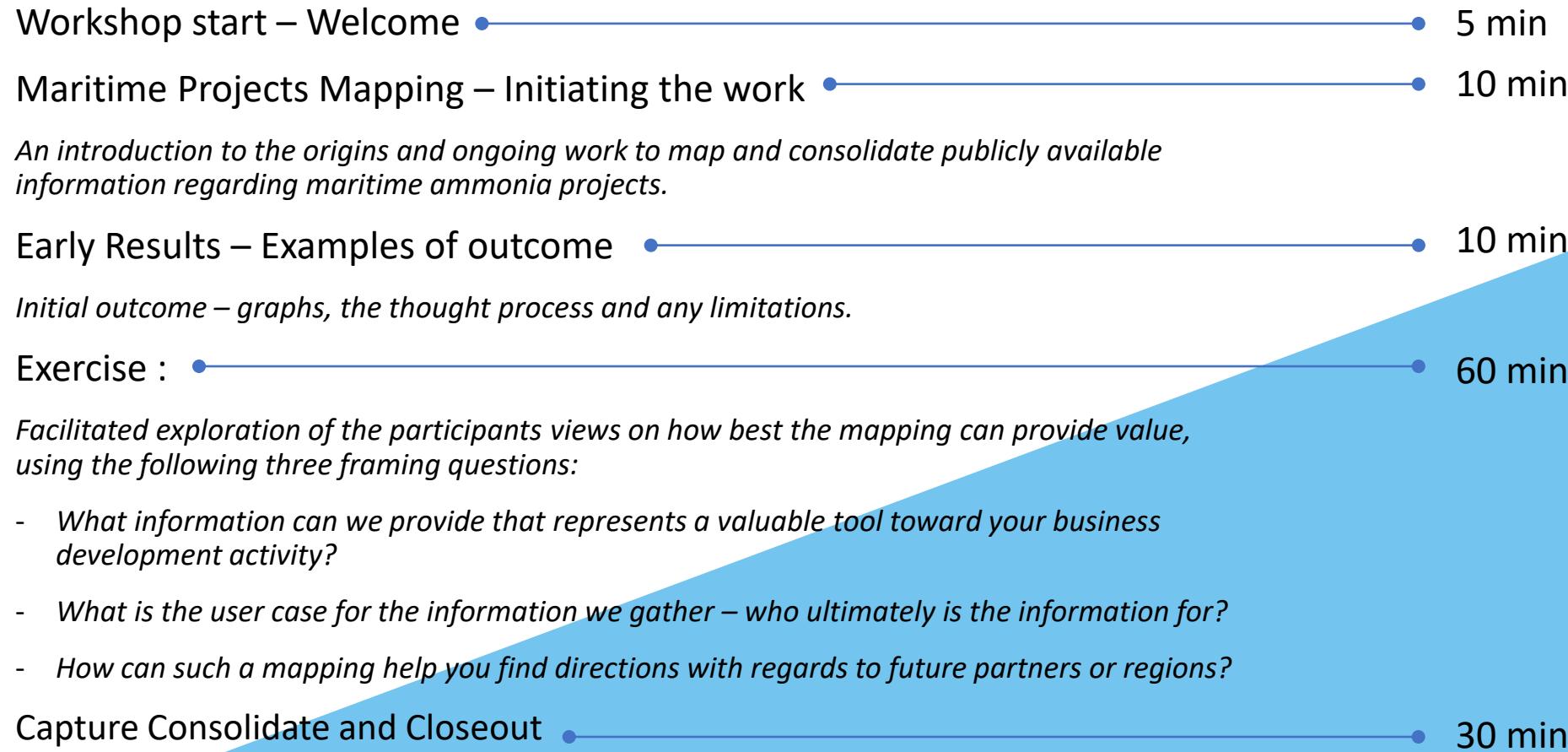


Maritime Ammonia Workshop

Annual AEA Members Conference - Boston

Optimising Value from the Mapping of Maritime Projects

Agenda



Agenda

Workshop start – Welcome • 5 min

Maritime Projects Mapping – Initiating the work • 10 min

An introduction to the origins and ongoing work to map and consolidate publicly available information regarding maritime ammonia projects.

Early Results – Examples of outcome • 10 min

Initial outcome – graphs, the thought process and any limitations.

Exercise : • 60 min

Facilitated exploration of the participants views on how best the mapping can provide value, using the following three framing questions:

- *What information can we provide that represents a valuable tool toward your business development activity?*
- *What is the user case for the information we gather – who ultimately is the information for?*
- *How can such a mapping help you find directions with regards to future partners or regions?*

Capture Consolidate and Closeout • 30 min

Mapping Maritime Projects

Initiating – The first step

AMMONIA ENERGY ASSOCIATION

Section 1 of 10

Step 1 - MARITIME PROJECTS MAPPING - MEMBERS SURVEY

The AEA Maritime Committee are mapping maritime-/related ammonia energy projects. We need your assistance with defining the boundaries of that exercise and ensuring the map is complete.

Email *

Valid email

This form is collecting emails. [Change settings](#)

Location, the "Where?" question

How much location detail should be recorded for each project? (projects regarding vessel construction, onboard tests, port infrastructure or ammonia production etc)

12 responses

It should include only basic location information such as country or region	5 (41.7%)
It should have as much location information as possible, categorised by region, country,...	4 (33.3%)
Other - see comment below	1 (8.3%)

Please insert any further comments on location detail.

