Welcome to the Energy Web Atlas User Guide. Choose a topic from the right to find answers, get step-by-step instructions, and make the most from the application.

Energy Web Atlas (EWA) is a comprehensive, ESRI-based GIS platform, which visualizes energy data from the upstream, midstream and downstream sectors of the international oil and gas industry. Developed by Gulf Publishing Company, the EWA draws on the data and experience of the industry’s leading trade journals – Hydrocarbon Processing, Petroleum Economist, Pipeline & Gas Journal and World Oil – to give users the data they need to run their business.

The EWA LNG map has been migrated to the new EWA platform using the ESRI ArcMap software allowing subscribers to zoom from global overview to country-level detail, access project data, including status and ownership, filter the map view to create tailored maps and capture images for use in presentations and reports.

The application has multiple mapping functions, widgets and filters which are all explained in this user guide.
APPLICATION INTERFACE

Below is the general interface of the application:
MAP CONTROLS

**Zoom control**
To zoom in and out of the map you can click the plus (+) button to zoom in or click the minus (-) button to zoom out of the map.

Alternatively if you have an mouse with a wheel you can roll the mouse wheel forward to zoom in or roll the mouse wheel backwards to zoom out.

**Home button**
The Home Button zooms the map to the initial map extent.

**Movement**
To move around the map click and hold down using the right mouse button, then drag the map in the direction required. Release to stop.

**Search function**
The search function can be used to locate specific geographic places or search for specific LNG projects. The search function will auto-fill so if you only know part of a place or project name, by clicking the arrow you can search all, projects or global.

**Scale bar**
The Scale-bar displays a scale-bar on the map. The widget respects various coordinate systems and displays units in English or metric values. The scale-bar takes into account projection distortion and dynamically adjusts.

Alternatively see Measurement widget (page 11)

**Coordinates**
The coordinates are shown in decimal degrees. Longitude is the first number and Latitude is the second number. Moving the mouse around the map environment you will see the degrees changing.

If you require a specific coordinate click the cross-hair.
Overview map control
The Overview Map widget displays the current extent of the map within the context of a larger area and updates whenever the map extent changes. The current extent of the map is represented in the overview map as a grey rectangle that can be dragged to modify the extent of the current view. You can expand or fold the widget. When the widget is expanded, you can also maximize or minimize it.
FILTERS, STATISTICS AND SHIPPING

Map Filters

Filters button
Use this button to turn the Filters, Statistics and Shipping tab on and off. By default the filters tab is switched on when the application loads.

Use the map filters tab to create more defined searches and queries of the LNG projects data. Once applied the map will show you results. Use the mapping controls to zoom to specific projects.

View by project name: If you know the specific name of a project, search here. The search function will auto-fill so if you only know part of a place or project name.

View by type: Select either Export or Import

View by status: Select from Closed; Decommissioned; Existing; Planned and Proposed; Speculative; Suspended or Under construction. Multiple selection possible

View by region: Select from Africa; Asia Pacific; Europe; Latin America; Middle East or North America

View as of year: Select a year and all projects up to and including that year will be shown. If you require a specific year check the ‘Show selected year only’ box

View by operator: Select from the operators in the drop-down list

View by shareholder: Select from the shareholders in the drop-down list

View by capacity (m t/y): Select from predefined bands of LNG project capacity

To show your filter/query select the Apply button
To reset or restart a filter/query select the Reset button
FILTERS, STATISTICS AND SHIPPING

Statistics Filter | World Statistics

Filters button
Use this button to turn the Filters, Statistics and Shipping tab on and off. By default the filters tab is switched on when the application loads.

The EWA has incorporated valuable industry LNG and Natural Gas statistics. These can be filtered to produce customised graphs and charts. Select the metrics in the filter tab and then click Generate Chart. This will produce an interactive graph or chart below.

Multiple graphs and charts can be produced. These can be downloaded in the following formats, PNG, JPEG, PDF or SVG Vector for use in internal presentations or company reports.

A table of the LNG Trade Flows has been incorporated, select Trade Flows

**Type:** For this application Natural Gas only can be selected

**Metric:** Graphs can be produced from the following data sets:
- Natural Gas Reserves
- Natural Gas Production
- Natural Gas Consumption
- LNG production
- LNG consumption

**Region:** Select from Africa; Asia Pacific; Europe; Latin America; Middle East; North America or World

**Country:** Select from countries within each region. Multiple countries can be selected

**Start Year:** Select a year. For a multiple date range you will require an End Year

**End Year:** To create a date range select another year

To show your filter/query select the Generate Chart button
To reset or restart a filter/query select the Reset button
FILTERS, STATISTICS AND SHIPPING

Statistics Filter | World Statistics | Charts

Chart results are shown below the filter once the **Generate Chart** button has been selected.

If a single year is selected a pie-chart will be generated. To see the individual values for each segment, hover the mouse cursor over the segment and click. This will highlight and show the individual region or country along with the unit value and percentage of the total.

