



## Take part in the *blue-green journey*

Norwegian Mountain Salmon is committed to developing and implementing the world's most sustainable concept for farming salmon.

While traditional farming methods have shown that alternative animal protein sources can help reduce greenhouse gas emissions, we believe there is significant room for improvement in terms of both sustainability, footprint, and animal welfare. By addressing these issues, we can increase profitability and create positive outcomes for all stakeholders - both nature and those who enjoy its bounty.

Our efforts are focused on protecting our unique coastal areas and the life within them.



# A team complete with all necessary competence

## Founder-group



### Project Management

Dynabyte Consulting is a consultancy agency specialised in managing and executing 100M £ + projects



### Engineering

4 engineers : aquaculture, marine engineering, industrial economics and automatisiation



### Financing

Jakob Vossgård is head of Norwegian Equities at Nordea and leader of our financial team. Experienced in financing aquaculture projects.

## Strategic owners



### Aquaculture and smolt production– Sørsmolt and group from Norconsult

Decades of experience within aquaculture. Producer of slow-growing smolt that is far more resilient and healthy when entering grow-out phase



### Downstream – Trient AS

Among Norway's largest exporters of salmon. Owner of Sekkingstad AS and Norwegian Gannet Norwegian Gannet, the only slaughterboat of its kind.



### Industry management and logistics – B7 Invest

CEO of large multinational shipping- and logistics company.

## External advisors and providers



### Advisor

Our advisor on all aspects from regulation to aquaculture and civil-work. One of Norway's largest and most renowned consultancy firms.



### Technology provider

Artec Aqua is one of the leading providers of technology and equipment for land based farming. Successfully applied technology on Salmon Evolution with great biological performance.

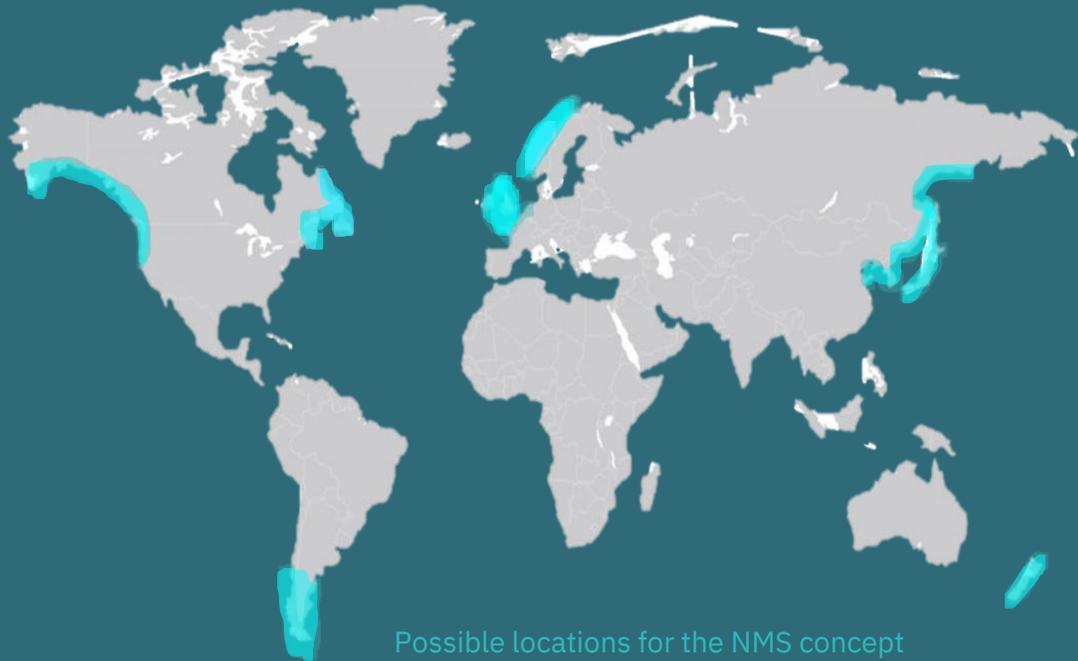


### Circular sludge utilisation

Norwegian Green Tech offers leading waste-to-energy solutions to ensure maximum circular utilisation of sludge from production

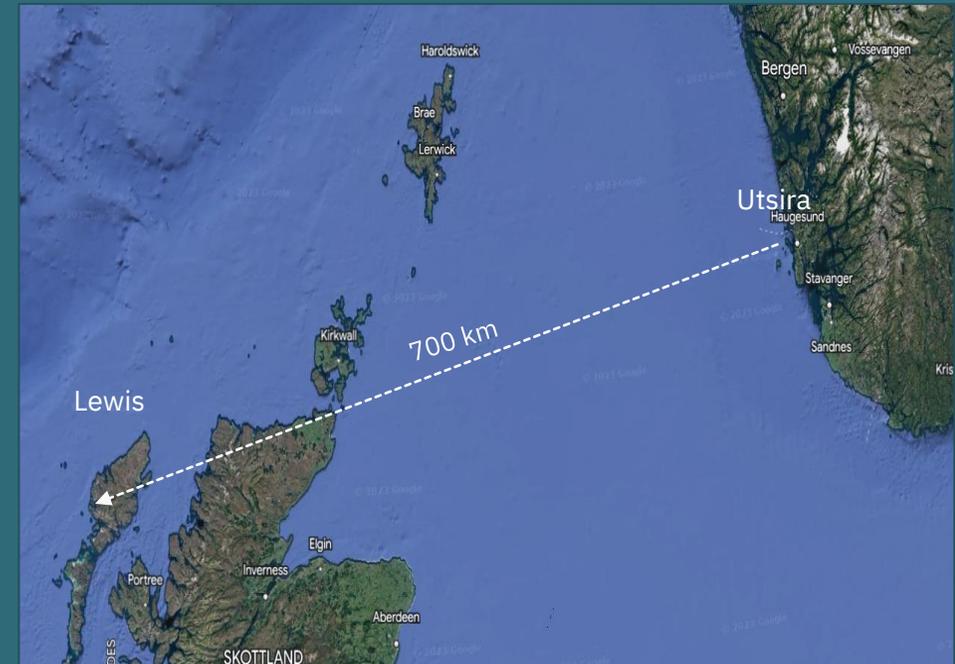


# The first step of our international journey



We began our journey in Norway but have always aimed towards international expansion.

