

## CASE STUDY



## Optimising water and energy use in steam tunnel technology at Aubigny

**S**team tunnels (ovens) are a critical piece of equipment in a wet pet food factory and one of the top energy and water users. To achieve our 2030 ambition of zero environmental impact in our operations, we must continuously focus on delivering energy and water savings. A team at our Aubigny factory took the initiative to investigate how to improve the steam tunnel's operational efficiency.

First they analysed the plant's energy distribution, determining how much energy and water were being lost through the steam tunnel. By measuring these losses (74% of losses were concentrated in steam lost at the tunnel's inlet and outlet), they were then able to define how to improve the steam flow and how much steam was needed to ensure perfect cooking of the products.

After defining the new methods of working and operating the steam tunnel, factory operators were trained in order to apply these in their work. They were also given the responsibility of monitoring daily energy and water consumption in order to detect any deviations to enable fast remedial action.

**This new working method is being shared across our factories to create even greater reductions. For Aubigny, this project will save 503 tonnes of CO<sub>2</sub> in this specific steam tunnel – the equivalent of going around the world 104 times by car\*.**

\* 503 tonnes of CO<sub>2</sub> divided by the average amount of CO<sub>2</sub> generated by a car per km (120 g) = 503,000 kg / 0.12 kg of CO<sub>2</sub> = 4,191,667 km / 40,000 = 104.

# Zero kg landfill waste and new water treatment at Vorsino

**O**ur **Vorsino** factory became the first Nestlé factory in Russia to achieve **zero waste production** sent to landfill. So now all by-products and waste products (e.g. wooden pallets) are re-used, sent for recycling (e.g. plastic, film, cardboard, paper and metal), recycled to produce biogas (e.g. wet feed waste) or organic fertilisers (e.g. sludge from waste water treatment plant), or incinerated with heat recovery (e.g. municipal solid waste and non-recyclable film).

In addition, through great teamwork across our business, we were able to reduce the use of over 260 tonnes of packaging materials.

We have also installed new wastewater treatment facilities, which allow us to generate an additional capacity of around

**1.300%**  
cubic metres of  
water per day.



# Optimising transportation efficiency

In 2018 we aimed to ensure that trucks from our suppliers and those used inter market can operate at optimum capacity (i.e. not empty or half full), in order to reduce the number of trucks on the road.

Having developed an analytical simulation tool to make better use of the available capacity, single stack pallets were then identified, tested and actioned for double stacking and layers per pallet were increased.

So far, this has resulted in a reduction of

**c.1800** truck movements over the year representing



**c.1500** tonnes of CO<sub>2</sub> emissions.

