# Climate Warehouse Install Guide

This document will guide you through the process of installing the Climate Warehouse application on Windows and MacOS.

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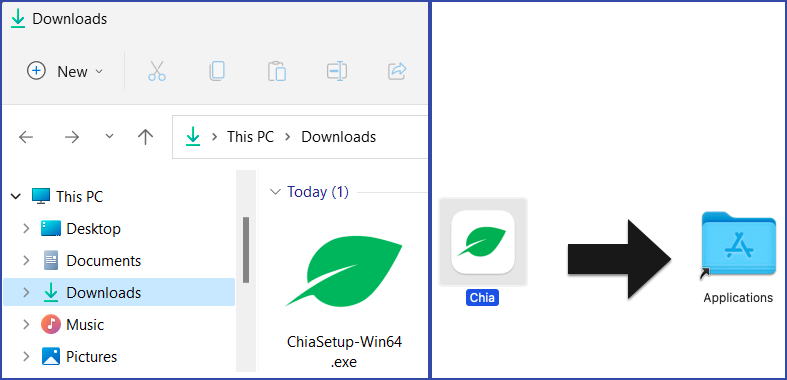
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## Install and configure Chia and the Data Layer server

Note: Your firewall might give warnings when installing both Chia and the Climate Warehouse. This is normal. Allow the installations to continue.

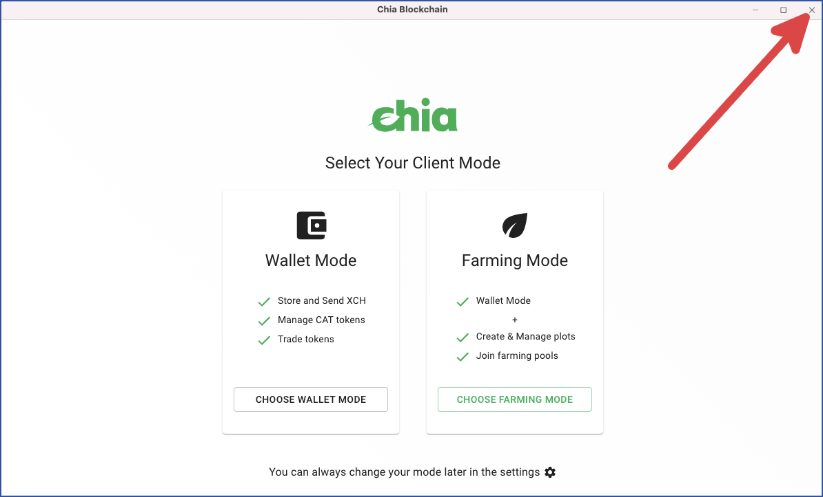
1. Download the latest Chia + Data Layer installer
2. Install Chia

* Windows:
  + Double click Setup-Win64.exe. The installation process will take less than 30 seconds on most computers.
* MacOS:
  + Double click Setup-MacOS.dmg (for Intel CPUs) or Setup-MacOS-arm64.dmg (for 64-bit ARM CPUs). Drag the Chia icon to the Applications folder.

