



INTERACTIVE HYDROGEN DASHBOARD

USER GUIDE

Version 2.0



Produced by **PE Maps**

Gulf Energy[®]

WELCOME

Welcome to the **PE Maps Interactive Hydrogen Dashboard** Version 2 User Guide. Choose a topic from the right to find answers, get step-by-step instructions, and make the most from the dashboard.

Our new data dashboard is an information management tool that visually tracks, analyses and displays key performance indicators (KPI), metrics and key data points for the hydrogen sector. Included in the dashboard is three hydrogen maps which are updated on the fly so that the information is always up-to-date. The map features hydrogen projects by technology type, by application and by source feedstock globally.

Dynamic graphs and tables link to the map and other live databases to provide a full status view of the hydrogen projects and wider hydrogen industries.

The **PE Maps Interactive Hydrogen Dashboard** has been created utilising technology from the Energy Web Atlas platform incorporating ESRI ArcMap software which allows users to zoom from global overview to country-level detail, access project data, including status and ownership.

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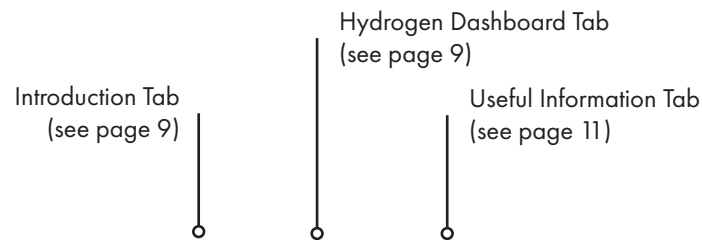
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DASHBOARD INTERFACE

The dashboard is microsite of maps and data for the global hydrogen industry in a series of tabs only available on the internet. The dashboard opens by default on the H2 introduction tab. Three mapping sections are on H2 Technology, H2 Source Feedstock, and H2 Applications, then three further tabs statistics, useful info and ExxonMobil. To change page click on the tab at top of the screen. Each page contains maps or graphics, to view simply scroll up and down the page. Below is the general interface of the dashboard.



Interactive World Hydrogen Dashboard | V2.0

Introduction Hydrogen Dashboard Useful Information More hydrogen media

Introduction

The **Interactive Hydrogen Dashboard** is a comprehensive source of information on dedicated hydrogen projects and hydrogen-related facilities. The web-based platform allows individuals to access the latest project data, such as facility status and ownership details, as well as detailed explanations of processes and other critical pieces of information.

The dashboard can be opened via the tab on the top menu or by clicking the buttons below:

To open the Hydrogen Dashboard [CLICK HERE](#)

PE Maps is producing the Interactive Hydrogen Dashboard in association with Hydrogen Economist.

Hydrogen Economist

Hydrogen Economist is a global digital-only channel of interest to leaders in the oil and gas sector as well as all stakeholders involved in the burgeoning hydrogen economy. From the outset, the readership is drawn from operators, engineering and services, government, finance, consultancies, law firms and academia—with a firm bias towards the C-suite, senior management and partner level.

Supporting H2's new horizons

Hydrogen Economist is a global digital-only channel of interest to leaders in the oil and gas sector as well as all stakeholders involved in the burgeoning hydrogen economy.

News Analysis Data Debate Networking and more...

[LEARN MORE](#) [CLICK HERE](#)

Media PE Network Multichannel access to the global energy audience

DASHBOARD INTERFACE

The dashboard interface features an interactive map dynamically linked the graphs and tables.

The dashboard interface features an interactive map dynamically linked the graphs and tables.

Annotations:

- Interactive map window (see page x)
- Select a project (see page x)
- Select a country (see page x)
- Dynamic graphs window (see page x)
- Reset button
- User guide download button
- FAQs download button

Hydrogen Dashboard

Project Haldane

Description: The purpose is to deploy an electrolyser system on a converted jack-up rig for offshore green hydrogen production in the North Sea. It will generate power from existing infrastructure to minimize the cost.

