Productivity & Growth in Salmon Farming

Barcelona
20 April 2026

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Philip Michael Scrase
Chief Analytics Officer
philipm.scrase@kontali.com

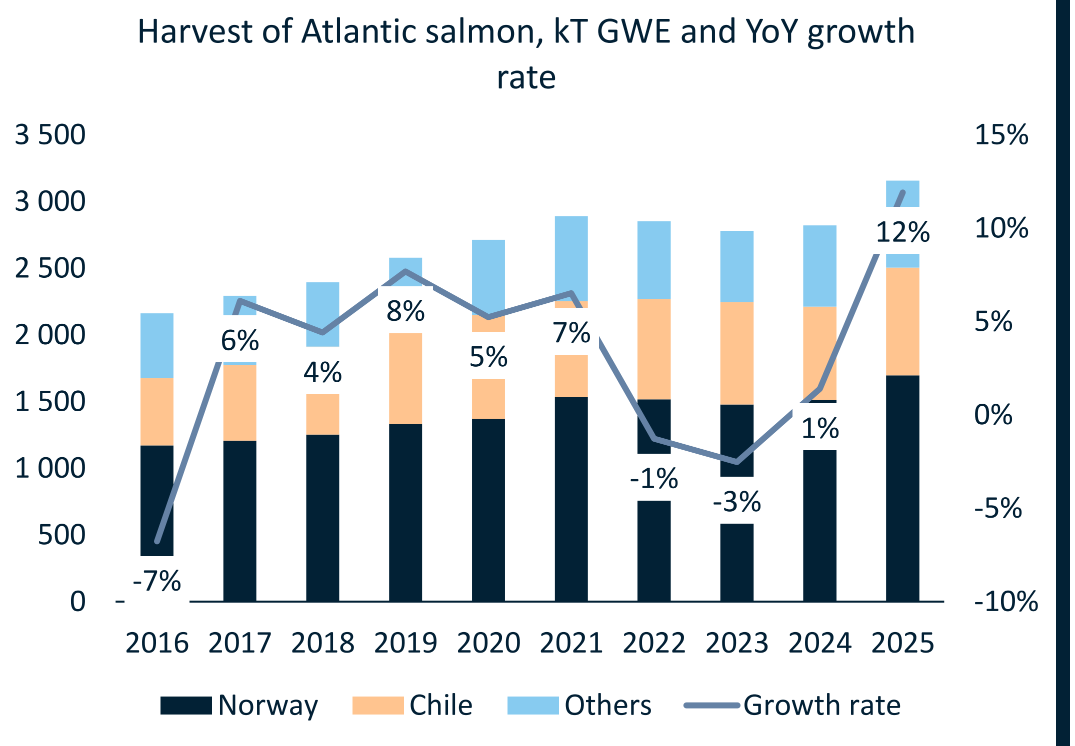
Renewed productivity growth:
Temporary deviation from trend, or the new normal?

- Capacity-led growth may be a thing of the past in salmon farming
- Productivity, biological constraints and regulations now define the limits
- Productivity trend: Weak and volatile growth before recovery in 2025 and 2026 to date, but what's next?