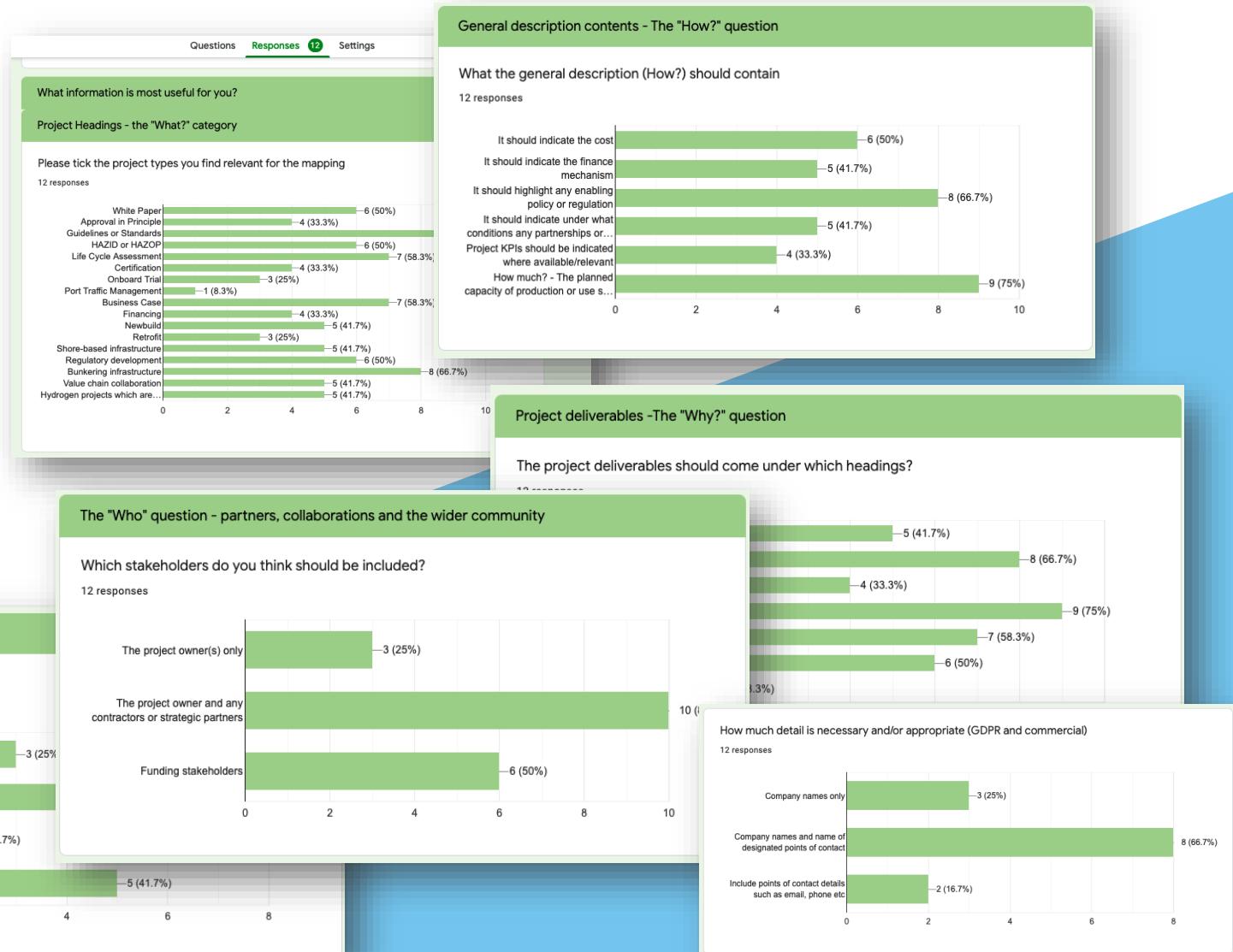
2 responses

Time - The "When?" question

How much timeline detail should there be?

12 responses

Just planned start / finish or actual start / finish	3 (25%)
As much timeline detail as possible	4 (33.3%)
Just the year	2 (16.7%)
The Technology Readiness Level (TRL 1-9)	5 (41.7%)



Map Initiating

AM ASS

Section 1 of 10

Step 1 - MARITIM MEMBERS SURVEY

The AEA Maritime Committee are majorly assisting with defining the boundaries of the survey.

Email *

Valid email

This form is collecting emails. [Change settings](#)

Location, the "Where?" question

How much location detail should be recorded for vessel construction, onboard tests, port operations, etc.?

12 responses

It should include only basic location information such as country or region	5 (41.7%)
It should have as much location information as possible, categorised by region, country,...	4 (33.3%)
Other - see comment below	1 (8.3%)
0	1

Please insert any further comments on location detail.

2 responses

The Technology Readiness Level (TRL 1-9)

0 2 4 6 8

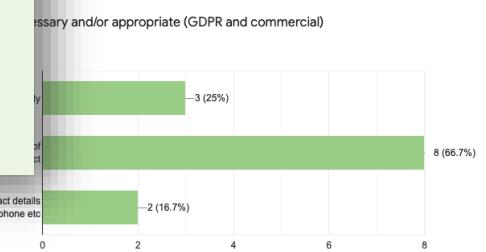
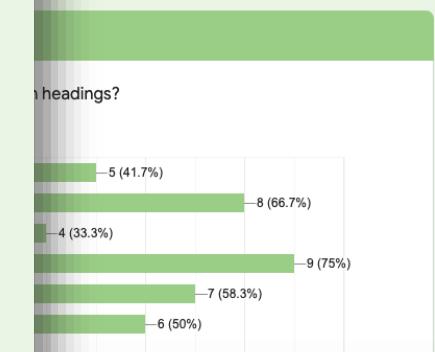
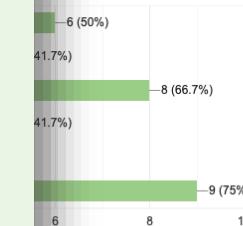
Questions **Responses** 12 Settings

What information is most useful for you?

Project Headings - the "What?" category

Please tick the project types you find relevant for the mapping

12 responses



Mapping Maritime Projects

Initiating – The first step

 **AMMONIA ENERGY ASSOCIATION**

Section 1 of 10

Step 1 - MARITIME PROJECT MEMBERS SURVEY

The AEA Maritime Committee are mapping maritime-related assistance with defining the boundaries of that exercise and

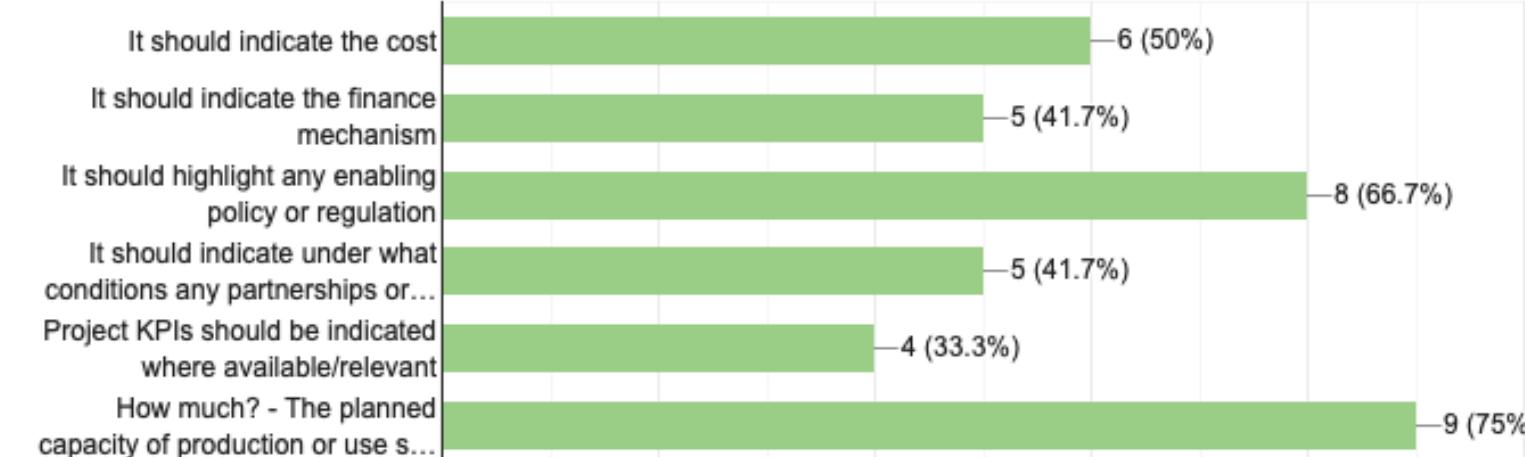
Email *
Valid email

This form is collecting emails. [Change settings](#)

General description contents - The "How?" question

What the general description (How?) should contain

12 responses



Location, the "Where?" question

How much location detail should be recorded for each project: vessel construction, onboard tests, port infrastructure or amr

12 responses

It should include only basic location information such as country or region

It should have as much location information as possible, categorised by region, country,...

