مدينة الملك عبد الله للطاقة
الذرية والمتجددة K•A•CARE

# Renewable Resource Atlas Portal

## Service Catalogue

2026

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# Introduction

The Renewable Resource Atlas platform, established by King Abdullah City for Atomic and Renewable Energy (K.A.CARE), is a specialized digital platform designed to provide recent historical data on the Kingdom's solar and wind resources. The platform serves as a centralized hub providing stakeholders with the data essential for advancing sustainable energy infrastructure.

By synthesizing ground-based station measurements with advanced satellite-modeled data, the Atlas platform enables developers, researchers, and entities to optimize project siting and significantly reduce uncertainty in energy production estimates. This service catalogue serves as a formal guide to navigating the platform's technical ecosystem and accessing its suite of renewable energy services.

# Service User Guide

## Home Page

To access Atlas, open the Renewable Resource Atlas platform by clicking on the following link: https://reatlas.energy.gov.sa/en

Once the link is opened, the platform home page will be displayed (Figure 1). From here, users can begin navigating through the platform features and services.

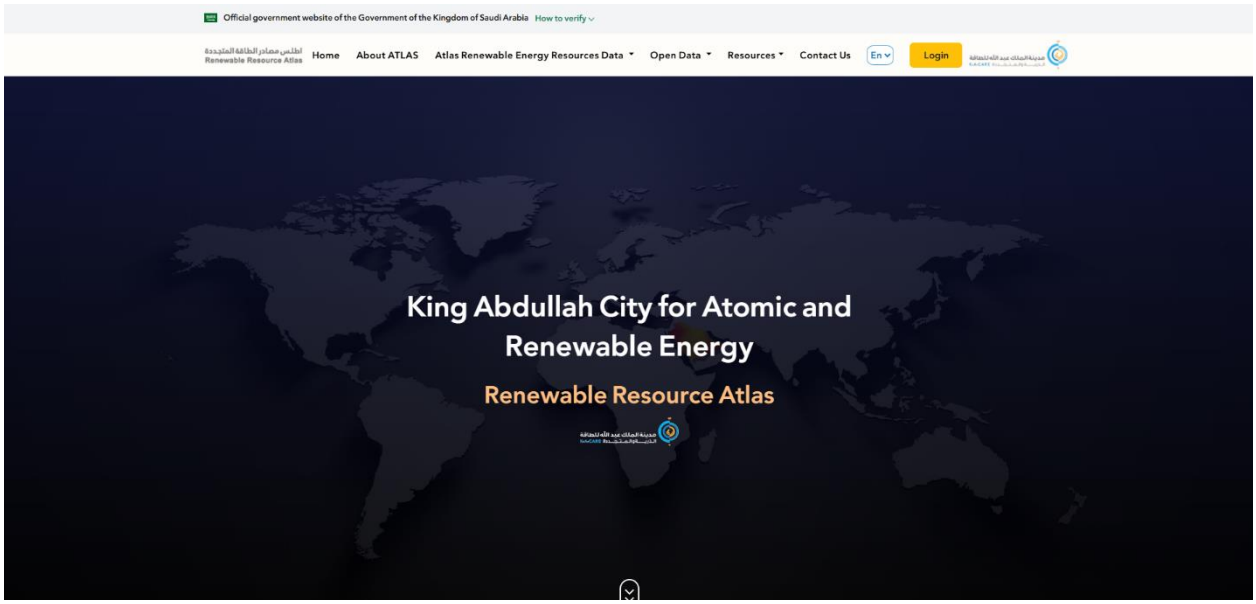



Figure 1: Atlas Home Page

On the home page, look for the expandable arrow located below the main interface. Click on the expandable arrow to reveal the full list of available services. After expanding the menu, users can browse the available services (Figure 2), which include:

- Solar Ground Stations
- Wind Ground Stations
- Solar Irradiance Estimation with Neural Network Algorithm (SIENNA) Model
- Typical Meteorological Year (TMY)

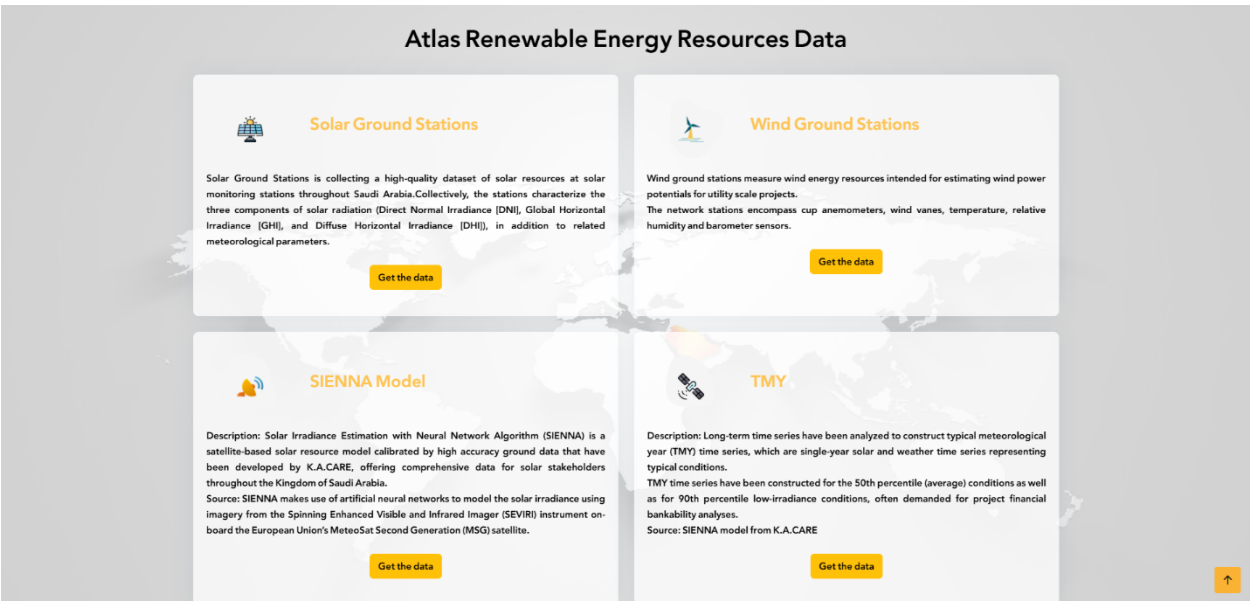



Figure 2: Atlas Renewable Energy Resources Data

## About ATLAS

To learn more about the Kingdom's strategic goals for renewable energy and the technical specifications of the monitoring network, navigate to the top navigation bar of the platform.

Locate and click on the "About ATLAS" section (Figure 3).

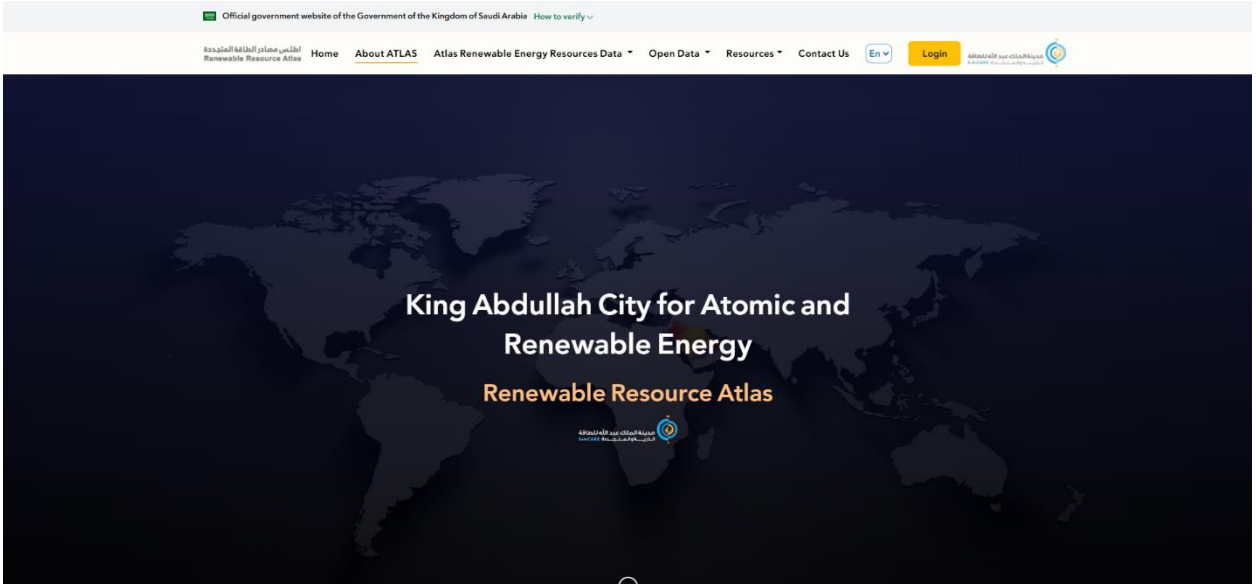



Figure 3: About ATLAS Tab

After clicking, the "About ATLAS" page will open (Figure 4). This page provides information on:

- Why is the Renewable Resource Atlas needed?
- What is contained in the Renewable Resource Atlas?

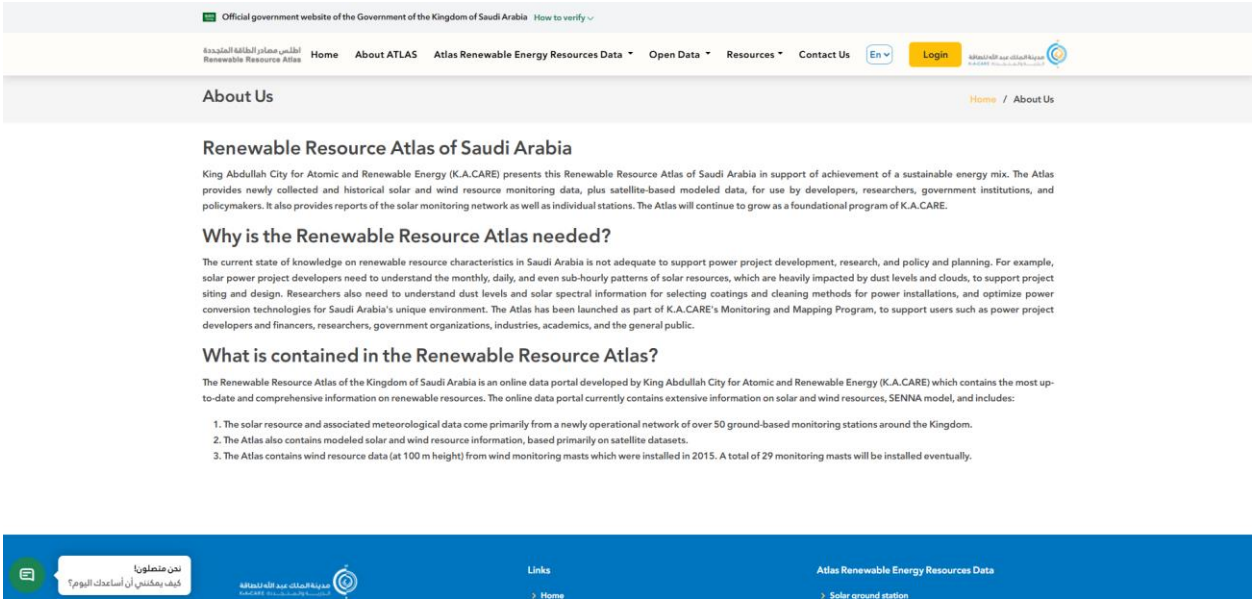



Figure 4: About ATLAS Page

## Sign Up

To create a new account, navigate to the top-right corner of the platform and click on the **"Login"** button (Figure 5).

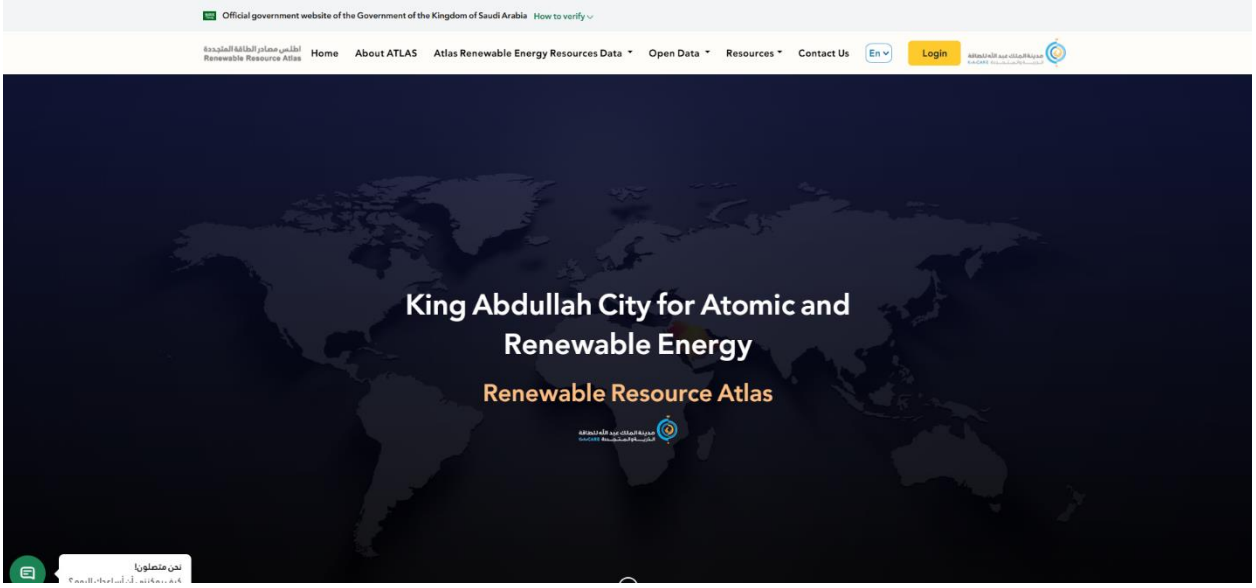



Figure 5: Login Tab

On the login page, click on: "If you don't have Nafath Account please click Here" (Figure 6).

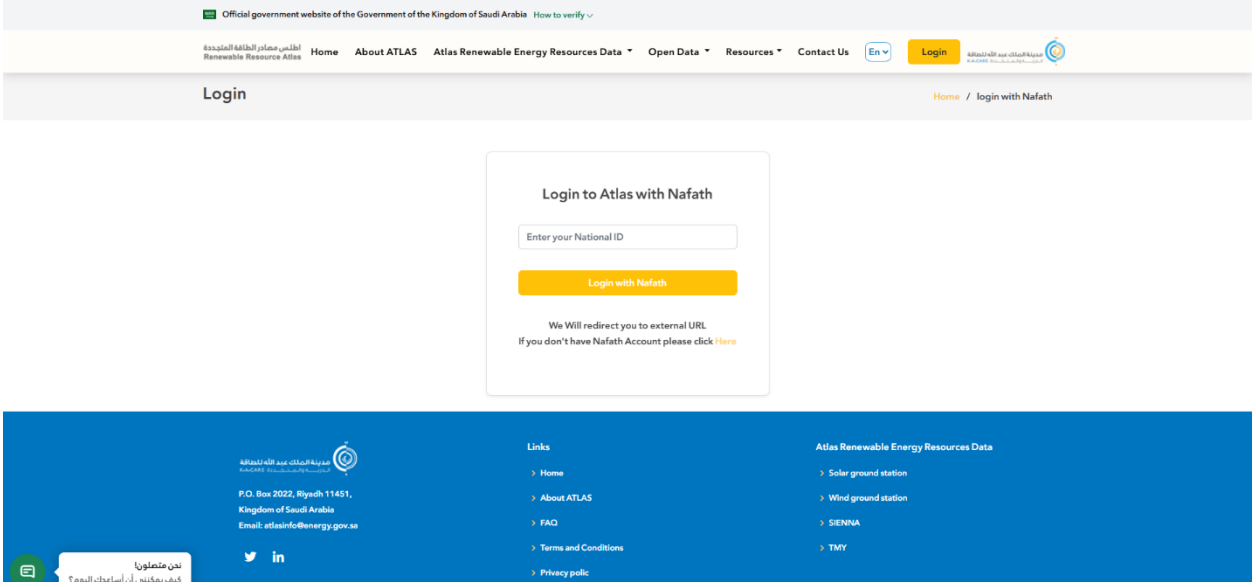



Figure 6: Sign Up Process

Then, click on "Sign up" (Figure 7).

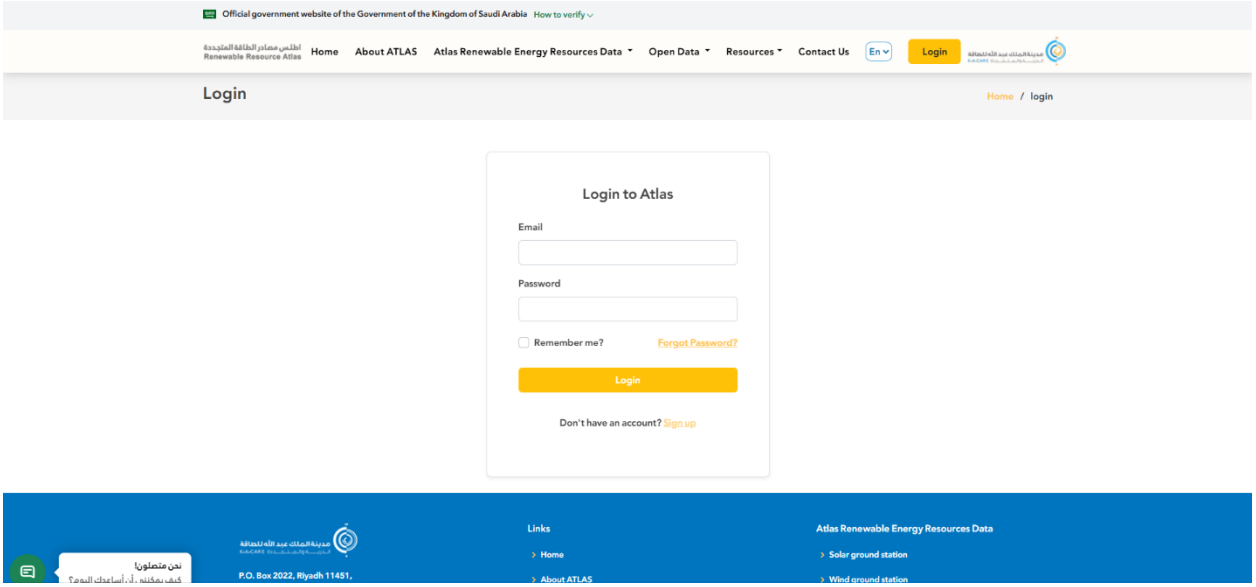



Figure 7: Sign Up Process

Once selected, the registration form page will open. Enter the required information in the registration form fields. Ensure all mandatory fields are completed accurately (Figure 8).

After completing the form, click on the "Register" button to submit the information.

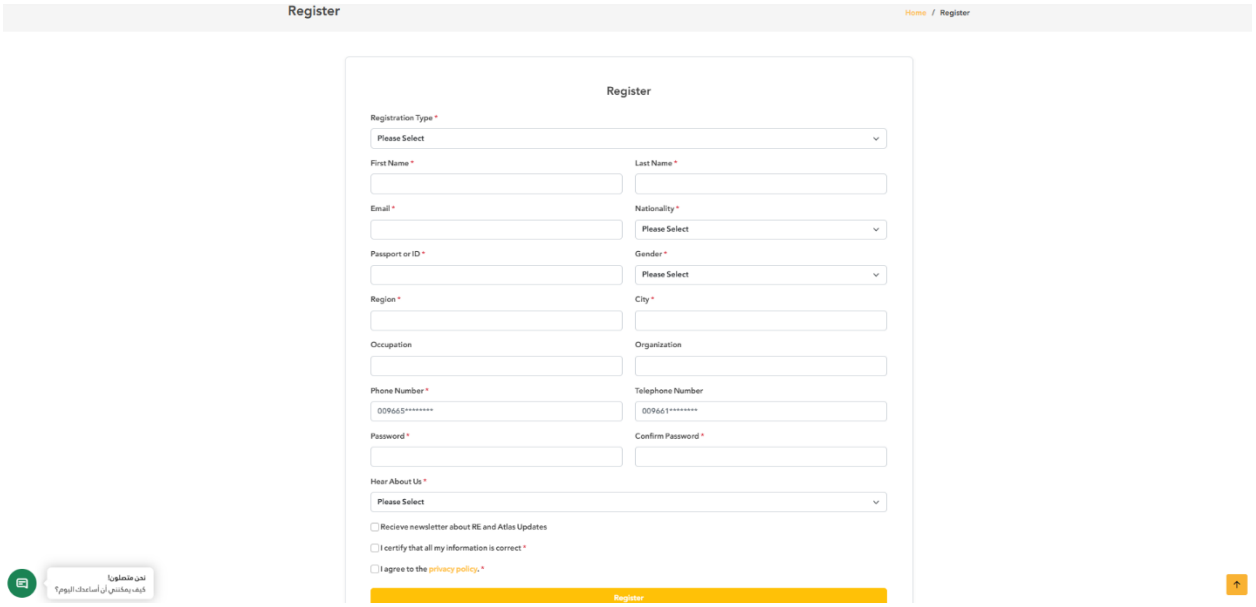



Figure 8: Registration Form

After submission, a verification email will be sent to the registered email address.

Open the email and follow the instructions to activate the account.

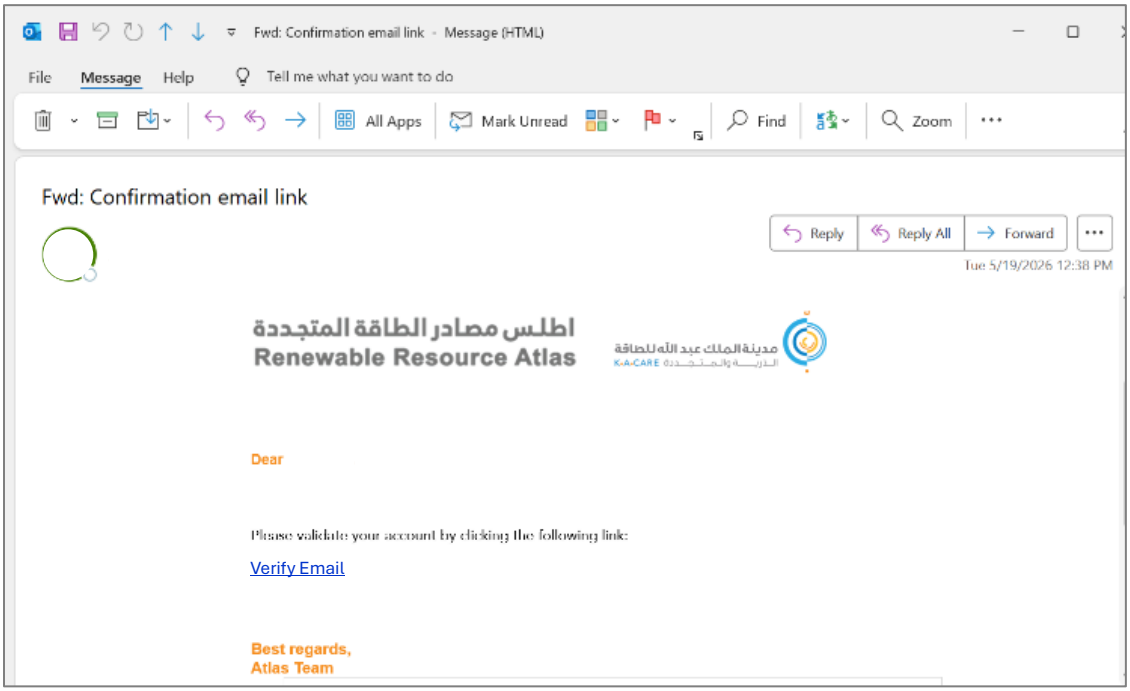



Figure 9: Email verification

Once the email is successfully verified, the account will be activated. The user can now use the account credentials to log in directly to the platform.

## Log In

Users can access the Renewable Resource Atlas platform using one of two sign-in methods:

- Nafath (Single Sign-in)
- Email Account

### Option 1: Log in via Nafath

Click on the "Login" button located at the top-right corner of the platform (Figure 10).

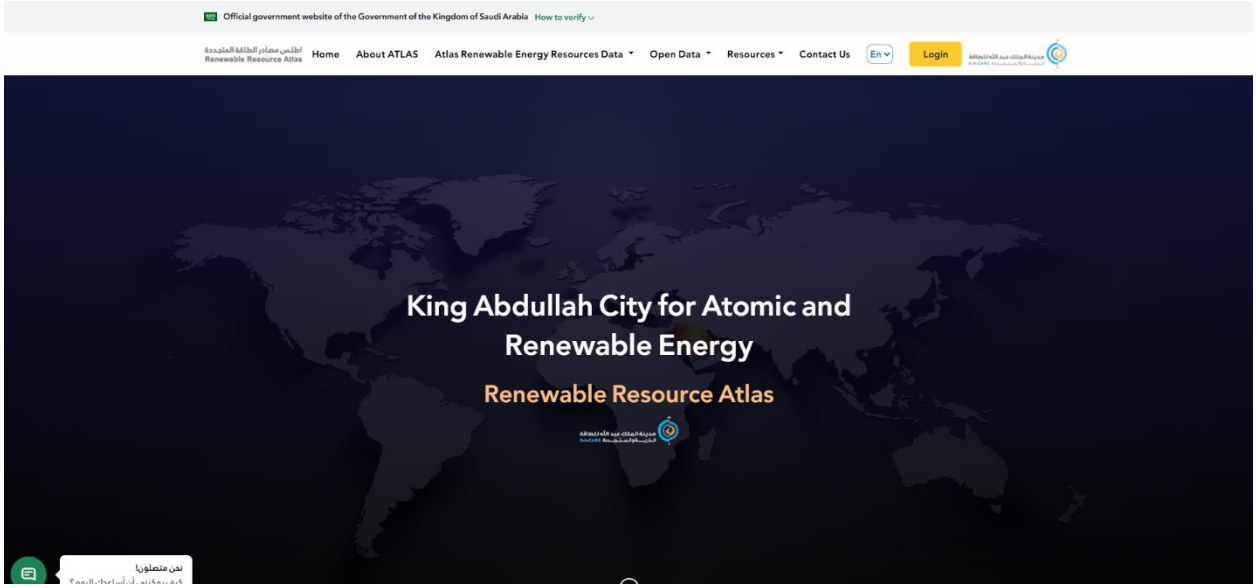



Figure 10: Login Tab

Proceed with the Nafath authentication process as prompted (e.g., via the Nafath mobile application) (Figure 11).

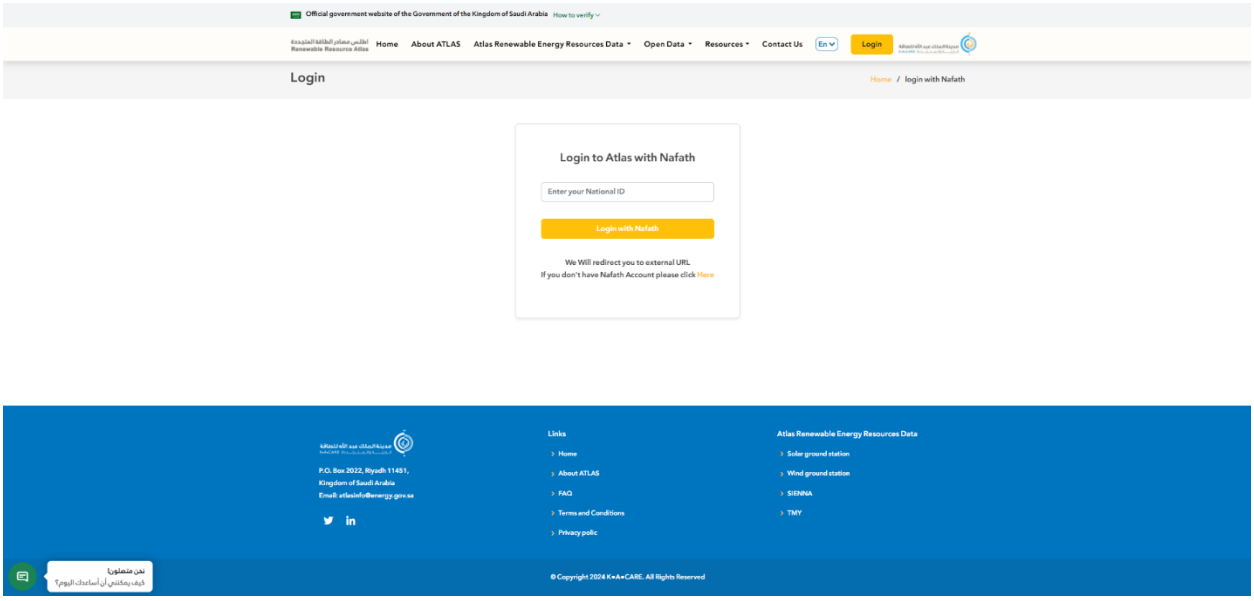



Figure 11: Login via Nafath

Once verification is successful, the user will automatically log in and redirect to the platform.

**Option 2: Sign in via email**

On the login page, click on the “If you don’t have Nafath Account please click Here” to sign in using an email account (Figure 12).

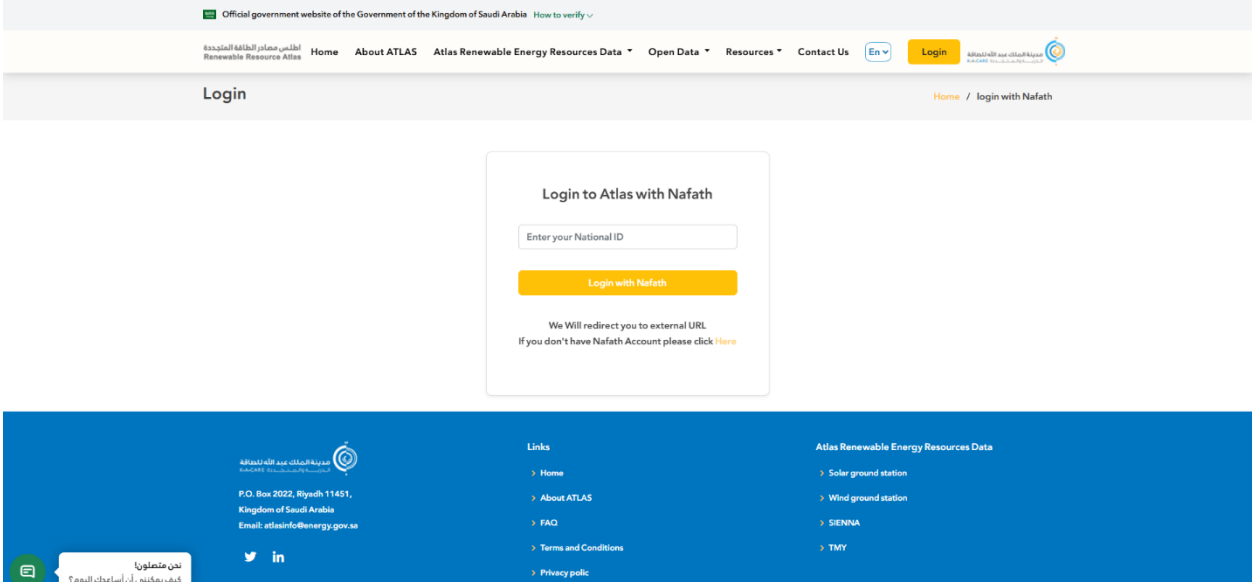



Figure 12: Login via email

Enter the registered email address and password in the provided fields. Then, click on the “Login” button to proceed (Figure 13).

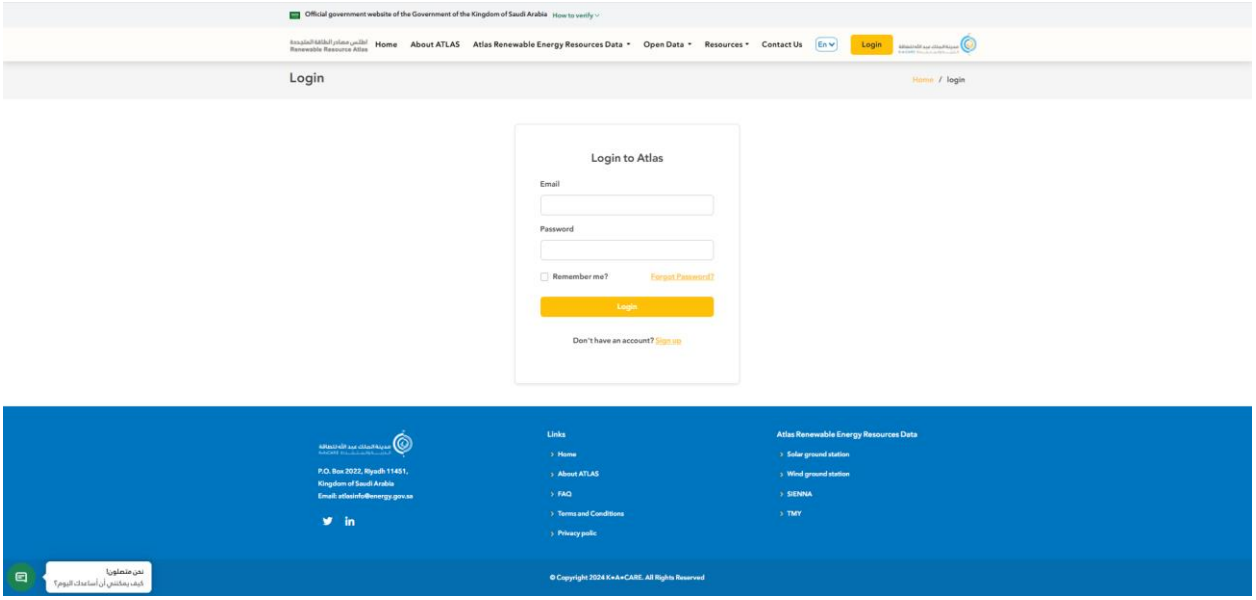



Figure 13: Login via email

An OTP (One-Time Password) will be sent to the registered email address. Enter the received code in the designated field to complete the login process (Figure 14).