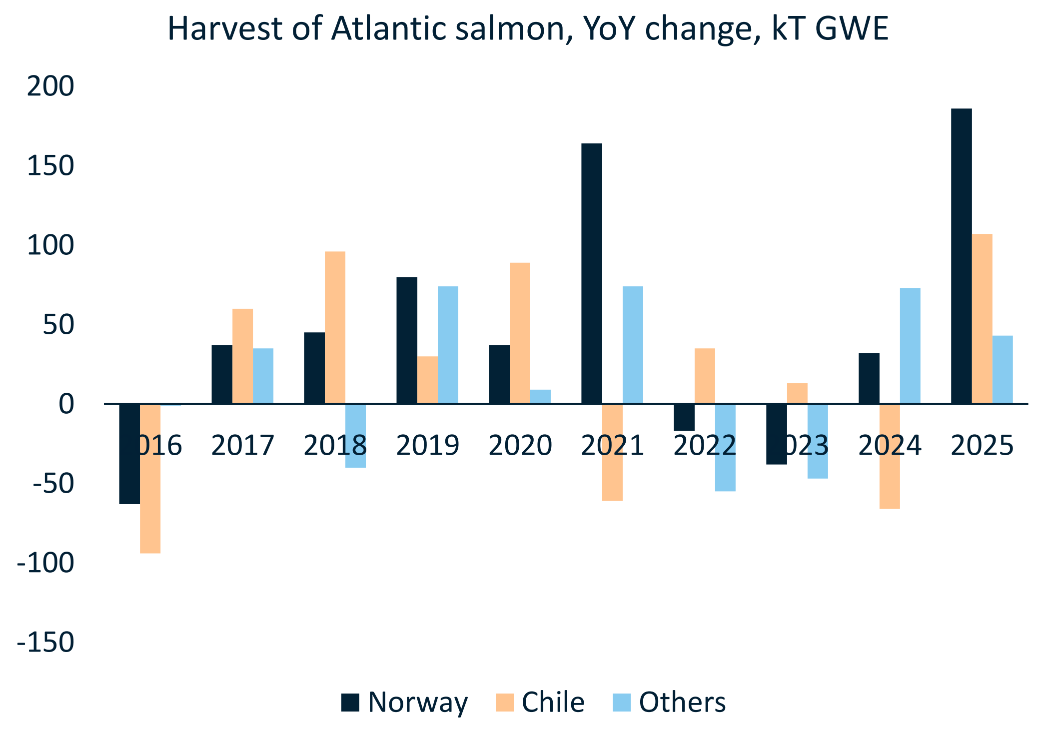
Kontali productivity benchmark models cover 96% of global production

Productivity comeback driving growth in 2025 and 2026 to date

Sudden return to growth in 2025 and H1 2026



Norway and Chile (and Faroes) drive the increase



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But what are the drivers of the recent growth?

Temperature

Biology

Regulations

Technology

And to what extent does this represent a trend shift vs a deviation from trend?

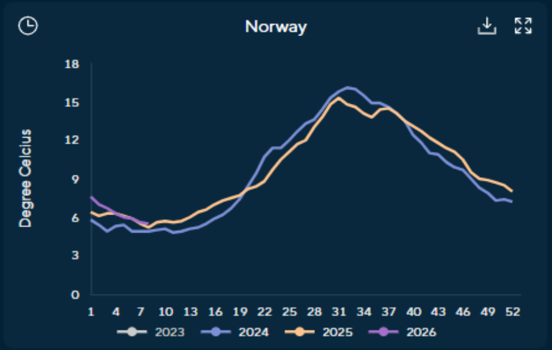
Location
Global

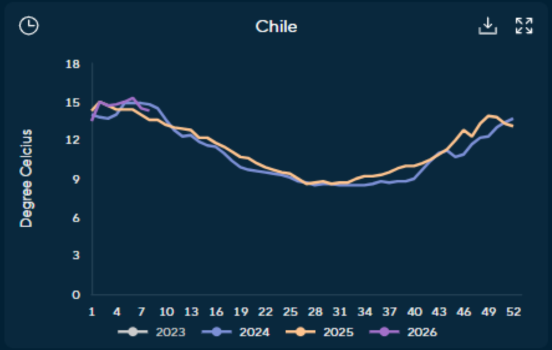
Global sea temperatures

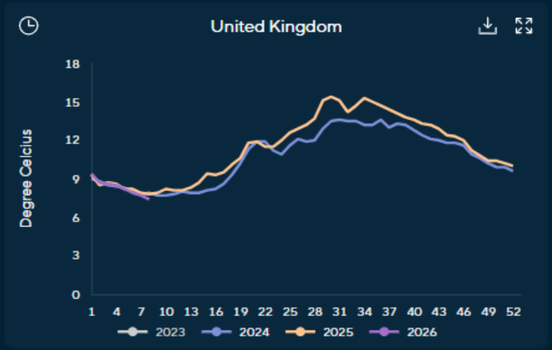
Sea temperature is a key factor in salmon farming, influencing growth, feed efficiency, and both disease and environmental risks. Warmer water increases metabolism, requiring more feed, while colder water slows growth. Salmon thrive best between 8°C and 14°C, while extreme temperatures can cause stress and weaken immunity. Sea lice reproduce faster in warm water, while colder temperatures slow their proliferation. Some diseases, however, thrive in colder conditions. Warmer conditions can reduce oxygen availability and, together with high nutrient levels, trigger harmful algae blooms.

