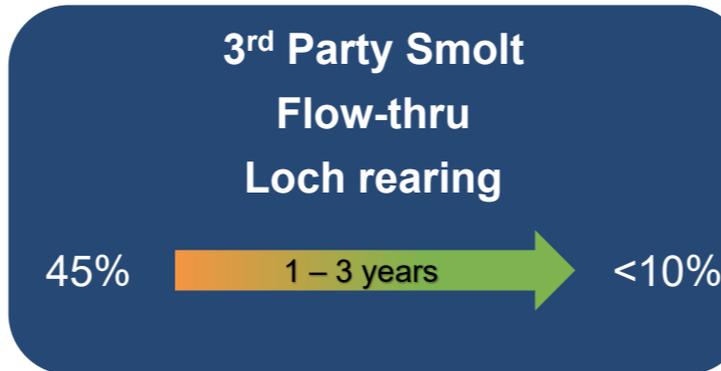
**Loch Damph**  
FW Loch



**Kinlochmoidart**  
FT 220m3  
RAS – 800 m3



**Barvas**  
Flow-thru  
730 m3



**Russel Burn**  
Flow-thru  
1380 m3

# OUR ROUTEMAP FOR LARGER SMOLT IN SCOTLAND

## APPLECROSS – OUR FIRST FULLY INTEGRATED RAS IN SCOTLAND



## OUR ROUTEMAP TO LARGER SMOLT IN SCOTLAND GROWTH; TRANSFORM

### NEW FACILITIES

36,000 m<sup>3</sup>  
Production capacity increase up to 10m smolt @ 500g



### GROWTH - TRANSFORM

Current



5 Yrs

HATCHERIES

7 Sites

Capacity **10.7k m<sup>3</sup>**

6.0m @ **85g**

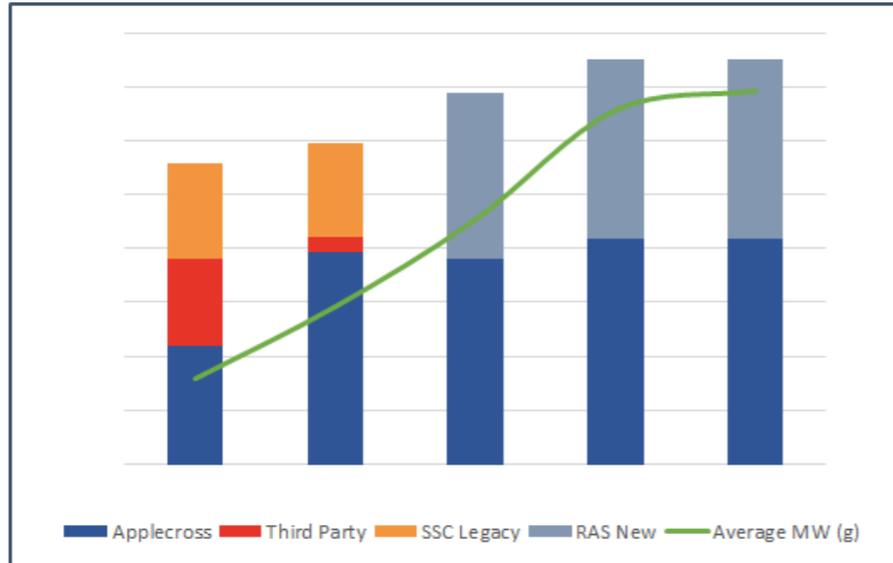
2 / 3 Sites

Capacity to **64k+ m<sup>3</sup>**

18m+ capacity @ **500g**

# OUR ROUTEMAP TO LARGER SMOLT IN SCOTLAND

## THE FRESHWATER IMPACT ON OUR MARINE STRATEGY

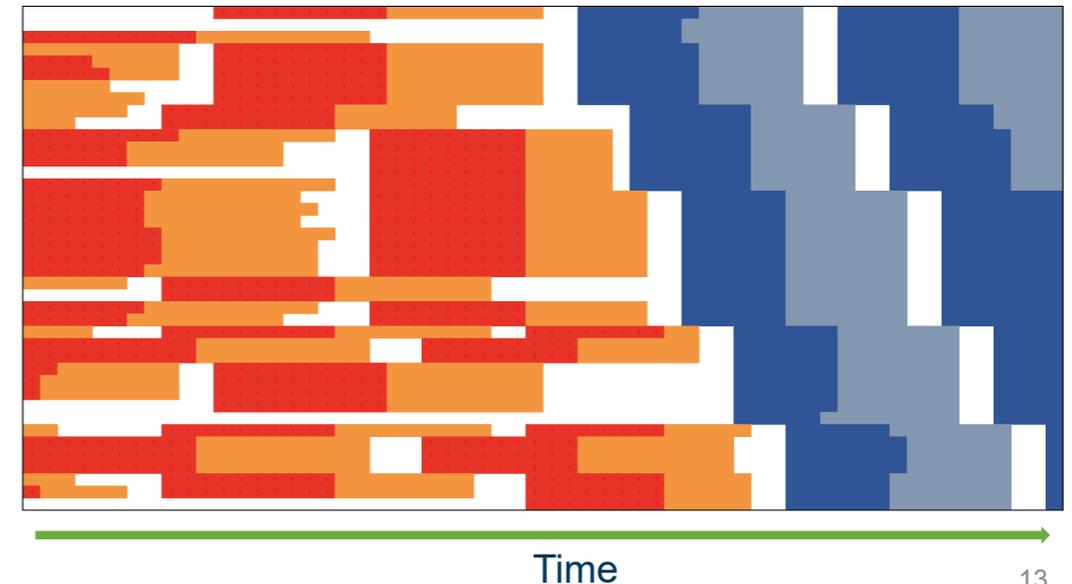
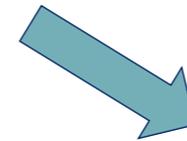