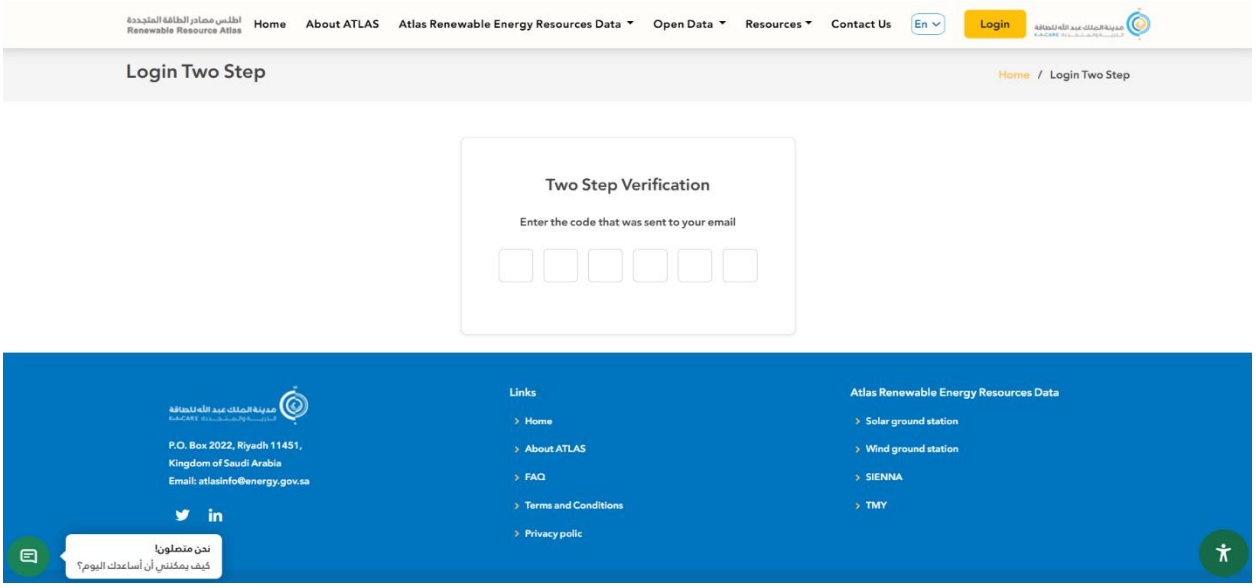



Figure 14: Two Step Verification Process

After successful verification, the user will be granted access to the Renewable Resource Atlas services.

## Atlas Renewable Energy Resource Data

The Renewable Resource Atlas platform provides access to Atlas Renewable Energy Resource Data through the toolbar located at the top of the browser (Figure 15).

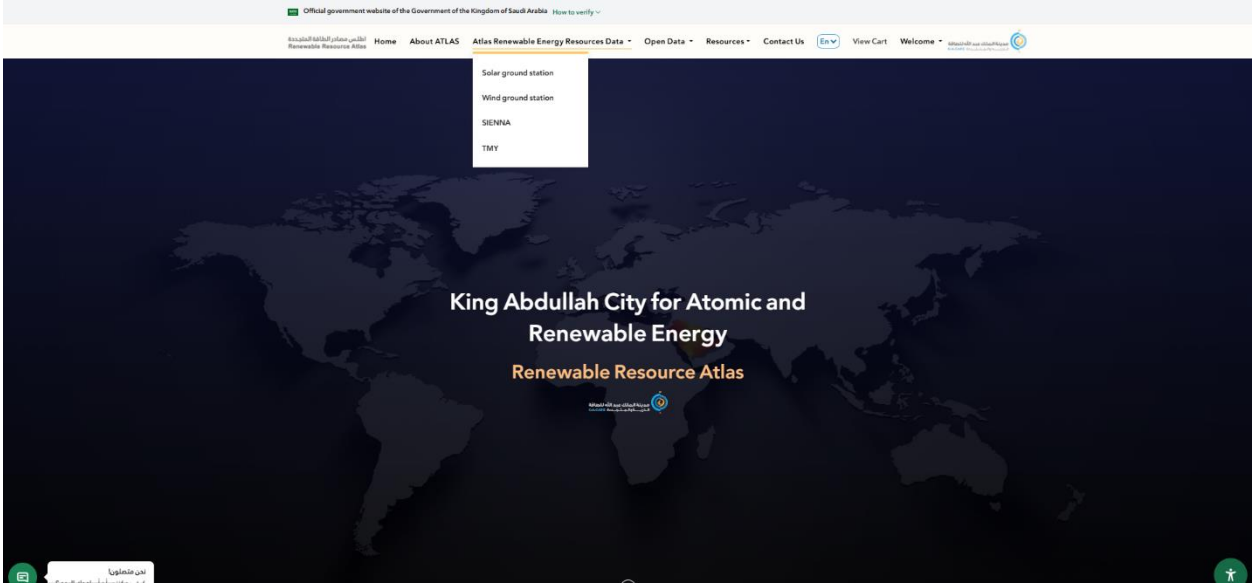



Figure 15: Atlas Renewable Energy Resource Data Tab

The following services are available under this section:

- Solar Ground Stations Service
- Wind Ground Stations Service
- SIENNA
- TMY

## i. Solar Ground Stations Service

The Solar Ground Stations Service provides high-quality datasets of solar resources collected from monitoring stations across Saudi Arabia. The stations measure the following solar radiation components Direct Normal Irradiance (DNI), Global Horizontal Irradiance (GHI), and Diffuse Horizontal Irradiance (DHI), in addition to related meteorological parameters.

The table below demonstrates the parameters calculated within this service.

| Basic Solar Parameters | Advanced Solar Parameters | |
|---|---|---|
| Air Temperature | Downwelling Infrared | Wind speed at 10m (std dev) |
| Wind Direction at 3m | Horizontal Visibility | Upwelling Infrared |
| Wind Direction at 3m (std dev) | Peak Wind Direction at 10m | Upwelling Shortave |
| Wind speed at 3m | Peak Wind Direction at 3m | |
| Wind speed at 3m (std dev) | Peak Wind Speed at 10m | |
| Azimuth Angle | Dewpoint Temperature | |
| Relative Humidity | Global PAR | |
| Barometric Pressure | Global Tilt Irradiance | |
| Diffuse Horizontal Irradiance (DHI) | Global UVA | |
| Direct Normal Irradiance (DNI) | Global UVB | |
| Global Horizontal Irradiance (GHI) | Precipitation | |
| Zenith Angle | Wind Direction at 10m | |
| Peak Wind Speed at 3m | Wind Speed at 10m | |

* Reference: Atlas website

To begin the data request process, click on "Request Service" (Figure 16).

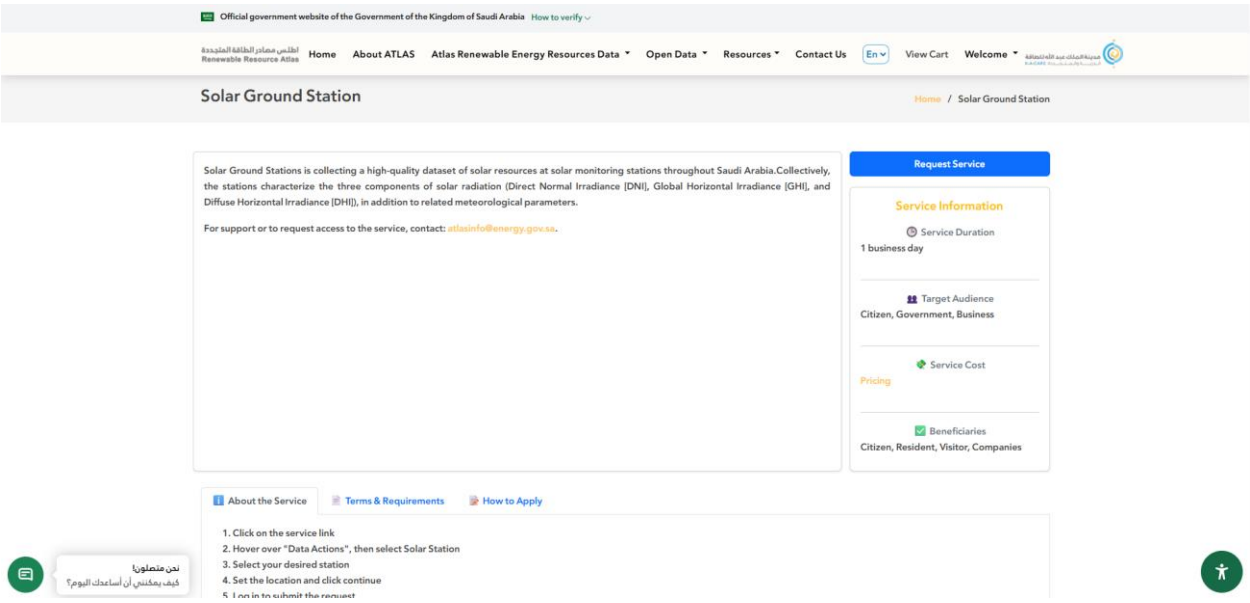



Figure 16: Request Service

On this page, the user can explore the pricing details by navigating to Service Cost section, clicking on "Pricing" within that section to review the full breakdown of fees before proceeding (Figure 17).

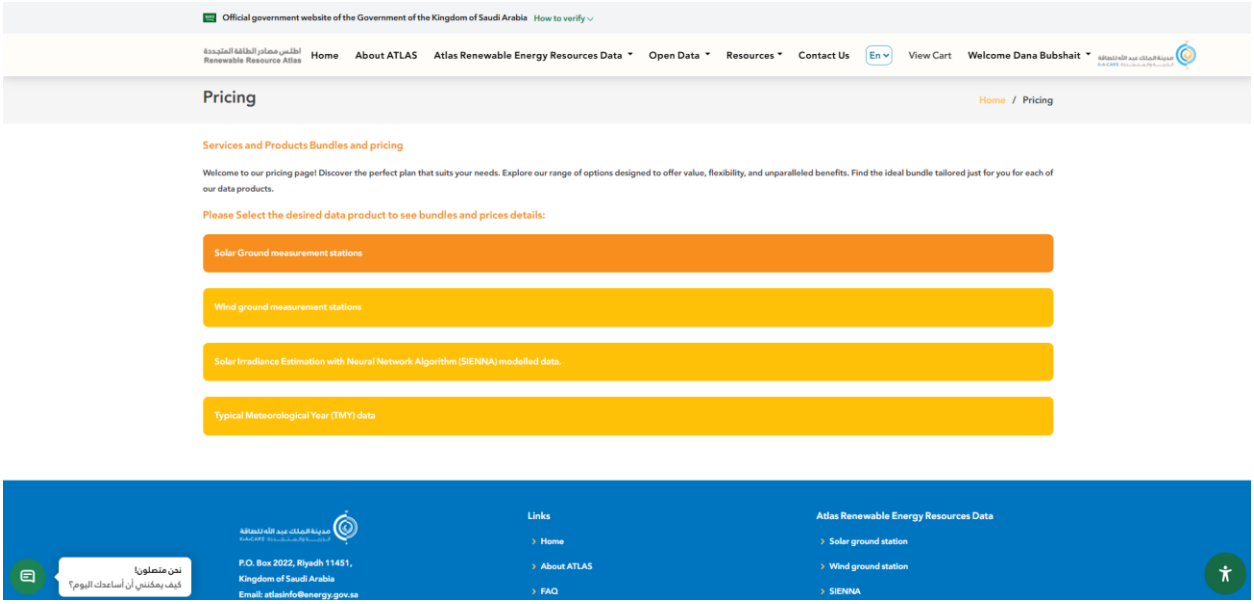



Figure 17: Pricing Details

The service page will open where the user is able to select the station name and choose the required data parameters (Figure 18).

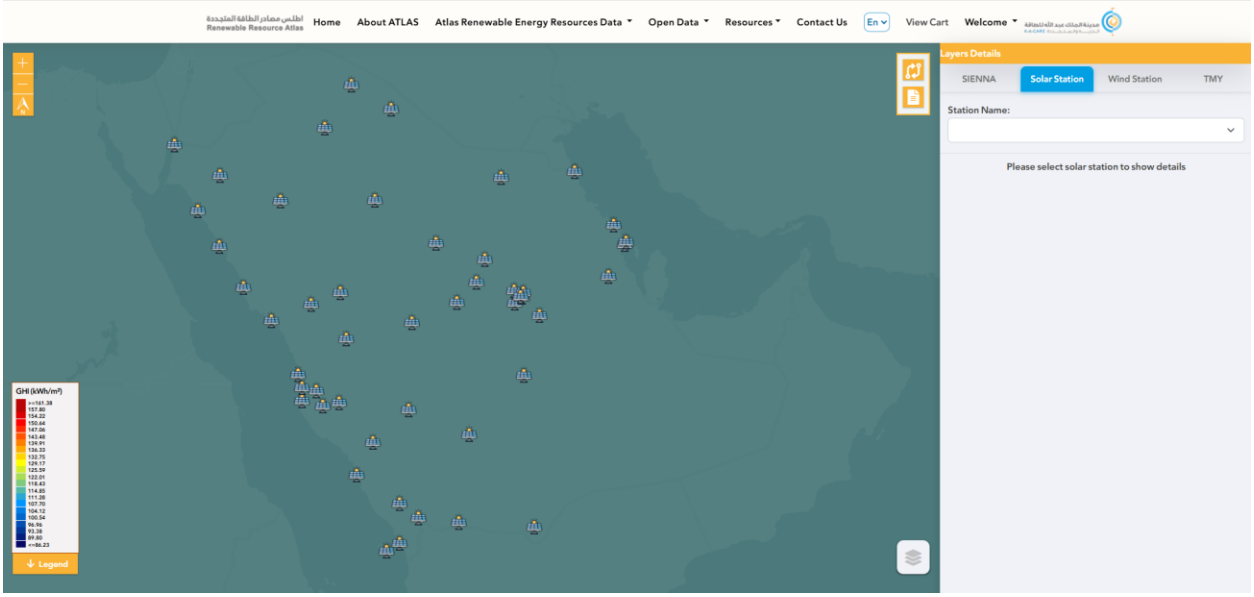



Figure 18: Solar Station Selection

After selecting a station, detailed information about the station will be displayed (Figure 19).

Figure 19: Solar Station Details

Click on "Dashboard" to (Figure 20):

- Define aggregation level
- Select time range
- Customize parameters
- Display charts

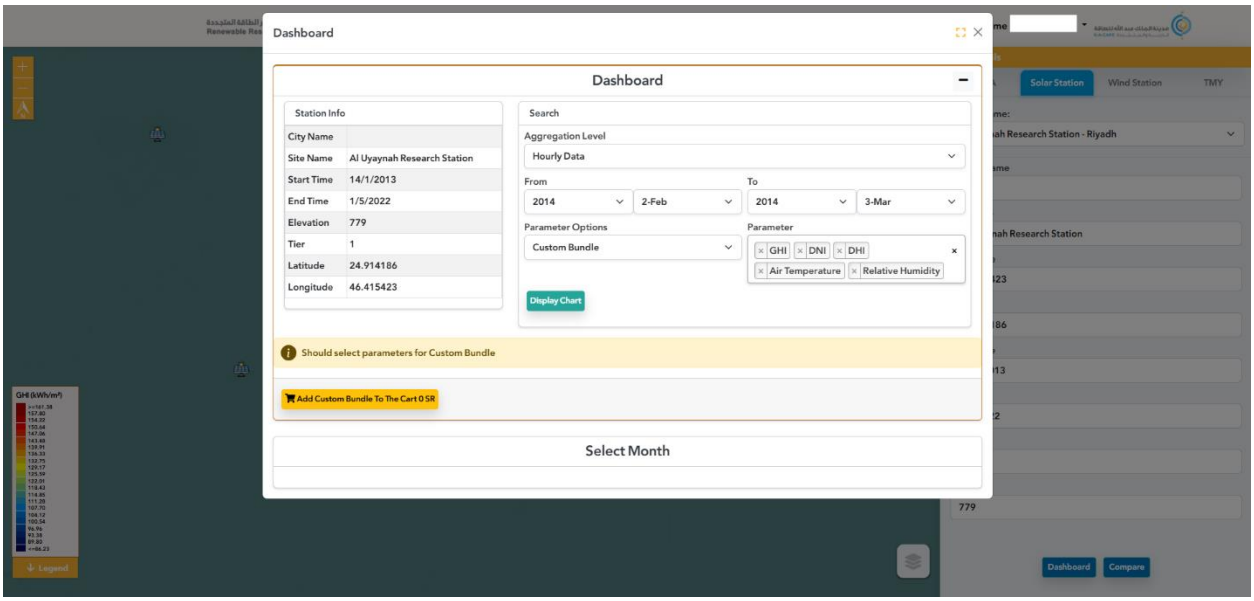



Figure 20: Dashboard Configuration

The user can either view the data through dashboards within the platform or proceed with downloading the dataset (Figure 21).

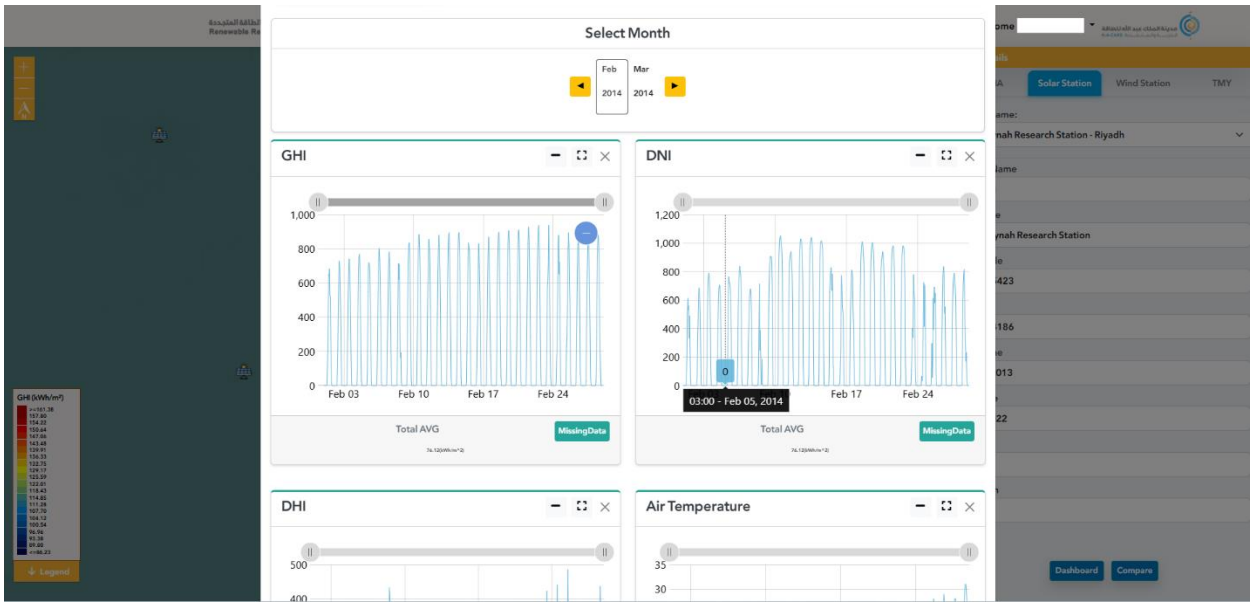



Figure 21: Display Charts

Once the data configuration is complete, submit the request by "Add Custom Bundle to Cart" and the request will be added to the cart (Figure 22).

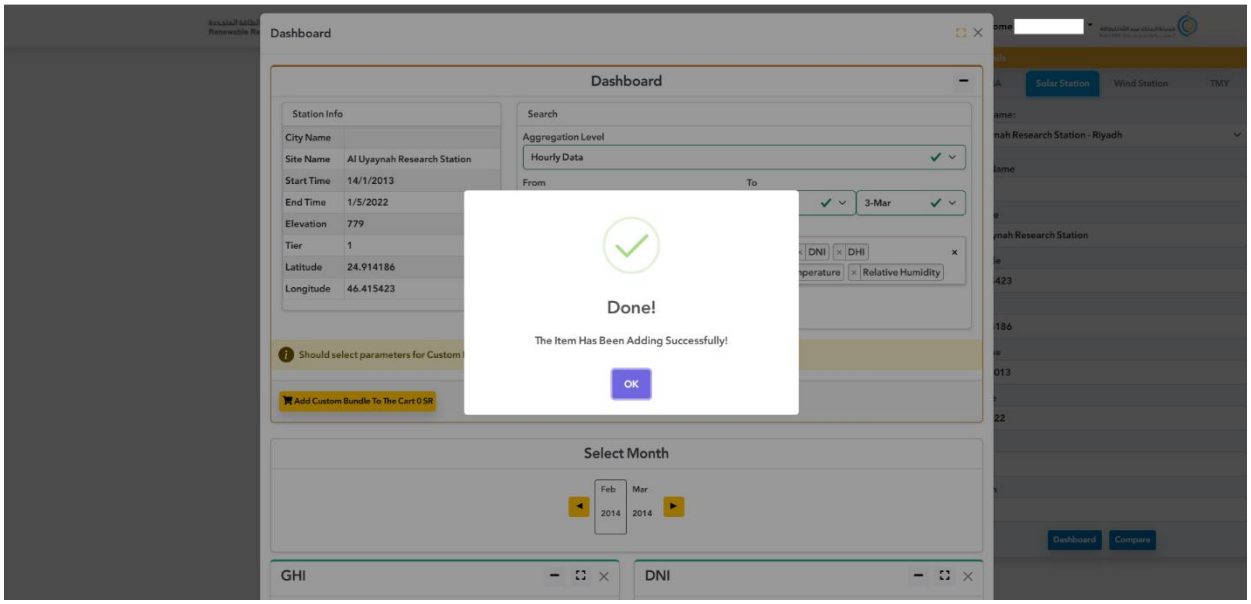



Figure 22: Add Item to Cart

Proceed to “View Cart” in the top-right corner of the browser to complete the payment process through the “Checkout” button (Figure 23).

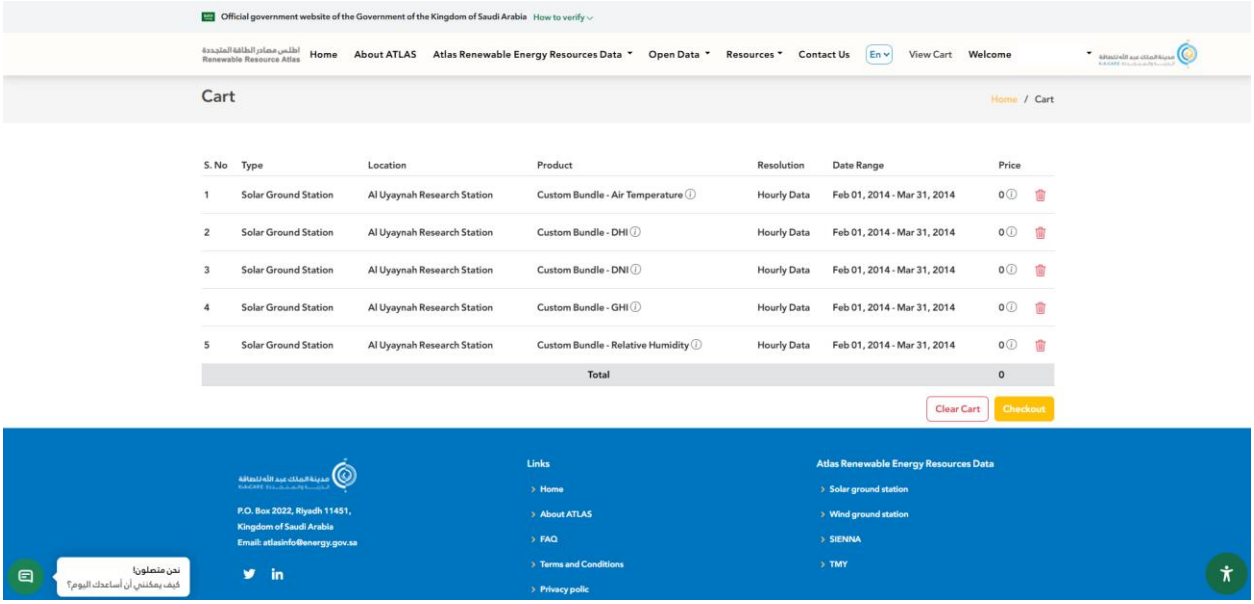



Figure 23: View Cart

On the orders page, the user can view list of items requested. Click on ⓘ icon next to the product name to view the specific attribute order details (Figure 24).

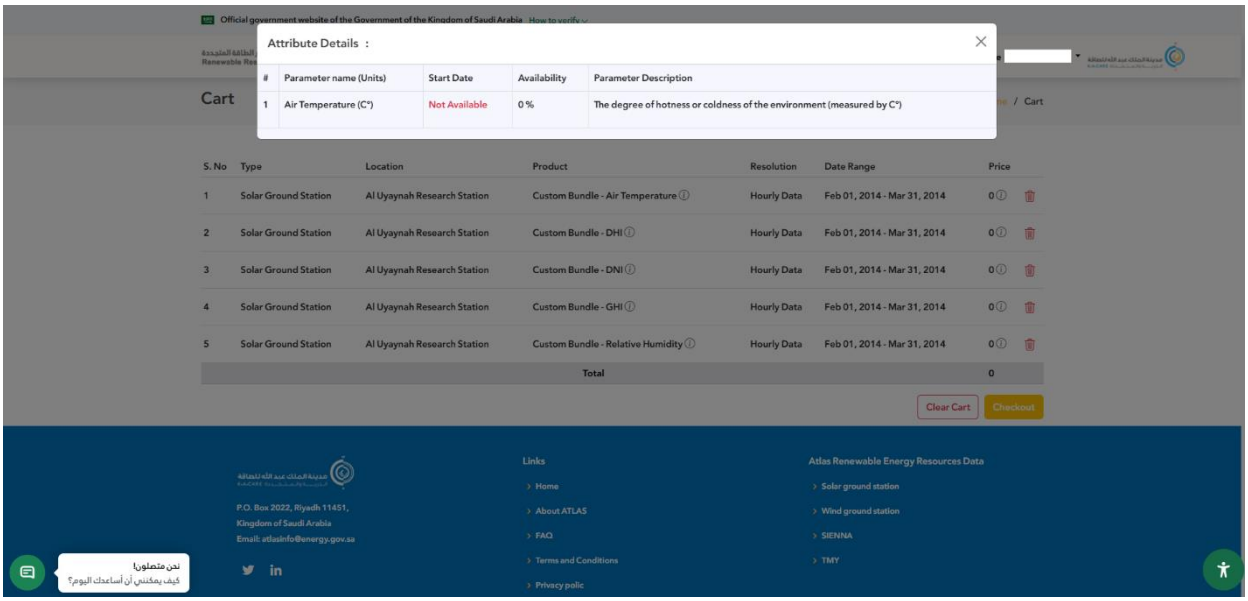



Figure 24: View Order Details

Click on ⓘ icon next to the price to view a breakdown of cost details (Figure 25).

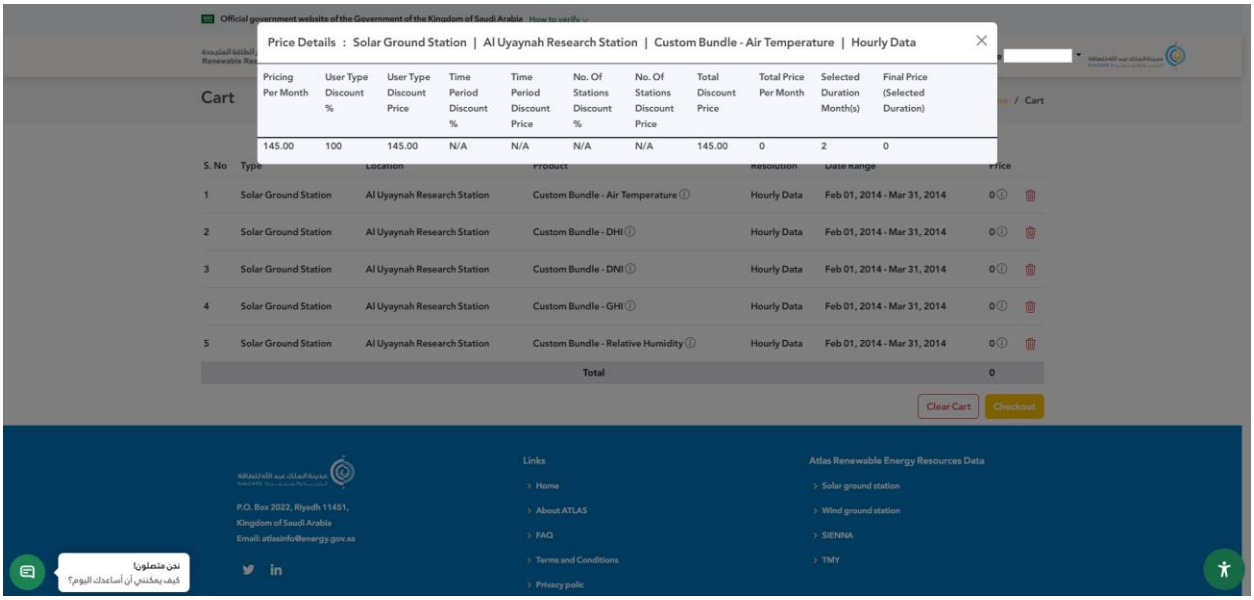



Figure 25: View Price Details

To proceed with confirming the order, click on "Checkout". A popup message will appear to verify the user request (Figure 26).

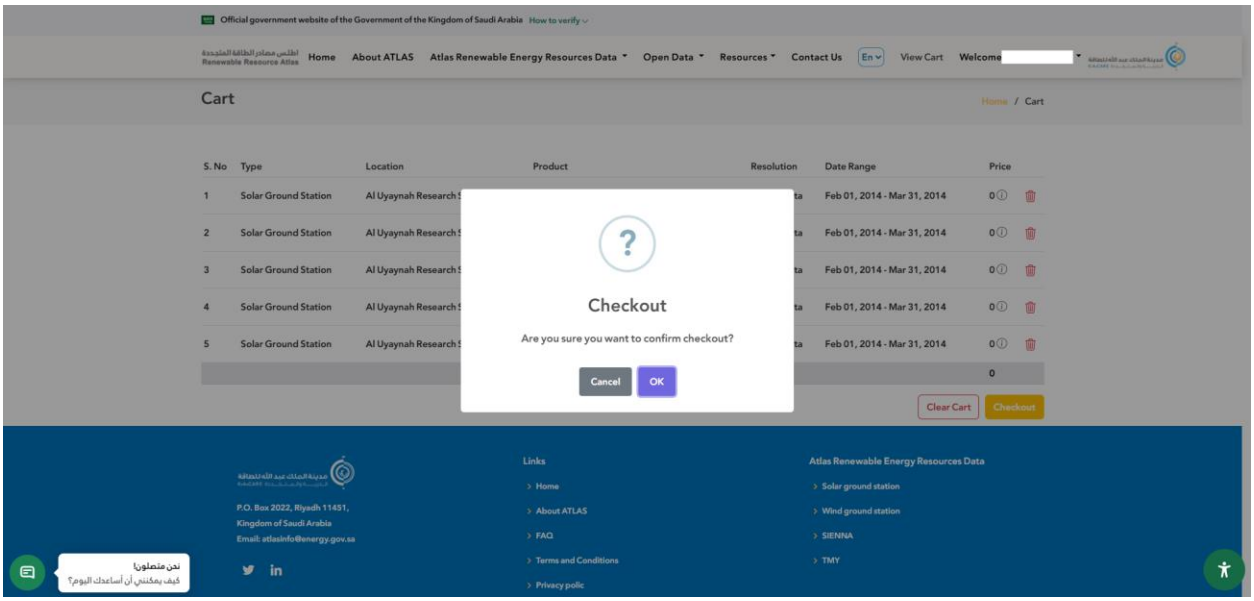



Figure 26: Checkout Process

Once verified, the user can view the quotation document (Figure 27), then proceed to the next step to place the order by clicking “Next Step”.

Figure 27: Order Quotation

The user reviews the agreement and checks the box to agree and process the order (Figure 28).

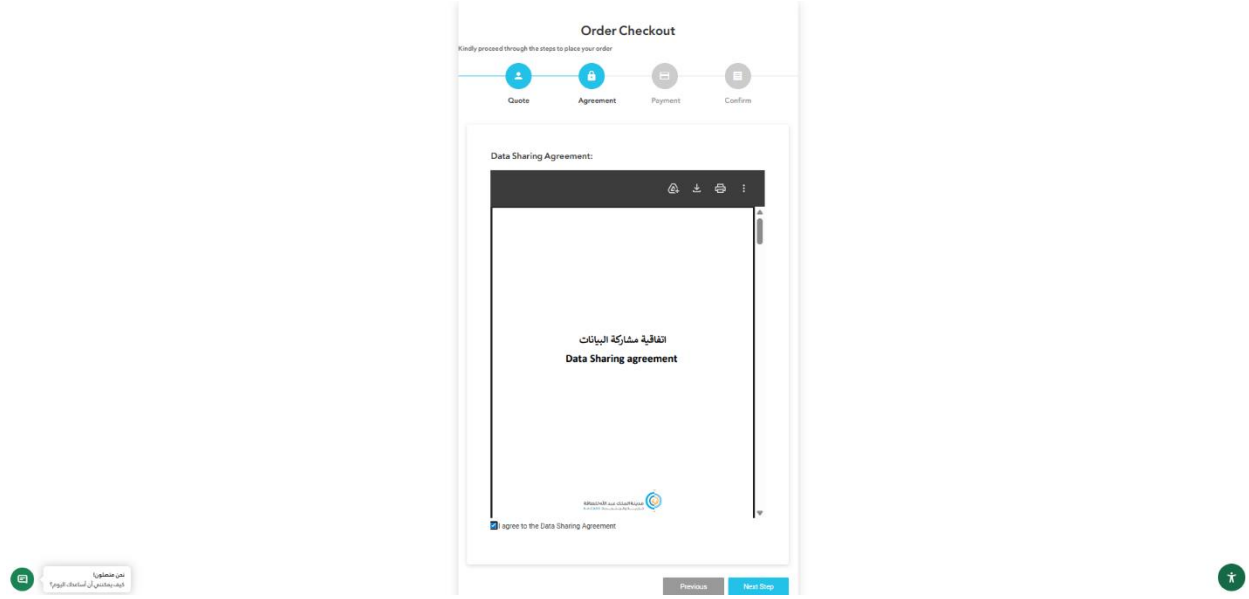



Figure 28: Data Sharing Agreement

The user shall follow the on-screen payment instructions (Figure 29).

