

California ISO Readiness Notes

Title: Sample Shapefile Submission Walkthrough

Expected Production Date: Tentatively scheduled for April 9, 2025

Project Associated: [Hybrid Resource 2C – Resource Interconnection Management System \(RIMS\)](#)

Current Process: Users who have a new or currently onboarding resources with solar and/or wind components submit their wind or solar site information through excel sheets located on the [New Resource Implementation](#) webpage.

New Process: When the Hybrid Resource 2C – RIMS project goes into production, the process above will change to require users to submit their site information through a web form in RIMS. Users will also need to submit Shapefiles¹ for their resource’s Project Coordinates, Met Station Coordinates, and Turbine Information. The California ISO has provided templates, detailed below, on the [Release Planning page](#).

User action: Determine the appropriate Shapefile software compatible with your organization’s system. Once a software is determined, start using the ISO’s templates to practice creating Shapefiles. Below is an example of creating a Shapefile using the Quantum Geographic Information System (QGIS).

Please note that while the ISO uses this software as an example, it is not the only option users can select.

Creating a Shapefile Example with QGIS

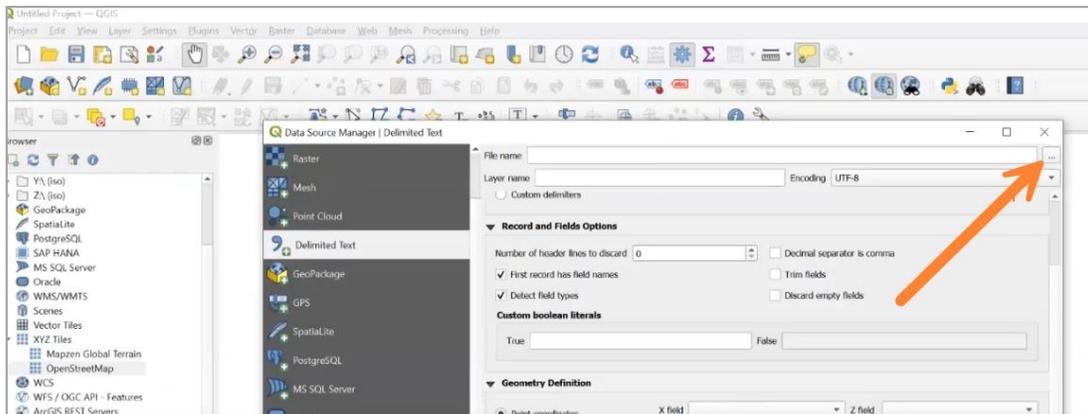
1. Navigate to the Release Planning page to download the .CSV templates requirement for a Solar and/or Wind component. Fill in the templates with your resource information. Please follow the template naming convention with your project details.
 - a. **Solar components** will have 2 templates: [Project Coordinates](#) (latitude, longitude) and [Met Station Coordinates](#) (ID, latitude, longitude).
 - b. **Wind components** will have 3 templates: The two templates listed above, as well as [Turbine Info](#) (turbine ID, latitude, longitude, elevation, hub height).
2. After saving the templates with your resources information, open the designated Shapefile software. For this example, we will open QGIS and start a new project.

¹ Shapefile is a Geographic Information System (GIS) file with the ability to plot points within it; a easy way to get a layout for the site.

