Marine Harvest

Biological drivers to succeed

Oslo 9 June 2011

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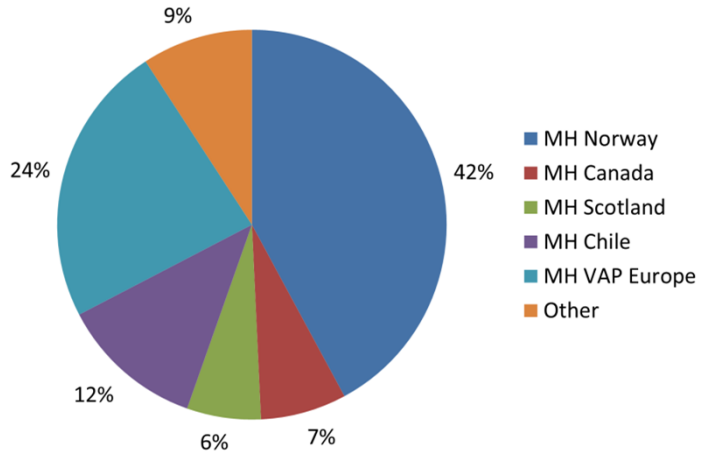
excellence in seafood

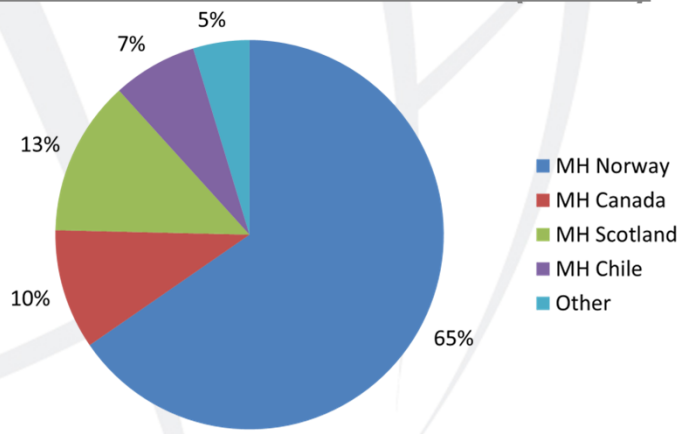
Marine Harvest at a glance

- Turnover NOK 15.2bn
- Salmon volume 296' tonnes (HOG)
- 5 000 employees
- Presence in 21 countries
- Global market share of ~25%
  - Farmed Atlantic Salmon
- Leading producer in:
  - Norway
  - Canada (West Coast)
  - Scotland
  - Chile
- Extensive value adding processing of convenient, healthy, natural and fresh salmon and other species
  - Europe (MH VAP)
  - USA , Chile
  - Japan

