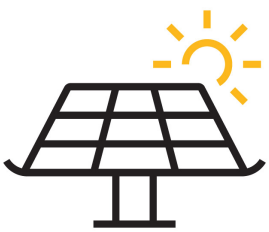
Mandate for Implementation Working Group on Photovoltaics



Adopted by the Steering Group on

8 April 2026

The IWG on Photovoltaics (PV) is established by the SET Plan Steering Group (SG) to support the implementation of the SET Plan in this technology area.

The energy transition is well underway in Europe with the solar PV sector at the heart of Europe's energy, climate, and industrial strategies. The REPowerEU plan and the Solar Energy Strategy introduced targets for the deployment of photovoltaics amounting to 600 GWac by 2030. The solar strategy as well introduces the goal, which is also incorporated in the Net Zero Industry Act of reinforcing the European solar manufacturing industry. The aim for it is to cover around 40% of European demand for PV products (and other clean energy technologies) by 2030 with local manufacturing. The Clean Industrial Deal and the Affordable Energy Action Plan introduced a key performance indicator on the share of electricity in final energy consumption, setting 32% by 2030 as reference, and announced the Electrification Action Plan. Clean electricity is projected to replace fossil fuels in industry, transport and buildings, and to provide most of the energy demand to the EU's economy by 2040. To meet these targets, the electricity sector requires massive additional generation and storage capacity, and network and demand-side investments. On this background, the IWG PV is working to support and accelerate research and development within SET Plan Member States along the PV value chain, on a European scale and for various photovoltaic technologies and applications.

Research and Innovation (R&I) and market uptake of breakthrough PV innovations need to be accelerated to reinforce the European PV industry competitiveness, the deployment of photovoltaics in Europe, the European energy transition and Europe's energy security. A consistent support for R&I in the PV sector with a strategic and comprehensive approach to market uptake on the following should be prioritised:

- Next generation PV materials, cells and module technologies (e.g., crystalline Si-technologies, thin-film, perovskites, tandem cells, flexible substrates etc.) across the whole value chain, emphasising commercial viability of new cell technologies (including performance, reliability, energy density, stability and sustainability).
- Emerging innovative PV deployment applications (e.g., Agri-PV, building-integrated PV, floating PV) for an optimal use of renewable energy potential and available area, in synergy with other economic sectors' needs and biodiversity.
- Integration of PV in flexible energy generation systems to enable a renewable energy driven grid, through digitalisation, optimisation of production and consumption of solar electricity (and other fluctuating electricity sources) and interconnections with the transport sector, buildings, industry and flexibility means such as battery storage, heating & cooling and clean hydrogen in the mid-term.
- AI in the Design of new materials, System Integration Optimization, Enabling decentralised systems.
- Circularity by design, recycling, maintenance and end-of-life management of PV systems.
- Enabling technologies and tools for demonstrating and scaling up of next generation PV solutions, addressing barriers to market entry, shortening the lab to market timeline, facilitating the development of the entire industrial eco-system for PV including the equipment's manufacturers and accelerating the injection of financing in close to market innovation for PV.

- Addressing socio-economic issues related to market acceptance of innovations are cross-cutting challenges that are becoming increasingly important in the innovation, industrialization and commercialization processes.

The IWG PV works under the supervision of the SG to whom it reports regularly. To carry out its tasks, the IWG will benefit from the expertise, support and tools provided by the Commission (e.g., Joint Secretariats (CSAs), the SET Plan information system - SETIS, the Clean Energy Technology Observatory project, the Competitiveness Progress Report, workshops, events etc.).

The IWG oversees the development of a 'Common Implementation and Investment Plan' (CIIP). The CIIP consists of a 1) Thematic Vision (TV), a 2) Strategic Research and Innovation Agenda (SRIA), and 3) Implementation and Investment Commitments (IIC). The old Implementation Plans and SRIAs may act as a source of inspiration and content for this exercise. In this context, the IWG shall:

1. Develop a **Thematic Vision for the technology area** of Photovoltaics, establishing ambitious and achievable short-term (up to 2030), medium-term (up to 2040), and long-term (up to 2050) goals on the development, manufacturing and market uptake of this technology in Europe.

The IWG will develop this Vision in close collaboration with industry and research stakeholders by May 2026. It shall be based on solid evidence and foresight, and outline short-, medium- and long-term goals. The goals may include corresponding targets where relevant, such as but not limited to: technological performance, maturity and progress to commercialization; manufacturing capacity in Europe; intellectual property metrics; and emissions reductions.

The resulting Thematic Vision will be submitted to the SG for discussion and endorsement. The SG can identify if additional evidence or analysis is required.

2. Oversee the stakeholder community's development of a European **Strategic Research and Innovation Agenda (SRIA)** which aims to achieve the vision.

The IWG will entrust the development or update of a SRIA to industry and research stakeholders, represented by the European Technology and Innovation Platform for Photovoltaics (ETIP PV), by mid-October 2026. The SRIA shall identify the specific R&I priorities and activities, corresponding KPIs and the level of funding needed in Europe to achieve the Thematic Vision's goals. Where appropriate, the SRIA should also include recommendations on enabling framework conditions for manufacturing and market uptake (e.g., regulatory, fiscal, standardization) that should accompany and help realize the Thematic Vision's goals. This process may benefit from the input of the CETPartnership, Driving Urban Transitions Partnership, the European Energy Research Alliance, etc.

The resulting SRIA shall be well-aligned with the Thematic Vision and submitted to the SG for discussion and endorsement. The SG can identify if additional evidence or analysis is required.

3. Identify and collect **Implementation and Investment Commitments (IICs)** based on national and EU priorities.

The IWG will organize and steer the discussion among all relevant actors (EC, MS, industry, research organizations, academia) on how to best implement the endorsed SRIA by end-of-March 2027. It will aim to build the broadest possible consensus on a common implementation approach (e.g., priorities, timing, resources) and will facilitate agreement on the allocation of efforts between public and private actors and identify their respective investment R&I commitments.

Monitoring and reporting on the progress of the **Common Implementation and Investment Plans (CIIP).**

The CIIP shall include a description of indicators for monitoring progress and identifying bottlenecks. This exercise will be based on the guidance devised by the Commission to ensure a level of comparability across the working groups. The IWG will then annually assess the progress made in the implementation of the CIIP by the different actors via the harmonised annual SETIS exercise. The Steering Group and the European Commission can identify potential gaps, lagging areas, and new/emerging issues in order to suggest a revision of the CIIP.