# GHG emissions in seafood systems - assessment and profiling tool

Angus Garrett

4 March 2013

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  - Common methodological approach
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  - Draft and final specification (seafood interpretation of BSI PAS2050)
- **Action 3 Understanding seafood systems**
  - Review of existing studies to date in seafood
  - New research (Whitefish, Shellfish, Pelagic, Salmon systems – emissions & drivers)
- **Action 4 Sharing data**
  - Data sharing rules
  - Quality assurance for collating and pooling

**Month** 1 5 10 15

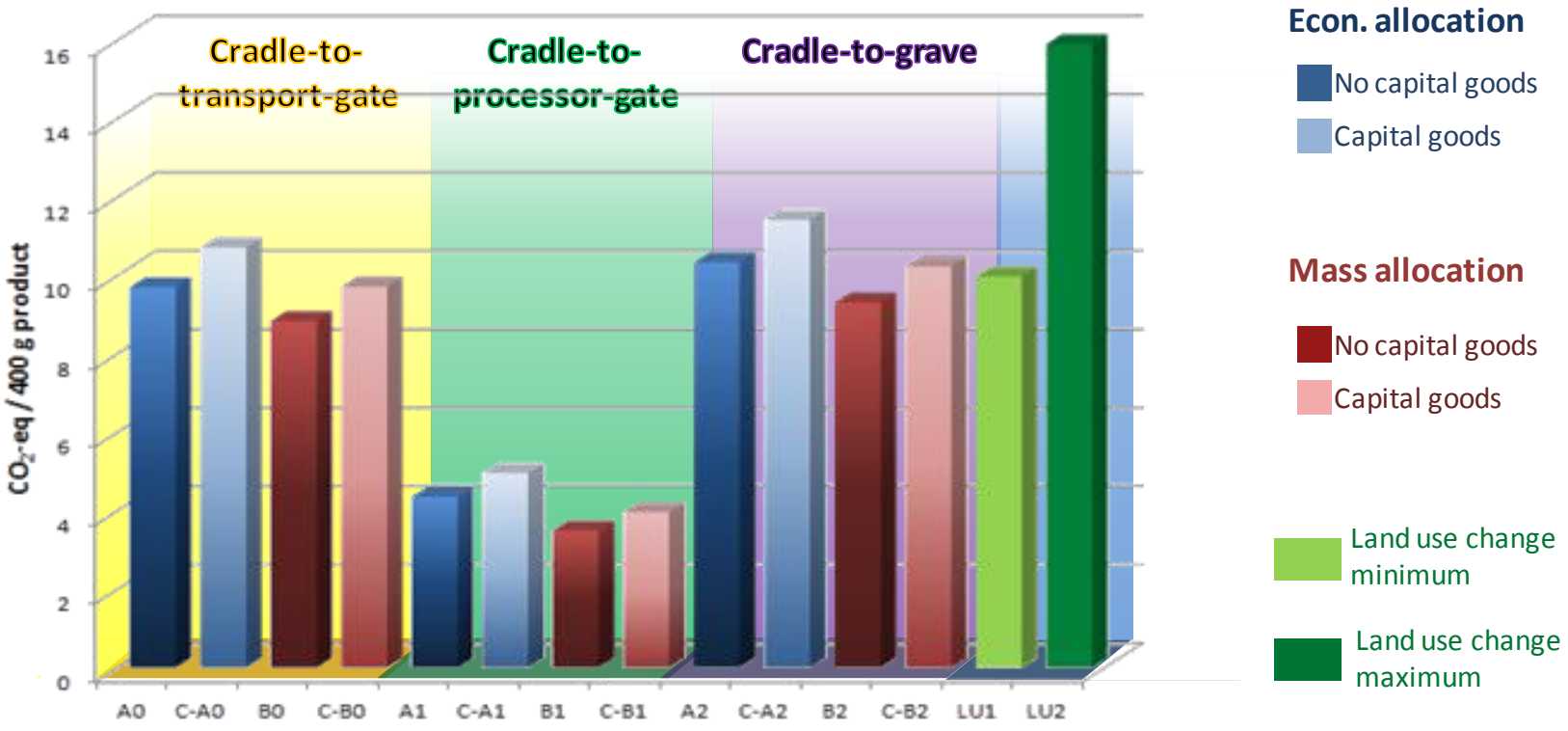
**Year 2012**

# Points of debate

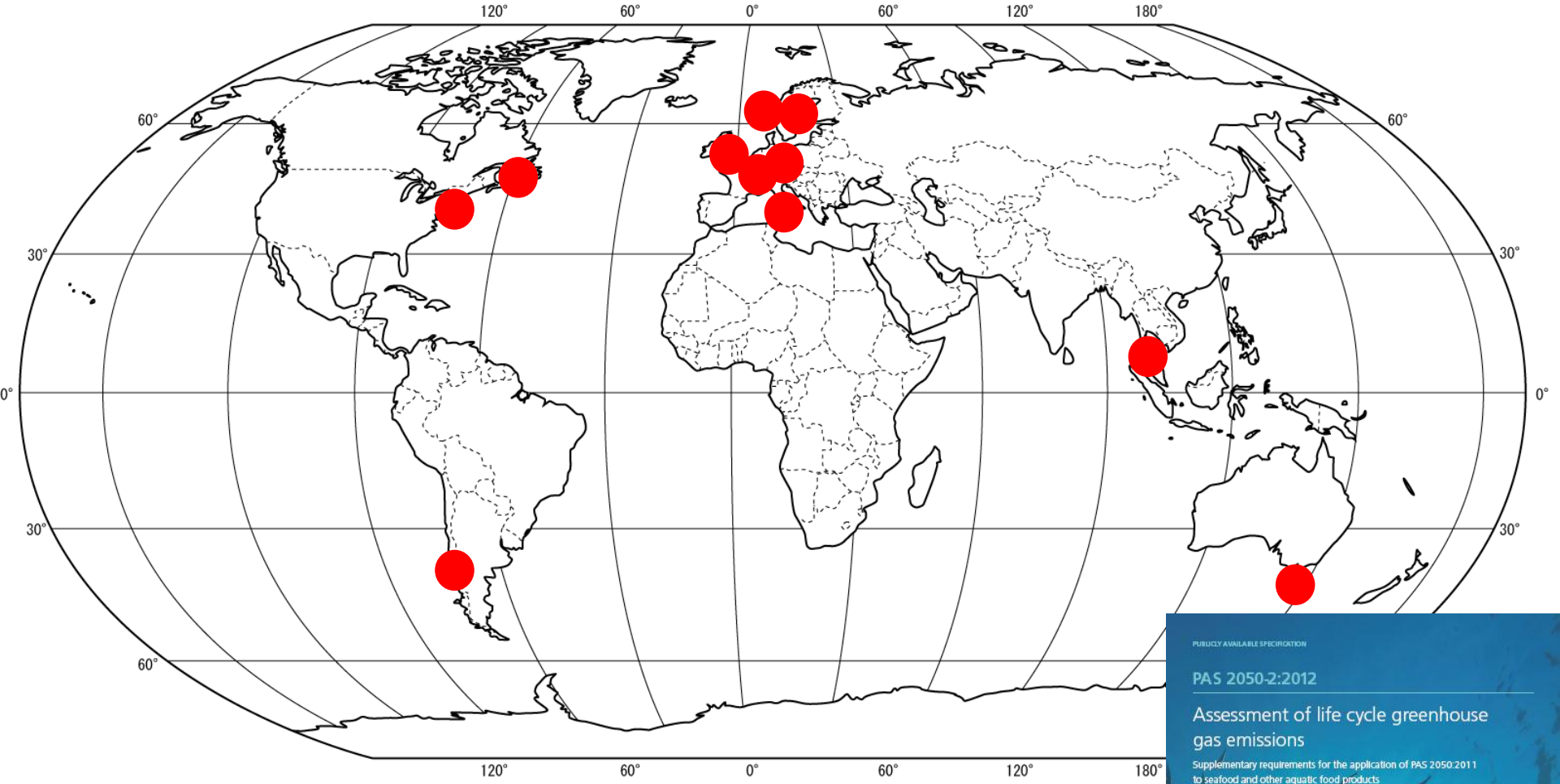
- Never mind looking for differences between products or sectors, there are serious differences in ways of assessing GHG emissions

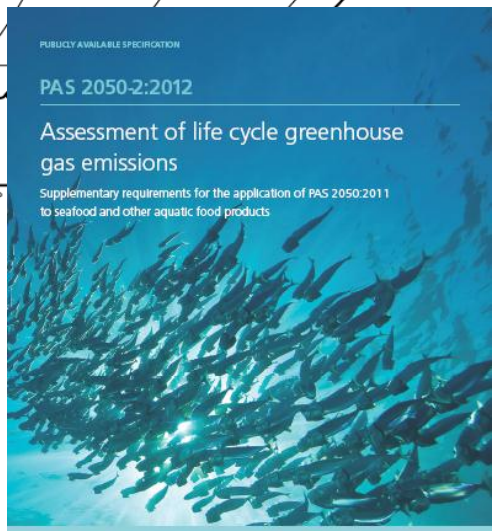
1. Where do we draw the boundary?
2. What is included within that boundary
3. How do we allocate emissions as material gets split into multiple products?
4. What functional unit should we be talking about?