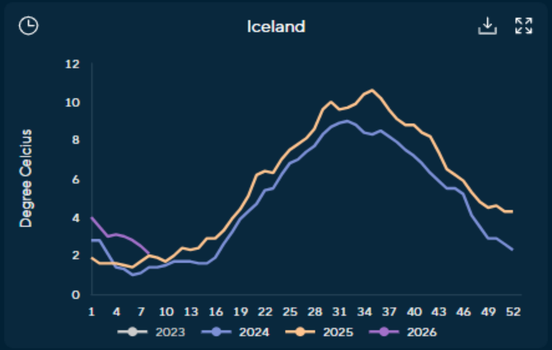
Methodology | Average sea temperatures by country

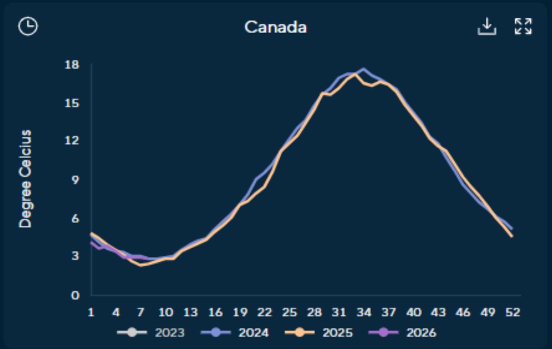
Average sea temperatures by country

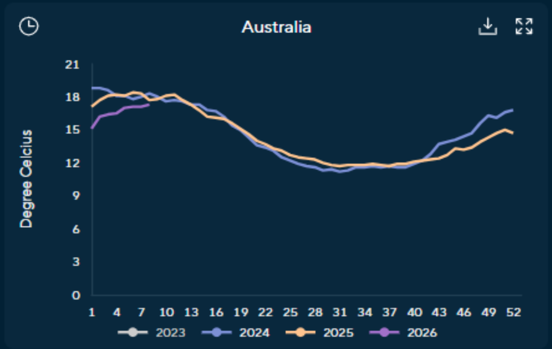


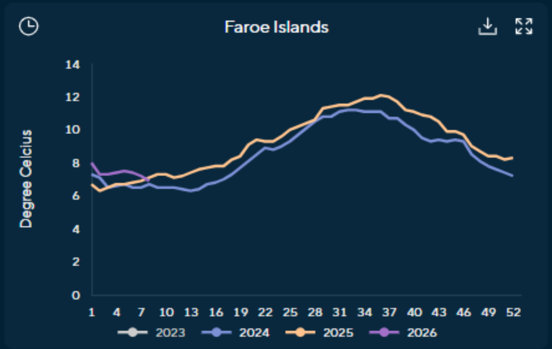