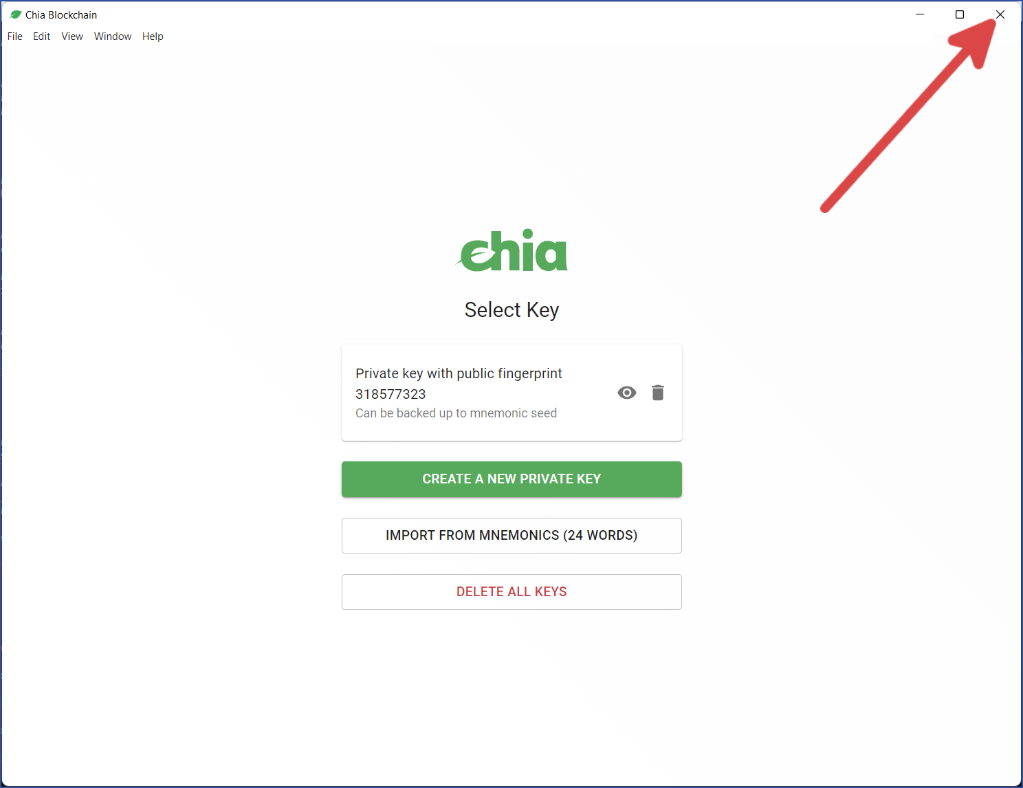


*Windows (left) and Mac (right)*

1. On Windows, if this is your first time installing Chia on this machine, the *Select Your Client Mode* dialog will appear. If you have already installed Chia on this machine, the *Select Key* dialog will appear. In either case, we'll be using the Command Line Interface, so close the application. On MacOS this dialog doesn't appear, so no need to close it.



*Windows*



*Mac*

1. Open PowerShell on Windows, or Terminal on MacOS.

We'll create an alias to run the chia command from any folder.

* Windows:
  + Run

`Set-Alias -Name chia C:\Users\<username>\AppData\Local\chia-blockchain\app-<version>\resources\app.asar.unpacked\daemon\chia.exe`  
(Be sure to update <username> and <version> to match the actual folder structure.)

* MacOS:
  + Run

alias chia='/Applications/Chia.app/Contents/Resources/app.asar.unpacked/daemon/chia'

1. MacOS only:

Run chia init --fix-ssl-permissions. This will update the permissions for Chia's SSL files.

~ % chia init --fix-ssl-permissions  
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@  
@ WARNING: UNPROTECTED SSL FILE! @  
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@  
Permissions 0777 for '/Users/user/.chia/mainnet/config/ssl/ca/chia\_ca.crt' are too open. Expected 0644  
Permissions 0777 for '/Users/user/.chia/mainnet/config/ssl/ca/chia\_ca.crt' are too open. Expected 0644  
...  
Finished updating SSL file permissions  
No keys are present in the keychain. Generate them with 'chia keys generate'

1. Run chia version. You should be shown the correct version. For example:

PS C:\Users\User> chia version  
v1.2.12.dev671

1. Run chia configure --testnet false. This will ensure that Chia is set up to run on mainnet.

PS C:\Users\User> chia configure --testnet false  
Setting Mainnet  
Default full node port, introducer and network setting updated  
Restart any running chia services **for** changes to take effect

1. Run chia configure --set-log-level INFO. This will instruct your Chia installation to log more info than it would have with the default level of WARNING.

PS C:\Users\User> chia configure --set-log-level INFO  
Logging level updated. Check C:\Users\User\.chia\mainnet/log/debug.log  
Restart any running chia services **for** changes to take effect

1. Run chia keys show.

* If you already have a public/private key pair, you will receive the following message, along with your public keys and address:

Showing all public keys derived from your master seed and private key:

* If you have not yet copied your mnemonic seed phrase to a secure location, see step 11. Otherwise, proceed to step 12.
* If you do not have a public/private key pair, you will be shown this message:

There are no saved private keys.