Product: Hydrogen (H₂)

Technology: Unknown Power to X

Type: Green (feedstock/user)

Owner / operator: Aquaterra Energy, Borr Drilling

Shareholders / participants: Aquaterra Energy, Lhyfe, Borr Drilling

Status: Planned

Start date:

Region: Europe

Country: United Kingdom

Location: North Sea

Total number of global hydrogen projects

513 (In view, Last update: a few seconds ago)

1,335 (All projects, Last update: 2 minutes ago)

Projects by status:

Status	Count
Operating	136
Planned	244
Proposed	109
Under Construction	24

Projects by process group:

Process Group	Count
Thermal	105
Electrolytic	405
Biological	2

Reset dashboard | Click here

User Guide
A handy guide to the map and statistics held within this website
[Download PDF - Click here](#)

FAQs
Frequently asked questions are answered
[Download PDF - Click here](#)

INTERACTIVE MAP WINDOW

Map functions

The map has multiple functions to allow the user to explore hydrogen projects from different regions or countries.

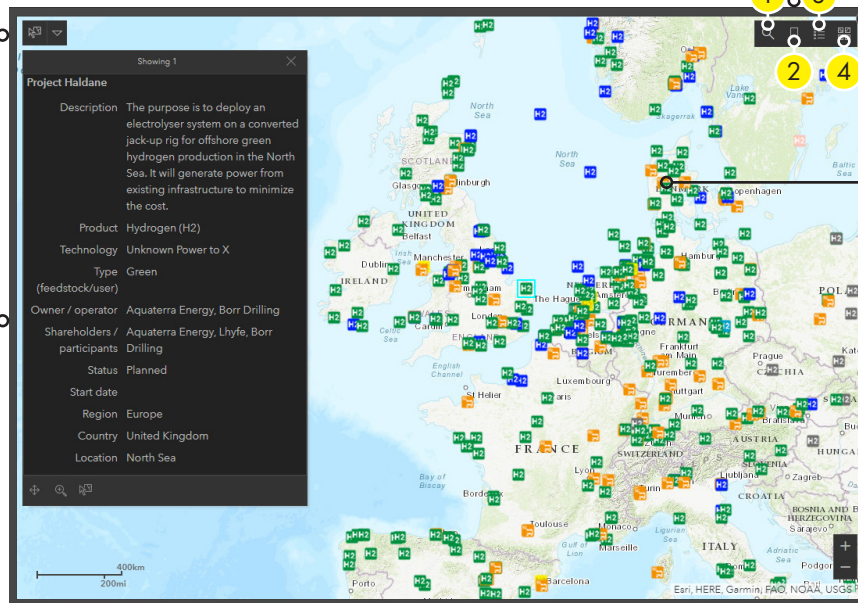
By default **PE Maps** has set the map to open with a total world view. If at any point the map becomes unresponsive click the reset button below the main dashboard panel

Map information tools (Pg. 6)

1. Search
2. Bookmarks
3. Legend
4. Basemaps

Icon selection tool
Select by Point, rectangle, lasso, circle or line, once selected map will zoom to extent

Pop-up box (Pg. 7)
Includes all attribute information



Expand
Click to view maximise map window click again to minimise

Project icons
The icons of the map have detailed attribute data associated with them. These are **Point** elements (hydrogen projects). 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.

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 a mouse with a wheel you can roll the mouse wheel forward to zoom in or roll the mouse wheel backwards to zoom out

