



PVGreenCard

USER MANUAL



info@pvgreencard.co.za

www.pvgreencard.co.za

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INTRODUCTION

The purpose of this document is to provide users with information that will allow them to easily understand and navigate through the processes, systems and control measures outlined in the document.

The user manual contains all essential information for the user to make full use of the PV GreenCard system. It is targeted at pv installation companies that wish to register and join the PV GreenCard programme.

SCOPE

The manual provides a step-by-step guide on online registration, navigating through the system to edit the company profile, including adding installers and most importantly the process of completing the PV GreenCard document.

1

COMPANY REGISTRATION PROCESS

1.1 Complete Company Registration Form Data

- Registration is online, on the PV GreenCard website: www.pvgreencard.co.za
- Once on the website, click on the 'Register' button, located on the top far right of the menu bar.
- The 'Register' button will lead you to a registration form, where you will enter your company information and upload your company logo.
- You are then required to accept the Terms and Conditions, on the bottom left of the Company Registration form once you have read them.
- Continue to make payment, by clicking the 'Payment' button on the bottom right of the Company Registration form.
- The cost of registration is a minimal fee of R1000.00 per year, which allows you limitless access to your profile to manage your installations and keep record of documents.



Your installation company will also be featured on the PV GreenCard website under Recommended Installation Company or Installation Company listings. For more benefits, please use this link. **Benefits - PV GreenCard**

1.2 Payment

The 'Payment' button will lead you to a payment option page, where secure options are provided as follows:

- Voucher (disbursed at SAPVIA's discretion)
- Credit/Debit Card
- EFT

1.3 Registration Confirmation

Once your payment is successful, you will receive a registration confirmation, with your unique account number.

Thank You Nene !

Registration completed.

YOUR UNIQUE ACCOUNT NUMBER : INST-1663873-1



Your registration is complete. One of our SAPVIA consultants will review your details shortly.

[CONTINUE TO WEBSITE](#)

An email confirmation will also be sent to the email used to register the profile.

1.4 PV GreenCard Recommended Installation Company

- Login to your new profile to complete personal information.
 - Add your ID number – Recommended, but not compulsory
 - Upload your profile picture – Recommended but not compulsory
 - Password change – only if you wish to do so
- To be listed as a Recommended Installation Company, you are required to enter information about your Department of Employment and Labour (formerly Department of Labour (DoL)) Certificate and your PV GreenCard Certificate. Kindly note that the person that holds the DoL/DEL certificate and the person that holds the PV GreenCard Assessment certificate, need not be one and the same person, it can be two people, meaning, the DoL/DEL certificate maybe registered one person and the PV GreenCard certificate by another person.
- You are also required to upload both certificates, and click the upload button

PV GreenCard Assessment sample



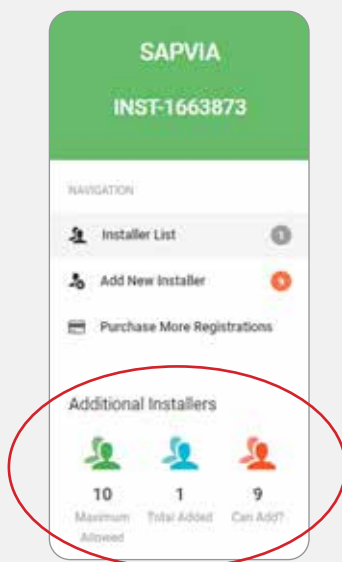
DOL/DEL Certificate Sample



- The PV GreenCard Admin will receive a notification to review and approve the registration.
- The Company Registration will now reflect in the Recommended List.

2 EDITING INSTALLER PROFILE

- To add or remove installers you need to login as the Administrator for that company. You can do this by logging in as the Administrator and then clicking on the 'Installers' tab of the menu item.
- You are allowed up to 10 installers. You will notice the 'Installers Maintenance' menu to the left of the screen. This widget will keep a tab on the number of installers you have registered. In the example below, 1 installer is registered and a remainder of 9 installers can be added.

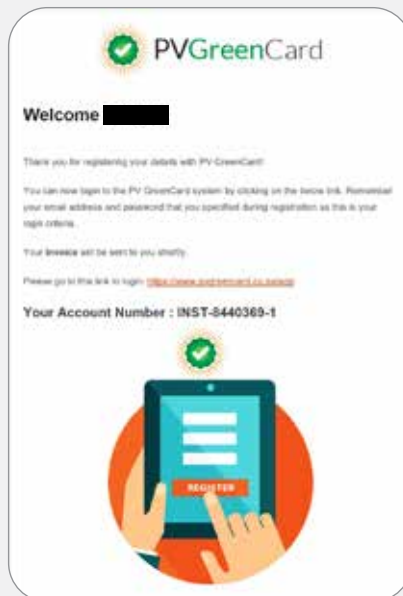


2.1 Adding the Installer

- To add an installer, click on 'Add New Installer' button on the widget.
- Fill in details of the installers in the form as shown below. Simply fill out the First Name, Last Name, select the Branch that you like to assign the installer to and his email address. **Please remember that email addresses are unique in the system, in other words, you cannot use the same email address twice.**
- Once you have completed the New Installer Form, click on the 'Add' button located at the bottom right of the form.
- The installer added will receive an email with login details attached. The system will auto generate the password for the new installer. The installer has to login into the profile and change the password.

2.2 Deleting the Installer

To remove an installer, click the toggle icon to the right of the installer table and select the 'Delete' option. The installer will be removed of the system.



INSTALLERS

Below is the list of installers that has been added and paid for.