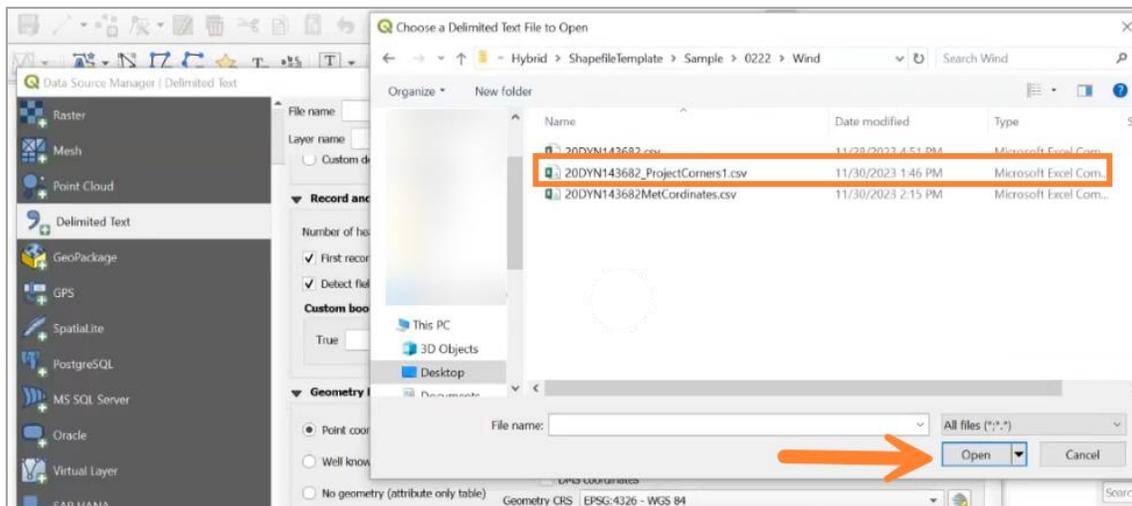
- At the top of the QGIS screen, navigate to the Layers tab >> Add Layer >> select Add Delimited Text Layer.



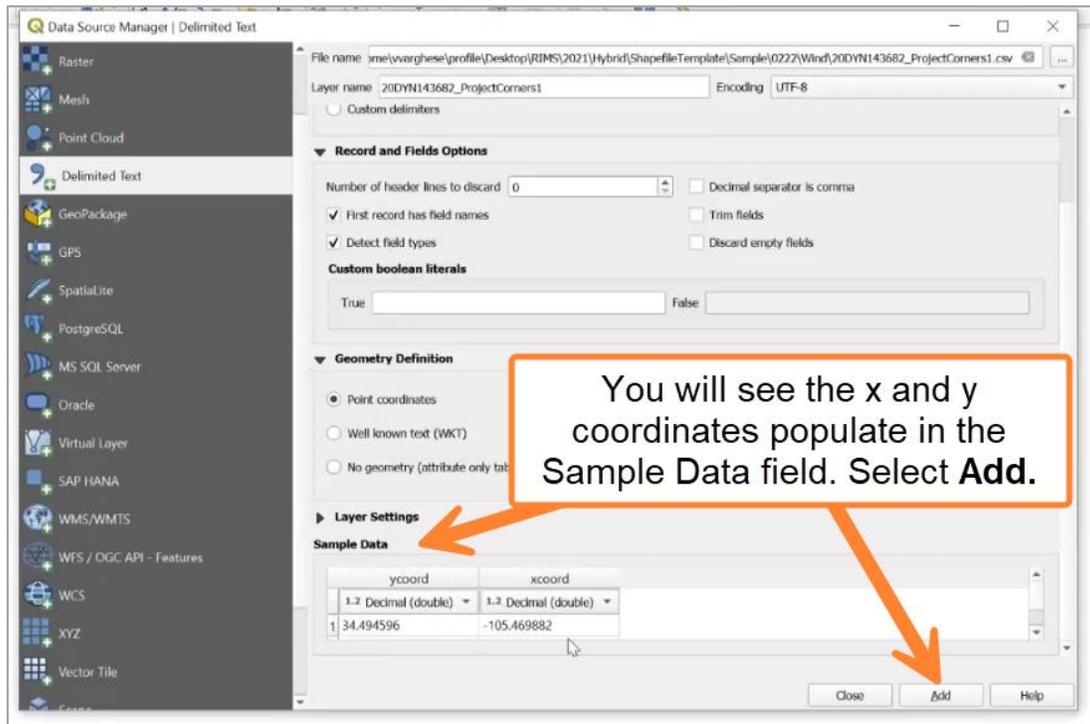
- A pop-up window will appear. Click the "..." next to File Name to upload your first template. For this example, we will upload the Plant Coordinates template first.