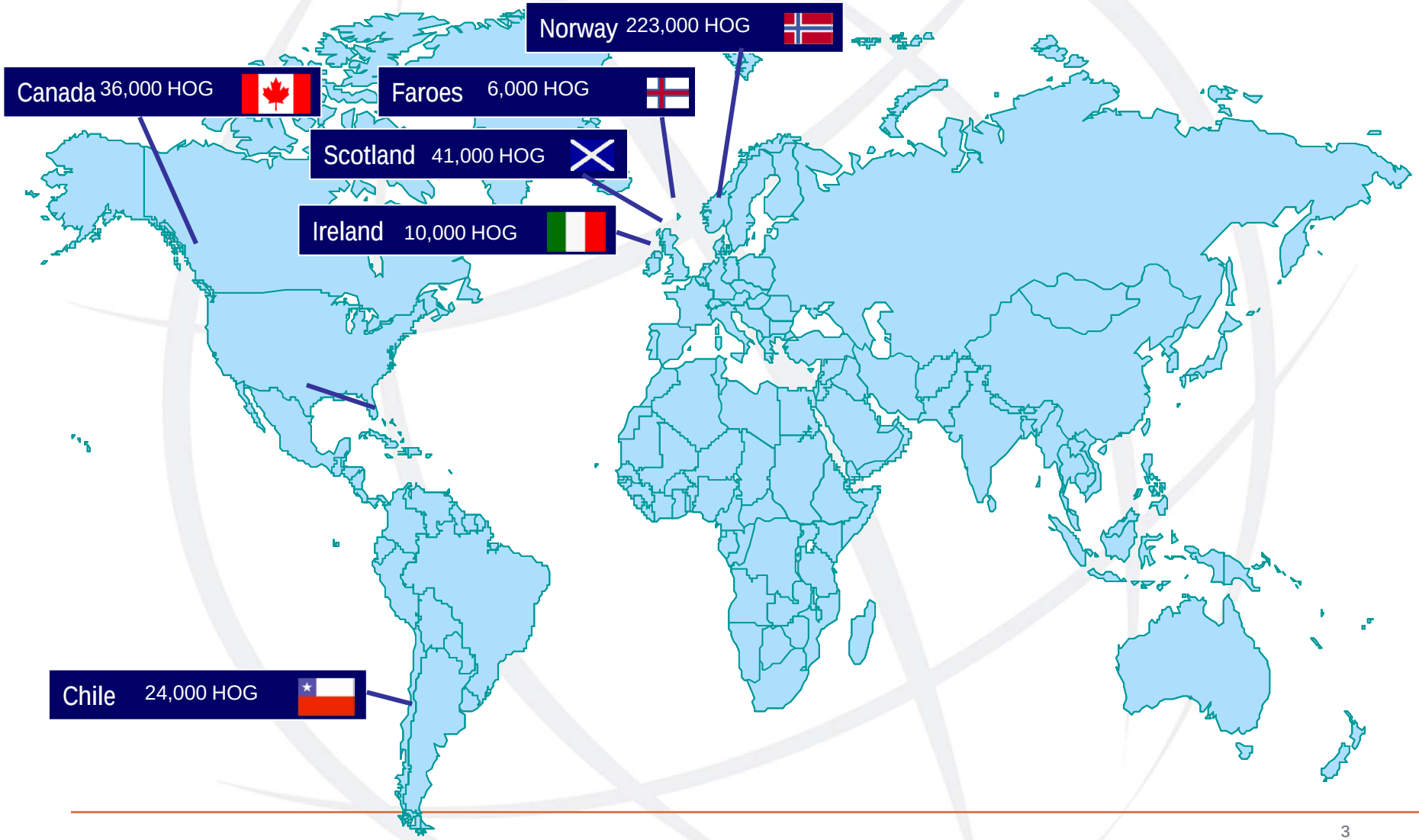
2010 Sales breakdown



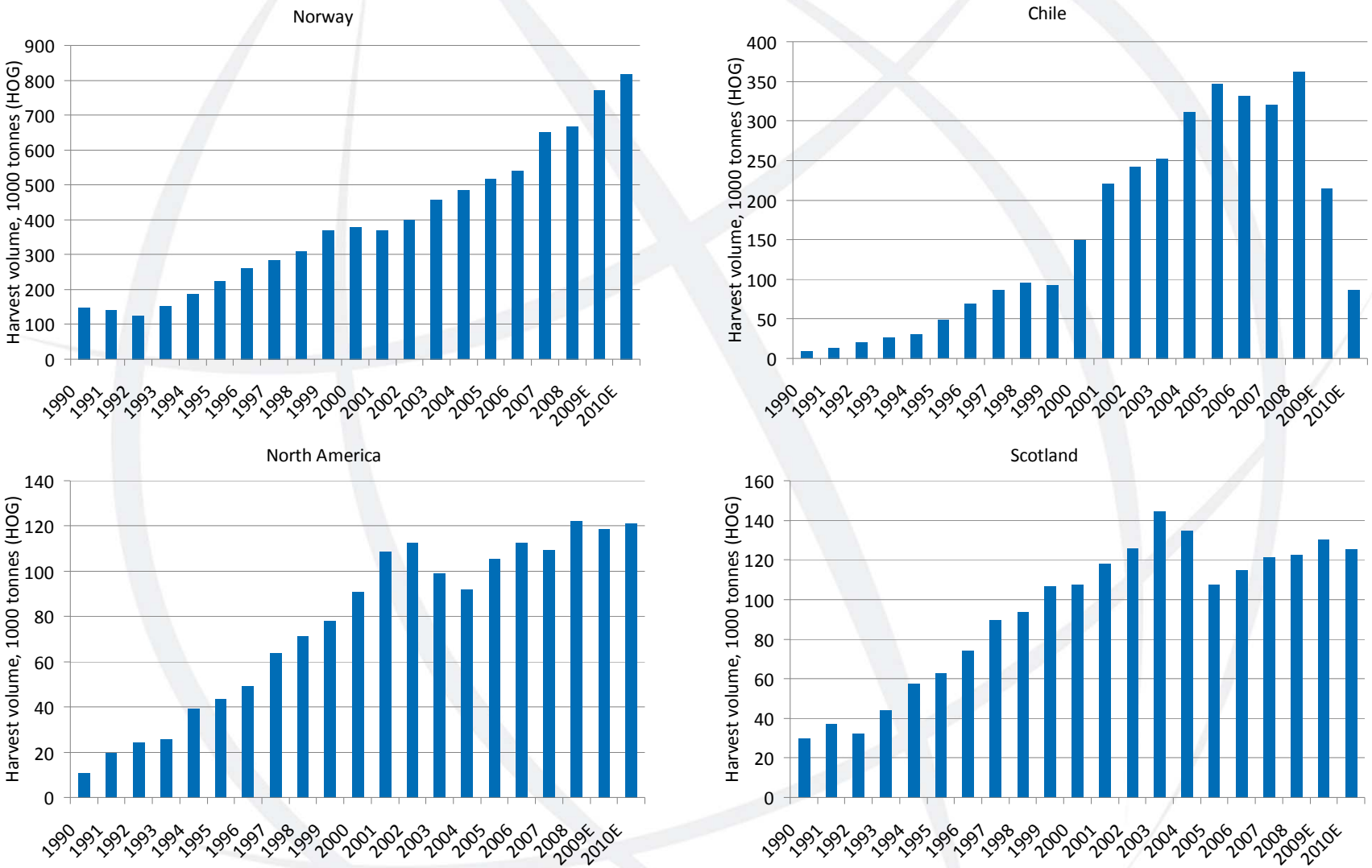
Harvest volume 2011E (HOG)



