Reusing solar panels rather than recycling them

04 September 2026, 14:00

Stefan Milis
Vincent Lucas

How Recma requalifies solar panels and gives them a second life

The Liège-based social enterprise **Recma** aims to recover as much value as possible from end-of-life solar panels. That ambition has grown out of practical experience. Recma originally focused on collecting, dismantling and recycling PV panels. Due to the large volumes processed, it became clear that some of the panels supplied are still in good technical condition. Around 10 per cent of them are still achieving at least 80 per cent of their original performance and can be reused with no need for a repair.

That insight led to a strategic shift. Recma now checks first whether a panel is still safe and usable. Only panels that are not suitable for a second life are sent for component recovery or material recycling. In this way, Recma Sun is evolving from a recycling operation into an integrated circular supply chain for both reuse and raw materials recovery.

© Recma

Requalifying solar panels quickly and reliably

Effective reuse requires reliable quality control. Recma therefore worked with Sirris to develop a method that links electrical current and voltage measurements to electroluminescence images. This also makes it possible to detect micro-cracks that are not visible to the naked eye.

During the project, 450 measurement curves and 200 images were analysed. A correlation of 75 per cent was achieved between the two analytical methods. This means that a panel can be tested in around five minutes. So far one hundred panels have been selected for reuse on the basis of their safety, performance and integrity.

This approach supports the transition from waste processing to an industrial requalification process. Panels can be sorted more quickly and directed towards reuse, component recovery or recycling.

© Recma

When usable solar panels remain legally classified as waste

The panels enter Recma via the waste management chain and are therefore legally classified as waste. They are usually dismantled for recycling, even when they are technically capable of generating electricity for many more years.

This gives rise to a paradox. Recma can test, assess and, where necessary, repair a panel, but a positive technical assessment does not automatically mean that a panel is no longer classified as waste. As a result, the resale of this product remains a legal and administrative challenge.

The development of a professional second-hand market requires a clear procedure to enable items to be transformed from waste into products that can be resold. This requires, amongst other things, recognised testing methods, minimum performance standards, checks on electrical safety, traceability and clear agreements on guarantees and liability. Work is also being done at the European level to develop technical guidelines and standards for the safe and reliable reuse of PV panels.

Recma actively draws the attention of policymakers, federations and other supply chain partners to these bottlenecks. The company is thus broadening its role: from waste processing to requalification, supply chain development and advocate for appropriate regulation.

An economic and social business case

The business model remains challenging. New panels are cheap and efficient. Second-hand panels therefore have to combine an attractive price difference with demonstrable quality and sufficient trust. Rapid testing, sufficient volumes, standardised quality grades and reliable distribution channels are essential to achieve this.

Potential applications include farms, local energy communities, associations, social housing and projects with a limited investment budget. This means that affordable second-hand panels are making solar energy more widely available.

Recma links this circular ambition to its social mission. Employees and trainees are trained to test, sort, dismantle and requalify panels. The Déchets-Ressources (Waste-Raw Materials) programme in Wallonia, in which Recma participates, explicitly promotes reuse and preparation for reuse through social integration enterprises.

The path to a circular economy is not linear

The case of Recma offers a wider lesson for the manufacturing sector. Circular innovation often arises from day-to-day operations and entrepreneurship: a company realises that its products have a higher residual value than initially thought and subsequently it makes changes to its technology, processes and business model. The real breakthrough comes when regulations, market confidence, partnerships and social value also evolve.

A few starting points for your journey of discovery into the circular economy

? Ten lessons from practice after 10 years of CE Connect
? 'Growing Circular' e-learning series
? Project Circular ReX: a guide to regulations and circular practices
? “Get started with ReX” homepage

Authors

Stefan Milis

Vincent Lucas