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Welcome to the First Edition of the SOPHIA Newsletter

We are pleased to introduce the inaugural edition of the SOPHIA newsletter, keeping stakeholders and partners informed on the progress of this Horizon Europe project.

SOPHIA - Implementation of Advanced Digital Solutions to Increase the Circularity of PV Panels - brings together 15 partners across eight countries, representing the full photovoltaic value chain: research, production, recycling, policy, and market development. The project focuses on advancing PV panel circularity through innovative assessment, repair, recycling, eco-design, and digital traceability solutions.

In this newsletter, you will find updates on project milestones, pilot activities, technological developments, and policy alignment efforts, highlighting how SOPHIA contributes to a more sustainable and resilient European solar industry.

SOPHIA Objectives

SOPHIA tackles the **end-of-life challenge of photovoltaic panels** and promotes awareness around electronic waste management.

The project's key goals include:

- Developing Al-driven tools to assess the state of health of PV panels.
- Enabling digital traceability through the Digital Product Passport (DPP).
- Creating a marketplace for secondary raw materials and repaired panels.
- Designing eco-friendly, easily dismantlable PV prototypes.
- Raising social and corporate awareness to foster a circular, sustainable PV

The Policy Landscape

SOPHIA is part of years of EU legislative and project-based efforts to ensure a sustainable industrial transition. Building on this foundation, the **Circular Economy Act (CEA)** is the next major step in strengthening Europe's circular and resource-efficient economy.

The CEA aims to help create sufficient supply and demand for secondary raw materials (including critical ones) and a true single market for waste and secondary raw materials.

The CEA's interventions can be structured around two main pillars:

- First, it will address e-waste, to ensure its effective collection and recycling and to generate market demand for the secondary critical raw materials they contain.
- Second, a mix of interventions to foster the single market for waste, secondary raw materials and their use in products could be considered. This may cover, among others, the reform of end of waste criteria; the simplification, digitalization and extension of extended producer responsibility schemes; and setting mandatory, targeted, impactful, and implementable criteria for public procurement of circular goods, services and works to stimulate EU demand.

Now open for public consultation until 6 November and expected to be adopted by the end of 2026, the Act will provide the policy framework for initiatives like SOPHIA to scale proven circular solutions across Europe's clean-tech sectors.

<u>Learn more</u> →

Complementing the CEA timeline, the revision of the **Waste Electrical and Electronic Equipment (WEEE) Directive** addresses critical gaps in Europe's fastest-growing waste stream. Currently, less than 50% of WEEE is collected separately (far below the 65% target) with valuable materials like critical raw metals being lost through illegal exports, landfilling, or low-quality treatment. The revised Directive is expected to harmonize treatment requirements across Member States, expand its scope to include emerging technologies like PV panels and heat pumps, and reform Extended Producer Responsibility schemes to combat free riders and promote ecomodulation. By aligning collection methods between business-to-consumer and business-to-business streams and establishing material-specific recovery targets, the WEEE revision will work to secure Europe's supply of critical raw materials while reducing the environmental impact of electronic waste.

Project Updates

The SOPHIA project was officially launched at a kick-off event in Valencia hosted by **AIMPLAS**, where partners set the stage for a three-year collaboration focused on advancing smarter, greener solar circularity. You can find more about the event <u>here</u>.



The next consortium meeting is scheduled for **20 November** in Villafranca de los Barros, Badajoz, Spain, continuing the momentum toward achieving SOPHIA's ambitious goals.

The consortium is already finalizing the work on the first deliverables which include:

- Clustering Activities Report connecting SOPHIA with EU sister projects.
- Project Management Plan defining governance and next steps.
- Dissemination and Communications Plan defining project visibility strategy.

Communications

The **SOPHIA website** is live at www.sophia-project.eu
Follow us for updates, news, and events on LinkedIn and X.!

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