Bord Iascaigh Mhara
Irish Sea Fisheries Board

Ireland's Framework for Aquaculture Development

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www.bim.ie

First the **BIG** Picture… really quickly

Global population is growing…

World population to top

9 billion** by **2050

Can Agriculture provide the extra food?

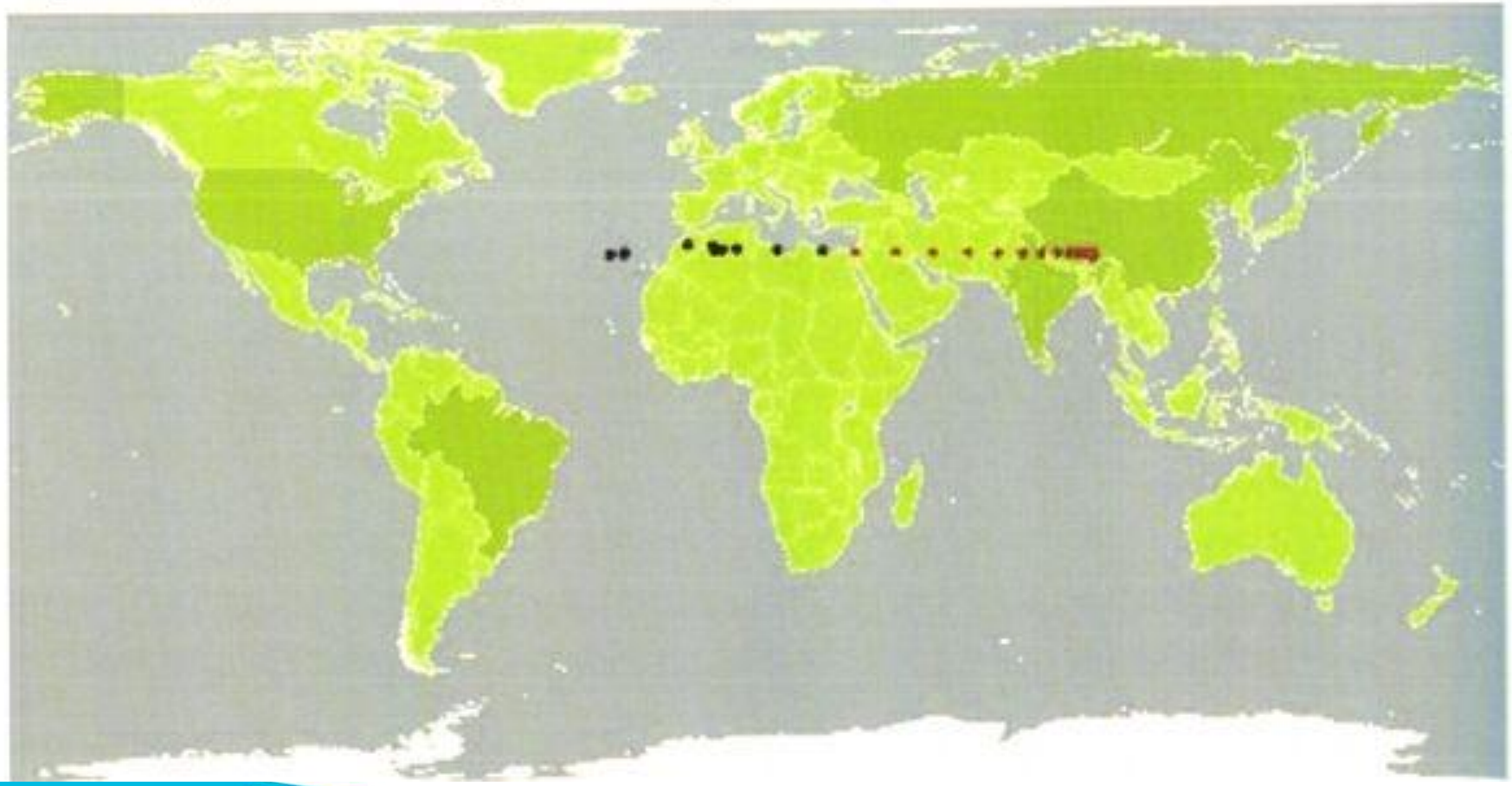
What about fresh water?...

- Need 900 cubic metres per person PA
- Total Availability is around 9000km3 PA
- Dietary shifts; more calories, more meat

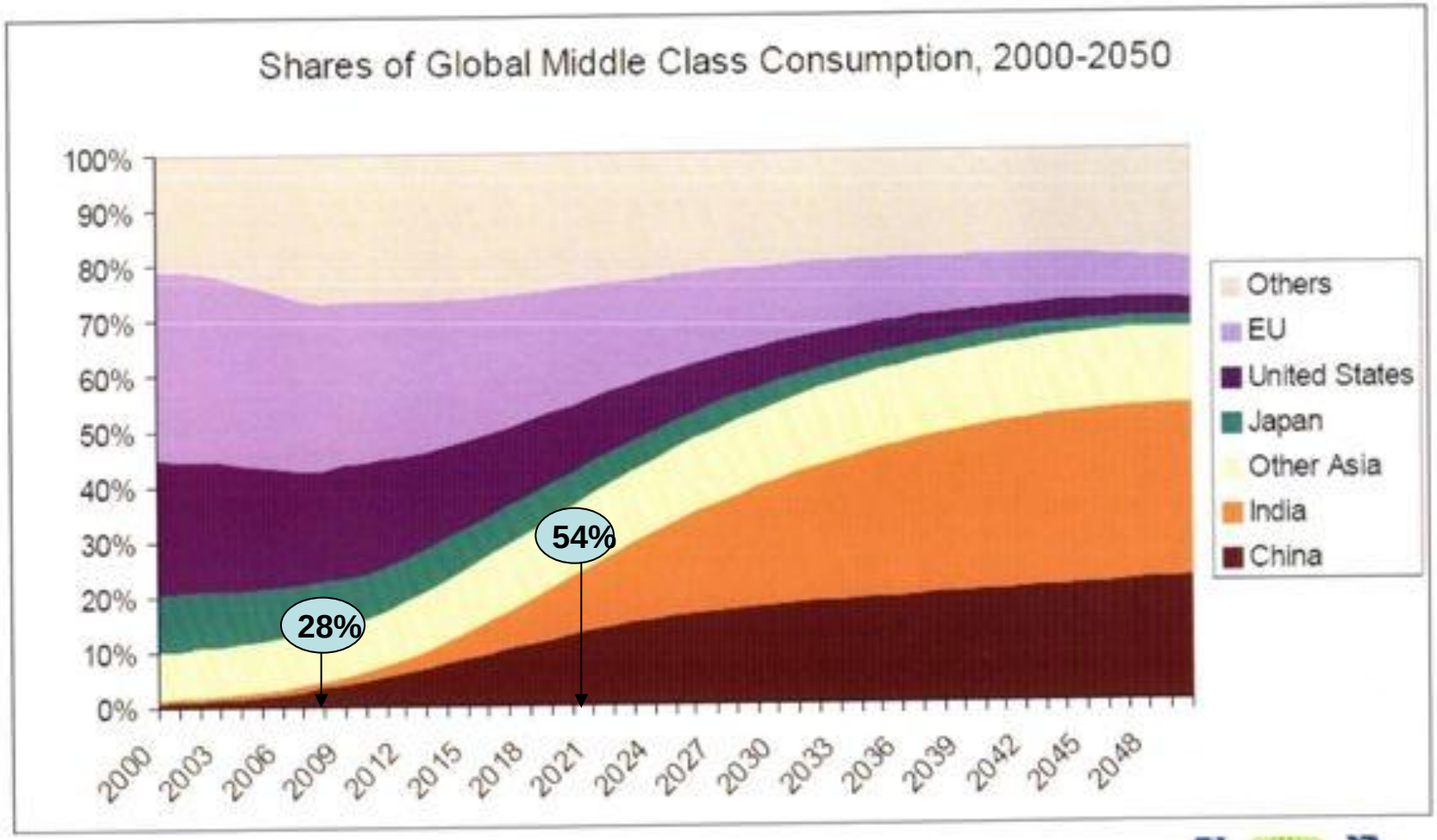
Is there enough arable land?