### Freshwater Strategy

- Simplify operations
- Safe, energy effective and cost-efficient production
- Optimal and stable water quality
- Sustainability – less water use – lochs
- High growth and low mortality rates

### Marine Impact

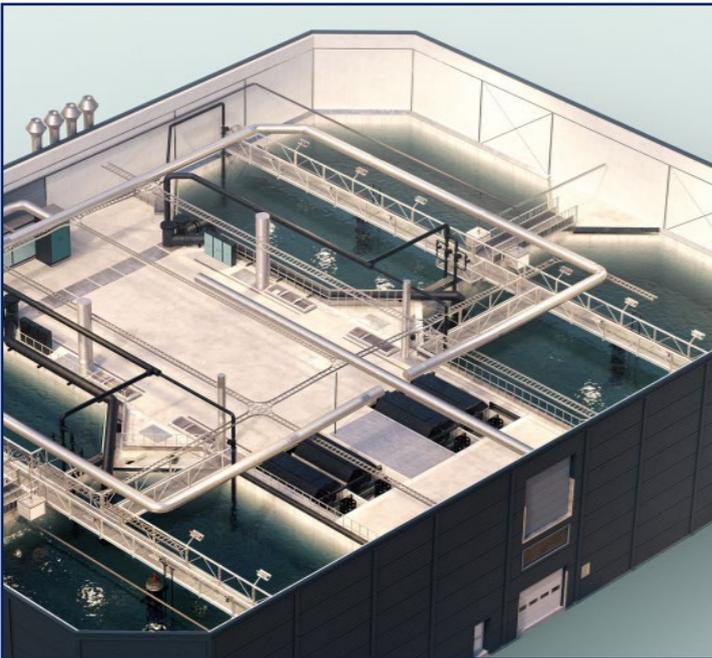
- Lower Biological Risk – shorter cycles
- Less handling for treatments
- One Summer
- Healthier salmon - welfare
- Sustainability



# SUMMARY OF OUR FRESHWATER STRATEGY

## FROM TRANSFORMATION TO DIFFERENTIATION

Transform all Freshwater operations from Flow-thru to RAS



Gradual Increase Smolt size from 85 to 500g



Scottish Provenance



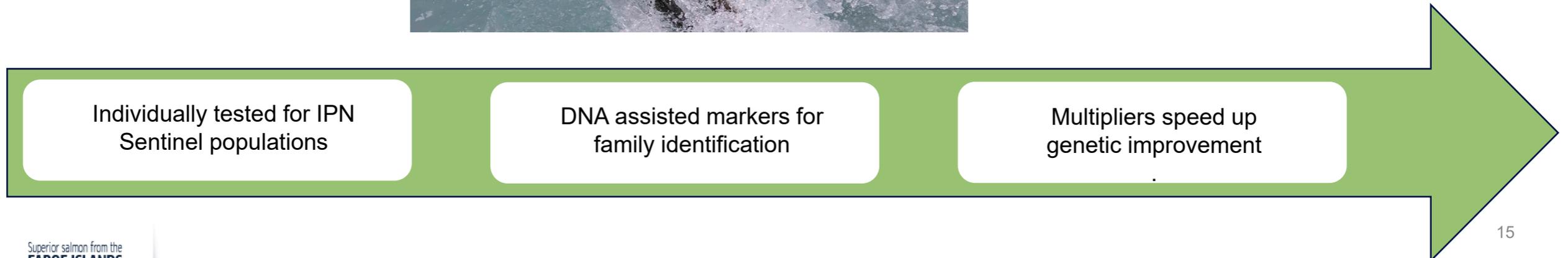
— NATIVE —  
**HEBRIDEAN**  
SCOTTISH SALMON