We believe we have found just the right location to launch our international efforts on Lewis.

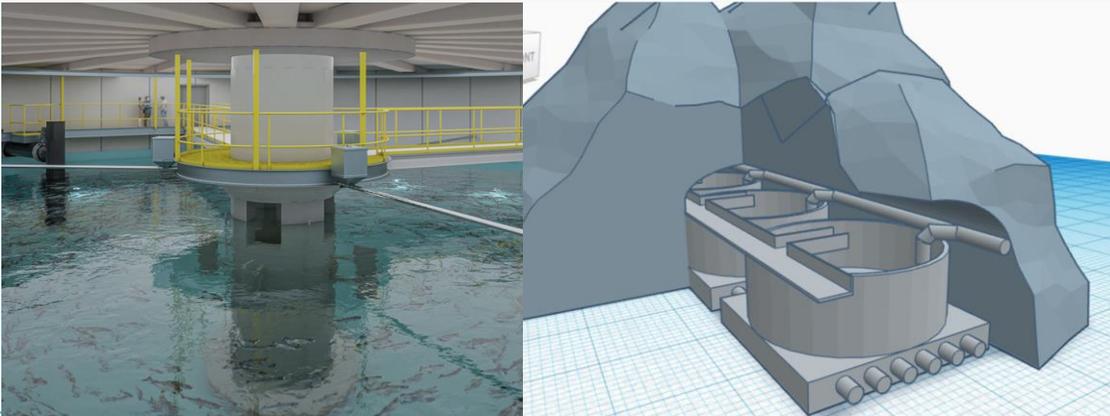


# The Concept: Salmon Production inside mountain tunnels

## Land-based flow-through technology

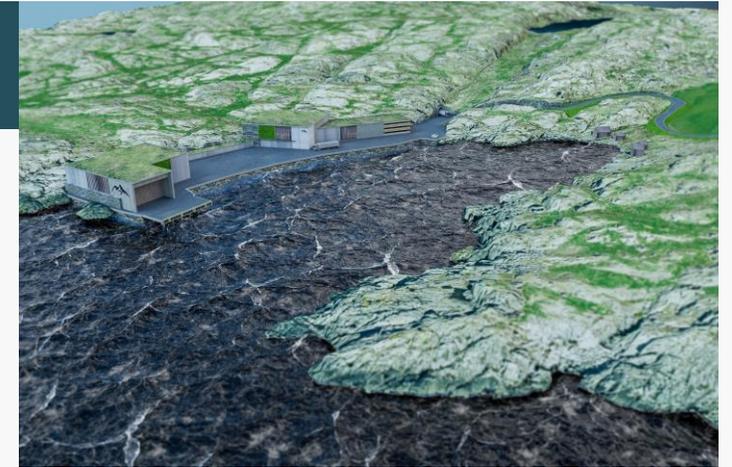
*Utilising optimal conditions for salmon farming while:*

- Preserving scenic areas
- Minimising influence on local land and marine ecosystems
- Utilise locations not suited for other production concepts



Visible part of site:

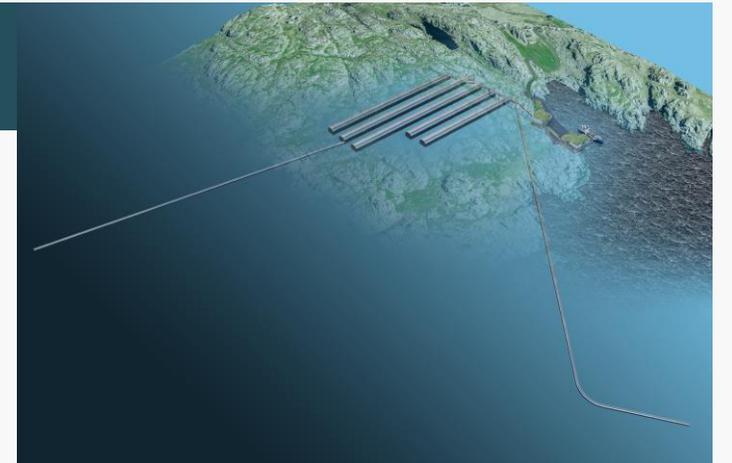
- Road
- Quay
- Installations on quay



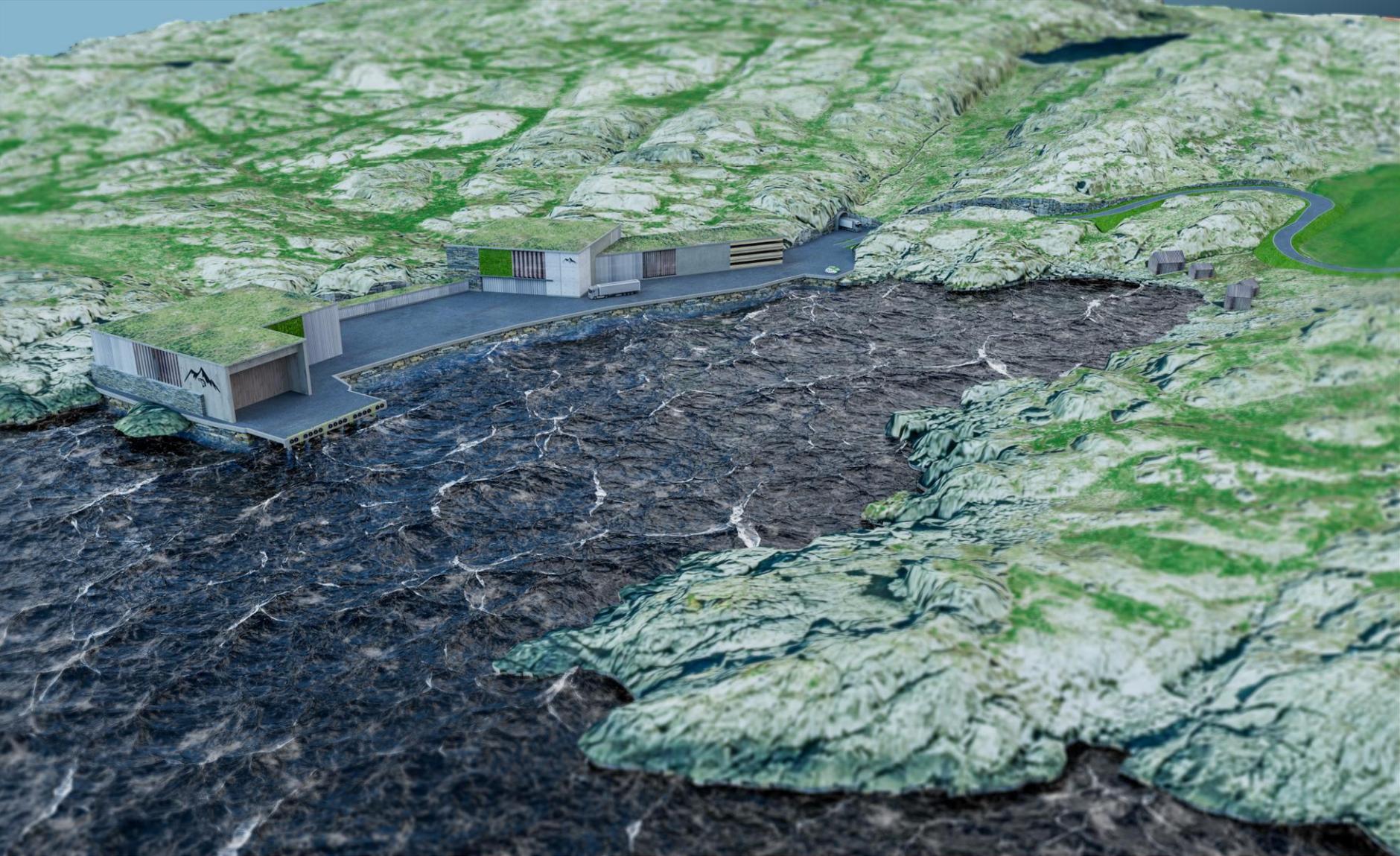
Illustrations of our first site at Utsira