- A 50% to 70% increase in area required at current production levels
- Crop land has decreased 0.5 to 0.25 hectares per capita in the period 1960 to 2000
- With climate change rate of loss is increasing.

The world's economic centre of gravity, 1980–2007 (black) and extrapolated (in red), at 3-year intervals.



India and China Drive the Growth in the Global Middle Class



So, will agriculture provide enough food?

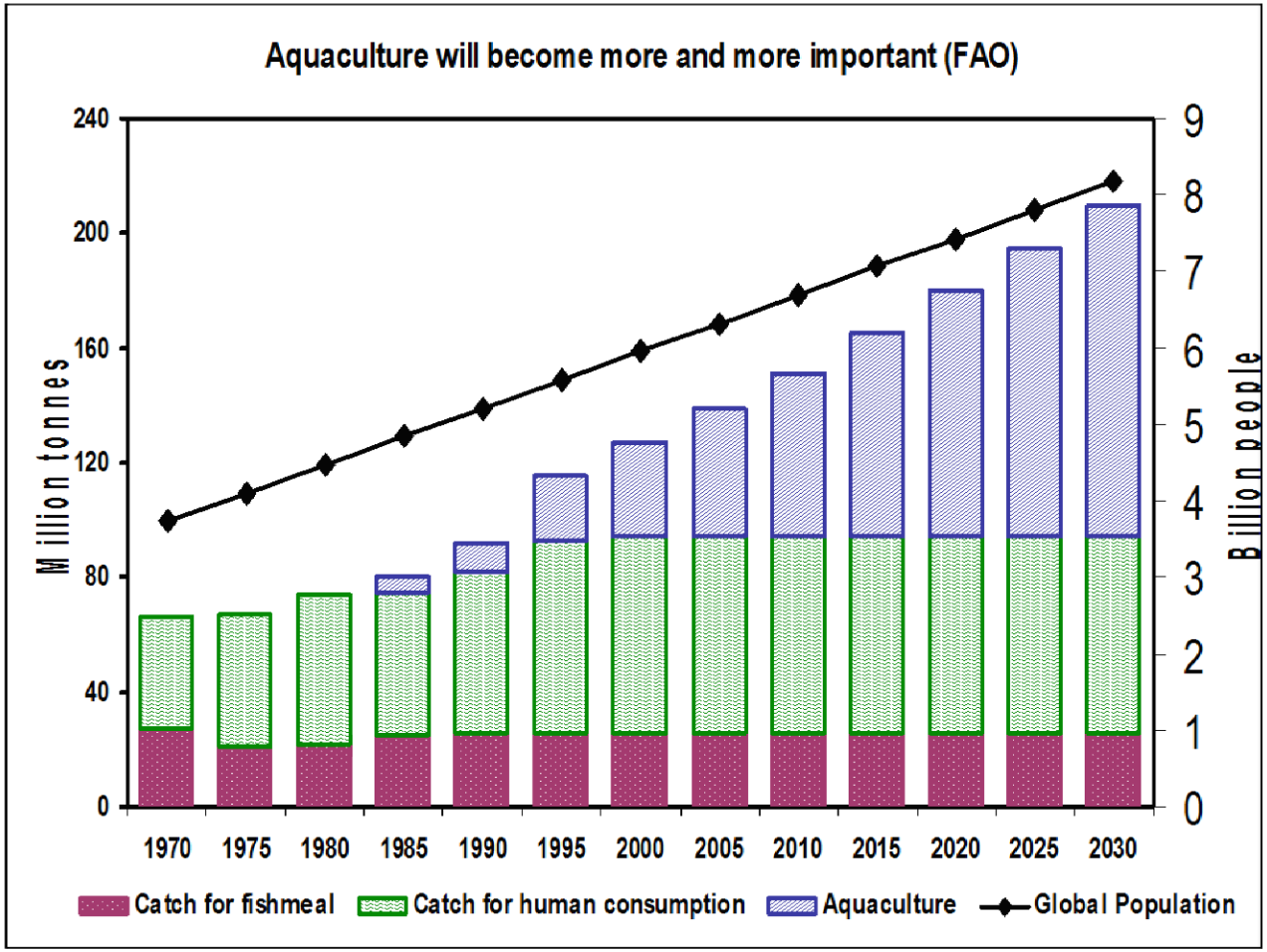
NO!

Where will the food come from?

