

UNDERSTANDING FOOD VALUE CHAINS  
AND NETWORK DYNAMICS

# POLICY & PRACTICE NOTE

IMPROVING SUSTAINABILITY AND VALUE IN  
FOOD CHAINS, USING THE CASE STUDY  
OF NORWEGIAN SALMON



The H2020 VALUMICS project aims to provide new tools and approaches that will help decision makers to make the food chain throughout Europe and beyond more sustainable and cost effective. This part of the project (Workpackage 7.1) has looked in detail at the case study of Norwegian salmon, which is exported worldwide for consumption as unprocessed fish and also to secondary processors.

## **What problems do the researchers want to address?**

Researchers are looking specifically at the transportation of food, which is of concern to producers and consumers because:

- It adds to the production costs, making the product less competitive.
- It has environmental implications – almost a quarter of EU emissions are caused by transportation, with around 30% of these being attributable to the food sector.



## What did the research aim to achieve?

This Workpackage task was specifically designed to:

- Look in detail at the case study of Norwegian farmed salmon, how it is transported to market and the costs involved.
- Focus also on the environmental dimension and how to minimise the carbon footprint of Norwegian salmon exports.

## How can the findings help food producers & policymakers?

The researchers have developed a mathematical model that:

- May be applied more widely to different food products across the food chain.
- Decision makers will be able to use it to manage the supply chain under different circumstances of supply and demand and to identify the most cost efficient transport options while reducing CO2 emissions.
- Policymakers will be able to use it to understand the costs & emissions associated with different food supply chains as well as the effects of particular policy interventions and market changes or developments.

The researchers also make some specific recommendations on how CO2 emissions might be reduced while minimising costs:

- A move away from road transport to moving goods by sea wherever possible will significantly reduce both total costs and overall carbon emissions.
- When moving goods short to medium distances to reach airports, big cities etc., the challenge of reducing emissions is more complex. Judgements have to be made about the relative benefits of delivery versus personal vehicles on a case by case basis.
- Long distance transport will usually be by air and improvements to emissions in this sector can mainly be achieved through technological advances. Research is being carried out to address this challenge for the European aviation industry.



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