Filter: Show: 10

Account #	Branch	First Name	Last Name	Email	Last login	Status	Actions
INST-8440369-1	Head Office	[redacted]	[redacted]	[redacted]	2021-04-09 13:37:26	ACTIVE	You/Admin!
INST-8440369-2	Head Office	[redacted]	[redacted]	[redacted]		ACTIVE	[toggle icon]

Showing 1 to 2 of 2 entries

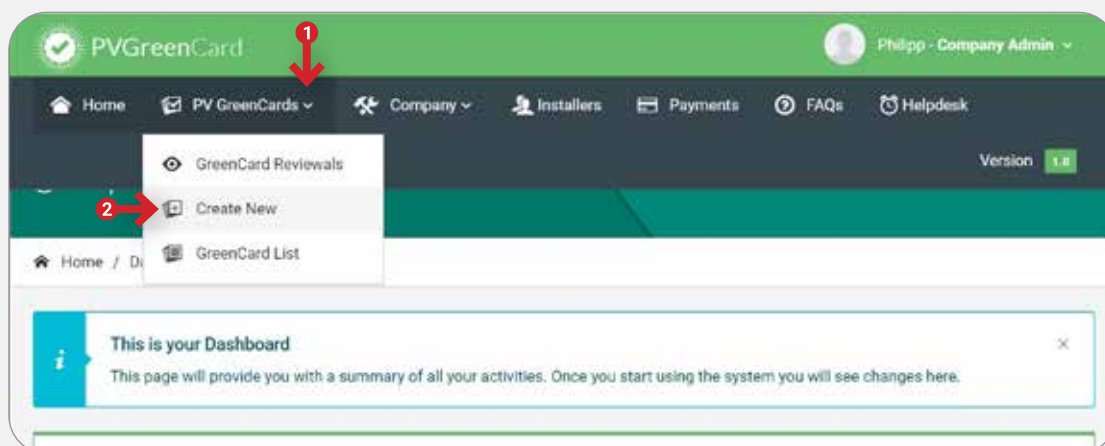
1

3 COMPLETING PV GREENCARD DOCUMENTATION

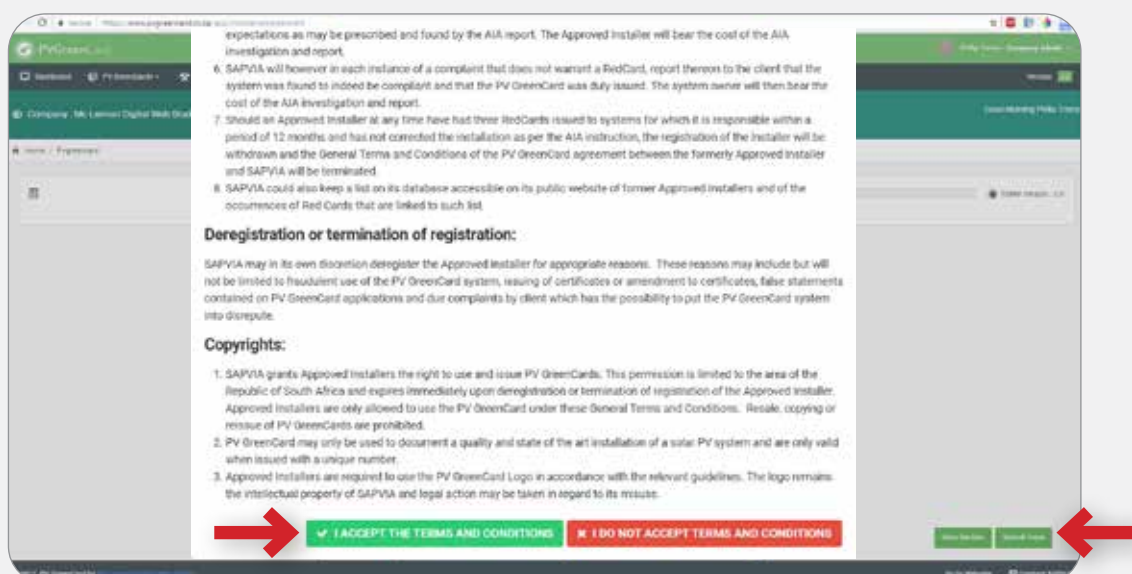
NB: Download the PV GreenCard app on your mobile device from the Google Play Store, this will allow for your PV GreenCard documents to be completed on site.

3.1 Filling out the form

- Login into the PV GreenCard Profile via the PV GreenCard Website. From the menu bar, click on '**PV GreenCards. Create New**'



- With every New PV GreenCard created, you have to read and accept the Terms and Conditions.



- Complete each section of the PV GreenCard by navigating left or right through each of the four sections. Once all the sections of the form have been completed as illustrated below, you have completed the PV GreenCard form. You can save a draft or click on the '**Submit Form**' option.

- System and owner / operation = 100% completion required
- System Components = 100% completion required
- System Design – 100% completion required
- Documentation – 100% completion required

You are creating a new GreenCard

FORM Version : 1.1

System and owner / operator 10% System components System design Documentation

System

* Type of system installation: ☐ Grid-tied ☐ Off-grid

* Additional information on type of system: ☐ Rooftop ☐ Ground mounted ☐ Facade ☐ Roof integrated ☐ Other

Further notes describing the system:

* installed capacity of all modules (kWp):

Save Section Submit Form

- Once you click on **'Submit Form'**, your local administrator (if not you) will receive an email with the option to review the card or form.
- The form will not be submitted if the required fields (indicated in asterisks) are not completed.

PvGreenCard

Standards and guidelines

For standards & guidelines regarding components please add certificates of manufacturer as an annex to the PV GreenCard

* Certificate of compliance has been issued: ☒

* Electron Registration Number: 5443543543

* O&C number: 5345345

Personal authorization of the PV GreenCard

Document filled, checked and approved by:

First Name:

Last Name:

GreenCard Saved!
Your GreenCard has successfully been submitted for approval.