Marine Harvest - Global farming network 2011

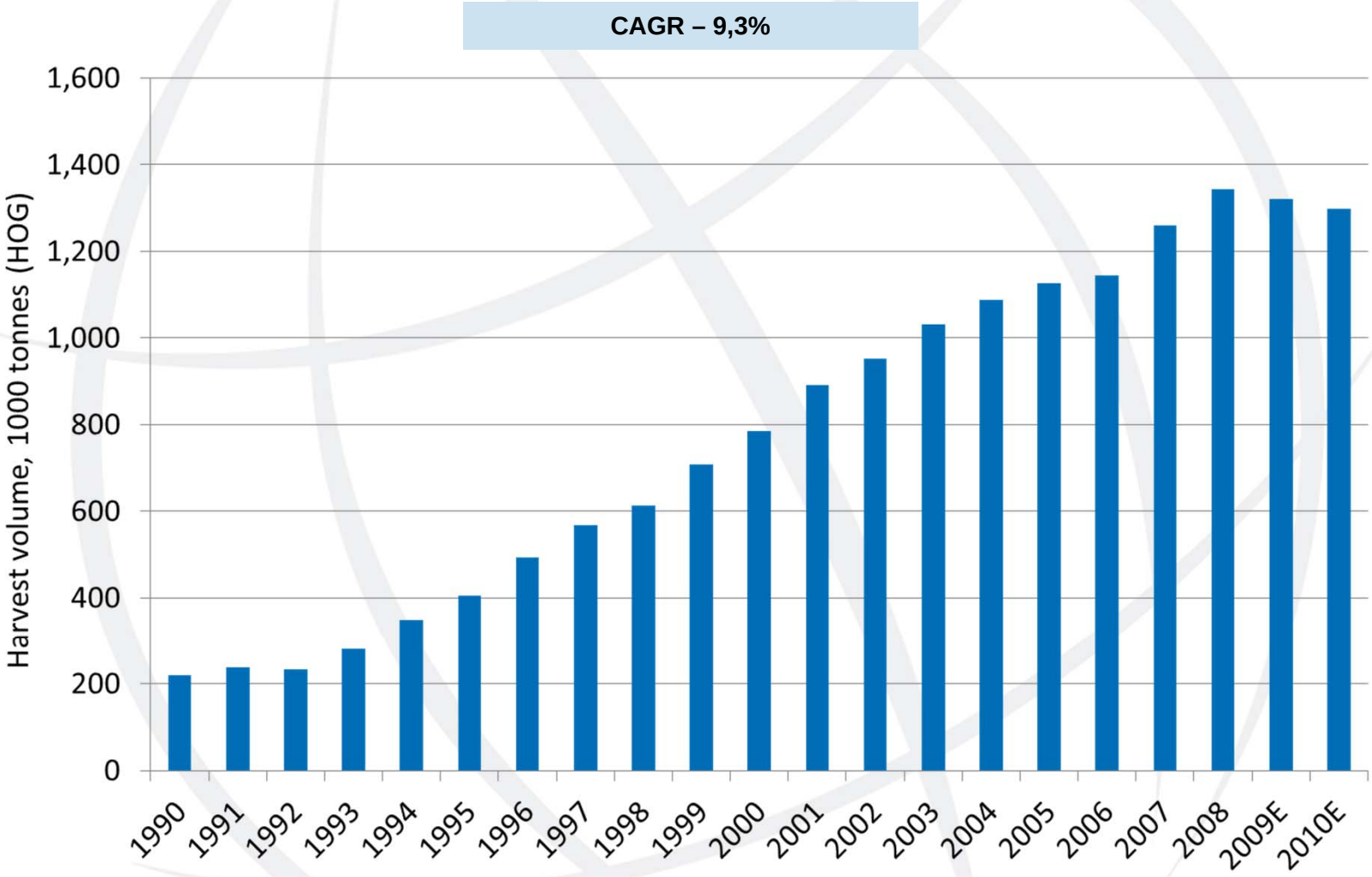


Development in industry volumes



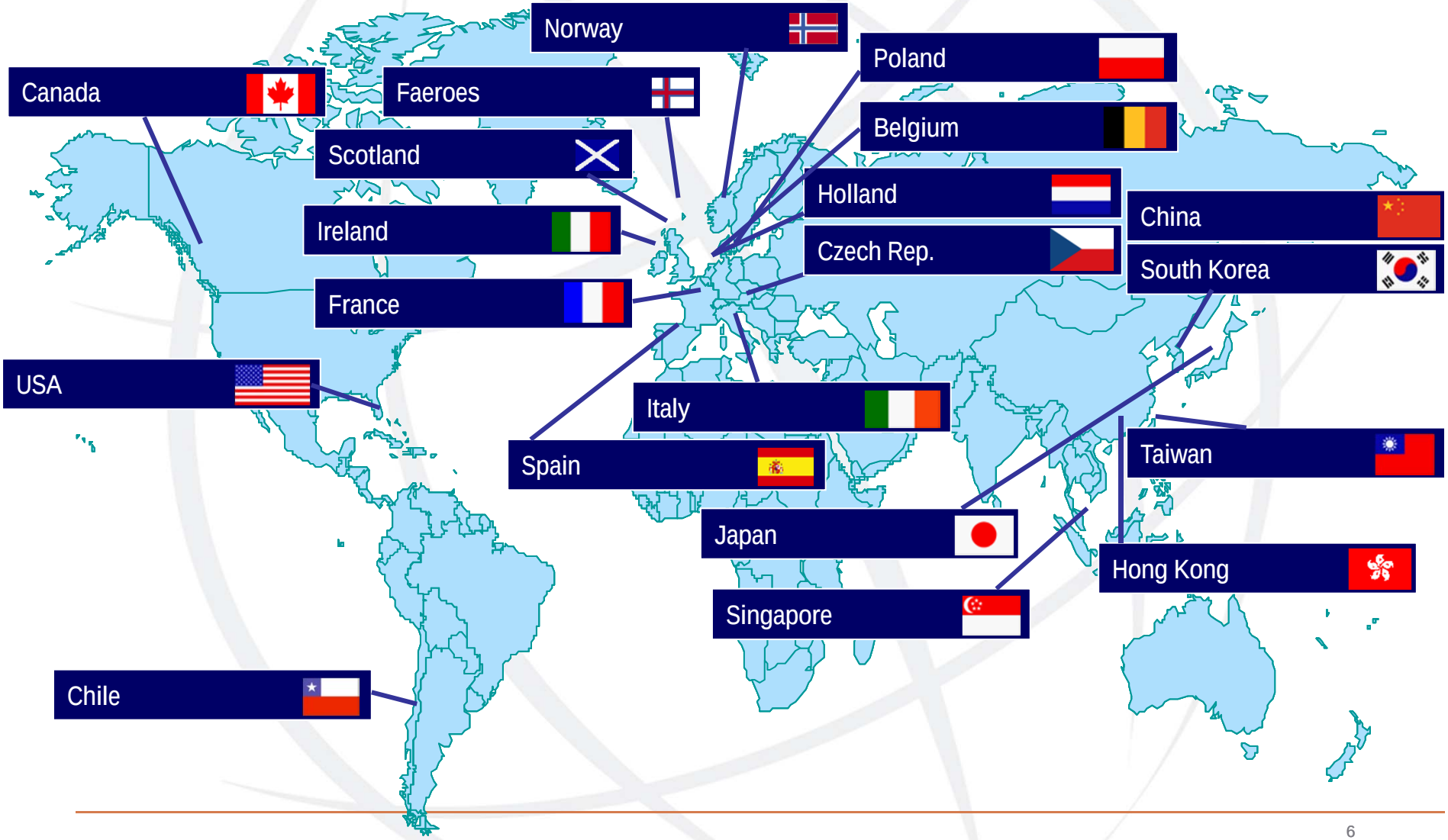
Source: Kontali Analyse/MHG mid range estimate for 2010

