Maritime & Coastguard Agency

Study into the Requirement of Technology Routes and Regulatory Landscape

Contents

Maritime & Coastguard Agency

SPECIFICATION: Requirement of Technology Routes and Regulatory Landscape

MCA REFERENCE TCA 3/7/1166

The Maritime & Coastguard Agency (MCA) is an Executive Agency of the Department for Transport. The MCA is responsible throughout the UK for implementing and developing the UK Government's maritime safety and environmental protection policy. That includes co-ordinating Search and Rescue at sea through Her Majesty's Coastguard 24 hours a day, and checking that ships meet UK and international safety rules. The MCA work to prevent the loss of lives at the coast and at sea, to ensure that ships are safe, and to prevent coastal pollution: **Safer Lives, Safer Ships, Cleaner Seas.**

The MCA provides a full range of search and rescue, counter pollution, survey, inspection and enforcement activities and has 12 major business activities:

Survey	Seafarers' Services
Inspection	Search and Rescue
Enforcement	Pollution Response and Salvage
Ship Registration	Stakeholder Communication
Navigation Services	Ministerial Services
Strategic Prevention Design/Development	Regulatory Process

These activities are supported by support services responsible for providing a range of administrative functions including infrastructure, MCA people, financial management and administration and corporate management.

In accordance with the Equality Act 2010, in our capacity as a public body we have a statutory duty to eliminate unlawful discrimination, promote equality of opportunity and promote good race relations between people of different groups. Contractors will be expected to ensure that the service they provide promotes good relations between the MCA and its customers and does not directly or indirectly discriminate on the grounds of race in accordance with both the Act and the duty.

You are invited to submit a tender for the following project:

Project Number: **TCA 3/7/1166**

Project Title: Requirement of Technology Routes and Regulatory Landscape

1. BACKGROUND

In January 2019 the Government published the Maritime 2050 Strategy, which sets out its vision for clean shipping in the UK:

"In 2050, zero emission ships are commonplace globally. The UK has taken a proactive role in driving the transition to zero emission shipping in UK waters and is seen globally as a role model in this field, moving faster than other countries and faster than international standards. As a result, the UK has successfully captured a significant share of the economic, environmental and health benefits associated with this transition."

In July 2019 the Clean Maritime Plan, announced in the Government's Clean Air Strategy, was published and provides environmental route map of Maritime 2050, that is outlining the UK's pathway to zero emissions shipping. The route map identifies ways to tackle air pollutants and GHG emissions while securing clean growth opportunities for the UK.

A global transition to clean shipping is taking place, presenting significant opportunities for economic growth. Research undertaken for the government suggests the global market for maritime emission reduction technologies could reach £11 billion per year by 2050, potentially resulting in economic benefits to the UK of £510 million per year.

To capitalise on this economic opportunity and achieve zero-emission shipping, the Clean Maritime Plan makes several core commitments including the establishment in 2020 of a Maritime Emissions Regulation Advisory Service (MERAS) to provide dedicated support to innovators using zero emission propulsion technologies.

The Maritime Future Technologies (MFT) team has been established by the Maritime & Coastguard Agency (MCA) to facilitate the implementation of trials and projects, support regulatory updates and drive forward change in industry in the uptake of innovative technologies in both Emission Reduction and Autonomy.

The work being tendered aims to update understanding of the MFT and support the future work and forms part of an extensive work programme being undertaken to address gaps in knowledge and insight and provide the basis for future work.

2. OBJECTIVES

The principal objective is to provide MCA with external technical expertise to create a clear picture of Emission Reduction technology routes, vessel types, applicable codes and regulations and assess viability of available and future options, as detailed below. The work package needs to be completed by the end of FY (March, 2021) and hence started by November, 2020.

3. SUGGESTED WORK PROGRAMME

The bidder should provide a detailed proposed work programme that they feel best meets the deliverables of the project. This should include a breakdown of schedules based on each deliverable listed at section 6 under the proposal response requirements section. This will form part of the tender evaluation criteria. (See section 7)

Percentage given in parenthesis provides indicative effort (out of 100%) anticipated for delivery of each task.

