

CASE STUDY

ABP: TURNING WASTE-WATER AND FOOD INTO FUEL AND FERTILISER

This case study demonstrates how businesses have collaborated across their supply chain to turn waste to wealth by turning waste food into fuel and fertiliser.

About ABP

ABP Food Group (Anglo British Beef) is one of Europe's leading food processors, providing quality beef to thousands of customers across the world.

ABP has taken an ambitious and innovative approach to the 'reverse logistics model' with quite spectacular results.

What is Reverse Logistics?

Reverse logistics simply refers to the producer taking back what they have made from the consumer. In the circular economy, the original product is re-purposed or re-cycled so that it moves backwards through the supply chain.

What ABP did

ABP's wholly owned subsidiary, Olleco, who produce the beef used by McDonald's, worked in partnership with both McDonald's and Martin Brower, the logistics firm that delivers food to all McDonald's restaurants in the UK. Together, they closed the loop in the McDonald's supply chain.

86%

reduction in CO2 emissions from fuel as a result of ABP's approach.

Here's how they did it

Martin Brower collected food waste and used cooking oil from MacDonald's and delivered it to Olleco.



Olleco processed the cooking oil at their biorefinery to turn it into premium biodiesel. The food waste was processed at Olleco's Anaerobic Digestion (AD) plant to create renewable energy and fertiliser.



The renewable energy was used to power the neighbouring Arla dairy, which processed the organic milk used in McDonald's restaurants.



The biodiesel made from the used cooking oil was used to fuel McDonald's transport fleet, operated by Martin Brower.



The digestate by-product from the AD facility was applied back to farmland as a nutrient rich bio-fertiliser to grow food to supply restaurants. This completed the loop and created a circular economic solution for McDonald's.

1 million litres

of waste cooking fuel was prevented from landfill between 2007-2018.





Impacts and outcomes

- Over 100,000 tonnes of organic waste were converted into heat and power each year.
- No used cooking oil now goes to landfill.
- Between 2007 and 2018, one million litres of used cooking oil were collected from McDonald's restaurants.
- An 86% reduction in CO2 emissions from fuel as the biodiesel can be used in 100% concentrations throughout the year.

IF OLLECO PROCESSED ALL THE UK'S FOOD WASTE IT COULD CAPTURE AS MUCH CARBON ANNUALLY AS A FOREST THE SIZE OF SCOTLAND.

What were the key lessons for ABP?

Difficulties with operating biodiesel at low winter temperatures were overcome by deploying solutions pioneered in Scandinavian countries where temperatures would regularly drop below the freezing point of regular diesel.

A bespoke biodiesel heating system was then developed for all of Martin Brower's trucks, and this has since been rolled out across their whole fleet. This allows biodiesel to be used in 100% concentrations throughout the year.

This is an example of brilliant collaboration which views the whole supply chain as a partnership and delivers benefits to each business in that chain. Olleco achieved second place at the World Economic Forum Circular Economy Awards 2019 for this ground-breaking initiative.

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