PREV SECTION NEXT SECTION CLOSE

Save Section Submit Form

Incomplete GreenCard!

Unfortunately we could not submit your GreenCard for approval but we have saved a draft. Please complete all the required fields highlighted in red and try again.

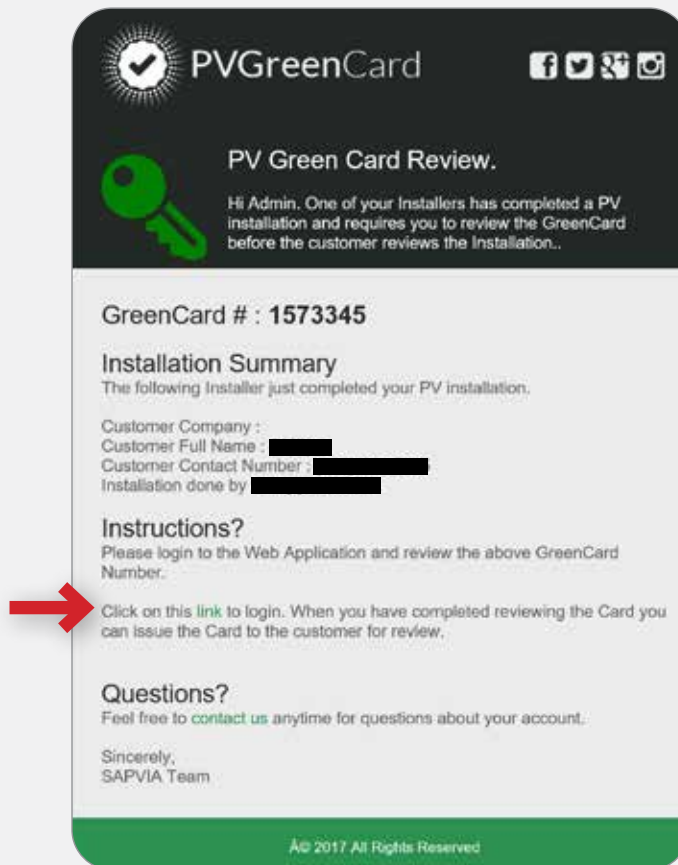
PREV SECTION

NEXT SECTION

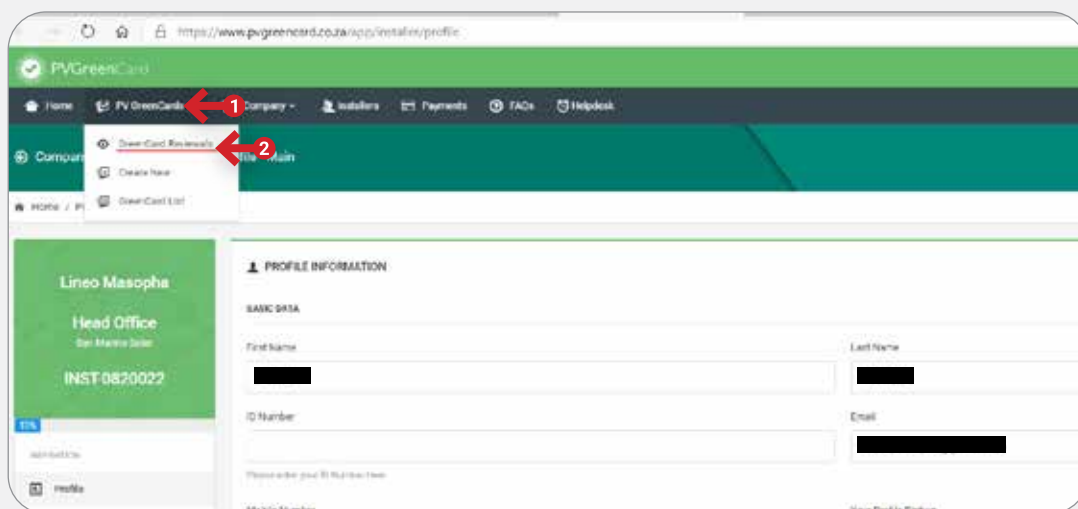
CLOSE

3.2 Admin Processing fee of the PV GreenCard Document

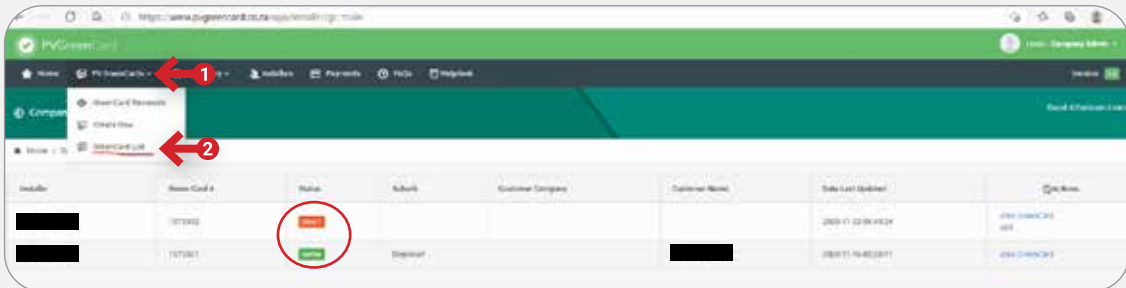
- Once the installer has submitted the PV GreenCard, the administrator will receive an email from the system to review the submitted PV GreenCard.
- The administrator will then click on the link in the email to login.