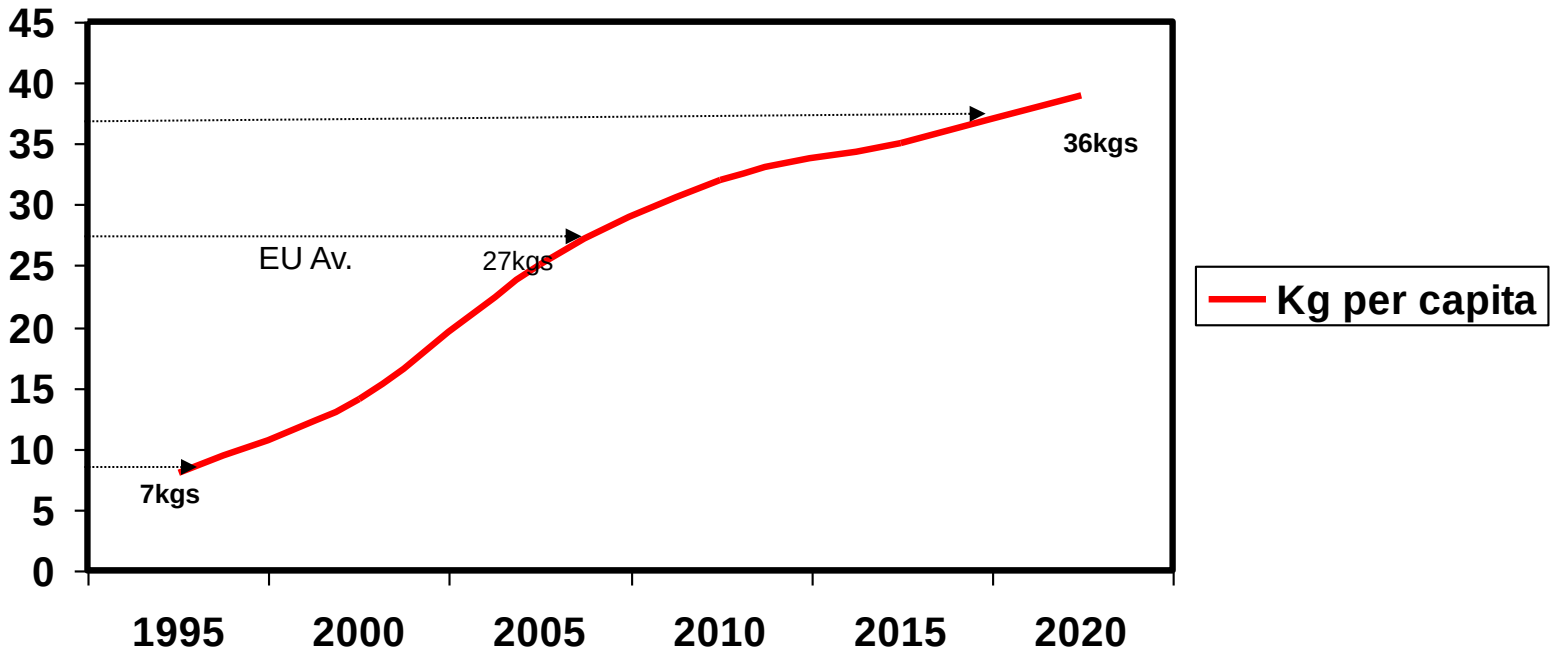
There is only one viable alternative…

Aquaculture - the fastest growing global food production sector

Has grown at 7.5% per annum over the last twenty years


Aquaculture will become more and more important (FAO)
Million tonnes
Billion people
240
200
160
120
80
40
0
9
8
7
6
5
4
3
2
1
0
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
2025
2030
Catch for fishmeal
Catch for human consumption
Aquaculture
Global Population

Chinese consumption per capita(kg)



A wave of demand coming!

Can aquaculture keep growing at its current rate?

Fresh water aquaculture…

Only in the oceans will there be the space and the potential… 'Mariculture'

But we will have to radically change our thinking about 'Mariculture'

so

By 2050 Mariculture must…

- Close its production cycle

01.07.2006

By 2050 Mariculture must…

- Close its production cycle
- Move down several trophic levels

30.06.2006

By 2050 Mariculture must…

- Close its production cycle
- Move down several trophic levels
- Integrate into complimentary ‘polyculture’ systems

30.06.2006

29.06.2006

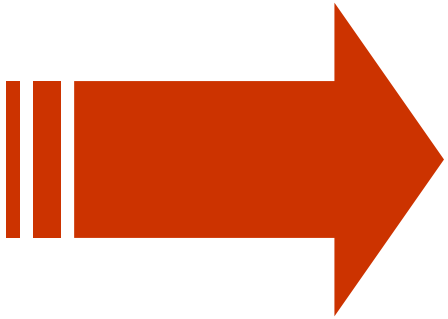
How is this relevant to us here in the ‘affluent’ west?

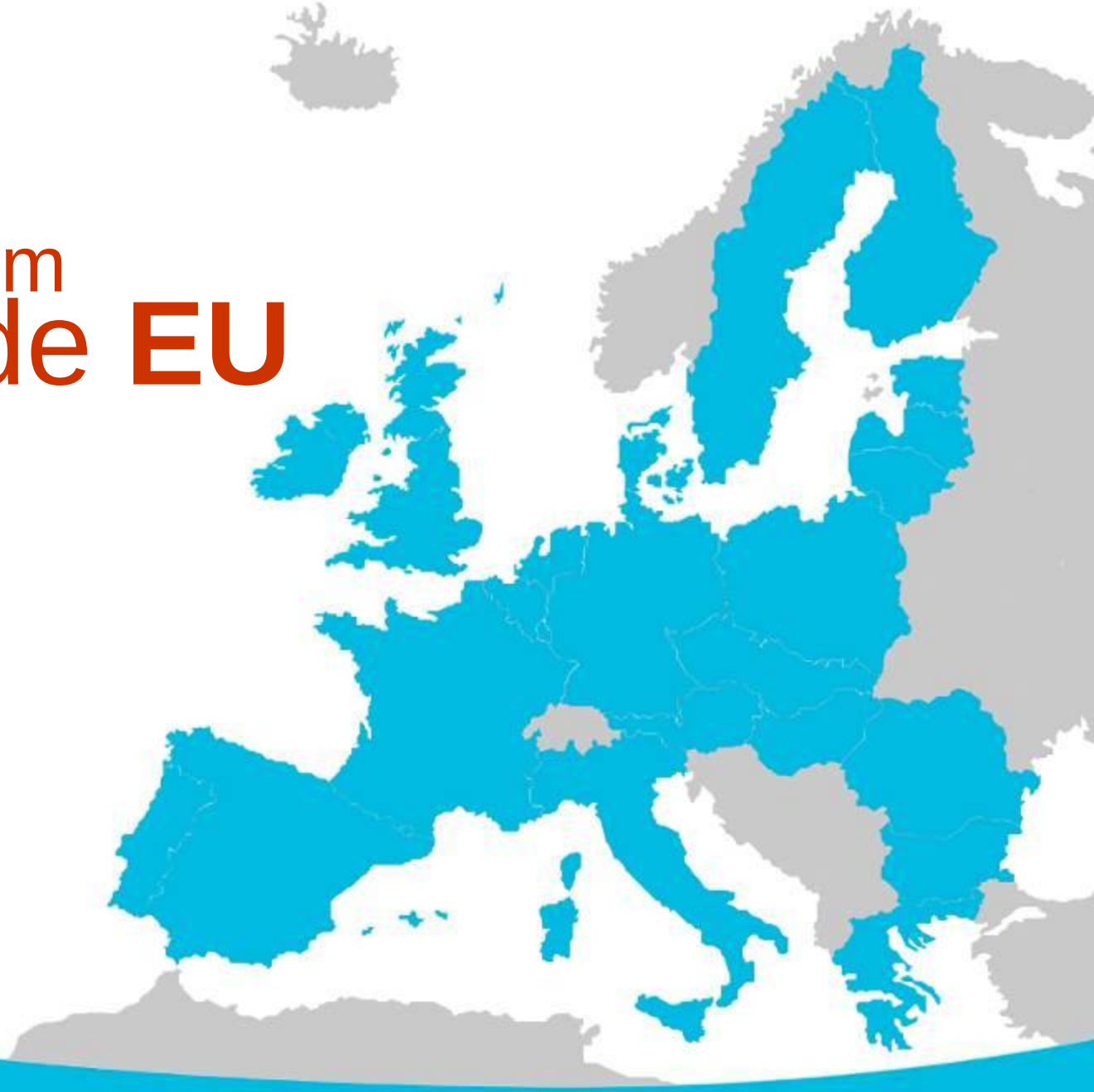
Threat and opportunity walk hand in hand

