

Evonik is part of the joint EU project ReProSolar for the complete recycling of photovoltaic modules

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Essen, Germany. Evonik is part of the ReProSolar project, which aims at developing a highly efficient and special process for the recycling of end-of-life photovoltaic (PV) modules. Under the project management of Veolia Germany and together with partner companies from the public and private sector operating along the PV module recycling chain, all PV module components are completely separated for the first time. This way, pure silicon, silver and glass, among other things, can be made available to the manufacturing industry again. The EU supports the project with a total of 4.8 million euros through EIT Raw Materials.

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The effects of global warming can no longer be denied. Urgent measures are necessary in order to reduce CO₂ emissions and to protect valuable resources. It is assumed that renewable energies and energy efficiency measures have the potential to meet up to 90% of the necessary defossilation targets. Over the next few years, the first PV systems will reach their end of life.

The technological solution

ReProSolar offers an innovative management of PV modules, turning the linear PV industry into a circular economy in order to reduce waste and to protect valuable resources. "Our process is based on a new delamination technology which is able to separate photovoltaic cells efficiently from the glass plate. Innovative physicochemical processes then enable the recovery of all materials without PV modules having to be shredded", explains project manager Antoine Driancourt, Veolia Umweltservice GmbH. "Today, no industrial process in the world is able to recover very pure silver and silicon. This would be an enormous breakthrough for the whole solar industry in terms of current recycling standards", adds Driancourt. From processing and raw material purification to the waste stream supply chain and reintegration into various industries, together with the project partners, the whole value chain is taken into account.

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As a specialty chemicals company, Evonik has been at the forefront of driving the shift to sustainability and circular economies. According to its sustainability strategy 2020+, the company more and more integrates sustainability into its management processes. “For us, responsible action and economic success belong inseparably together”, says Peter Friesenhahn, Head of Silanes Business Line. “Our silanes often provide a sustainability benefit in their respective field of application. We are therefore pleased to support ReProSolar in making the production of silicon even more sustainable.”

The research project is supported by EIT RawMaterials, Innovation Community within the European Institute of Innovation and Technology (EIT). It is funded under Project Number 20028 and will run from February 2021 to the end of January 2025.

Until the end of the year, feasibility on an industrial scale is being tested on the premises of partner FLAXRES GmbH in Dresden and ROSI Solar in Grenoble. Until 2023, an annual 5,000 tonnes of disused PV modules are to be processed in a demonstration plant.


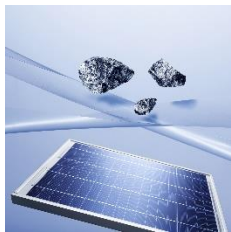
Partners

Evonik Operations GmbH, Germany
FLAXRES GmbH, Germany
INP (Grenoble Institut für Technologie), France
ROSI Solar, France
TECNALIA Research & Innovation, Spain
Triade Electronique, France
Veolia Deutschland GmbH, Germany
Veolia Recherche & Innovation (VERI), France
Veolia Umweltservice GmbH (Lead Partner), Germany

EU funding: EIT Raw Materials

[This press release is available for download here.](#)

The following pictures are available in higher resolution for publication in connection with this press release. Click on the image to follow the link.

	<p>Evonik is part of the ReProSolar project, which aims at developing a highly efficient and special process for the recycling of end-of-life photovoltaic (PV) modules. Source: S. Wildhirt/Evonik</p>
	<p>Silicon is an important raw material for photovoltaics. Source: A. Schwander/Evonik</p>

Company information

Evonik is one of the world leaders in specialty chemicals. The company is active in more than 100 countries around the world and generated sales of €12.2 billion and an operating profit (adjusted EBITDA) of €1.91 billion in 2020. Evonik goes far beyond chemistry to create innovative, profitable and sustainable solutions for customers. About 33,000 employees work together for a common purpose: We want to improve life today and tomorrow.

About Smart Materials

The Smart Materials division includes businesses with innovative materials that enable resource-saving solutions and replace conventional materials. They are the smart answer to the major challenges of our time: environment, energy efficiency, urbanization, mobility and health. The Smart Materials division generated sales of €3.24 billion in 2020 with about 7,900 employees.

Disclaimer

In so far as forecasts or expectations are expressed in this press release or where our statements concern the future, these forecasts, expectations or statements may involve known or unknown risks and uncertainties. Actual results or

developments may vary, depending on changes in the operating environment. Neither Evonik Industries AG nor its group companies assume an obligation to update the forecasts, expectations or statements contained in this release.

About EIT RawMaterials



Minerals, metals and advanced materials are key enablers to achieve the objectives of the European Green Deal. Today, only a fraction of the most relevant raw materials is produced in Europe. This can be changed through a circular economy approach, through innovation in recycling, substitution, processing, mining, and exploration. It is the objective of EIT RawMaterials to secure a sustainable raw materials supply by driving innovation, education, and entrepreneurship across European industrial ecosystems.

EIT RawMaterials provides a collaborative environment for disruptive and breakthrough innovations by connecting business with academia, research, and investment. It also invests in future generation of innovators for the raw materials sector through initiatives ranging from education of school students to higher qualifications for industry professionals.

The company is committed to supporting Europe's transition towards a circular, green, and digital economy whilst strengthening its global competitiveness and securing employment. On this foundation, EIT RawMaterials has been mandated by the European Commission to lead and manage the [European Raw Materials Alliance \(ERMA\)](#).

EIT RawMaterials is an Innovation Community within the [European Institute of Innovation and Technology \(EIT\)](#).