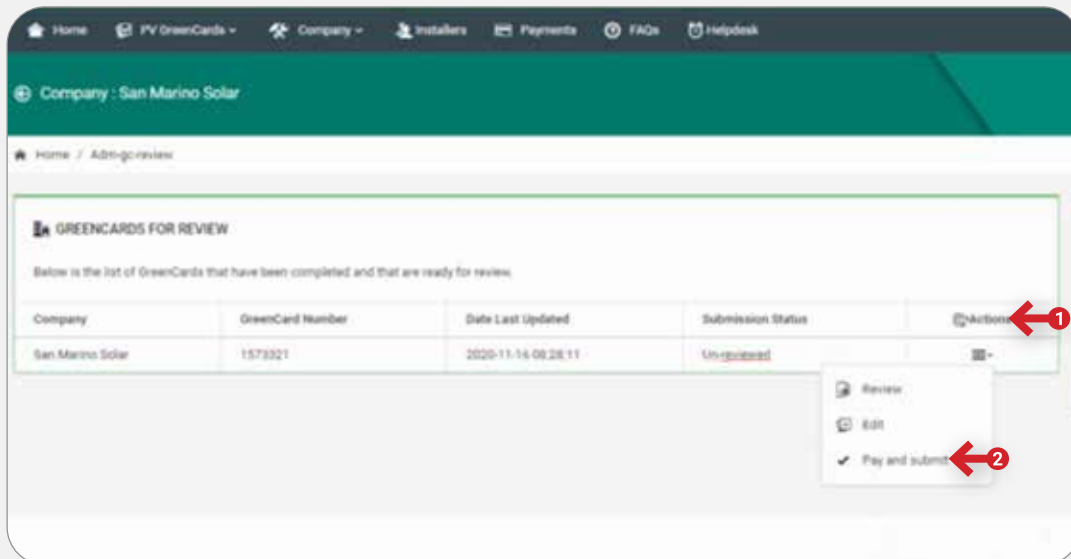
- Once logged in, navigate to the PV GreenCards tab and click the drop-down arrow and select **GreenCard Reviews**.



- The GreenCard 'Reviews' will bring you to a list of PVGC that have been submitted by the installer to be reviewed.
- The 'GreenCard List' will show you a list of PV GreenCards that have been generated and their status, i.e.; Orange is Draft – Green is complete.



- On the far-right corner, click on actions to get options on your next step.
- Once satisfied with the PVGC, click on Pay and submit.

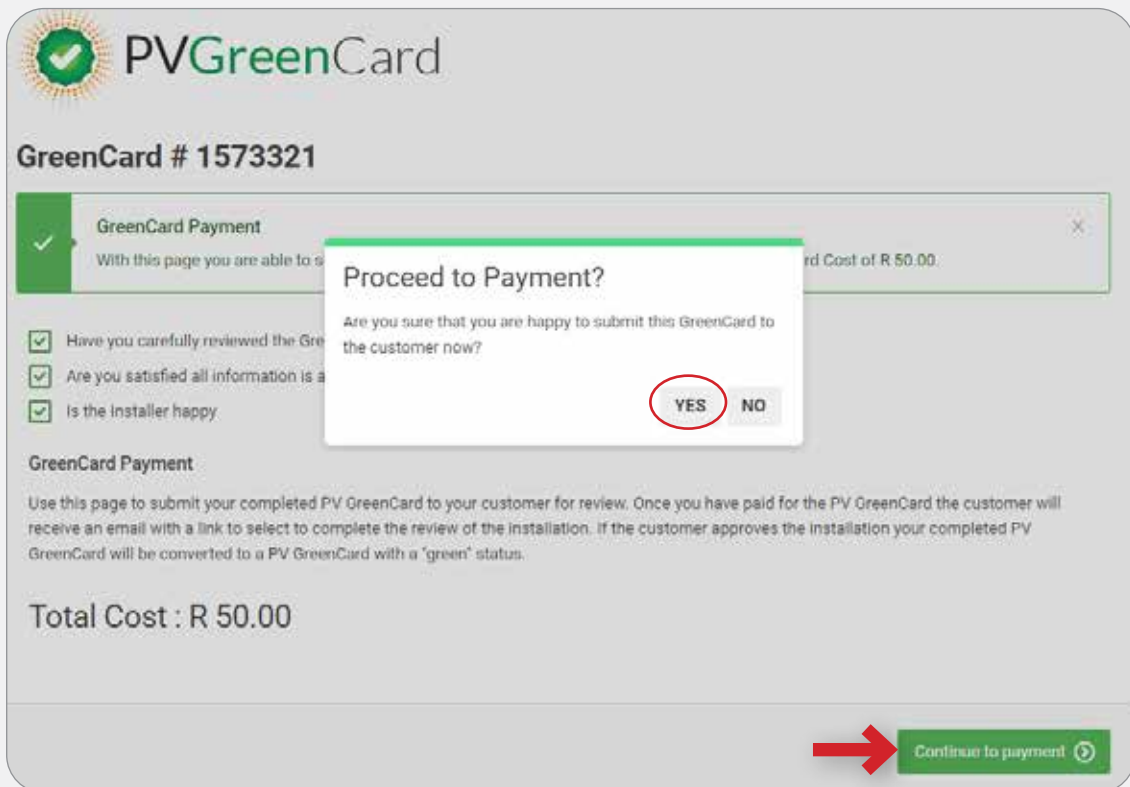


- The cost of each PV GreenCard document is R50.00
- These are nominal administrative costs to maintain the filing of the documents.



- Tick all three tick boxes and proceed to the 'Continue to payment' button on the bottom left.

- Follow the prompts and select 'YES'



PVGreenCard

GreenCard # 1573321

GreenCard Payment

With this page you are able to submit your completed PV GreenCard to your customer for review.

Are you sure that you are happy to submit this GreenCard to the customer now?

