

ADVANCE SUSTAINABILITY AND ENERGY EFFICIENCY



Nowadays for industrial laundries what can really make the difference is to apply integrated solutions that can deliver excellent textile quality, save water and energy across their enterprise and ultimately reduce their greenhouse gas emission and operational costs. The added value of our W&E solutions at Ecolab Textile Care, through a combination of water reuse and heat recovery projects, is to bring sustainability and energy efficiency of laundry operations up to speed.

This is what occurred at two laundries Phoenix and Pegasus of County Linen, an industry leading family business with over 200 years of history located in Chelmsford, in the southeast of England. Phoenix concentrates on F&B, food trade garments, 5-star hotel linen and items owned by customers, while Hotel linen rental is processed at Pegasus.



Oliver Moore, joint managing director of County Linen, explains how the company's approach to using renewable electricity sources and adopting a reduce, reuse and recycle philosophy has benefited the business.

Says Moore: "Our two main power sources are electricity and gas, and we have made significant steps to reduce our carbon footprint in both areas."

For electricity, "At County, we do have a 50kW solar system on the roof, since installation it has produced 401,000kWh of free power to help run the plant and our EVs. The remainder of our power comes from 100 per cent renewable sources."

"We have recently installed six new dryers. The more efficient dryers coupled with a lower moisture retention from the new press will reduce the energy consumption for fully dried items by up to 40 per cent," says Moore. "Our gas consumption is used in two areas, one from our steam boiler and the other from gas dryers for a fully dried item."

Other energy efficient measures include upgrading lead boilers to give gas savings and economisers to capture otherwise wasted heat to preheat boiler feedwater.

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“The focus is on the total cost of operations and reducing the impact of the process to save money and resources whilst maintaining and improving wash quality and production output.” The projects follow a step-by-step approach to reduce, reuse, and recycle water and recovery energy.

“The least expensive resources are those that you don’t use!” He adds: “By introducing effective detergent systems with accurate and reliable dosing equipment combined with Ecolab WPI data management system, the wash process has been optimised to reduce the amount of water and energy whilst maintaining the high wash quality required in a competitive market. “This is achieved by control of the wash process and innovative emulsion technology that work at reduced temperatures and with an easier rinsability.”

Moore explains how their approach benefits their neighbouring plants in Chelmsford, Essex.

At their hotel linen plant, they reuse water in the process by means of press water recycling with the machine. “This has been achieved with the installation of the Press water recycling solution by Ecolab which controls and measures the use of not only press water but also fresh water, enabling total control of the water consumption by classification and water quality.” These actions have enabled water consumption to be reduced by more than 50 per cent while still maintaining first-class wash quality and whiteness levels. “Management of water at this site has enabled reductions saving in excess of 18,000 cubic metres year to date (2023), said Moore, adding, “the energy recovery has generated savings of more than one million kWh and a CO2 reduction of almost 200,000kg.”

	 ENERGY RECOVERY	 WATER RECOVERY	 CO ₂ EMISSION REDUCTION
HOTEL LINEN LAUNDRY 14.000 t/year	Saved > 1 million kWh /year	Saved 18.000 m³ per year	CO₂ reduction of almost 200.000kg/year
F&B* and GARMENTS LAUNDRY 3.000 t/year	Saved 600 kWh /year	Saved 7.000 m³ per year	CO₂ reduction of almost 90.000kg/year

* Food & Beverage

At the F&B and garments plant the projects again are focused on reduce, reuse and recycle, said Moore. The site processes a mixture of hospitality work together with heavily soiled restaurant linen and workwear.

«Here again, we have combined management and control of wash processes to reduce the amount of water and energy required and developed this with the installation of systems for recovery and reuse.

“The Process Water Reuse solution from Ecolab allows for water to be captured from the tunnel washer, filtered, and reused in the tunnels and the washer-extractors.

Intelligent programming allows for colour separation of water to ensure only water suitable for reuse is recovered. By reusing this water, we also capture and reuse the energy stored inside.



All other water is then sent to an Ecolab heat recovery solution from effluent, a heat exchanger to recover the energy from the wastewater for use in the process. *"This has generated reductions in the water consumption in the process of up to 50 per cent whilst once again ensuring a high standard of wash quality."*

Annualised savings for water are currently running at more than 7,000 cubic metres in addition to reductions made by process optimisation with energy savings of more than 600,000 kWh and a CO2 reduction of 90,000kg.

Moore concludes: *"These systems are helping to reduce costs and support sustainability."*

"We continue to work together on optimisation and on the next steps in the journey for further improvements and developments to be implemented in the process with plans for more energy recovery."

Helping laundries reach their climate goals, their business outcomes and enhance their customer satisfaction is the main focus of our Ecolab Textile Care integrated laundry solutions. Our commitment in partnering with our customers is to apply the latest technologies and thinking, create and shape programs according to their needs, advance sustainability and reduce operational costs, wash after wash.