

## PVthin: Comments for RoHS review call for evidence

PVthin welcomes the opportunity to provide comments to the call for evidence (CfE) on the review of the RoHS Directive. Thin-film PV provides superior performance, lower costs, smaller environmental footprints, and high resource efficiency and recyclability.

RoHS Article 2.4 excludes from scope “photovoltaic panels intended to be used in a system that is designed, assembled and installed by professionals for permanent use at a defined location to produce energy from solar light for public, commercial, industrial and residential applications”. As explained in Recital 17 to the Directive, this is because “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”, meaning 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.” As the race to deploy renewables infrastructure increases in pace under Fit for 55, requiring continuous innovation to achieve higher performing technologies, the RoHS exclusion for solar PV has only become more vital.

In the CfE, the Commission notes that one of the policy options under consideration is “updating and clarifying the scope of the RoHS Directive”. There is every indication that EU society would be worse off were PV technology to be included in RoHS, regardless of potential exemptions. This is confirmed by an independent third-party impact assessment commissioned by PVthin and performed by EFTEC, which found that inclusion in RoHS would limit the current availability of PV technologies and heavily restrict the industry’s ability to pursue future innovations. Removing the PV exclusion would lead to a missed technological opportunity to advance the ability of generating electricity from renewable technology.

The negative impacts of including PV in RoHS would only be further exacerbated over time, (e.g. between 2030-2050) as the emergence of thin-film technology presents Europe with both significant financial opportunities, cost savings, as well as environmental and health benefits from their adoption as a key electricity source for European businesses and society. Total monetised costs were PV to be included in RoHS are estimated at 907 million euros over the period 2020-2030, including costs of electricity, temporary unemployment, compliance costs, loss in value added, CO2 emissions, and health impacts.

Over the past decade, in the absence of RoHS, other EU legislation such as WEEE and Ecodesign is proving successful in furthering the sustainability of PV technologies. The safety of PV modules over their lifecycle has been widely demonstrated, including in extraordinary circumstances such as fires, storms and floods. Once they reach their end of life, thin-film PV modules can be recycled to recover over 90% of their glass and semiconductor metals. Semiconductor metals are then reused in new thin-film PV modules, in closed loop systems.

In line with the recent EEA report on “Emerging waste streams: Opportunities and challenges of the clean-energy transition from a circular economy perspective”, PVthin supports continuous improvement of the WEEE Directive to close regulatory gaps, create a level playing field, and promote high-quality recycling standards. PVthin equally supports ongoing work by the Commission to set Ecodesign requirements for PV modules, inverters and systems. Among other important points, the Ecodesign proposals will address the circularity of PV equipment through rules on durability, degradation, repairability, and recyclability.