Task 1 - Identify Technology Routes (25%)

This task requires the identification of the possible permutations and combinations of technology routes currently available/under consideration for emission reduction and zero-emission shipping including both transition technologies/fuels and zero-emission fuels/technologies.

Primarily this task will entail the undertaking of a comprehensive literature review but also gathering further information from key stakeholders. Appropriate technology routes for both domestic and ocean-going/deep sea ships should be considered and identified. A detailed list of the different combinations/permutations should be prepared. For example, technologies and fuels on a pathway to zero emission shipping are identified in the Clean Maritime Plan and illustrated in Figure 1.

Task 2 - Mapping of vessel types, applicable regulation/codes and exemption/equivalence routes (15%)

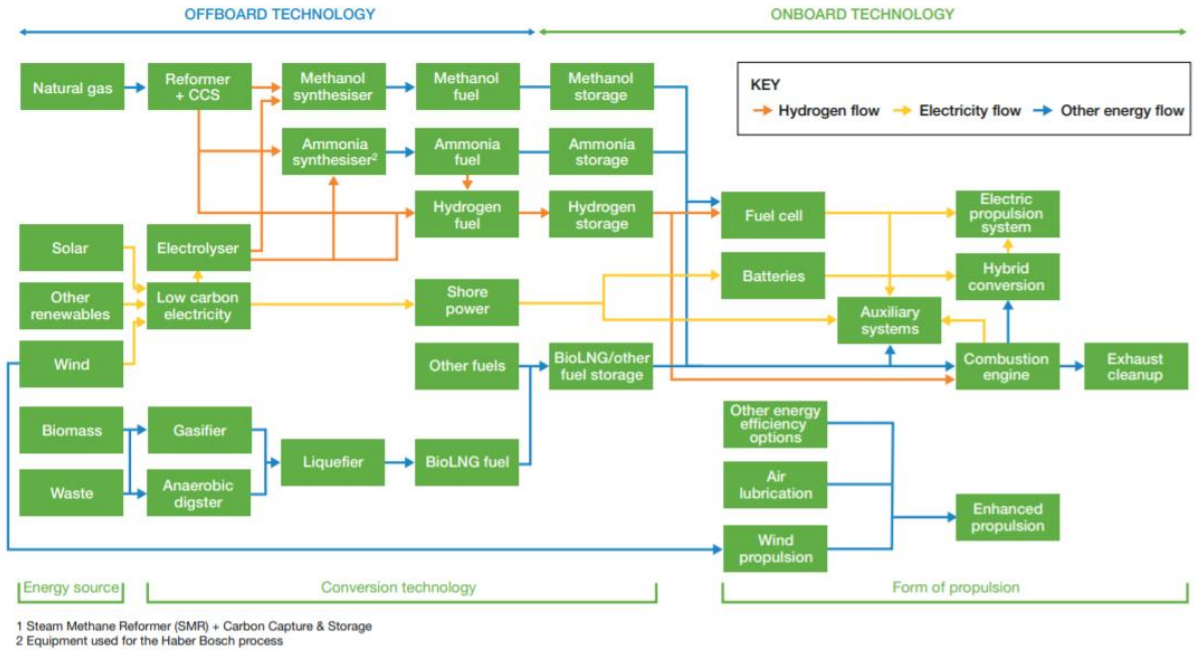
This task requires the mapping, preferably in a visual format, of the regulatory domain for vessels subject to both domestic and international regulation including vessel types and the development of a comprehensive understanding of the requirements for those vessel types. The task is expected to include as a minimum the following three sub-tasks:

2.1 - Develop a comprehensive list of vessel types (approximately 20) categorized by operational function and duty cycle but based on a known e.g., MSIS 23 and/or internationally recognized references and identify the applicable regulations/codes associated with those vessel types. The list and associated regulations should be presented in graphical format.

2.2 - Identify and explain why some regulations/codes are applicable to some vessel types and not others. What are the differentiating underlying factors for those differences?