Note: The generate chart tool will only produce a pie-chart or bar-chart against regions or countries with figures in the database. If you attempt to generate a chart with no data, a blank pie-chart or bar-chart will be created.
FILTERS, STATISTICS AND SHIPPING

Statistics Filter | World Statistics | Charts print & download

The charts you have generated can be printed directly from the application to your local printer. Alternatively the charts can be downloaded in the following formats, PNG, JPEG, PDF or SVG Vector for use in internal presentations or company reports.

We request that any chart that is used from the application in reports and presentation is clearly sourced to:

Chart generated from Energy Web Atlas © Gulf Publishing Company

To print a chart select the menu button
Select ‘Print chart’

To download a chart select the menu button
Select from the 4 download options.
- Download PNG image
- Download JPEG image
- Download PDF document
- Download SVG vector image

Sample: PDF download

Note: To open a PDF download you will require to have third-party software installed on your device. Adobe Acrobat Reader is free to download across all operating systems, details can be obtained from www.adobe.com. PNG, JPEG and SVG image files can be used in a wide variety of applications. EWA recommends you check with individual applications to see which image file is best suited for that application.
FILTERS, STATISTICS AND SHIPPING

Statistics Filter | Capacities

Filters button
Use this button to turn the Filters, Statistics and Shipping tab on and off. By default the filters tab is switched on when the application loads.

A table of conversion tables has been incorporated, select **Conversion Tables**

By selecting the capacities tab you can create another method of doing a filter/query of the LNG projects data. Complete the drop-down menus to refine your search. The results are shown in the table. Click on a record and the application will take you to that project on the map. Note: Each shareholder within a project has a single line in the database, so in some cases multiple records will be shown for each project.

<table>
<thead>
<tr>
<th>Project id</th>
<th>Project</th>
<th>Country</th>
<th>Status</th>
<th>Type</th>
<th>Year</th>
<th>Operator</th>
<th>Shareholder</th>
<th>Capacity (m t/y)</th>
<th>Capacity share (% of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEIM0001</td>
<td>CI-LNL (FSRU)</td>
<td>Cote d'Ivoire</td>
<td>Planned and Proposed</td>
<td>Import</td>
<td>2018</td>
<td>Total</td>
<td>Total</td>
<td>1.02</td>
<td>34.00%</td>
</tr>
<tr>
<td>PEIM0001</td>
<td>CI-LNL (FSRU)</td>
<td>Cote d'Ivoire</td>
<td>Planned and Proposed</td>
<td>Import</td>
<td>2018</td>
<td>Total</td>
<td>PetroCI</td>
<td>0</td>
<td>11.00%</td>
</tr>
<tr>
<td>PEIM0001</td>
<td>CI-LNL (FSRU)</td>
<td>Cote d'Ivoire</td>
<td>Planned and Proposed</td>
<td>Import</td>
<td>2018</td>
<td>Total</td>
<td>CI Energy</td>
<td>0.15</td>
<td>5.00%</td>
</tr>
<tr>
<td>PEIM0001</td>
<td>CI-LNL (FSRU)</td>
<td>Cote d'Ivoire</td>
<td>Planned and Proposed</td>
<td>Import</td>
<td>2018</td>
<td>Total</td>
<td>SOCAR</td>
<td>0.79</td>
<td>26.00%</td>
</tr>
<tr>
<td>PEIM0001</td>
<td>CI-LNL (FSRU)</td>
<td>Cote d'Ivoire</td>
<td>Planned and Proposed</td>
<td>Import</td>
<td>2018</td>
<td>Total</td>
<td>Shell</td>
<td>0.39</td>
<td>13.00%</td>
</tr>
<tr>
<td>PEIM0001</td>
<td>CI-LNL (FSRU)</td>
<td>Cote d'Ivoire</td>
<td>Planned and Proposed</td>
<td>Import</td>
<td>2018</td>
<td>Total</td>
<td>Gasol LNG</td>
<td>0.16</td>
<td>6.00%</td>
</tr>
<tr>
<td>PEIM0001</td>
<td>CI-LNL (FSRU)</td>
<td>Cote d'Ivoire</td>
<td>Planned and Proposed</td>
<td>Import</td>
<td>2018</td>
<td>Total</td>
<td>Endavour Energy</td>
<td>0.15</td>
<td>5.00%</td>
</tr>
<tr>
<td>PEIM0002</td>
<td>Ain Saloum</td>
<td>Senegal</td>
<td>Planned and Proposed</td>
<td>Import</td>
<td>2018</td>
<td>Total</td>
<td>FGAS</td>
<td>3.5</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
FILTERS, STATISTICS AND SHIPPING

Shipping Filter | Shipping Distances

Filters button
Use this button to turn the Filters, Statistics and Shipping tab on and off. By default the filters tab is switched on when the application loads.

Shipping distances section provides predetermined static maps of principle LNG shipping routes. The routes are based upon annual trade figures from selected countries. Distances are between an export country to an import nation in nautical miles. The Time is based upon a vessel travelling at maximum speed of 16.5 knots.

Use the drop-down menu to select a country.

For illustrations of LNG vessel types select Vessels.
FILTERS, STATISTICS AND SHIPPING

Shipping Filter | Data

Filters button
Use this button to turn the Filters, Statistics and Shipping tab on and off. By default the filters tab is switched on when the application loads.