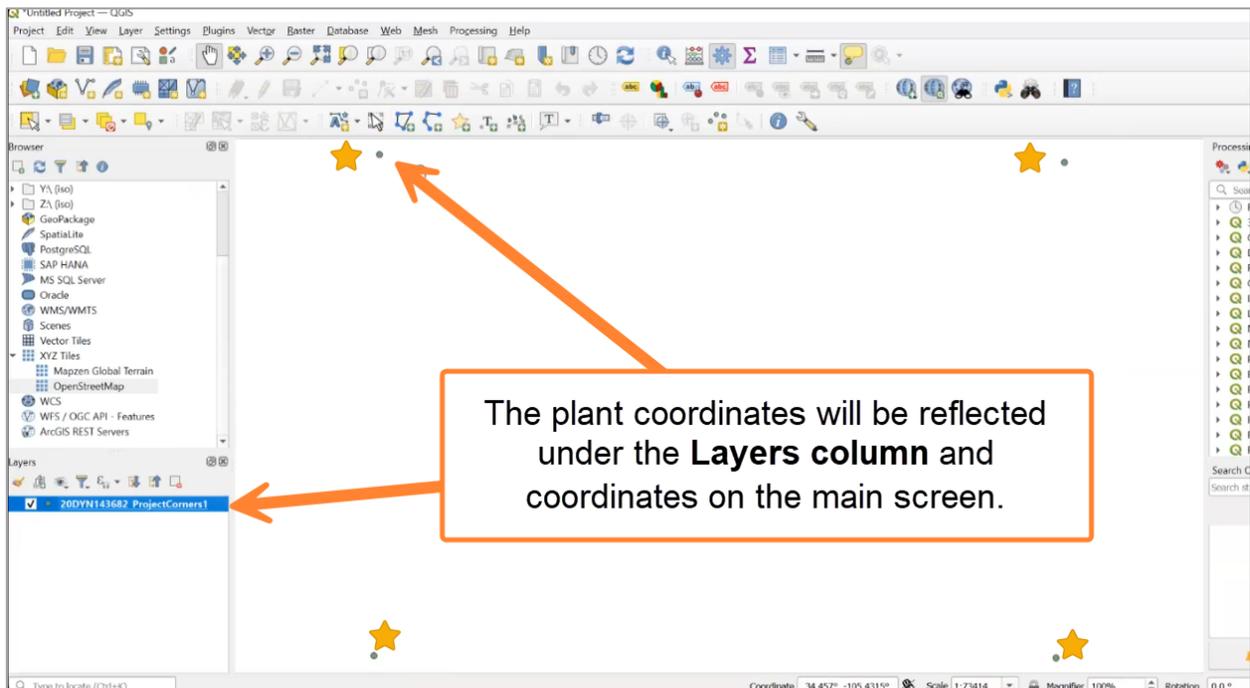
- Locate the filled out Plant Coordinates template and select Open.



6. After opening the template, select Add.

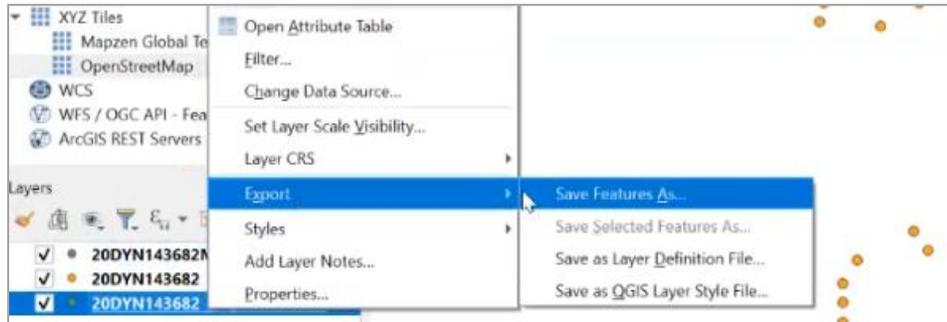


7. After adding the Plant Coordinates, you will see that the coordinates have been plotted on the main screen (indicated by stars below).

