



Shipping e-fuels observatory

State of play in Europe, China and Australia



Constance Dijkstra
July 2026

Europe



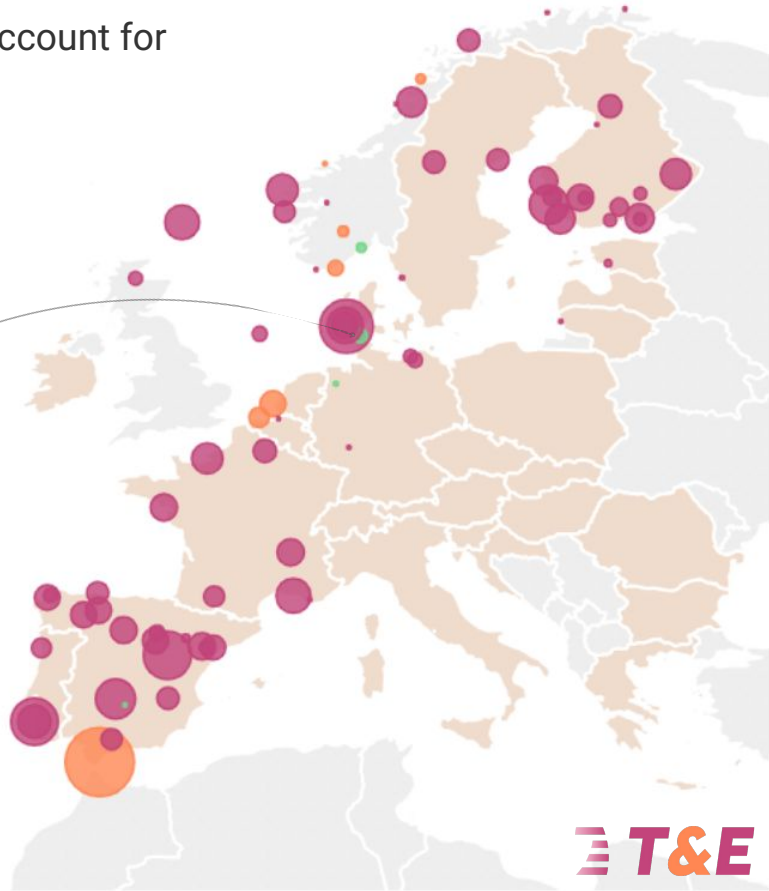
Green shipping e-fuel projects are appearing across Europe

13 projects intend to target primarily the maritime sector, but account for less than 7% of the projected e-fuel volumes.

0.05 ○ ○ 0.09 ■ Pre-FID ■ Decided - FID ■ In operation



Kasso E-methanol Facility
European Energy
In operation



E-ammonia production in Spain leads the way

If we consider projects with an announced operational date, projected e-fuels availability is estimated at 4.09 Mtoe by 2033 (or 4.53 Mtoe if we also account projects without an operational date).

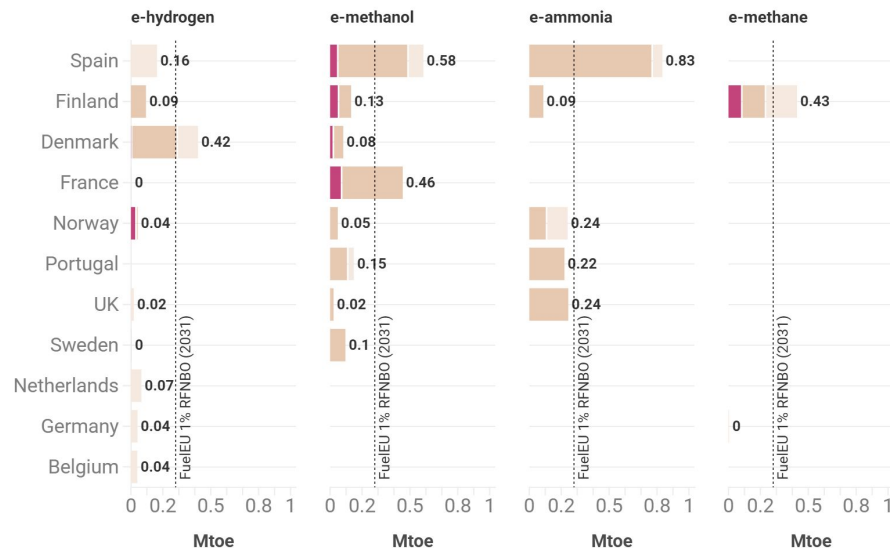
E-ammonia leads the way with 1.63 Mtoe followed by e-methanol with 1.57 Mtoe. E-hydrogen volumes come third with 0.89 Mtoe – though more than half of those volumes target the transport sector without mentioning shipping specifically. E-methane comes last with 0.43 Mtoe.

Currently, projected e-fuels volumes are expected to originate from:

1. Spain (1.58 Mtoe)
 - E-ammonia (0.83 Mtoe)
 - E-methanol (0.58 Mtoe)
2. Finland (0.74 Mtoe)
3. Denmark (0.5 Mtoe)
4. France (0.46 Mtoe)
5. Portugal (0.37 Mtoe)
6. Norway (0.33 Mtoe)

Spain is projected to produce the highest volumes of e-fuels targeting shipping among other sectors.