Hidden part of site:

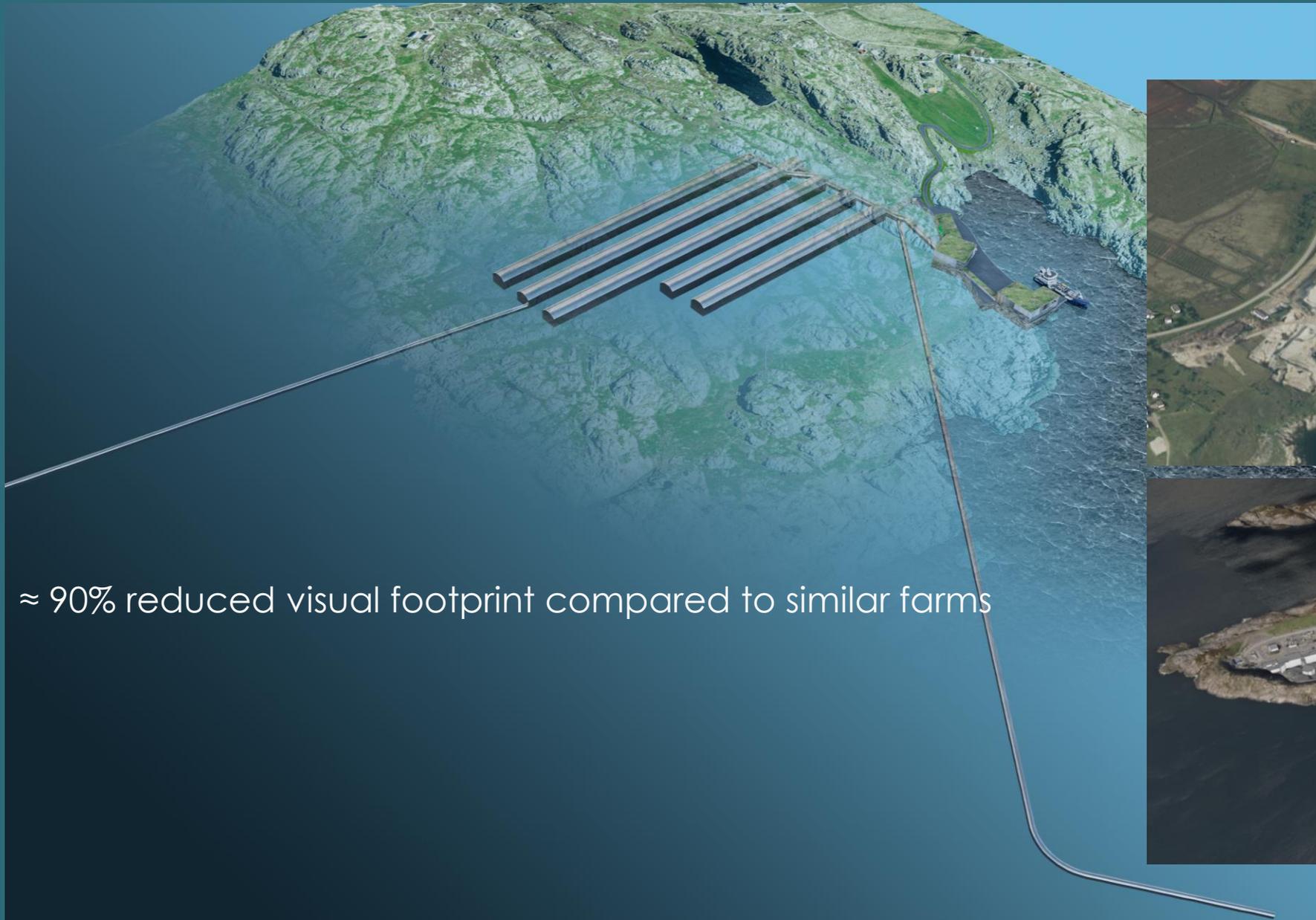
- Water inlet- and outlet
- Intake pool
- Production pools
- Technical equipment