Strong industry growth since 1990



Note: Development in harvested volumes Source: Kontali Analyse

Marine Harvest - Global sales network



Global industry volumes by market

Markets	Estimated volumes Q1 2011	Estimated volumes Q1 2010	Compared to Q1 2010 Volume	Compared to Q1 2010 %	12 months comparsion Volume	12 months comparsion %
EU	146,300	152,200	-5,900	-3.9%	-27,900	-4.1%
USA	53,600	59,300	-5,700	-9.6%	-16,000	-6.6%
Russia	20,700	18,900	1,800	9.5%	16,200	21.5%
Japan	8,700	7,700	1,000	13.0%	-1,600	-4.9%
Brasil	7,500	9,300	-1,800	-19.4%	-12,300	-29.7%
China / Hong Kong	9,000	8,600	400	4.7%	200	0.5%
South Korea/Taiwan	6,700	5,000	1,700	34.0%	1,900	10.2%
Ukraina	4,000	3,700	300	8.1%	-1,100	-7.0%
Sum main markets	**256,500**	**264,700**	**-8,200**	**-3.1%**	**-40,600**	**-3.5%**
Other markets	46,400	41,500	4,900	11.8%	5,000	2.8%
Total all markets	**302,900**	**306,200**	**-3,300**	**-1.1%**	**-35,600**	**-2.7%**
Inflow to US from Europe	21,200	23,900	-2,700	-11.3%	62,400	187.4%
Inflow to EU from Chile	2,000	1,900	100	5.3%	-16,400	-63.1%

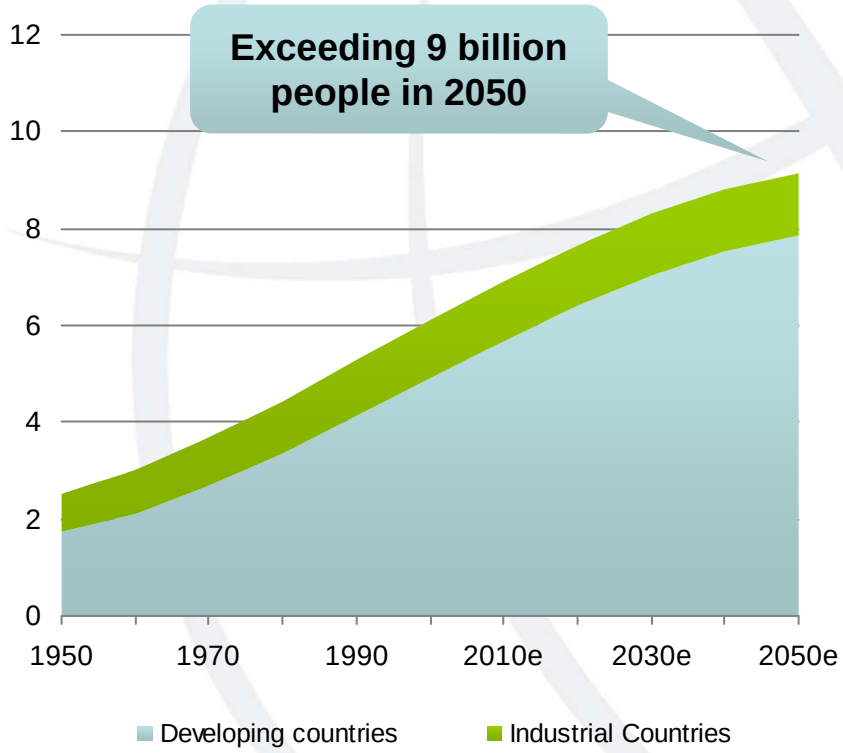
Source: Kontali

- Volume distribution to the markets still heavily impacted by supply situation in Chile
  - Volumes redirected away from the other producing regions' traditional core markets to compensate for Chile's shortfall
- Consumption in the EU reduced by ~4% in Q1 2011 and over the last 12 months
- Supply to the US and Brazilian markets impacted by continued low volumes from Chile
- Other market generally very competitive
  - Russia and Ukraina continues strong trend
  - Positive trend in Asia despite market disruption in China and earthquake related issues in Japan

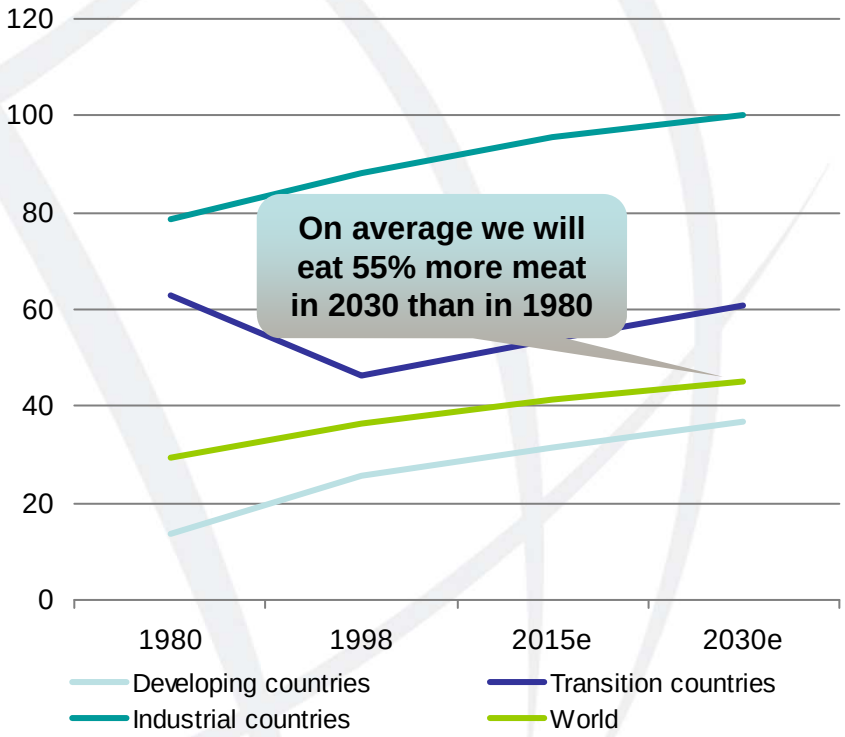
Notes: (1) Atlantic Salmon (HOG tons) (2) Difference between harvested and consumed volume due to changes in inventory

Fundamental global demand drivers

More people: World population growth
In billions



Everyone eating more protein: Growth in meat consumption
Kg per capita per year



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision, http://esa.un.org/unpp, Monday, October 05, 2009; 3:52:48 AM.