In this case, proceed to the next step.

1. Run chia keys generate. This will create a new public/private key pair.

PS C:\Users\User> chia keys generate  
Generating private key  
Added private key with public key fingerprint 3049838316  
Setting the xch destination for the farmer reward (1/8 plus fees, solo and pooling) to []  
Setting the xch destination address for pool reward (7/8 for solo only) to []  
To change the XCH destination addresses, edit the xch\_target\_address entries in /Users/user/.chia/mainnet/config/config.yaml.

1. Run chia keys show --show-mnemonic-seed. You'll be shown your public and private keys. The last line of the output will be a list of 24 secret words. This is your *seed phrase*. **Carefully copy the words on paper and store them in a secure location.** Order is important.

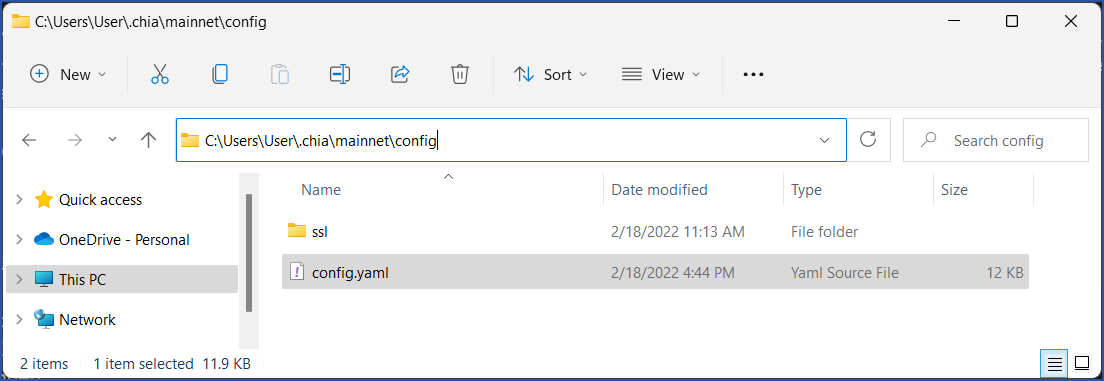
PS C:\Users\User> chia keys show --show-mnemonic-seed  
Showing all public and private keys  
  
Fingerprint: 3049838316  
Master public key (m): []  
Farmer public key (m/12381/8444/0/0): []  
Pool public key (m/12381/8444/1/0): []  
First wallet address: xch1[]  
Master private key (m): []  
First wallet secret key (m/12381/8444/2/0): <PrivateKey []>  
 **Mnemonic seed (24 secret words):  
youth stomach social aware clay pottery benefit asthma mail cry rubber panda wife around provide atom cute sand staff exotic pink east gloom minute**

**IMPORTANT**: Your seed phrase is all that is required to recover your wallet. If you lose your seed phrase, recovery will not be possible. If a bad actor gains access to your seed phrase, they'll be able to steal your Chia, including the singletons you'll use for the data layer. Do not take a picture of your seed phrase or store it on a computer.

1. Acquire some XCH in order to use the Climate Warehouse. If you are unsure how to do this, ask a Chia employee for help.

NOTE: If you ever need to display your address, run chia keys show. This command will only output your public keys and address; your private keys and seed phrase will not be shown.

1. Edit config.yaml, located in ~/.chia/mainnet/config on MacOS, and C:\Users\<user>\.chia\mainnet\config on Windows.



In the data\_layer section, verify that the host\_ip is set to 0.0.0.0. This will tell the data propagation server to listen to all interfaces.

data\_layer**:**  
database\_path**:** data\_layer/db/data\_layer\_CHALLENGE.sqlite  
fee**:** 0  
fetch\_data\_interval**:** 60  
host\_ip**:** 0.0.0.0  
host\_port**:** 8000  
*...*

The value of fee will be paid to the network each time you create a new singleton (any time you commit changes to the Data Layer). In general, the higher the fee, the quicker your transaction is likely to be processed. Chia's mainnet frequently experiences heavy load, in which case the mempool will be full. If you leave the fee set to 0, you may experience delays while interacting with the Climate Warehouse.