# Carbon footprint of farmed Atlantic salmon fillet applying different methods:



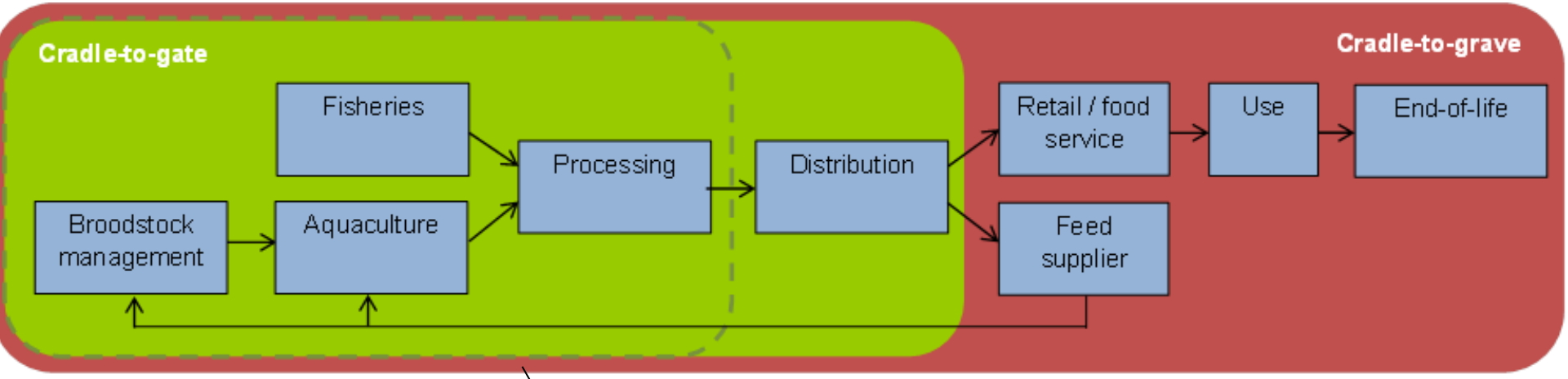

Source: Collective action on GHG emissions in seafood: BSI Pas2050-2, Seafish and Rob Parker, 2012




*supporting the seafood industry for a sustainable, profitable future*

# Some key decisions




**No capital equipment**

**Allocating co-products by mass**

**Standard reporting of 1kg of edible product**

# Opportunities looking forward…

- **Action 1 Methods (expertise and engagement)**
  - Methods and boundaries
  - Common methodological approach
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# Seafood CO2 Emissions Profiling Tool

Welcome to the Sea Fish Industry Authority's greenhouse gas emission profiling tool for seafood products from capture fisheries.

The purpose of this tool is to allow users to explore the carbon implications of sourcing and supplying seafood. This will provide a better understanding of the **major contributors** to the "carbon footprint" of seafood products. It also provides insight into the influence that some aspects of the seafood production chain have on carbon emissions. Major potential drivers of emissions that the tool addresses include direct fuel inputs to fishing, the form and scale of transport used and the amount of time products are held in cold storage. In this tool, we have also incorporated yield rates and the degree to which processing co-products (wastes) are utilized, and users may alter these variables.

In many instances, the tool will result in estimates of total greenhouse gas emissions associated with finished seafood products that accurately reflect real world conditions (over 90% accurate). In some cases, however, the emissions estimated by this tool will not adequately reflect real world conditions because aspects of the production chain are not accounted for. Examples of these could include emissions associated with bait acquisition and storage, emission intensive packaging, etc.

Please note that this tool is intended for information purposes only and *is not intended to establish the carbon footprint of a seafood product*. If you are looking for a definitive carbon footprint for your product, please contact the Carbon Trust for further guidance. It should also be noted that aquaculture-sourced products are not currently supported. We hope to add this if interests warrants.

We have attempted to build a tool that is robust, easy to use and flexible. Please try it out and let us know what you think. You can reach us at: carbon@seafish.co.uk.