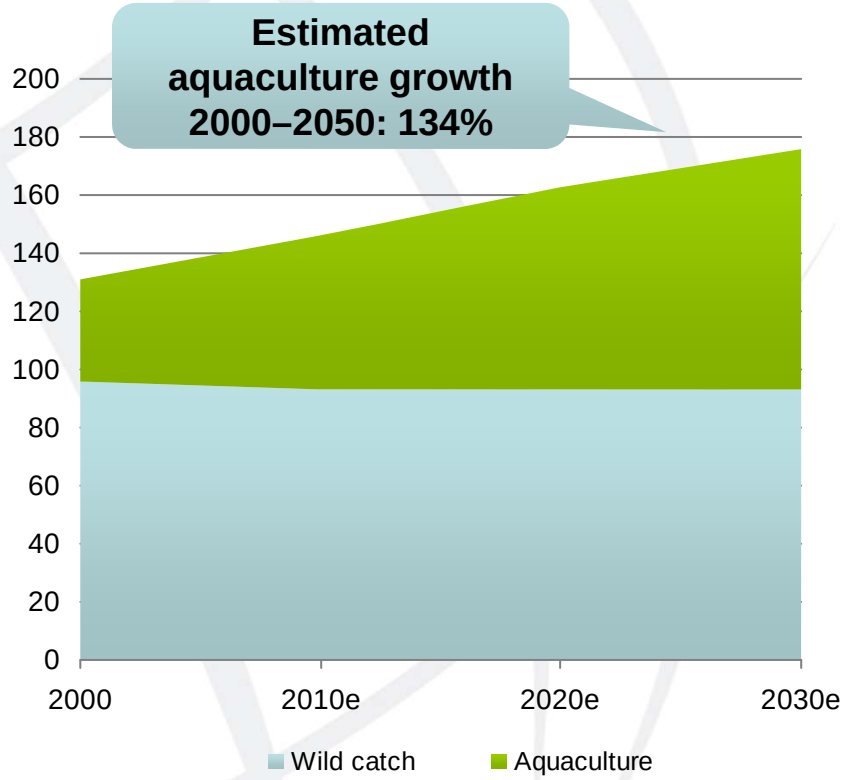
Source: FAO corporate document repository, http://www.fao.org/docrep/004/y3557e/y3557e16.htm#a4

And even stronger demand for seafood

"…dietary goals can be met by (...) ensuring a regular intake of fish (one to two times per week)."

World Health Organisation

Total seafood production
in million tonnes



Source: http://www.who.int/nutrition/topics/5_population_nutrient/en/index12.html

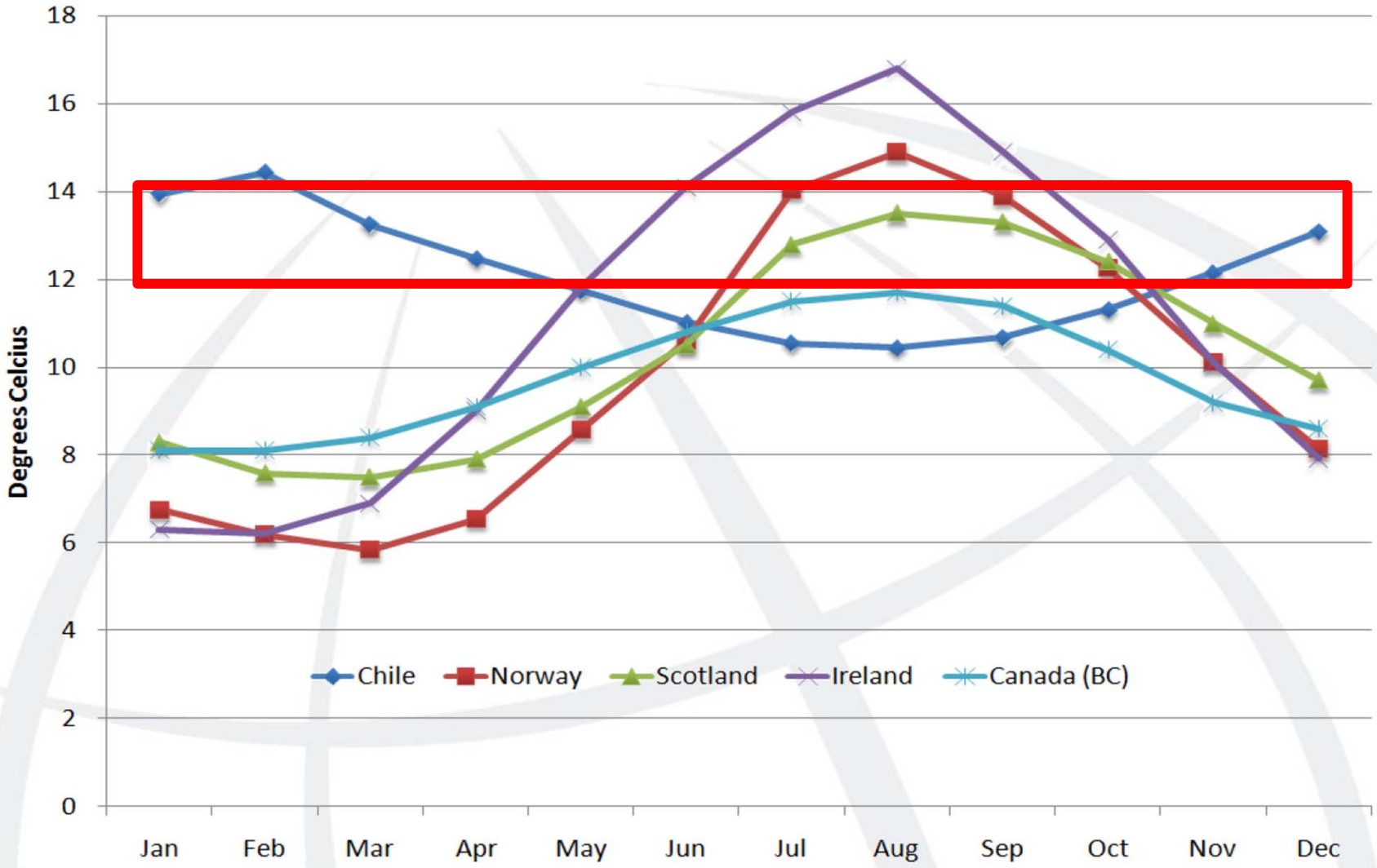
Source: http://www.fao.org/docrep/009/A0699e/A0699E09.htm

