On the path to a climate-neutral energy system

Autefa Solutions Germany GmbH
Friedberg/Germany

Nitto Advanced Nonwoven Ascania GmbH,
Aschersleben/Germany

The manufacturer of high-quality nonwovens, Nitto Advanced Nonwoven Ascania, has established itself as a leading supplier of nonwovens for the fields of personal care, hygiene, medical products, and household applications. The key drivers have been innovation, quality, and sustainability. In the face of global challenges, the company is committed to deepening its environmental efforts and actively working towards a zero-emissions future. They use advanced technologies and sustainable production methods to continually reduce their environmental footprint. Their goal is to ensure both high product quality and the preservation of the planet for future generations.

Current situation and background

Nitto has long had the ambitious goal of continuously reducing its carbon footprint. They are increasingly focusing on energy efficiency, innovative technologies, and the integration of renewable energy to make their production more sustainable. Energy consumption is constantly reviewed. The company is thus contributing to the protection of the environment, which is seen as essential for its long-term sustainable development. At the same time, it is improving its own competitiveness.

← FIG. 1

Production line for multilayer products at Nitto (Source: Nitto Advanced Nonwoven Ascania)

Autefa Systems for assessment and retrofit

Autefa Solutions has been dealing with energy optimization in oven and dryer technology for a considerable period. Following a comprehensive evaluation and the preparation of a detailed assessment report by Autefa, significant energy saving potentials were projected for Nitto. The required investment costs are low relative to the quick ROI with high savings. Most importantly, the Nitto project team had the opportunity to proactively implement the recommended measures and, after training by Autefa, to further optimize the operating processes, taking into account the principles of air and thermodynamics. This initiative demonstrates a shared commitment not only to improving efficiency but also to achieving maximum performance. The collaboration and joint rebuild of the two multilayer lines has significantly increased the company's expertise and knowledge, which will be advantageous for the next expansion phase, EnRec 2.

Technical features of the equipment

Autefa's EnRec heat recovery systems are based on thermal and aerodynamic principles that can be applied to any thermal system that involves energy transfer. The measures taken include modifications to the fresh air and exhaust air paths in the dryer to reduce the residual energy in the exhaust air, as well as mea-

→ Next page

sures to stabilize the air flow in general. Remarkably, a high return can be achieved with minimal investment.

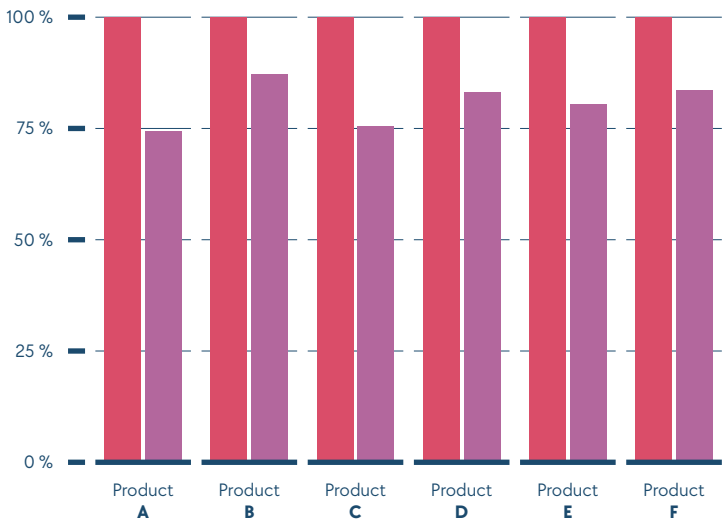
In addition to energy savings over a realistic timeframe, the reduction of CO_2, i.e. the saving of fossil fuels, is crucial. An exceptional aspect of Autefa is that the same supplier not only supplies the "retrofit kit", carries out the retrofit, but also takes responsibility for the results. This solution is ideal for nonwovens manufacturers with spunlace lines or manufacturers using similar drying applications. It is characterized by its fast and efficient energy saving potential, while at the same time achieving a significant reduction in the CO_2 footprint.

Results and current status

The retrofit has reduced energy consumption by 30%, resulting in a CO_2 saving of 4,475kg per day. To absorb this amount of CO_2, it would take over 66,000 trees, or an area of 184 football pitches, to sequester this amount of CO_2 emissions. This is in line with Nitto ANA's strategy.

↓ FIG. 2

Optimization of gas consumption at Nitto Advanced Nonwoven Ascania



Thermal insulation products with low-level BPA rPET fibers

Freudenberg PM
Weinheim/Germany

Expanding the comfortemp thermal insulation brand, Freudenberg PM has introduced 2 thermal insulation products made from low-level Bisphenol A (BPA) recycled polyethylene terephthalate (rPET) fibers. The unveiling of these modern, environment-friendly renditions, the Down Feel WA 150LB and Fiberball WB 400LB, offer high quality, comfort, and durability along with an ecological edge over traditional alternatives. The Down Feel WA 150LB, featuring top-notch super-light loft thermal insulation, and the Fiberball WB 400LB, with finely clustered fibers promoting breathability and resilience to clumping after washing and drying, significantly surpass the strict standards of the Oeko-Tex Standard 100 Class I certifications.

The innovative design of these products employs GRS-certified rPET fibers, with fill levels customizable to client preferences. Possessing BPA levels under 1 ppm, these novel products prioritize user safety, delivering responsible, high-performance products that align with growing market expectations.

The Down Feel WA 150LB and Fiberball WB 400LB are significant additions to the House of Sustainability, an initiative by Freudenberg Performance Materials Holding SE & Co. KG (Freudenberg PM), Weinheim/Germany, promoting sustainable practices within the apparel industry through over 500 innovative solutions. The latest additions are also notable for utilizing recycled polyamide 6 (PA 6) captured from fishing nets, carpet flooring, and industrial plastic in the making of another thermal insulation, the HO 80xR.

Widening the bandwidth of eco-friendly, high-quality thermal insulation options, Freudenberg's new range plans to continue promoting sustainable garments around the world, on the path towards a more sustainable fashion industry.