# Overview of Utsira site



# Overview of Utsira site



≈ 90% reduced visual footprint compared to similar farms



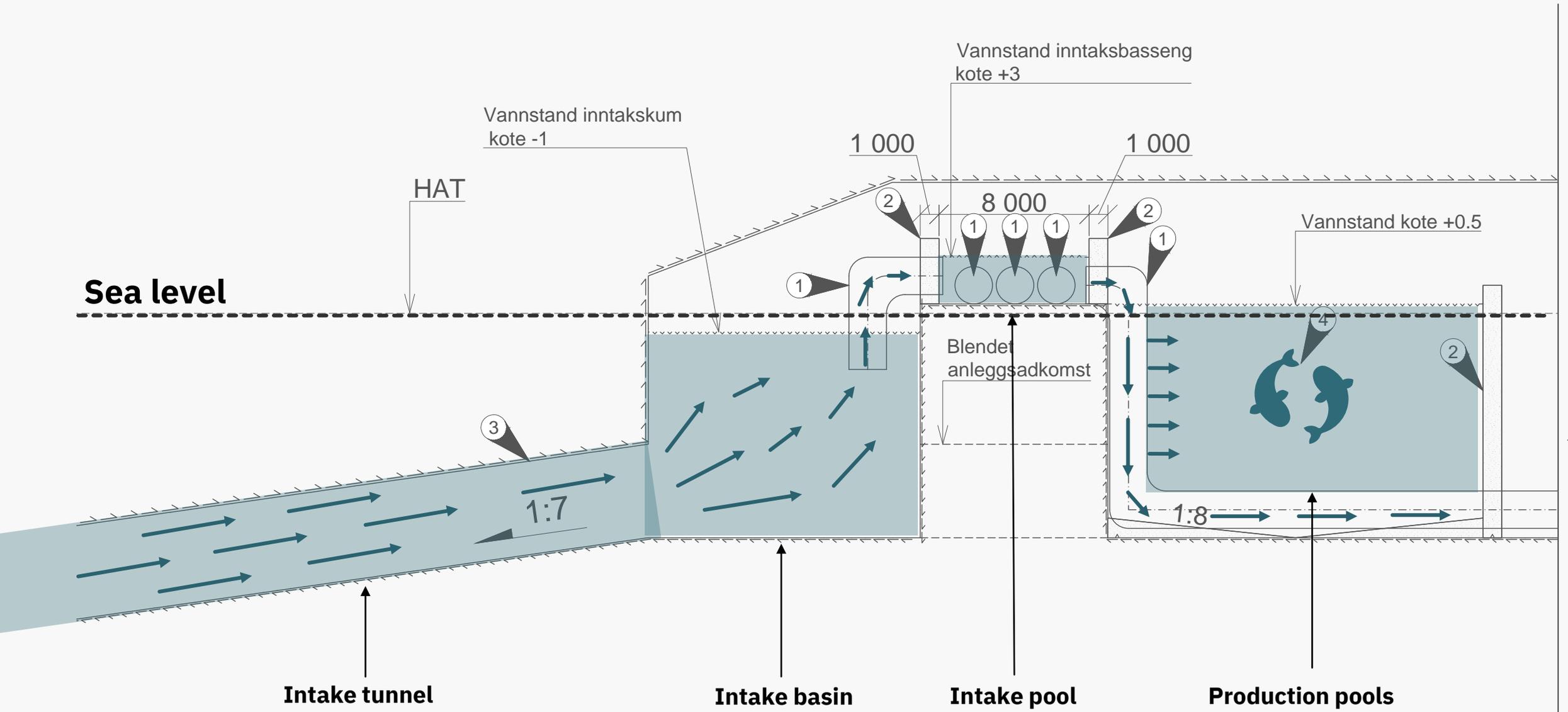
Kvalnes



Indre Harøy



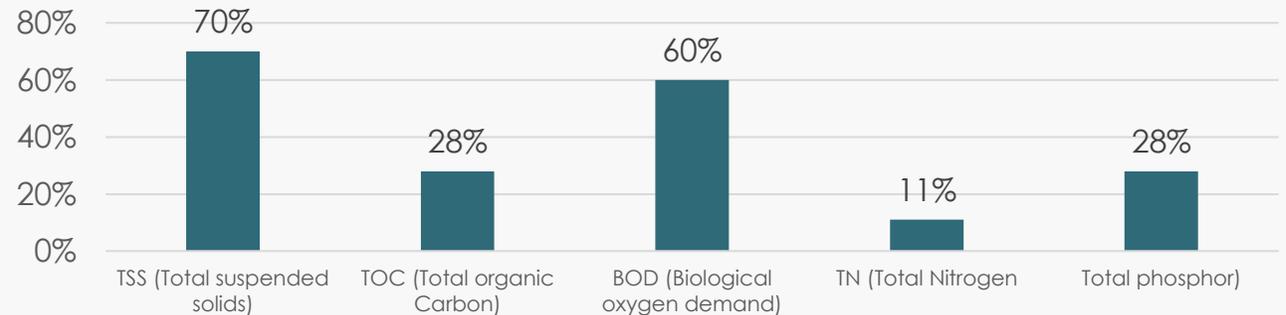
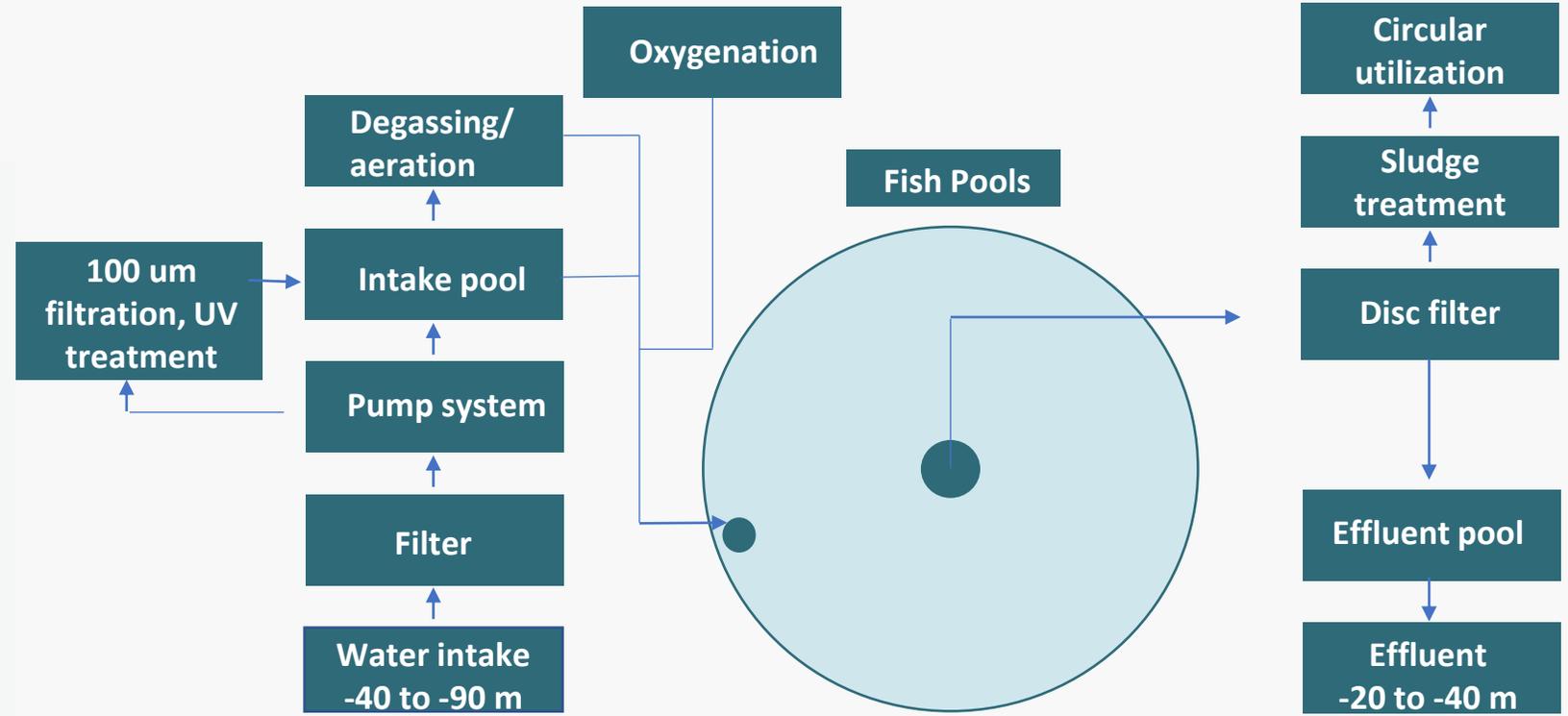
# The Concept: Low energy consumption with minimal pump height