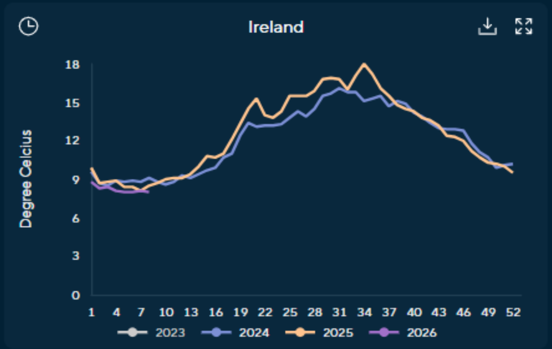






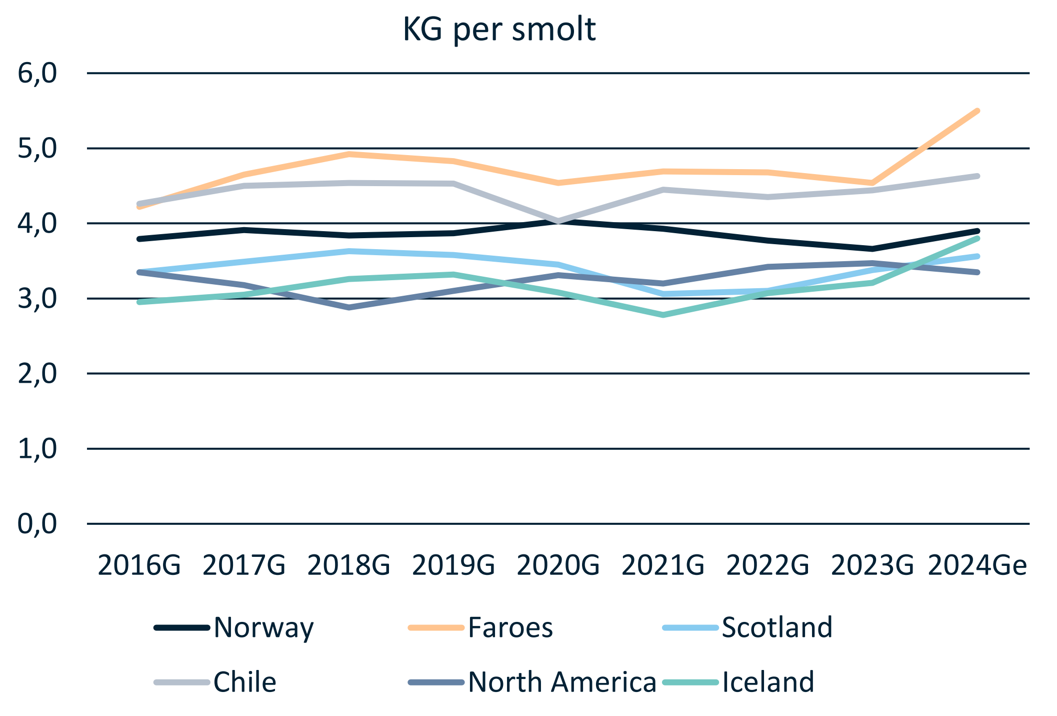




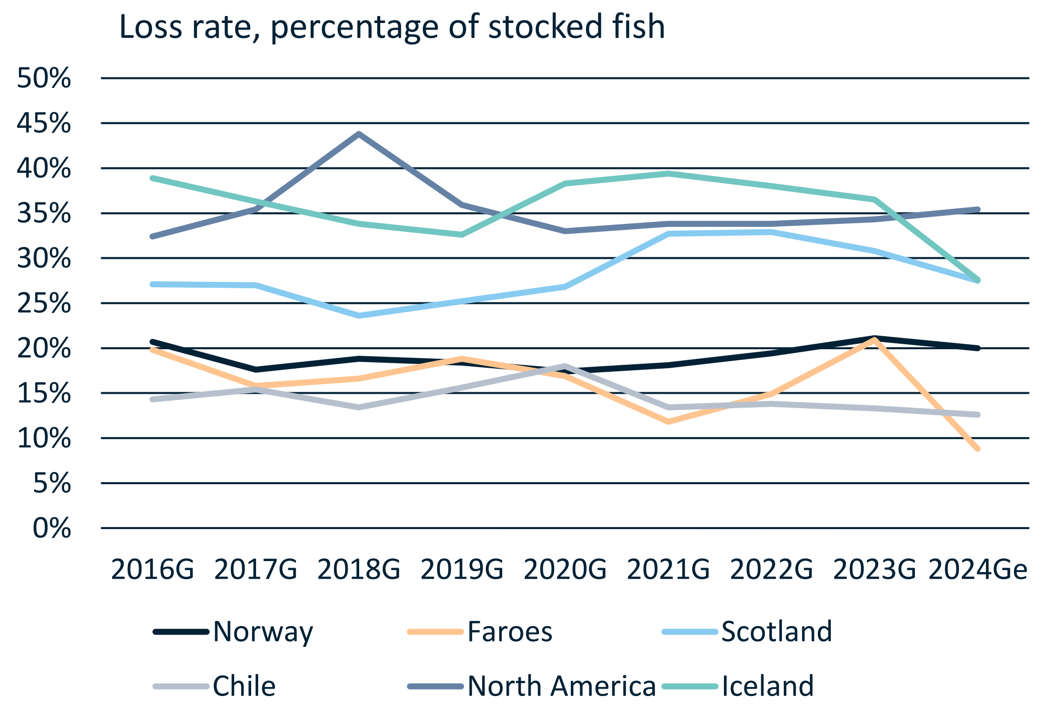


Biological performance is the key driver, closely linked to environmental conditions

