

Solar Panels and Pellet Stoves on the EU market:

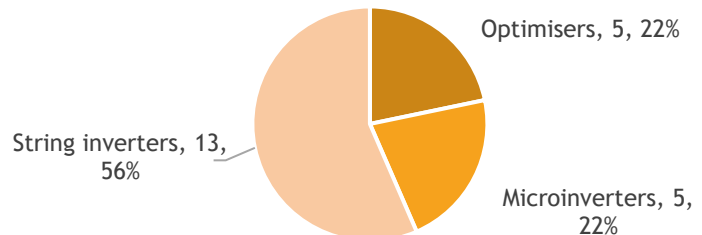
ARE THEY COMPLIANT WITH THE EU LEGISLATION?

The Joint Action JAHARP2022-02 surveyed the single market to verify compliance of ancillary equipment to solar panels and pellet stoves with the EU Electromagnetic Compatibility and the Radio Equipment Directives, and the Ecodesign and Energy Labelling Regulations. The project, coordinated by [PROSAFE](#), started in April 2023 and will end in March 2025.

ANCILLARY EQUIPMENT TO SOLAR PANELS



23 products (optimisers, string inverters and microinverters) were tested in an accredited EMC laboratory against the applicable EN standards for conducted and radiated emission.



Legislation:

Electromagnetic Compatibility Directive (EMCD) 2014/30/EU

Radio Equipment Directive (RED) 2014/53/EU



Why:

Photovoltaic (PV) installations are getting advanced features as the coupling with digital energy meters and the optimization of cells energy with optimizers. There is a **growing risk of electromagnetic radiations interfering with safety related communications and sensible radio services.**

Initial data shows a persistent trend of non-compliance.

Main challenges:

Radiated and, in particular, conducted emission levels are quite high due to the use of **switching devices** in both the inverters and the optimizers.

EMC testing is particularly complicated as **the equipment should be put in a specific operating condition.** In some cases, the lab required the support of the manufacturer to achieve this set-up.

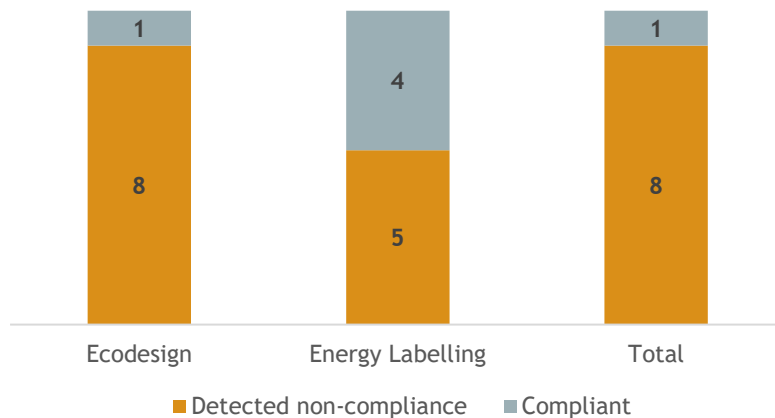
In addition, as the equipment must be tested in a certain stable state, it was often necessary for the lab to **adjust the parameters in the software** or, in some instances, to add some other ancillary equipment to create a system that would support the testing.

Caution! The above results for both product groups are based on products that were sampled from the markets in the participating countries by experienced market surveillance inspectors that were looking for non-compliant products. As in any routine market surveillance activity, the results represent the targeted efforts that authorities undertake to identify non-compliant products. They do not give a statistically valid picture of the market situation.

PELLET STOVES

The identified **9 different pellet stoves** were tested by an accredited laboratory against the ecodesign and energy labelling parameters. Triple testing is now being conducted on two models.

Provisional results of single tests show that **8 out of 9 pellet stoves presented at least one non-compliance**, with 8 (89%) failing at least one Ecodesign Regulation requirement, 5 (56%) failing at least one Ecodesign and one Energy Label requirement.



Legislation:

Regulation (EU) 2015/1185

Regulation (EU) 2015/1186

Main challenges:

The market surveillance authorities encountered several challenges, centred around the following main issues:

1. **Difficulties in securing documentation** from economic operators.
2. **Complications regarding the set-up of the equipment under test** due to:
 - The need to rely on **transitional methods** rather than harmonized standards.
 - The **lack of clarity in the standards** on how to deal with various product set up conditions.
 - The dependence on manufacturers recommending specific **password-protected configurations for testing**.
 - The complexity of creating a typical use configuration to test the product in the lab.

These issues were discussed with the laboratory expert during a hybrid meeting in February 2025.

JAHARP2022

5 PROJECTS

25 MSAS

16 COUNTRIES

RISK ASSESSMENT & FOLLOW-UP ACTIONS

The MSAs participating in the *ancillary equipment to solar panels* working group, together with PROSAFE, visited the test laboratory in **January 2025**, and used the opportunity to discuss the **risk assessment methodology** to be applied.

They agreed to adapt the methodology developed by the EMC Administrative Cooperation group (ADCO) integrating it with national requirements and procedures, as the governance of the radio spectrum is a national responsibility.

The *pellet stoves* working group is assessing the risk posed by the observed non-conformities using the methodology developed by the Ecodesign and Energy Labelling ADCO groups.

The MSAs are in contact with the economic operators and are evaluating what actions they will take in relation to the observed non-conformities.

FINAL CONFERENCES

Two Final Conferences dedicated to the work conducted in the two product groups will be held on **24 March 2025** (Ancillary Solar Equipment) and **21 March 2025** (Pellet Stoves).

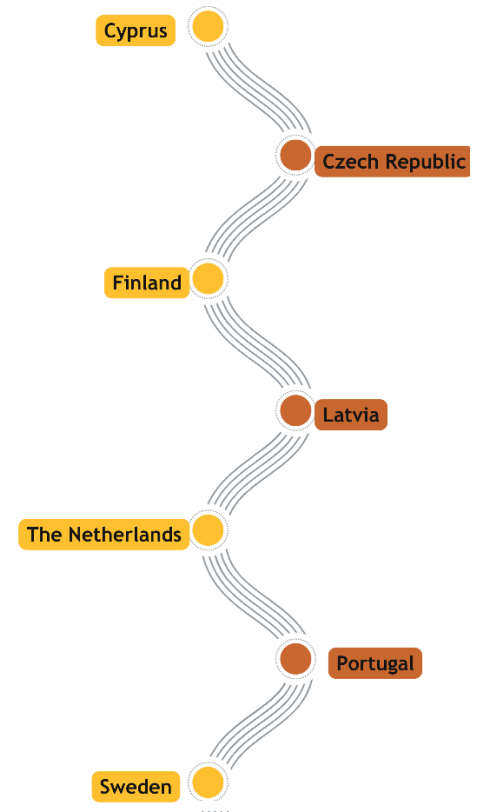
The 8 participating Market Surveillance Authorities from 7 EU Countries will present the key results and lessons learnt to the European Commission and interested stakeholders. If you would like to join, please contact PROSAFE at info@prosafe.org.

PROSAFE will draft recommendations for MSAs, economic operators and the European Commission in order to ensure a higher level of compliance on the market and the efficient implementation of the Union Legislation. These will also be presented during the final conferences.

Disclaimer

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JAHARP2022-02 Member States



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