# The Concept

## Key advantages

- No sea lice
- No fish escape
- Separate biological zones
- Effective treatment systems
- Advanced monitoring
- Optimal water quality
- 70% sludge filtration



# Energy usage

## Other

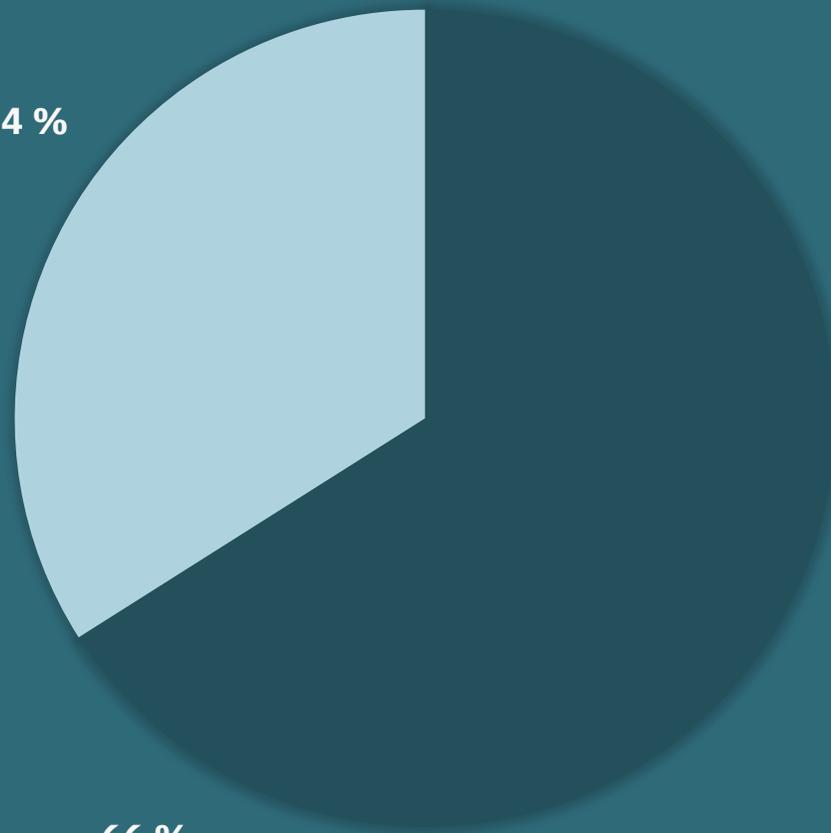
- Feeding
- Sludge treatment
- Oxygen production
- Moving of fish

34 %

## Pumping of water

- High degree of water replacement ensures good animal welfare

66 %



## Key Numbers

- 36MW average power consumption
- 50MW peak power consumption
- Production require 4.85 kWh / kg produced