Smolt yield 24G (2025 harvest): improvement across most farming regions



Supported by lower losses in most regions



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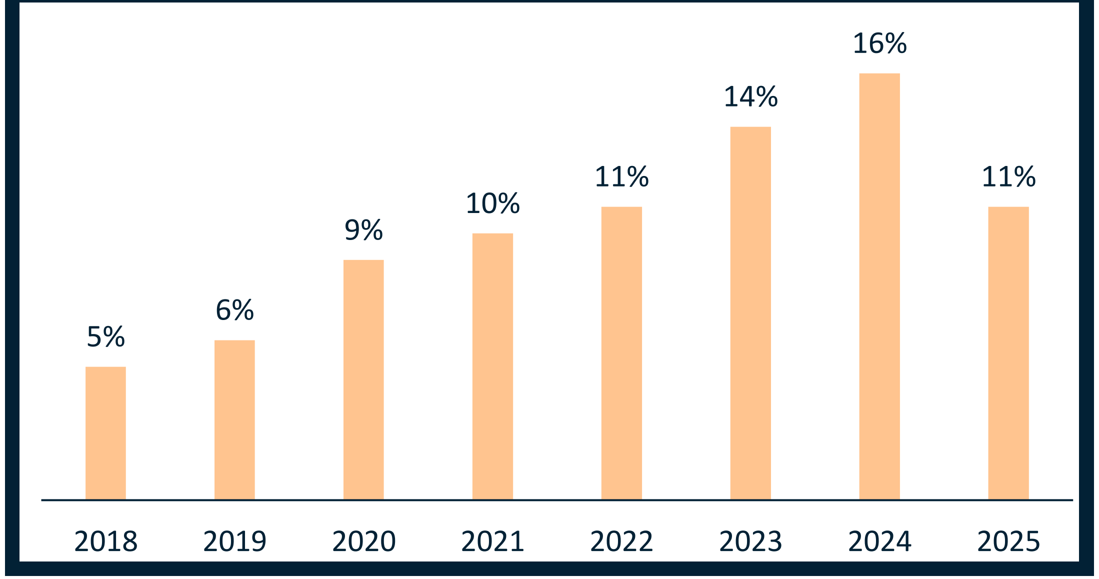
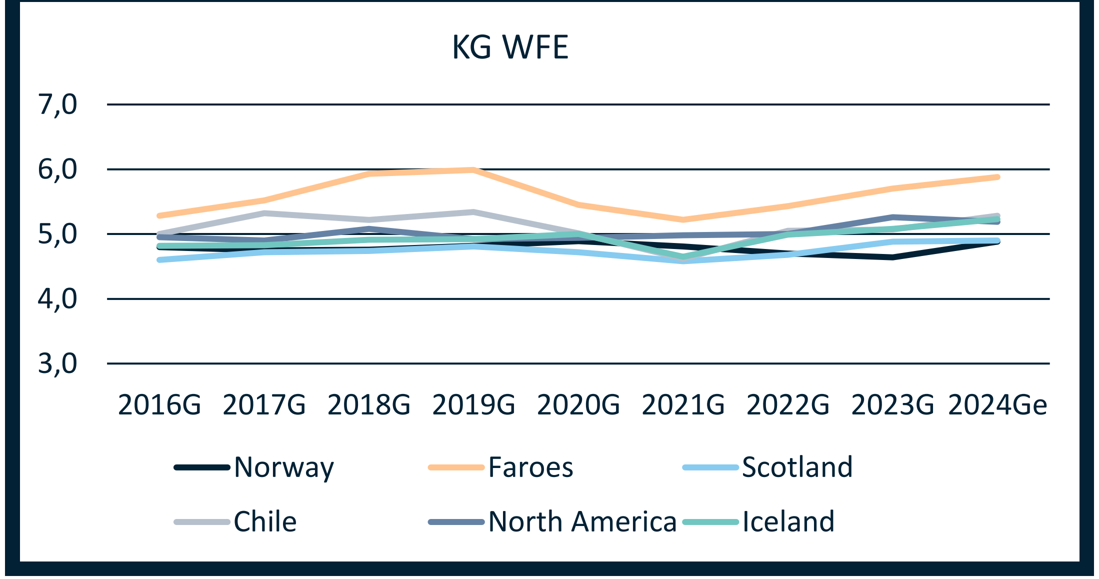
Quality and fish welfare allowed for higher harvest weights