2.3 - For each vessel type what options are available within the code/regulation for the MCA to provide exemption or equivalence from the requirements and when those exemption or equivalence provisions may be invoked with specific reference to the technology routes identified under task 1.

Figure 1. Technologies and fuels on a pathway to zero-emission shipping (source: UK Government, Clean Maritime Plan, 2019)



Task 3 - Development of a matrix of technology routes and vessel types/regulatory requirements (10%)

To identify specific applications for further investigation the information identified in Task 1 and Task 2 is to be combined to prepare a matrix of technology routes against vessel types/regulatory requirements. The matrix should be prepared to readily highlight the applications for further consideration.

Task 4 - Conduct a viability study comparing technology routes with specific applications in key areas (10%)

Identify key areas e.g. safety, life cycle emissions, technical and commercial etc. for considering the viability of the applications identified in Task 3 and undertake a viability study comparing the identified technology routes. This task is likely to be fairly rudimentary at this stage to support the Prioritisation activity (Task 5) with a view to development going forward.

Task 5 - Prioritisation activity to identify for initial consideration the most promising combinations of technology/vessel type (10%)

This task aims to identify which combinations of technology/vessel type we should be looking at first i.e. where are we most likely to see the combinations occurring first. This prioritisation should take account of areas where the MCA has limited powers to provide exemption/equivalence.

In considering the viability activity undertaken in task 4, prioritise the combinations of vessel type/technology that should be considered further (i.e. what combinations we are likely to see occurring first) identifying the high priority options. To do this the consultant should identify and/or develop criteria for prioritisation including maturity of the technology (TRL), experience of use and application in other sectors, status of development of understanding of integration into ships, identification and readiness of regulatory path to adoption, commercial viability compared to current technologies, etc.

This task should also take into account those areas where there are limited powers to provide exemption/equivalence (see Task 2.3).

It is expected that this prioritization activity would be detailed and importantly should identify and explain the rational i.e., from a technology perspective, where technology can or cannot be readily adopted.

Task 6 - Identify specific blockers in regulation for high priority combinations (20%)

Having identified a number of 'high' priority combinations (say 20) determine what regulations specifically present barriers to adoption/implementation by ships.

Task 7 Report (10%)

The report should be submitted in two parts: the report itself and an executive summary that includes the main findings and conclusions. The report should include recommendations to create a clear picture on Emission Reduction technology routes, vessel types, applicable codes and regulations and assess viability of available and future options.

A draft executive summary and draft final report should be submitted to MCA for consideration by Friday, 8 January 2021 at the latest.

The executive summary of the final report, the final report, including all annexes, should be submitted to MCA by Friday, 29 January 2021 at the latest.

Following completion of the project the main authors are expected to present the main findings of the report to MCA senior staff. This meeting will be arranged by MCA in February 2021 and should be considered as part of delivery of the contract.

4. SUGGESTED TIMESCALE

Project Implementation and completion to finish by: 31 January 2021

The project is expected to be finalised by 31 January 2021. (Please note the start date might be delayed by a month, however, the project must be completed by end of FY – March 2021).

The bidder should provide a detailed project plan and include key milestones, with potential slippages throughout the proposal to add context and identify any risks with the required timescales. See section 6.2.

Following a kick-off meeting between the MCA and the consultant to agree on key milestones (including agreement of outputs of individual tasks prior to next activity e.g. agreement of list of technology routes before task 3), the study is expected to take between 8 to 10 weeks to deliver a draft report. Following submission of a draft report a meeting shall be organized between the MCA and the consultant to review the report and agree amendments and further clarifications required. A final report should be submitted to MCA no later than 3 months after the kick-off meeting.

Following completion of the project the main authors are expected to present the main findings of the report to MCA senior staff. This meeting will be arranged by MCA in February 2021 and should be considered as part of delivery of the contract.

5. Costings

Bidders should note that the approved budget for this Project is in the range of £110,000 - £150,000 (exclusive of VAT).