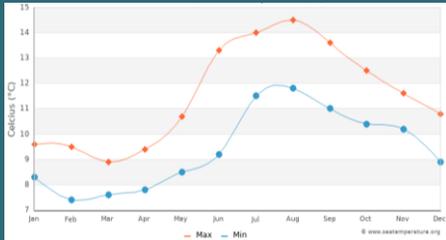


# Why Lewis? - What we look for in a location

## 1 Water quality



Temperature



Distance to others



Rapid water replacement



## 2 Feasibility



Geology



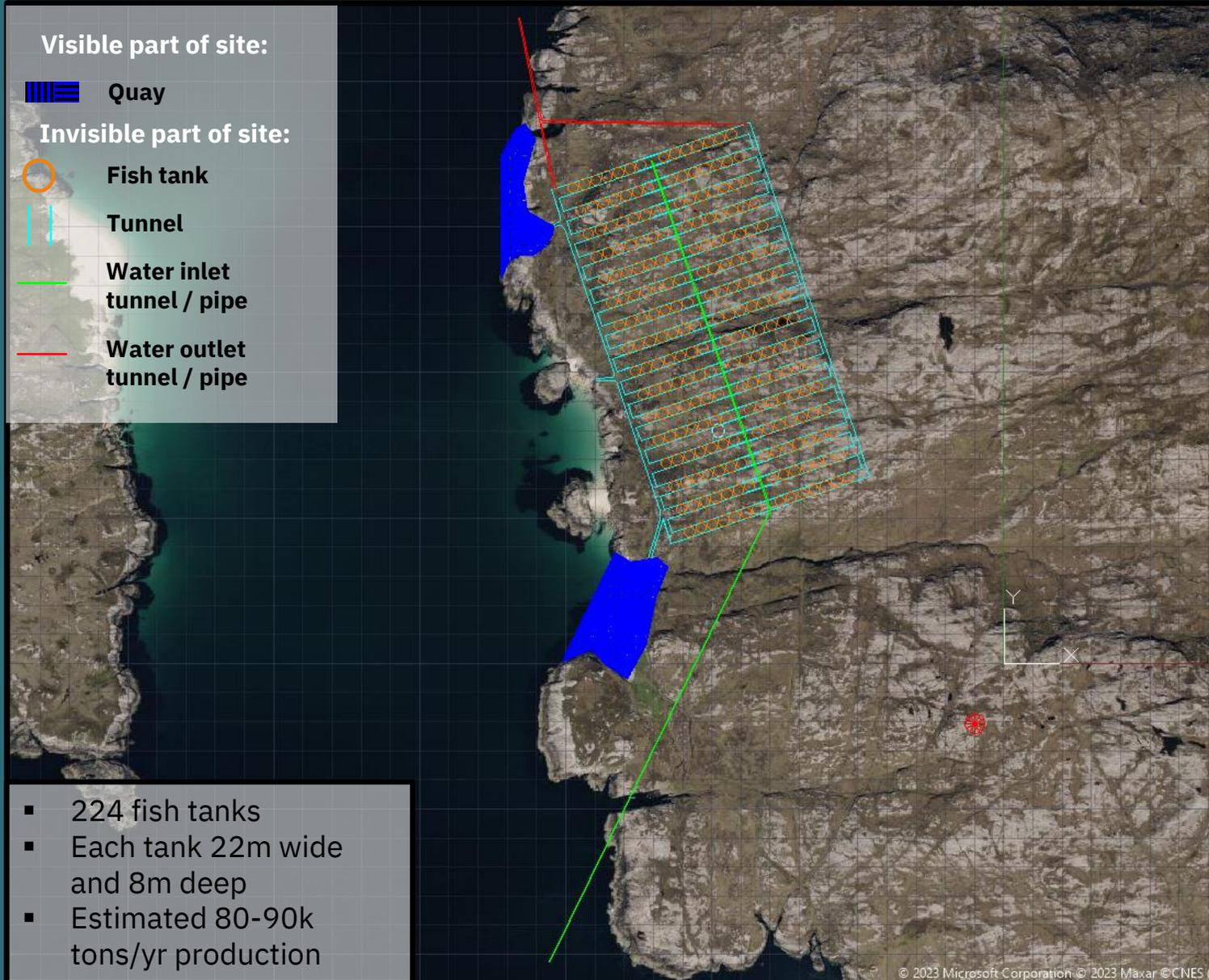
Access to competence



Local support



# Location Lewis



# Timeline



# An engine for sustainable local growth



**150-190**

Estimated permanent jobs created directly



**220-300**

Estimated jobs created indirectly in value chain



**£ 231M**

Estimated Earnings before interest, tax

## Achieving mutual benefits

### Community engagement

- Transparent dialogue
- Open door policy
- Town halls
- Regular updates via website and LinkedIn
- Quality Audit process to be initiated

### Community benefit

- High-skilled jobs
- New corner stone industry to Lewis
- Improvement of infrastructure
- Upskilling and competence-building locally

Assumptions: Export price/kg HOG week 20 2023: kr 85 OpEx/kg: 46 kr. GBP/NOK: 13,  
. Estimated jobs at Utsira location based on Salmon Evolution: 50-60. Direct jobs estimates:  
Increased relatively from jobs/kg Utsira location and subtracted for estimated scale benefits.  
Indirect jobs based on estimates 1 job in aquaculture = 1,9 x jobs in value chain (Menon  
Economics, 2021, Ringvirkninger av sjømatnæringen).



# Housing

## Construction phase

- From 2028
- Peak 200 workers during 6 year period

## Operating phase 1

- 50-70 workers in fish farm operations
- Construction phase 2 and 3 ongoing

## Operating phase 2

- 100-120 workers in fish farm operations
- Construction phase 3 ongoing

## Full production

- 150-190 workers in fish farm operations
- Construction completed

**Insufficient housing capacity today**

**Need competent local partner to develop attractive housing options on Lewis together with**



# Housing

## The homes:

- Modular to enable effective construction
- Low maintenance
- NMS is in contact with several suppliers

## NMS contribution

- Project development
- Builder competence
- Shared logistics with fish farm construction

## Single homes



## Apartments



# Return on investment

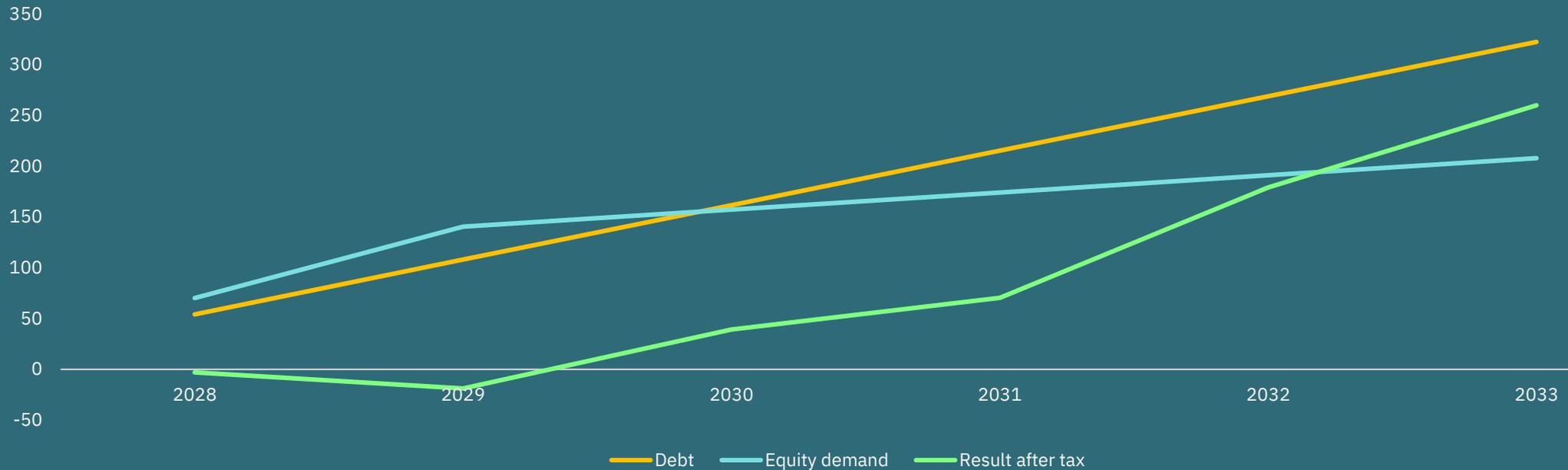
**85 000 tonnes HOG**  
Yearly production