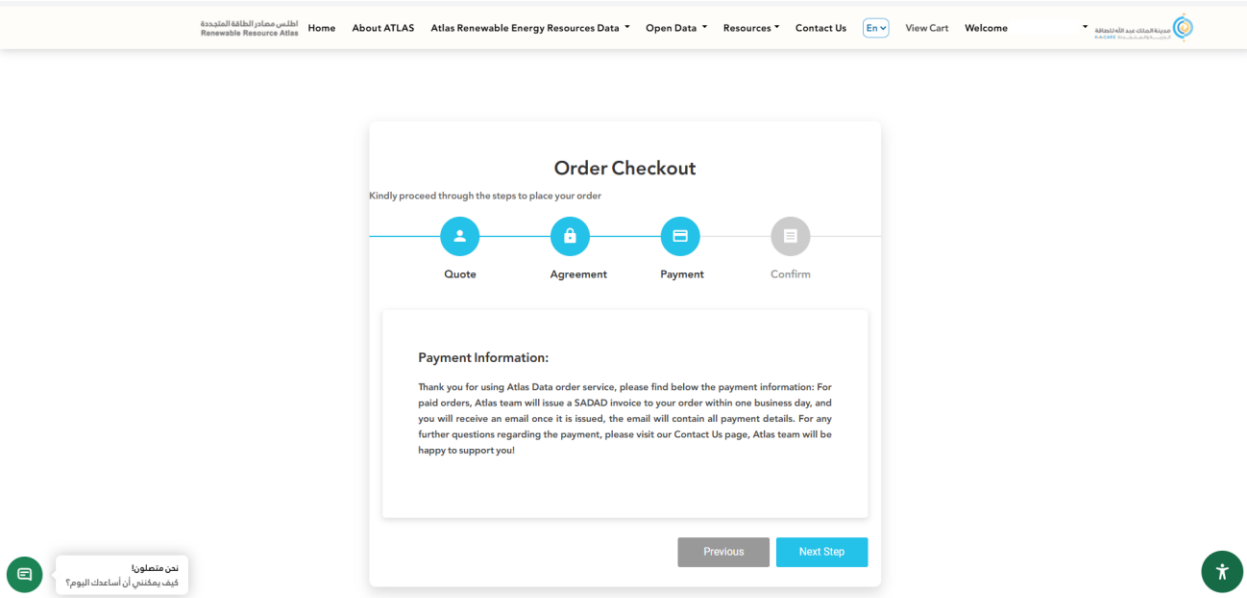



Figure 29: Payment Process

Review the final order details and click on "Submit" (Figure 30).

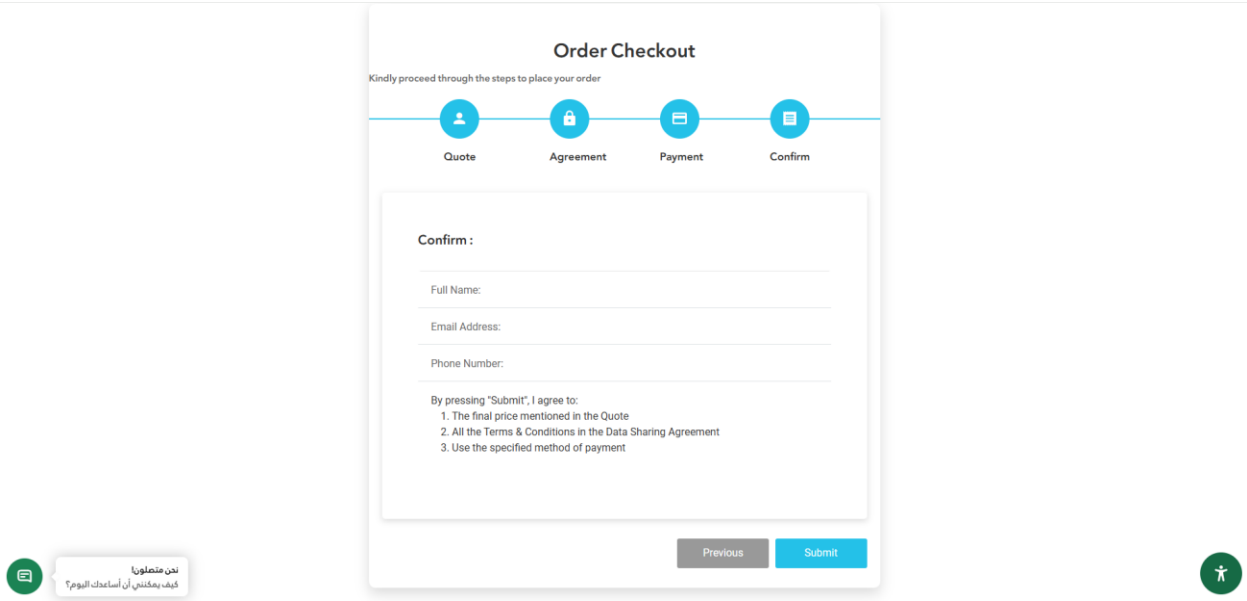



Figure 30: Order Confirmation

Once the order request is approved, locate the automated email sent to the user email inbox. This email confirms that the order is ready to be downloaded (Figure 31).

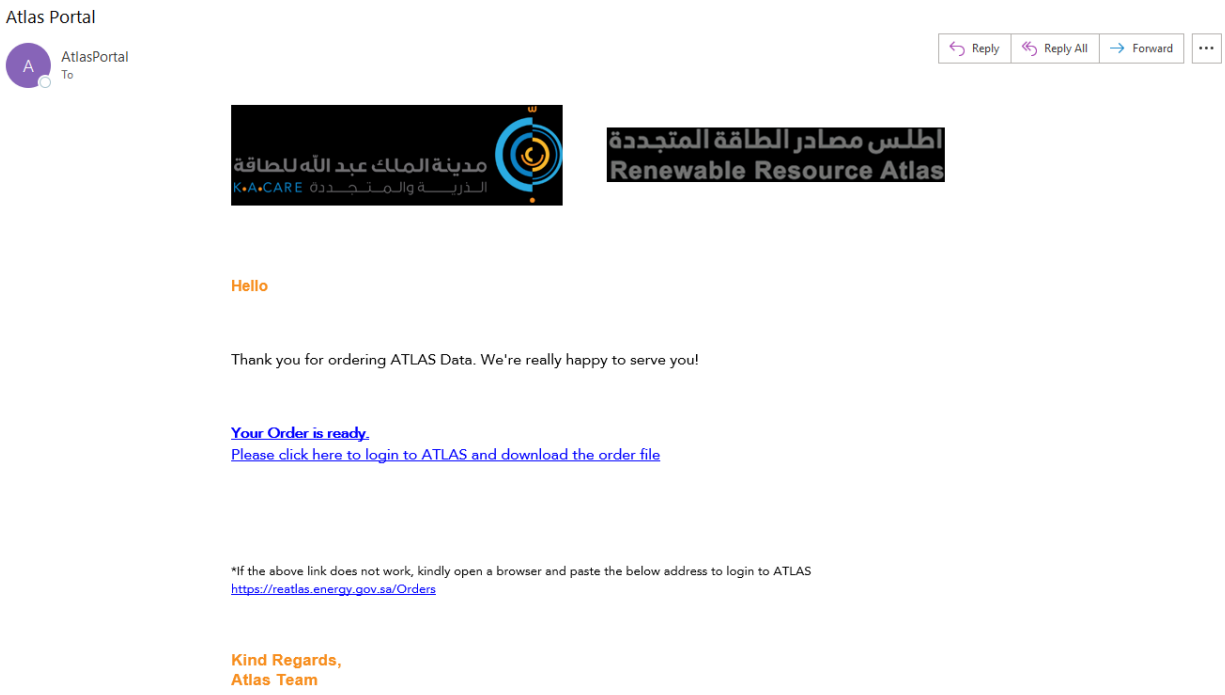



Figure 31: Approved Request Email

Click the access link provided within the email body, which will open the platform in the web browser. Locate the specific request in the order list. On the right-hand side of the order, click “Actions” button. Select the “Download” option from the menu to save the request files on your device (Figure 32).

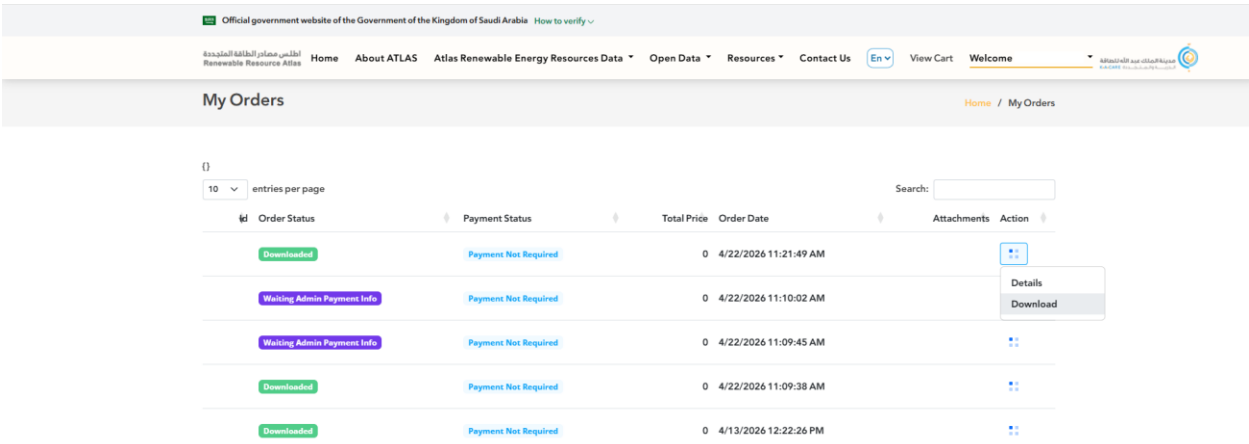



Figure 32: Download Menu

Alternatively, navigate to the top-right corner of the browser window and click on the Profile tab, then “My Orders” tab (Figure 33).

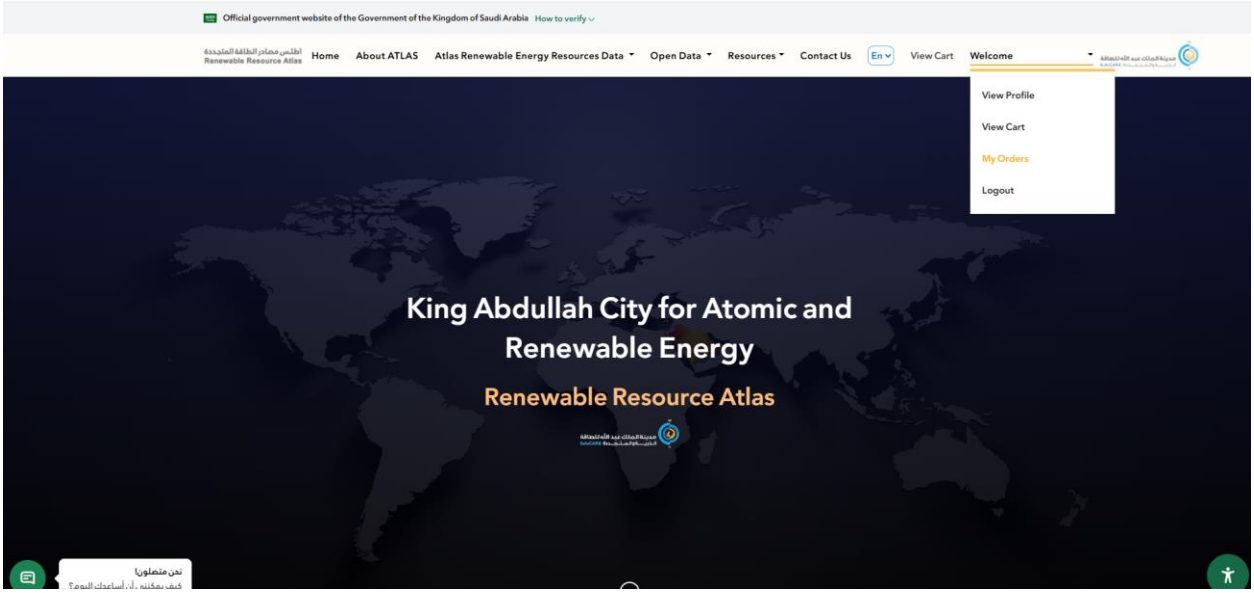



Figure 33: My Orders Tab

Locate the specific request in the order list. On the right-hand side of the order, click “Actions” button. Select the “Download” option from the menu to save the request files on your device (Figure 34).

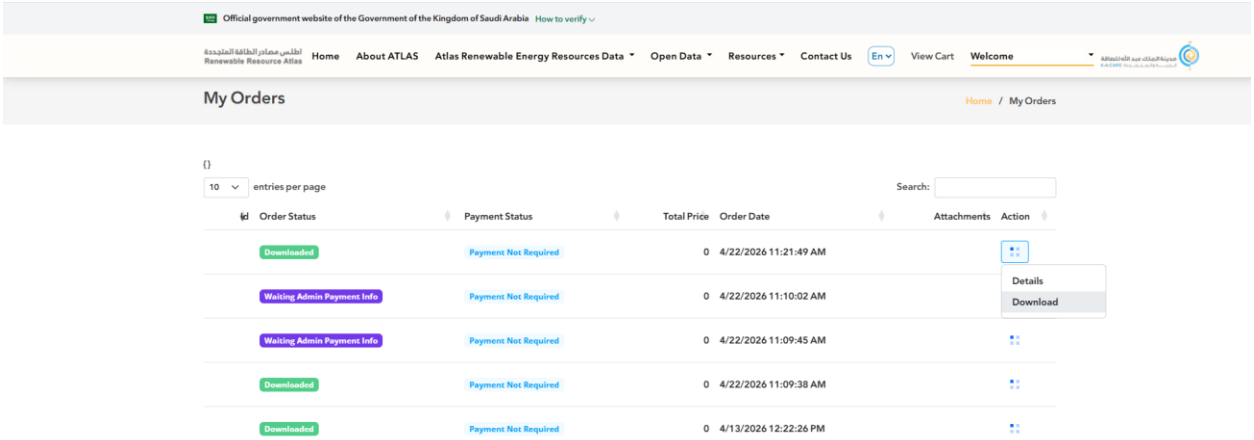
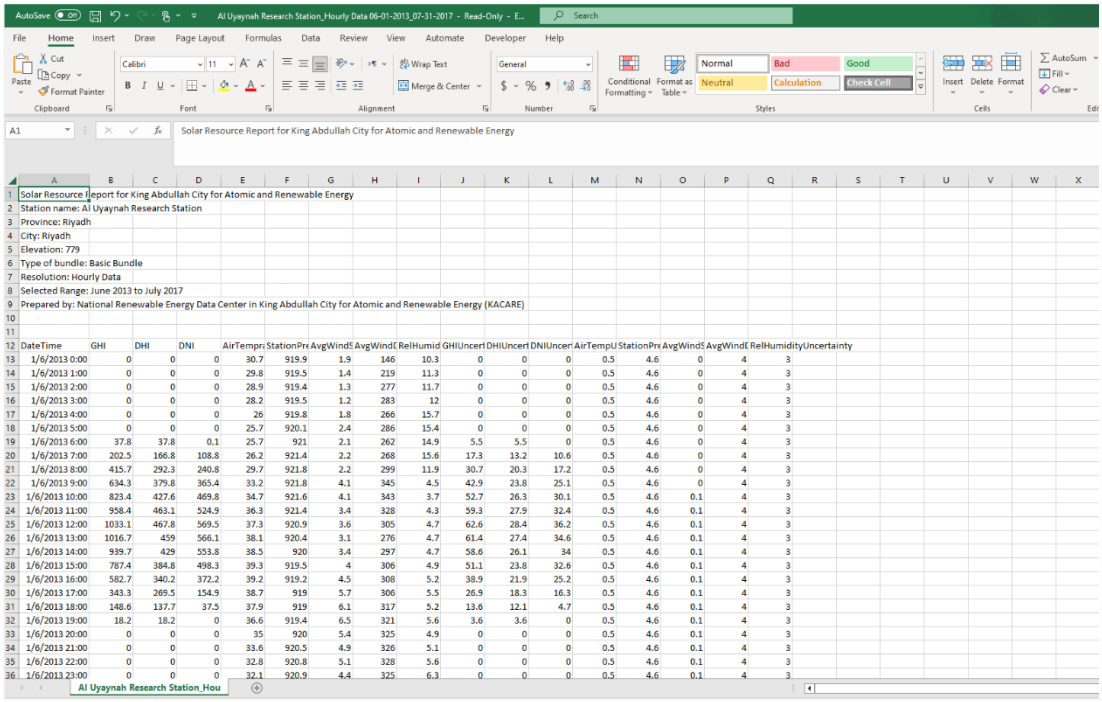



Figure 34: Download Menu

Then, the dataset becomes available for download in CSV format (Figure 35).



Solar Resource Report for King Abdullah City for Atomic and Renewable Energy
Station name: Al Uyaynah Research Station
Province: Riyadh
City: Riyadh
Elevation: 779
Type of bundle: Basic Bundle
Resolution: Hourly Data
Selected Range: June 2013 to July 2017
Prepared by: National Renewable Energy Data Center in King Abdullah City for Atomic and Renewable Energy (KACARE)

| DateTime | GHI | DHI | DNI | AirTempr | StationPre | AvgWindS | AvgWindD | RelHumid | GHIUncert | DHIUncert | DNIUncert | AirTempU | StationPre | AvgWindS | AvgWindD | RelHumidityUncertainty |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/6/2013 0:00 | 0 | 0 | 0 | 30.7 | 919.9 | 1.9 | 146 | 10.3 | 0 | 0 | 0 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 1:00 | 0 | 0 | 0 | 29.8 | 919.5 | 1.4 | 219 | 11.3 | 0 | 0 | 0 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 2:00 | 0 | 0 | 0 | 28.9 | 919.4 | 1.3 | 277 | 11.7 | 0 | 0 | 0 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 3:00 | 0 | 0 | 0 | 28.2 | 919.5 | 1.2 | 283 | 12 | 0 | 0 | 0 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 4:00 | 0 | 0 | 0 | 26 | 919.8 | 1.8 | 266 | 15.7 | 0 | 0 | 0 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 5:00 | 0 | 0 | 0 | 25.7 | 920.1 | 2.4 | 286 | 15.4 | 0 | 0 | 0 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 6:00 | 37.8 | 37.8 | 0.1 | 25.7 | 921 | 2.1 | 262 | 14.9 | 5.5 | 5.5 | 0 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 7:00 | 202.5 | 166.8 | 108.8 | 26.2 | 921.4 | 2.2 | 268 | 15.6 | 17.3 | 13.2 | 10.6 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 8:00 | 415.7 | 292.3 | 240.8 | 29.7 | 921.8 | 2.2 | 299 | 11.9 | 30.7 | 20.3 | 17.2 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 9:00 | 634.3 | 379.8 | 365.4 | 33.2 | 921.8 | 4.1 | 345 | 4.5 | 42.9 | 23.8 | 25.1 | 0.5 | 4.6 | 0 | 4 | 3 |
| 1/6/2013 10:00 | 823.4 | 427.6 | 469.8 | 34.7 | 921.6 | 4.1 | 343 | 3.7 | 52.7 | 26.3 | 30.1 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 11:00 | 958.4 | 463.1 | 524.9 | 36.3 | 921.4 | 3.4 | 328 | 4.3 | 59.3 | 27.9 | 32.4 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 12:00 | 1033.1 | 467.8 | 569.5 | 37.3 | 920.9 | 3.6 | 305 | 4.7 | 62.6 | 28.4 | 36.2 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 13:00 | 1016.7 | 459 | 566.1 | 38.1 | 920.4 | 3.1 | 276 | 4.7 | 61.4 | 27.4 | 34.6 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 14:00 | 939.7 | 429 | 553.8 | 38.5 | 920 | 3.4 | 297 | 4.7 | 58.6 | 26.1 | 34 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 15:00 | 787.4 | 384.8 | 498.3 | 39.3 | 919.5 | 4 | 306 | 4.9 | 51.1 | 23.8 | 32.6 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 16:00 | 582.7 | 340.2 | 372.2 | 39.2 | 919.2 | 4.5 | 308 | 5.2 | 38.9 | 21.9 | 25.2 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 17:00 | 343.3 | 269.5 | 154.9 | 38.7 | 919 | 5.7 | 306 | 5.5 | 26.9 | 18.3 | 16.3 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 18:00 | 148.6 | 137.7 | 37.5 | 37.9 | 919 | 6.1 | 317 | 5.2 | 13.6 | 12.1 | 4.7 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 19:00 | 18.2 | 18.2 | 0 | 36.6 | 919.4 | 6.5 | 321 | 5.6 | 3.6 | 3.6 | 0 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 20:00 | 0 | 0 | 0 | 35 | 920 | 5.4 | 325 | 4.9 | 0 | 0 | 0 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 21:00 | 0 | 0 | 0 | 33.6 | 920.5 | 4.9 | 326 | 5.1 | 0 | 0 | 0 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 22:00 | 0 | 0 | 0 | 32.8 | 920.8 | 5.1 | 328 | 5.6 | 0 | 0 | 0 | 0.5 | 4.6 | 0.1 | 4 | 3 |
| 1/6/2013 23:00 | 0 | 0 | 0 | 32.1 | 920.9 | 4.4 | 325 | 6.3 | 0 | 0 | 0 | 0.5 | 4.6 | 0.1 | 4 | 3 |

Figure 35: Downloaded Dataset

In the Atlas platform, there is a feature that allows users to compare two stations and analyze their behavior. To begin using this service, click on “Request Service” (Figure 36).

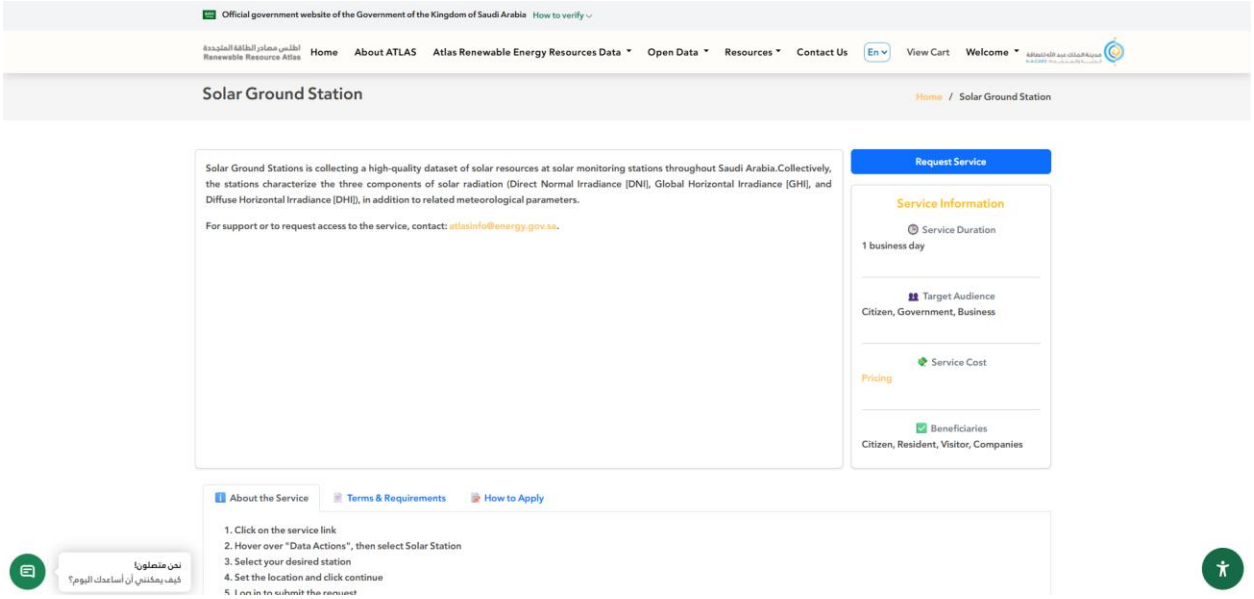



Figure 36: Request Service

Select the first station name, then click on “Compare” to select the second station from the map (Figure 37).

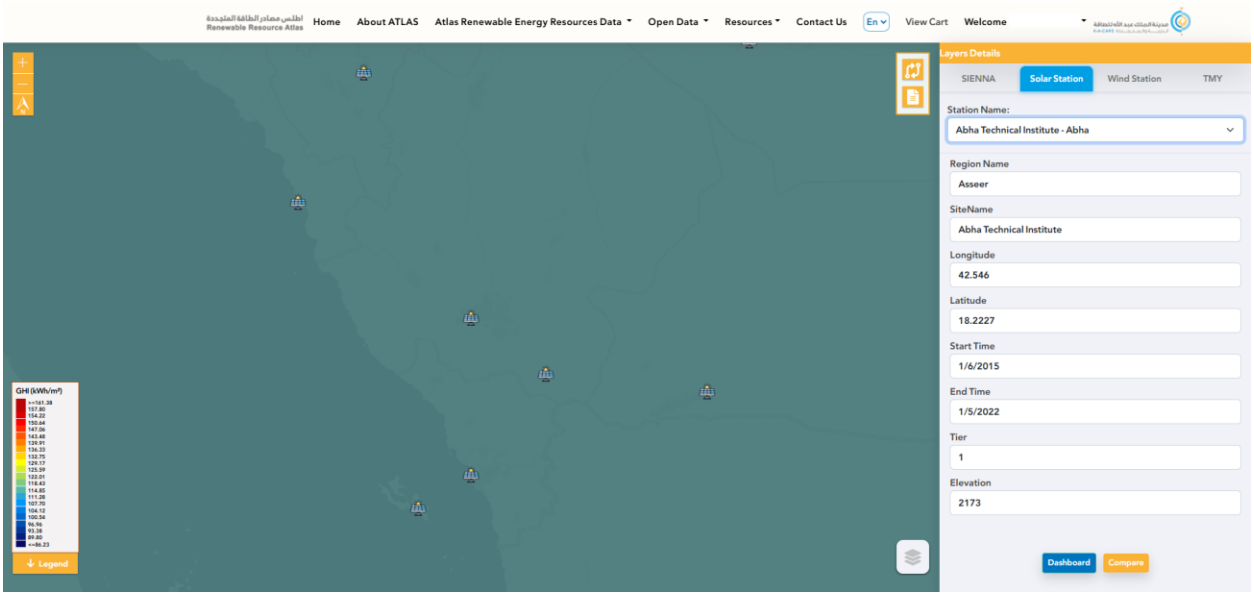



Figure 37: Compare Process

Afterwards both stations datasets are available for comparison, click on "Start Compare" (Figure 38).

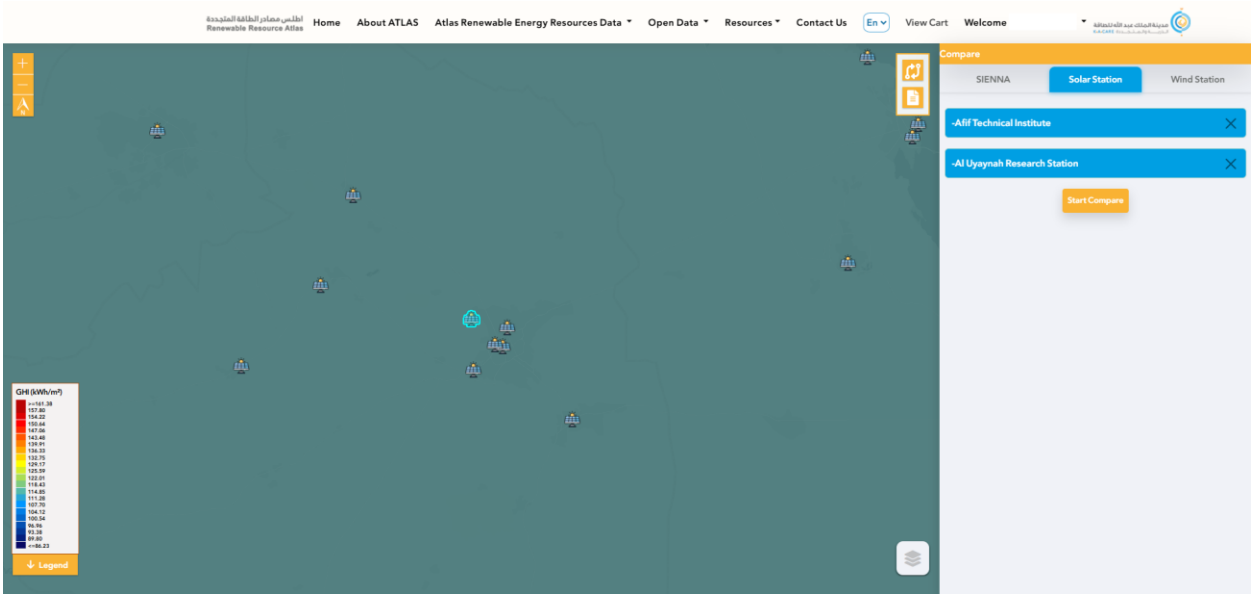



Figure 38: Start Compare Process

Then the "Dashboard" configuration open, where the user can (Figure 39):

- Define aggregation level
- Select time range
- Customize parameters
- Display charts

The data can only be viewed through the comparison feature and not downloaded.

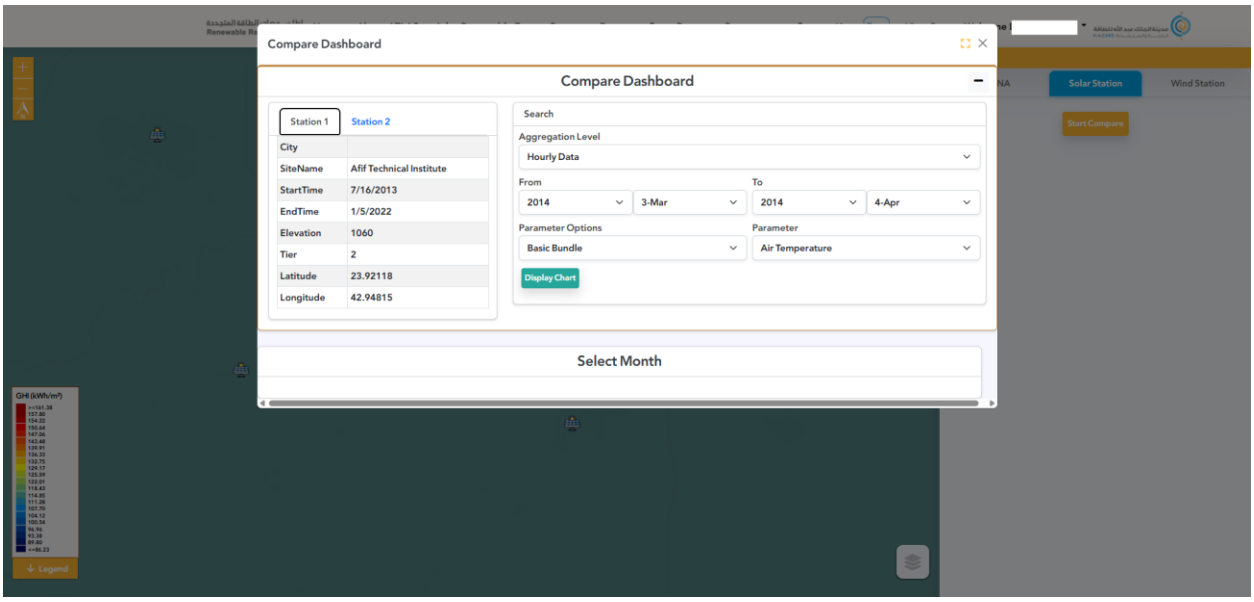



Figure 39: Dashboard Configuration

## ii. Wind Ground Stations Service

The Wind Ground Stations Service measures wind energy resources to support wind power potential assessment for utility-scale projects. The monitoring stations include cup anemometers, wind vanes, temperature sensors, relative humidity sensors, and barometer sensors.

The table below demonstrates the parameters calculated within this service.

| All Wind Parameters | |
|---|---|
| Air Temperature | Wind Speed at 40m (2) |
| Wind Direction at 37m | Wind Speed at 60m |
| Wind Direction at 80m | Wind Speed at 80m |
| Wind Direction at 98m | Wind Speed at 98m |
| Wind Speed at 100m | Relative Humidity |
| Wind Speed at 40m (1) | Barometric Pressure |

* Reference: Atlas website

To begin the data request process, click on "Request Service" (Figure 40).

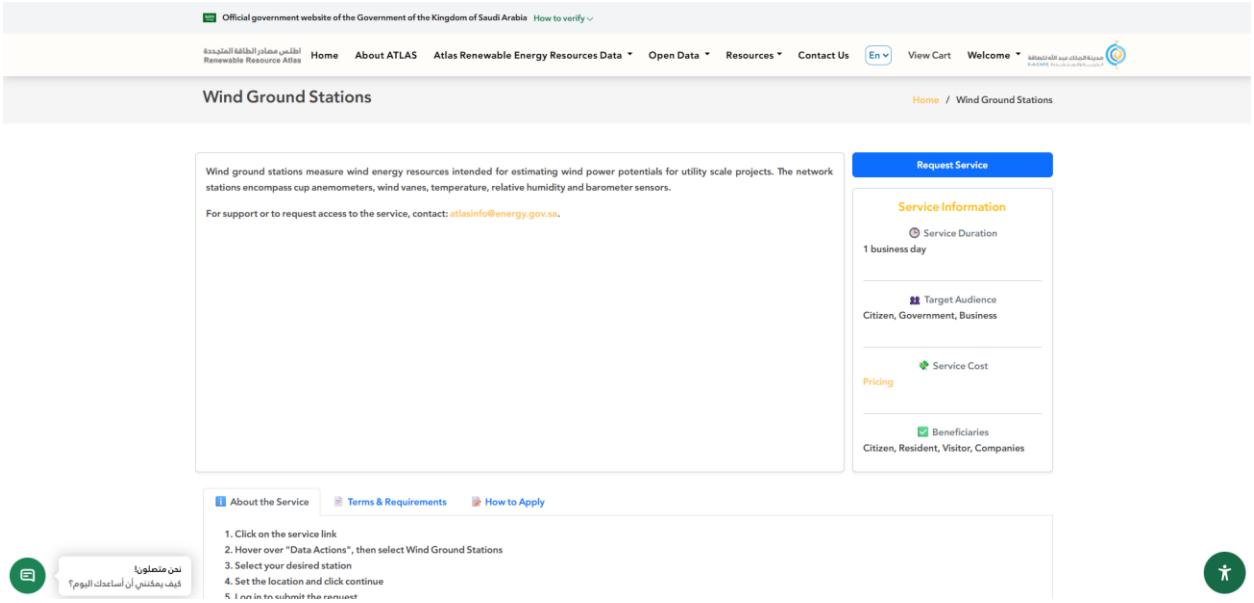



Figure 40: Request Service

On this page, the user can explore the pricing details by navigating to Service Cost section, clicking on "Pricing" within that section to review the full breakdown of fees before proceeding (Figure 41).

