



**ស៊ុនហ្គាឈ**  
GOOD SOLAR INITIATIVE

Amendments  
to  
Quality Charter Version: Feb 2015 (v1.0)  
Effective from 06 July 2015



<b>Version History</b>	
<b>Current Quality Charter version effective:</b>	Original Version first released Feb 2015 (v1.0)
<b>Previous Amendment #:</b>	N/A
<b>This Amendment #:</b>	1
<b>Amendment Approved:</b>	06 July 2015
<b>Amendment Effective from:</b>	06 July 2015
<b>Amendment Justification:</b>	The first <i>Product Accreditation</i> was carried out for solar companies applying for accreditation with the 'Good Solar Initiative' between May 2015 and June 2015. This amendment corrects observed gaps in the current version of the Good Solar Initiative's quality standards.

**Quality Charter section reference: A1**

**Replace with:**

**“Solar suppliers accredited by the ‘Good Solar Initiative’ sell only plug & play Solar Kits (SKs) approved by the ‘IFC Lighting Global Program’.”**

*The first product category “Solar Lighting Kits (SLKs)” is changed to “Solar Kits (SKs)”. This new definition covers both the previous “Solar Lighting Kits” but also “Plug & Play Solar Home Systems”. Expanding this product category intends to better take into consideration rapid technology development of plug & play solar systems that are now able to power so-called “super-efficient appliances” for which installation and operation can be performed by the end-users without any electrical engineering qualifications or specific tools.*

**Quality Charter section reference: A1.1**

**Replace with:**

**“Eligible Solar Kits (SKs) are plug & play systems approved by the ‘IFC Lighting Global Program’ which also comply with the following requirements. A list of approved SKs is provided at the link below. Solar kits not yet approved under the ‘IFC Lighting Global Program’ are also eligible provided that they comply with the following requirements and that the manufacturer has at least one product currently certified under the ‘IFC Lighting Global Program’.”**

*The ‘IFC Lighting Global Program’ is currently developing an additional set of quality standards for “Plug & Play Solar Home Systems”, for systems larger than the Solar Lighting Kits - up to 100Wp, and able to power small DC appliances. The Good Solar Initiative temporarily accepts such SKs that are expected to obtain the new ‘IFC Lighting Global Program’ certificate later this year, when the new IFC standards will be released. Product accreditation requests for Solar Kits complying with the requirements - and from a manufacturer that has already successfully obtained another product certification under ‘IFC Lighting Global Program’ - are therefore eligible.*

**Quality Charter section reference: A1.1.1.2**

**Replace last point with:**

**“Solar panel rated peak power is up to 50Wp and its cable length is at least 3m.”**

*While the new ‘IFC Lighting Global Program’ quality standard is considering Solar Kits (SKs) up to 100Wp, the Good Solar Initiative intends to avoid overlapping the Solar Kits category with the Solar Home System category. The threshold for solar panel peak power needs to be re-adjusted for both categories in anticipation of the development of bigger SKs, all the while considering products larger than 50Wp as Solar Home Systems and applying the standards of the Good Solar Initiative accordingly.*

**Quality Charter section reference: A2.1.1.2**

**Add:**

**“The 10-year product warranty and 25-year performance warranty from manufacturer for solar panel is not mandatory provided that the accredited solar supplier offers equal terms and conditions to its customers.”**

*Some leading international manufacturers of quality solar panels only provide a 5 year product warranty, and in some cases Accredited Solar Suppliers face difficulties obtaining warranty certificates from the manufacturer. Provided that the warranty terms and conditions offered by the Accredited Solar Supplier to its customers for solar panels are clear and cover these requirements in equal terms, the solar panel components are eligible.*

**Quality Charter section reference: A2.1.1.4 and A2.1.2.4**

**Remove first point:**

**“and ISO 14001:2004.”**

*The ISO 14001:2004 is not critical for product quality as it focuses on environmental management of the manufacturer’s production process. It proved to be difficult to obtain this type of certificate from manufacturers of both, solar panels and batteries. Such components are still eligible provided that the ISO 9001:2008 certificate is available from the manufacturer.*

**Quality Charter section reference: A2.1.2.2**

**Replace third point with:**

**“Cycle life of minimum 1,100 cycles at 30%DOD, C10 rate, 25°C.”**

*Most batteries currently available to the Accredited Solar Suppliers do not comply with the originally requested minimum of 1,000 cycles at 50% DOD. The new minimum of 1,100 cycles at 30%DOD is equivalent to at least 3 years lifespan when using the system at the daily rated energy output.*

**Quality Charter section reference: A2.1.2.4**

**Remove last point:**

**“Performance testing standard compliance: IEC 61427-1 or equivalent.”**

*The IEC 61427-1 or an equivalent testing standard proved difficult to obtain from component manufacturers. Provided that the Accredited Solar Supplier offers a 2-year warranty on the battery component to guarantee the overall system performance, this requirement is not critical. However, the Good Solar Initiative intends to re-insert this requirement in the next version release of the Quality Charter (expected in early 2016). Accredited Solar Suppliers should keep this in mind when identifying new battery components for future product accreditations.*

**Quality Charter section reference: A2.1.3.2**

**Remove last point: “Expected lifetime is greater than 10 years.”**

*It is indeed impossible to establish the expected lifespan of the charge controller if not backed-up by a manufacturer’s product warranty certificate. Manufacturers of charge controllers do not issue such an extended lifespan warranty certificate/commit to such an extended lifespan. Therefore it should not be a mandatory criteria.*

**Quality Charter section reference: A2.1.3.4**

**Remove last point:**

**“Performance testing standard compliance: IEC 62509 or equivalent.”**

*The IEC 62509 or an equivalent testing standard proved difficult to obtain from the component manufacturers. Provided that the Accredited Solar Suppliers offers a 2-year warranty on the battery component to guarantee the overall system performance, this requirement is not critical.*

**Quality Charter section reference: A2.1.4.4**

**Remove:**

**“Factory quality standard compliance: ISO 9001:2008.”**

*It is still difficult to find LED lights in Cambodia that come with authentic proof that they comply with the quality requirements of the Good Solar Initiative. Provided that the Accredited Solar Supplier offer the required 2-year whole-system warranty that includes LED light components to guarantee their performance, the Good Solar Initiative currently (until further notice) considers any LED light bulb as eligible. However, the Good Solar Initiative intends to re-insert this*

requirement in the next version release of the Quality Charter (expected early 2016). Accredited Solar Suppliers should keep this in mind while identifying LED light components for future product accreditations. As output in lumens is not always available, a low ratio of 50 lumens per watt will be used to evaluate the luminous flux per lighting point.

**Quality Charter section reference: A3.1.2.2**

**Replace first point with:**

**“All cables are insulated conductors to resist to environmental conditions expected in Cambodia and have different wiring colours to clearly identify different polarities.”**

*The originally requested Ingress protection level and UV resistance of cables proved to be typically not certified by manufacturers or wholesalers of cables. A visible, satisfying coating is sufficient for indoor and outdoor installation, and therefore eligible.*

**Quality Charter section reference: A3.1.2.2**

**Replace sixth point with:**

**“Solar systems include an overload protection (12VDC) to limit the output power to a maximum of 200% of the “guaranteed” Rated Power Output.”**

*While accredited system designs guarantee a daily Rated Energy Output available equivalent to 4 hours at the Rated Power Output (available for 2 days when the battery is fully charged), the Good Solar Initiative acknowledges that end-users would appreciate the convenience of being able to use more power from time to time if needed. In practice, it means that solar system designs can include DC load protection to allow up to two times the Rated Power Output that will then only be guaranteed for 2 hours per day.*