**GBP 142 million**  
Result after tax full production

**3-phased build out**  
Enables cashflow contribution  
to capex

**4 years**  
Return on investment

ROI  
Accumulated values GBP



Assumptions: Capex NOK 125/kg HOG phase 1 and NOK 71/kg HOG phase 2. Debt % 40% phase 1 and 70% phase 2. Interest on debt 5,5 %. Grants % 8%. Sales price/kg HOG: 85 NOK. Opex/kg HOG 46 NOK. GBP/NOK 13,1



# Financing strategy

Capital source distribution



Assumptions: Capex NOK 125/kg HOG phase 1 and NOK 71/kg HOG phase 2. Debt % 40% phase 1 and 70% phase 2. Interest on debt 5,5 %. Grants % 8%. Sales price/kg HOG: 85 NOK. Opex/kg HOG 46 NOK. GBP/NOK 13,1





Kvalvikvågen, Utsira

## Why is the project possible to finance?

### **Good economy**

- Low investments per kg salmon
- Low production cost per kilo salmon
- High sales price per kilo

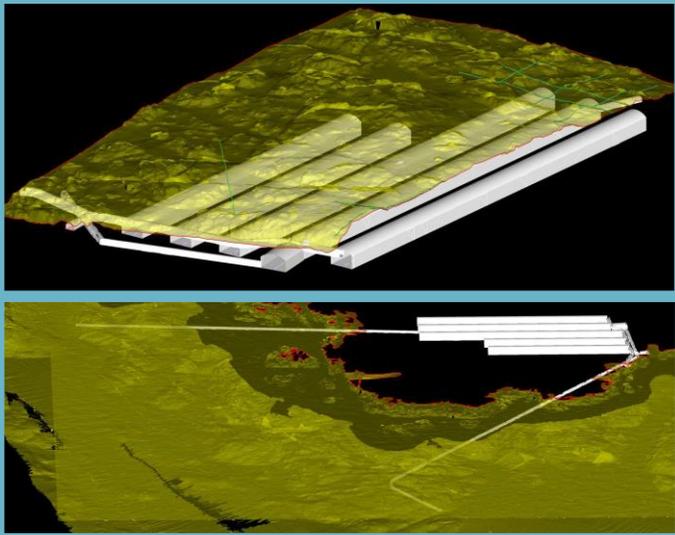
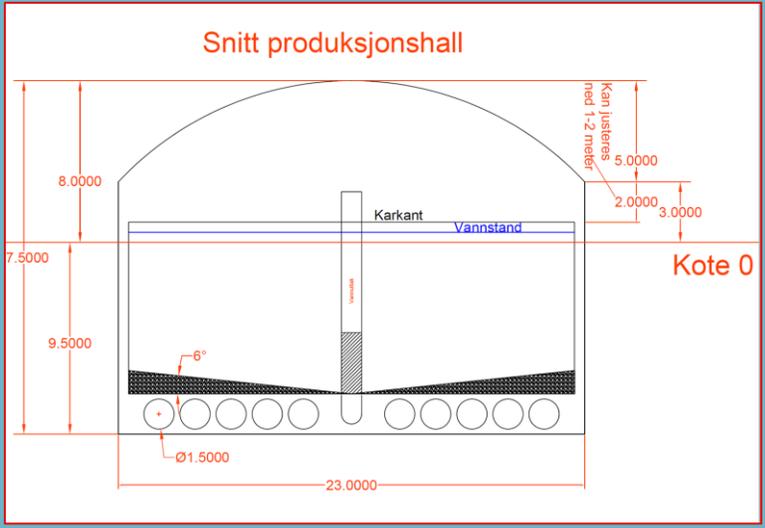
### **Low total risk**

