



## Ecodesign – European Commission to examine need for new rules on environmental impact of photovoltaics

### Response to Roadmap

The International Amateur Radio Union (IARU) is a Non-Governmental Organisation representing the interests of Radio Amateurs throughout the world.

Radio Spectrum is a finite natural environmental resource which at the international level is managed by a UN specialised agency, the International Telecommunication Union. Several radio amateur associations in the EU and elsewhere, under the umbrella of the IARU, have started to measure and track interference and disturbance sources, their impact and potential solutions. Pollution of the radio spectrum should be considered on a par with other pollution, especially as new technologies are relying more and more on radio.

Equipment in the home and industry is employing more and more digital technology, which if not well-engineered and installed correctly can add significantly to radio spectrum pollution. Therefore, there needs to be recognition that pollution from systems such as Wireless Power Transfer (WPT), VDSL, wind turbines, Solar PV, etc., is both a spectrum matter as well as having energy consumption and climatic impact and is not purely a technical issue.

Solar PV is a progressive technology whose use is to be encouraged but there are certain *caveats* to be noted in its deployment and on-going use. In this context IARU would like to make some comments regarding the environmental impact of photovoltaic systems.

While the impact inception statement looks at relatively small photovoltaic systems (20kWp), systems are becoming commonplace that can exceed 100kWp. Therefore manufacturers, consumers, importers and installers need to be aware that poor engineering of installations can lead to increased pollution.

The EMC Directive (2014/30/EU) deals with the conditions for placing apparatus on the market; it also recognises that a combination of CE marked apparatus may not itself meet CE standards. While there are rules regarding so-called “fixed installations” such as Solar PV, in some cases testing is only required following a complaint. Furthermore administrations in some Member States appear not to have sufficient resources to police disturbances emanating from such “fixed installations”; on the other hand some Regulators have already taken steps to remove non-compliant systems

The situation regarding “optimizers” is particularly problematic. While from an efficiency perspective their use is promoted and encouraged, their high frequency switching harmonics can contribute significantly to radio spectrum interference and pollution while giving a fairly marginal efficiency improvement of the order of 2%. This can be because they are often retrofitted and the resulting combination of apparatus and cabling, acting as an antenna, can lead to the unintended radiation of the high-frequency harmonics

The response to 'radio spectrum pollution' for many users of the spectrum is to increase the power of transmitters. This in turn consumes more power from the electrical grid. Hi-tech systems such as mobile phone networks will increase power automatically, resulting in more frequent charging of phones, more power consumption in base stations and a reduction in spectrum reuse possibilities. This is not eco-friendly.

One further difficulty is that EU Directives such as the LVD, EMC and RED are focussed on placing on the market and do not address issues arising during the product life-cycle adequately. In practice both apparatus and installations may deteriorate with time thus contributing to unacceptable levels of background noise.

In the context of our serious concerns regarding the effects of radio spectrum pollution from photovoltaic optimisers and poor or degraded installations, we can therefore conclude that the radio spectrum, as a finite natural resource, is part of our ecosystem and accordingly warrants appropriate protection.

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*27 October 2021*