In order to reduce your chances of experiencing long delays, we recommend that you set the fee to 1000000000 (one billion mojos, equivalent to 0.001 XCH).

1. If you want to receive updates from the network, you'll need to configure your router to forward port 8000 to the machine running your data propagation server. To configure your router's settings, typically you'll need enter http://192.168.1.1 in a web browser, though this address varies for different routers. From your router's settings, locate the Port Forwarding section and add a rule to forward port 8000 to your local IP address.
2. You'll also need to configure your firewall to allow connections on port 8000.

* Windows:
  + From a PowerShell prompt, run Start-Process powershell -Verb runAs. This will open a new PowerShell window as an Administrator. From this new window, you'll need to run two commands, one for incoming connections and on for outgoing connections.
  + netsh advfirewall firewall add rule name="allowDataServerIn" dir=in action=allow protocol=TCP localport=8000
  + netsh advfirewall firewall add rule name="allowDataServerOut" dir=out action=allow protocol=TCP localport=8000
  + Both of these commands should give a response of Ok. Once you have successfully run the commands, exit the Administrator PowerShell window.
* MacOS:
  + Open /etc/pf.conf in a text editor. You'll need administrative privileges. For example,
  + sudo nano /etc/pf.conf
  + Add the following lines to the end of the file:
  + # Open port 8000 for Chia Data Server
  + pass in proto tcp from any to any port 8000
  + Save and close the file.
  + Run sudo pfctl -f /etc/pf.conf to load the changes.
  + Run sudo pfctl -sr | grep 8000 to verify that the changes are active.

1. Run chia start wallet-only. This command will start your daemon and wallet.

PS C:\Users\User> chia start wallet-only  
Daemon not started yet  
Starting daemon  
chia\_wallet: started

1. Run chia start data to start the Data Layer server.

PS C:\Users\User> chia start **data**  
chia\_data\_layer: started

1. Run chia wallet show to show your balance. You'll need to wait for Sync status: to say Synced. This will take a few minutes. After your wallet has synced, it should show a balance greater than 0. For example:

PS C:\Users\User> chia wallet show  
Wallet height: 588320  
Sync status: Synced  
Balances, fingerprint: 318577323  
Wallet ID 1 type STANDARD\_WALLET Chia Wallet  
 -Total Balance: 1.0 xch (1000000000000 mojo)  
 -Pending Total Balance: 1.0 xch (1000000000000 mojo)  
 -Spendable: 1.0 xch (1000000000000 mojo)

1. Chia uses the coin set (similar to UTXO) model of accounting. In the example above, the wallet contains 1 coin worth 1 XCH. However, several coins are needed in order to configure the Climate Warehouse. To fix this, send yourself some money, and include a small fee so the transaction gets processed quickly. The format for this command is

chia wallet send -i <wallet ID, usually 1> -a <amount in XCH> -m <fee in XCH> -t <your address>

For example, the following command will create a new coin worth 0.25 XCH, with a 0.001 XCH fee:

PS C:\Users\User> chia wallet send -i 1 -a 0.25 -m 0.001 -t xch1[]  
Submitting transaction...  
Transaction submitted to nodes: [('cb355777f896bd81b94e259cb073981d888b3e577e482fd074e3d22804056549', 1, None)]  
**Do** chia wallet get\_transaction -f 318577323 -tx 0x21e6c640bd53ba1b5839cda6c984db81bf8f10fa4a6e369889490de5e9d8afc4 to get status