Reset dashboard | Click here

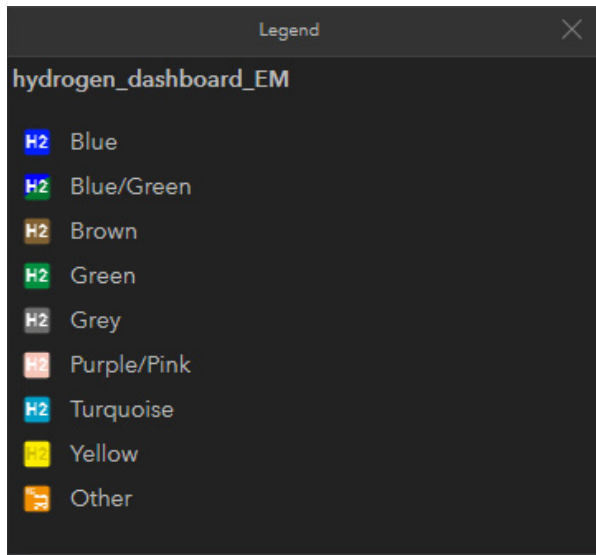
To reset the dashboard at anytime

MAP INFORMATION TOOLS



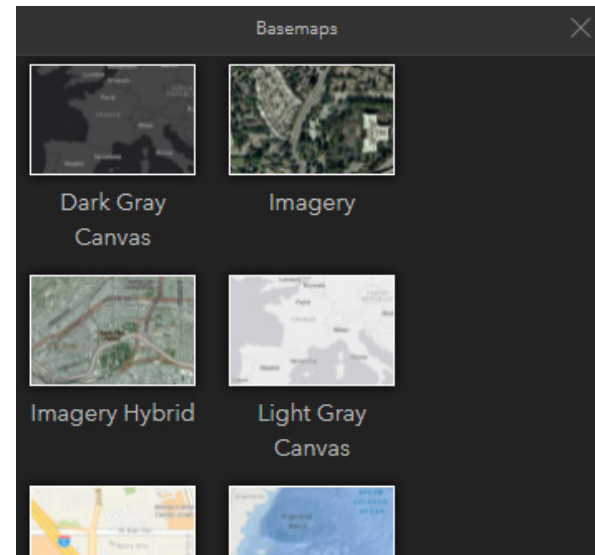
Legend

The Legend widget displays labels and symbols for layers in the map. The Legend 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.



Basemap gallery

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



Search

Find an address or location. This function searches for geographical places with the ESRI database. It can not be used to search for hydrogen projects

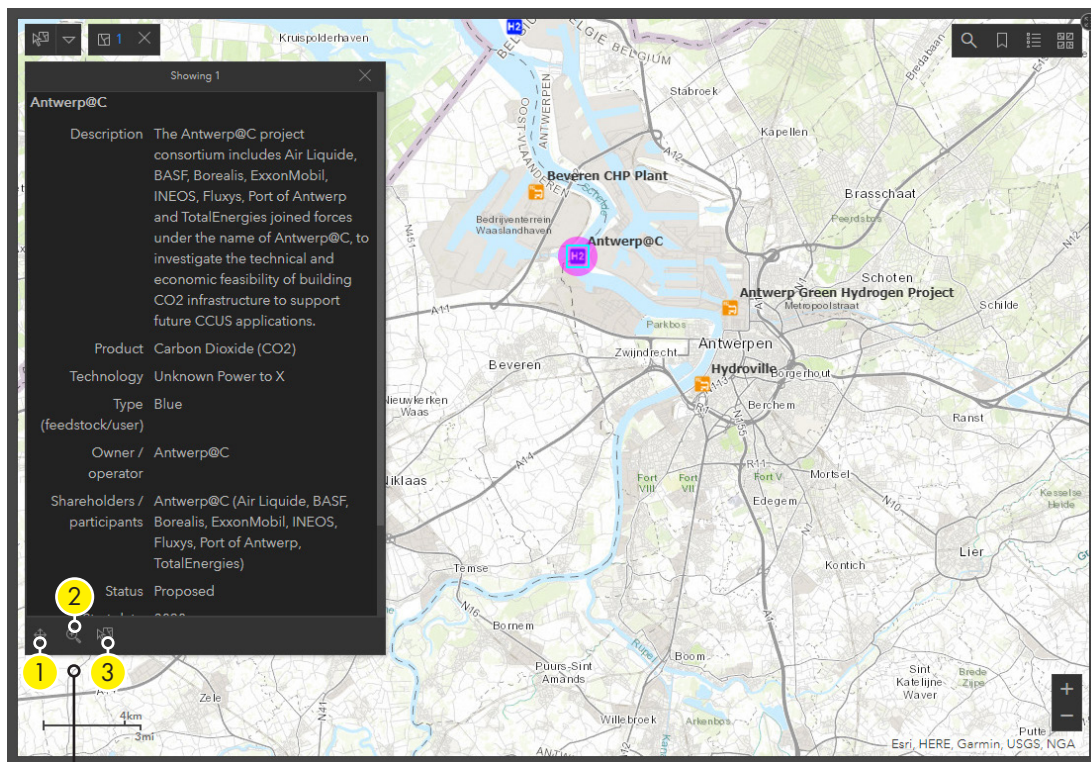


Bookmarks

The bookmarks lists predefined zoom extents for regions of the world. The following have been provided: North America; Central & South America; Middle East; Africa; Europe; Asia; and Australasia. Users can also click 'Default Map Extent' which will return the map to its original view

MAP POP-UP BOX

The map incorporates information from our live database. This information is accessible by clicking on a coloured hydrogen icon. The selected feature will be highlighted and a pop-up box will open with the associated data for that feature. Data from this map can not be downloaded.