Primarily Maritime Includes Maritime May Include Maritime



T&E Shipping E-fuels Observatory (June 2026) • Based on pre-FID, post-FID and operational projects.

While more than 80% of the e-fuels project are pre-FID, seven projects are past that stage with estimated volumes sufficient to reach FuelEU's 2031 1% RFNBO threshold by 2031.

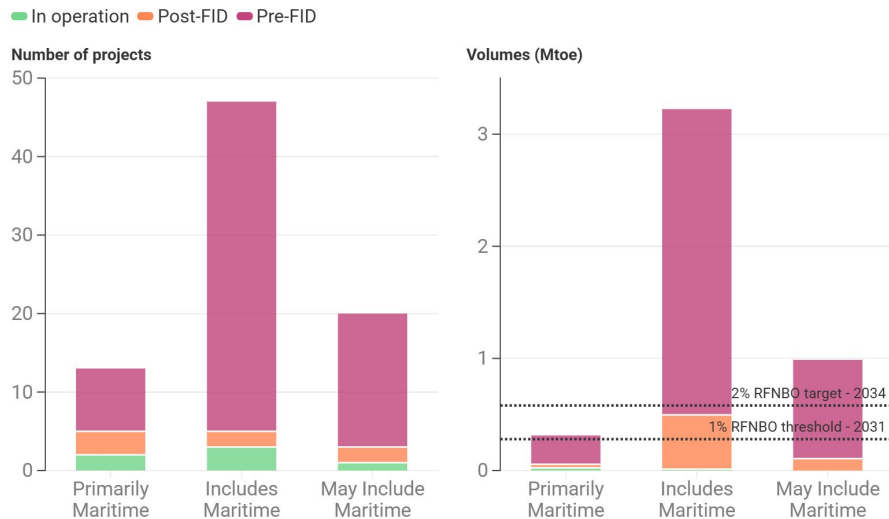
This is primarily due to [Andalusian Green Hydrogen Valley](#) project, which intends to target various industries as well as shipping with an estimated 474,000 toe/year of e-ammonia and e-methanol.

Other post-FID projects include:

- Three projects that intend to target primarily shipping, with two projects expected to produce 32,000 toe hydrogen/year.
- One project that intends to target shipping among industries with a production of 10,000 toe hydrogen annually.
- Two projects that intend to target transport as a general category with a total production of 100,000 toe hydrogen annually.

Six small-scale projects are currently operational, but only the [Kassø](#) e-methanol facility has an annual production above 20,000 toe/year clearly targeting the maritime sector.

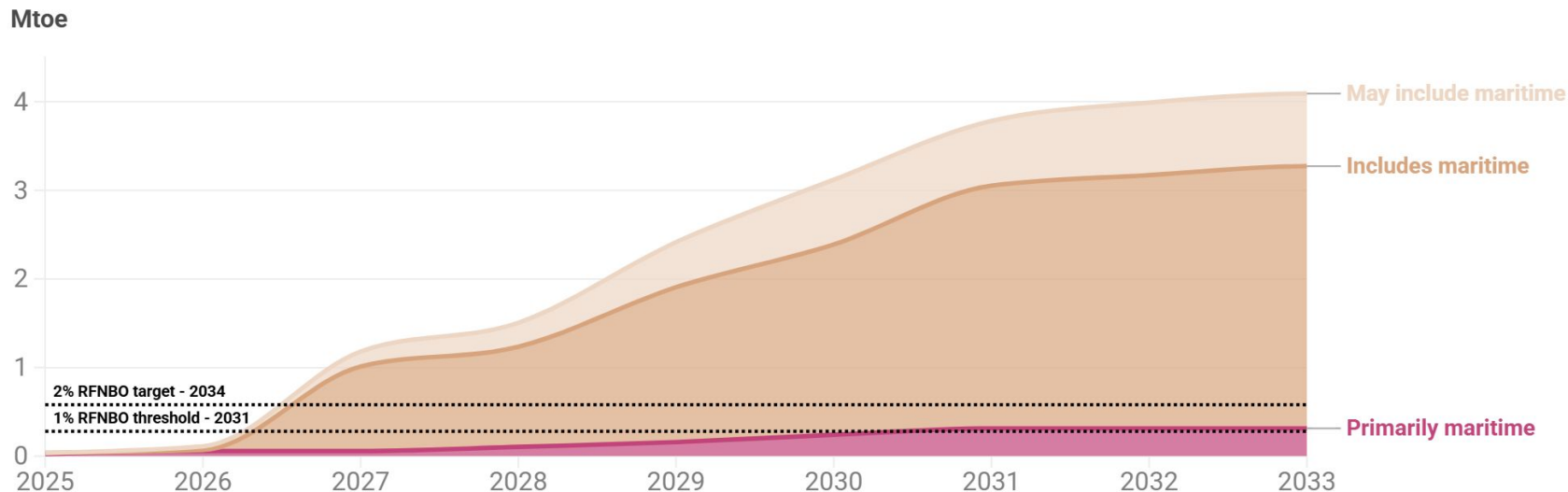
A majority of e-fuel projects and associated volumes are pre-FID
But some post-FID volumes could go towards maritime, helping shipping companies meet their e-fuel mandate



Source: T&E Shipping E-fuels Observatory (June 2026) • The 1% RFNBO threshold and 2% target refer to those under the FuelEU Maritime Regulation.

