

SOLAR WASTE & WEEE DIRECTIVE

EXPLAINING THE IMPACT OF THE REVISED EU WASTE LEGISLATION ON THE PHOTOVOLTAIC SECTOR IN EUROPE



The first significant installations of photovoltaic (PV) solar modules in Europe started in the early 1990s. Designed to generate clean and renewable energy for over 25 to 30 years, an increasing number of modules will reach the end of their life in the coming years. The PV industry has already been working in developing viable recycling solutions, also together with the European Institutions.

WEEE legislation

The European Union (EU) revised its legislation about waste recently: since 13 August 2012, the recast WEEE (Waste Electrical and Electronic Equipment) Directive 2012/19/EU provides a [legislative framework](#) for Extended Producer Responsibility of PV modules. As from 14 February 2014 at the latest, the collection, transport and treatment (recycling) of photovoltaic panels must be regulated in every single EU country.

Producers' (new) responsibility

The WEEE Directive requires the Producers of PV panels to ensure the take-back and recycling – including the related administration, reporting and financing - of their products within the countries of the EU. The [definition](#) of Producers includes manufacturers, distributors, resellers, importers and distance sellers of photovoltaic panels, or: any natural or legal person, established in a specific Member State, and putting PV modules onto this market for the very first time.

Any violation of the WEEE rules may entail fines or an interdiction of commerce.

To facilitate the transition of the PV industry into a WEEE-regulated environment, the WEEE Directive foresees different paths to compliance:

- The establishment of company-own take-back and recycling infrastructures as well as individual reporting, financing and administration mechanisms
- The affiliation with existing, collective and industry-managed waste management programs
- The integration of discarded PV modules in other WEEE or municipal infrastructures

Each EU Member State will define individually how PV modules will be covered by their national WEEE law.

Waste management programs

The WEEE Directive mandates European countries to adopt PV waste management programs in which Producers are responsible for the take back and recycling of the panels they sell. Through this obligation, the industry can take greater responsibility and better factor in the cost of the collection and end-of-life treatment of their products into the cost paid by the consumers.

FAQ

What is WEEE?

The Waste Electrical and Electronic Equipment Directive (WEEE Directive) is the law of the European Union regulating the treatment of electrical and electronic waste at the end of their life cycle.

Since 2012, WEEE has set up the rules for the collection and recycling of photovoltaic panels. The Producers are now responsible for financing the taking back and disposing of the modules. The main goal of the directive is to reduce waste volumes and foster innovation by making Producers of electronic and electric products more responsible.

Who is responsible for PV panels at the end of their life cycle?

The European Union has decided to promote the practice of “Extended Producers Responsibility” for PV panels. This means that it would be up to the Producers of the modules to collect and dispose them of at the end of their life-cycle. End-users will not have to pay any additional cost to dispose of the PV modules and will have to be instructed from the Producers on how to proceed with the take-back of the modules.

Who are Producers of PV modules? Why are they important?

According to WEEE, there are four categories of Producers: manufacturers, distributors or resellers, importers and internet or distance sellers. When first putting panels on a or multiple markets of the EU Member States, they must all comply with national WEEE regulations of these markets by carrying out a series of requirements, including a number of administrative and financial duties with the designated authorities. Producers are a key figure in the disposal and recycling of photovoltaic modules because they are ultimately responsible for the panels they sell in the European Union.

My company falls under the WEEE Producer definition. What can I do?

Consult the website of your national WEEE authority or www.solarwaste.eu for information on the WEEE requirements in your country. Evaluate within your company the best path to WEEE compliance. Some companies may have the means to implement own take-back and recycling infrastructures; others are better off with a collective scheme. Address your industry association for help or contact existing take-back and recycling schemes.

How are the photovoltaic panels recycled?

It depends on what kind of panels they are. A silicon-based module is usually crushed in a mill and treated mechanically. A great majority of the different components of the panel can be recovered and recycled (glass, semiconductors, aluminum) through this process. Non-silicon based panels are similarly crushed but also undergo chemical bathing processes to separate the semiconductor materials and allow for their recovery and recycling.

Do the rules change between countries of the European Union?

Yes. The WEEE legislation has set up the minimum rules – and targets – for the disposal of photovoltaic modules across EU Member States. However, each European country has to transform this EU legislation into national law and can further refine or strengthen the rules behind the collection and recycling process.

What about solar thermal modules

Up until today, WEEE legislation does not cover the disposal of solar thermal modules.