Share of Norwegian harvest volume classified as production grade (downgrades)



Better fish welfare allowing for higher harvest weights



- **Effective H1 supply from Norway was down three years in a row prior to 2025 due to downgrades**
- **Supply growth and less downgrades effectively added 250 kT of Norwegian salmon YoY in 2025**

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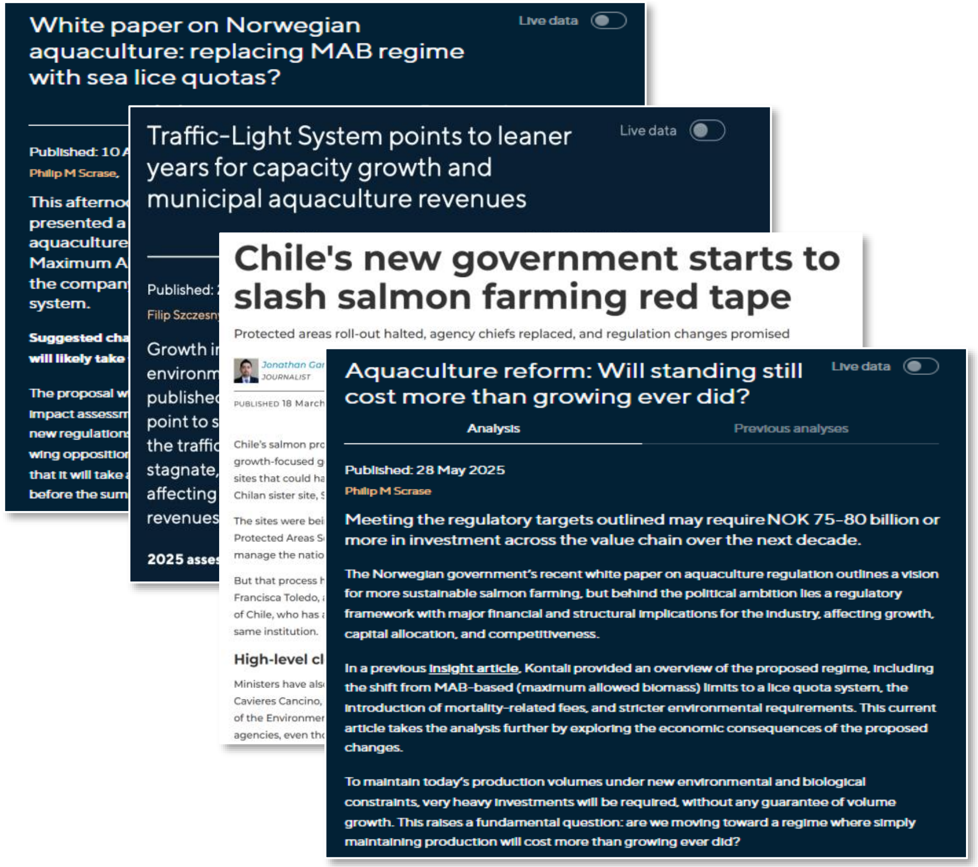
Regulations – constraint or driver of growth and productivity?

- Access to new sites is a key bottleneck
- Licensing systems and political frameworks
- Positive signals in Chile, but realization remains to be seen
- Norway: what happens with the traffic light system? Potential levy on losses?

Growth potential differs significantly by region



White paper on Norwegian aquaculture: replacing MAB regime with sea lice quotas?

Traffic-Light System points to leaner years for capacity growth and municipal aquaculture revenues

Chile's new government starts to slash salmon farming red tape

Protected areas roll-out halted, agency chiefs replaced, and regulation changes promised

Aquaculture reform: Will standing still cost more than growing ever did?