There aren't yet sufficient volumes targeting primarily shipping to reach the FuelEU's 2% e-fuels target by 2034

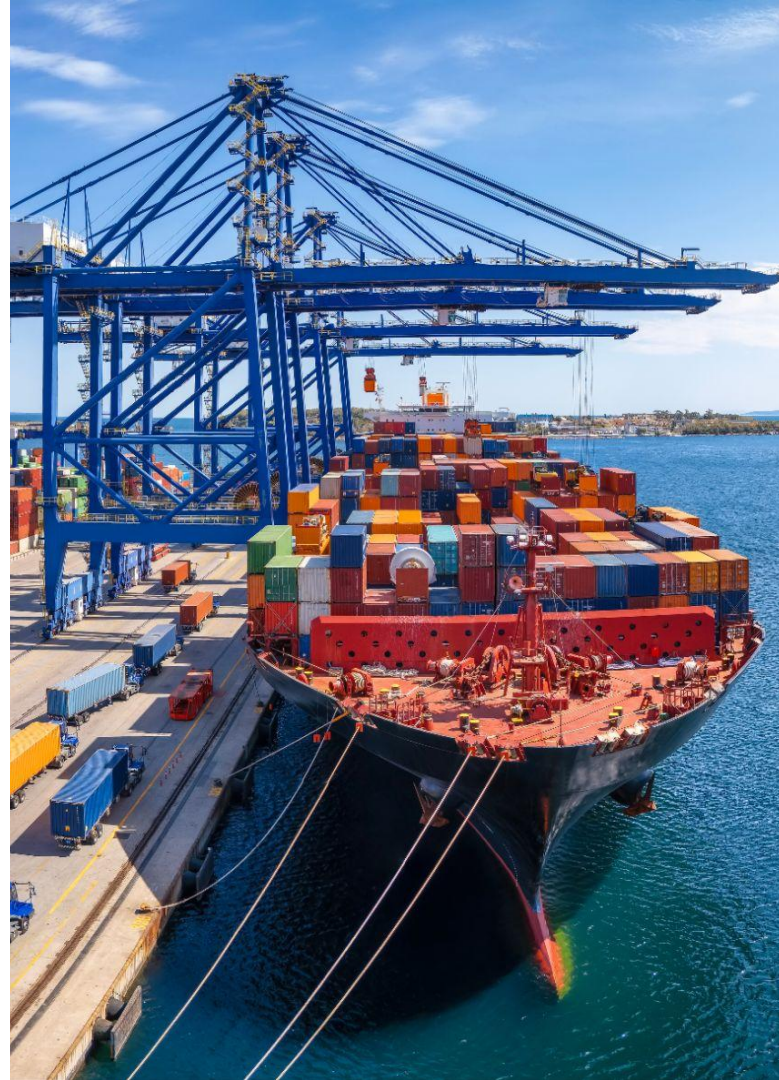
But volumes from projects targeting maritime **and** various industries could enable that.



T&E Shipping E-Fuels Observatory (June 2026) • Includes volumes from pre-FID, post-FID, and operational projects that indicated an operational date. The 1% RFNBO threshold and 2% target refer to those under the FuelEU Maritime Regulation.