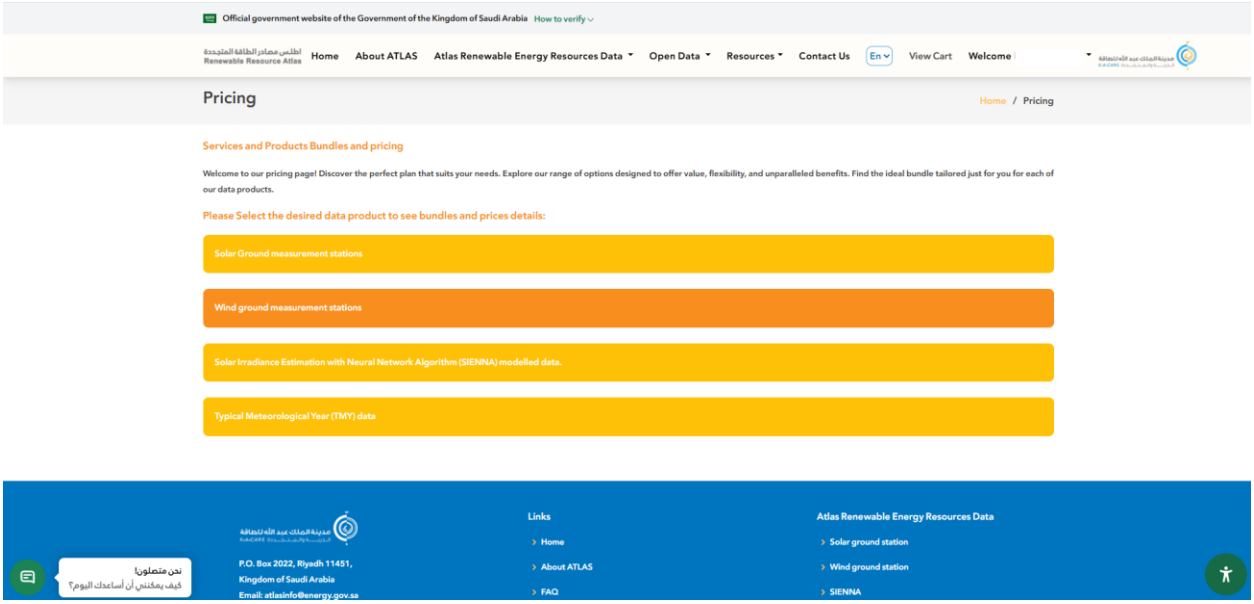



Figure 41: Pricing Detail

The service page will open where the user is able to select the station name and choose the required data parameters (Figure 42).

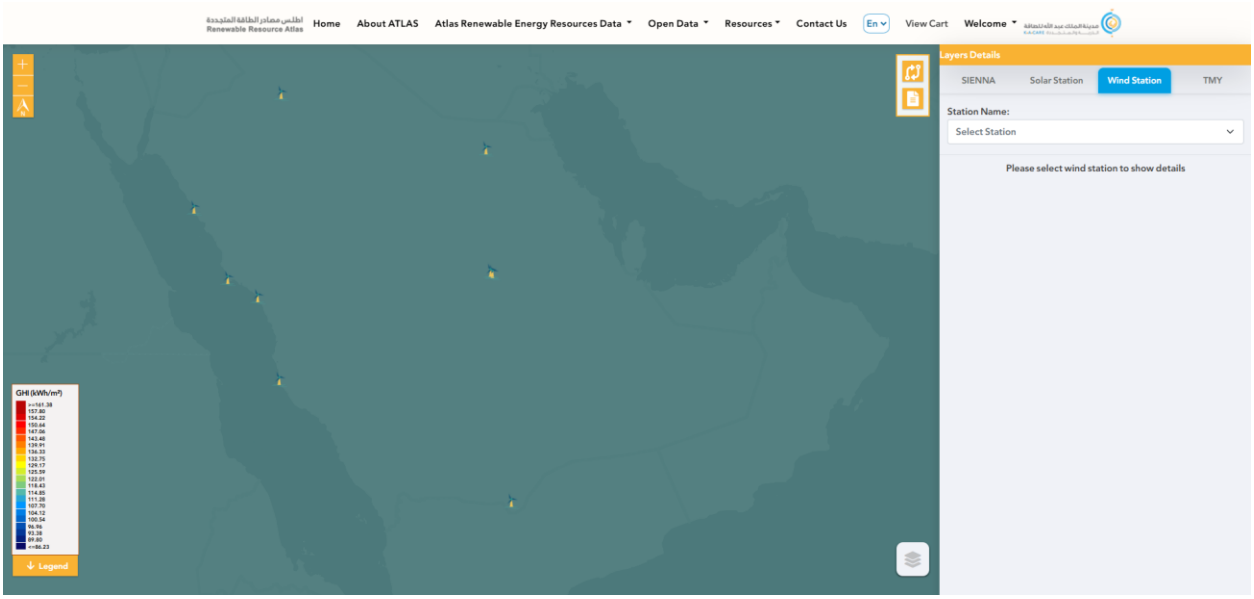



Figure 42: Wind Station Selection

After selecting a station, detailed information about the station will be displayed (Figure 43).

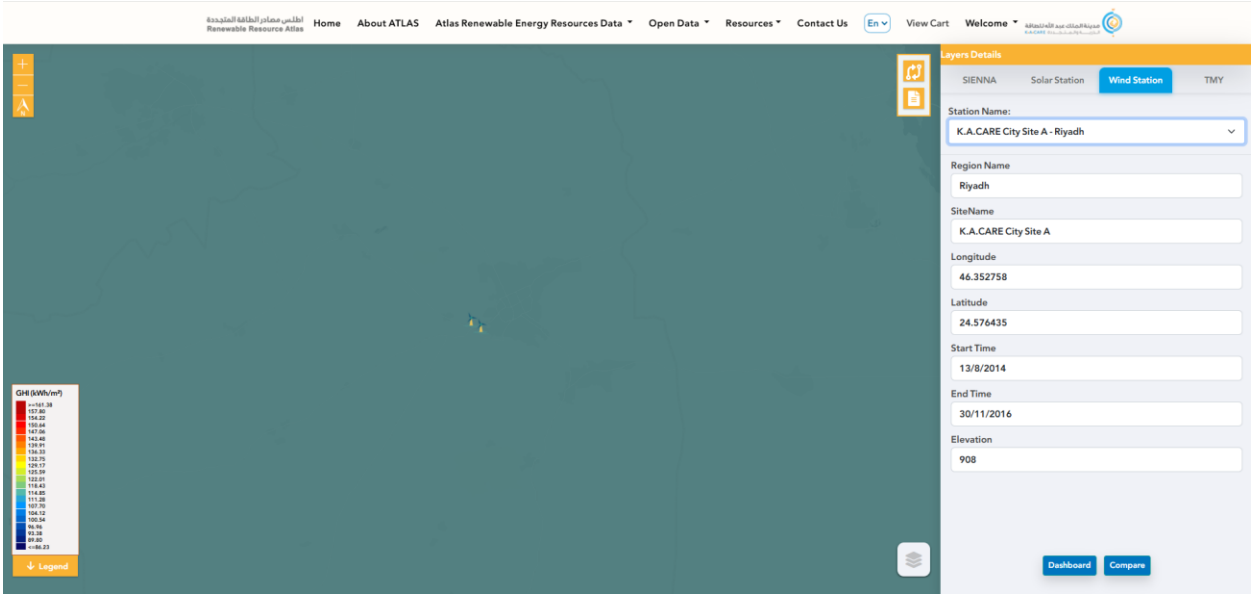



Figure 43: Wind Station Details

Click on "Dashboard" to (Figure 44):

- Define data resolution
- Select time range
- Customize parameters
- Display charts

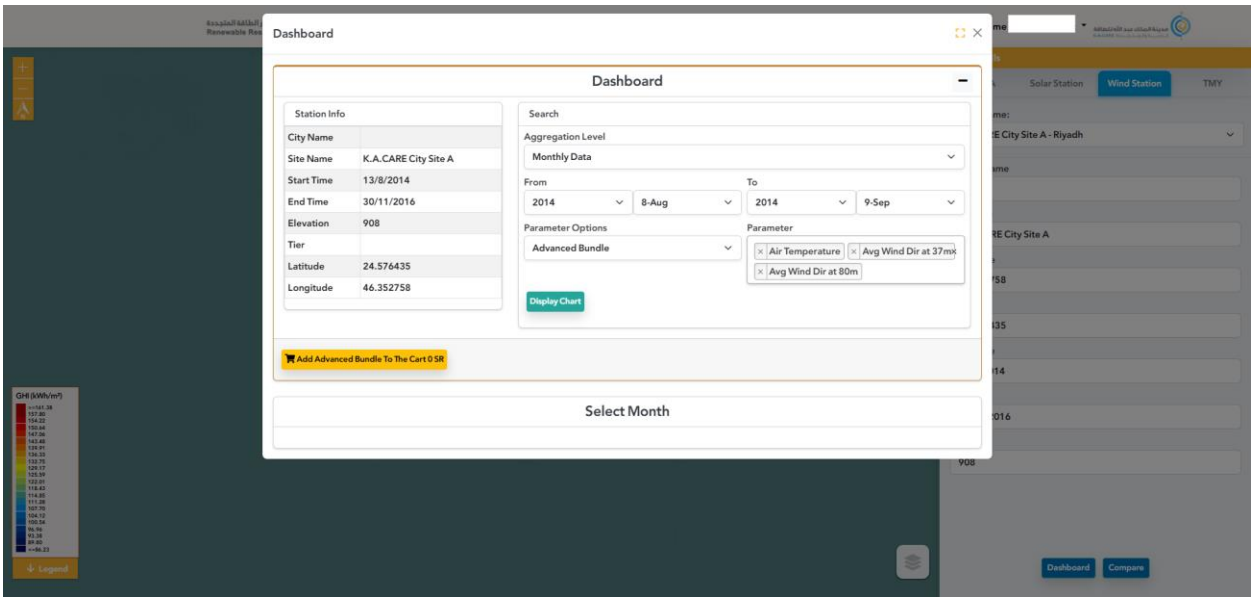



Figure 44: Dashboard Configuration

The user can either view the data through dashboards within the platform or proceed with downloading the dataset (Figure 45).

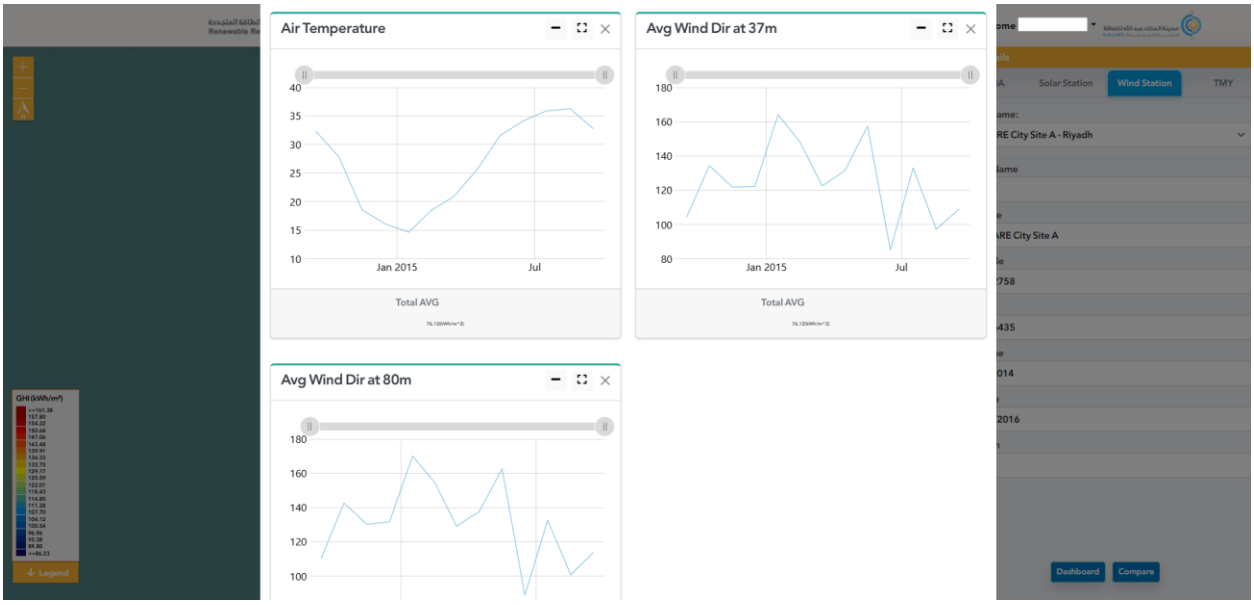



Figure 45: Display Charts

Once the data configuration is complete, submit the request by "Add Custom Bundle to Cart" and the request will be added to the cart (Figure 46).

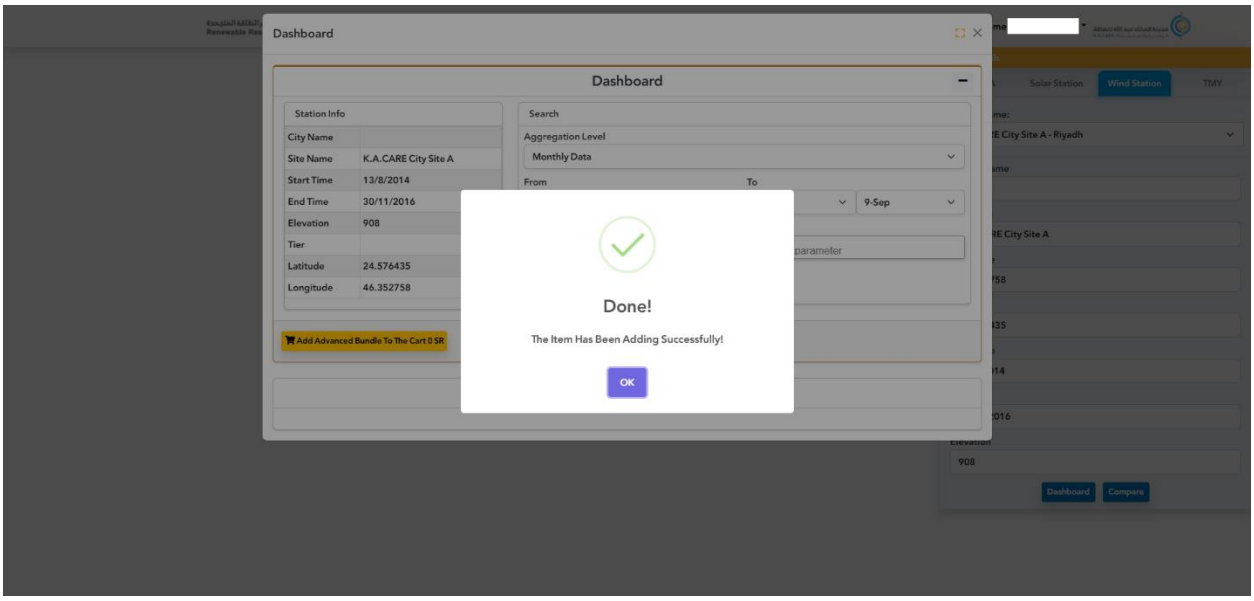



Figure 46: Add Item to Cart

Proceed to “View Cart” in the top-right corner of the browser to complete the payment process through the “Checkout” button (Figure 47).

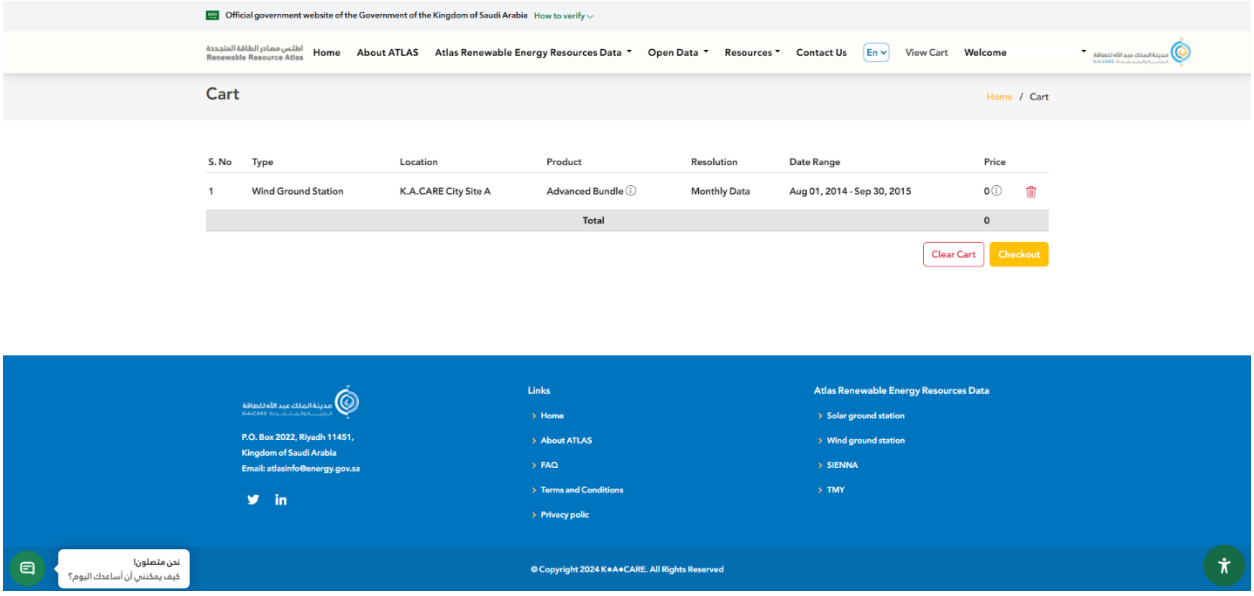



Figure 47: View Cart

On the orders page, the user can view list of items requested. Click on ⓘ icon next to the product name to view the specific attribute order details (Figure 48).

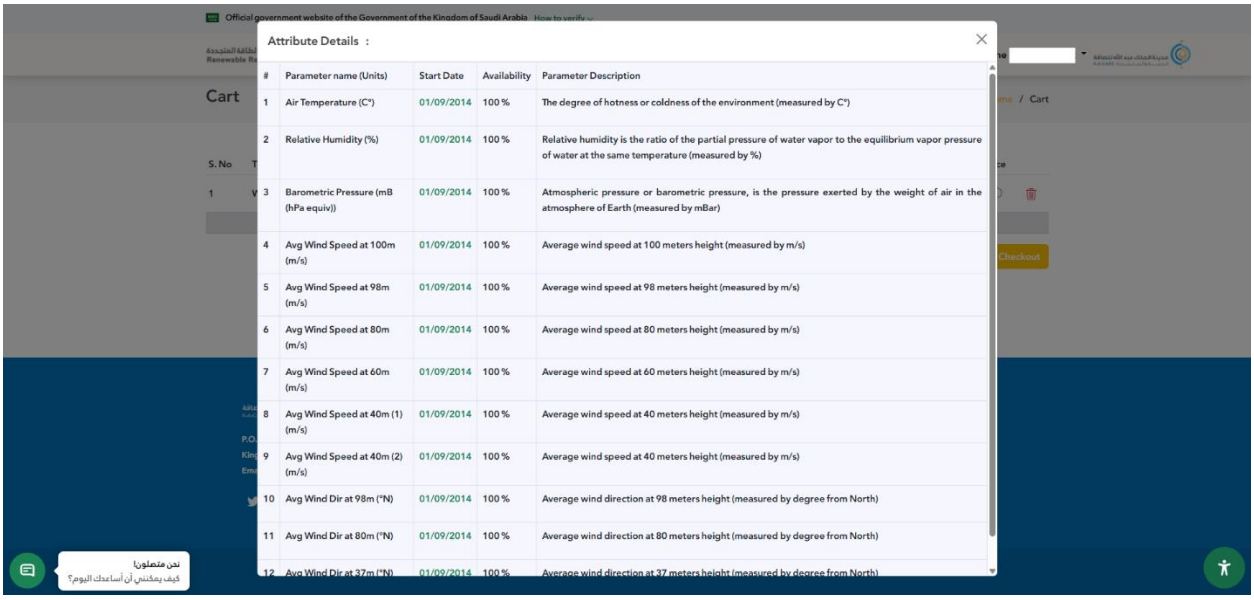



Figure 48: View Order Details

Click on ⓘ icon next to the price to view a breakdown of cost details (Figure 49).

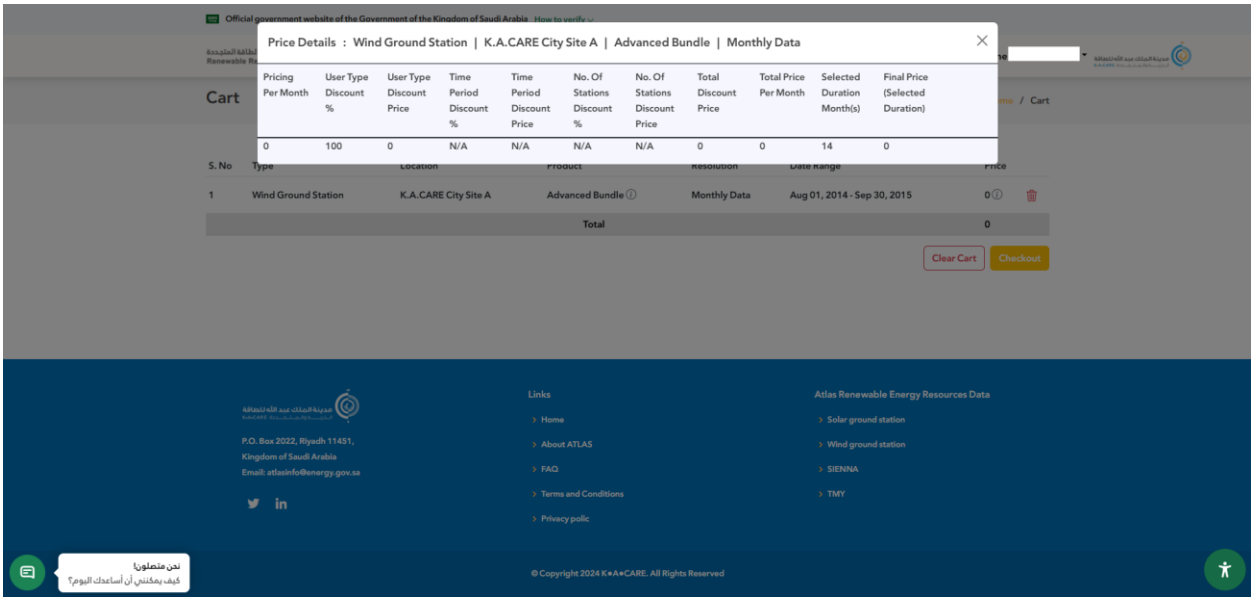



Figure 49: View Price Details

To proceed with confirming the order, click on "Checkout". A popup message will appear to verify the user request (Figure 50).

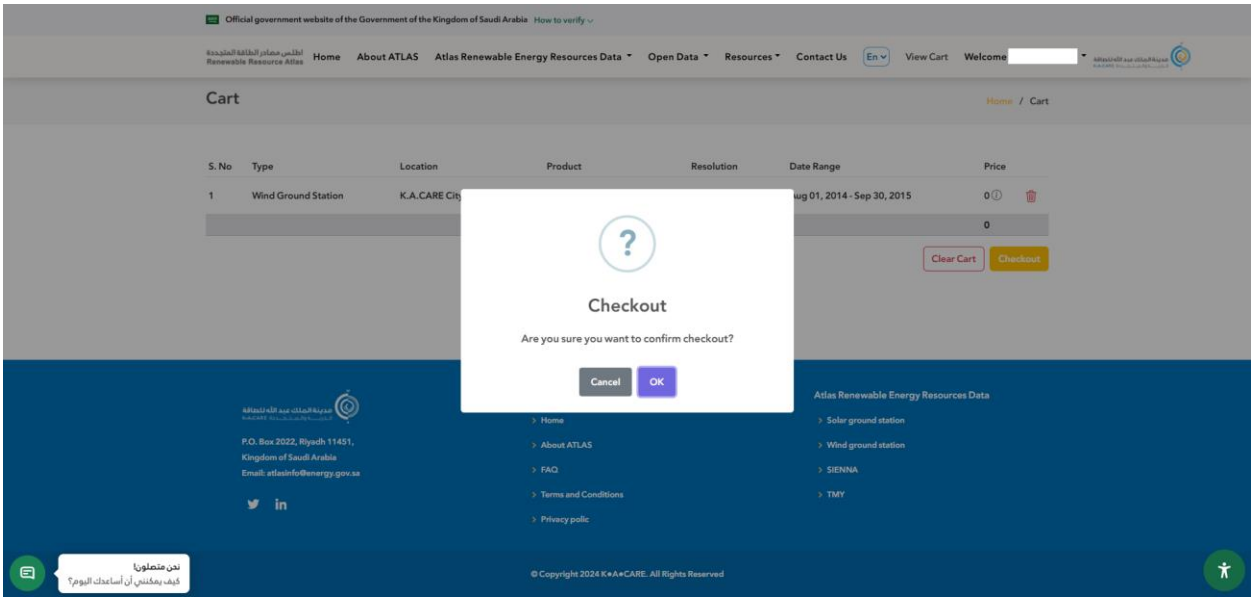



Figure 50: Checkout Process

Once verified, the user can view the quotation document (Figure 51), then proceed to the next step to place the order by clicking "Next Step".

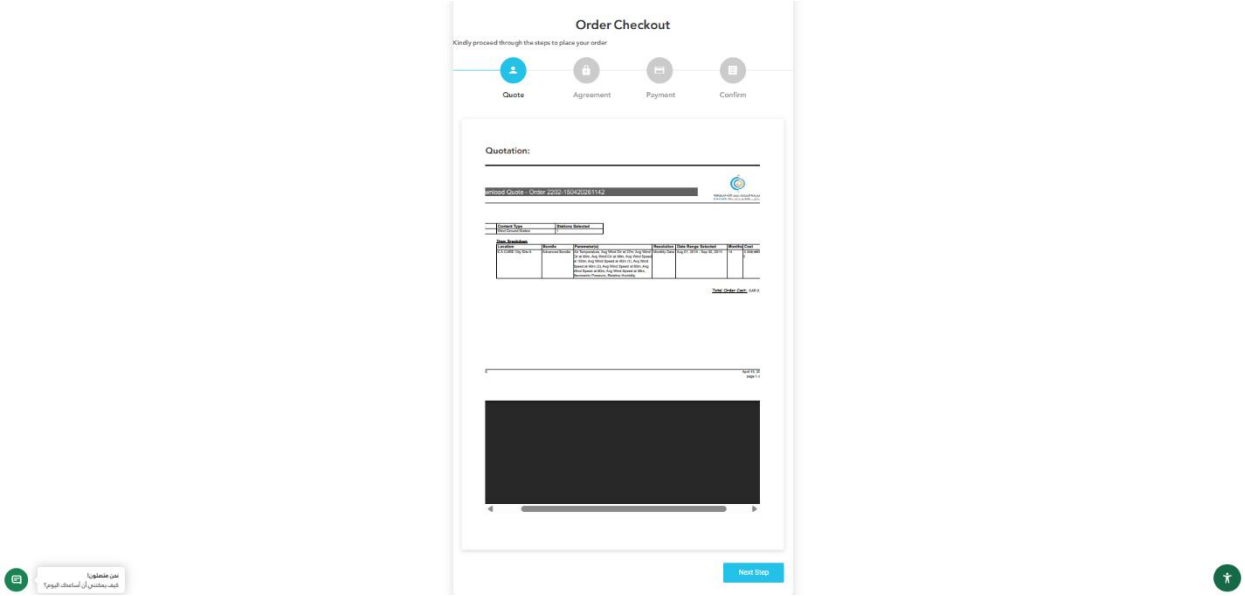



Figure 51: Order Quotation

The user shall review the agreement and check the box to agree and process the order (Figure 52).

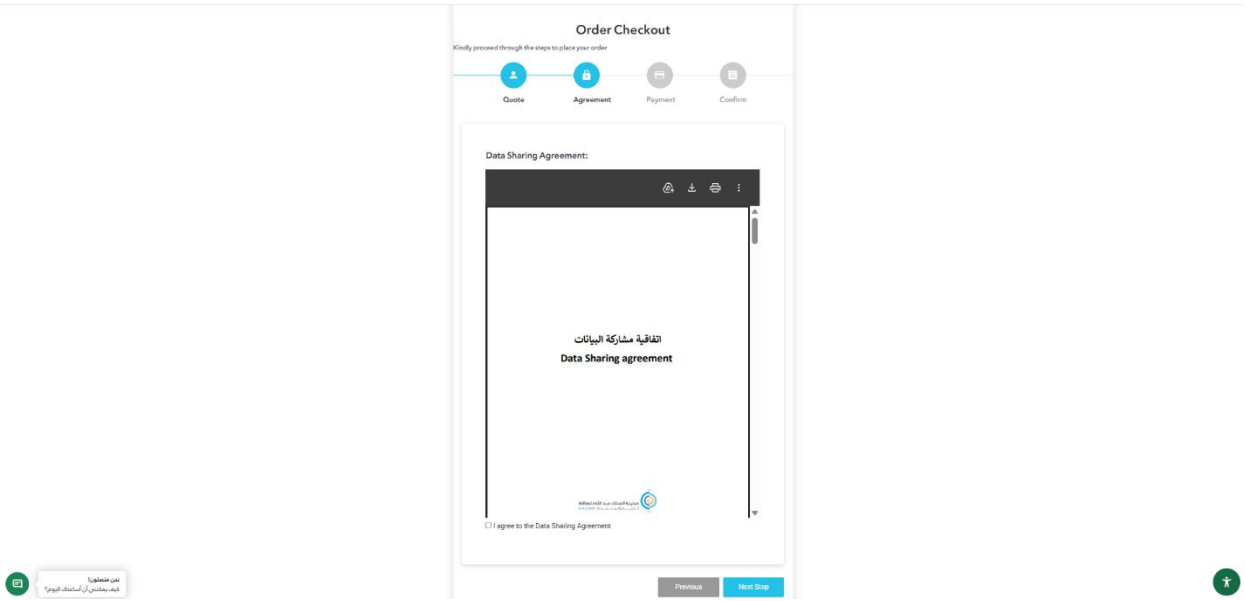



Figure 52: Data Sharing Agreement

The user shall follow the on-screen payment instructions (Figure 53).

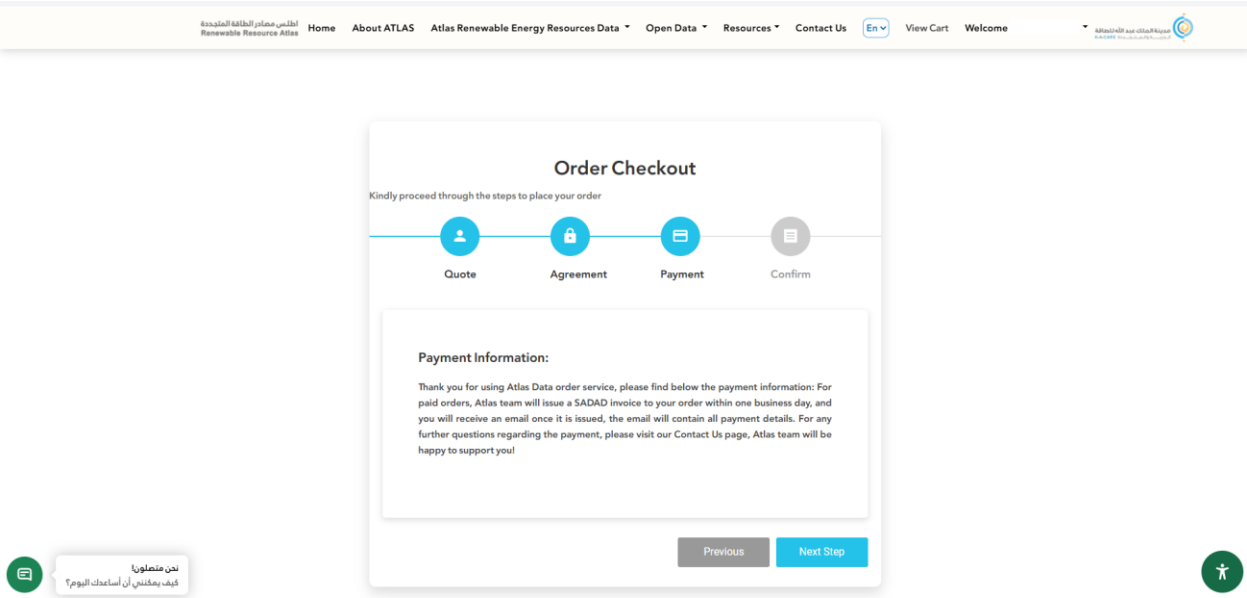



Figure 53: Payment Process

Review the final order details and click on "Submit" (Figure 54).

