Steadily increasing efficiencies of organic solar cells are frequently published but the practical demonstration of actual large-scale installations with high power output has been very limited. Here, the real-world challenges and opportunities of organic solar cells fabricated on thin plastic foil and mounted in solar cell arrays of more than 1 kW are shown. In this configuration defects in form of burns that have never been reported before are observed. The reason can be seen in the combination of high power production, water ingress, and the use of thin plastic foil as the substrate. Environmental impact such as lightning was also observed to cause randomly distributed burn holes that initiate self-sustained damaging under illumination. The large solar cell modules each with more than 220 W_{peak} are based only on serially connected cells and need no time-consuming manual wiring of single cells. Although burns that locally destroy the modules are observed the efficiency is not much affected. Simple repair procedures developed throughout the lifetime study enable the cut and replace of small pieces of the module. A complete replacement as it is carried out for malfunctioning conventional Si-based PV modules is not necessary. This enables cost-effective maintenance over the lifetime of the organic solar cells.