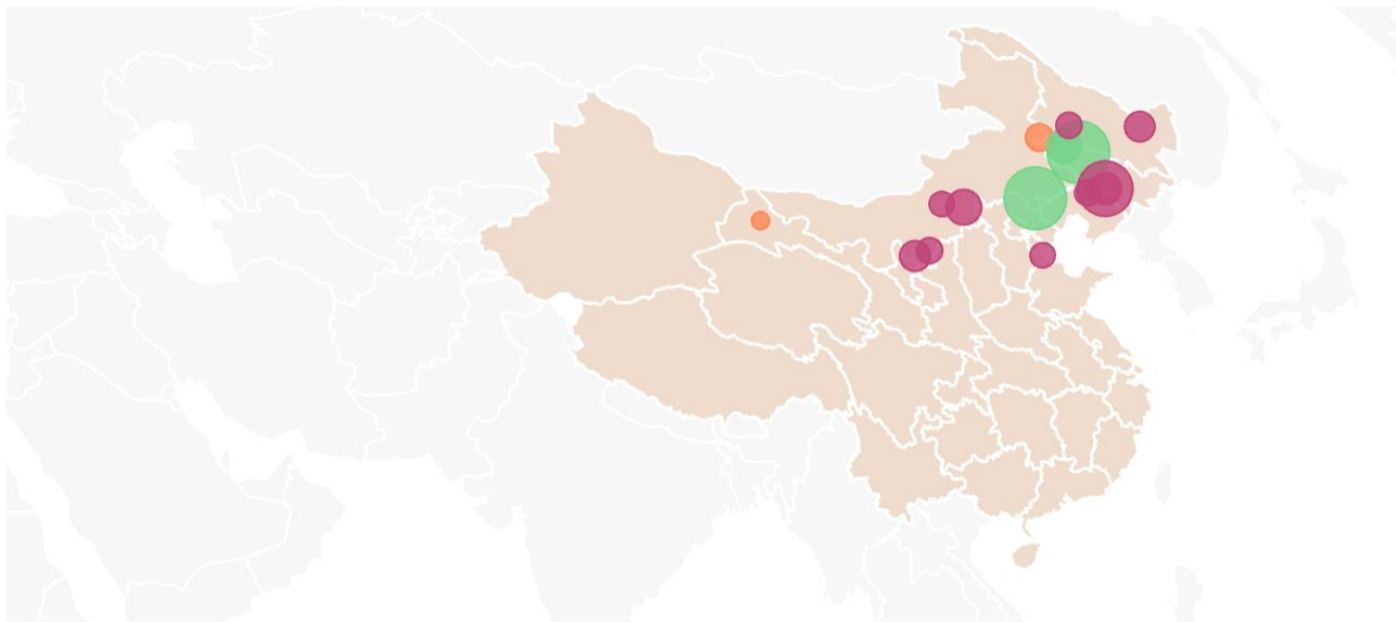
China



15 e-fuels projects in China consider targeting the maritime sector

These represent an estimated 1.72 Mtoe of e-fuels by 2029

0.03 ○ ○ 0.05 ● Operational ● Post-FID ● Under construction



Source: T&E Shipping E-Fuels Observatory (June 2026). Some projects may have similar geographical coordinates and may not appear on the map. Estimated volumes are indicated in Mtoe. Volumes of the two biggest operational projects assume production volumes from phase 1 and 2, projected to be available by 2028 and 2029.

China could help shipping companies meet e-fuels mandate

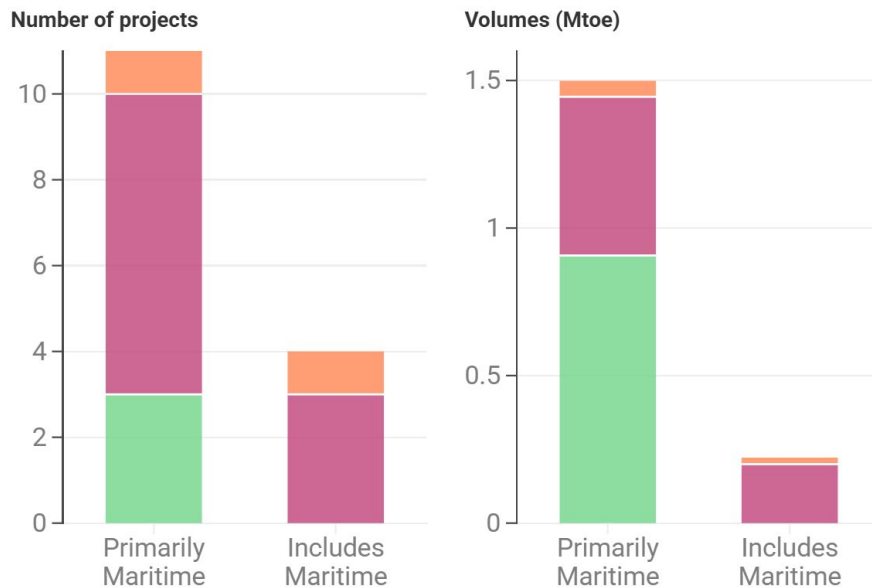
We counted 15 Chinese e-fuels projects at different development stage with an estimated production of 1.72 Mtoe by 2029.

Eleven of those projects intend to target primarily the maritime sector with 1.50 Mtoe, while four expect to deliver e-fuels to shipping among other industrial sectors with 0.22 Mtoe.

These e-fuel volumes could help shipping companies comply with maritime green e-fuels mandates established at national, regional, or global level. This is reinforced by the fact that three of those projects are operating in at least the first phase of their production plan and ten are under construction.

Three operational projects are expected to account for the majority of e-fuels production targeting shipping.