By selecting the shipping data tab you can search the global LNG vessel database. All known LNG existing, under construction and on order vessels are listed.

Complete the drop-down menus to refine your search. The results are shown in the table.
MAP WIDGETS

Legend

Legend widget
The Legend widget displays labels and symbols for layers in the map. The Legend widget is set to automatically update when the visibility of a layer or sub-layer changes. When no operational layers are rendered in the map, the Legend widget is blank.

Layers

Layer list widget
The Layer List widget provides a list of operational layers and their symbols, and allows you to turn individual layers on and off. Each layer in the list has a check box that allows you to easily control its visibility. Layers having expansion arrows indicate that they contain sub-layers or subtypes.
MAP WIDGETS

Basemaps

Basemap Gallery widget
The Basemap Gallery widget presents a gallery of basemaps and allows you to select one from the gallery as your application’s basemap.

Measurement

Measurement widget
The Measurement widget allows the user to measure the area of a polygon, length of a line, or find the coordinates of a point.

Click the point measurement icon: Point measurement icon and click a point on the map. The Measurement widget displays the coordinates for the point in Degrees (decimal). You may change the coordinate display format to degrees/minutes/seconds by changing the Degrees drop-down to DMS.

Click the polyline measurement icon: Polyline measurement icon and draw a polyline on the map by clicking two or more points. Double-click to finish drawing the polyline. The Measurement widget displays the total length of the polyline, using the defined Default Length Unit. To change the length unit, select the applicable unit of measure from the Miles drop-down menu.

Click the polygon measurement icon: Polygon measurement icon and draw a polygon on the map by clicking three or more points. Double-click to finish drawing the polygon. The Measurement widget displays the total area of the polygon, using the defined Default Area Unit. To change the area unit, select the applicable unit of measure from the Acres drop-down menu.
MAP WIDGETS

Printing

Print widget
Select this button to print your map. Select from the printer variables. EWA has predefined the Layout options. Formats available include EPS, GIF, JPG, PDF, PNG and SVG. Customise the map scale/extent, Layout meta-data and Print quality.

The printed maps can be used for internal company reports and presentations.

Bookmark

Bookmark widget
The Bookmark widget stores a collection of map view extents displayed in the application. It also allows you to create and add your spatial bookmarks through configuration or at run time after the application starts. In addition, if there are any existing bookmarks defined for the web map used in the application, they are used automatically.
MAP WIDGETS

Information widget
This widget offers general background information to the application including map definitions, sources, acknowledgements, disclaimer and more.

Check for dynamic links to other EWA or Gulf Publishing Company products.

Definitions

Export plant defined by type

Existing
Plant that is currently built and producing LNG for the market.

Under Construction
Plant has had all the necessary approvals and has started construction.

Planned or proposed
Any one of the following: Plant that has received all necessary approvals but has not started construction, plant that has received approval from local or national government, plant that has received firm financial backing or plant that has had Heads of Agreement (HOA) or Letter of Intent (LOI) to deliver LNG to a third party.

Speculative
Plant that has gone past the stage of being a feasibility study, then any one of the following: Plant that has been put forward but not received local or national government approval, plant that has been put forward but has no HOA or LOI from a third party.
ATTRIBUTES TABLE

The Attribute Table widget displays a tabular view of operational layers’ attributes. It displays at the bottom of your web application and can be opened, resized, or closed. When more than one layer’s attributes display, multiple tabs automatically generate in the attribute panel allowing you to switch among the attribute tables. You can use the widget’s configuration window to specify which layer or layers are included in the tabular view, which fields show, and if the tabular view can be exported.

Create custom filters and queries of the attribute table

Show/Hide columns

Export data out in CSV format for use in spreadsheets

Double click record Highlights and zooms to in the application
USING THE MAP

The elements of the map have detailed attribute data associated with them. Three types of mapping element are available in this application. Point elements (LNG projects), Line elements (gas pipelines) and Polygon elements (Condensate, Gas and Oil/Gas fields). Each of these elements can be interacted with and selected using the mouse pointer. When selected a Pop-up box will open with the attribute data. You can use the Pop-up box tools to **Zoom to**, **Pan to**, **Add a Marker** or **View in the Attribute Table**.

- **Zoom to** function
- **Pan to** function. This pans the map to the selected feature
- **Add a Marker** function. Adds a marker onto the map
- **View in the Attribute Table** function. Open the main attribute table

If a project has more than one shareholder the number of records is shown here. To view each record click the white arrow button.

Pop-up box includes all attribute information.
Supported browsers

The EWA application supports most website browsers on multiple operating systems. The following are supported by the application:

- Chrome
- Firefox
- Safari 3 and later
- Edge
- Internet Explorer 11
- iOS Safari
- Chrome for Android

If you are experiencing technical issues with any part of the application or have general inquiries please contact a member of the Energy Web Atlas team (see contacts page 18).

ArcGIS Enterprise - Portal for ArcGIS Release version 10.5.1 has been used in the development of this application.
CONTACTS

If you are experiencing technical difficulties or have questions about the mapping application, please contact us for assistance.

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