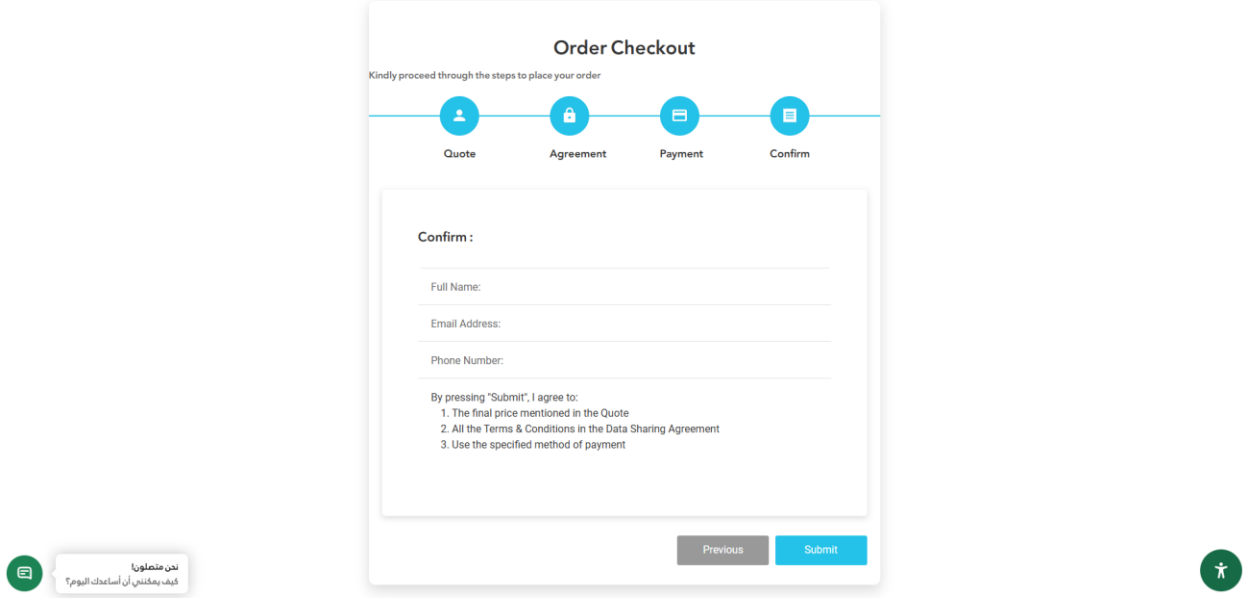



Figure 54: Order Confirmation

Once the order request is approved, locate the automated email sent to the user email inbox. This email confirms that the order is ready to be downloaded (Figure 55).

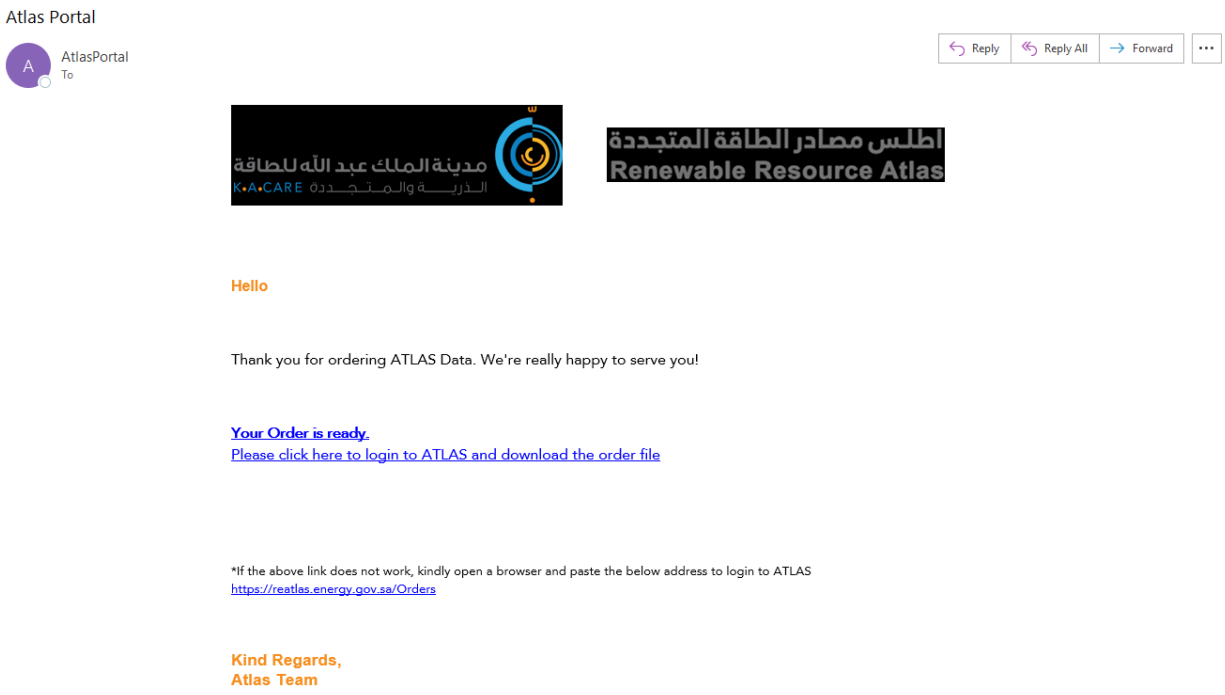



Figure 55: Approved Request Email

Click the access link provided within the email body, which will open the platform in the web browser. Locate the specific request in the order list. On the right-hand side of the order, click “Actions” button. Select the “Download” option from the menu to save the request files on your device (Figure 56).

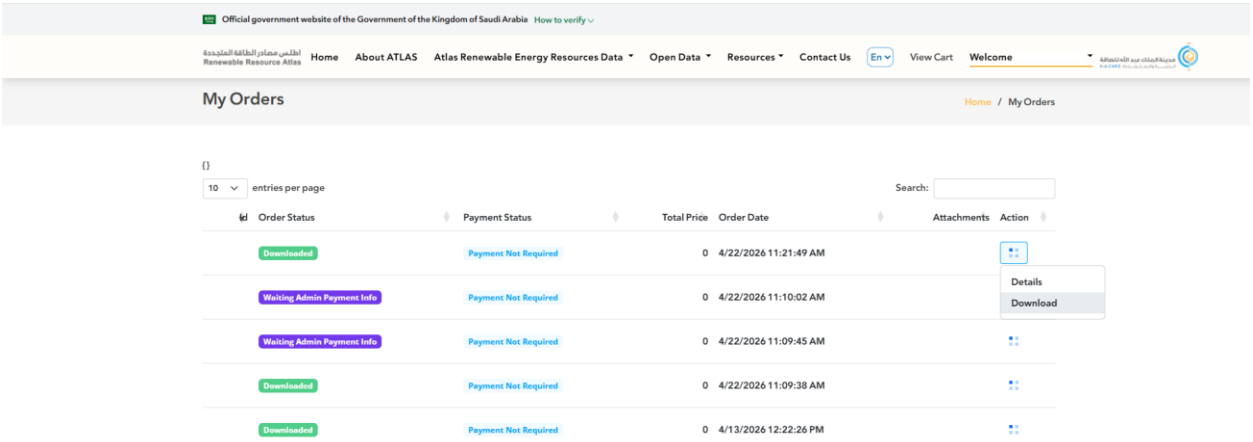



Figure 56: Download Menu

Alternatively, navigate to the top-right corner of the browser window and click on the Profile tab, then “My Orders” tab (Figure 57).

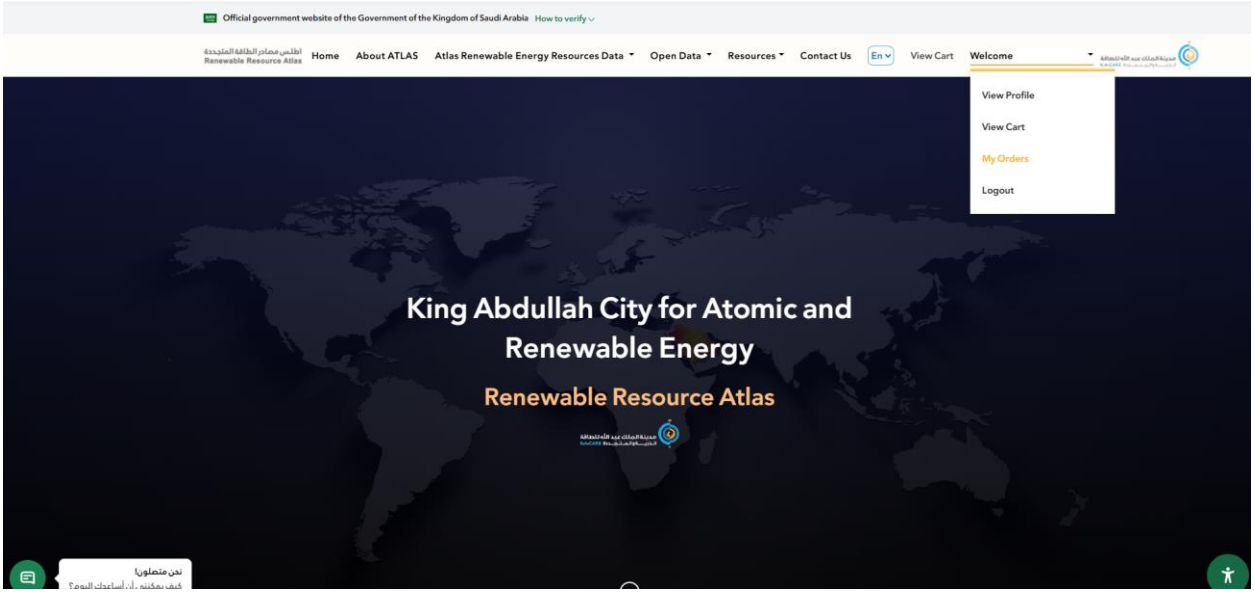



Figure 57: My Orders Tab

Locate the specific request in the order list. On the right-hand side of the order, click “Actions” button. Select the “Download” option from the menu to save the request files on your device (Figure 58).

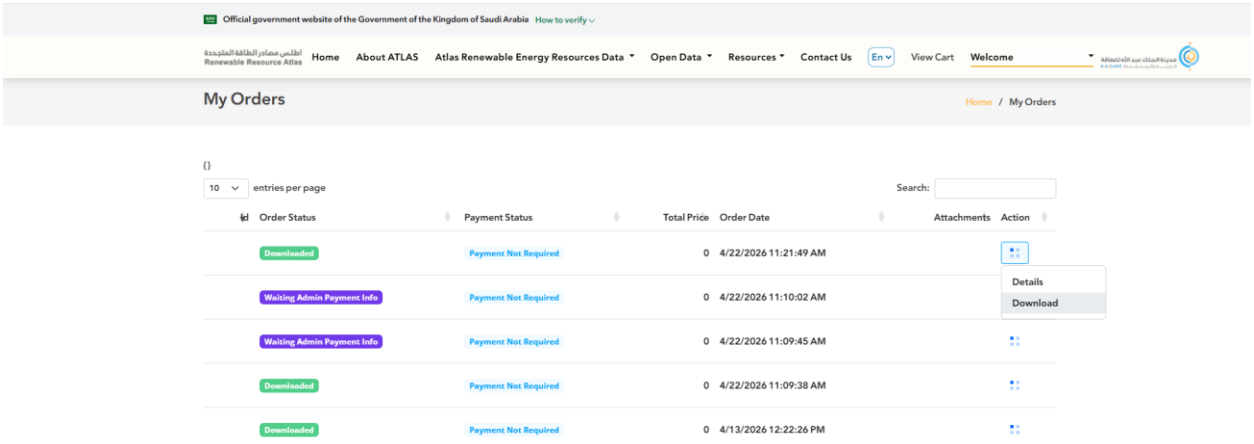
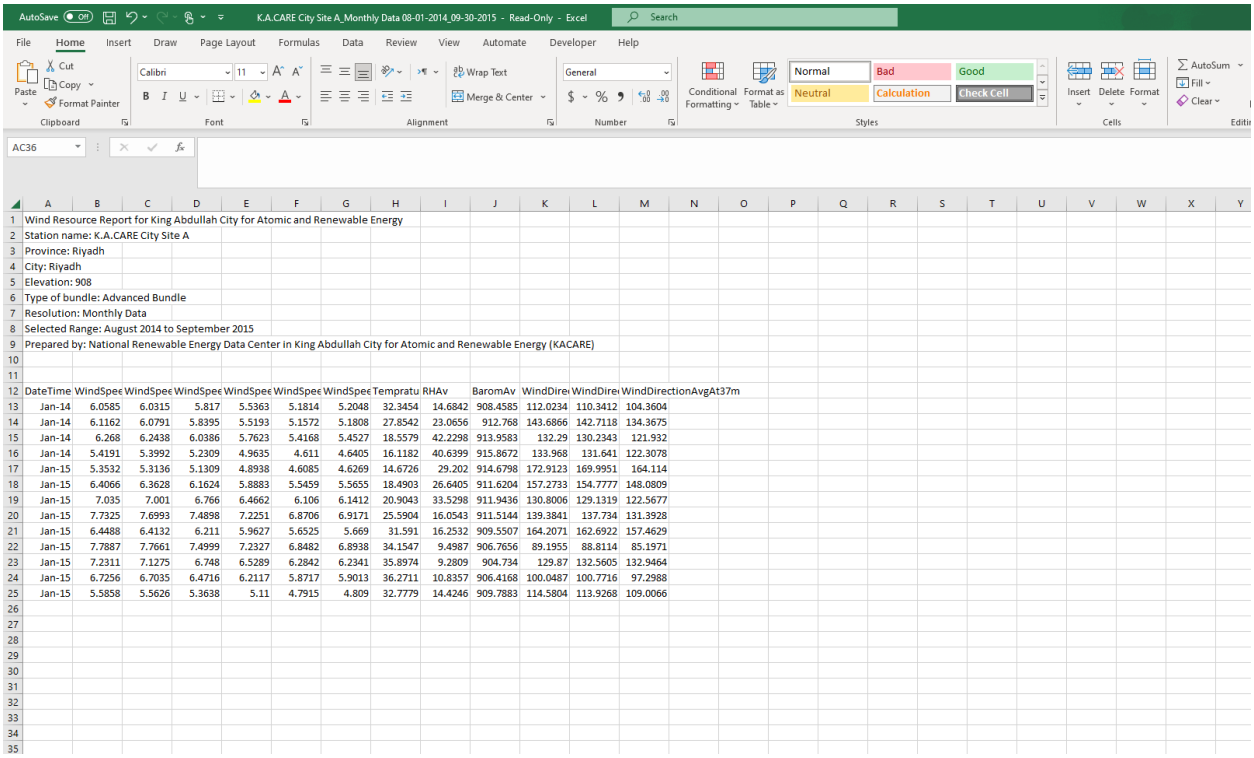



Figure 58: Download Menu

Once the request is approved, the dataset becomes available for download in CSV format (Figure 59).



Wind Resource Report for King Abdullah City for Atomic and Renewable Energy
Station name: K.A.CARE City Site A
Province: Riyadh
City: Riyadh
Elevation: 908
Type of bundle: Advanced Bundle
Resolution: Monthly Data
Selected Range: August 2014 to September 2015
Prepared by: National Renewable Energy Data Center in King Abdullah City for Atomic and Renewable Energy (KACARE)

| DateTime | WindSpee | WindSpee | WindSpee | WindSpee | WindSpee | WindSpee | Tempratu | RHAv | BaromAv | WindDire | WindDire | WindDirectionAvgAt37m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan-14 | 6.0585 | 6.0315 | 5.817 | 5.5363 | 5.1814 | 5.2048 | 32.3454 | 14.6842 | 908.4585 | 112.0234 | 110.3412 | 104.3604 |
| Jan-14 | 6.1162 | 6.0791 | 5.8395 | 5.5193 | 5.1572 | 5.1808 | 27.8542 | 23.0656 | 912.768 | 143.6866 | 142.7118 | 134.3675 |
| Jan-14 | 6.268 | 6.2438 | 6.0386 | 5.7623 | 5.4168 | 5.4527 | 18.5579 | 42.2298 | 913.9583 | 132.29 | 130.2343 | 121.932 |
| Jan-14 | 5.4191 | 5.3992 | 5.2309 | 4.9635 | 4.611 | 4.6405 | 16.1182 | 40.6399 | 915.8672 | 133.968 | 131.641 | 122.3078 |
| Jan-15 | 5.3532 | 5.3136 | 5.1309 | 4.8938 | 4.6085 | 4.6269 | 14.6726 | 29.202 | 914.6798 | 172.9123 | 169.9951 | 164.114 |
| Jan-15 | 6.4066 | 6.3628 | 6.1624 | 5.8883 | 5.5459 | 5.5655 | 18.4903 | 26.6405 | 911.6204 | 157.2733 | 154.7777 | 148.0809 |
| Jan-15 | 7.035 | 7.001 | 6.766 | 6.4662 | 6.106 | 6.1412 | 20.9043 | 33.5298 | 911.9436 | 130.8006 | 129.1319 | 122.5677 |
| Jan-15 | 7.7325 | 7.6993 | 7.4898 | 7.2251 | 6.8706 | 6.9171 | 25.5904 | 16.0543 | 911.5144 | 139.3841 | 137.734 | 131.3928 |
| Jan-15 | 6.4488 | 6.4132 | 6.211 | 5.9627 | 5.6525 | 5.669 | 31.591 | 16.2532 | 909.5507 | 164.2071 | 162.6922 | 157.4629 |
| Jan-15 | 7.7887 | 7.7661 | 7.4999 | 7.2327 | 6.8482 | 6.8938 | 34.1547 | 9.4987 | 906.7656 | 89.1955 | 88.8114 | 85.1971 |
| Jan-15 | 7.2311 | 7.1275 | 6.748 | 6.5289 | 6.2842 | 6.2341 | 35.8974 | 9.2809 | 904.734 | 129.87 | 132.5605 | 132.9464 |
| Jan-15 | 6.7256 | 6.7035 | 6.4716 | 6.2117 | 5.8717 | 5.9013 | 36.2711 | 10.8357 | 906.4168 | 100.0487 | 100.7716 | 97.2988 |
| Jan-15 | 5.5858 | 5.5626 | 5.3638 | 5.11 | 4.7915 | 4.809 | 32.7779 | 14.4246 | 909.7883 | 114.5804 | 113.9268 | 109.0066 |

Figure 59: Downloaded Dataset

In the Atlas platform, there is a feature that allows users to compare two stations and analyze their behavior. To begin using this service, click on "Request Service" (Figure 60).

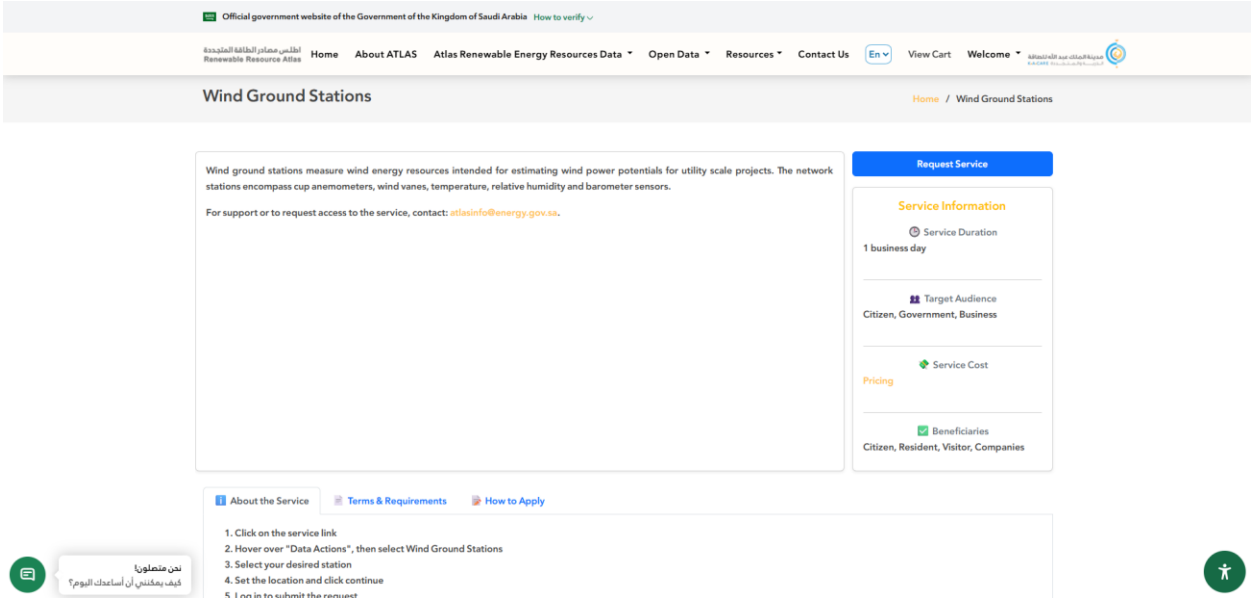



Figure 60: Request Service

Select the initial station name, then click on "Compare" to select the second station from the map (Figure 61).

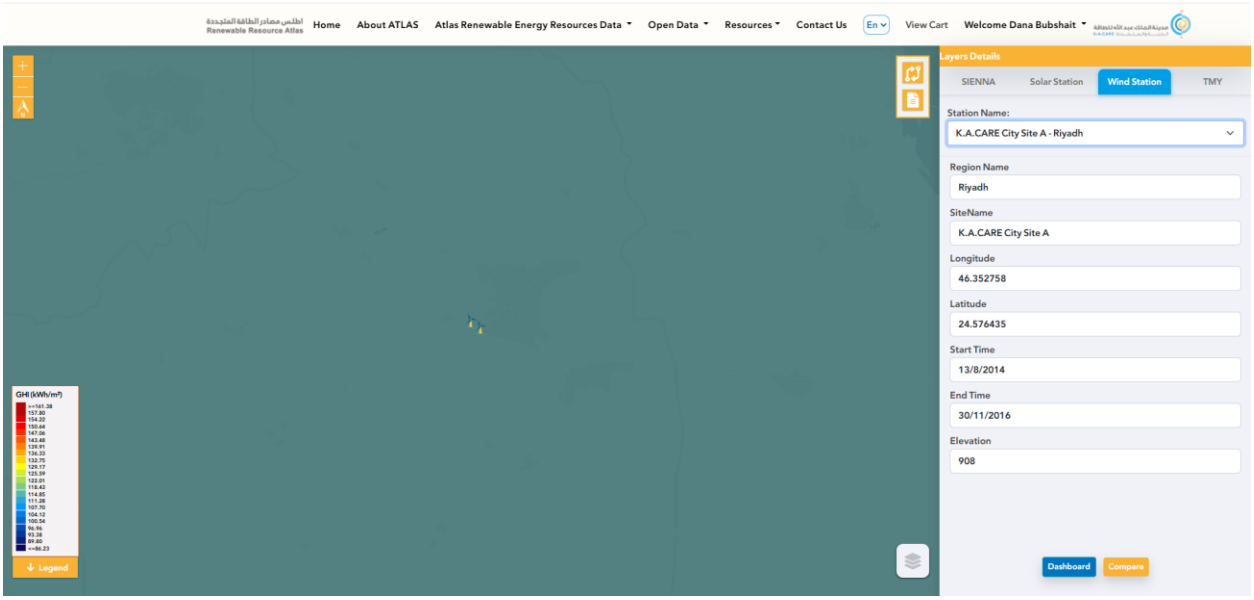



Figure 61: Compare Process

Afterwards both stations datasets are available for comparison, click on "Start Compare" (Figure 62).

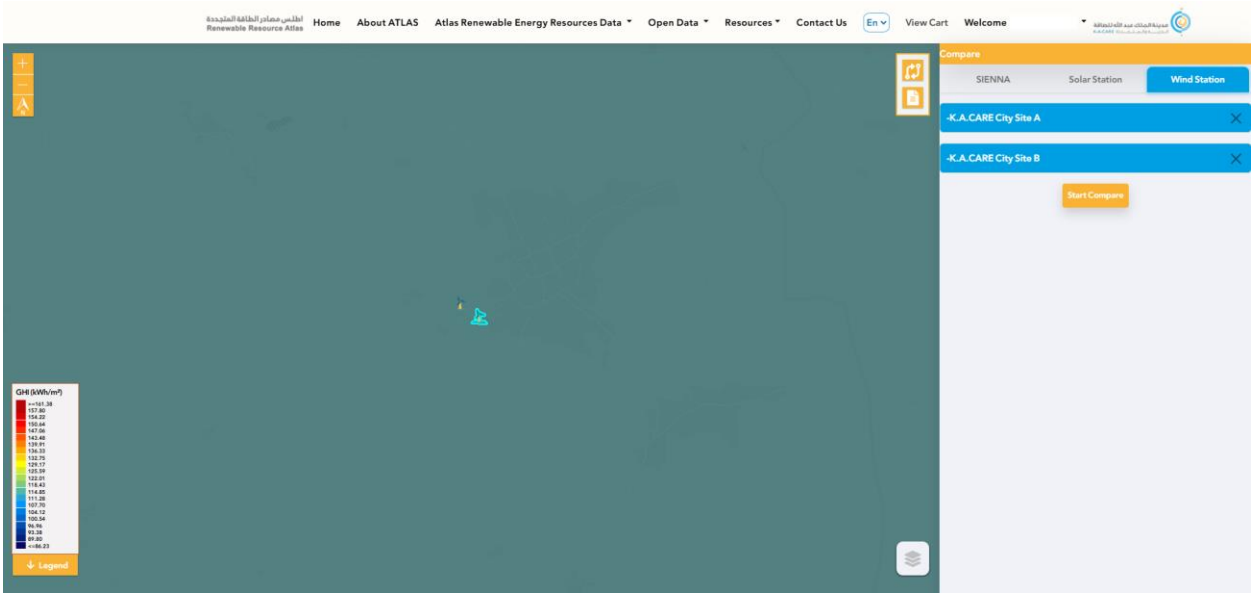



Figure 62: Start Compare Process

Then the "Dashboard" configuration open, where the user can (Figure 63):

- Define aggregation level
- Select time range
- Customize parameters
- Display charts

The data can only be viewed through the comparison feature and not downloaded.

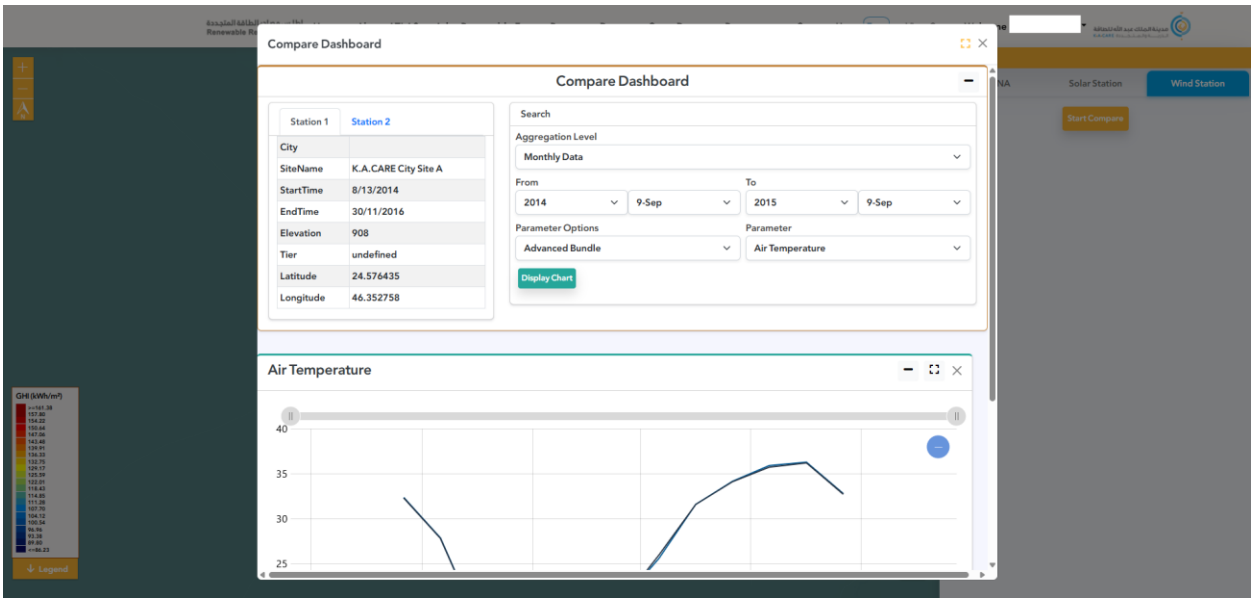



Figure 63: Dashboard Configuration

## iii. SIENNA

Solar Irradiance Estimation with Neural Network Algorithm (SIENNA) is a satellite-based solar resource model developed by King Abdullah City for Atomic and Renewable Energy. It provides comprehensive solar data for stakeholders across Saudi Arabia. The model utilizes artificial neural networks, processes satellite imagery from the SEVIRI instrument, and uses data from the MeteoSat Second Generation (MSG) satellite. Key Features of SIENNA include high spatial and temporal solar data coverage, calibration using high-accuracy ground measurements, and suitable for solar project planning and analysis.

To begin the data request process, click on "Request Service" (Figure 64).

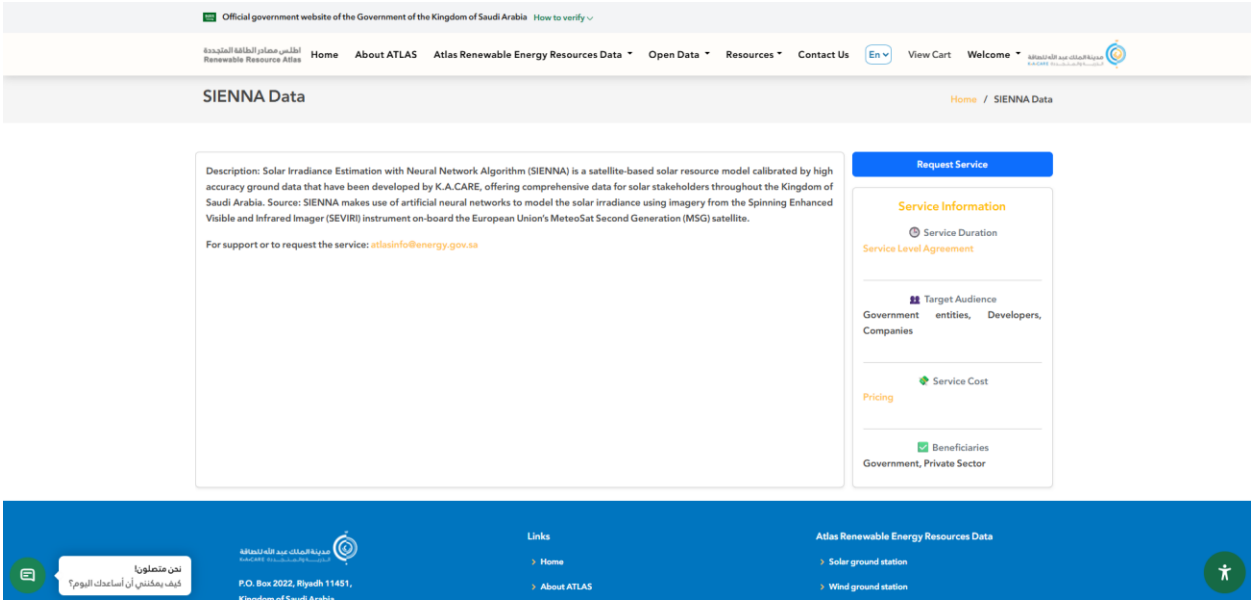



Figure 64: Request Service

On this page, the user can explore the pricing details by navigating to Service Cost section, clicking on “Pricing” within that section to review the full breakdown of fees before proceeding (Figure 65).

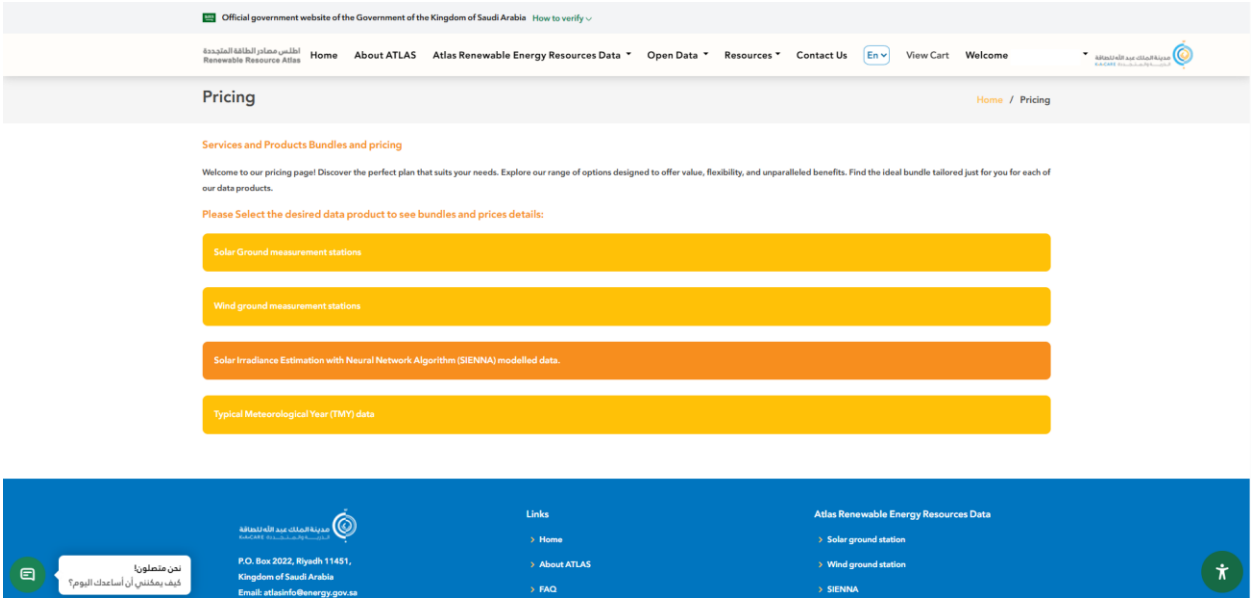



Figure 65: Pricing Details

Select the location coordinates and the parameter required to process the request (Figure 66).