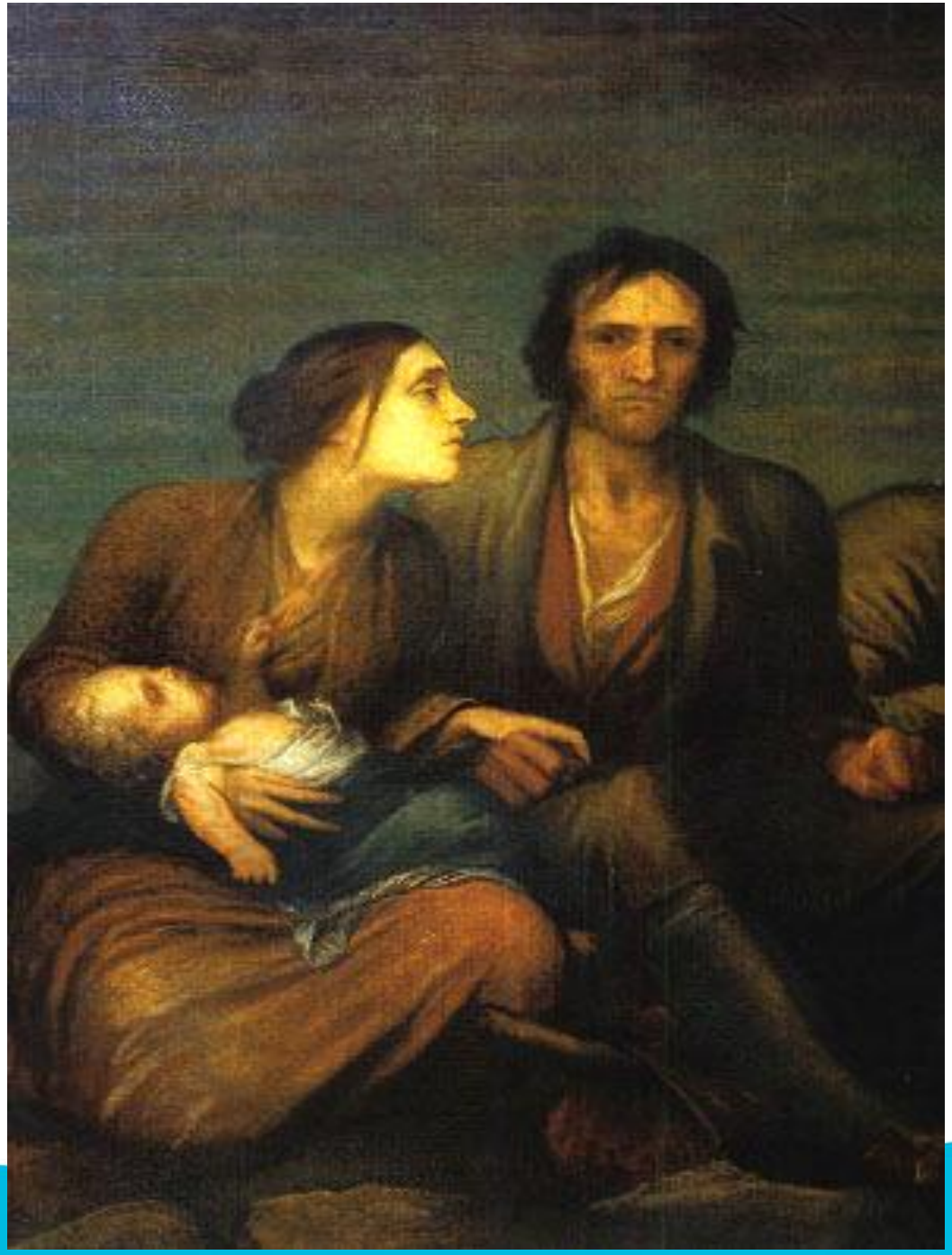
That’s the big picture on food security

Immediate implications for the EU

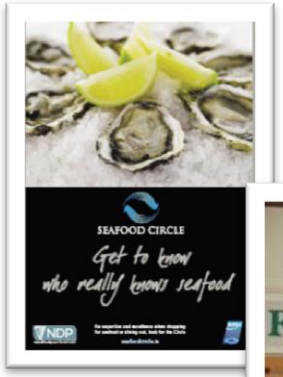
70% from outside **EU**

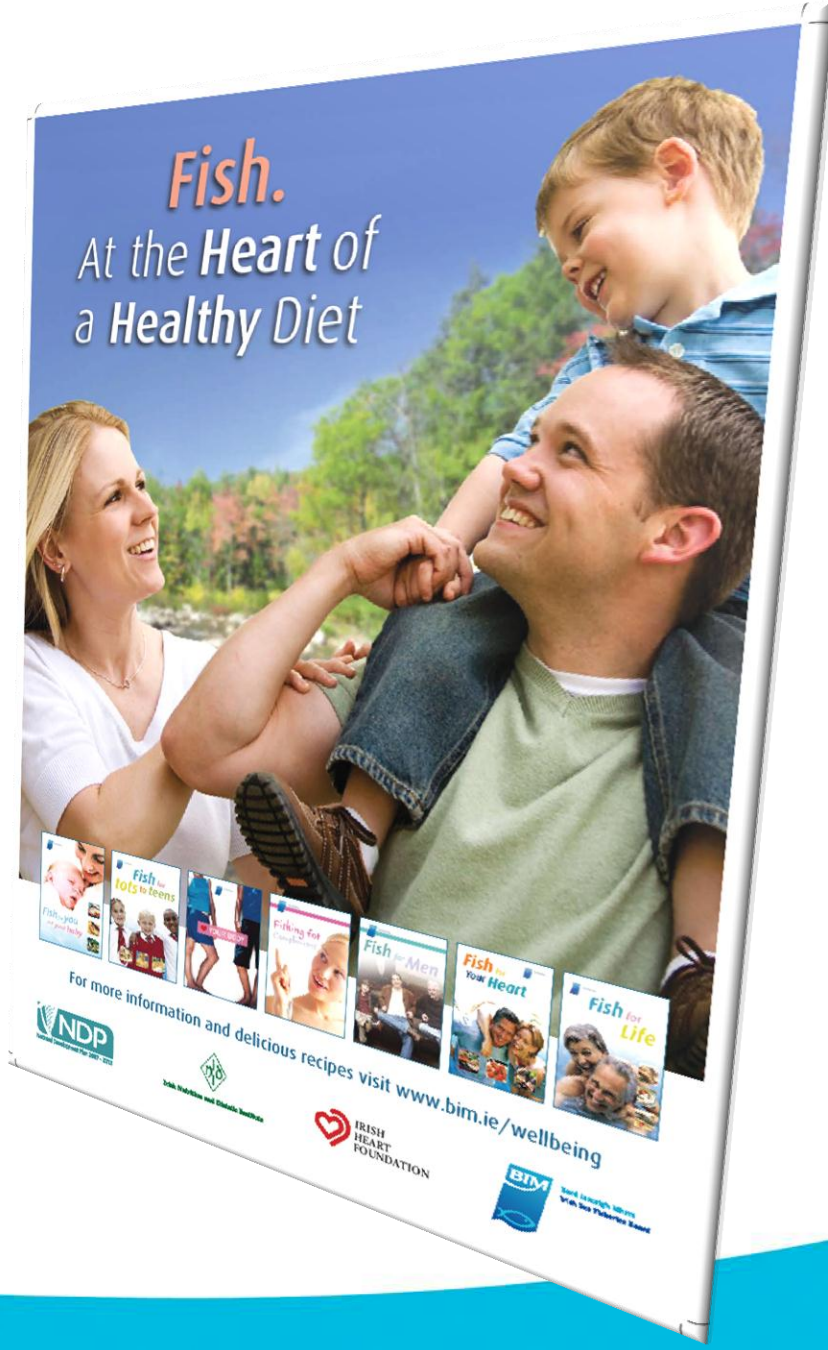






A **Healthy** food





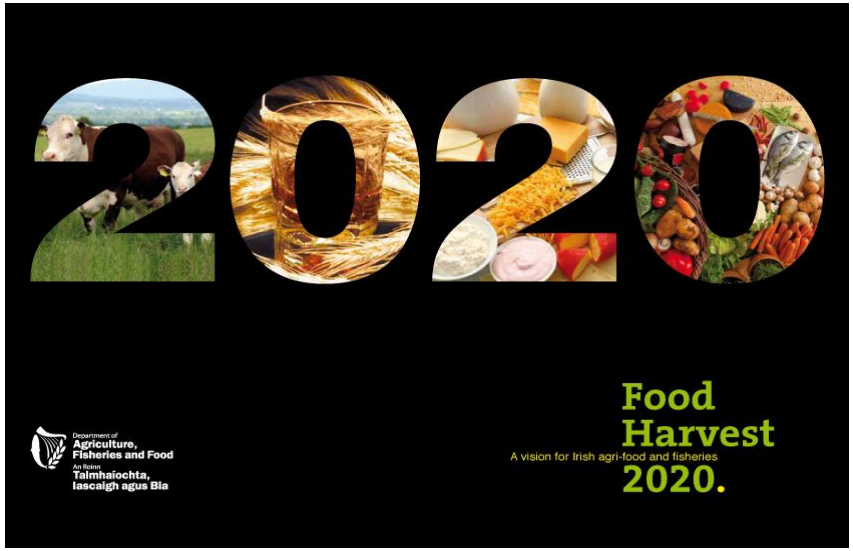
STEERING A NEW COURSE

Strategy for a Restructured, Sustainable and Profitable Irish Seafood Industry 2007-2013

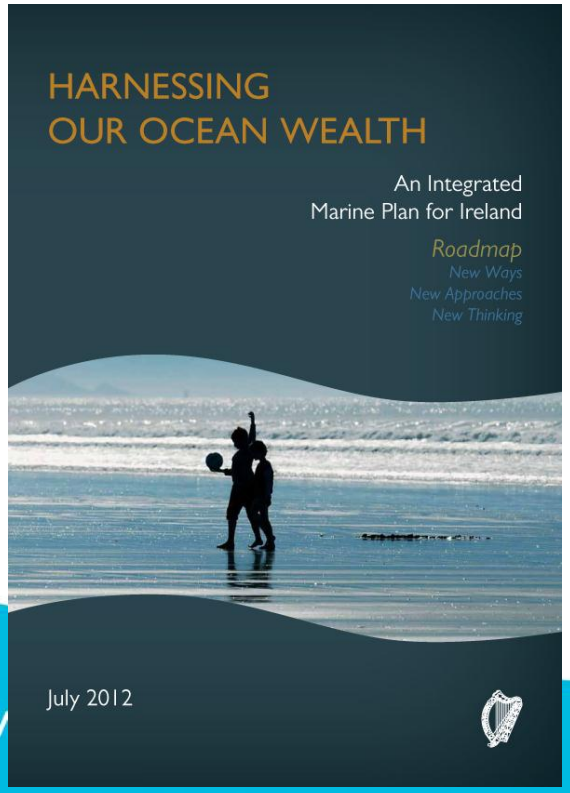