Analysis | Previous analyses

Published: 28 May 2025

Philip M Scrase

Meeting the regulatory targets outlined may require NOK 75–80 billion or more in investment across the value chain over the next decade.

The Norwegian government's recent white paper on aquaculture regulation outlines a vision for more sustainable salmon farming, but behind the political ambition lies a regulatory framework with major financial and structural implications for the industry, affecting growth, capital allocation, and competitiveness.

In a previous insight article, Kontali provided an overview of the proposed regime, including the shift from MAB-based (maximum allowed biomass) limits to a lice quota system, the introduction of mortality-related fees, and stricter environmental requirements. This current article takes the analysis further by exploring the economic consequences of the proposed changes.

To maintain today's production volumes under new environmental and biological constraints, very heavy investments will be required, without any guarantee of volume growth. This raises a fundamental question: are we moving toward a regime where simply maintaining production will cost more than growing ever did?

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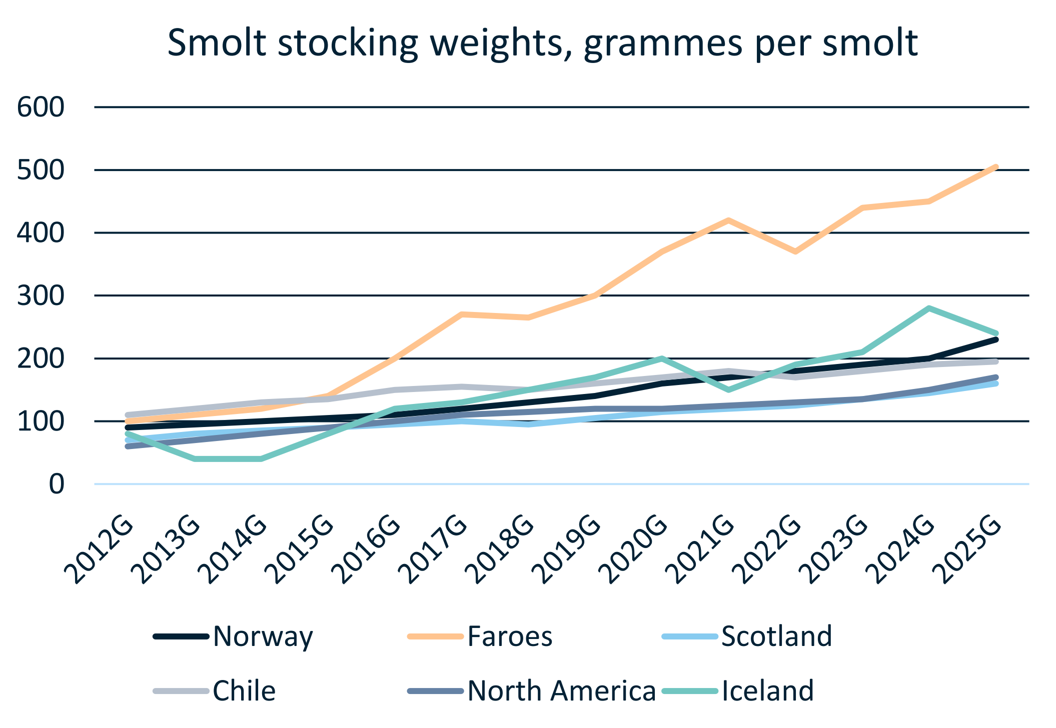
Technology as a productivity and growth driver?