■ In operation ■ Under construction ■ Post-FID



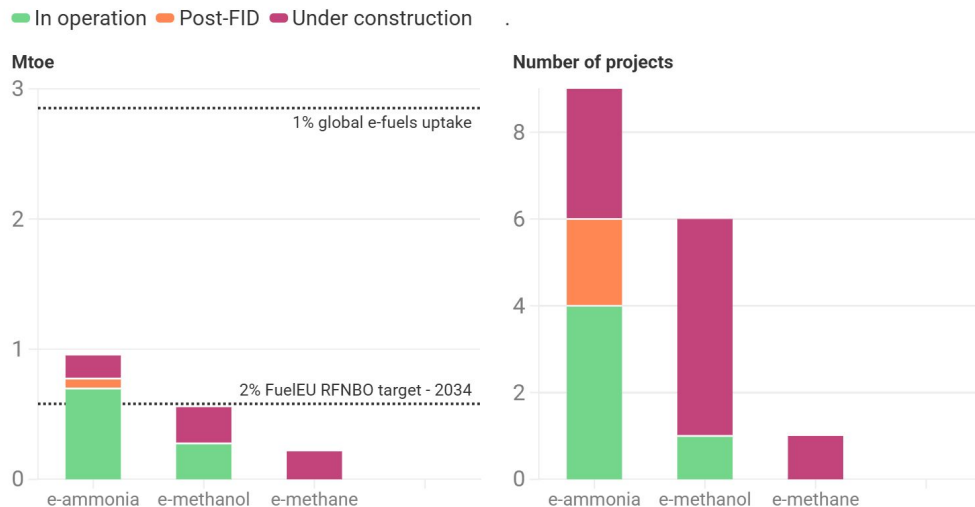
Source: T&E Shipping E-fuels Observatory (June 2026) • Two of the operational projects and associated volumes targeting primarily maritime accounts for phase 1 and phase 2 volumes (expected by 2028 and 2029).

Projected e-ammonia volumes targeting shipping lead the way

The e-fuel with the most projected volumes is e-ammonia with a production potential estimated at 0.95 Mtoe by 2029. E-methanol trails behind with 0.55 Mtoe by the same date, with all volumes targeting primarily the maritime sector.

We encountered only one e-methane project targeting shipping among other industries. The project is under construction with a production estimated at 0.22 Mtoe.

Projected e-ammonia volumes lead the way followed by e-methanol targeting shipping.



Source: T&E Shipping E-fuels Observatory (June 2026) • Volumes of two currently operational projects assume total volume production from phase 1 & 2, projected to be available by 2028 and 2029.

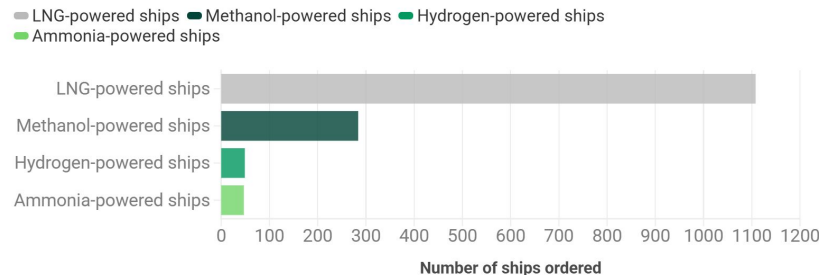
Few offtake agreements between ships and e-fuel producers

We recorded few offtake agreements between e-fuel producers and shipping companies. A notable exception is the [agreement](#) between the Belgian shipping company CMB.Tech for the delivery of 158,000 tonnes of e-ammonia from China Energy Engineering Corporation (CEEC). Other examples include the delivery of green ammonia by [Envision](#) Chifeng project for bunkering tests to Exmar and COSCO.

This absence of offtake agreements could be in part explained by the lack of ammonia-powered ships in the order books, and the availability of bio- and bio-E-methanol for methanol-powered ships.

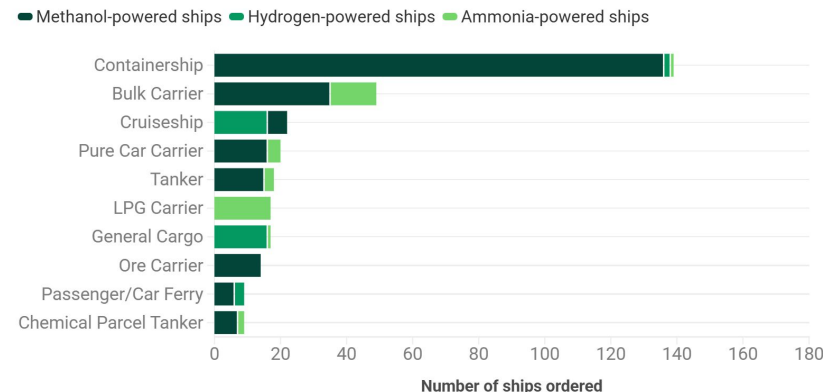
In addition, several agreements occur through other stakeholders such as ports, bunker fuel providers, or commodity traders, making it harder to discern who the actual end-user is. An example of this includes the fuel producer Envision's e-ammonia [agreement](#) with Japanese company Marubeni for various industrial purposes.

There are only 47 ammonia-powered ships in the orderbooks compared to 284 methanol-powered vessels



Source: Clarksons World Fleet Register (June 2026)

Containerships and bulk carriers among the most likely to take up methanol as an alternative fuel



Source: Clarksons World Fleet Register (June 2026)

Bio-E-methanol hybrid fuel volumes projected to be twice higher than biomethanol volumes targeting shipping

Instead several containership companies have offtake agreements for bio-methanol or hybrid versions of bio-E-methanol, many of which have been agreed with Goldwind.