- Somewhat difficult location
- Known technology with low complexity

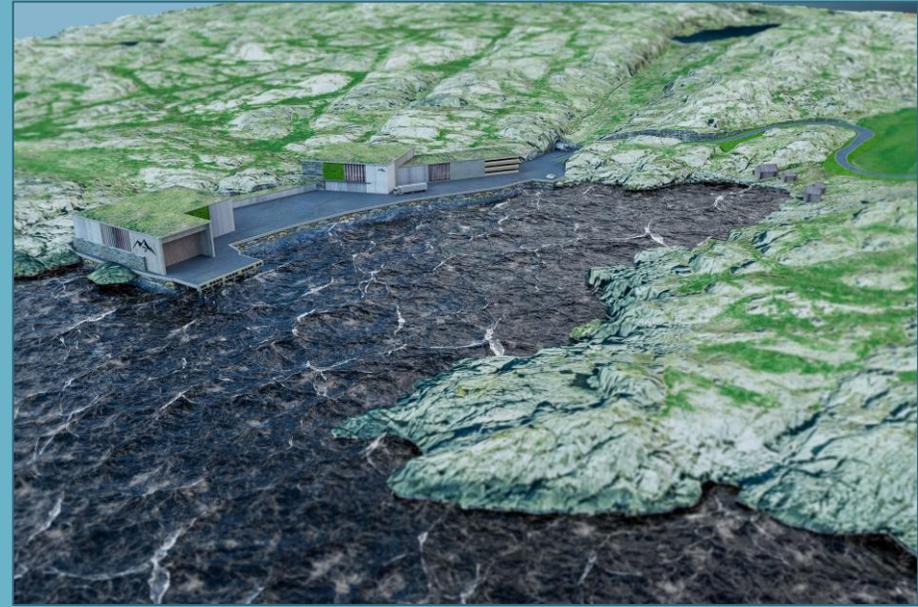


# Norwegian Mountain Salmon – 581 million £ investment in Lewis

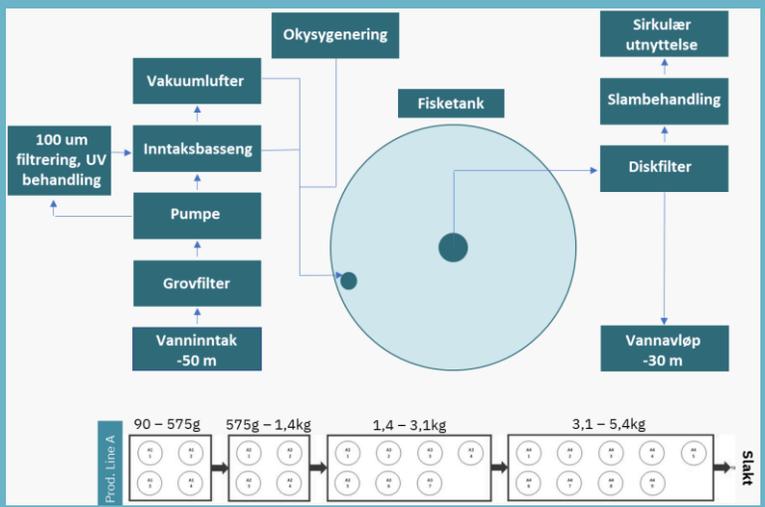
Detail engineering Norconsult – Client led execution contract with large opportunities for local construction companies



500 000 000 Salmon dinners from a site barely visible



Turnkey contract Technology by Artec Aqua – Engineering, installation and ready-for-operation:

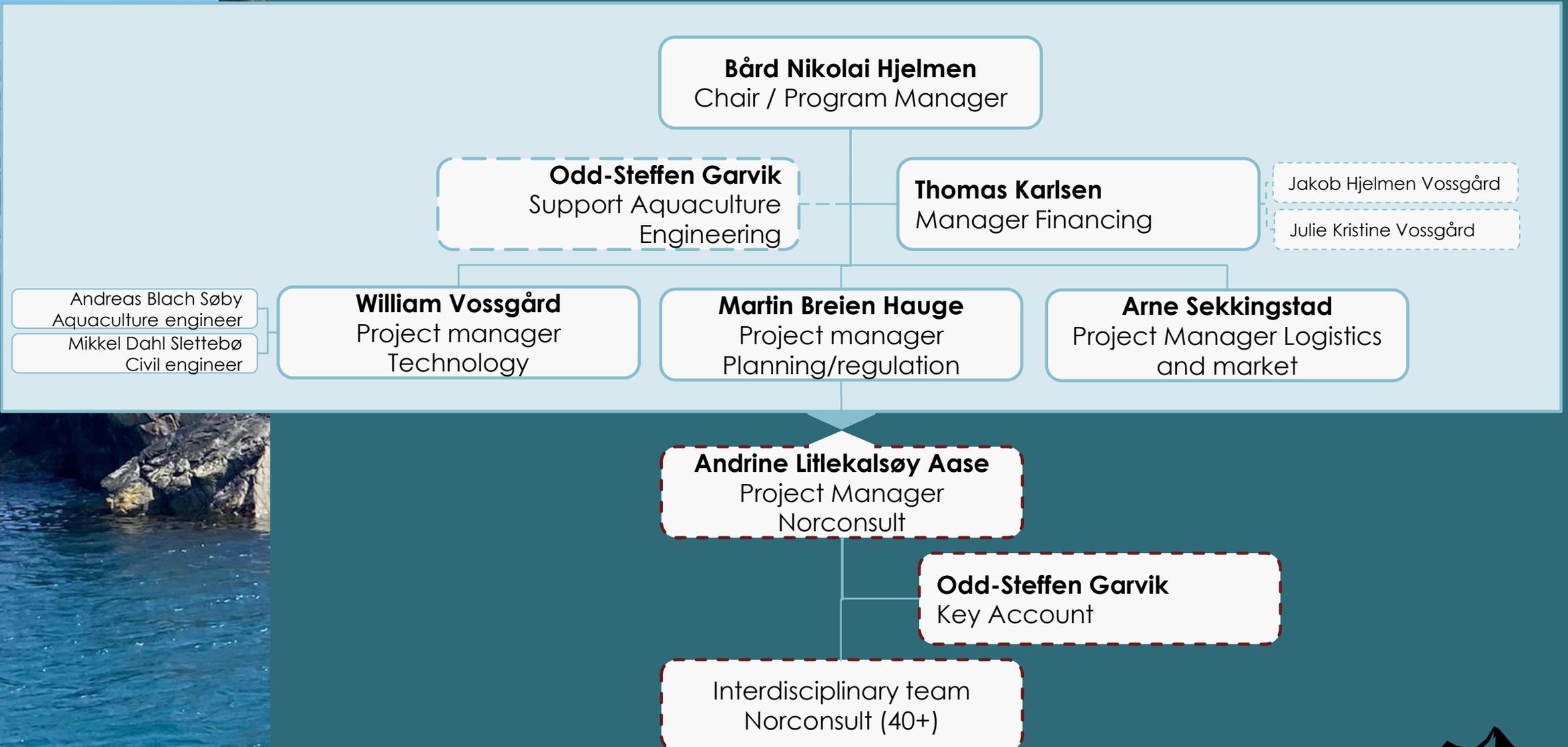


# Premium Salmon from Lewis – to 500 000 000 dinner plates

- 1 750 ton to be slaughtered every week
- Some to be slaughtered and packed locally .
- We aim for marked leading freshness of fish



# Project organisation



# Discharge and filtration

<b>Lewis (90000 ton/year)</b>			
Parameter	Expected degree of filtration (%)	Discharge without filtration (t/year)	Discharge after filtration (t/year)
TSS (Total suspended solids)	70 %	29700	8910
TOC (total organic carbon)	28 %	13275	9558
BOD5 (Biological oxygen demand)	60 %	19914	7966
TN (total nitrogen)	11 %	4690	4174
TP (total phosphorus)	28 %	980	705

Parameter	<b>NMS end of pipe max concentrations</b>			
	unit	Untreated	Filtration	Treated
<b>Dissolved and suspended N</b>	mg/L	2,6	11%	2,3
<b>TAN</b>	mg/L	1,8	0%	1,8
<b>Max NH3 in effluent</b>	ug/L	7,5	0%	7,5
<b>Total P</b>	mg/l	0,4	28%	0,3
<b>Dissolved P</b>	mg/l	0,2	0%	0,2
<b>Total BOD5</b>	mg/l	7,1	60%	2,8



# Norwegian Mountain Salmon

October 2023

Kvalvikvågen,  
Utsira, Norway

## Disclaimer

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