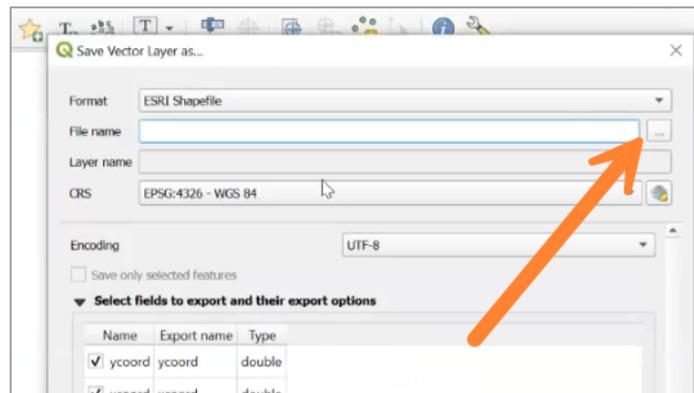


8. You will repeat the process above for the remaining templates.
 - a. **For solar component**, repeat the process above for the Met Station Coordinates template.
 - b. **For wind component**, repeat the process above for the Met Station Coordinates and Turbine Info templates.

9. After adding all the required templates to the system, it is time to save these Shapefiles. Navigate to the Layers column on the left side of the screen. Right-click on one template at a time and select Export >> Save Feature As.



10. This will prompt a pop-up window to appear. Select the “...” next to File name.



11. Navigate to the desired location you would like the files saved. If you are using QGIS software when creating the Shapefiles, please follow the naming convention below:
 - a. File format: ESRI Shapefile
 - b. Naming convention of the documents should be as follows:
 - i. <ProjectKey>_ProjectCoordinates_<Component_ID>
 - ii. <ProjectKey>_MetStationCoordinates_<Component_ID>
 - iii. <ProjectKey>_TurbineInfo_<Component_ID>
 - c. **Important Note:** “<Component_ID>” is only required for Hybrid **or** Hybrid&Co-located projects. This is not required for Single or Co-located configuration types.

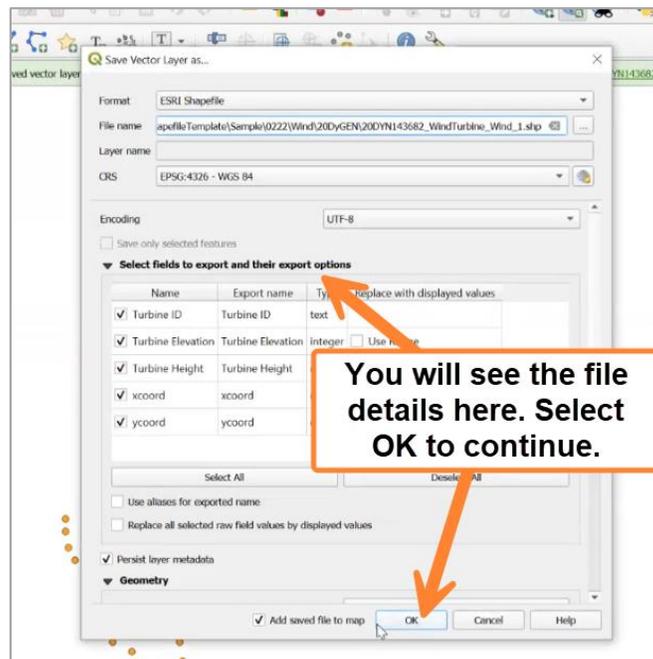
Example below of a **Hybrid project** that have Solar and Wind Fuel types, when creating Shapefiles:

Solar file formatting	Wind file formatting
"24NRG44444_ProjectCoordinates_SOLR1"	"24NRG44444_ProjectCoordinates_WIND1"
"24NRG44444_MetStationCoordinates_SOLR1"	"24NRG44444_MetStationCoordinates_WIND1"
	"24NRG44444_TurbineInfo_WIND1"

Example below of a **Single project** that have Solar OR Wind Fuel types, when creating Shapefiles:

Solar file formatting	Wind file formatting
"24NRG44444_ProjectCoordinates"	"24NRG44444_ProjectCoordinates"
"24NRG44444_MetStationCoordinates"	"24NRG44444_MetStationCoordinates"
	"24NRG44444_TurbineInfo"

12. When saving these files to a location on your computer, be sure not to mix them with the CSV templates used earlier (*this will be important later*). After saving the file, select OK.



13. Repeat the process above for each layer created. Please remember:
- Solar components will have 2 templates:** Project Coordinates (latitude, longitude) and Met Station Coordinates (ID, latitude, longitude).
 - Wind components will have 3 templates:** The two templates listed above, as well as, Turbine Info (turbine ID, latitude, longitude, elevation, hub height).

14. Now, you will need to .zip the files together. In the folder you saved your Shapefiles to, highlight all the files >> select WinZip >> Add to your designated folder.

- a. Please be sure to **only include Shapefile “file types” in the zip file** – do not include the CSV templates from the previous steps.
15. The Shapefile Zip will save to the folder you selected. If you are using QGIS software, when zipping the Shapefiles, please follow the naming convention below:
- a. File format: .CPG, .DBF, .PRJ, .SHP, .SHX
 - i. When uploading the Shapefile to RIMS, it will only be accepted as a .zip file. There are validations in place for at a minimum .DBF, .PRJ, .SHP, .SHX file types are included in the .zip file. If not, you will receive an error message indicating a failed upload.
 - b. Naming convention of the document should be as follows:
 - i. <Project ID Code/Key> Shapefile <ComponentID> Ver <#>
 - c. **Important Note:** “<Component_ID >” is only required for Hybrid or Hybrid&Co-located projects. This is not required for Single or Co-located configuration types.

Example below of a Hybrid project that have Solar and Wind Fuel types, the Shapefile “.zip files”

Solar file formatting	Wind file formatting
“24NRG44444 Shapefile SOLR1 Ver1”	“24NRG44444 Shapefile WIND1 Ver1”

Example below of a Single project that have Solar OR Wind Fuel types, the Shapefile “.zip files”

Solar file formatting	Wind file formatting
“24NRG44444 Shapefile Ver1”	“24NRG44444 Shapefile Ver1”

16. Remember, as mentioned above, RIMS has validations in place for ensuring your Shapefile is accurately submitted. It is important to follow correct naming and spelling conventions.
- a. If there are any incorrect file names/ misspellings, or coordinates entered in the CSV files does not match with coordinates entered on User Interface (UI) web form, on upload into RIMS, the Shapefile will be considered invalid and not allowed to upload (*e.g., prompts validation error message on UI and/or validation error emails are triggered*).
17. Market simulation will begin March 13, 2025. During this time, users will be able to test the upload feature to RIMS. For now, the ISO encourages users to determine the appropriate Shapefile software compatible with your organization’s system. Once a software is determined, start using the ISO’s CSV templates for the requirements of Solar/Wind projects, to practice creating Shapefiles. For questions about market simulation, please submit a CIDI ticket or email marketsimulation@caiso.com.
18. Customer Readiness will provide training on March 5, 2025 to review all of the new procedures and screens in RIMS. A notice will be sent to all users prior to the training. For questions about the upcoming training, please send an email to CustomerReadiness@caiso.com.