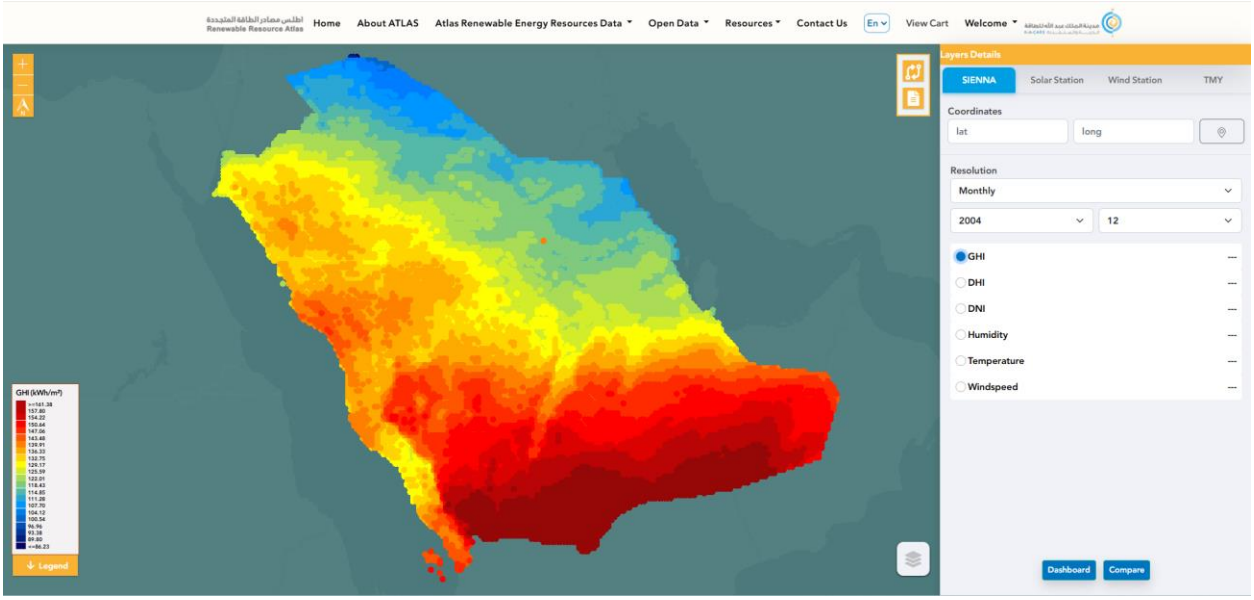



Figure 66: SIENNA Required Information

Click on "Dashboard" to (Figure 67):

- Define aggregation level
- Select time range
- Customize parameters
- Display charts

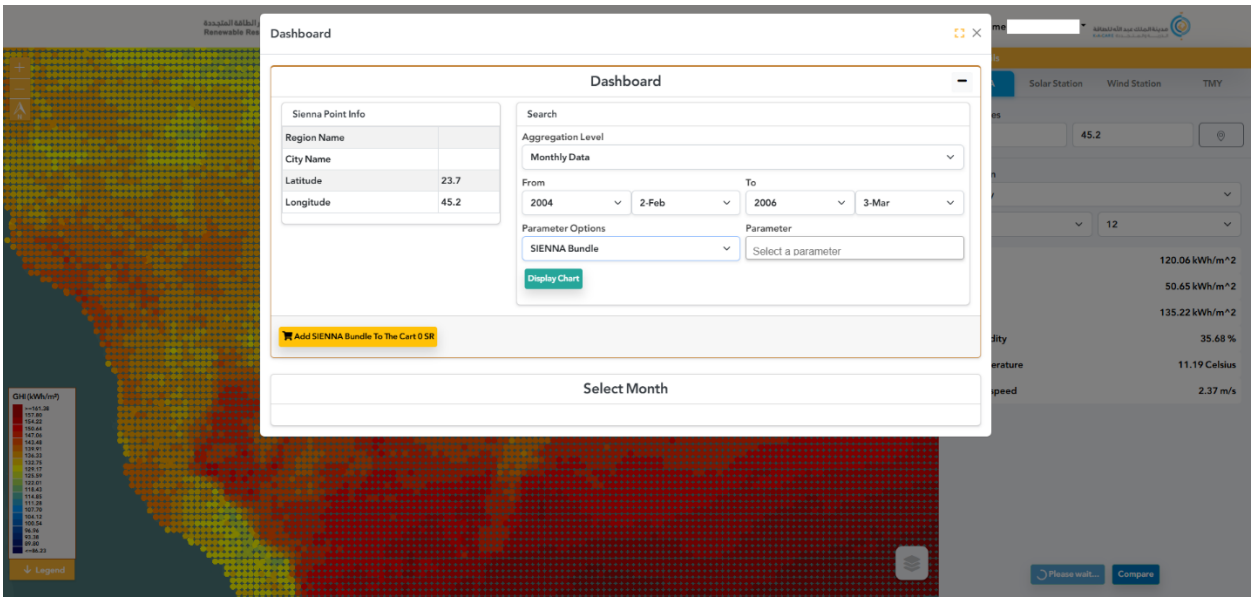



Figure 67: Dashboard Configuration

The user can either view the data through dashboards within the platform or proceed with downloading the dataset (Figure 68).

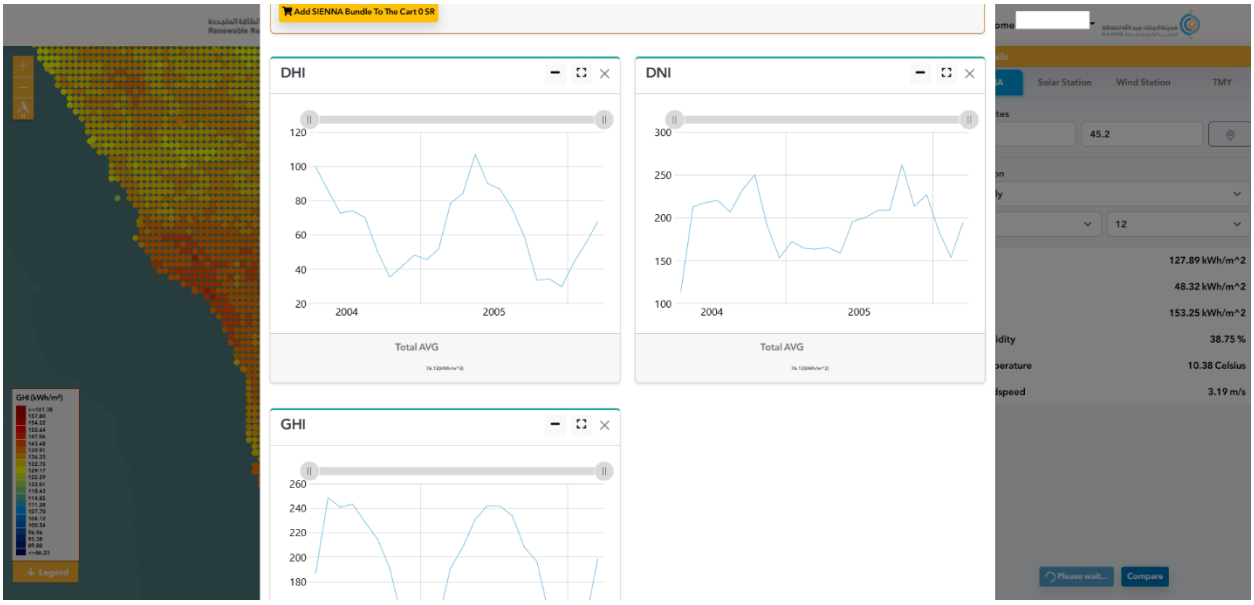



Figure 68: Display Charts

Once the data configuration is complete, submit the request by "Add Custom Bundle to Cart" and the request will be added to the cart (Figure 69).

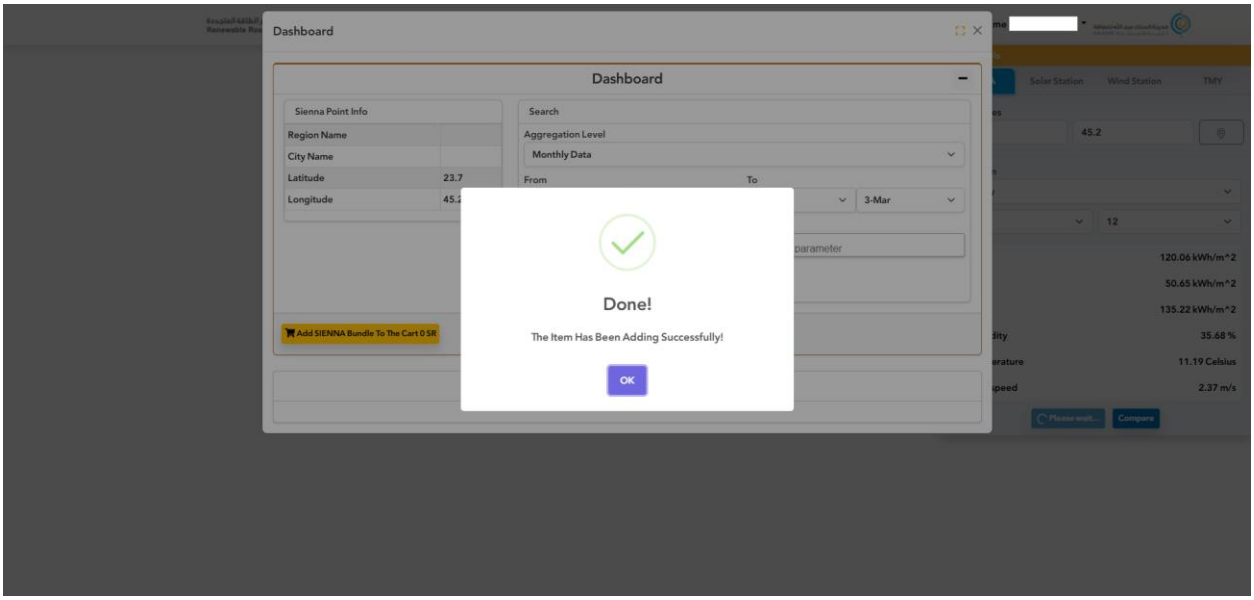



Figure 69: Add Item to Cart

Proceed to “View Cart” in the top-right corner of the browser to complete the payment process through the “Checkout” button (Figure 70).

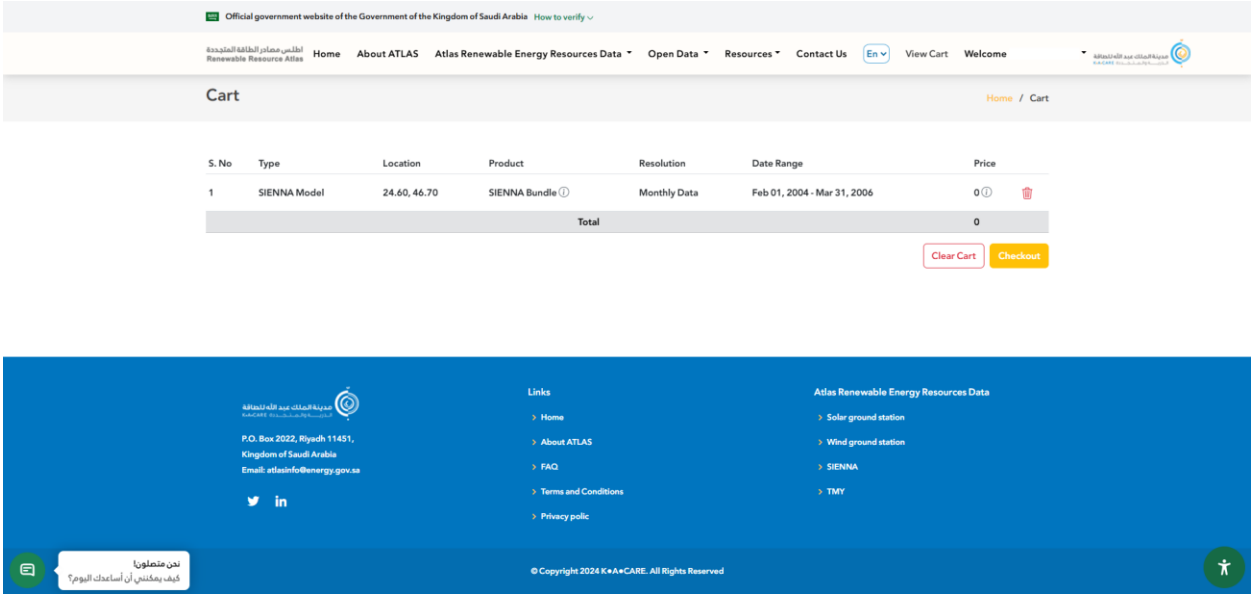



Figure 70: View Cart

On the orders page, the user can view list of items requested. Click on ⓘ icon next to the product name to view the specific attribute order details (Figure 71).

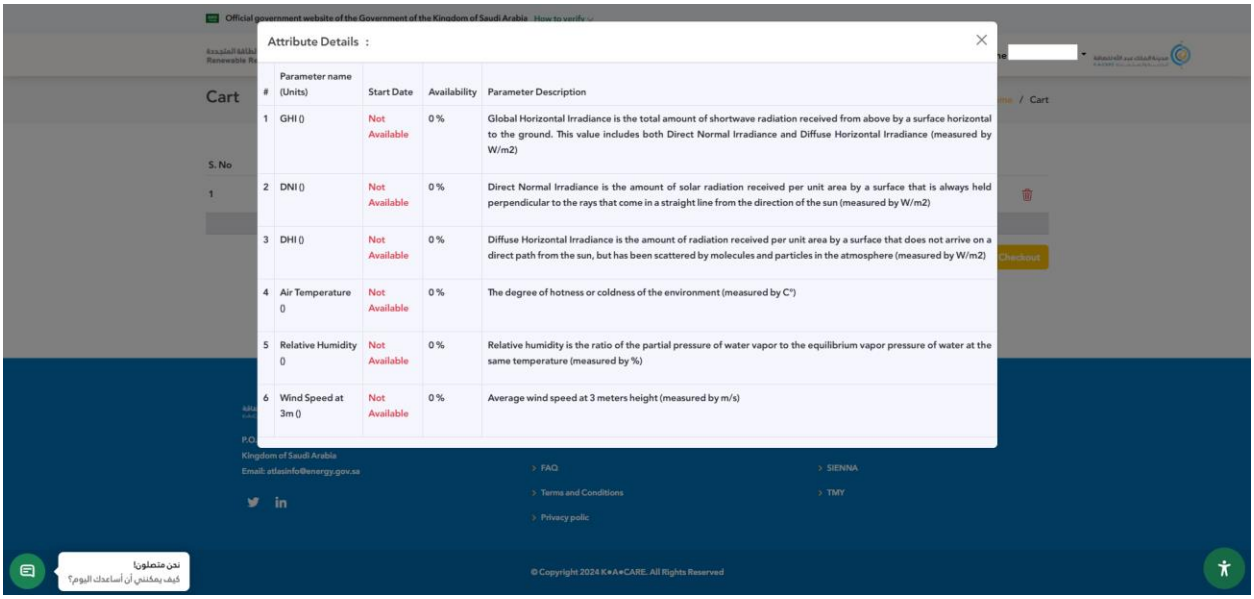



Figure 71: View Order Details

Click on ⓘ icon next to the price to view a breakdown of cost details (Figure 72).

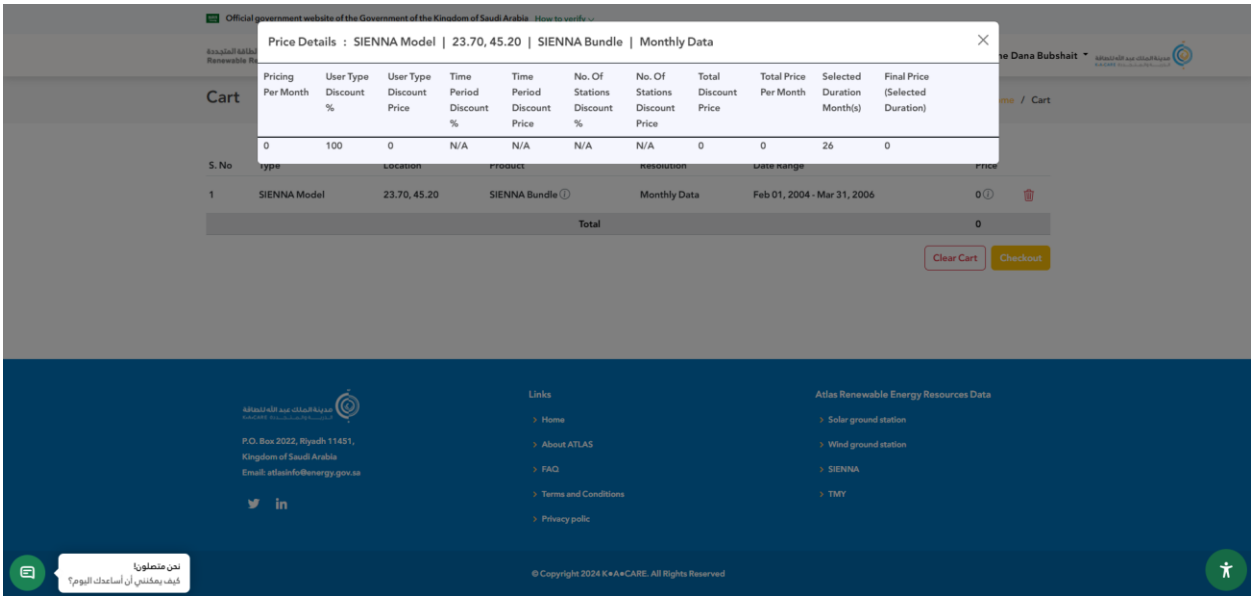



Figure 72: View Price Details

To proceed with confirming the order, click on "Checkout". A popup message will appear to verify the user request (Figure 73).

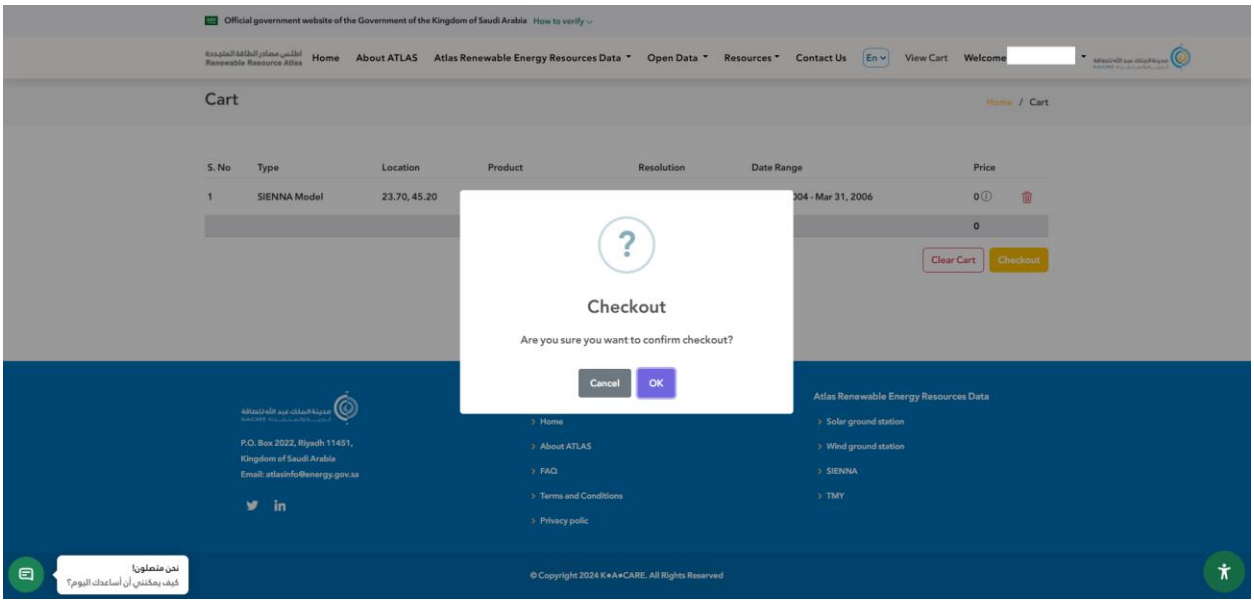



Figure 73: Checkout Process

Once verified, the user can view the quotation document (Figure 74), then proceed to the next step to place the order by clicking “Next Step”.

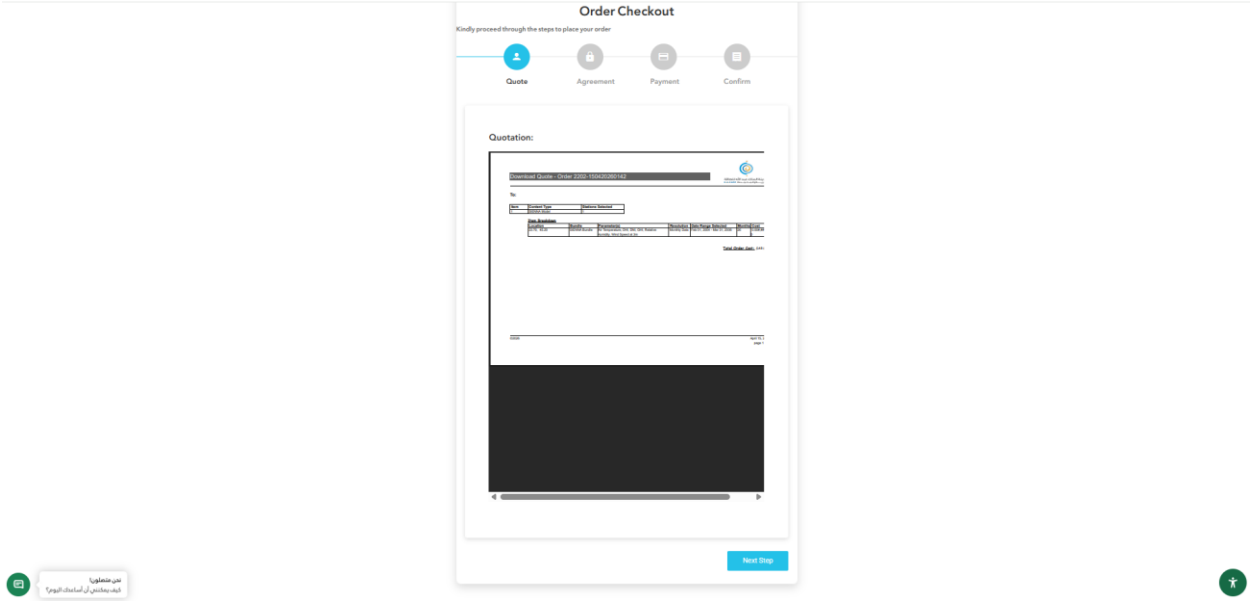



Figure 74: Order Quotation

The user shall review the data sharing agreement and check the box to agree and process the order (Figure 75).

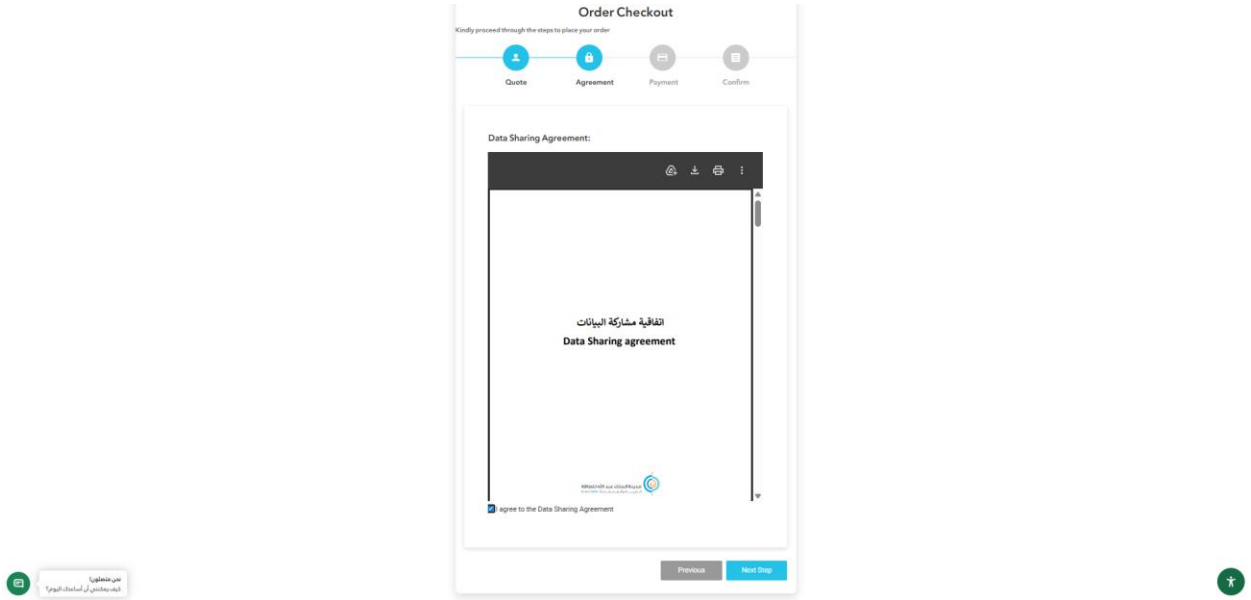



Figure 75: Data Sharing Agreement

The user shall follow the on-screen payment instructions (Figure 76).

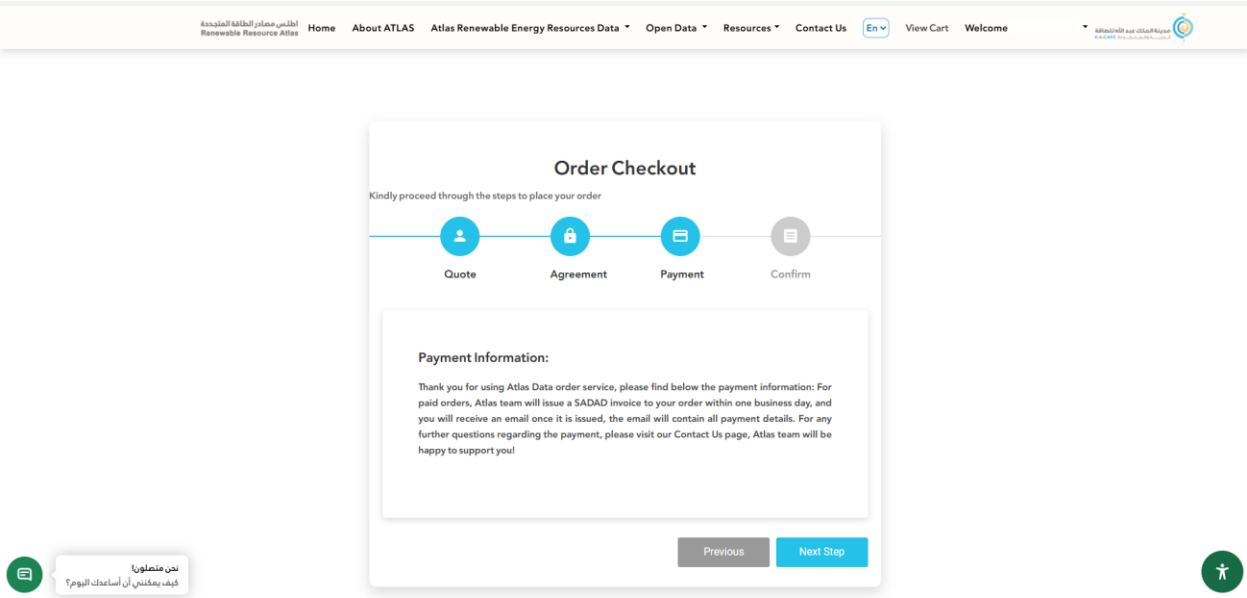



Figure 76: Payment Process

Review the final order details and click on "Submit" (Figure 77).

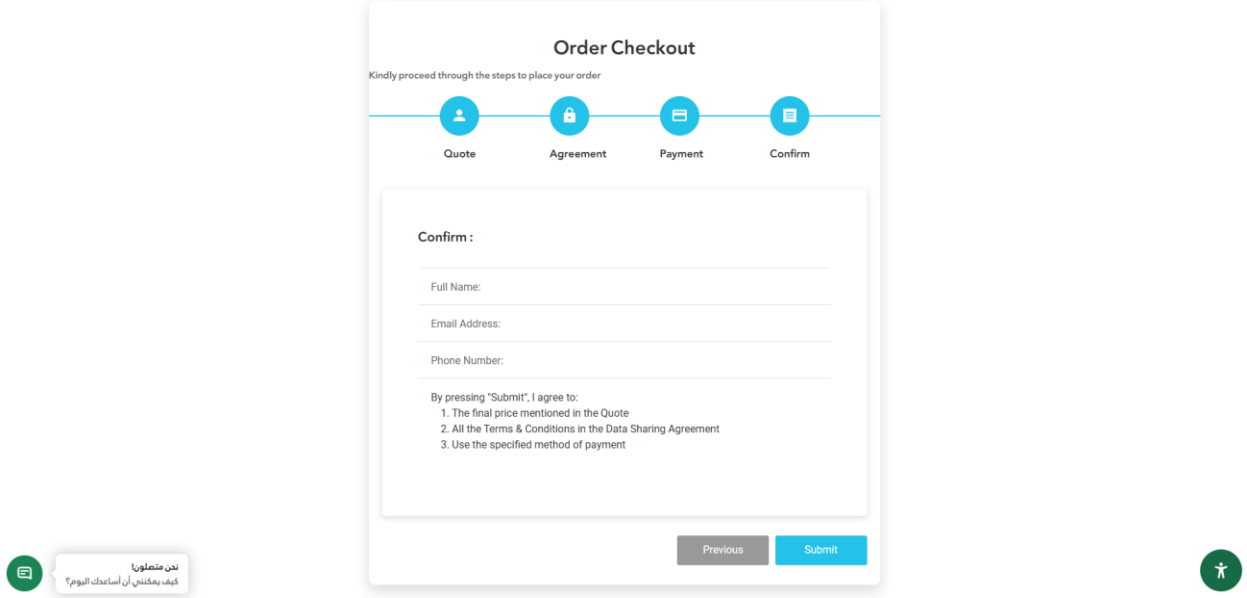



Figure 77: Order Confirmation

Once the order request is approved, locate the automated email sent to the user email inbox. This email confirms that the order is ready to be downloaded (Figure 78).

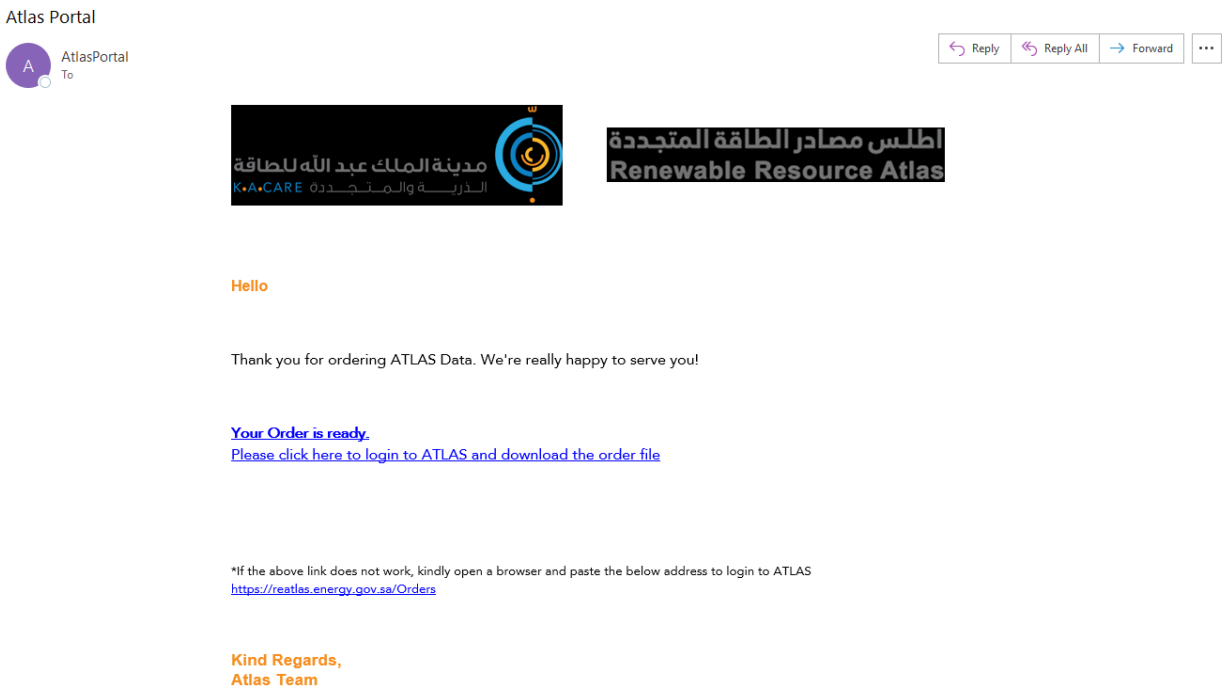



Figure 78: Approved Request Email

Click the access link provided within the email body, which will open the platform in the web browser. Locate the specific request in the order list. On the right-hand side of the order, click “Actions” button. Select the “Download” option from the menu to save the request files on your device (Figure 79).

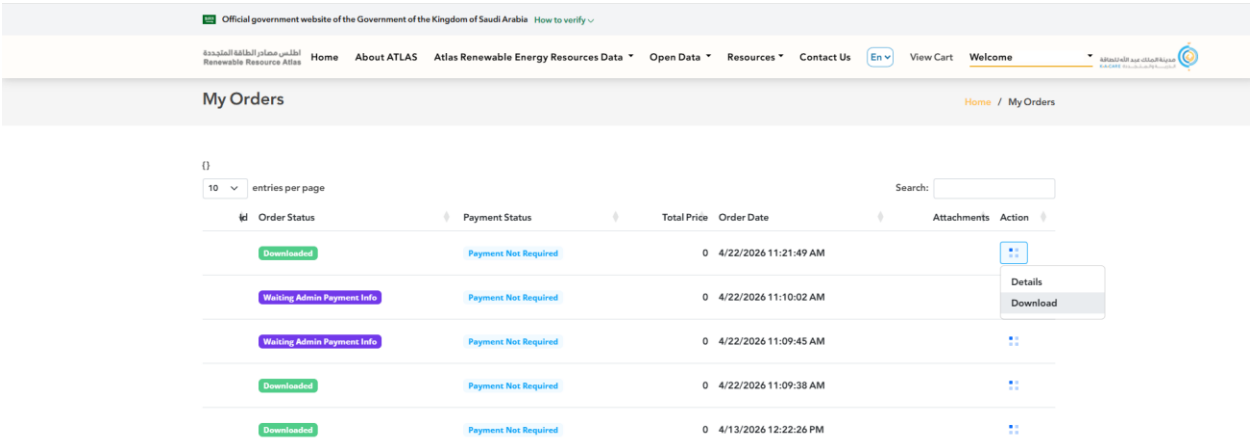



Figure 79: Download Menu

Alternatively, navigate to the top-right corner of the browser window and click on the Profile tab, then “My Orders” tab (Figure 80).