YES **NO**

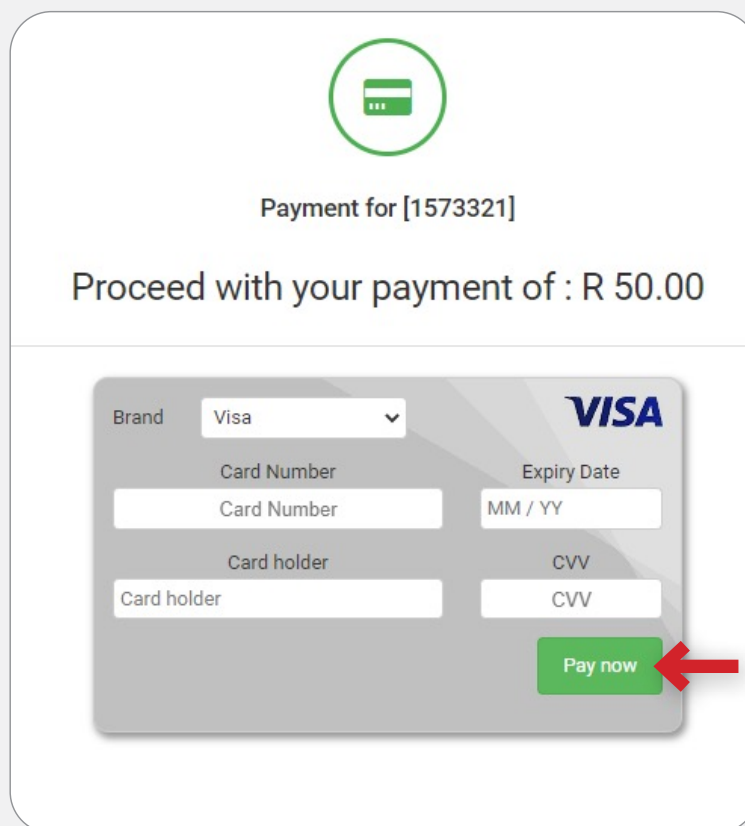
GreenCard Payment

Use this page to submit your completed PV GreenCard to your customer for review. Once you have paid for the PV GreenCard the customer will receive an email with a link to select to complete the review of the installation. If the customer approves the installation your completed PV GreenCard will be converted to a PV GreenCard with a 'green' status.

Total Cost : R 50.00

Continue to payment

- Enter Credit Card information



Payment for [1573321]

Proceed with your payment of : R 50.00

Brand Visa

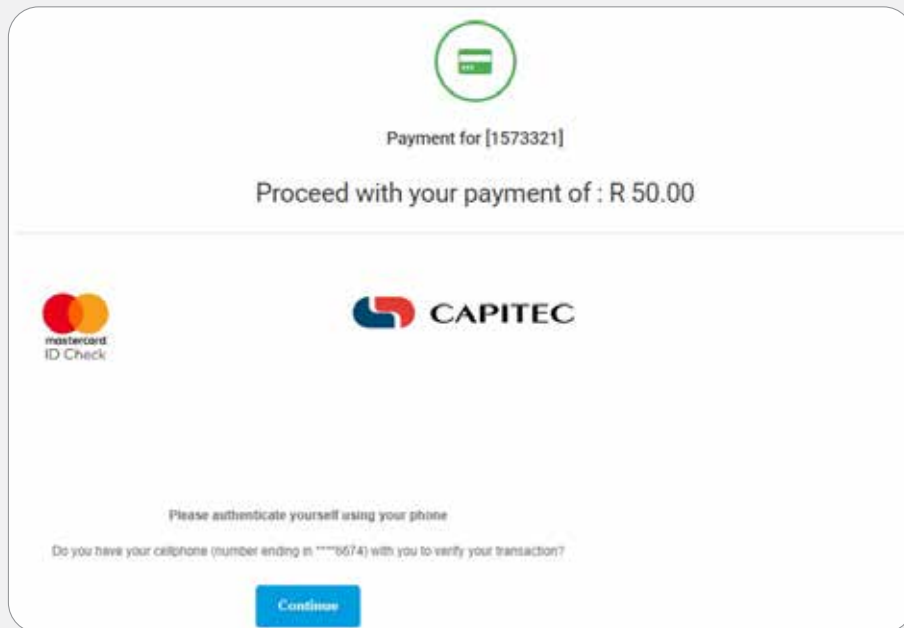
Card Number

Expiry Date MM / YY

Card holder



CVV

Pay now



Payment for [1573321]

Proceed with your payment of : R 50.00

Please authenticate yourself using your phone

Do you have your cellphone (number ending in ****6674) with you to verify your transaction?

[Continue](#)

Once the payment is successful, you will see the message below.



<https://www.pvgreencard.co.za/app/payment/gc-submit-completed>



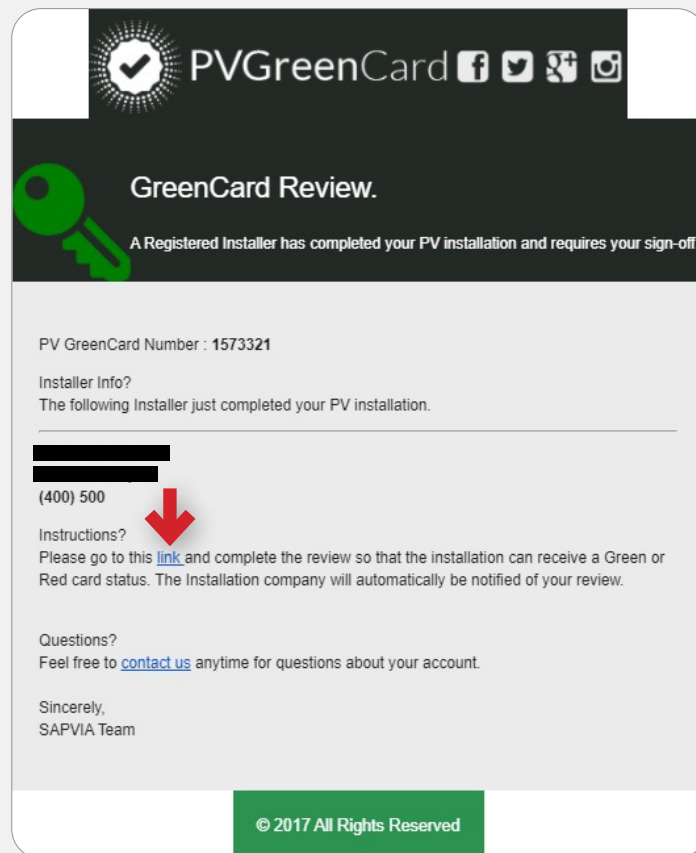
Thank You!