Report of the Seafood Industry Strategy Review Group

DECEMBER 2006

www.bim.ie


2020
Department of Agriculture, Fisheries and Food
An Roinn Talmhaíochta, Iascaigh agus Bia
Food Harvest 2020.
A vision for Irish agri-food and fisheries

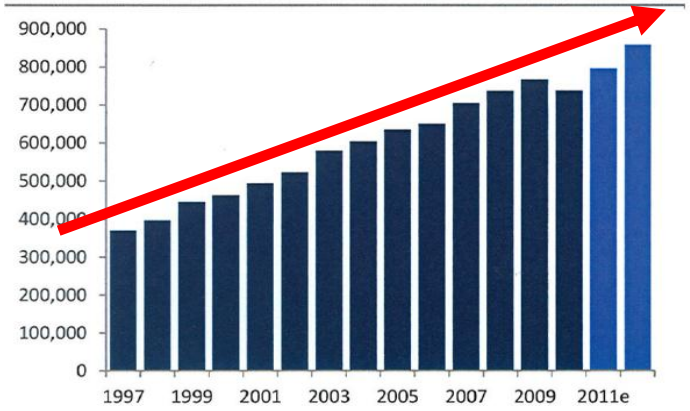
ACTION PLAN FOR JOBS 2012


HARNESSING OUR OCEAN WEALTH
An Integrated Marine Plan for Ireland
Roadmap
New Ways
New Approaches
New Thinking
July 2012

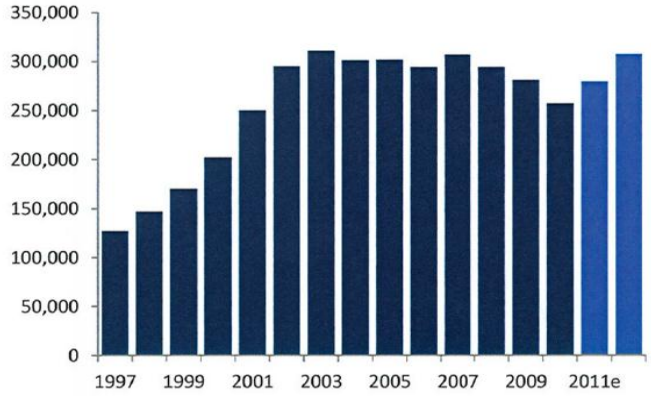
What will we be farming?