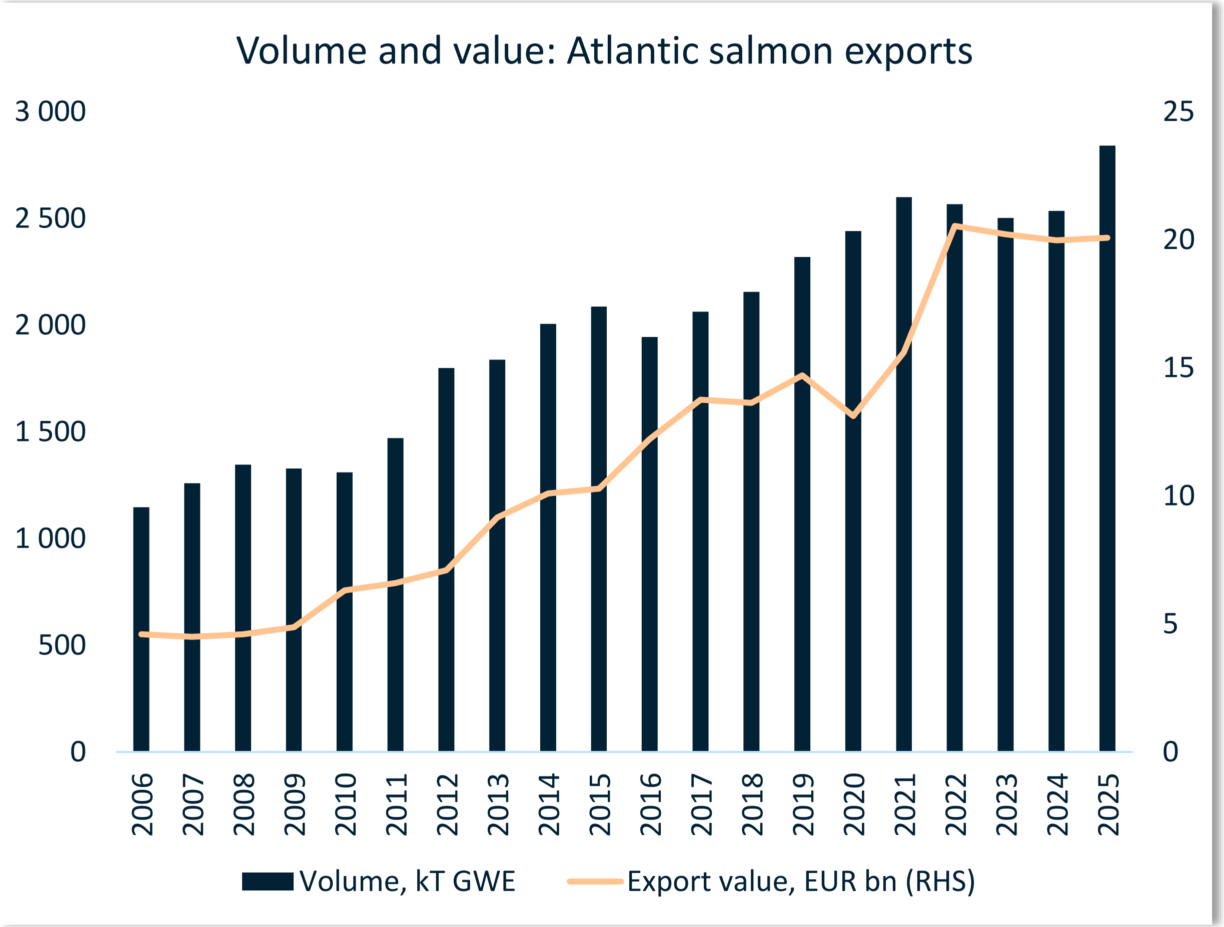
- Post-smolt investments – varying degrees of maturity and suitability across regions and regulatory regimes
- Submerged systems having some effects in environmentally challenging areas

Investing to grow – or to stay afloat and manage biology?

Smolt investments support license utilization and growth



But what about demand growth?



- Underlying demand growth?
- 2023 and 2024: declining export value measured in EUR on stagnant volumes
- 2025 and 2026 to date: supply growth and weaker prices across markets
- Investments depend on value and demand growth to be feasible – the easiest and cheapest volumes are already being produced

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Looking ahead: growth returns to structurally low levels

Productivity

- Temperature: New normal drives higher risk, while creating regional opportunities
- Quality drivers: Temperature, vaccines, sea lice and handling

Regulations and governance

- Compliance pressure: Risk of "forced" investments to meet requirements
- Access to locations
- Chile: New opportunities?

Technology as a growth driver?

- Emerging solutions: Post-smolt, submerged and closed systems
- Capital constraints: Land-based still facing real funding challenges. Offshore not a factor anytime soon
- Investment backdrop: Higher value chain cost and increased uncertainty

We expect a return to normal, with low single-digit growth rates

Philip Michael Scrase
philipm.scrase@kontali.com

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