

## Support for the Design, Operationalization, and Maintenance of a Solar Product Registration System

CLASP is supporting the Government of Zimbabwe to develop a product registration system for a range of off-grid solar products covered in the regulation. To enable strong enforcement of off-grid solar regulation at customs, the product registration system would require importers and local manufacturers of solar products to register products that they intend to import, manufacture, and trade in Zimbabwe. CLASP is seeking a contractor to support the development, operationalization, and maintenance of the online software and components necessary for the solar product registration system.

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### Features of the Solar Product Registration System

The following list briefly describes some features that the database is expected to contain and support:

#### User Interfaces

The product registration system will consist of three interfaces:

- 1) An interface for applicants to fill in the information required and upload supporting documents. The interface should enable certain fields to be auto-populated based on e.g., the product category selected by the applicant.

The interface should provide an option for renewing existing applications i.e., where only information or supporting documentation to verify compliance (e.g., test reports) would need to be updated (and other applicant and product information would be left unchanged).

- 2) An interface for the regulator and its collaborators to review the information and supporting documentation provided by the applicant, verify that the product complies with the standard(s) specified for that product, and approve the product for registration. The regulator may collaborate with external experts to verify compliance (access for external experts would therefore need to be provided).

Product registration approval should be linked to a validity date (based on the standard's requirement for renewal testing of the product). Upon expiry of the validity period the product should automatically be deregistered.

1. A stepwise process would also need to be considered, with the regulator assigning different persons with the responsibility of e.g., (i) checking the application for completeness (i.e., all the required information has been provided and the right information has been provided), (ii) verifying that the product complies with the requirements of the standard(s) specified for that product, (iii) approving the product for registration.

In the future, the need will arise to add or change solar product categories that require registration and add or change information associated with new or existing categories e.g.,



the standard(s) these products need to comply with and the tariff codes for these products. The interface for the regulator should therefore enable them to also make these changes.

- 3) A public-facing interface that provides (i) a list of all the products approved for registration, (ii) additional contact information on the importer or local manufacturer of the product, and additional information on the product (this can be done via hyperlink), and (iii) a link to a downloadable pdf product registration certificate (the certificate would be autogenerated and auto signed upon approval of the product registration and include a QR code for document verification).

### **Product Categories and Associated Standards**

The product categories and sub-categories listed below are covered in the regulations. The standards associated with each of the categories are also indicated.

- I. Off-grid solar products:
  - a. Pico-solar products – IEC 62257-9-8
  - b. Solar home system kits – IEC 62257-9-8
- II. Solar modules – IEC 61215, and IEC 61730
- III. Charge controllers – IEC 62109-1, and IEC 62509
- IV. Batteries for solar applications:
  - a. Lead acid – IEC 61427-1
  - b. Lithium-ion – IEC 62619 and IEC 62281 (or UN 38.3)
- V. Inverters:
  - a. Regular inverters – IEC 62109-1 and IEC 62109-2
  - b. Utility Interactive PV Inverters – IEC 62109-1, IEC 62109-2, and IEC 62116
- VI. Solar thermal systems: EN 12976-1 and EN 12976-2
- VII. Solar thermal system components:
  - a. Collector – EN 12975-1 and EN ISO 9806
  - b. Tank – EN 12977-4
  - c. Control – EN 12977-5

When applying for registration, a menu will be provided from which applicants will select the product category and sub-category that the product fits into. The field for the standard(s) that the product is required to comply with will then be auto-populated based on the information above.

The regulator envisions that the following solar product categories will be included in the future as international standards for these products are developed and adopted: (i) Solar water pumps, (ii) solar cables, (iii) solar refrigerators (fridges and freezers), (iv) solar egg incubators, (v) solar powered mills, (vi) solar powered cold rooms, (vii) solar powered air conditioners. While these products are not currently included in the regulations, they are to be provided for in the design of the product registration system.

### **Information to be provided by Applicants for Product Registration**

- 1) Company/Applicant information:
  - a) Company/Applicant name,
  - b) Physical Address,



- c) Telephone Number,
- d) E-mail Address,
- e) Tax PIN,
- f) Details of Contact Person i.e., Name, Telephone Number & E-mail Address

## 2) Product information

- a) Product category (to select from menu),
- b) Standard(s) that the product is required to comply with (this field will be auto-populated based on the product category selected by the applicant)
- c) Unique product identification information i.e., product name, model number, upload of product photo or brochure
- d) Original Equipment Manufacturer (OEM) contact info i.e., name of OEM, country of origin, physical address, telephone, e-mail, and website address
- e) Supplier(s) contact info (where the product is not purchased directly from the OEM) i.e., name, physical address, telephone, and e-mail. The PRS will provide the option to include multiple suppliers if the applicant sources their products from more than one supplier.
- f) Key product specifications as provided on the product marking plate/label (depending on the product category),
- g) Warranty period,
- h) Relevant HS code (i.e., the tariff heading used for the product). This field will be auto-populated based on the product category selected by the applicant. The revenue authority will provide guidance on the appropriate HS code to use for different product categories.