Your GreenCard has been submitted to the customer for review.

[Continue](#)

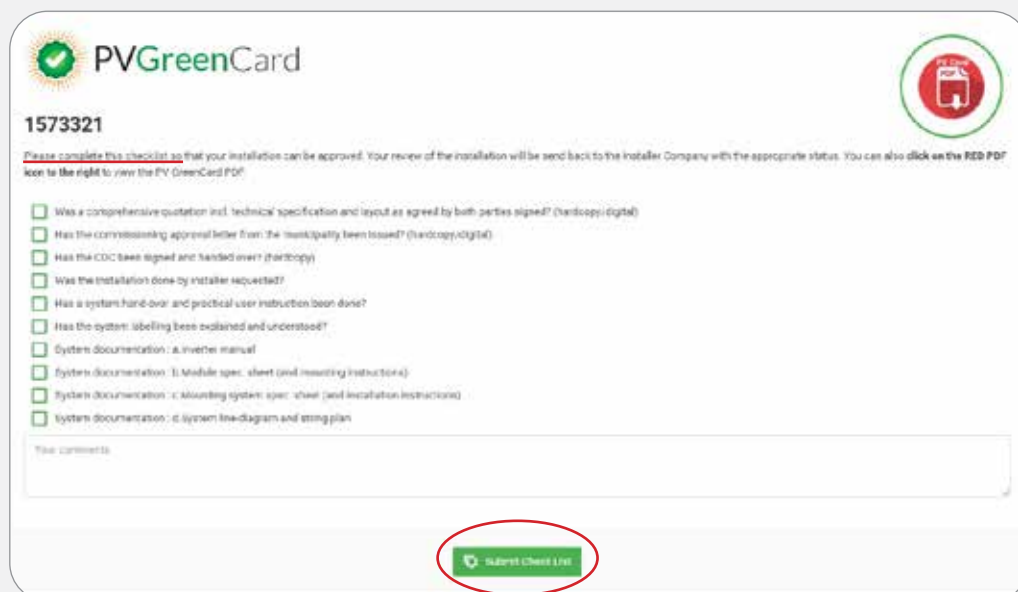
3.3 Customer Approval

- The PV GreenCard document is sent to the customer via the Web App.



The screenshot shows a web application interface for reviewing a PV GreenCard. At the top, there's a header with the PVGreenCard logo and social media icons. Below this, a green key icon is next to the title "GreenCard Review." and a subtitle "A Registered Installer has completed your PV installation and requires your sign-off..". The main content area displays the "PV GreenCard Number : 1573321" and "Installer Info?" section, stating "The following Installer just completed your PV installation." followed by a redacted name and the phone number "(400) 500". A red arrow points to a "link" in the "Instructions?" section, which says "Please go to this link and complete the review so that the installation can receive a Green or Red card status. The Installation company will automatically be notified of your review." Below this is a "Questions?" section with the text "Feel free to contact us anytime for questions about your account." and a "Sincerely, SAPVIA Team" signature. At the bottom, a green bar contains the text "© 2017 All Rights Reserved".

- The customer will receive an email with the link to the Web App to review the document.
- The customer will either approve or decline the GreenCard.



The screenshot shows a web application interface for reviewing a PV GreenCard. At the top, there's a header with the PVGreenCard logo and a red circular icon with a white 'X'. Below this, the "1573321" number is displayed. A note says "Please complete this checklist so that your installation can be approved. Your review of the installation will be sent back to the Installer Company with the appropriate status. You can also click on the RED PDF icon to the right to view the PV GreenCard PDF". The main content area contains a checklist of 10 items, each with a checkbox and a description. The items are: "Was a comprehensive quotation incl. technical specification and layout as agreed by both parties signed? (hardcopy/digital)", "Has the commissioning approval letter from the manufacturer been issued? (hardcopy/digital)", "Has the CDC been signed and handed over? (hardcopy)", "Was the installation done by installer requested?", "Has a system hand-over and practical user instruction been done?", "Has the system labelling been explained and understood?", "System documentation : a. inverter manual", "System documentation : b. Module spec. sheet (and mounting instructions)", "System documentation : c. Mounting system spec. sheet (and installation instructions)", and "System documentation : d. System line diagram and string plan". Below the checklist is a text input field labeled "Your comments:". At the bottom, a green button labeled "Submit Check List" is circled in red.

PVGreenCard

1573321

Please complete this checklist so that your installation can be approved. Your review of the installation will be sent back to the Installer Company with the appropriate status. You can also [click on the RED PDF icon to the right](#) to view the PV GreenCard PDF.

