



"From Sea to Shelf"

Case Study

IFC Green Enterprise Programme

Company Details

Name:	Irish Fish Cannery Ltd	Location:	Pole Road, Meenmore Dungloe Co. Donegal
Project Leader	Nadine Bonner	Sector:	Food
Number of Employees	28	Turnover:	2,800,000
Project Duration	18 months	Completion	23 rd Sept 2020

Project Details

Background

Irish Fish Cannery is the only fish canning facility in Ireland and uses fish caught in Irish waters for its premium products which are exported to markets throughout the world. Its commitment to sustainability has been recognised by Bord Bia's Origin Green Sustainability Program. It is approved by the British Retail Consortium as a Grade A supplier.

IFC supplies canned fish products to premium brands, such as John West and has its own brand "Irish Atlantic Canned Fish" which is available in several multiples. IFC's long-term aim is to grow this brand through the development of new products which take advantage of the strengths of the company, including its location, its commitment to sustainability, the quality of fish sourced from the cold clear waters of the Atlantic, and its technology and product expertise.

While its location in north east Donegal is beneficial for supply of quality fish from nearby Killibegs, it is disadvantaged by remoteness from major markets.

Consequently, IFC is continuously seeking to improve its business processes and reduce waste through innovative actions.

In 2019, it was approved by the EPA for a project to reduce fish and processing wastes within its facility under the Green Enterprise programme.



Objectives

Fish is the greatest cost component in the canning process. Unit costs fluctuates, but the recent trend is upwards at an average of 45% per year. While some waste (or loss of finished weight) will always occur through the smoking and the cooking processes, others can be controlled. This project had the objective to reduce waste by targeting the following areas:

- a. Unsuitable handling and preparation at suppliers
- b. Poor practices in freezing, storage and thawing of fish
- c. Over-smoking, resulting in excess shrinkage
- d. Excessive variation in individual fish weights and size
- e. Over packaging of fish in cans
- f. Overcooking, causing excess leakage of moisture from the fish and resulting in undersized fish weight in the final product

Work Programme

IFC worked with an external expert to help it manage improvement activities. For the first time, it used Design of Experiments (DOE) to put a structure on its work. DOE was very beneficial because it changed the previous haphazard approach to improvements and helped the company to focus on the most important activities that could save waste.

In order to quantify the overall benefits from the improvement projects, a Life Cycle Assessment (LCA) was carried out. The result of this is shown below.

Project Outcome / Results

Quantitative

- Between 2018 and 2020, IFC has management to reduce the level of waste per tonne of fish processed by 26%.
- It has optimised its smoking and cooking processes resulting in reductions of 26% and 28% respectively in litres of heating oil and kWh energy per tonne of fish processed.
- The LCA concluded that the improvements in the processes generated environmental savings of ~150t CO₂ equiv.
- The LCA report also provided several recommendations in processes and packaging which would deliver further environmental savings.

Qualitative

- The use of DOE was an interesting experience for the company and it saw the benefits of such an approach, particularly for large improvement projects. However, it is complex to set up. It is important to avail of appropriate external expertise to help.
- LCA is an excellent method to quantify environmental improvements, where current and future (improved) processes are compared. It also identified where the major environment impacts can be in a product or process and can provide a priority guide to addressing these.