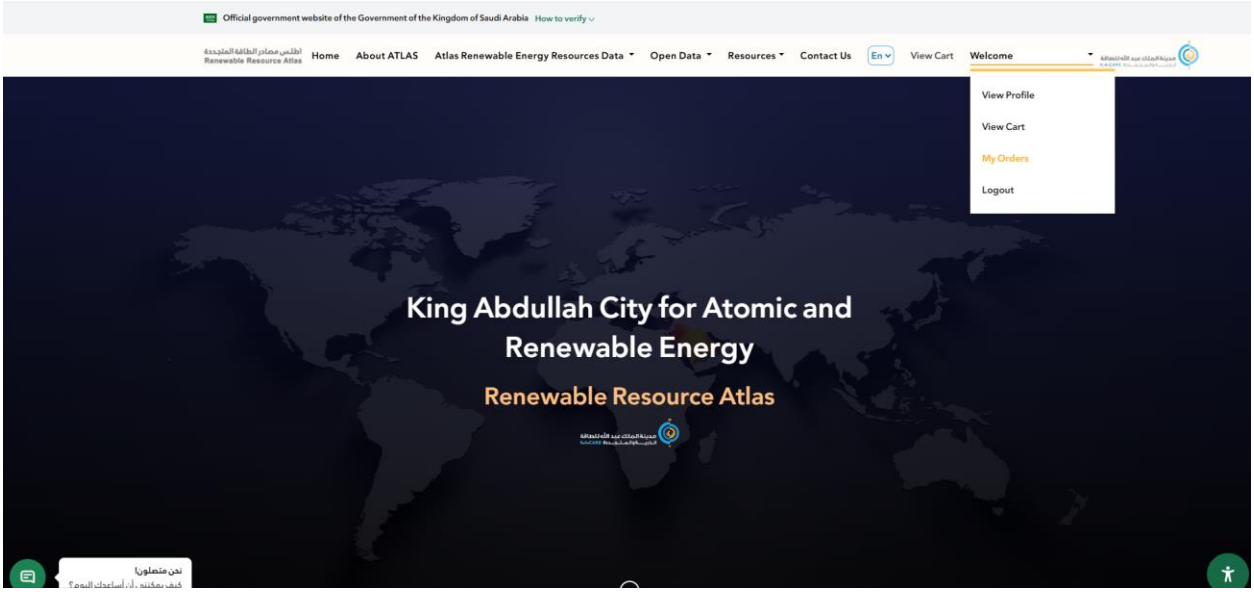



Figure 80: My Orders Tab

Locate the specific request in the order list. On the right-hand side of the order, click “Actions” button. Select the “Download” option from the menu to save the request files on your device (Figure 81).

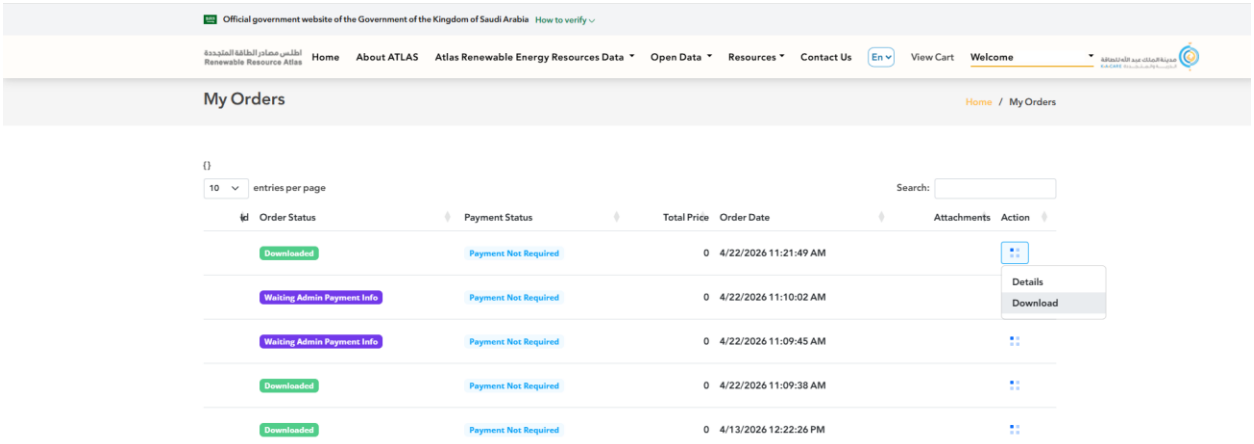
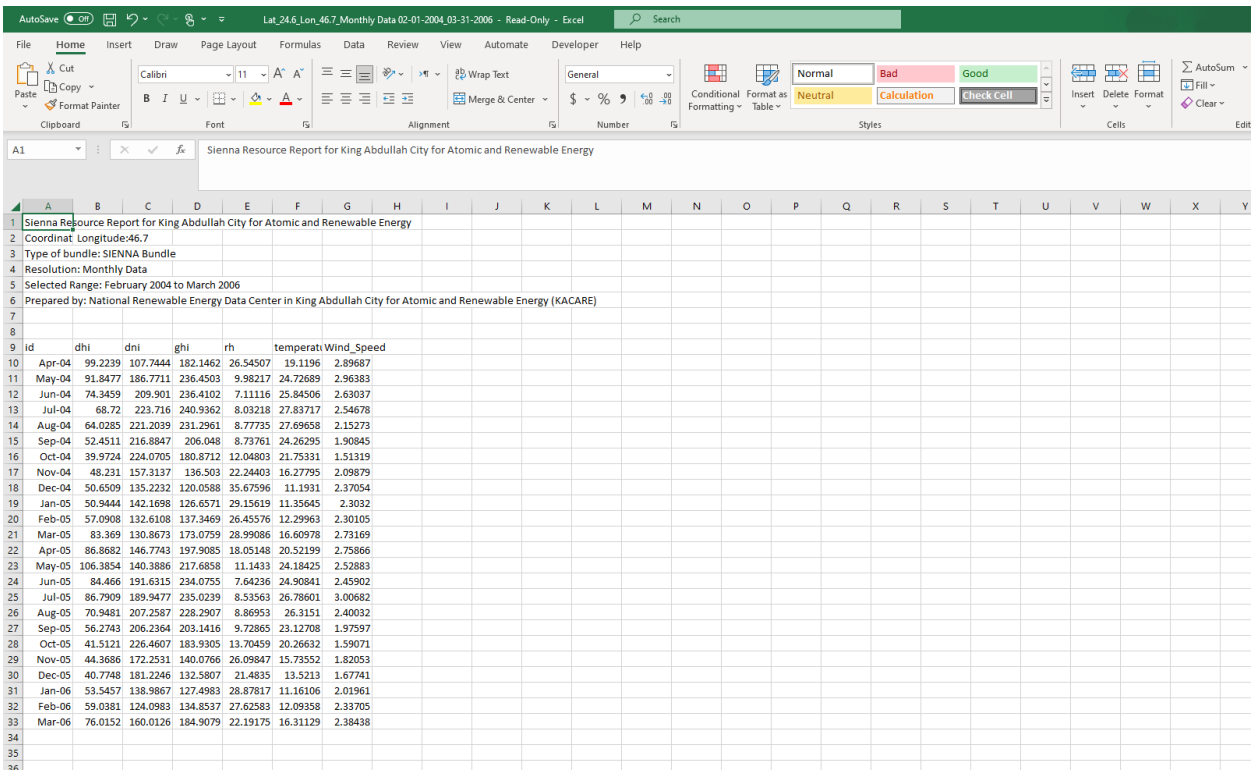



Figure 81: Download Menu

Once the request is approved, the dataset becomes available for download in CSV format (Figure 82).



Sienna Resource Report for King Abdullah City for Atomic and Renewable Energy
Coordinat Longitude:46.7
Type of bundle: SIENNA Bundle
Resolution: Monthly Data
Selected Range: February 2004 to March 2006
Prepared by: National Renewable Energy Data Center in King Abdullah City for Atomic and Renewable Energy (KACARE)

| id | dhi | dni | ghi | rh | temperat | Wind_Speed |
|---|---|---|---|---|---|---|
| Apr-04 | 99.2239 | 107.7444 | 182.1462 | 26.54507 | 19.1196 | 2.89687 |
| May-04 | 91.8477 | 186.7711 | 236.4503 | 9.98217 | 24.72689 | 2.96383 |
| Jun-04 | 74.3459 | 209.901 | 236.4102 | 7.11116 | 25.84506 | 2.63037 |
| Jul-04 | 68.72 | 223.716 | 240.9362 | 8.03218 | 27.83717 | 2.54678 |
| Aug-04 | 64.0285 | 221.2039 | 231.2961 | 8.77735 | 27.69658 | 2.15273 |
| Sep-04 | 52.4511 | 216.8847 | 206.048 | 8.73761 | 24.26295 | 1.90845 |
| Oct-04 | 39.9724 | 224.0705 | 180.8712 | 12.04803 | 21.75331 | 1.51319 |
| Nov-04 | 48.231 | 157.3137 | 136.503 | 22.24403 | 16.27795 | 2.09879 |
| Dec-04 | 50.6509 | 135.2232 | 120.0588 | 35.67596 | 11.1931 | 2.37054 |
| Jan-05 | 50.9444 | 142.1698 | 126.6571 | 29.15619 | 11.35645 | 2.3032 |
| Feb-05 | 57.0908 | 132.6108 | 137.3469 | 26.45576 | 12.29963 | 2.30105 |
| Mar-05 | 83.369 | 130.8673 | 173.0759 | 28.99086 | 16.60978 | 2.73169 |
| Apr-05 | 86.8682 | 146.7743 | 197.9085 | 18.05148 | 20.52199 | 2.75866 |
| May-05 | 106.3854 | 140.3886 | 217.6858 | 11.1433 | 24.18425 | 2.52883 |
| Jun-05 | 84.466 | 191.6315 | 234.0755 | 7.64236 | 24.90841 | 2.45902 |
| Jul-05 | 86.7909 | 189.9477 | 235.0239 | 8.53563 | 26.78601 | 3.00682 |
| Aug-05 | 70.9481 | 207.2587 | 228.2907 | 8.86953 | 26.3151 | 2.40032 |
| Sep-05 | 56.2743 | 206.2364 | 203.1416 | 9.72865 | 23.12708 | 1.97597 |
| Oct-05 | 41.5121 | 226.4607 | 183.9305 | 13.70459 | 20.26632 | 1.59071 |
| Nov-05 | 44.3686 | 172.2531 | 140.0766 | 26.09847 | 15.73552 | 1.82053 |
| Dec-05 | 40.7748 | 181.2246 | 132.5807 | 21.4835 | 13.5213 | 1.67741 |
| Jan-06 | 53.5457 | 138.9867 | 127.4983 | 28.87817 | 11.16106 | 2.01961 |
| Feb-06 | 59.0381 | 124.0983 | 134.8537 | 27.62583 | 12.09358 | 2.33705 |
| Mar-06 | 76.0152 | 160.0126 | 184.9079 | 22.19175 | 16.31129 | 2.38438 |

Figure 82: Downloaded Dataset

In the Atlas platform, there is a feature that allows users to compare two stations and analyze their behavior. To begin using this service, click on “Request Service” (Figure 83).

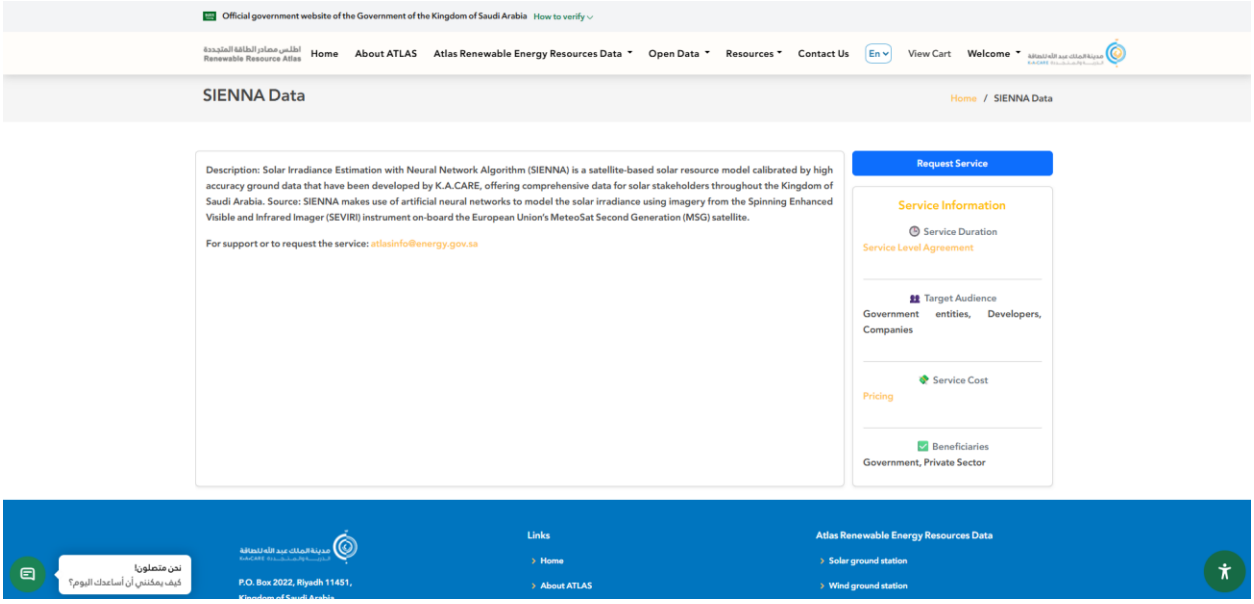



Figure 83: Request Service

Select the initial station name, then click on “Compare” to select the second station from the map (Figure 84).

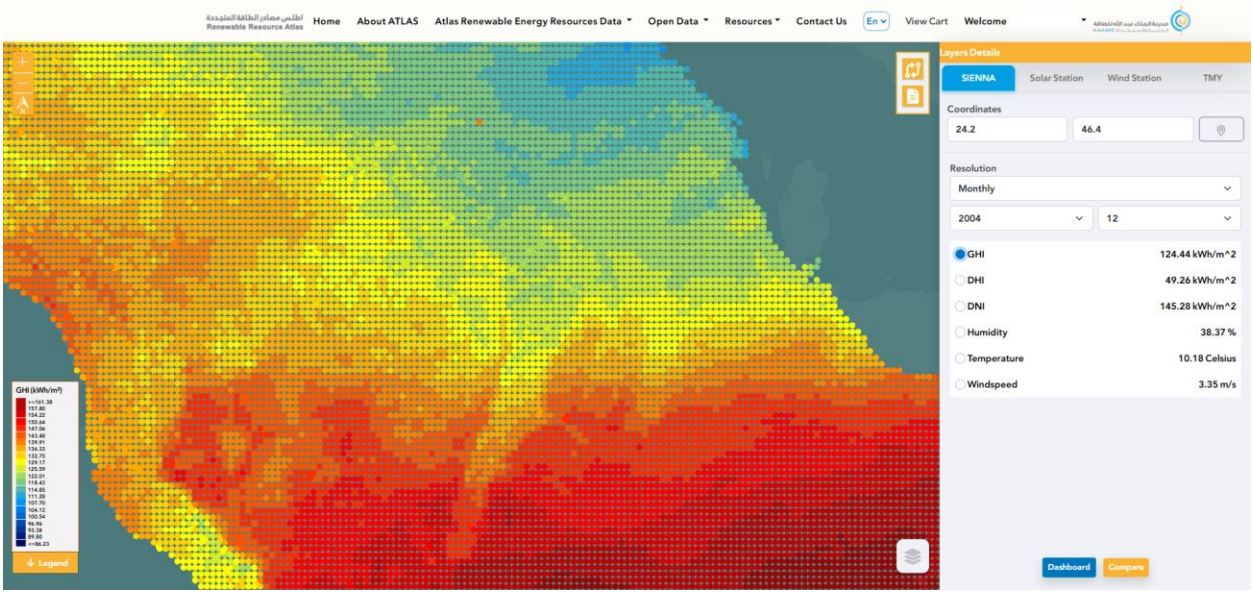



Figure 84: Compare Process

Afterwards both stations datasets are available for comparison, click on "Start Compare" (Figure 85).

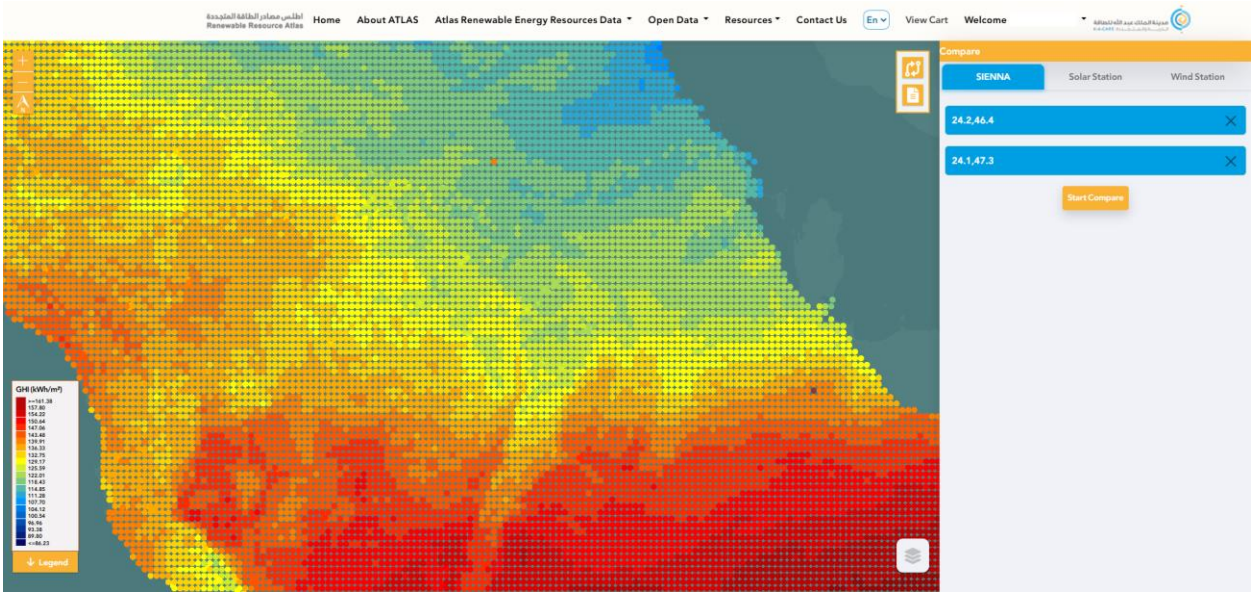



Figure 85: Start Compare Process

Then the "Dashboard" configuration open, where the user can (Figure 86):

- Define aggregation level
- Select time range
- Customize parameters
- Display charts

The data can only be viewed through the comparison feature and not downloaded.

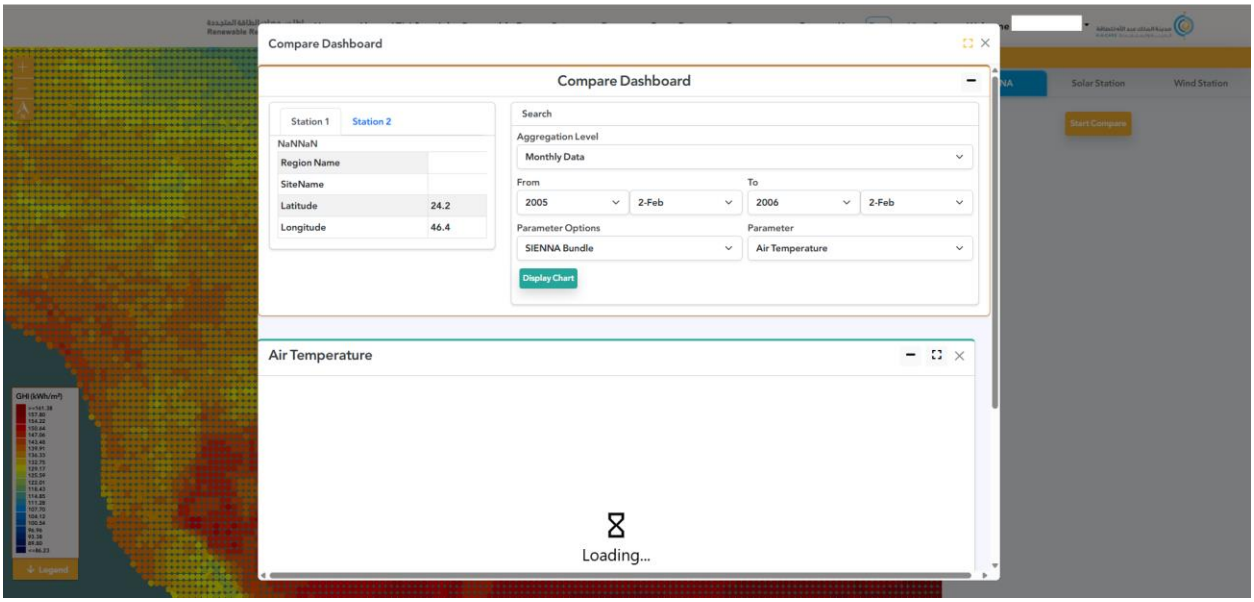



Figure 86: Dashboard Configuration

## iv. TMY

The Typical Meteorological Year (TMY) service provides long-term, representative meteorological datasets. TMY time series have been constructed for the 50th percentile (average) conditions as well as for 90th percentile low-irradiance conditions. These datasets are commonly used for energy system design, feasibility studies, and performance simulations.

To begin the data request process, click on "Request Service" (Figure 87).

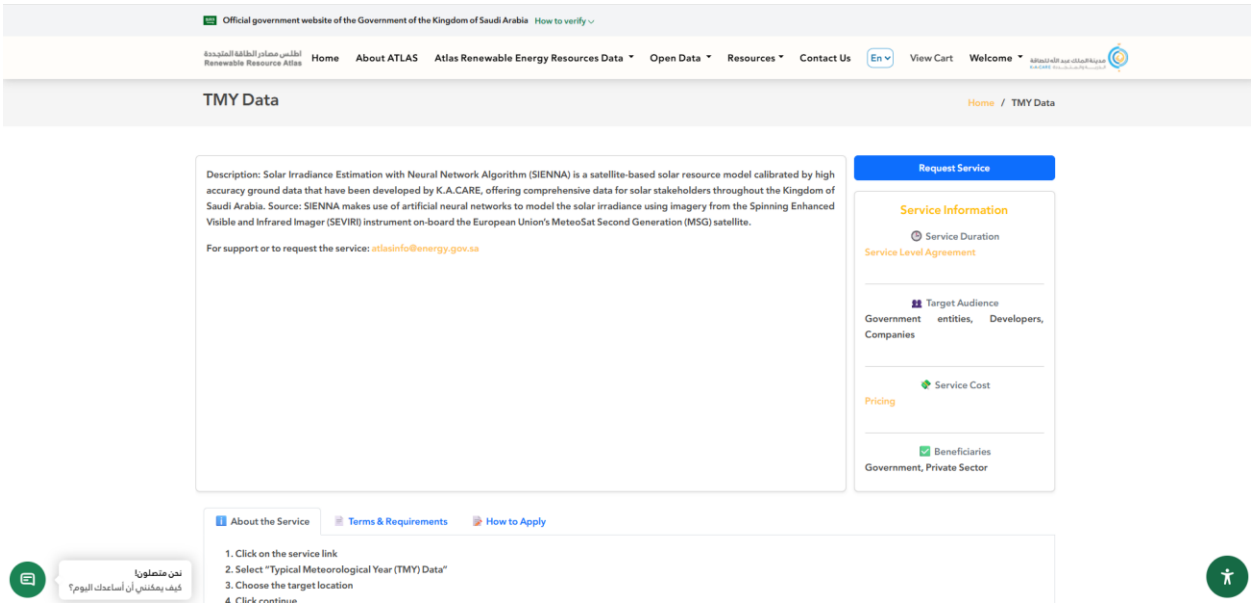



Figure 87: Request Service

On this page, the user can explore the pricing details by navigating to Service Cost section, clicking on "Pricing" within that section to review the full breakdown of fees before proceeding (Figure 88).

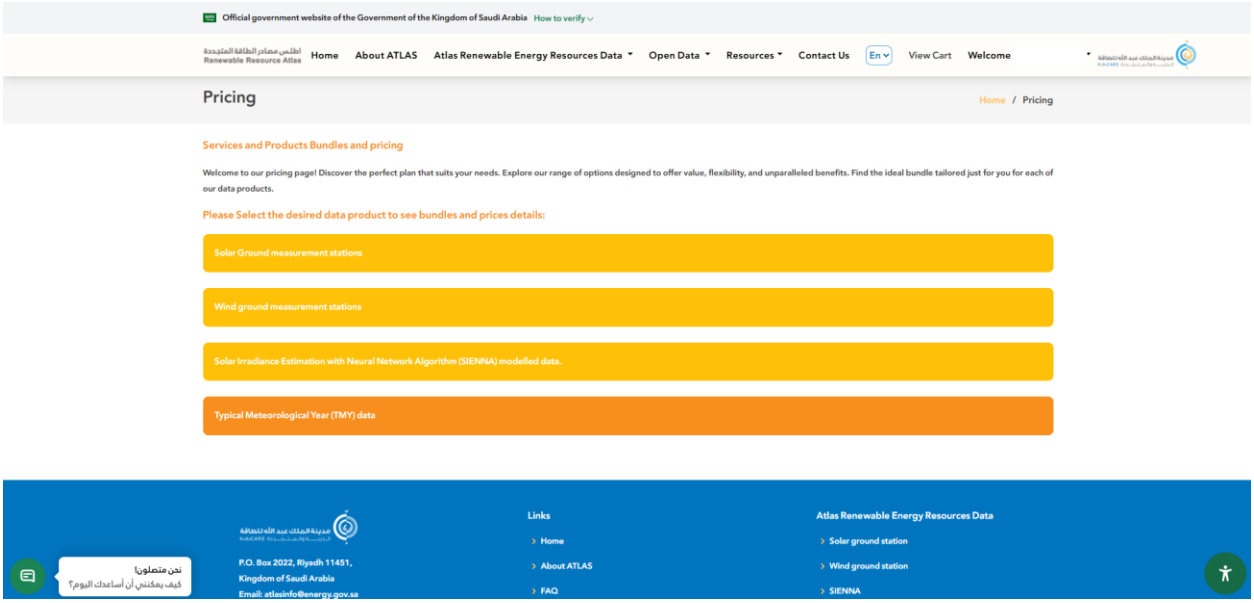



Figure 88: Pricing Details

Select the TMY resolution type and location coordinates to proceed with the request (Figure 89).

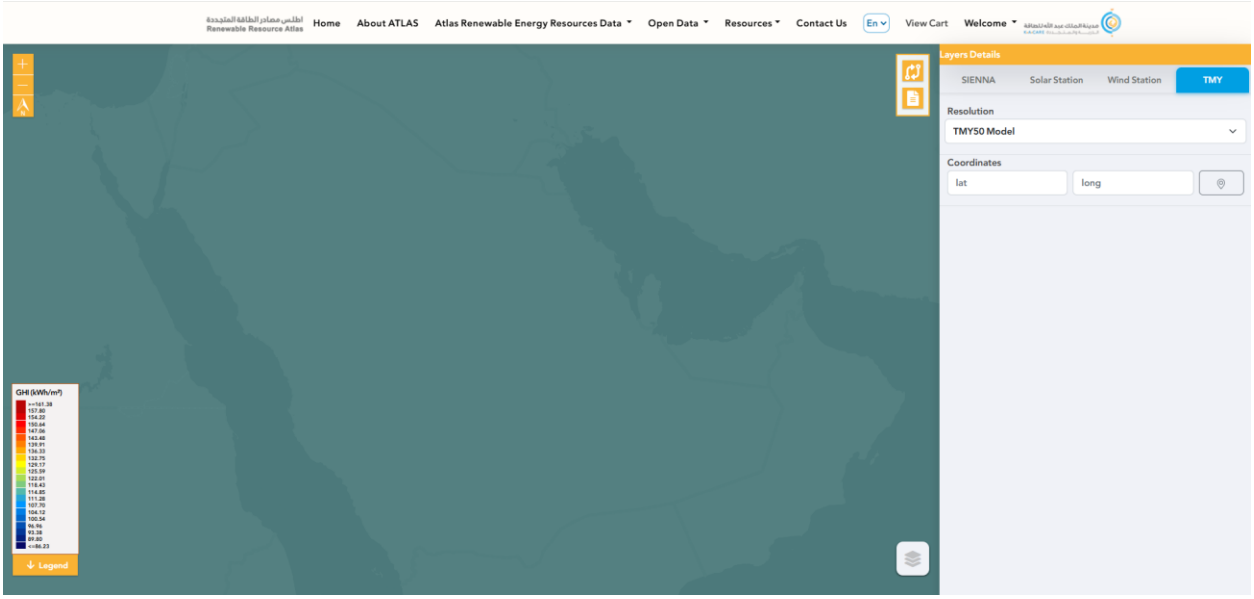



Figure 89: TMY Required Information

## Open Data

The Open Data tab provides access to publicly available datasets and APIs related to renewable energy resources.

To access these services, navigate to the Open Data section from the platform toolbar (Figure 90).

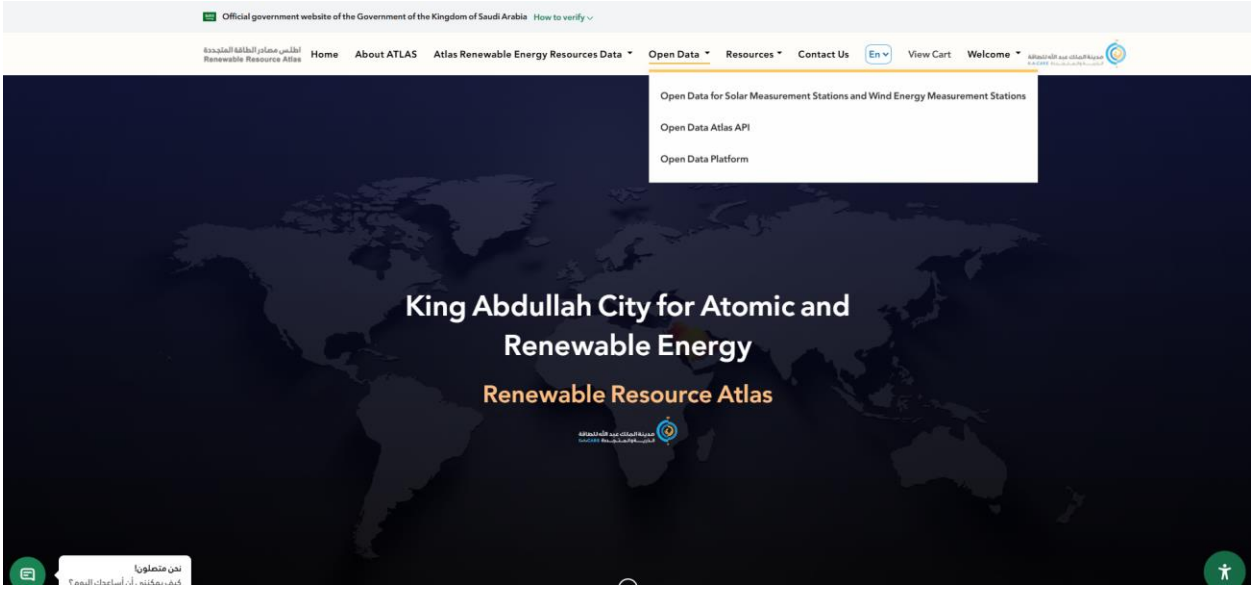



Figure 90: Open Data Tab

## i. Open Data for Solar Measurement Stations and Wind Energy Measurement Stations

Under the Open Data tab, click on the service named “Open Data for Solar Measurement Stations and Wind Energy Measurement Stations”.

After selection, the platform will redirect the user to the open data services page, where solar and wind measurement datasets can be accessed (Figure 91).

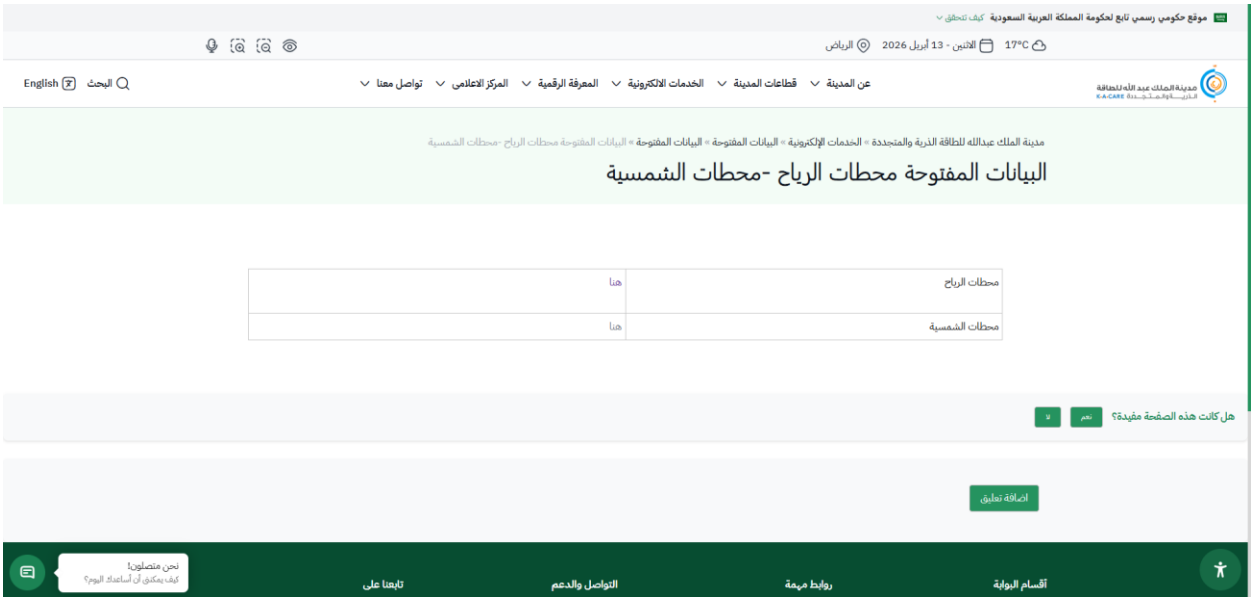



Figure 91: Open Data for Solar and Wind Page

## ii. Open Data Atlas API

From the Open Data tab, click on the intended API service.