Biological drivers to succeed

Success in biology~financial success

- Dream scenario in salmon farming:
  - Low mortality < 10 percent per generation
  - Predictable growth and harvest volumes
  - Low feed conversion ratio
  - Acceptable environmental impact
- Resulting in a quality product to an increasing group of consumers
- How do we achieve this?

Fundamentals - Temperature



Fish health

- Survival impacted by many factors:
  - Genetic material
  - Smolt quality
  - Biosecurity management
  - Pathogenic pressure within site and between sites
  - Corrective action and equipment to deal with incidents

R&D together with single year class production

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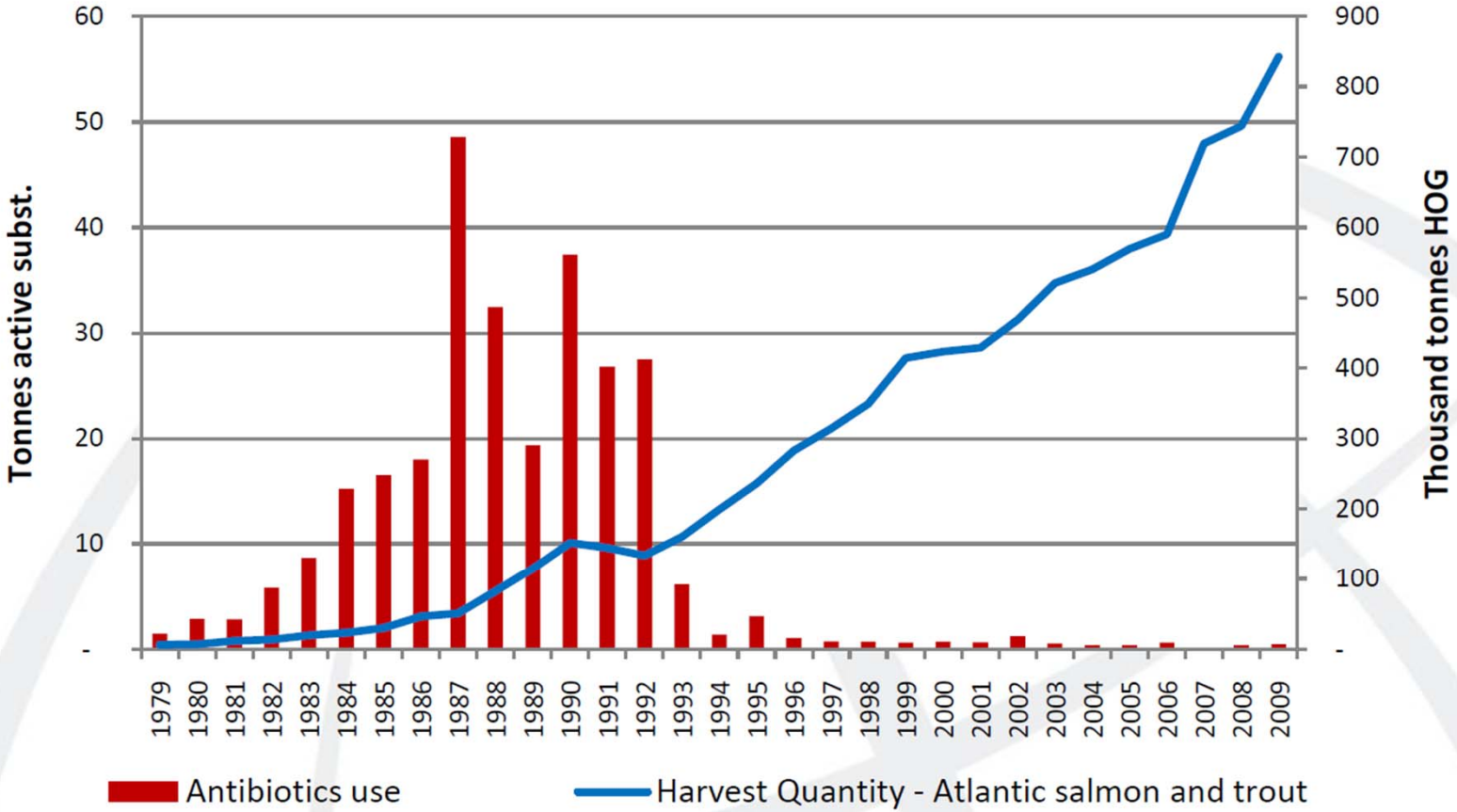
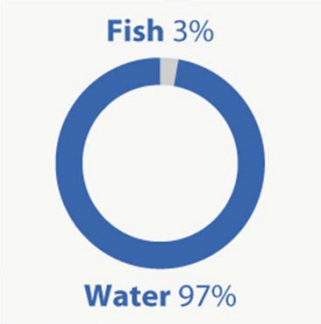
Vaccination and use of Antibiotics (Norway)