Demand development – key markets

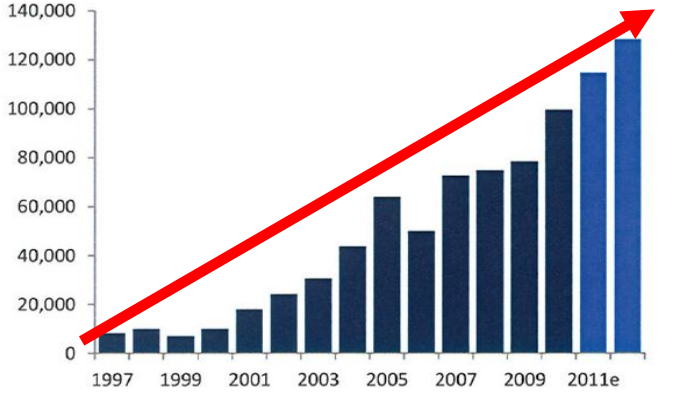
EU +7% CAGR 1999-2010



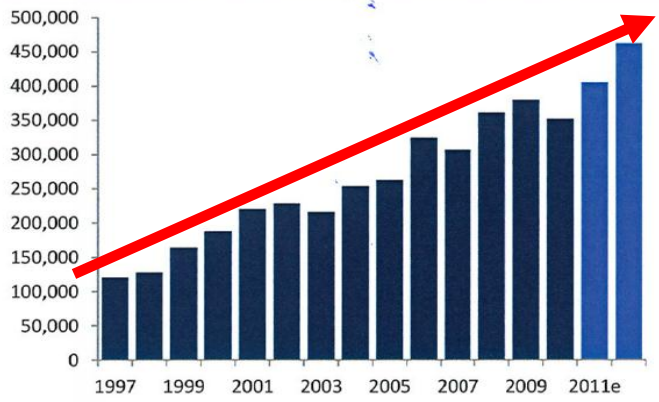
USA +4% CAGR 1999-2010



Russia +27% CAGR 1999-2010



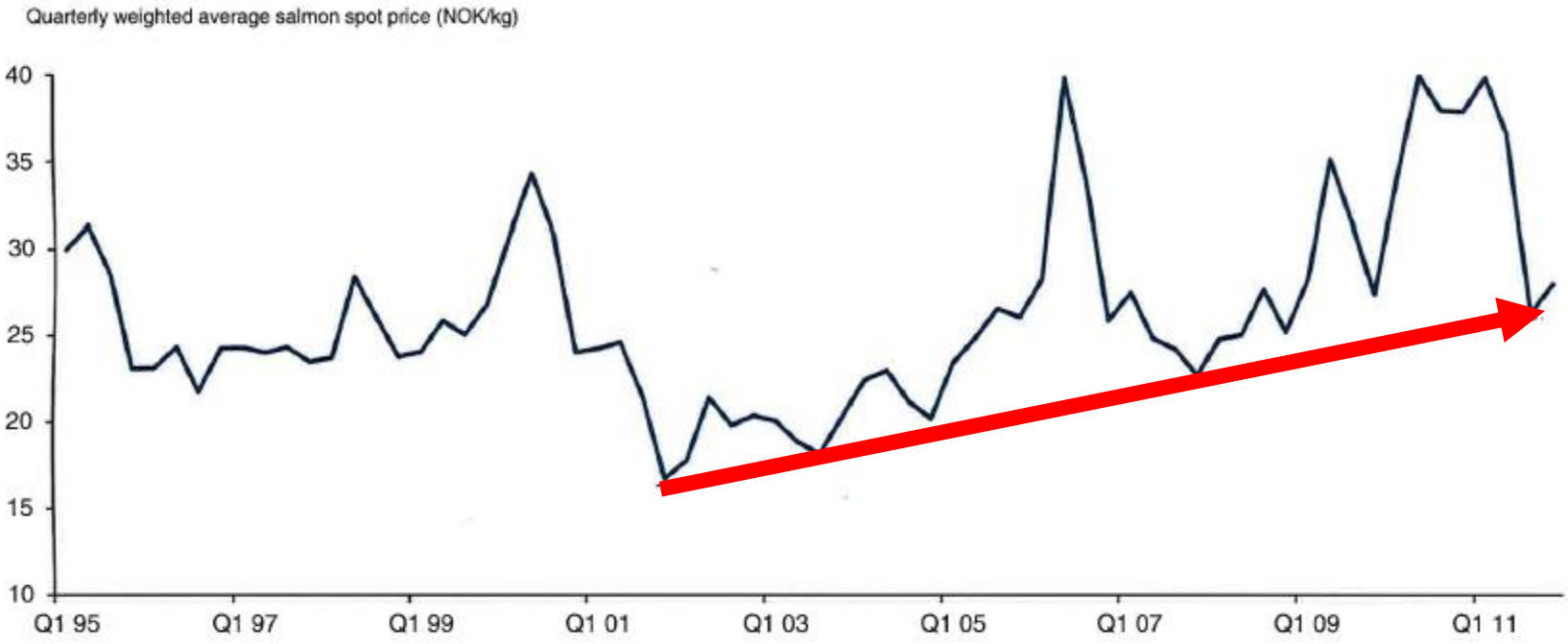
Other markets +7% CAGR 1999-2010



Source: Pareto, Kontali

Salmon prices volatile, but on a positive long-term trend

Highly volatile prices, but troughs are steadily higher



At first…more of the same

We need a lot more salmon from Both Scotland and Ireland…then IMTA

Where will we farm all this extra fish?

Moving Offshore

Advantages

- Less conflict with other competing stakeholders
- Remote from rivers and interactions with wild salmonids
- Better flushing and more stable growing environment
- Locally reduced environmental impact

Fresh thinking – creating new national assets

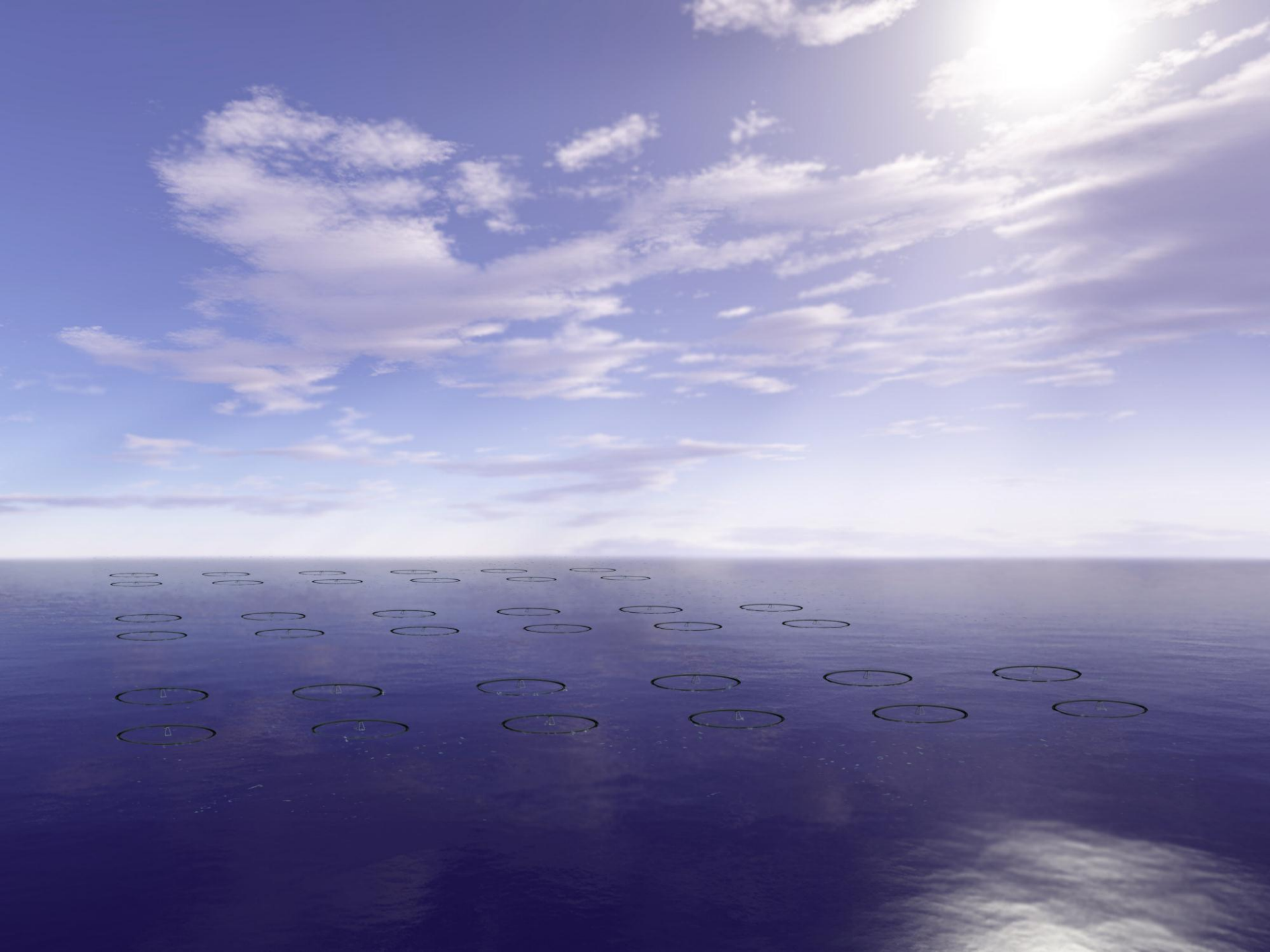
- BIM working with the Marine Institute of Ireland to investigate suitable locations
- BIM is applying for the production license
- BIM to hold the license on behalf of the taxpayer and find a suitable commercial investor
- BIM will oversee the development and operation enforced through a legally-binding contract