# THE SCOTTISH BROODSTOCK PROGRAMME

## THE HISTORY OF OUR BROODSTOCK

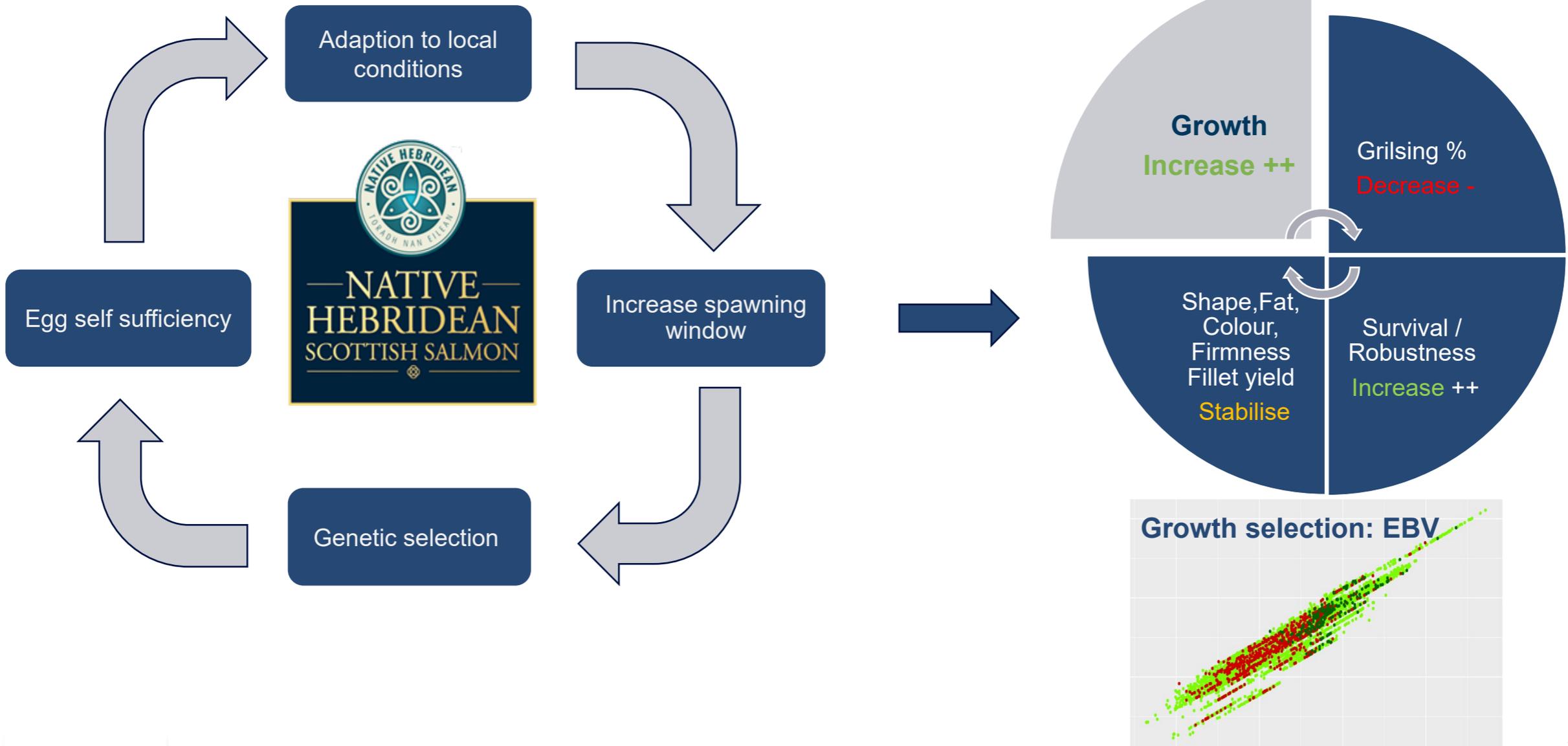


# NATIVE HEBRIDEAN: The only truly Scottish farmed salmon



# THE SCOTTISH BROODSTOCK PROGRAMME

## OUR 'TRULY SCOTTISH' OPPORTUNITY



- Government-run program since late 1970'ies to around 2013
- Bakkafrost took over – developed around 1,000 families
- This selection comprises, an increased resistance to:
  - ✓ **PMCV/CMS** (piscine myocarditis virus / cardiomyopathy syndrome)
  - ✓ **IPN** (infectious pancreatic necrosis)
  - ✓ **PD** (pancreas disease)
  - ✓ **PRV/HSMI** (piscine orthoreovirus / heart - and skeletal muscle inflammation)



**Next goal:** Sea lice resistance

## BROODSTOCK – FAROE ISLANDS

ORIGIN BASED GENETICS PROGRAMME & LARGE ONGOING EXPANSION

**Bakkafrost owns the Intellectual Rights of two origin-based salmon strains:**



*Broodstock programme and historical data since 1978*



*Broodstock programme based on wild salmon in outer Hebrides*



- ✓ Market differentiation (provenance)
- ✓ Better control and more predictable quality
- ✓ Robust smolt resistant to deceases
- ✓ Short learning cycles and rapid advancements due to integral broodstock programme (FO)

**Bakkafrost is building a new large broodstock facility in the Faroe Islands with annual production of 70 million eggs**

