

PVthin: Our position on the EU Sustainable Products Initiative

PVthin welcomes the European Commission's proposal to develop a Sustainable Products Initiative (SPI) as a key action under the Circular Economy Action Plan, the European Green Deal and the EU Industrial Strategy. As an international trade association promoting thin film photovoltaic (PV) technologies, PVthin strongly supports the EU's ambition to establish itself as a global sustainability leader, paving the way for other regions to follow.

PVthin strongly supports Ecodesign requirements for PV

The Commission has announced that the core of the Sustainable Products Initiative will be an expansion of the Ecodesign Directive to cover additional product categories and integrate additional sustainability elements, such as circularity.

PVthin is well placed to contribute to this objective, having closely followed the ongoing work by the Commission to define Ecodesign requirements for PV modules, inverters and systems¹. PVthin strongly supports the Commission's work in this space, which will be critical to establish a harmonised set of sustainability requirements for the PV sector at EU level. We particularly support the Commission's proposal to take into account durability, degradation, recyclability, and the ecological profile (notably carbon footprint) of PV modules, building on existing Product Environmental Footprint Category Rules (PEFCRs) for PV electricity, developed during the 2013-2018 Pilot Phase. Today, the PEFCR methodology constitutes the most comprehensive toolbox for the lifecycle assessment of environmental impacts. This methodology should be leveraged for the development of standards, certifications and labels at all levels, and is highly relevant for the Sustainable Products Initiative, including Ecodesign and Green Public Procurement. Whereas PVthin understands the aim to establish a baseline for sustainable PV modules and inverters through the setting of Ecodesign criteria, EU initiatives in this area should be consistent and compatible with existing international standards² that have proven to be successful in harmonising criteria and impact categories along the sustainability performance band of different products, such as EPEAT³ for PV modules and inverters.

The strategic importance of establishing PV Ecodesign criteria was also recognised in the updated 2021 EU Industrial Strategy⁴, which states: *"The market expansion and global growth in demand for wind turbines, solar PV panels, and smart energy technologies is a key opportunity, as greater scale should bring lower energy costs for industry as well as society at large. The Commission welcomes efforts to scale up manufacturing of these technologies in the EU, such as the industry-led European Solar Initiative. The Commission is also working on ecodesign measures for solar panels, including possible requirements on carbon footprint."* The Ecodesign criteria under development for PV are an innovative case study that shows how traditional Ecodesign requirements (energy yield, material efficiency) can be coupled with additional sustainability measures on environmental footprint and quality control during manufacturing.

¹ <https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/462/documents>

² <https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf>

³ <https://www.epeat.net/>

⁴ <https://ec.europa.eu/info/sites/default/files/communication-new-industrial-strategy.pdf>

Towards a ‘hierarchy of norms’ for product sustainability

As explained in the previous section, PVthin agrees with the Commission that Ecodesign offers a comprehensive and reliable regulatory instrument to promote sustainability requirements covering the entire lifecycle of products. In our view, this also means that, where extensive assessments have been conducted concluding that Ecodesign requirements are the best regulatory instrument to address the lifecycle sustainability of product categories, these must be given priority when considering measures under legislation that is more narrowly focused. In particular, regulatory initiatives under chemicals and waste legislation should be consistent with sustainability requirements defined under Ecodesign. This has been recognised, for example, in a recent study⁵ conducted on the Commission’s behalf to support the evaluation of the RoHS Directive, which found that “the overlap of RoHS with Directive 2009/125/EC (Ecodesign Directive) is another main issue of coherence raised both under the OPC and by Member States”. The RoHS Directive already recognises that “the development of renewable forms of energy is one of the Union’s key objectives, and the contribution made by renewable energy sources to environmental and climate objectives is crucial” and that therefore RoHS “should not prevent the development of renewable energy technologies that have no negative impact on health and the environment and that are sustainable and economically viable”. Through the Sustainable Products Initiative, the Commission has an opportunity to further clarify the interface and hierarchy between the many pieces of legislation covering the sustainability of products, materials and chemical substances.

Integrating social aspects into broader sustainability requirements, including through Digital Product Passports

The SPI could also become, for certain product categories such as PV, an instrument to define minimum social requirements, related for example to labour and human rights conditions in the value chain. Careful consideration should be paid to the interface between the Sustainable Products Initiative and the upcoming Commission proposal on Sustainable Corporate Governance, as well as future social criteria to be added to the work on the Sustainable Finance Taxonomy.

PVthin firmly believes that solar energy should be virtuous, and not be produced at the expense of unjustified environmental or social impacts. Effective tools already exist to promote safe labour conditions and human rights in the value chain, including for example the Responsible Business Alliance (“RBA”) Code of Conduct, which could serve as a basis for EU regulatory action in this area. The EU’s upcoming regulatory work should build on these existing best practice examples.