Finding the right investor

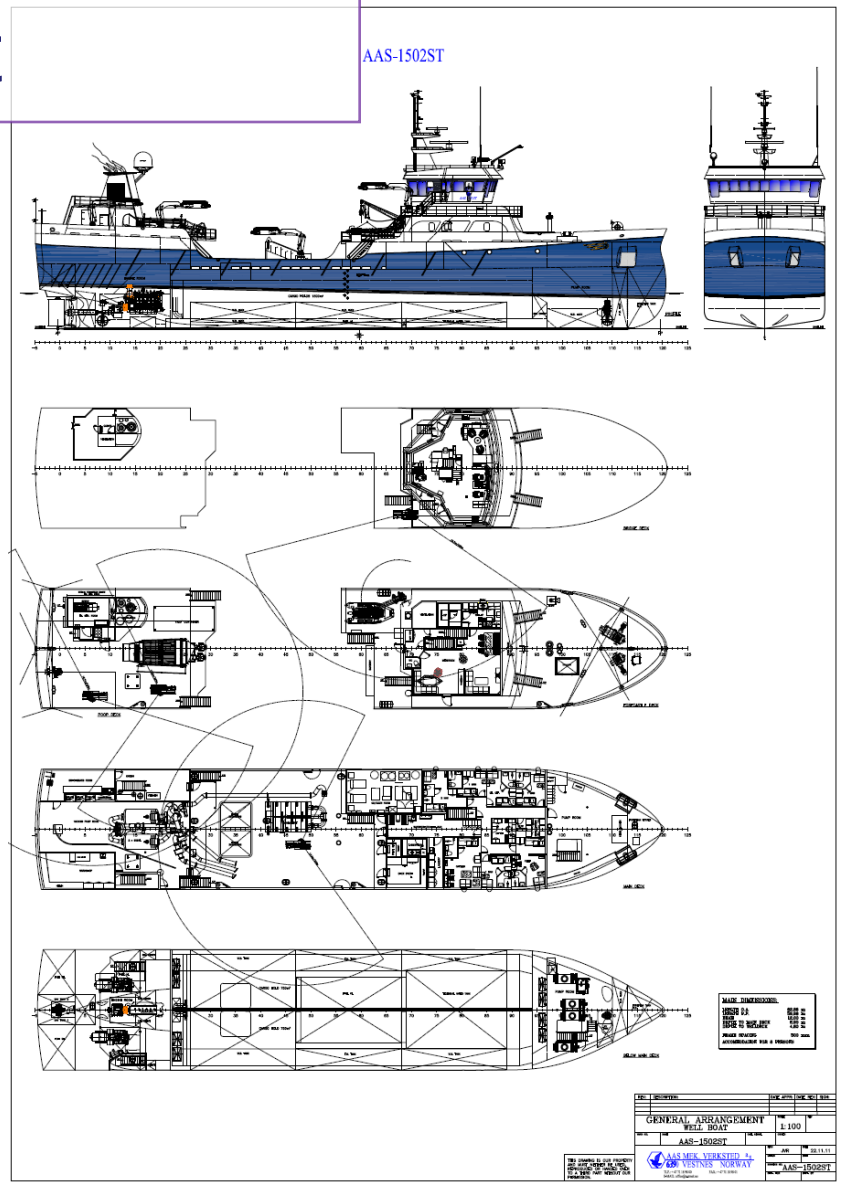
- Transparent public tender process
- Emphasis on local job creation
- Binding commitments to local community development
- Exemplary compliance
- Very well resourced