## Description of your supply chain

| | **Enter your data** |
|---|---|
| Please provide a name for the chain you wish to model: | Angus chain |

## Fishing / Harvesting Method

| | |
|---|---|
| Choose the fishing technique and target which most closely represents those used in your chain: | Trawling for cod (North Sea)<br>According to our information, **trawling for cod in the North Sea** are likely to have direct fuel inputs of between **1000** and **1300** litres to land one tonne live weight. For the purpose of this calculation, we will use a value of **1150** litres per live tonne to represent this fishery. |
| Is this fuel input level representative of the fishery from which you source your seafood? | (•) Yes<br>( ) No |
| Yield of landed to live weight<br>Value between 1% and 100%: | % (e.g. after gutting at sea) |
| Yield of final processed form to landed weight<br>Value between 1% and 100%: | % |
| Please click here for typical conversion factors from landed or processed to live weights. | |
| Are the co-products from processing used in any other product? | ( ) Yes<br>(•) No |

## Transport

| | |
|---|---|
| Which length unit are you using ? | (•) Km ( ) Miles |
| **How far does your product travel pre-processing by:** | |
| Long Haul Flight (over 4 hours) | [ ] Km |
| Short Haul Flight (under 4 hours) | [ ] Km |
| Truck transport | [ ] Km |
| Select type of truck | (•) Delivery Van (3.6 tonne) ( ) Lorry (16 tonne) ( ) Tractor Trailer units |
| Ship | [ ] Km |
| **How far does your product travel post-processing by:** | |
| Long Haul Flight (over 4 hours) | [ ] Km |
| Short Haul Flight (under 4 hours) | [ ] Km |
| Truck transport | [ ] Km |
| Select type of truck | (•) Delivery Van (3.6 tonne) ( ) Lorry (16 tonne) ( ) Tractor Trailer units |
| Ship | [ ] Km |

## Pre-processing refrigeration

| | |
|---|---|
| Was the fish frozen upon landing prior to be transported to processing? | ( ) Yes (•) No |
| Total days refrigerated on fishing boat: | [ ] days |
| Duration of outbound refrigerated container transport: | [ ] days |
| Duration refrigerated storage pre processing: | [ ] days |

## Post-processing refrigeration

| | |
|---|---|
| Was the product frozen after processing? | ( ) Yes (•) No |
| Duration refrigerated storage post processing: | [ ] days |
| Duration of inbound refrigerated container transport: | [ ] days |
| Duration of refrigerated tractor trailer truck transport: | [ ] days |
| Duration of refrigerated delivery van transport: | [ ] days |
| Duration of final product refrigerated storage: | [ ] days |

Calculate

# Headline results for the "Angus chain" chain

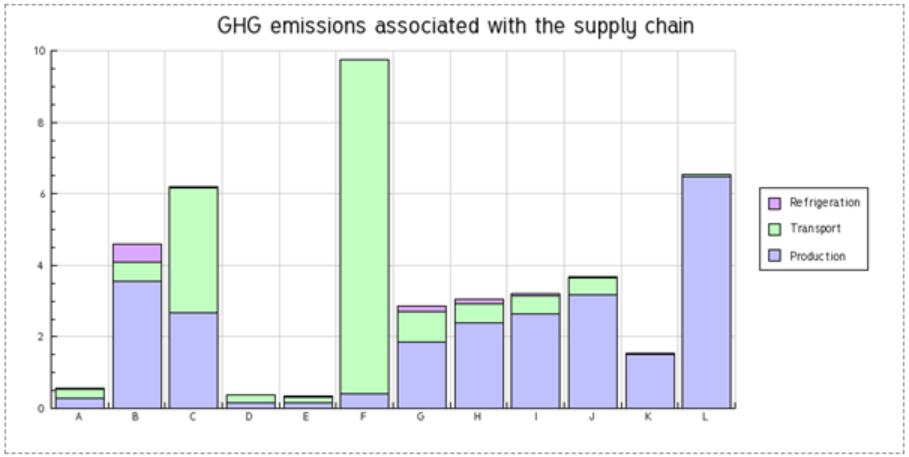
Back to the form

The summary table provides an indication of your greenhouse gas emission profile expressed in CO2 equivalents. Please bear in mind that these results are not intended to provide a definitive carbon footprint of your seafood product but illustrate where the majority of your emissions are likely sourced and to provide a basis of general comparison with other product chains. These results will also provide direction as to where further data collection and/or emission reduction efforts may be targeted for maximum benefit.

Please note that this tool is intended for information purposes only and *is not intended to establish the carbon footprint of a seafood product*. If you are looking for a definitive carbon footprint for your product, please contact the Carbon Trust for further guidance.

| Tonnes CO2 equivalent emissions/tonne final product from: | |
|---|---|
| Primary production: | 6.47 |
| Transport: | 0.06 |
| Refrigeration: | 0 |
| Total: | 6.53 |

Which comparison?
Chain




A- UK fresh seabass
B- Russian frozen cod
C- Icelandic fresh cod
D- UK fresh sardines
E- UK IQF sardines
F- Maldive fresh tuna
G- Spanish canned tuna
H- Canadian wild cooked prawns
I- Icelandic wild cooked prawns
J- UK farmed salmon
K- UK chicken
L- "Angus chain" chain