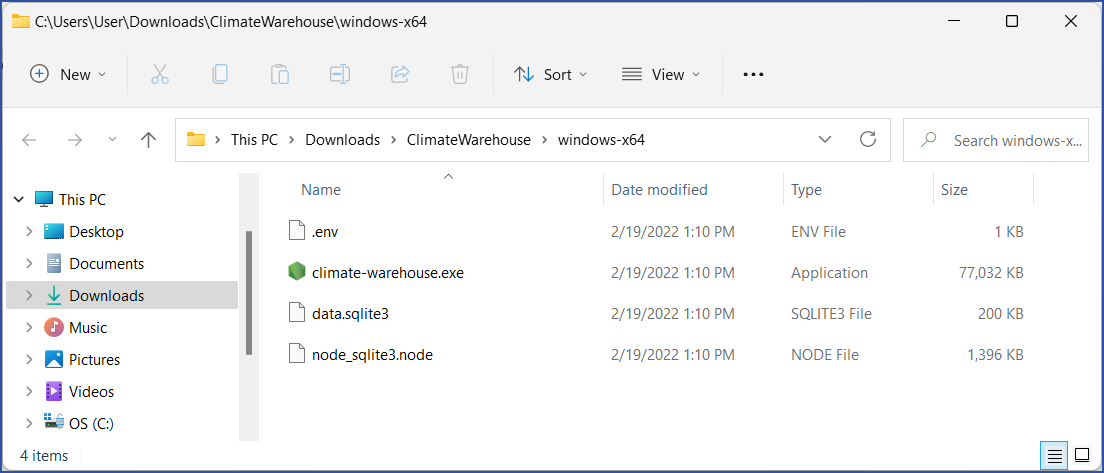
Run a similar command three times, waiting about two minutes between each time. You will end up with four coins in your wallet.

Chia is now installed and configured properly. Next you'll install the Climate Warehouse.

## Install the Climate Warehouse service

1. Download the Climate Warehouse.
2. Install the Climate Warehouse

* Windows:
* Extract `windows-x64.zip` to the folder you want to run the Climate Warehouse from.



* Open a PowerShell window, change to the `windows-x64` folder, and run `climate-warehouse.exe`. The application will begin polling for updates.

PS C:\Users\User> cd C:\Users\User\Downloads\ClimateWarehouse\windows-x64  
 PS C:\Users\User\Downloads\ClimateWarehouse\windows-x64> .\climate-warehouse.exe  
 Start Datalayer Update Polling  
 Syncing PickLists  
 Subscribing to default organizations  
 (node:7588) Warning: Setting the NODE\_TLS\_REJECT\_UNAUTHORIZED environment variable to '0' makes TLS connections and HTTPS requests insecure by disabling certificate verification.  
 (Use `climate-warehouse --trace-warnings ...` to show where the warning was created)  
 Mirror DB not connected  
 ...  
 Mirror DB not connected  
 Connected to database  
 Polling For Updates \

* MacOS:
  + Double click `ClimateWarehouse-macos-installer-x64.pkg` to run the installer. Choose the default settings. When the installation process completes, close the installer.

<figure>  
 <img src="images/climate\_warehouse/02\_cw\_installer\_macos.png" alt="CW installer on MacOS"/>  
 <figcaption>  
 <em>The final panel of the Climate Warehouse installer.</em>  
 </figcaption>  
</figure>

* Open a Terminal window, change to the `~/ClimateWarehouse` folder, and run `./climate-warehouse`. The application will begin polling for updates.

~ % cd ~/ClimateWarehouse   
 ClimateWarehouse % ./climate-warehouse   
 Start Datalayer Update Polling  
 Syncing PickLists  
 Subscribing to default organizations  
 (node:29004) Warning: Setting the NODE\_TLS\_REJECT\_UNAUTHORIZED environment variable to '0' makes TLS connections and HTTPS requests insecure by disabling certificate verification.  
 (Use climate-warehouse --trace-warnings ... to show where the warning was created)  
 Mirror DB not connected  
 ...  
 Mirror DB not connected  
 Connected to database  
 Polling For Updates \