Other - see comment below

0 2 4 6 8 10

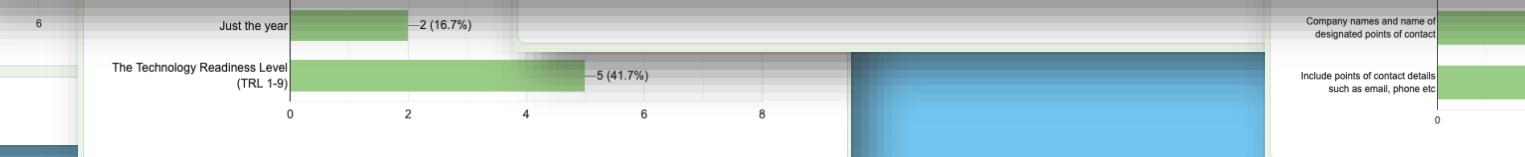
Just the year

The Technology Readiness Level (TRL 1-9)

0 2 4 6 8 10

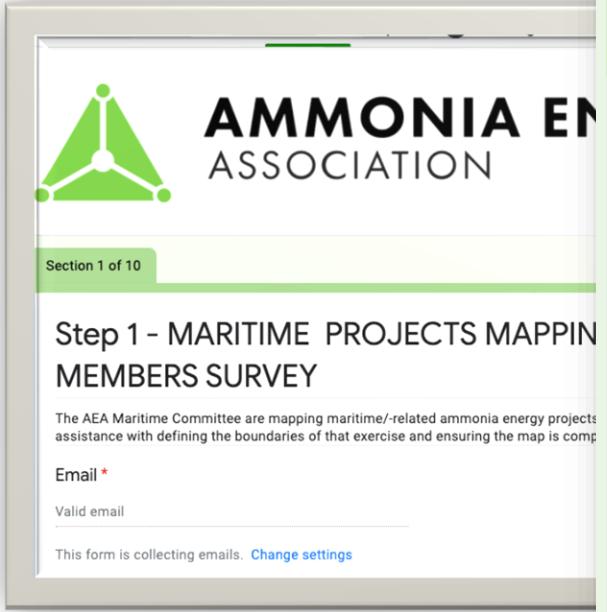
Please insert any further comments on location detail.

2 responses



Mapping Maritime Projects

Initiating – The first survey

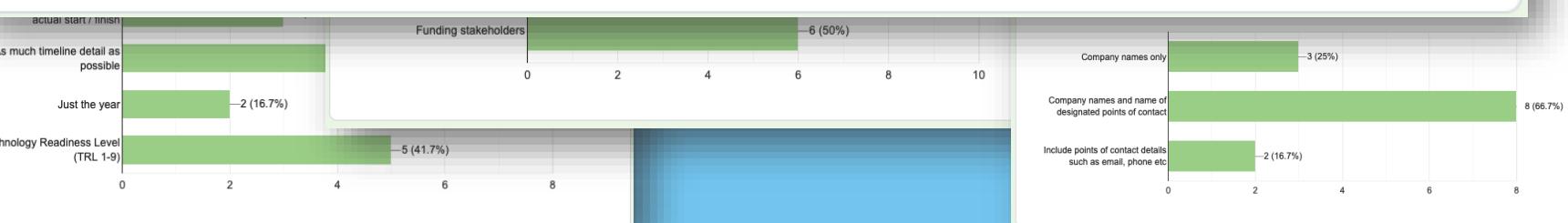
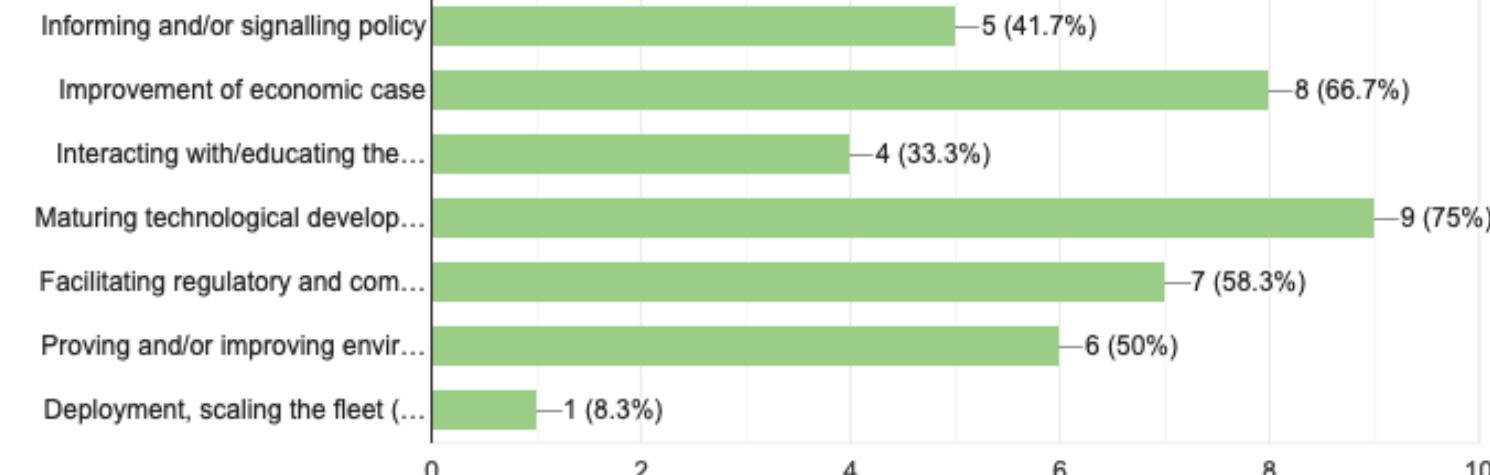


The screenshot shows the first page of a survey titled "Step 1 - MARITIME PROJECTS MAPPING MEMBERS SURVEY". The survey is conducted by the AEA Maritime Committee to map ammonia energy projects. It includes fields for "Email *" (with validation "Valid email") and a note that it collects emails. The survey is divided into sections: "Section 1 of 10", "Project deliverables - The "Why?" question", "Location, the "Where?" question", and "Please insert any further comments on location detail".

Project deliverables - The "Why?" question

The project deliverables should come under which headings?

12 responses



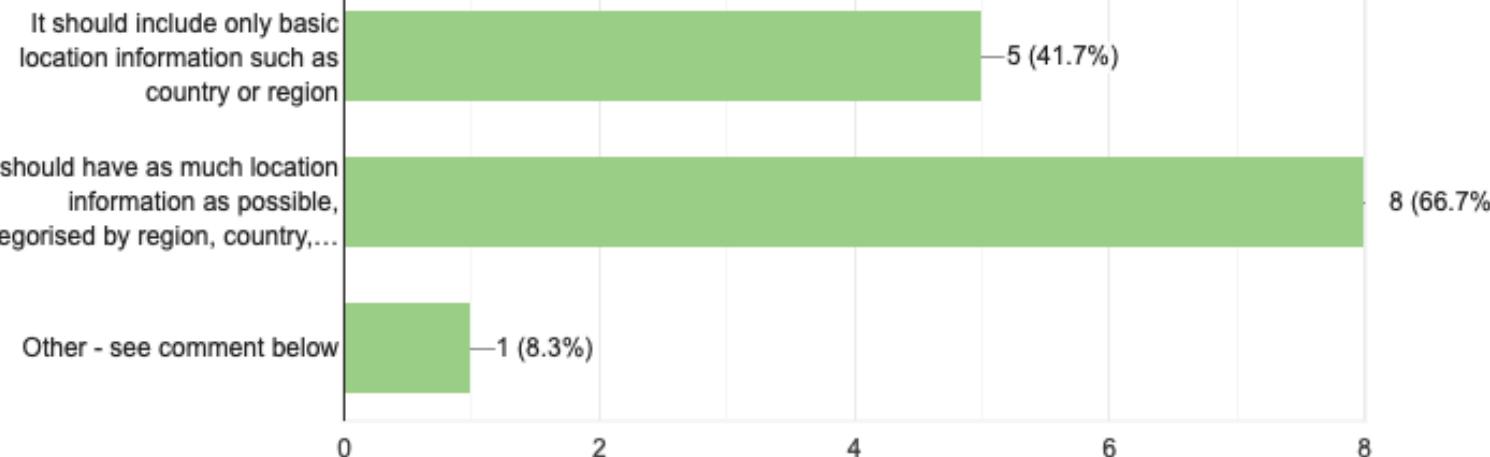
Mapping Maritime Projects

Initiating – The first step

Location, the "Where?" question

How much location detail should be recorded for each project? (projects regarding e.g. vessel construction, onboard tests, port infrastructure or ammonia production facilities)

12 responses

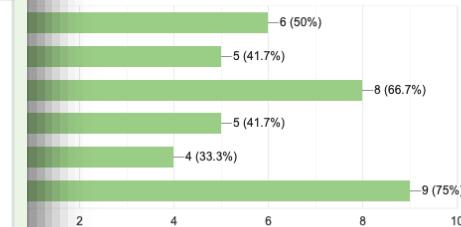


Please insert any further comments on location detail.