- ☒ Was a comprehensive quotation incl. technical specification and layout as agreed by both parties signed? (hardcopy/digital)
- ☒ Was the commissioning approval letter from the municipality been issued? (hardcopy/digital)
- ☒ Was the CSC been signed and handed over? (hardcopy)
- ☒ Was the installation done by installer requested?
- ☒ Has a system hand over and practical user instruction been done?
- ☒ Has the system labeling been explained and understood?
- ☒ System documentation: a invoice manual
- ☒ System documentation: 3 module spec. sheet (and mounting instructions)
- ☒ System documentation: 4 mounting system spec. sheet (and installation instructions)
- ☒ System documentation: 4 System line diagram and string plan

[GREEN CARD](#)

[Submit Check List](#)

3.4 Filing of the document

- You should now see your Completed PV GreenCard under your list of PV GreenCards.
- A draft version of the PV GreenCard document can be saved and submitted later.
- There are four different PV GreenCard statuses.
 - A draft version is indicated by an orange.
 - A PV GreenCard that is blue, indicates that the document has been submitted and outstanding approval by the customer.
 - A red status indicates a document that has not been signed off by the client.
 - A green status indicates that the customer has signed off.
- The installation has now been documented on your profile.

3.5. Red Card Process

- What is a Red Card? It is issued by a customer for an installation that has not met the requirements
- When a complaint is received, SAPVIA will reach out to the installer in question to inform them of the complaint.
- The installer must then make contact with the complainant to rectify or resolve the issue, within 10 days of the complaint.
- SAPVIA will, after 10 days contact the complainant to find out if the issue has been resolved, if not the issue will be escalated to the Electrical Contractors Association of South Africa (ECASA) as a third-party intervention support.
- ECASA will then run the ombudsman process to try and resolve the issue.
- The ECASA will conduct an inspection and investigation. A report with findings and recommendations will be issued to SAPVIA.
- The ombudsman will enforce as per the electrical installation regulations (which is governed by DoL under the Occupational Health and Safety Act).
- Should the matter not be resolved within 60 days, the installer will be excluded from the PVCG programme, until the matter is resolved.

The screenshot shows the PVGreenCard online checklist interface. At the top left is the PVGreenCard logo. Below it is the ID number 1573321. A note states: "Please complete this checklist so that your installation can be approved. Your review of the installation will be sent back to the Installer Company with the appropriate status. You can also click on the RED PDF icon to the right to view the PV GreenCard PDF." To the right of the text is a circular icon containing a red card with a white 'X' and the words 'RED CARD'. Below the note is a checklist of 10 items, each with a checkbox. The first three items are checked, and the remaining seven are unchecked. The items are: 1. Was a comprehensive quotation incl. technical specification and layout as agreed by both parties signed? (hardcopy/digital) [checked]; 2. Has the commissioning approval letter from the municipality been issued? (hardcopy/digital) [checked]; 3. Has the COC been signed and handed over? (hardcopy) [checked]; 4. Was the installation done by installer requested? [unchecked]; 5. Has a system hand-over and practical user instruction been done? [unchecked]; 6. Has the system labelling been explained and understood? [unchecked]; 7. System documentation - a Inverter manual [unchecked]; 8. System documentation - b Module spec. sheet (and mounting instructions) [unchecked]; 9. System documentation - c Mounting system spec. sheet (and installation instructions) [unchecked]; 10. System documentation - d System low-voltage diagram and string plan [unchecked]. Below the checklist is a text box for "Your comments". At the bottom right is a green button labeled "Submit Check List".



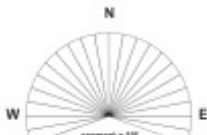


**We are here to support you,
for any further queries, please contact Lineo Masopha
(Administrative Officer).**

Office: +27 (0)11 553 7264

Mobile: +27 (0)82 704 6674

Email: lineo@sapvia.co.za

ANNEXURE A – PV GREENCARD SAMPLE

 PVGreenCard <small>Powered by SAPVIA</small>		PVGreenCard # 1573219 Date of Application : 25/10/2019 Date of Approval : 28/10/2019	
DoI Registered Person : <u>[Redacted]</u> PV GreenCard Installer : <u>[Redacted]</u>		DOL # : 129-644-NPO PV GreenCard # : INST-9651927-1 COC # : 1460424	
Solar PV System Installed Installed Capacity: 179 Type of System: Grid-Tied <div style="display: flex; justify-content: space-around;">   </div> Alignment Roof Pitch: 5 Notes:		Owner/Operator <u>[Redacted]</u> <u>[Redacted]</u> <u>[Redacted]</u> <u>[Redacted]</u> Location of System <u>[Redacted]</u> Battery Backup System: No Multiple Orientation:	
Installer/Issuing Body <u>[Redacted]</u> <u>[Redacted]</u> 17 Hilldene Rd, Hilldene, <u>[Redacted]</u> <u>[Redacted]</u>			
Checklist of accompanying documents			
Commissioning approval letter from the utility company (Municipality/ Eskom) yes Electrical certificates of compliance, completed and signed by the designated installer yes Electrical line diagram showing main components yes Roof/ array layout and string plan with inverter allocation yes			
For the PV-module used Technical data sheets yes User/Installation information yes List of serial numbers of all modules yes Manufacturer warranty document yes Copies of test certificates yes		For the inverters Technical data sheets yes User/Installation information yes List of serial numbers of all modules yes Manufacturer warranty document yes Copies of test certificates yes	
For the DC Isolator switchgear Technical data sheets yes User/Installation information yes List of serial numbers of all modules yes Manufacturer warranty document yes Copies of test certificates yes		For the mounting system Technical data sheets yes User/Installation information yes Structural engineering documents yes	
B. Other documents (as applicable)			
Yield and consumption analysis yes Documentation of the system monitoring yes Please list all other documents not covered in the list above: Fire Warning diagrams showing where to isolate Solar PV Panels via DC Isolators in case of fire. Where to isolate PV Inverters locally next to each inverter and in the main Switchroom.			