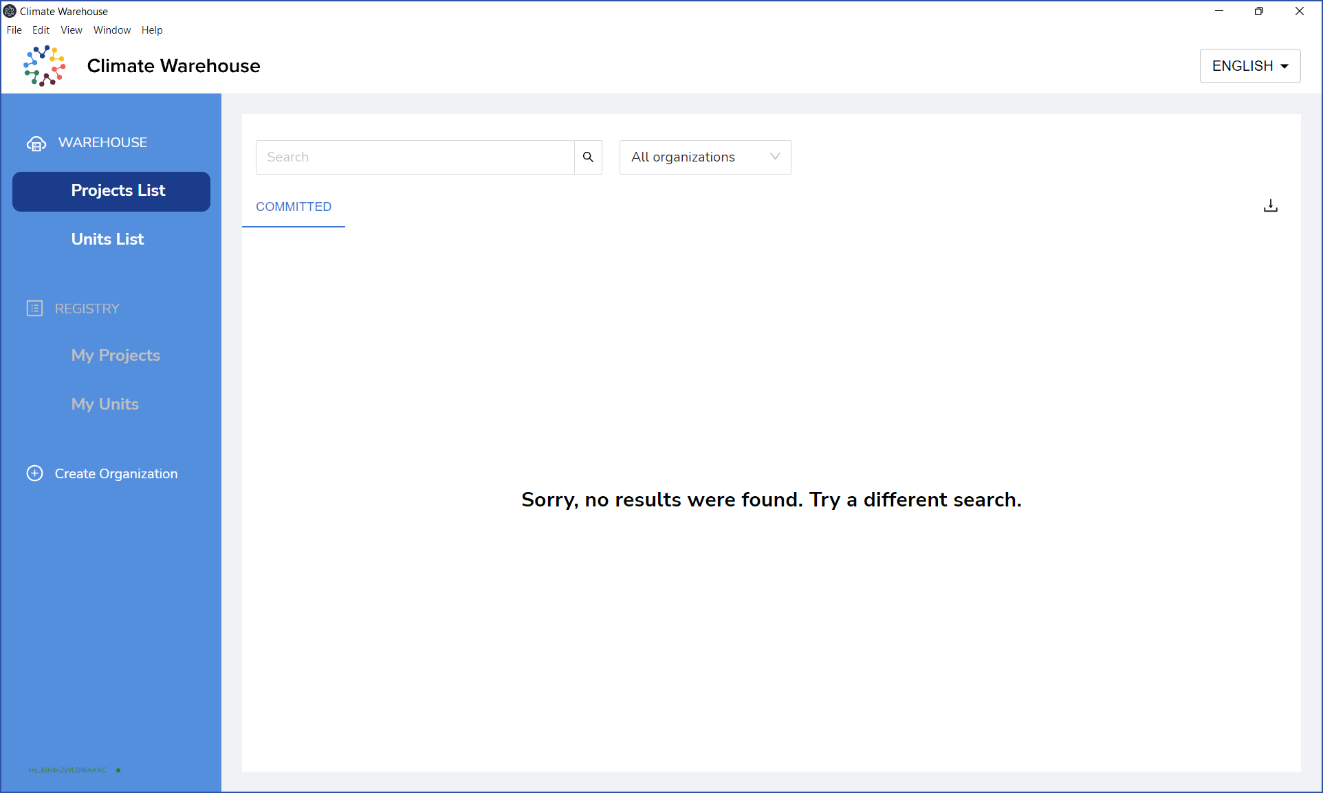
## Install and configure the Climate Warehouse Aux Application (GUI)

1. Download the Climate Warehouse Aux Application
2. Install the Climate Warehouse Aux Application

* Windows:
  + Double click Climate Warehouse Setup 0.1.3.exe. The application will be installed automatically and will create a Desktop icon called Climate Warehouse. The application will launch automatically.
* MacOS:
  + Double click Climate Warehouse-0.1.3-universal.dmg. The application will install automatically. You'll need to drag the Climate Warehouse icon to the Applications folder.
  + Open the Applications folder and double click Climate Warehouse to run the application.



1. Initially, there will be no projects in the Climate Warehouse.



You have successfully installed the Climate Warehouse. The rest of this document will show you how to create an organization, create a new project, and create a new unit.

## Create a New Organization

1. If you have not yet created your organization, you'll need to do so now. Click "+ Create Organization".
2. Fill in your Organization Name and Icon URL, as they are required fields. If you don't have an icon URL, you can use our default: https://climate-warehouse.s3.us-west-2.amazonaws.com/public/orgs/me.svg
3. Click OK. You should be informed that your organization was successfully added. You will also be given an Organization ID.