Pop-up box tools

1. Centre map - click to centre icon in the centre of the map window
2. Zoom to - click to zoom to the project in the map window
3. Select and zoom - click to highlight and zoom to the project in the map window

Data included:

Description	Brief description of the project objective and scope
Product	Product(s) produced from the project
Technology	Type of technology used to create the end product(s)
Type (feedstock/user)	Adopting the Energy Industries Council (EIC) colour coding system based on source feedstock and carbon intensity
Owner/operator	List the companies that own or operate the facility
Shareholders/participants	List the companies that have a shareholding or have some form of participation in the facility
Status	Describe the current status of the project as follows, <ul style="list-style-type: none"> Operating: Project that is currently built and producing/using hydrogen. Under Construction: Project that has had all the necessary approvals and has started construction. Planned: Any one of the following; Project that has received all necessary approvals but has not started construction; project that has received approval from local or national government; project that has received firm financial backing; or project that has had Heads of Agreement (HOA) or Letter of Intent (LOI) to produce/use hydrogen. Proposed: Project that has gone past the stage of being a feasibility study, then any one of the following: Project that has been put forward but not received local or national government approval; project that has been put forward but not received any firm financial backing; or project that has been put forward but has no HOA or LOI to produce/use hydrogen.
Start date	Date at which the project began or estimated date that operations will begin
Region	Continent that the project resides
Country	Country that the project resides
Location	Locality of the project or nearest city/town

[Reset dashboard | Click here](#)

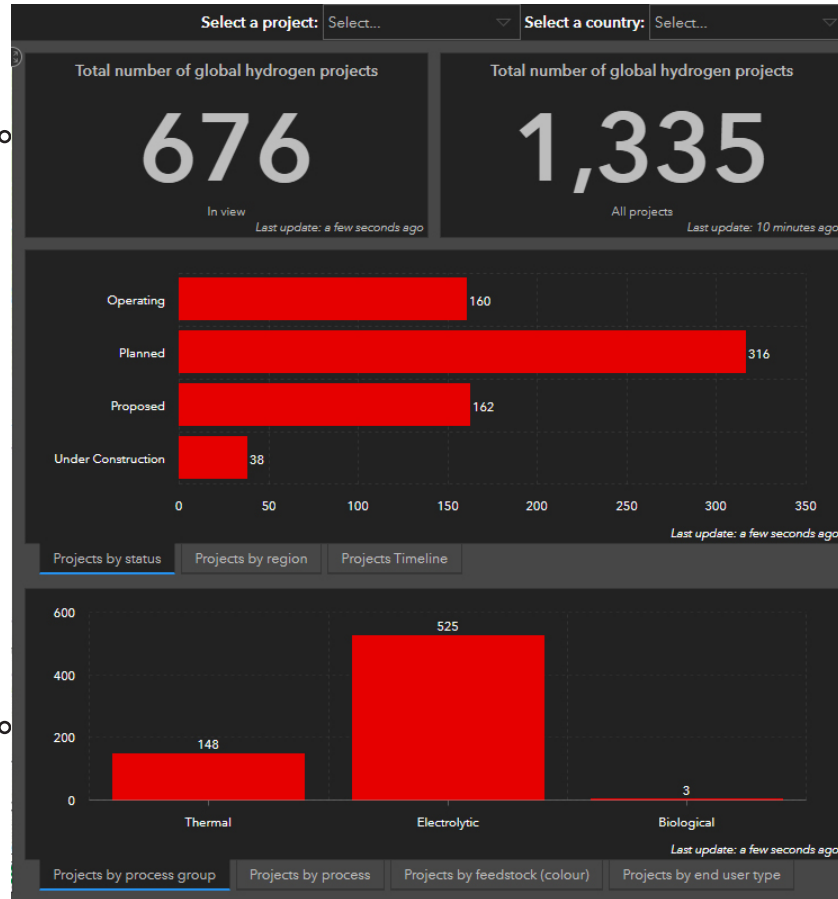
To reset the dashboard at anytime

DASHBOARD STATISTICS

PE Maps has incorporated statistics into the dashboard. The graphs and tables in the dashboard are driven by the live information in our databases. As information is updated in the mapping features this dynamically updates the graphs and tables. All the hydrogen statistics are dynamically linked from our own data.