Tender documents should include a tabulated cost breakdown and proposed milestone payment schedule amounts. A price matrix is appended to this specification at Annex A. With the appropriate details on how to complete this.

a) Please complete in detail the Firm Price Schedule (see pricing schedule attached ANNEX A).

6. PROPOSAL RESPONSE REQUIREMENTS

You should provide a well-presented, easy to understand proposal, providing relevant and appropriate information demonstrating your understanding of the requirement.

Your tender response should follow the order of the Suggested Work Programme (section 3) and address all the requirements below to provide a clear, logical and well organised presentation of the proposal content.

The proposal should be split into the following two parts:

6.1) The proposal should be in the form of a statement demonstrating understanding of the Suggested Work Programme, how it is envisaged they will be delivered and why you believe you are best placed to support the MCA on this opportunity. Your proposal should be no more than 5 sides of A4, with an annex should visuals and other findings be relevant as evidence. (No more than an additional 5 sides of A4). Please ensure your answers detail and provide evidence for:

- *How you are going to approach the Suggested Work Programme, in section 3*
- *Why are you best suited to execute the Suggested Work Programme Where appropriate please provide evidence such as:*
    - *Credentials*
    - *Curriculum Vitae's*
    - *Recommendations*
    - *Commitments that you make in the tender*

6.2) The proposal should further provide details of the proposed resources including costs, milestones, both broken down by task and overall project and any assumptions, dependencies to be considered. The proposal of resources should be no more than the equivalent of 5 sides of A4. Please ensure your answers detail and provide evidence for:

- *A clear cost breakdown: cost per task as well as an overall for the project A work breakdown structure that provides milestones per task and overall completion date for the project. The work breakdown structure should be detailed project plan and include key milestones and provide any potential slippages throughout the proposal. The proposal should also identify any risks or slippages with the required timescales. A concise summary of any assumptions and dependencies required to facilitate the project*

7. Evaluation Criteria

The MCA will evaluate submissions against the criteria below to identify the most economically advantageous submission to the set requirements. The tasks that are evaluated on are titled below. Full task list noted in Section 3:

Task 1 - Identify Technology Routes

Task 2 - Mapping of vessel types, applicable regulation/codes and exemption/equivalence routes

Task 3 - Development of a matrix of technology routes and vessel types/regulatory requirements

Task 4 - Conduct a viability study comparing technology routes with specific applications in key areas

Task 5 - Prioritisation activity to identify for initial consideration the most promising combinations of technology/vessel type

Task 6 - Identify specific blockers in regulation for high priority combinations

Task 7 Report

The criteria are categorised into technical and price elements and are as follows:

Task	Criterion	Sub-Criteria	Criterion Weighting	Sub-Criteria Weightings
	Price		**40%**	
	Quality		**60%**	
1.	**Identify Technology Routes**		**25%**	
		A statement demonstrating understanding of the Suggested Work Programme, how it is envisaged they will be delivered and why you believe you are best placed to support		70%
		Further provide details of the proposed resources including costs, milestones, both broken down by task and overall project and any assumptions, dependencies to be considered		30%
2.	**Mapping of vessel types, applicable regulation/codes and exemption/equivalence routes**		**15%**	
		A statement demonstrating understanding of the Suggested Work Programme, how it is envisaged they will be delivered and why you believe you are best placed to support		60%

		Provide a view of the different ways to represent this task i.e. visual mapping, graphical etc		10%
		Further provide details of the proposed resources including costs, milestones, both broken down by task and overall project and any assumptions, dependencies to be considered		30%
3.	**Development of a matrix of technology routes and vessel types/regulatory requirements**		**10%**	
		A statement demonstrating understanding of the Suggested Work Programme, how it is envisaged they will be delivered and why you believe you are best placed to support		60%
		Provide an example of a matrix that would be used to represent this task.		10%
		Further provide details of the proposed resources including costs, milestones, both broken down by task and overall project and any assumptions, dependencies to be considered		30%
4.	**Conduct a viability study comparing technology routes with specific applications in key areas**		**10%**	
		A statement demonstrating understanding of the Suggested Work Programme, how it is envisaged they will be delivered and why you believe you are best placed to support		70%
		Further provide details of the proposed resources including		30%