The user will be redirected to the open data platform (Figure 92), where API-based data services are available for integration and programmatic access.

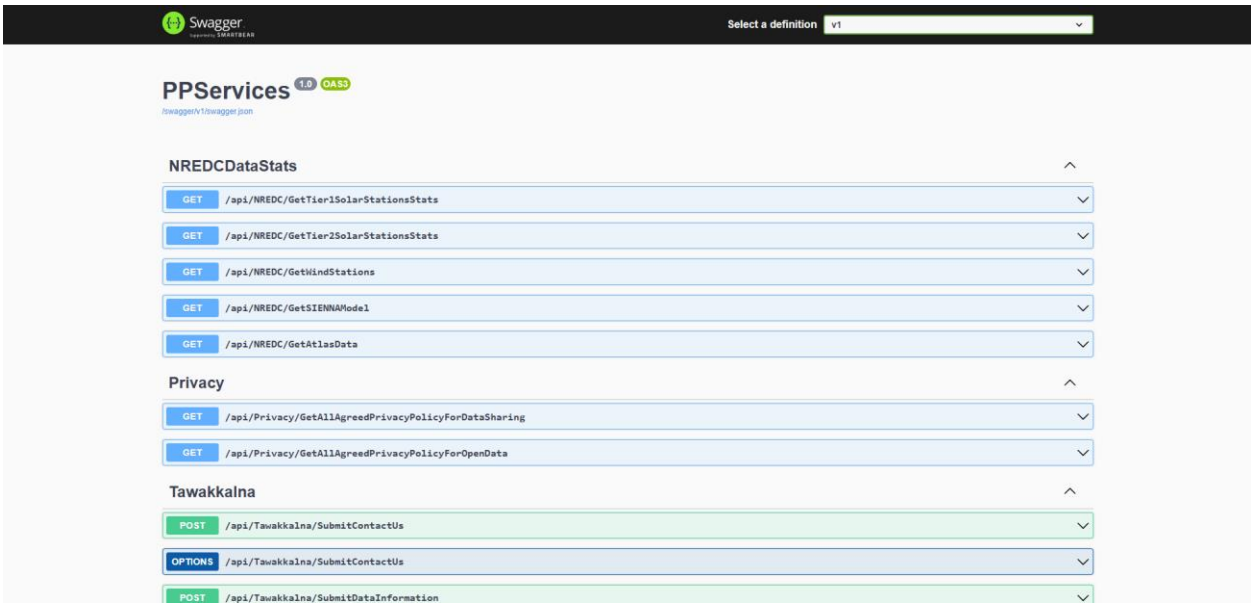



Figure 92: Open Data Atlas API

## iii. Open Data Platform

Click on the Open Data Platform option within the Open Data tab.

The platform will redirect the user to the Saudi Open Data Platform (Figure 93), where datasets published by King Abdullah City for Atomic and Renewable Energy are available.

These datasets include a wide range of renewable energy and related data resources.

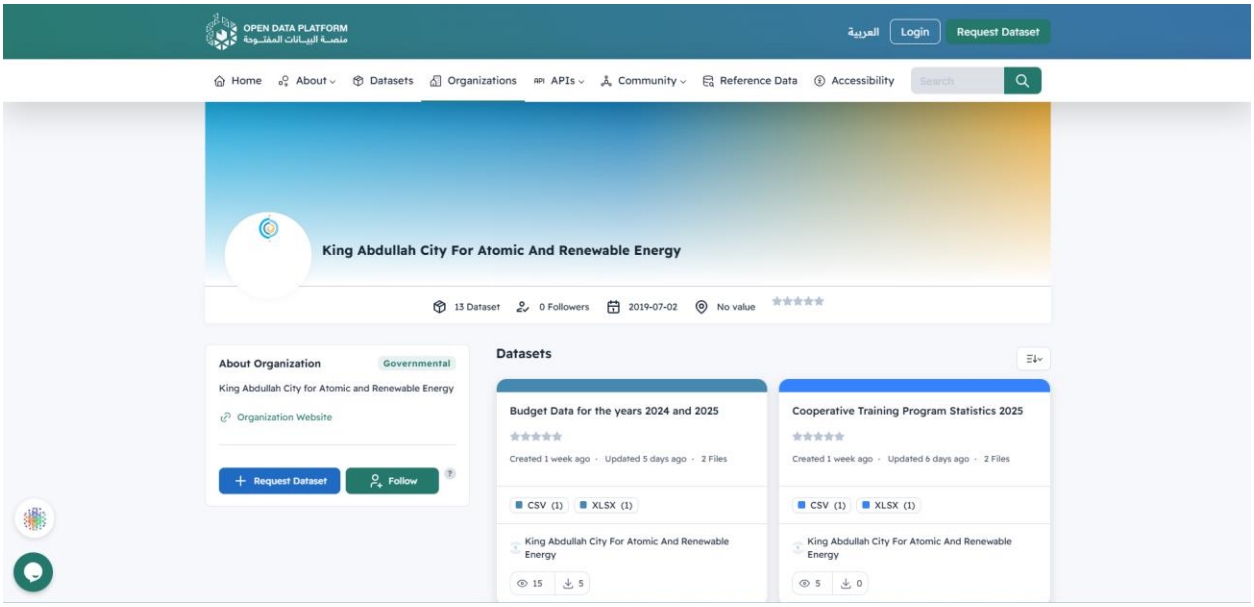



Figure 93: Open Data Platform

## Resources

The Resources section provides users with access to supporting materials, technical information, and communication tools related to the Renewable Resource Atlas platform.

To access these resources, navigate to the Resources tab in the platform toolbar (Figure 94).

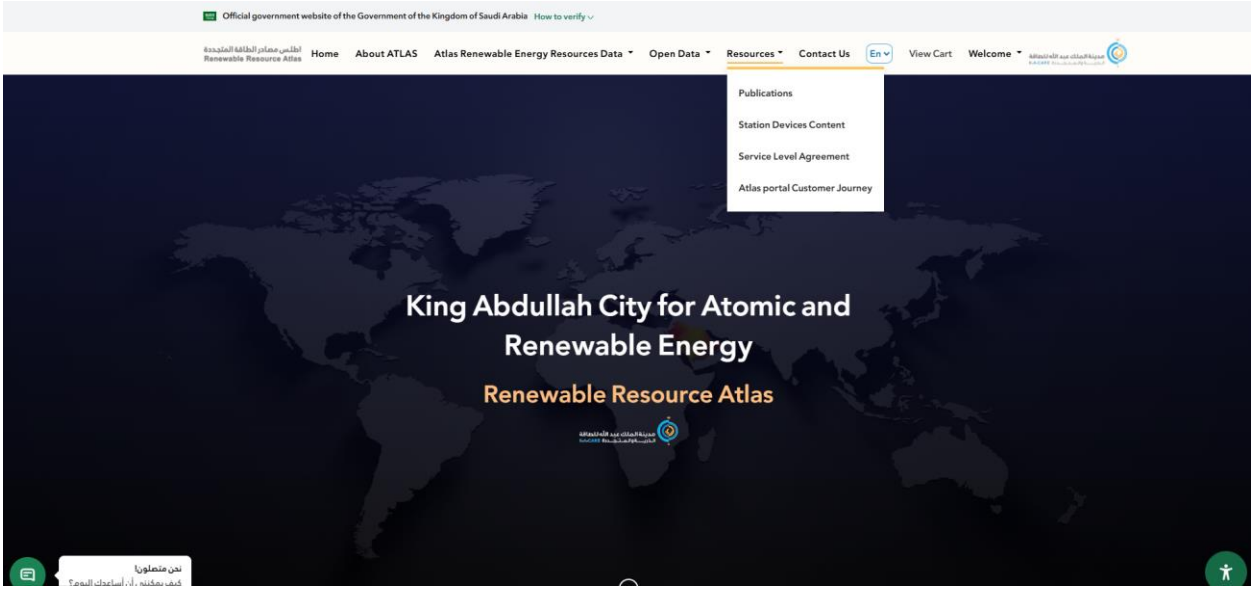



Figure 94: Resources Tab

## i. Publications

Click on the “Publications” tab under the Resources section (Figure 95).

Users can browse and access publications developed in collaboration with national and international partners using Atlas data. These publications provide insights, research findings, and technical studies related to renewable energy.

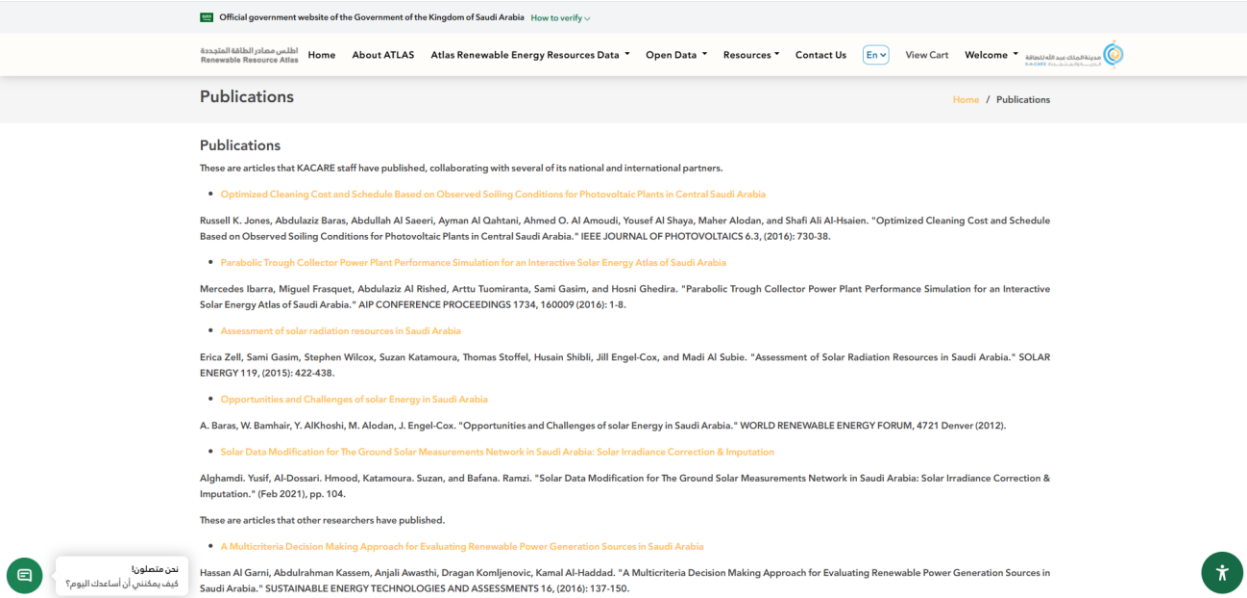



Figure 95: Publication Page

## ii. Stations Devices Content

Click on the “Stations & Devices Content” tab.

This section provides a comprehensive overview of measurement stations operated by King Abdullah City for Atomic and Renewable Energy (Figure 96). These stations and instruments serve as a crucial point for gathering data pertaining to solar and wind energy.

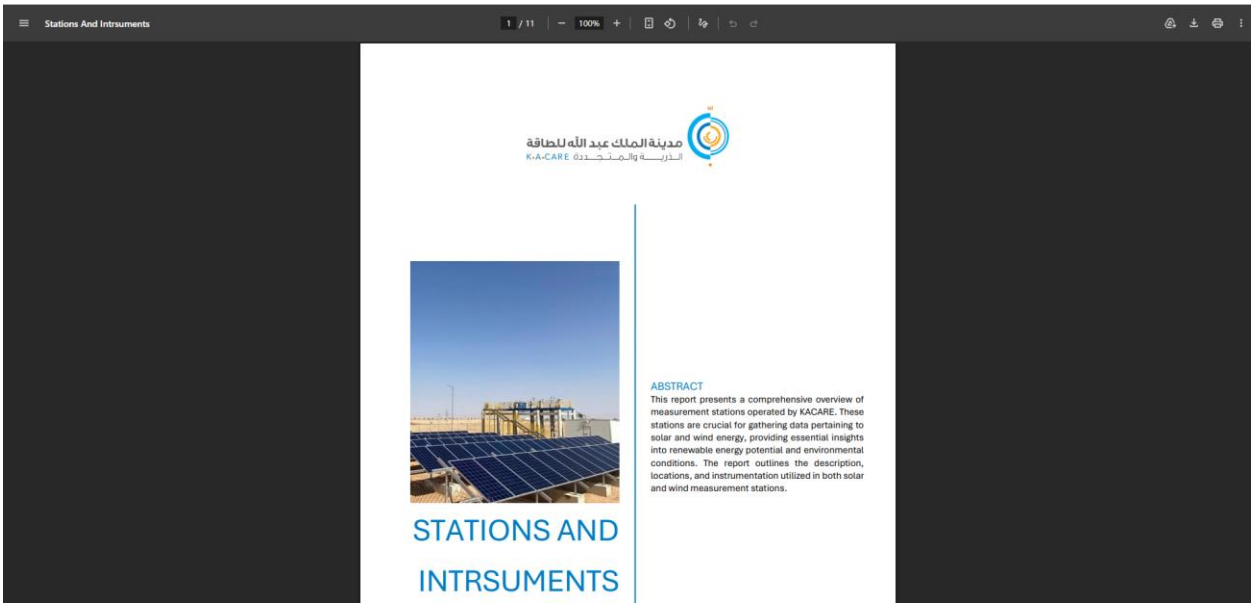



Figure 96: Station and Devices Content

## iii. Service Level Agreement

Click on the “Service Level Agreement” tab to access the document (Figure 97).

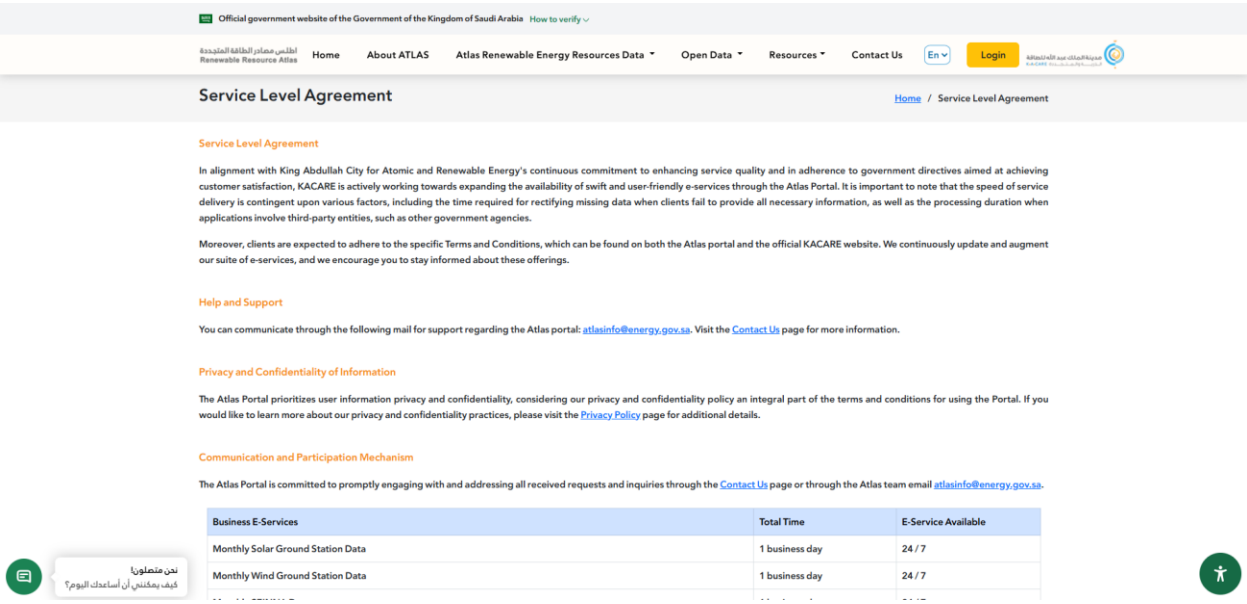



Figure 97: Service Level Agreement

## iv. Atlas portal Customer Journey

Click on the “Atlas Portal Customer Journey” tab. Users can view a structured overview of the Atlas platform user journey, including key steps within the system (Figure 98).

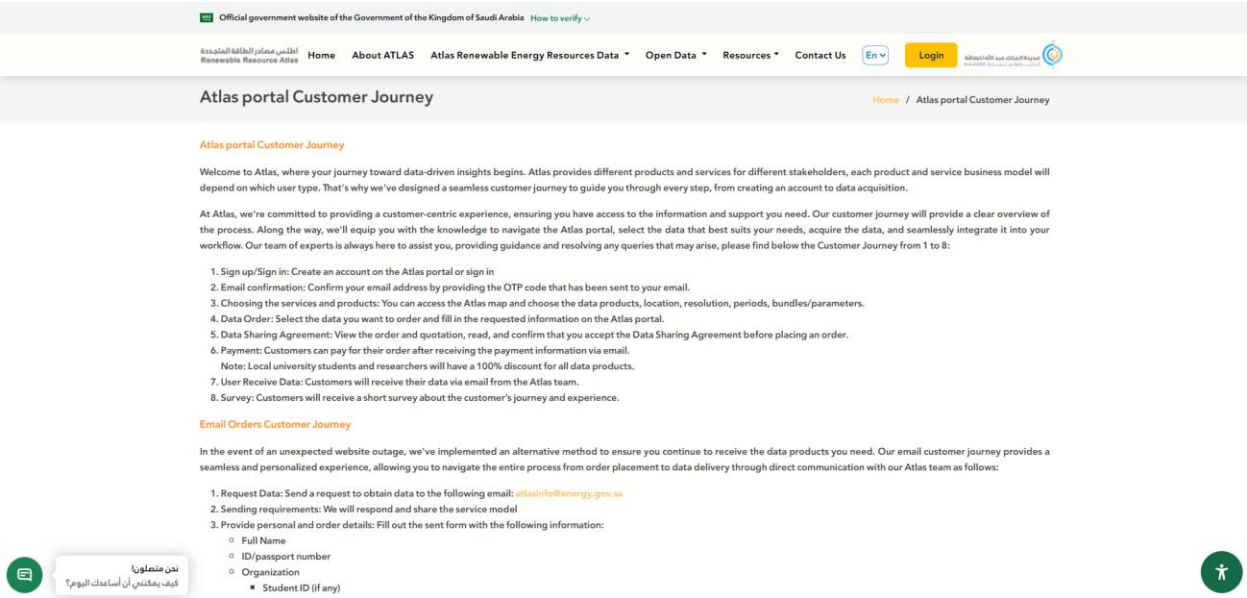



Figure 98: Atlas Portal Customer Journey

## Contact Us

Click on the “Contact Us” tab. Use the contact form to send inquiries or request additional information regarding Atlas services. Enter the required details and submit the message to King Abdullah City for Atomic and Renewable Energy (Figure 99)

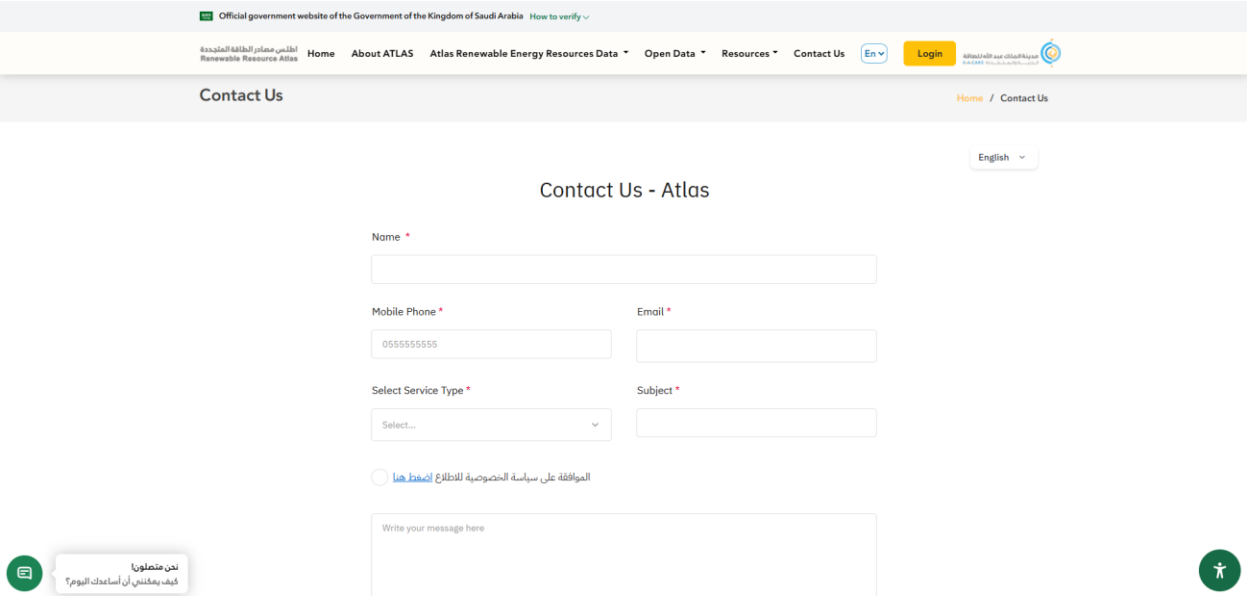



Figure 99: Contact Us Tab

## Profile

Under the Profile tab (Figure 100), click to open the menu and navigate through the available options: view profile, view cart, my orders, and logout.

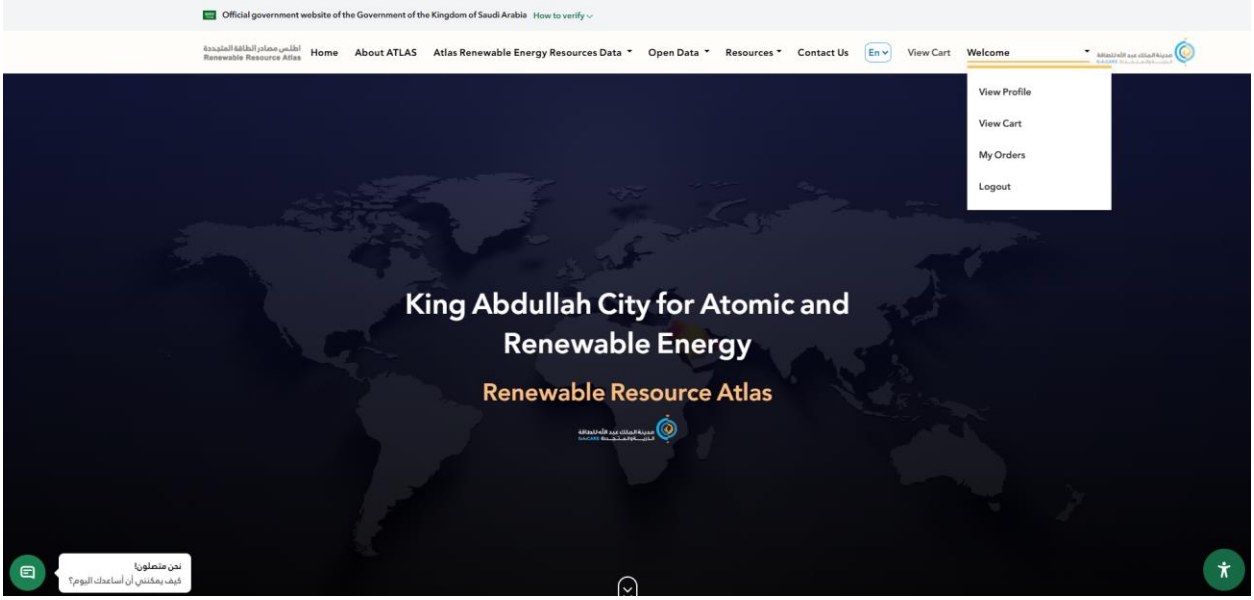



Figure 100: Profile Tab

### i. View Profile

Select “View Profile” to access, review, and edit personal information (Figure 101).

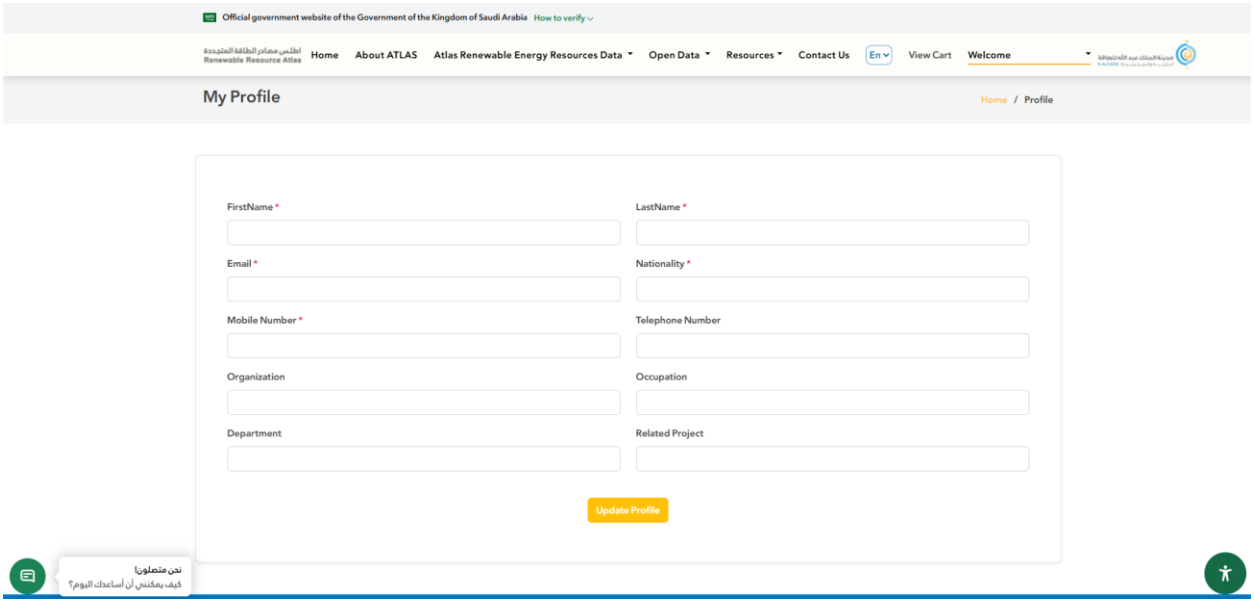



Figure 101: View Profile

## ii. View Cart

Choose “View Cart” to see the items added to your cart (Figure 102).

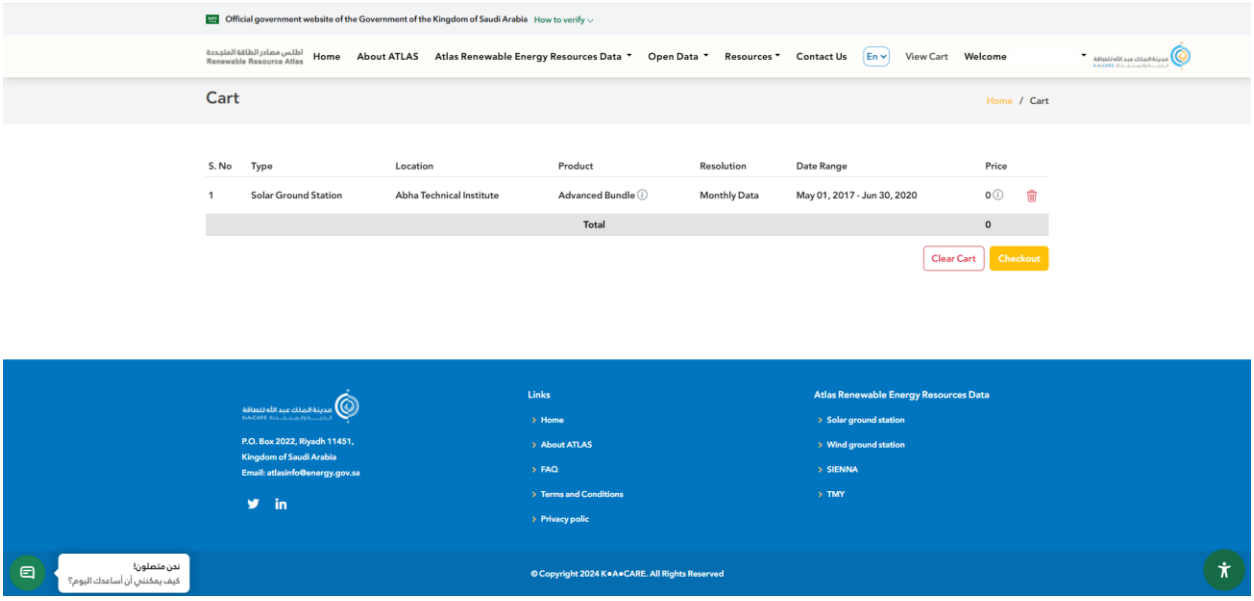



Figure 102: View Cart

## iii. My Orders

Click on “My Orders” to track, review, and download previous orders (Figure 103).

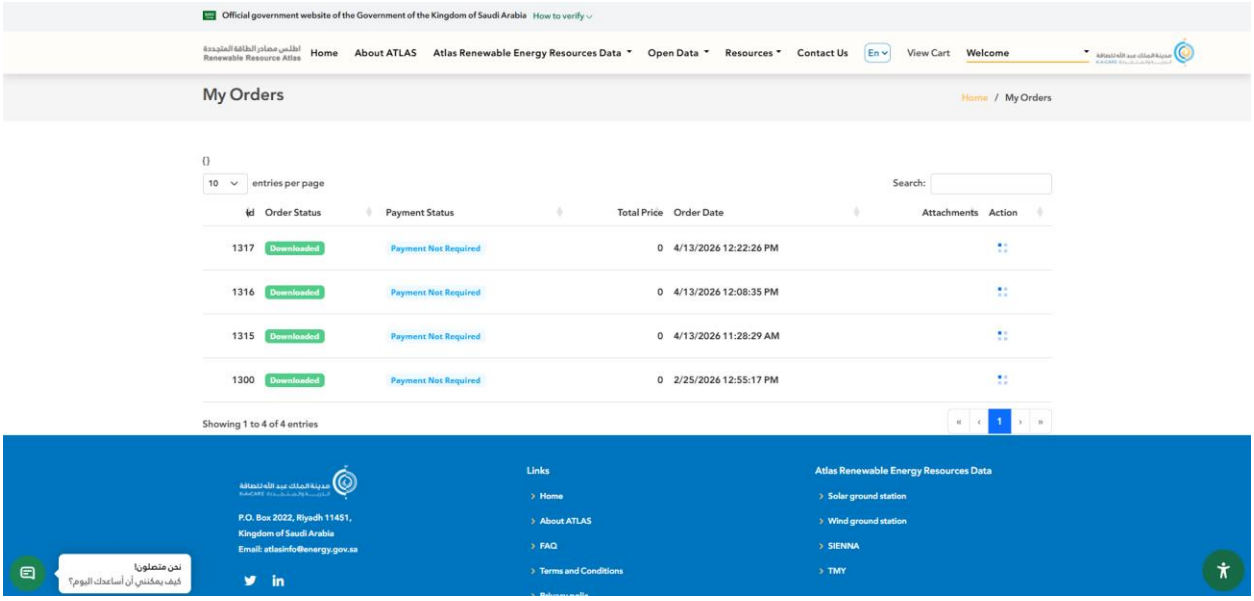



Figure 103: My Orders

## iv. Logout

To exit the platform, select “Logout” (Figure 104).

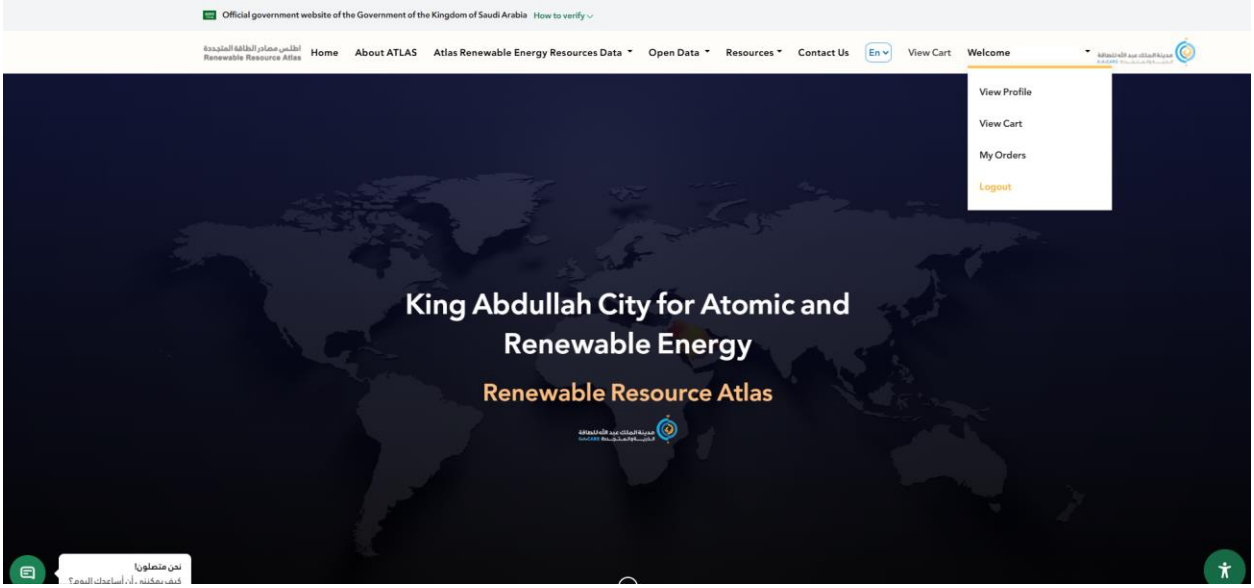



Figure 104: Logout