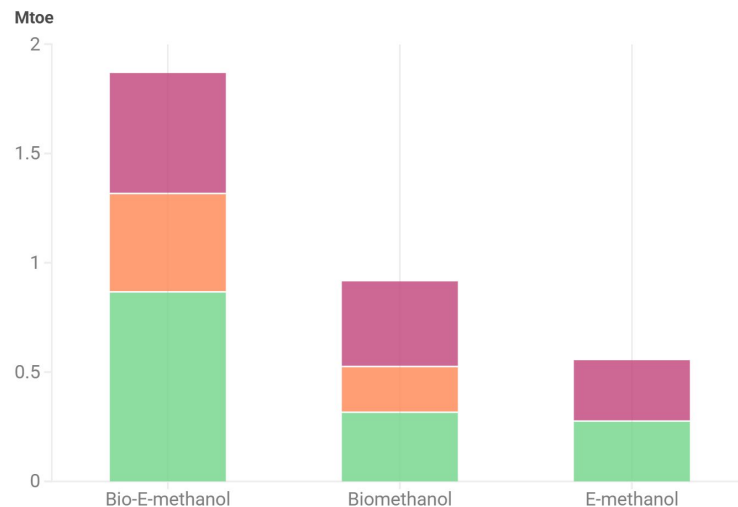
Goldwind has established long-term offtake agreements with [Maersk](#) to supply 500,000 t/year of bio-E-methanol and [Hapag-Lloyd](#) for the delivery of 250,000 t/year of bio-E-methanol per year. Similarly, the [Shanghai Electric Group](#) has a contract with Shanghai Port Group, who agreed to deliver bio-methanol to CMA CGM.

Bio-E-methanol:

Methanol derived from bio-based feedstocks to produce syngas, which is then optimised by adding green hydrogen, the quantity of which depends on the production procedure.

E-methanol production lags behind hybrid bio-e-methanol fuels targeting shipping.

■ In operation ■ Post-FID ■ Under construction

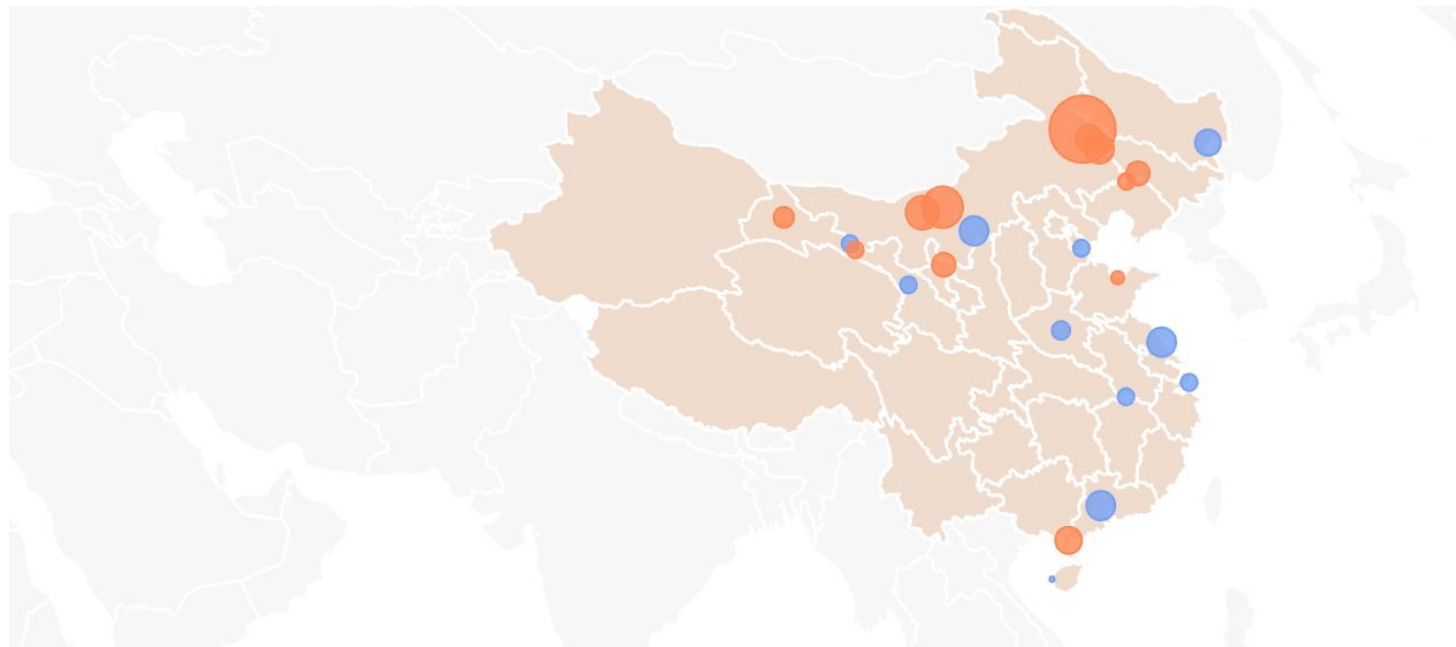


Source: T&E Shipping E-fuels Observatory (June 2026)

22 bio-methanol and bio-E-methanol projects plan to deliver fuels to shipping

With an estimated production of 1.87 Mtoe for bio-E-methanol and 0.91 Mtoe biomethanol by 2029.