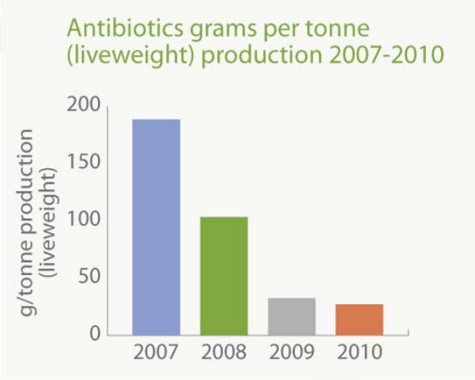
Source: Kontali Analyse, Norsk medisinaldepot, Folkehelseinstituttet

Healthy fish are happy fish

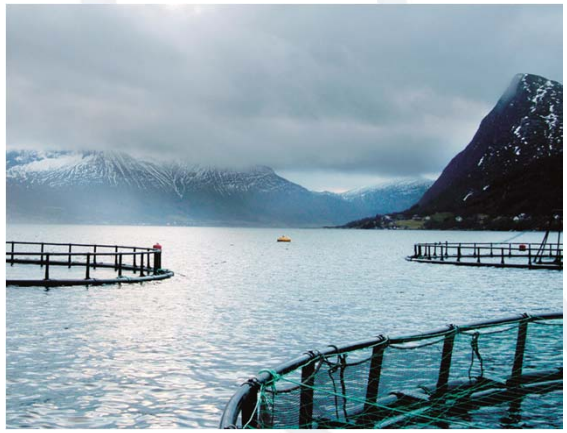
- Low stocking densities



- Vaccination



- Optimal farm location



- From medication to biological control

Growth

- Growth rate
  - Temperature
  - Genetics
  - Adapted smolt, and smolt size
  - Feed quality
  - Environmental condition and stocking densities
  - Fish health status

Feed conversion ratio (FCR)

- FCR impacted by
  - Energy content in feed
  - Nutritional composition
  - Genetic potential
  - Smolt quality
  - Feed quality
  - Trained personnel

Salmon farming is hard to beat in regards to FCR

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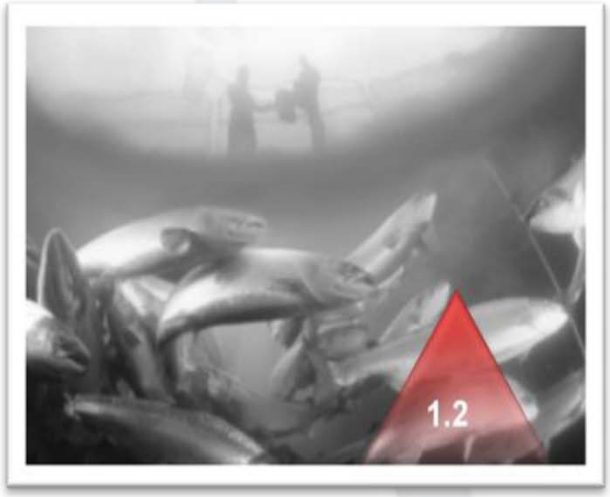

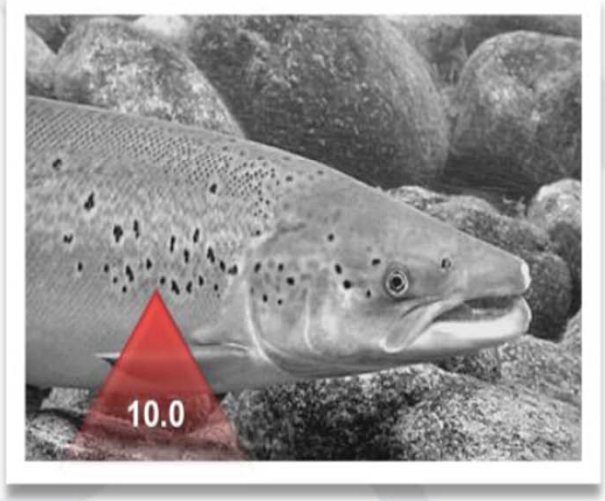

Our approach to sustainability

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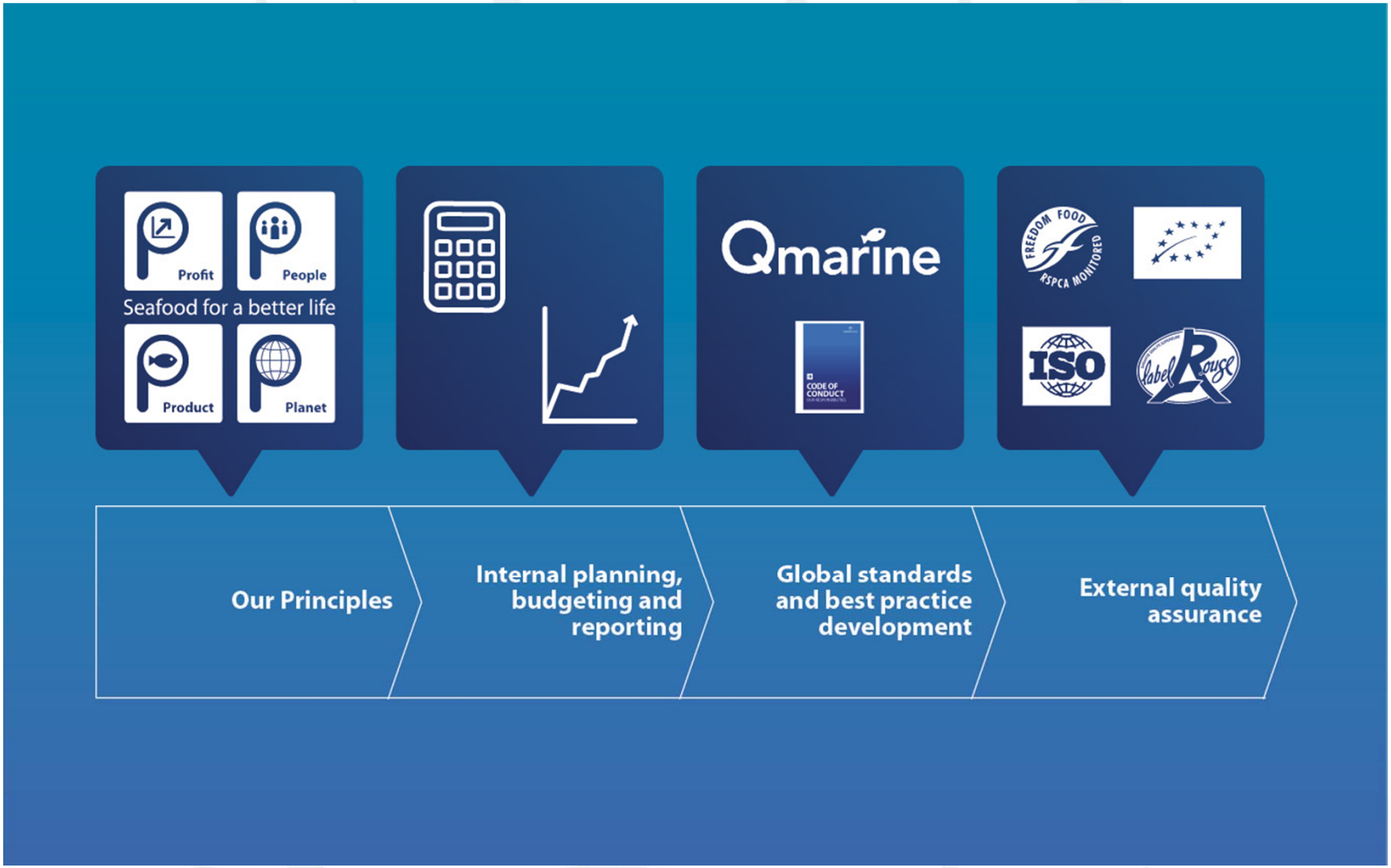