2 responses

The "How?" question

How? should contain



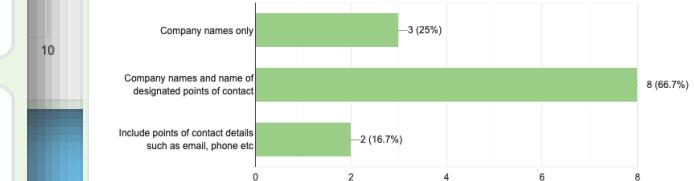
The "Why?" question

Why? should come under which headings?



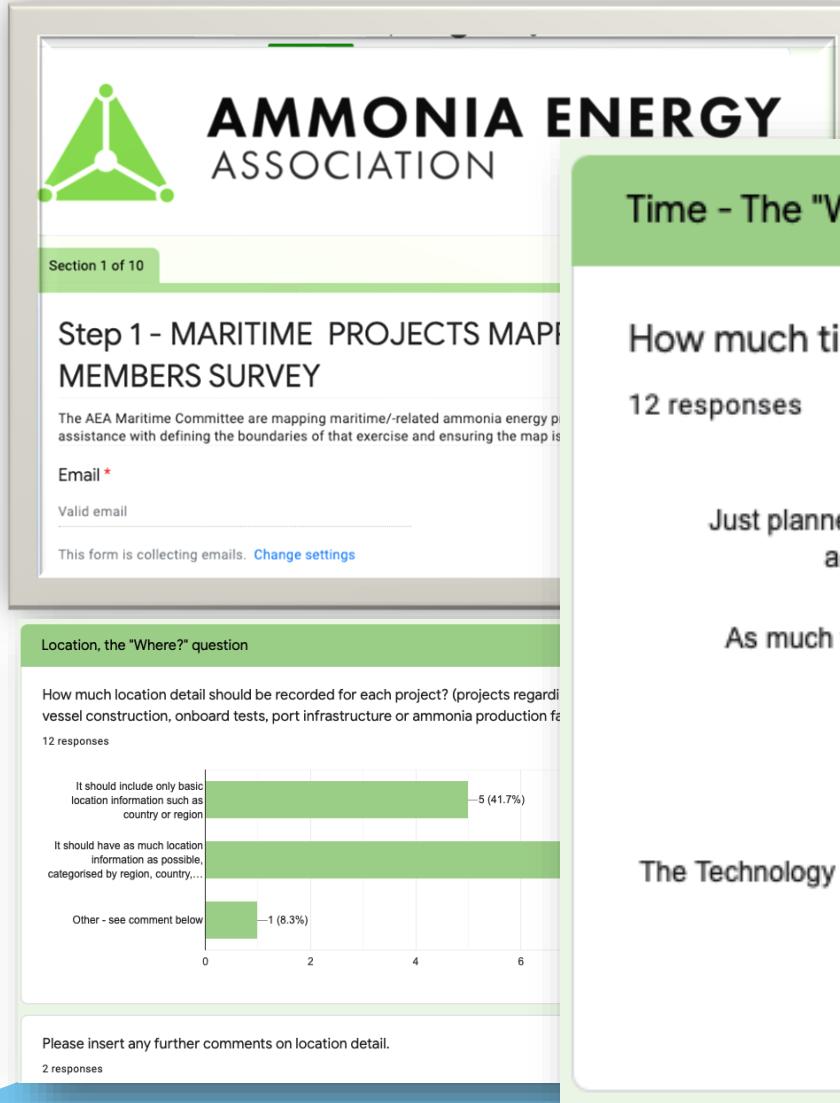
How much detail is necessary and/or appropriate (GDPR and commercial)

12 responses



Mapping Maritime Projects

Initiating – The first step



The survey interface includes the Ammonia Energy Association logo and the title "Step 1 - MARITIME PROJECTS MAP" and "MEMBERS SURVEY". It also includes a note about the AEA Maritime Committee's role in mapping ammonia energy projects and collecting emails. The survey has 10 sections, and the current section is "Section 1 of 10".

General description contents - The "How?" question

What information is most useful for you?
Project Headings - the "What?" category

Responses: 12

What the general description (How?) should contain
12 responses

Time - The "When?" question

How much timeline detail should there be?

12 responses

Just planned start / finish or actual start / finish: 3 (25%)

As much timeline detail as possible: 7 (58.3%)

Just the year: 2 (16.7%)

The Technology Readiness Level (TRL 1-9): 5 (41.7%)

Location, the "Where?" question

How much location detail should be recorded for each project? (projects regarding vessel construction, onboard tests, port infrastructure or ammonia production facilities)

12 responses

It should include only basic location information such as country or region: 5 (41.7%)

It should have as much location information as possible, categorised by region, country,...

Other - see comment below: 1 (8.3%)

Please insert any further comments on location detail.

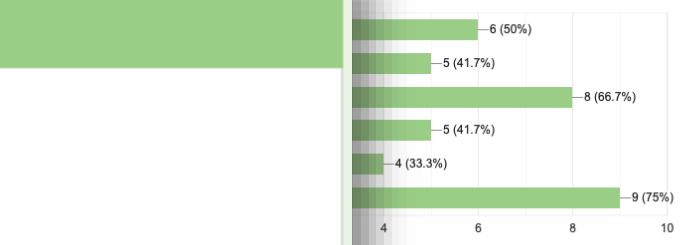
2 responses

Mapping Maritime Projects

Initiating – The first step

General description contents - The "How?" question

What the general description (library) should contain



Response	Count	Percentage
6	6	50%
5	5	41.7%
8	8	66.7%
5	5	41.7%
4	4	33.3%
9	9	75%

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Other

Please insert any further comments on location detail.

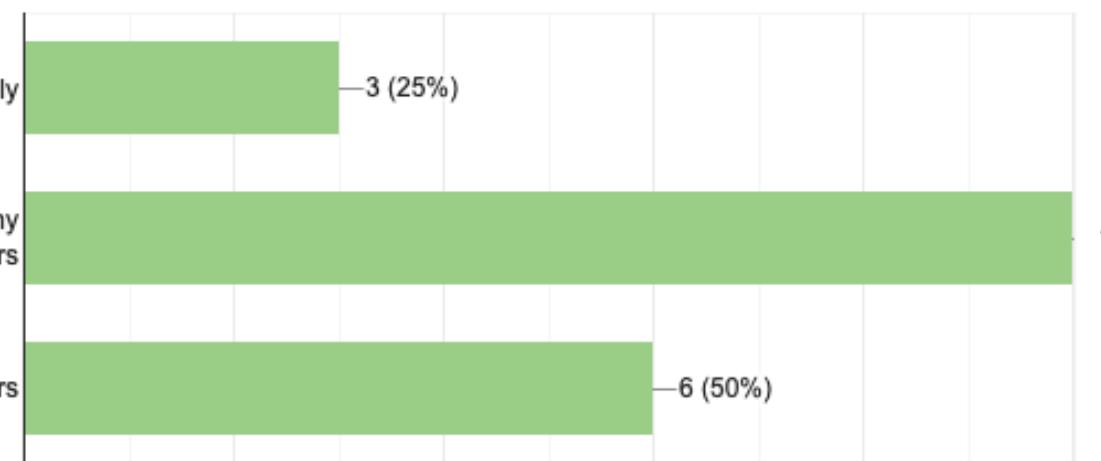
2 responses

Questions Responses 12 Settings

The "Who" question - partners, collaborations and the wider community

Which stakeholders do you think should be included?