Counts:

The right-hand number reflects the total number of projects in the database
The left-hand number reflects the number of projects visible in the map window



Projects by process group, process, feedstock or end-user type (Pg. 10):

The figures in these three tabs work dynamically with the map window. Click on any bar on the graph and this will show only those projects on the map

Select a project:

If the user knows the name of the project start typing and it will auto-fill or select from the long list. Once selected it will zoom to the project on the map

Select a country:

From the drop down list and select a country. This will then only show that selected country on the map

Projects by status, region or timeline (Pg. 9):

The figures in these three tabs work dynamically with the map window. Click on any bar on the graph and this will show only those projects on the map. To select multiple bars press the SHIFT key and click the bars

Reset dashboard | Click here

To reset the dashboard at anytime

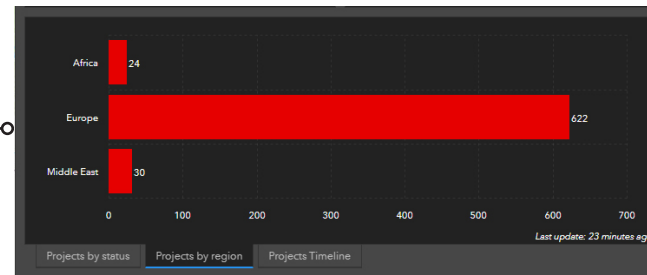
DASHBOARD STATISTICS



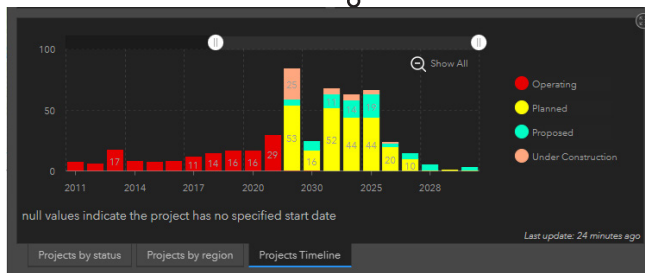
Expand
Click to view maximise map window click again to minimise

Projects by status:
The figures in this tab work dynamically with the map window. Click on any bar on the graph and this will show only those projects on the map

Projects by region:
The figures in this tab work dynamically with the map window. Click on any bar on the graph and this will show only those projects on the map



Use the slider to focus on specific dates.
Click Show all button to reveal all

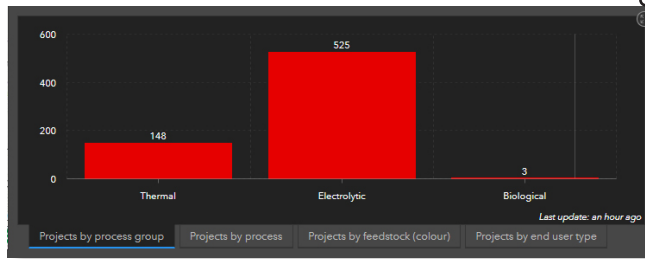


Projects by timeline:
The figures in this tab work dynamically with the map window. Click on any bar on the graph and this will show only those projects on the map

Reset dashboard | Click here

To reset the dashboard at anytime

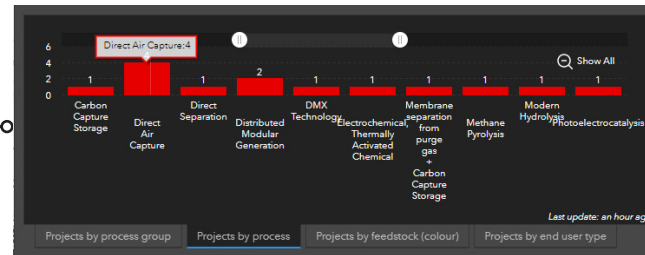
DASHBOARD STATISTICS



Expand
Click to view maximise map window click again to minimise

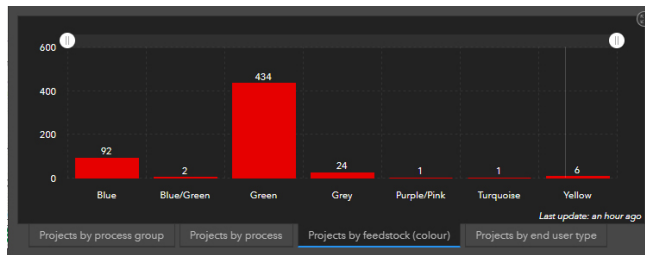
Projects by process group:
The figures in this tab work dynamically with the map window. Click on any bar on the graph and this will show only those projects on the map

Projects by process type:
The figures in this tab work dynamically with the map window. Click on any bar on the graph and this will show only those projects on the map



Use the slider to focus on specific technology types. Click Show all button to reveal all

Use the slider to focus on specific feedstock types. Click Show all button to reveal all



Projects by feedstock (colour):
The figures in this tabs work dynamically with the map window. Click on any bar on the graph and this will show only those projects on the map