Listen, evaluate and improve

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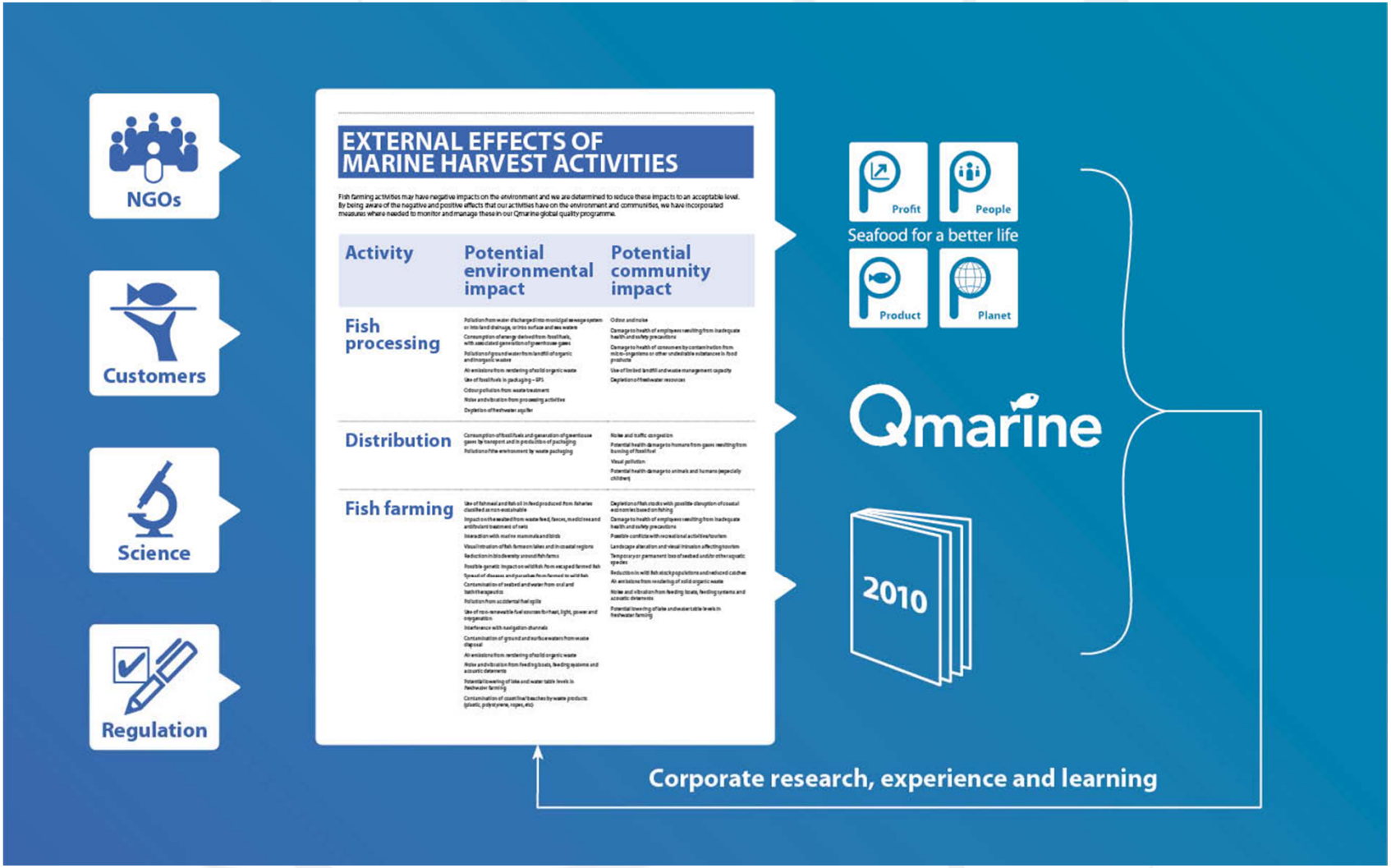

Biological drivers to succeed

- Education and training of personnel
- Resources towards genetics and especially smolt production
- Establish risk management areas (biological barriers) and think risk management
- R&D in regards to vaccines towards viruses
- Develop knowhow in regards to ocean current and effect on diseases
- Be open to new technology
- Study effect of already implemented zones
- Develop national strategies and better regulations based on best practice and R&D to secure future growth and a sustainable production.