0.05 ○ ○ 0.1 ● Bio-methanol ● Bio-E-methanol



T&E Shipping E-fuels Observatory (June 2026). Some projects may have the same geographical coordinates and may not appear on the map. Volumes are indicated in Mtoe. Includes volumes from projects that are operational as well as post-FID and under construction to become operational between 2026 and 2029.

Australia

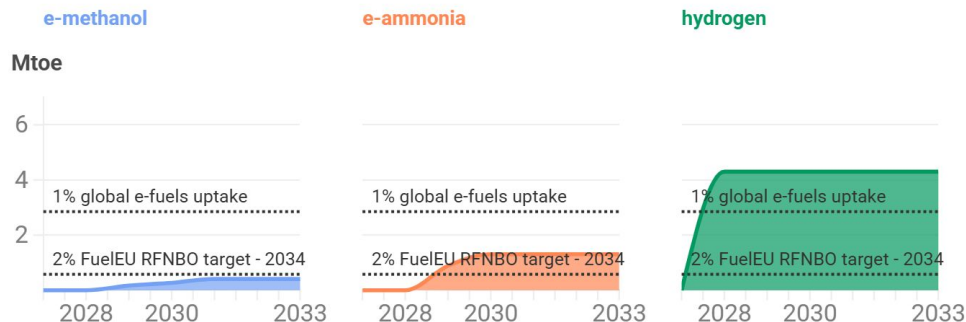


E-methanol volumes significantly below e-ammonia or hydrogen production potential

We counted 14 e-fuels projects: 11 of those intend to produce a total of 7.71 Mtoe – or 6.28 Mtoe by 2031 if we only consider projects that indicated an operational date.

Out of the projects that indicated an operational date, 68% of the volumes originate from one project: the [Australian Renewable Energy Hub](#) (AREH), which intends to use green hydrogen to produce ammonia which would be used for export and bunkering purposes.

Projected e-fuels volumes in Australia could help shipping companies to comply with e-fuels mandates, but relevant projects are currently pre-FID.



Source: T&E Shipping E-fuels Observatory (June 2026) • Projected volumes belong to pre-FID projects that consider shipping as a potential offtaker among aviation and the wider industry (e.g. chemical sector).

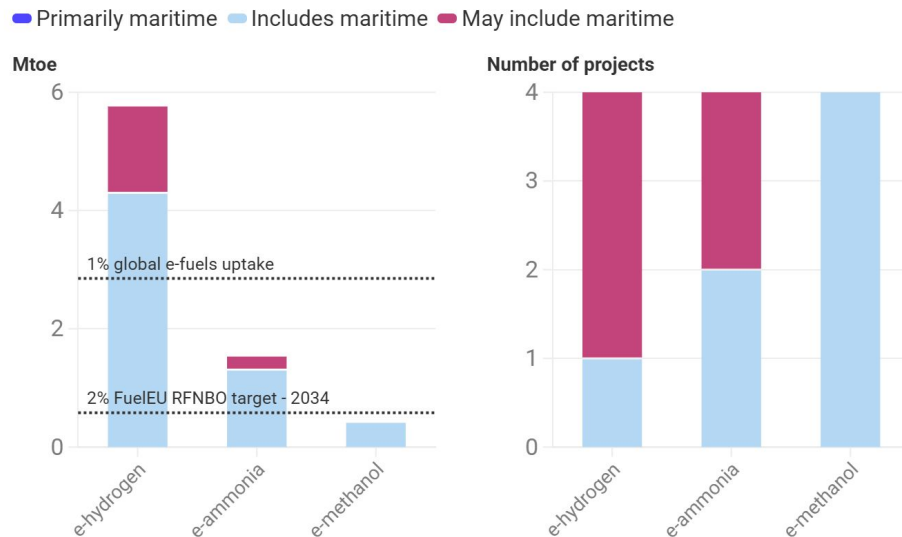
The absence of policies incentivising marine e-fuels results in no e-fuel projects targeting primarily the maritime sector

We only found four e-methanol projects that target the maritime sector – two of which also consider targeting the aviation sector ([HIF Tasmania](#) & [Portland Renewable Fuels](#)) – that intend to become operational between 2029 and 2031.

Similarly, we only came across four ammonia projects, two of which intend target maritime as well as industry: 58% of the volumes are projected to originate from the [Murchison](#) project projected to reach FID in 2027 and become operational by 2029.

While there are pre-FID e-methane projects in Australia, none of them consider the maritime sector as a potential offtaker.

No projects targeting primarily the maritime sector were found



Source: T&E Shipping E-fuels Observatory (June 2026) • Four hydrogen projects are indicated instead of six, as two projects have not indicated production potential.