## Create a New Project

1. To create a new project, click My Projects, then click + Create:
2. Fill in the required fields.

\* Required Field

* \*Registry of Origin -- The registry that originally hosted the project. If it is the same as the current registry, please list the registry again.
* \*Origin Project ID -- Identifier used to track the project in the registry that first held this project. If it is the same as the Project ID, please list the project ID again.
* Program -- Use this field to categorize the project into a specific program, if applicable.
* \*Project ID -- Identifier used to track the project in the current registry.
* \*Project Name -- The name of the project.
* \*Project Link -- Place a URL link to the project website or website that hosts the project and its descriptions.
* \*Project Developer -- Enter the name(s) of the developer(s) associated with this project, separating each with a comma.
* \*Sector -- Select the industry sector which the project is associated with.
* \*Project Type -- Select the corresponding type to describe the project.
* \*Covered by NDC -- Select whether the project is covered by Nationally Determined Contributions.
* NDC Information -- Add text description to show how the project falls under NDC.
* \*Project Status -- Select the status that best describes the current state of the project.
* \*Project Status Date -- Enter the date that corresponds to the above status selection.
* \*Unit Metric -- Select the metric that best describes the mitigation outcomes achieved by this project.
* \*Methodology -- Select the methodology that is being used to evaluate the project.
* Validation Date -- Enter the date when a validation was granted to the project.
* Validation Body -- Select the validation organization that is, or will, validate the project.
* Project Tags -- Add any tags, separated by commas, to apply to this project. This can capture information not shown in other fields. The rest of the steps in the registration form allow you to add optional information.

1. When you reach Step 8, click Create Project.
2. You'll receive a message that the project was successfully created. Your project will be held in STAGING until you click the Commit button.
3. After you click the Commit button, you'll receive a message that the transactions have been committed. They will now be PENDING.
4. The blockchain will confirm the transactions after a few minutes. No pending data at this time will be displayed.
5. Your project will now be listed in the Projects List.

You have successfully created your new project.

## Create a New Unit Block

1. To create a new unit, click My Units, then click + Create:
2. Fill in the required fields.

\* Required Field

* \*Project Location ID -- Enter the location from which the particular block of units derives. This could be the same as the project location or it might be a more specific location within the project.
* \*Unit Owner -- Enter the name of the organization that currently owns the specific set of units issued.
* \*Country Jurisdiction Of Owner -- Select the country which has jurisdiction over the set of units issued.
* In-Country Jurisdiction Of Owner -- If applicable, enter the region within the country selected above.
* \*Serial Number Block -- Enter the serial number block.
* \*Serial Number Pattern -- If the serial number format is different from what your organization typically uses, please enter the format here.
* **Note: It is very important to use a well-formed regex pattern.** For example, to use a combination of letters and numbers with a hyphen separating them, use [.\*\D]+([0-9]+)+[-][.\*\D]+([0-9]+)$. With this pattern, serial numbers such as abc100-abd100, abcde1-a12345, and a1-b2-c3 are all valid.
* \*Vintage Year -- Enter the year in which the units were awarded.
* \*Unit Type -- Select the type that best describes the units produced.
* Marketplace -- Select, or manually enter, the market on which the units are listed, if applicable.
* Marketplace Link -- Enter the URL which links to the marketplace which the unit is being sold, if applicable.
* Marketplace Identifier -- Enter the unique identifier being listed on the marketplace which corresponds to the units in question, if applicable.
* Unit Tags -- Enter additional information, separated by a comma, to track any additional notes against these units not already submitted in previous fields.
* \*Unit Status -- Select the status that best describes the current state of the units.
* \*Unit Status Reason -- Enter the appropriate reason for the status. If no reason is needed, simply enter 'N/A'.
* \*Unit Registry Link -- Enter the URL which links to the registry which hosts the units.
* \*Corresponding Adjustment Declaration -- Select whether the units have a corresponding adjustment capability or not.
* \*Corresponding Adjustment Status -- Select the corresponding status of the corresponding adjustment. The rest of the steps allow you to add optional information.

1. When you reach Step 3, click Create.
2. You'll receive a message that the unit was successfully created. Your unit will be held in STAGING until you click the Commit button.
3. After you click the Commit button, you'll receive a message that the transactions have been committed. They will now be PENDING.
4. The blockchain will confirm the transactions after a few minutes. No pending data at this time will be displayed.
5. Your unit will now be listed in the COMMITTED tab.

You have successfully created your new unit.