12 responses



Response	Count	Percentage
The project owner(s) only	3	25%
The project owner and any contractors or strategic partners	10	83.3%
Funding stakeholders	6	50%

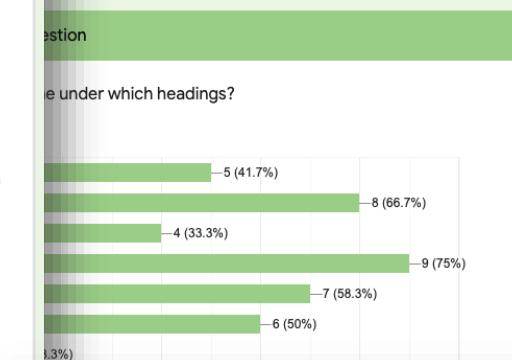
The Technology Readiness Level (TRL 1-9)



Response	Count	Percentage
5	5	41.7%

Question

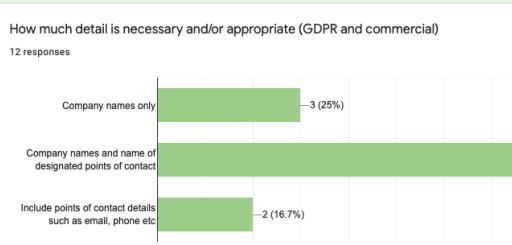
the under which headings?



Response	Count	Percentage
5	5	41.7%
8	8	66.7%
4	4	33.3%
9	9	75%
7	7	58.3%
6	6	50%

How much detail is necessary and/or appropriate (GDPR and commercial)

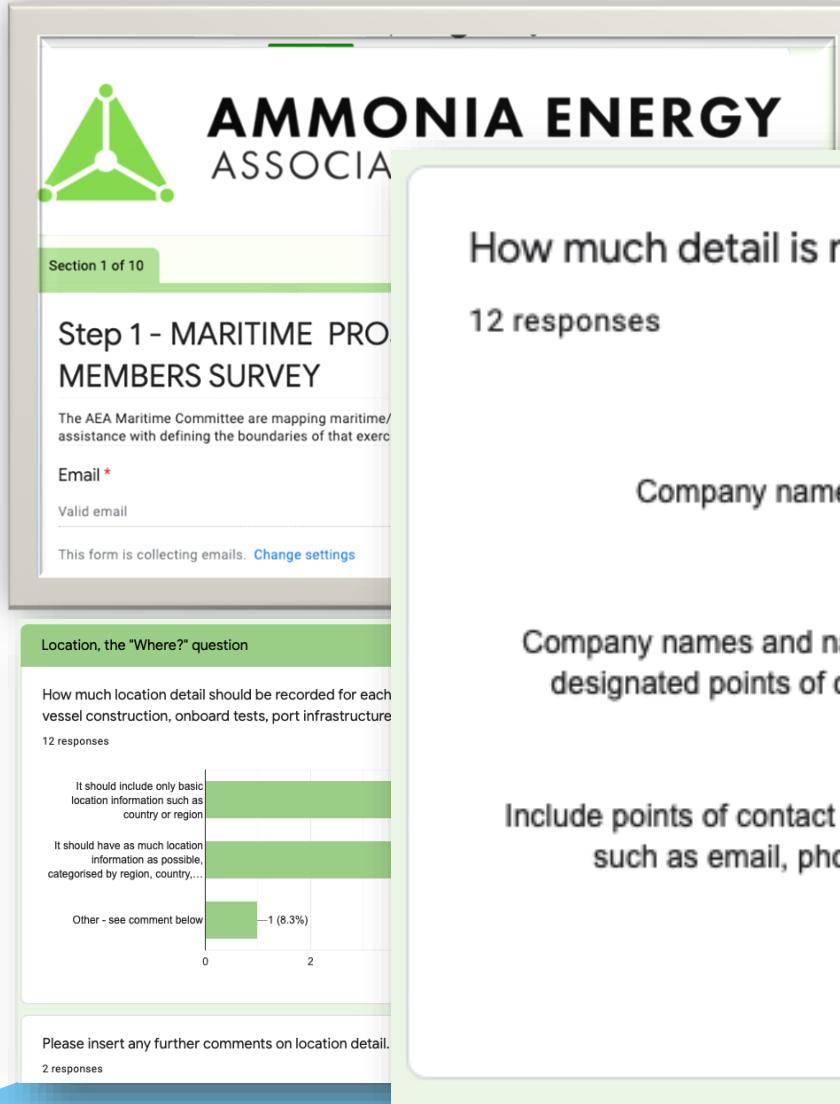
12 responses



Response	Count	Percentage
Company names only	3	25%
Company names and name of designated points of contact	8	66.7%
Include points of contact details such as email, phone etc	2	16.7%

Mapping Maritime Projects

Initiating – The first step



AMMONIA ENERGY ASSOCIATION

Section 1 of 10

Step 1 - MARITIME PROJECT MEMBERS SURVEY

The AEA Maritime Committee are mapping maritime/assistance with defining the boundaries of that exercise

Email *

Valid email

This form is collecting emails. [Change settings](#)

Location, the "Where?" question

How much location detail should be recorded for each vessel construction, onboard tests, port infrastructure

12 responses

It should include only basic location information such as country or region

It should have as much location information as possible, categorised by region, country,...

Other - see comment below

0 2

Please insert any further comments on location detail.

2 responses

Questions Responses 12 Settings

What information is most useful for you?

Project Headings - the "What?" category

General description contents - The "How?" question

What the general description (How?) should contain

12 responses

It should indicate the cost

6 (50%)

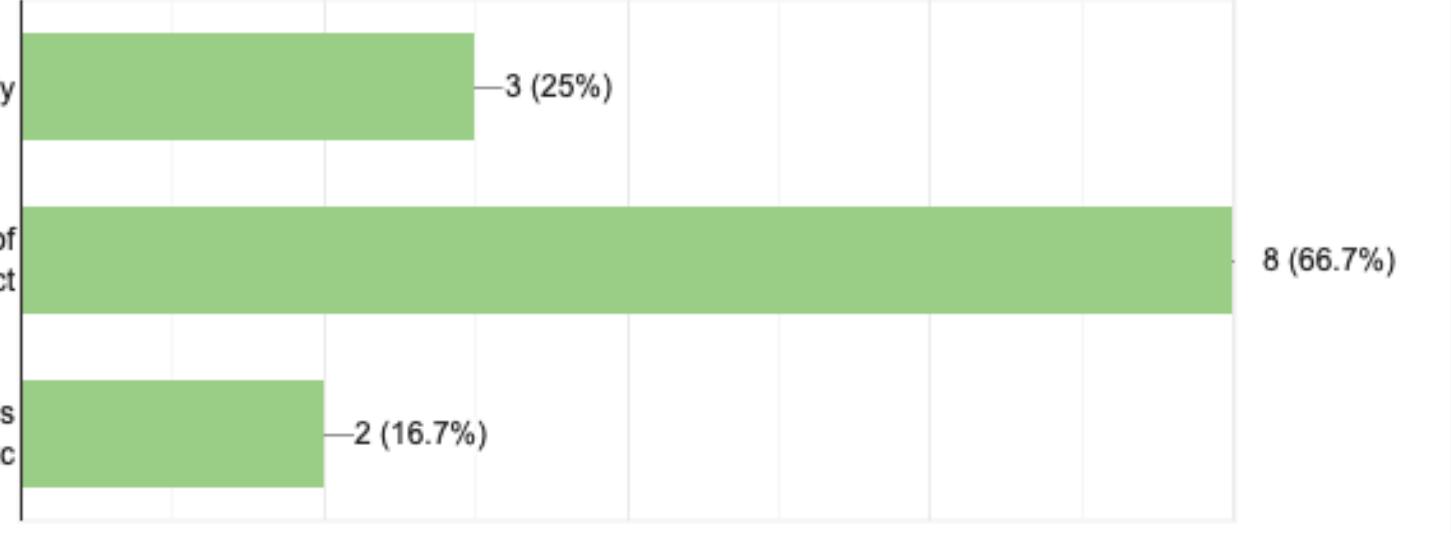
How much detail is necessary and/or appropriate (GDPR and commercial)