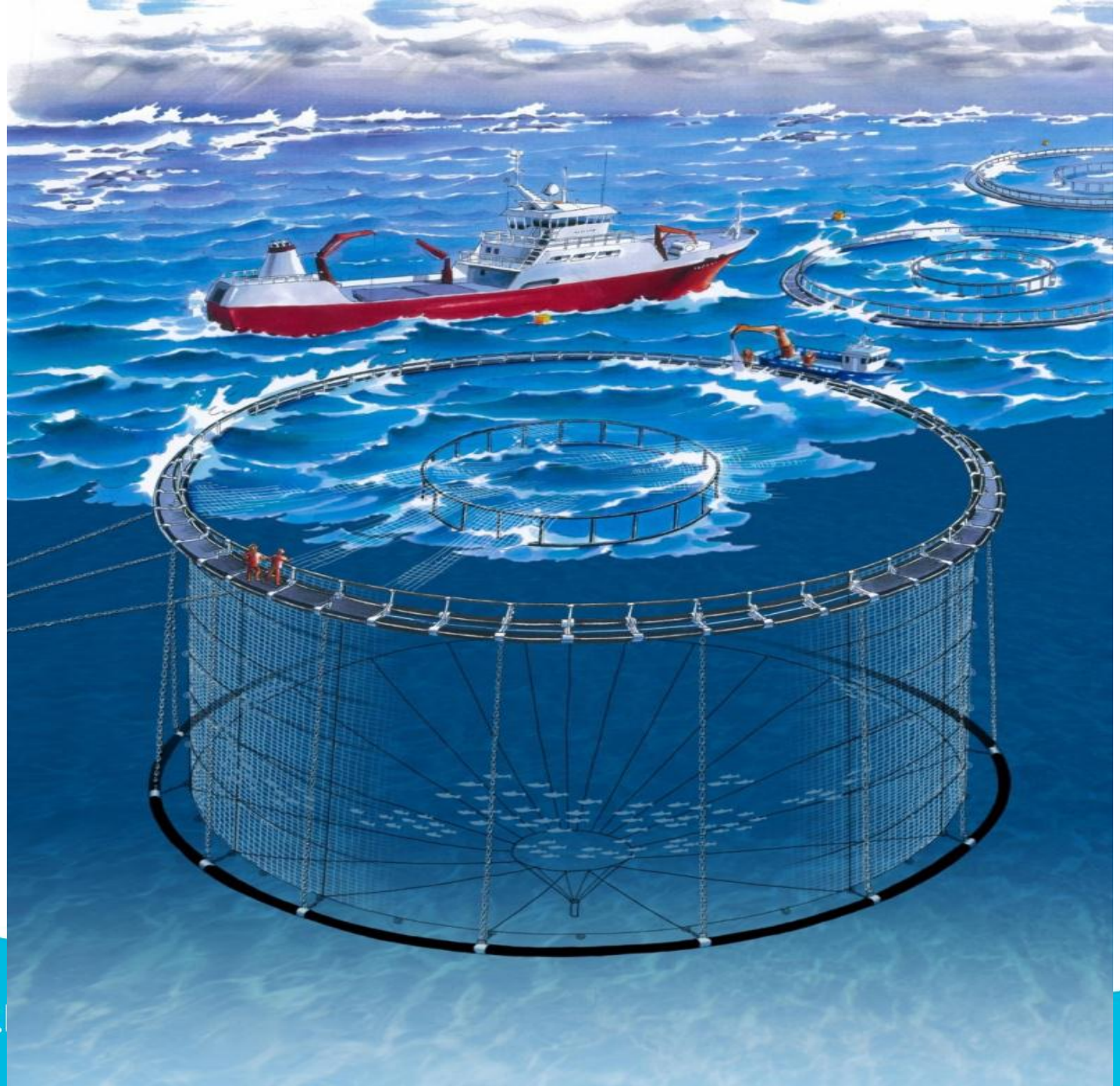
Go big or stay home

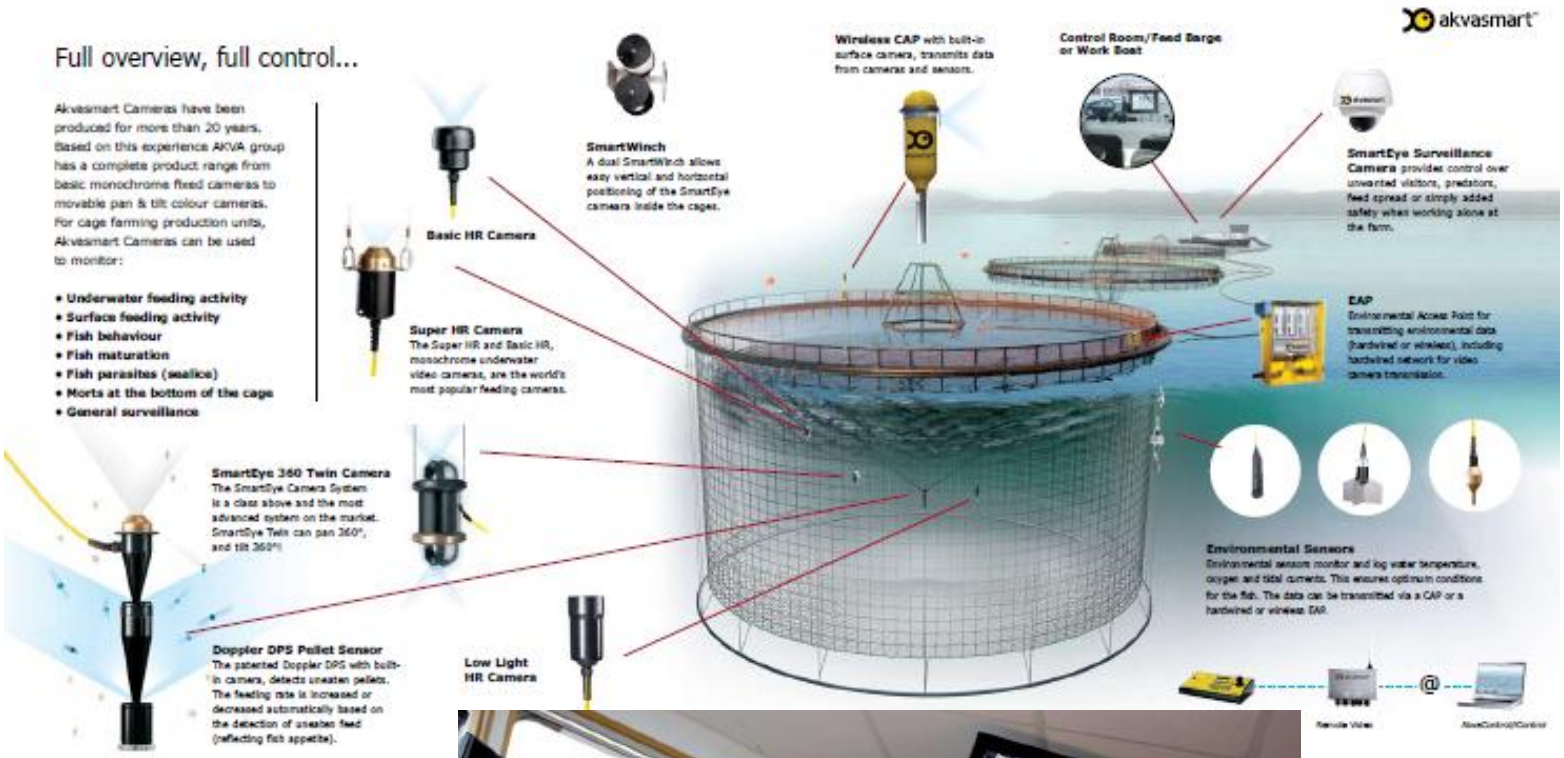
Need a minimum of 10,000 tonnes per annum per location to make it pay



Substantial investment






akvasmart
Full overview, full control...
Akvasmart Cameras have been produced for more than 20 years. Based on this experience AKVA group has a complete product range from basic monochrome fixed cameras to movable pan & tilt colour cameras. For cage farming production units, Akvasmart Cameras can be used to monitor:
• Underwater feeding activity
• Surface feeding activity
• Fish behaviour
• Fish maturation
• Fish parasites (sealice)
• Morts at the bottom of the cage
• General surveillance
Basic HR Camera
Super HR Camera
The Super HR and Basic HR, monochrome underwater video cameras, are the world's most popular feeding cameras.
SmartEye 360 Twin Camera
The SmartEye Camera System is a class above and the most advanced system on the market. SmartEye Twin can pan 360°, and tilt 360°!
Doppler DPS Pellet Sensor
The patented Doppler DPS with built-in camera, detects uneaten pellets. The feeding rate is increased or decreased automatically based on the detection of uneaten feed (reflecting fish appetite).
Low Light HR Camera
SmartWinch
A dual SmartWinch allows easy vertical and horizontal positioning of the SmartEye cameras inside the cages.
Wireless CAP with built-in surface camera, transmits data from cameras and sensors.
Control Room/Feed Barge or Work Boat
SmartEye Surveillance Camera provides control over unwanted visitors, predators, feed spread or simply added safety when working alone at the farm.
EAP
Environmental Access Point for transmitting environmental data (hardwired or wireless), including hardwired network for video camera transmission.
Environmental Sensors
Environmental sensors monitor and log water temperature, oxygen and tidal currents. This ensures optimum conditions for the fish. The data can be transmitted via a CAP or a hardwired or wireless EAP.

Thank you for your attention!