Sustainable packaging:
Transforming the European adhesive tape industry

Sustainability in packaging is reshaping how Europe's adhesive tape industry innovates, collaborates and competes. In this feature, we explore insights from the latest ASC webinar and highlight how both major players and agile SMEs are driving circularity, efficiency and design-for-recycling across the value chain.

In the hushed conference rooms of European manufacturing centres, a transformation is brewing. The recent Adhesive & Sealant Council (ASC) webinar, *"Adhesives and Sustainable Packaging: Market Trends, Drivers and Unmet Needs,"* featuring Graham Roan of The ChemQuest Group, illuminated a path forward for an industry at a critical crossroads.

The story begins with a stark numerical reality: European packaging tape markets are projected to grow by **2.4% annually**, with an estimated **additional half a billion square metres** of adhesive tapes produced each year (Source: *AWA Global Specialty Pressure Sensitive Tapes Market Study 2025*). E-commerce continues to expand, driving demand for adhesive tapes at a rate that outpaces GDP growth. Beneath this expansion lies a complex challenge: achieving genuine sustainability in materials, energy and production processes.

The **E.U.'s Circular Economy Action Plan** and forthcoming **Packaging & Packaging Waste Regulation (PPWR)** set binding targets — **65% of packaging waste must be recycled or prepared for reuse by 2025** — placing unprecedented pressure on manufacturers (Source: *European Commission, Circular Economy Strategy*). As Mr. Roan emphasised during the webinar, "Sustainability isn't a checkbox or a marketing slogan. It's a delicate balance of environmental responsibility, economic feasibility and technological innovation."

Companies such as Lohmann (Germany) are pioneering breakthrough adhesive technologies for medical and industrial use that directly address sustainability goals. Nitto Europe (Belgium) is developing advanced adhesive systems that minimise environmental impact while maintaining high-performance standards. Across Europe, a growing number of **small and mid-sized enterprises** are contributing to this transformation. Adhesives Research Ireland has been developing custom pressure-sensitive adhesives and coatings for medical and packaging applications, focusing on cleaner chemistries and sustainable substrates. Advance Tapes (U.K.) produces solvent-free, water-based tapes used in industrial and packaging markets, while Alimac (Italy) has introduced recyclable mono-material adhesive handles for flexible packaging, combining convenience and circularity.

At the centre of this sustainability conversation lies the **release liner**, long considered the industry's environmental Achilles' heel. Organisations such as **CELAB Europe** have been pioneering recycling solutions, with their *European Release Liner Recycling Initiative* helping to close the loop on liner waste. Yet, as Mr. Roan noted, "There's not a great solution today," underscoring the need for further

investment and collaboration. UPM Specialty Papers (Finland), a leader in sustainable release-base papers, has made significant progress with its *UPM LinerLoop™* concept, which enables the collection and recycling of silicone-coated release papers — reducing landfill waste and supporting a more circular economy (Source: *UPM Specialty Papers Sustainability Report 2022*).

Afera's Technical and Sustainability Committees work closely alongside CELAB and other industry bodies to promote such advances, developing standards and advocating for sustainable release-liner and packaging practices across the European adhesive-tape value chain. Other SME Members of the Afera community, such as certoplast (Germany) and Cintas Adhesivas Ubis (Spain), are applying the same principles to recyclable carrier materials and solvent-free production lines. Their work underscores that liner and carrier sustainability depends on collaboration between major multinationals and smaller, agile converters who can rapidly adopt new processes.

The technological horizon is both promising and demanding. **UV-curable adhesives** are emerging as a beacon of progress. A case study from tesa SE (Germany) illustrates this potential: By implementing continuous UV-curing processes, solvent emissions were reduced by 35% and energy consumption by 28%. Sicad (Italy) has introduced fully recyclable industrial packaging tapes, while Lohmann and Nitto are advancing solvent-free adhesive systems and energy-efficient production. Among the SMEs, BiesSse Tape Solutions (Italy) has developed high-performance industrial tapes using solvent-free adhesives, aligning with this energy- and emission-reduction trend, and Bimeks (Turkey) is pioneering water-based systems that reduce volatile organic compounds and improve worker safety.

Meanwhile, **bio-based feedstocks** and **water-borne chemistries** are gaining ground, albeit slowly, as cost and availability remain limiting factors. Mr. Roan stressed that true sustainability must also address **energy sources**, noting that only a small portion of global fossil-fuel use goes into making materials; thus, "We cannot reach a sustainable materials economy without changing how we generate the energy behind it." Transitioning to renewable power in adhesive production — through solar and other low-carbon sources — will therefore be as vital as developing bio-based polymers.

According to the **EPO–EIB Cleantech Innovation Report 2024**, cleantech inventions grew by roughly **33% between 2016 and 2021**, with the **E.U. accounting for about 22% of global high-value green technologies** — a trend encompassing materials and process innovations relevant to adhesives. This innovation momentum mirrors what is occurring in the tapes sector. A **McKinsey analysis** found that European packaging companies investing in sustainable technologies achieved, on average, **15% higher market share** among environmentally conscious consumers. The **European Investment Bank** has also channelled over **€1.2 billion** into sustainable manufacturing technologies, including adhesive and packaging innovations (Source: *EIB Annual Report*).

The recommendations for European manufacturers are clear

- **Invest** in sustainable manufacturing technologies and energy efficiency.
- **Explore** bio-based and solvent-free adhesive formulations.
- **Develop** products that are easier to recycle or reuse, including mono-material solutions.
- **Prepare** for stricter regulatory and consumer-driven sustainability requirements.
- **Collaborate** across the value chain — from raw materials to recyclers — to scale circular solutions.

Leading companies such as 3M (U.S.) and Henkel (Germany) already invest more than €50 million annually in sustainable R&D, demonstrating that innovation and responsibility can go hand in hand. But the same is increasingly true for Afera's SME members — from Adhex Technologies (France) to Alimac, Advance Tapes and certoplast, whose targeted R&D programmes are redefining what small-scale innovation looks like in the European adhesive-tape value chain.

As Mr. Roan concluded in the webinar, "No one solution is the answer. It really takes a whole mix of things to have balance in improving sustainable processes." For Europe's adhesive-tape manufacturers, the message is unequivocal: The future is not just about making tapes. It is about creating solutions that respect our planet, our economy and our technological potential. The journey has begun — and the path ahead is both challenging and exhilarating.

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