12 responses

Company names only 3 (25%)

Company names and name of designated points of contact 8 (66.7%)

Include points of contact details such as email, phone etc 2 (16.7%)

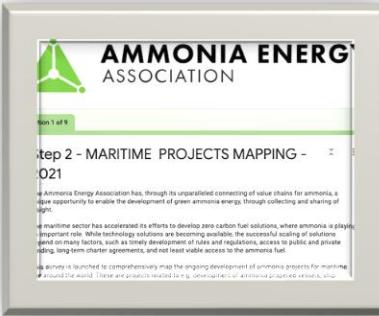


Mapping Maritime Projects

Initiating – Pre populating from the public domain

50 projects have been mapped, work in progress to complete all available.

Perhaps up to 150 relevant projects to be included



Agenda

Workshop start – Welcome • 5 min

Maritime Projects Mapping – Initiating the work • 10 min

An introduction to the origins and ongoing work to map and consolidate publicly available information regarding maritime ammonia projects.

Early Results – Examples of outcome • 10 min

Initial outcome – graphs, the thought process and any limitations.

Exercise : • 60 min

Facilitated exploration of the participants views on how best the mapping can provide value, using the following three framing questions:

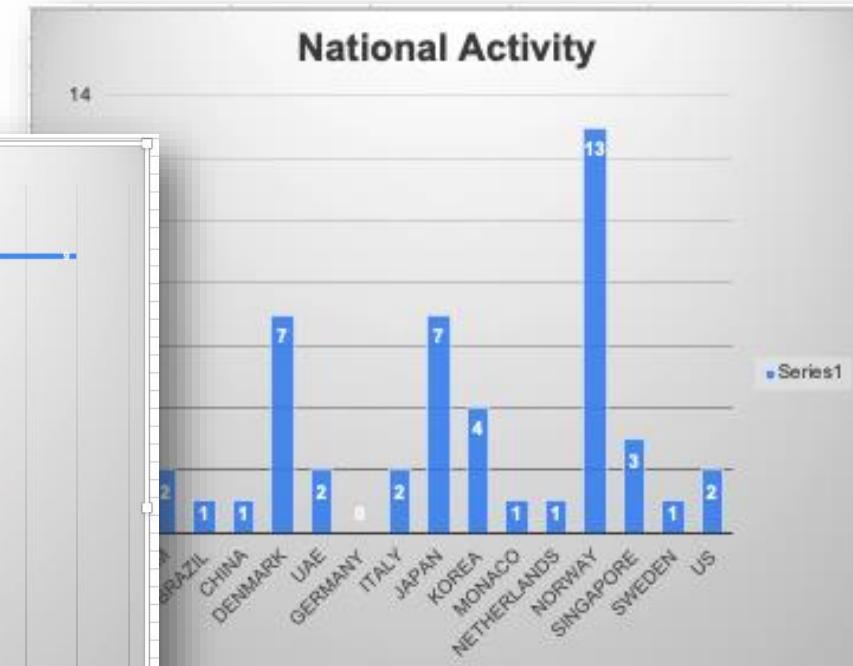
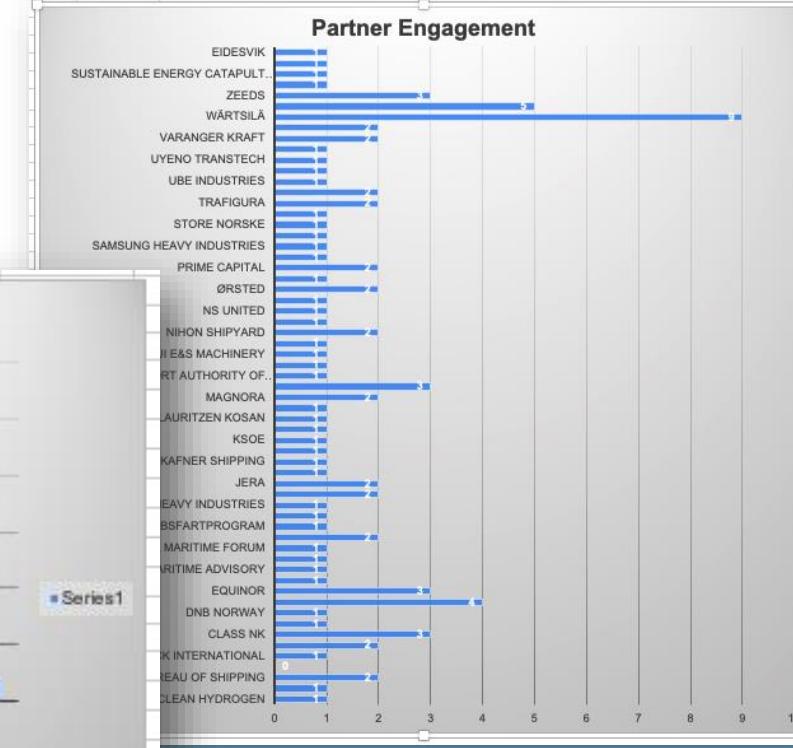
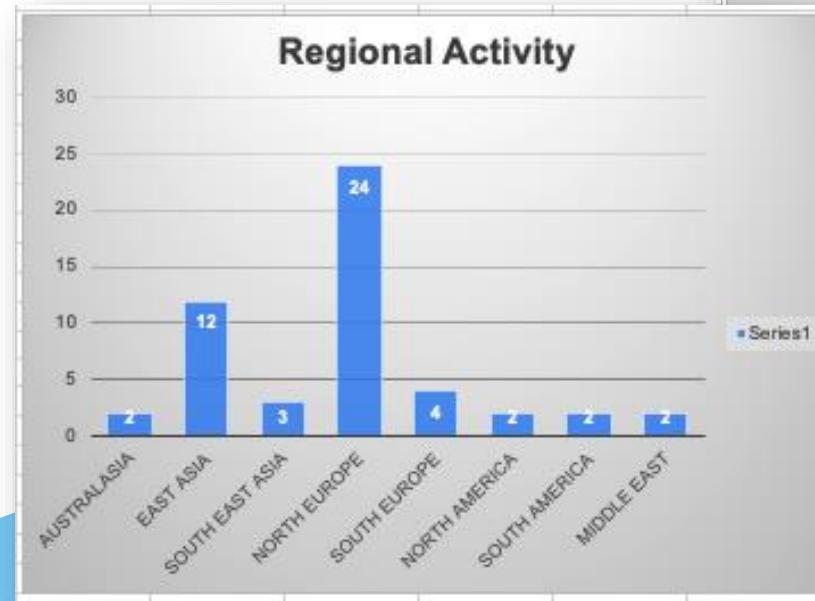
- *What information can we provide that represents a valuable tool toward your business development activity?*
- *What is the user case for the information we gather – who ultimately is the information for?*
- *How can such a mapping help you find directions with regards to future partners or regions?*