Projects by end-user type:
The figures in this tab work dynamically with the map window. Click on any bar on the graph and this will show only those projects on the map



Use the slider to focus on specific end-user types. Click Show all button to reveal all

Reset dashboard | Click here

To reset the dashboard at anytime

OTHER TABS

Two further tabs with further information have been provided

Definitions, disclaimer, sources, contact details and links to **PE Maps** social media

The screenshot shows the 'Interactive World Hydrogen Dashboard | V2.0' website. The navigation bar includes 'Introduction', 'Hydrogen Dashboard', 'Useful Information', and 'More hydrogen media'. The 'Useful information' section is active and contains three columns of content:

- Definitions:**
 - Hydrogen project status:**
 - Operating:** Project that is currently built and producing/using hydrogen.
 - Under Construction:** Project that has had all the necessary approvals and has started construction.
 - Planned:** Any one of the following: Project that has received all necessary approvals but has not started construction; project that has received approval from local or national government; project that has received firm financial backing; or project that has had Heads of Agreement (HOA) or Letter of Intent (LOI) to produce/use hydrogen.
 - Proposed:** Project that has gone past the stage of being a feasibility study, then any one of the following: Project that has been put forward but not received local or national government approval; project that has been put forward but not received any firm financial backing; or project that has been put forward but has no HOA or LOI to produce/use hydrogen.
 - Disclaimer:** Neither Gulf Energy Information nor its affiliates (collectively "Gulf Energy Info") makes any express or implied representation or warranty, as to the quality, accuracy or completeness of this map or the information contained in this dashboard (collectively "Dashboard"), which is published by PE Media Network. By reviewing this Dashboard, you acknowledge and agree that the Dashboard is being furnished for reference purposes only and that no reliance should be placed upon the same. You will rely solely on your own independent investigations, evaluations, and analyses in satisfying yourself as to the quality, accuracy and completeness of the Dashboard. Gulf Energy Info does not endorse the Dashboard or any product, tool, service, company or any other party in connection with the Dashboard. Gulf Energy Info expressly disclaims liability for any loss, damage, or injury directly or indirectly suffered or incurred as a result of or related to use, reference or reliance on the Dashboard.
- About PE Maps:**
 - VISUALISING THE ENERGY INDUSTRY:** Since 1990, the PE Maps team of cartographers have been mapping the evolution of the energy industry, one pipeline at a time.
 - Image:** Two men in suits looking at a large interactive map on a wall.
 - Text:** Over the last thirty years, these unique wall maps have found their way onto every company's walls in every part of the world.
 - Text:** From the Energy Map of Russia (in Russian) to World Fiscal Systems for Oil, from The Energy Map of Trinidad and Tobago to Oil & Gas Map of the Arabian Peninsula, there is no energy source or region that has not found itself mapped and tucked into the latest print issue of Petroleum Economist, or into a delegate's welcome bag at a major energy event.
 - Text:** We have now added interactive digital mapping to the portfolio. PE Maps has published dashboards with ExxonMobil (World LNG) which allow for up-to-date information to be displayed on a fully immersive mapping platform supported by relevant industry data and statistics.
 - Text:** Digital mapping dashboards now complement our printed mapping services. Continually updated infrastructure maps from gas pipelines to hydrogen projects or LNG facilities to offshore wind farms, our team has this covered.
 - Text:** Print and digital mapping is available across all the PE Media Network brands.
 - BENEFITS:**
- Acknowledgements:**
 - Logos:** Petroleum Economist, Hydrogen Economist, PE Maps.
 - Address:** 27 Farnham Street, London EC6A 1TQ, United Kingdom, Switchboard +44 20 3409 2240.
 - Logos:** Petroleum Economist, Hydrogen Economist, Transition Economist.
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 - GULF BRANDS INCLUDE:** EWA, WorldOil, PE Maps, GULF PROCESSING LINK, HYDROCARBON PROCESSOR, Pipeline & Gas Journal, ENERTECH, PIPELINE.
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 - PE Media Network would like to express a special thank you to Gulf Energy Info for their help and assistance in the preparation of the Interactive World Hydrogen Dashboard.**

TECHNICAL

Supported browsers

The **PE Maps** dashboard 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

PE Maps team

(see contacts page 14)



ArcGIS Enterprise – Portal for ArcGIS 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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If you would like to enquire about commercial opportunities with relation to **PE Maps** interactive mapping applications, please contact:

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