Digital Product Passports, which are discussed as a possible instrument to support the SPI, could help consolidate information on the sustainability and social credentials of certain products. We would stress that Digital Product Passports should build on, rather than duplicate, existing sustainability information generated under frameworks such as Ecodesign, Type-III Environmental Product Declarations and Type-I

⁵ <https://op.europa.eu/en/publication-detail/-/publication/5b807311-9d93-11eb-b85c-01aa75ed71a1/language-en/format-PDF/source-200965328>

Ecolabels. If Digital Product Passports are to be successful, they should be targeted, standardised and take full account of the need to protect confidential business information. Digital passport information requirements should also be targeted to the needs of the customers. The information required in a sophisticated business to business (B2B) environment is unlikely to be the same as that needed in the business to consumer (B2C) world of mass consumption targeting household consumers.

Public procurement is a key tool to support the SPI, but more harmonisation is needed

The recent update to the EU Industrial Strategy rightly concludes that *“The European public procurement framework can help strengthen companies’ competitiveness, including through the use of strategic criteria notably for green, social and innovation procurement, while ensuring transparency and competition”*.

More should be done, in PVthin’s view, to ensure basic sustainability and social criteria are embedded in procurement schemes across EU Member States, including for example auctions for renewable energy. Mandatory criteria and targets would be useful to promote harmonisation in sustainable public procurement, as the current regulatory landscape is highly fragmented across Member States. Integrating such criteria into public auctions would ensure that competition between PV manufacturers takes place on a level playing field and based on the performance, sustainability and social merits of their technologies. The Commission’s guidance on identifying and addressing strategic dependencies through public procurement, announced for Q1 2022, could serve as a step in the right direction. PVthin encourages the Commission, however, to pursue a more ambitious approach through mandatory criteria for sustainable public procurement at the EU level.

Promoting high-value circularity and fair modulation of eco-fees

Thin-film PV technologies contribute to the circular economy by providing a secondary use for mining by-products that would otherwise be disposed of. At the end of their 25+ years useful lifetime, thin-film PV modules can be recycled to recover glass and semiconductor materials for reuse in new thin-film modules and glass products. With over 500 GW of PV installed worldwide and a probable trajectory to multi TW deployment, proven high-value PV module recycling solutions are important for all solar technologies.

There are currently several innovative high-value thin-film PV recycling initiatives operational worldwide, that are helping to close the loop. For example, First Solar’s high-value recycling process (with facilities in Germany, the United States, Vietnam and Malaysia) recovers over 90% of the semiconductor material for reuse in new thin-film PV modules and 90% of the glass for use in new glass products. Whereas the SPI consultation includes a number of questions on reparability, it should be noted that closed loop recycling systems such as those described above offer the most effective solution to promote the circularity of PV modules, particularly in utility scale installations. In some cases, reparability can come at the expense of truly efficient recycling schemes. PVthin encourages the Commission not to take a one-size fits all approach, where reparability considerations, driven by consumer good business models, are applied to B2B commercial relationships covered by extended warranties and end of life take back schemes. In the PV industry, the global PV installation is the unit to be repaired with ‘spare parts’ (alternate PV modules

or inverters). Focusing on the repair of the PV panel itself is misunderstanding the conception of a PV installation and the economics of the business model.

Collection, treatment and recycling of PV modules is regulated under the WEEE Directive and national legislation transposing the Directive in each Member State. Practical experience since the adoption of WEEE suggests that further harmonisation in the modulation of eco-fees is necessary across Member States, in order to prevent unjustified market barriers that can unfairly discriminate against certain technologies. The use of existing standards should be made mandatory at the EU level to promote the highest value recycling processes for specific waste streams, including PV modules⁶. In the absence of EU harmonisation, there is a real risk that existing eco-fees create a race to the bottom in certain Member States, where the cheapest (and often lowest quality) form of recycling is incentivised.

Success of the Sustainable Products Initiative rests on enforcement and market surveillance

Market surveillance and enforcement will be critical for enhanced sustainability rules for PV panels to be successful. The stricter the requirements on sustainability, the more important it will be to ensure these are properly enforced, including for imported products. A vast majority of PV panels are manufactured outside of the EU (primarily in China). Often, this means that there are limited possibilities for certification and inspection of environmental and social requirements. More should be done to reward manufacturers that allow for transparent certification and inspection. The recent Commission proposal for a Corporate Sustainability Reporting Directive⁷ can be a complementary tool in this area, through the combination of strong sustainability reporting standards (including on climate footprint, water resources, circularity and social aspects) and mandatory auditing and inspection.

About PVthin

PVthin - the International Thin-Film Solar Industry Association - is an international, not-for-profit coalition representing global leaders in the Thin-Film Solar Industry and broader value chain based on chalcogenide perovskite, tandem and heterojunction PV technologies. For further information about our position on the Sustainable Products Initiative, please contact us at Secretariat@pvthin.org

⁶ <https://cewaste.eu/>

⁷ https://ec.europa.eu/info/publications/210421-sustainable-finance-communication_en#csrd