Capture Consolidate and Closeout • 30 min

Mapping Maritime Projects

Examples of outcomes - Graphs

- 50 projects have been mapped, work in progress to include further
- Experimentation has begun with graph design and composition
- Tagging and data organisation not finalised



Norway and Denmark have high representation of projects

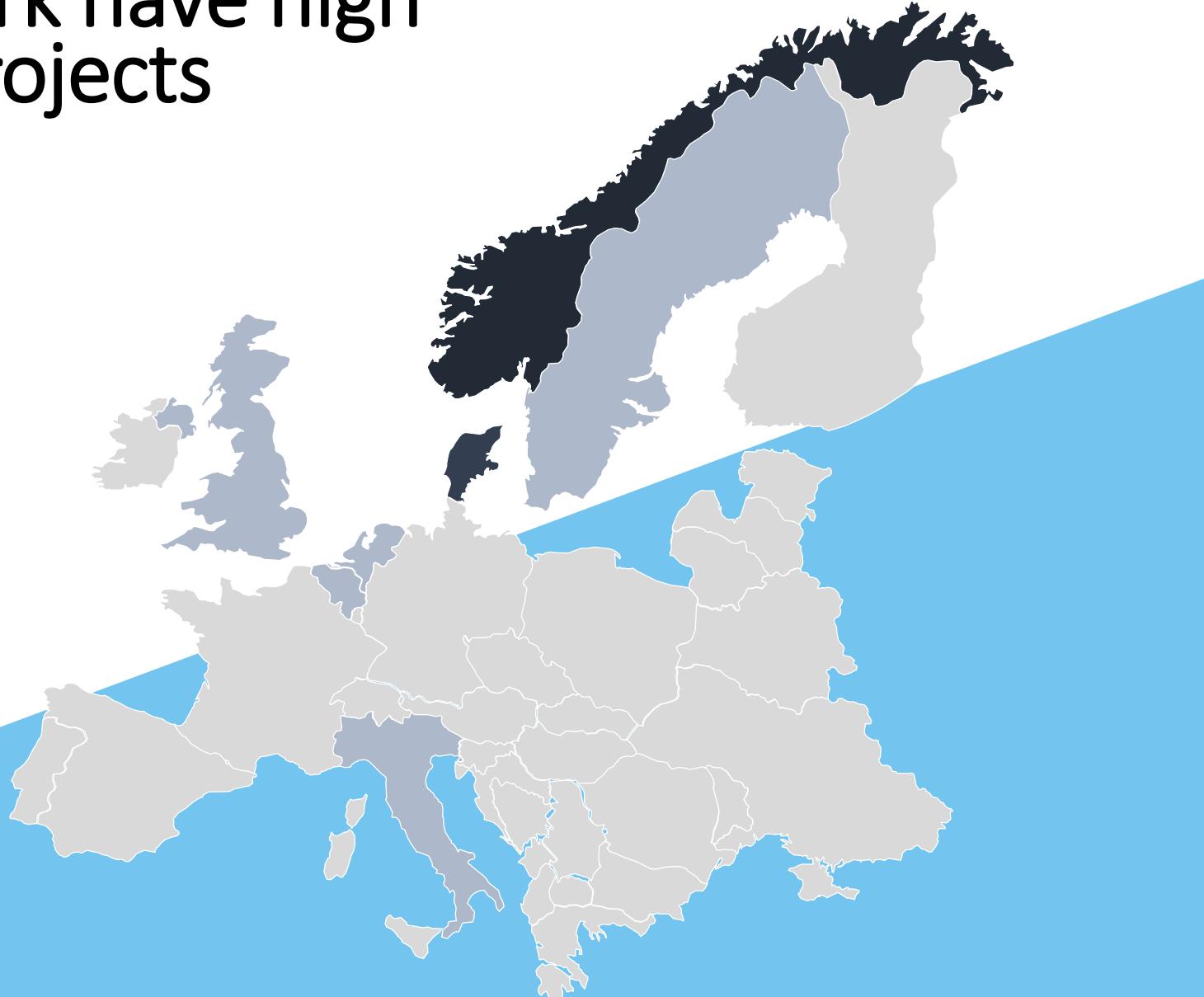
EXAMPLES

Norway:

- Scaling through regional synergies
- Land-based and offshore wind-to-hydrogen
- Bunkering infrastructure
- Offshore Supply Vessels
- Dedicated route ammonia carriers

Denmark:

- Leading engine development
- Catalysing through consortia projects



Korea, Japan and Singapore have high representation of projects

EXAMPLES

Japan:

- Ammonia energy supply infrastructure
- Vessel trials



Korea:

- Vessel trials
- Research

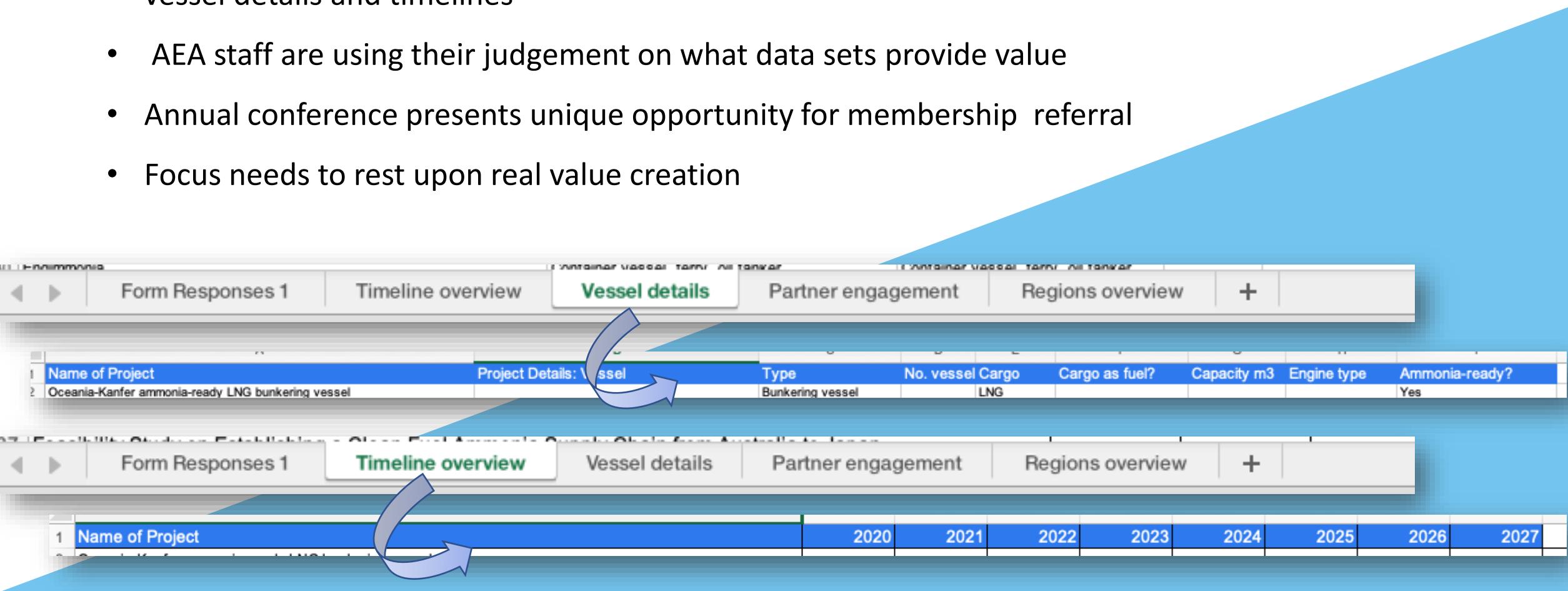
Singapore:

- Ship-to-ship bunkering
- Research

Mapping Maritime Projects

Outcomes – Further thinking

- Experimentation has begun with other data sub sets with focus on particular aspects such as vessel details and timelines
- AEA staff are using their judgement on what data sets provide value
- Annual conference presents unique opportunity for membership referral
- Focus needs to rest upon real value creation



The image shows a screenshot of a web-based application interface for managing maritime projects. The interface consists of two main sections: 'Vessel details' and 'Timeline overview'.