## 3) Information and documentation to be provided by applicants to demonstrate compliance with standard requirements.

- a) Test report for the product that demonstrates that the product has passed all the tests necessary for compliance with the standard (mandatory for all products).

Applicant to fill in the following information (from the test report) in the online application portal: (i) date of issue of the test report, (ii) name of the testing laboratory, (iii) test specification (standard(s) against which the product is tested), (iv) description of test item (i.e., unique product name and model number), (v) manufacturer of test item.

- b) Verification letter or certificate from acknowledged third-party verification agent (option where applicable e.g., for off-grid solar products (VeraSol) and solar thermal systems and components (Solar Keymark))

The applicant is to fill in the following information (from the verification letter/certificate) in the online application portal: (i) name of verification program or agent (ii) product name and model number (iii) standard the product is verified to comply with (iv) expiration date of the verification letter/certificate.

- c) Consignment Based Conformity Assessment (CBCA) certificate (mandatory requirement if the product is listed in the first schedule of the CBCA regulations, requirement to be autoconfirmed based on the HS code)

Applicant to fill in the following information (from the CBCA) in the online application portal: (i) date of issue, (ii) name of the assessment agent (iii) assessment location



(country of origin or destination assessment) (iii) standard(s) used for the assessment), (iv) description of the item(s) assessed (i.e., product name and model number), (v) manufacturer of the test item.

### **Verifying that the product submitted for registration complies with the standard(s) requirements.**

Verification will be done by personnel assigned by the regulator, with support provided by external experts.

The PRS should enable the information provided by the applicants to be viewed and verified via the interface for the regulator. Verification of the different supporting documents will be based on answering the following questions:

- 1) Test report.
  - a) Is the test report from a lab accredited to test to the specified standard?
  - b) Has the test report expired?
  - c) Was the correct test method used?
  - d) Were all the necessary tests undertaken?
  - e) Does the test report show that the product complies with the requirements of the standard?
  - f) Is the test report for the specified product model?
- 2) Verification letter or certificate from approved 3<sup>rd</sup> party verifying compliance with the standard requirements (for product categories where this is available)
  - a) Is the verification letter within the validity period?
  - b) Is the verification letter for the specified product model?
  - c) Is the verification letter authentic?
- 3) CBCA certificate (for product categories where this is applicable)
  - a) Is the CBCA certificate authentic?
  - b) Was the correct standard(s) used for the assessment?

### **Format of the Product Register**

The process and procedures for registering solar products will result in a register of solar products that have been verified to comply with the standard(s) requirements for those products. The product registry will be used in the following ways:

- 1) Displayed on the website of the regulator and automatically updated as new products are registered and when products are deregistered.
- 2) Used to create awareness for consumers and resellers. While in principle only one application is required to register a given product, it is proposed that all companies importing a given solar product or distributing a locally manufactured solar product apply for the registration of the product. This will enable all companies importing or distributing the product to be listed on the product registry. The registry will therefore provide information to consumers and resellers on where they can purchase products that comply with the standard(s) requirements.
- 3) Integrated into the customs management system. This can be automated by integrating the solar product registry with the customs management system to automatically verify that solar



products to be imported are on the registry, or manually by requiring importers to submit a product registration certificate as part of the documentation required to import solar products.

- 4) Used for market surveillance. Once operational any solar product not listed on the product registry should not be traded, displayed, or stocked. Verification of compliance with the regulation can therefore be based on checking the products traded, displayed, and stocked by importers, distributors, and resellers against the list of products on the registry.

The solar product register is expected to have the following features:

- a) Disaggregation of solar products approved for registration by their product category and sub-category (i.e., a product category menu)
- b) Provide the following key information on solar products approved for registration: applicant name, and unique product identification information (i.e., product name and model number)
- c) Provide access to additional information on the applicant and the product through hyperlinks:
  - i) Hyperlink on the applicant's name provides access to the applicant's contact details e.g., company telephone contact and physical address.
  - ii) Hyperlink on product name provides access to additional product information e.g., main product specs as per the product marking plate/label, product image or brochure, details of the OEM, warranty information and HS code, link to a downloadable pdf of the product registration certificate.
  - iii) A PDF product registration certificate is to be autogenerated upon registration approval (applicants can then download their certificates from the PRS for use in e.g., the importation process. The certificate will include key information on the applicant and product and provide details on what the verification of compliance is based on (e.g., based on test report No.: XYZ dated xx/xx/xx prepared by test lab ABC, and the verification certificate from verification program/agent DEF valid until yy/yy/yy etc.). A QR code can be included in the certificate to enable authentication.