System Components

Modules

Manufacturer 1 Canadian Solar
Module Type CS3U-P360-Ku Max
Installed Capacity 179
IEC Certified yes

Manufacturer 2
Module Type
Installed Capacity
IEC Certified

Notes:

Inverters

Manufacturer 1 Huawei
Inverter Type Sun 2000 - 60KTL
Grid Operator Approved yes
NRS 097-2-1 Certified yes

Manufacturer 2
Inverter Type
Grid Operator Approved
NRS 097-2-1 Certified

Note: make and model x 3 All synchronized via RS485 communications and control

Cables and Power Lines

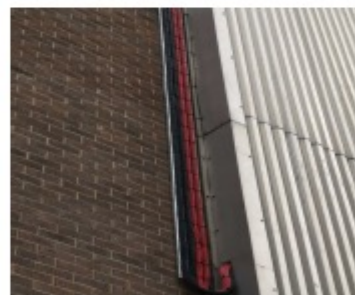
	PV String Cable	PV Main Cable (DC)	Power Line (AC)
Manufacturer:	Helukabel	Sagen Solar	Aberdare Cables
Type:	SOLARFLEX-X H1Z2Z2-K 1C X	DCB-NF-6I-1000V-416A-I_II	35mm2 SWA + ECC One per i
Cross Section:	6	6	35
Current Carrying Capacity:	yes	yes	yes



Mounting System

Manufacturer K2
Type K2 Mini Rail
Location Sloped roof
Design Roof-parallel
Fastening system nging onto roof via Thread forming screws

Roof Hooks

Type
Roof Hooks Installation
Building Requirements Met Structural Engineer Approved The Loads Which Are Designed According To SANS10160
Minimised Corrosion Risk yes



 PVGreenCard <small>Powered by SAPVIA</small>		PVGreenCard # 1573219 Date of Application : 25/10/2019 Date of Approval : 28/10/2019												
System Design														
Number of Arrays:		36		Installed Capacity:										
Notes:		179												
Sub Array 1														
Module Orientation:		0		System Operating voltage:										
Module Pitch:		5		System Operating current:										
# of Modules in series per string:		14		# of strings:										
		36												
<table border="1"> <tr> <td colspan="2"> Grid Connection Bidirectional Meter: Grid-tied Reverse power blocking: With reverse power blocking SANS 10142-1 Compliant: yes NRS 097-2-3 Compliant: yes </td> <td colspan="3"> Fire Safety Smoke and Heat Extraction: yes Firewalls and Compartments: yes Warning Signs Installed: yes Labelling: Labeling Where To Isolate In Case Of Fire. Customer has a fire sprinkler system v </td> </tr> </table>					Grid Connection Bidirectional Meter: Grid-tied Reverse power blocking: With reverse power blocking SANS 10142-1 Compliant: yes NRS 097-2-3 Compliant: yes		Fire Safety Smoke and Heat Extraction: yes Firewalls and Compartments: yes Warning Signs Installed: yes Labelling: Labeling Where To Isolate In Case Of Fire. Customer has a fire sprinkler system v							
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<table border="1"> <tr> <td colspan="2"> Lightning and Surge Protection Risk assessment (SANS 62305-2): No Building without lightning Protection Additional External Protection: yes Equipotential Bonding: yes Type 2 DC surge arrestor: yes OR Building with lightning Protection PV System within protection: Separation Distance Kept: yes Equipotential Bonding: yes Type 2 DC surge arrestor: yes Type1&2 combination arrestor: OR Metal Substructure ties to protection: yes Type 1 DC lightning arrestor: yes Type 2 DC surge arrestor: yes Type1&2 combination arrestor: Fire Warning diagrams showing </td> <td colspan="3"> Electrical Safety Complies with Rules and Standards: yes DC Installation Protection: yes UV and Weatherproof cables: yes Exposed Cable protection: yes PV Applicable DC Components: yes Notes: DC Type I and II Surge protection in String boxes and inside </td> </tr> <tr> <td colspan="2"></td> <td colspan="3"> Wind Loads (Roof Mounted Systems) Load Bearing Assessment: Structural engineer employed by the client direct Aging Condition Assessment: Structural Engineer Employed By The Client Directly Anchoring and Load Application: yes Roof Penetration: yes Height of Building: 14 Wind Speed Assumption: 36 Wind Zone Load: D Edge Distance: 0 Roof Ridge: 0 Eaves: 0 Notes: None </td> </tr> </table>					Lightning and Surge Protection Risk assessment (SANS 62305-2): No Building without lightning Protection Additional External Protection: yes Equipotential Bonding: yes Type 2 DC surge arrestor: yes OR Building with lightning Protection PV System within protection: Separation Distance Kept: yes Equipotential Bonding: yes Type 2 DC surge arrestor: yes Type1&2 combination arrestor: OR Metal Substructure ties to protection: yes Type 1 DC lightning arrestor: yes Type 2 DC surge arrestor: yes Type1&2 combination arrestor: Fire Warning diagrams showing		Electrical Safety Complies with Rules and Standards: yes DC Installation Protection: yes UV and Weatherproof cables: yes Exposed Cable protection: yes PV Applicable DC Components: yes Notes: DC Type I and II Surge protection in String boxes and inside					Wind Loads (Roof Mounted Systems) Load Bearing Assessment: Structural engineer employed by the client direct Aging Condition Assessment: Structural Engineer Employed By The Client Directly Anchoring and Load Application: yes Roof Penetration: yes Height of Building: 14 Wind Speed Assumption: 36 Wind Zone Load: D Edge Distance: 0 Roof Ridge: 0 Eaves: 0 Notes: None		
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Commissioning														
Date of installation:		14/08/2019												
Date of First Commissioning :		24/10/2019												
Disclaimer: <i>Note: This is a declaration that the PV system described in this document was installed according to current industry best practice standards. This document comprises this cover sheet and Annex 1</i>														