		costs, milestones, both broken down by task and overall project and any assumptions, dependencies to be considered		
5.	**Prioritisation activity to identify for initial consideration the most promising combinations of technology/vessel type**		**10%**	
		A statement demonstrating understanding of the Suggested Work Programme, how it is envisaged they will be delivered and why you believe you are best placed to support		70%
		Further provide details of the proposed resources including costs, milestones, both broken down by task and overall project and any assumptions, dependencies to be considered		30%
6.	**Identify specific blockers in regulation for high priority combinations**		**20%**	
		A statement demonstrating understanding of the Suggested Work Programme, how it is envisaged they will be delivered and why you believe you are best placed to support		70%
		Further provide details of the proposed resources including costs, milestones, both broken down by task and overall project and any assumptions, dependencies to be considered		30%
7.	**Report**		**10%**	

		A statement demonstrating understanding of the Suggested Work Programme, how it is envisaged they will be delivered and why you believe you are best placed to support		100%

Submissions will be assessed individually and scored based on the above weightings and scoring criteria below:

Score	Assessment	Reason
(5)	Satisfactory response that fully meets the requirement and includes all relevant supporting evidence	A score of 5 will be achieved by demonstrating a robust understanding and methodology that specifically meets the Task objective. The response provided will have full and comprehensive supporting evidence and examples.
(3)	Minor weaknesses in the response or detail missing	A score of 3 will be achieved where the proposed approach meets the basic requirements by demonstrating an understanding of the Tasks and experience of the allocated resource with the exception that the supporting commentary and/or evidence does not fully explain, justify or provide a fully comprehensive response to examples.
(1)	Unsatisfactory Major weaknesses in the response	A score of 1 will be achieved as per the criteria for achieving a score of 3 with the exception that the supporting commentary and/or evidence does not fully explain or justify the approach to the Tasks ,experience of allocated resource and only some aspects of the MCA's requirements are fully met.
(0)	Inadequate response	A score of 0 will be achieved for any answer that does not meet the level required to score a 1 or above.

Pricing submissions will be individually assessed based on price submitted as set out below. The submission offering the lowest technically compliant price shall receive a score of 100%. The scores of the remaining technically compliant submissions will be factored so that they are awarded a percentage score which takes into account their scores relative to that of the lowest priced submission.

The calculation that will be performed in factoring the price scoring of the other tenderers is as follows:

Price Score = (Lowest Weighted Cost)/ (Weighted Cost of Bid) × 100

The Price Score shall then be weighted by the Price Weighting of 40% to achieve a Weighted Price Score.

Calculation of Final Score

The final weighted submission score and the final weighted price score will be added together to provide the tenderer's total score. The submissions achieving the highest score shall be deemed to be the preferred submission and the proposer will be contacted to progress the opportunity further.

ANNEX A

FIRM PRICE SCHEDULE **Contract No TCA 3/7/1166**

Study into the Requirement of Technology Routes and Regulatory Landscape

PRICE SCHEDULE

Tenderers for the above contract should complete the tables below, indicating what they would charge for each required element. Prices must:-

- Be stated in Pounds Sterling.
- Include all other charges and overheads associated with the element being priced.
- Additional rows can be added if necessary

Suppliers Name:

Requirement	Firm Price (exc VAT) £	Total Price (inc VAT) £
Task 1- Identify Technology Routes		
Task 2 - Mapping of vessel types, applicable regulation/codes and exemption/equivalence routes		
Task 3 - Development of a matrix of technology routes and vessel types/regulatory requirements		
Task 4 - Conduct a viability study comparing technology routes with specific applications in key areas		
Task 5 - Prioritisation activity to identify for initial consideration the most promising combinations of technology/vessel type		
Task 6 - Identify specific blockers in regulation for high priority combinations		
Report		
Total price for project		

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