Vessel details:

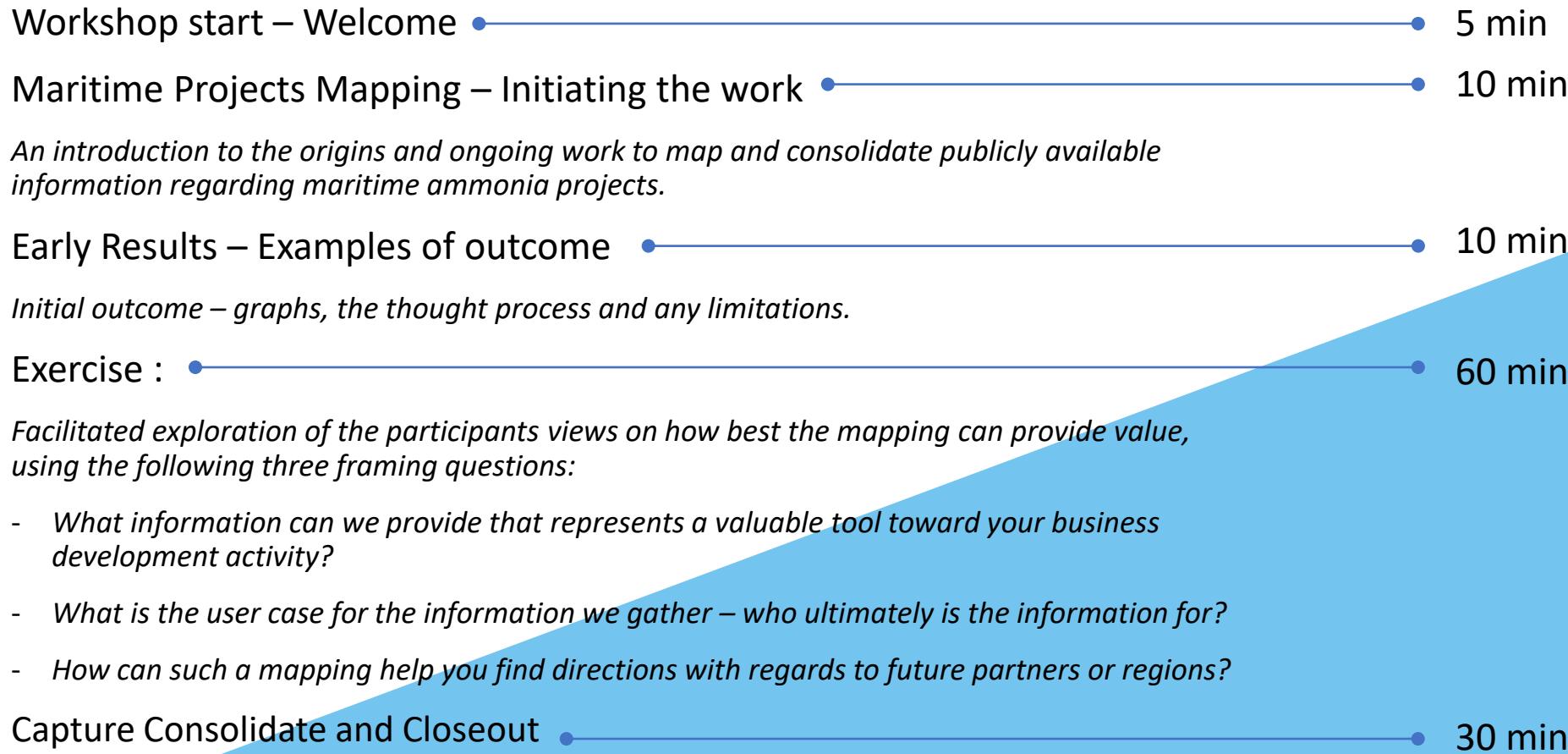
Name of Project	Project Details: Vessel	Type	No. vessel	Cargo	Cargo as fuel?	Capacity m3	Engine type	Ammonia-ready?
Oceania-Kanfer ammonia-ready LNG bunkering vessel		Bunkering vessel		LNG				Yes

Timeline overview:

Year	2020	2021	2022	2023	2024	2025	2026	2027
Name of Project								

A large blue curved arrow points from the 'Vessel details' section to the 'Timeline overview' section, indicating a relationship or data flow between the two.

Agenda



Exercise – How do we optimise the value created from the mapping of maritime ammonia projects?

We divide up into 3 teams to answer 3 framing questions

- *Process : Your team will take 20 minutes discussing a question and recording answers, before moving on to the next question. Some headings are provided to assist with structuring your answers.*

Question 1 –

What information can we provide that represents a valuable tool toward your business development activity?

Prepared headings:
Location/Investment/
Timelines/Project category,
Trade route/Ship type,
others

20 min

Question 2 –

What is the user case for the information we gather – who ultimately is the information for?

Prepared headings:
Legislators- why?,
Finance- why?,
Potential partners- why?

20 min

Question 3 –

How can such a mapping help you find directions with regards to future partners or regions?

Prepared headings:
Underpinning business case development/ identifying future partners/ identifying regions for focus/ identification of where you should promote your visibility within the sector

20 min

Methodology

The exercise is designed to address the question as comprehensively as possible by approaching it from different perspectives.

Sometimes it can be difficult to avoid repeating answers between the framing questions. It can also seem that additional framing questions should be asked. These kinds of challenges are part of the process and perfectly acceptable.

What is most important is to “juice” the question as much as possible in the time available while staying generally within the bounds of the exercise.

Agenda

Workshop start – Welcome • 5 min

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Early Results – Examples of outcome • 10 min

Initial outcome – graphs, the thought process and any limitations.

Exercise : • 60 min

Facilitated exploration of the participants views on how best the mapping can provide value, using the following three framing questions:

- *What information can we provide that represents a valuable tool toward your business development activity?*
- *What is the user case for the information we gather – who ultimately is the information for?*
- *How can such a mapping help you find directions with regards to future partners or regions?*



Capture Consolidate and Closeout • 30 min

Capture, Consolidate and Closeout

30 min

Capture–

We will capture the answers, question by question, using the team that dealt with that question last. Each team may nominate one spokesperson if they wish.

What are the additional headings, what suggestions come under each heading?

Consolidate–

It's important to boil down what we have produced so far.

-Remove repetitions and agree a structure to the answers perhaps different to that provided through the framing questions.

-Any special comments or insights derived from the exercise?

Close out–

Discussion of the next steps

What kind of timeline for the mapping exercise is reasonable

What further referral process with members is appropriate?

How should the AEA use the information externally and internally?

Should some information be AEA member only.

What is the appetite for answering detailed surveys

What obviously should not be included in the mapping exercise?

Thank you!

fma@ammoniaenergy.org