Methodology - Europe

T&E commissioned [Sia Partners](#) to maintain T&E's Shipping E-fuels Observatory up-to-date following the publication of the [second edition](#) of the Observatory in December 2025. Sia Partners tracked newly announced e-fuels projects between 1 January 2026 and 31 May 2026, and updated existing projects based on publicly-available information (e.g. company annual and quarterly reports, press releases, sectorial databases, general and specialised media). In a couple of cases, a direct contact was established with the owner of a project to cross-check online information and obtain more details on the project itself.

Similarly to the 2025 edition, we considered e-hydrogen, e-ammonia, e-methane, and e-methanol projects, and classified them in three categories:

- a. **In operation | Operational:** projects that are already producing e-fuels for commercial markets;
- b. **Decided – FID | Post-FID:** projects that have received a final investment decision (FID). FID is considered the central condition for the realisation of a project;
- c. **Under discussion | Pre-FID:** projects that are at any stage before the final investment decision stage, or have a lack of information on the status of operationalisation.

Projects were also categorised according to their targeted offtakers:

- 1. **Primarily targeting maritime:** e-fuels projects that primarily target the maritime sector;
- 2. **Includes maritime:** e-fuels projects which state that the maritime sector is one of the targeted offtakers, among others;
- 3. **May include maritime:** e-fuels projects that intend to target the transport sector more generally, with a possibility this may include maritime. If a project clearly specifies the transport sector/s targeted and maritime is not included, we exclude it.

While we do not exclude projects based on a production volume threshold, the Observatory does not consider projects that claim to be demonstration or pilot projects. This explains why we did not include e-fuel plants such as the REDDAP v. Ramme project in Denmark or Hellesylt Hydrogen Hub project in Norway.

Methodology - China

T&E commissioned the [China Hydrogen Bulletin](#) to create a database of e-fuels projects in China that primarily or partly target the maritime sector as an offtaker. The fuels that were considered were e-hydrogen, e-ammonia, e-methane, and e-methanol. For a more comprehensive and comparative perspective, a review of biomethanol and bio-E-methanol projects was also included.

Due to the high number of potential e-fuel projects in China, we only selected projects that are:

1. **In operation | Operational** this includes projects that are operational in at least the first phase of their timeline;
2. **Decided – FID | Post-FID:** this includes projects where the company disclosed their investment decision for compliance purposes;
3. **Under construction:** this includes projects where a groundbreaking ceremony has taken place to launch the project, or projects that have an EPC (Engineering, Procurement, and Construction) tendering contract for the construction of the project, or projects that have signed an offtake agreement with a shipping company and fuel bunkering provider.

We also classified e-fuels projects according to their targeted offtakers into two categories based on the project's' initial announcements:

1. **Primarily targeting maritime:** E-fuels projects that primarily target the maritime sector;
2. **Includes maritime:** E-fuels projects which state that the maritime sector is one of the targeted offtakers, among others.

We also focused on projects with production potential of 10,000 tonnes/year or above. This is a major difference from the way projects were considered in the European and Australian section of the Observatory.

Information on projects originates from publicly-available sources including regulatory documents, tendering documents, listed company disclosures, companies' website, or companies' official account under "Wechat" platform, financial news media (*Securities Times*, *Shanghai Securities News*, or *Cninfo*), state news media (*Xinhuanet*, *China Daily*), energy and industrial news media, provided good tracking records, and finally comprehensive portal website (*Sina*, *Sohu*). When differences arose between regulatory documents and tendering documents on detail equipment information, tendering documents prevailed and when differences between regulatory documents and media reports on groundbreaking date or commissioning date, reliable media reports prevailed.

Methodology - Australia

To include Australian projects in our Observatory, we gathered information on e-fuels projects in Australia based on publicly-available sources including CSIRO [HyResource](#) database and the [MPP Global Project Tracker - Map](#), between 1 February 2026 and 1 June 2026, by looking at e-hydrogen, e-ammonia, e-methane, and e-methanol. To ensure we did not miss a key project, we consolidated our information through a bilateral with the Australian Hydrogen Council.

To determine whether a project intends to target the maritime sector – at least in part – we searched companies website's, quarterly and annual reports, as well as publicly-available information from [Quantum Commodity Intelligence](#) and specialised publications such as [Hydrogen insight](#).

While our intention was to classify projects based into three categories “Operational | Operational”, “Post-FID | Decided - FID”, and “Pre-FID”, we only encountered projects that were at an early stage of development, which explains why they are all currently categorised as “Pre-FID” in our Observatory.

In addition, we also classified projects based on targeted offtakers categories, but did not come across projects primarily focused on the shipping sector:

1. **Includes maritime:** e-fuels projects which state that the maritime sector is one of the targeted offtakers, among others;
2. **May include maritime:** e-fuels projects that intend to target the transport sector more generally, with a possibility this may include maritime. If a project clearly specifies the transport sector/s targeted and maritime is not included, we exclude it.

Acknowledgements

Report published: July 2026

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Editeur responsable: William Todts, Executive Director

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To cite this report

T&E (July 2026). Shipping E-fuels Observatory State of Play in Europe, China and Australia

Acknowledgements

The findings and views put forward in this publication are the sole responsibility of the authors listed above.

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